

# **Benthic Stream Macroinvertebrate Monitoring Report**

*Acadia National Park*  
*1998-1999*



## **ACADIA NATIONAL PARK NATURAL RESOURCE REPORT 2001-05**

Prepared by:  
Robert M. Breen, William G. Gawley and Michael Fraser  
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## **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 new data on park aquatic ecosystems, and mutually benefits both agencies in cost sharing, data sharing and analysis. It also provides an opportunity to compare 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, were sampled in 1997 (Gawley, 1998). Lurvey Spring Brook and Heath Brook, two streams on the west side of the park, were added to the program in 1998, (Figures 1-3).

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.

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" stones that are completely submerged at each site. Three baskets/bags are spaced one to three meters apart, and are oriented with the long axis parallel to the stream flow. 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 (600 micron mesh) positioned immediately downstream. All basket contents and net washings are transferred to a sieve bucket (600 micron mesh), where the basket wires and rocks are inspected and hand cleaned. Organic material is retained in the bucket and the cleaned rocks are returned to the basket. 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 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 criteria 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**

Results of the 1997 fieldwork can be found in Gawley (1998). In 1998 and '99, all sampling operations were again conducted without any major problems following the standardized procedures. Mesh bags replaced wire baskets as substrate sampling devices in most park streams, which allowed for placement in shallow riffles and higher flow areas more suitable for sampling invertebrates. In 1998, stream depth and flow at all sites were typical of average August low flow conditions, but sufficient to keep the sample bags essentially submerged throughout the sampling period. In 1999, sample bags again remained essentially submerged at all sites, although in a few places the top of the mesh bag was above the water surface. However, stream flow in 1999 was extremely low and not measurable at most sites. Mean summer (June-August) precipitation volume was 27.2 cm. in 1998 and 12.04 cm in 1999, the lowest level since at least 1982. Annual mean summer precipitation measured at the McFarland Hill National Atmospheric Deposition Program site at park headquarters for the period 1982-1999 (NADP, 2000) was 25.1 cm. At Heath Brook in 1999, there was no flow at all at the end of the sample period, and the streambed was dry except for a few scattered pools including the three pools with sample bags. The number of individual invertebrates collected in each sample varied among sites in 1998 and '99, as it did in 1997.

MDEP modeling analysis of 1998 data (Appendix A) indicate that Stanley, Hunter and Duck Brooks all met criteria for Class A streams, the highest classification. Lurvey Spring met Class B criteria, while Heath and Canon Brooks were Class C. As in 1997, Canon Brook did not meet minimum criteria for analysis by the MDEP model of mean total abundance of 50 individuals and therefore the Class C classification is not applicable (Leon Tsomides, pers. communication). The Lurvey Spring and Heath Brook classifications were largely based on the relative abundance of certain key taxa such as EPT (*Ephemeroptera*, *Plecoptera*, *Tricoptera*) generic richness. 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. However, the model was largely developed to assess water quality in larger streams and rivers subject to point source pollution. Therefore, additional information on invertebrates and water quality in smaller but relatively unpolluted streams such as those at ANP may be used by MDEP staff to refine the model to better reflect background conditions in more ephemeral stream systems.

Data analysis in 1999 (Appendix B), indicated Duck, Stanley and Cannon Brooks met Class A criteria, Hunter Heath and Lurvey Spring Brooks were Class C. Again, as in previous years, model criteria requiring a mean total abundance of 50 individuals per basket were not obtained in some streams (Hunter and Heath), while Cannon Brook had increased abundance and richness and obtained a Class A classification for the first time. However, Duck, Hunter, Stanley and Heath brooks all had substantially reduced total abundance and generic richness than in previous years. Although the reason for the fewer numbers of invertebrates collected in 1999 is not clear, substantially lower water levels and flow, and possibly higher temperatures and lower dissolved oxygen levels may be factors. See figure 4, for a summary of key indices for the past 3 years.

The reference collection increased to a total of 160 species in 1999. All new species collected in future sampling will be added to the collection.

## **DISCUSSION**

Thus far, the benthic macroinvertebrate monitoring program at Acadia National Park is fulfilling the objectives initially set out for the program. Three years of baseline data on macroinvertebrate diversity and abundance has been obtained for four park streams, and two years of data on two other streams. In addition, there have been widely varying summer time drought conditions that have occurred during the first three years of the program that may provide insight to possible long-term ecological changes associated with climate change. The relationship with MDEP has been one of the most positive aspects of the program. While park personnel provide all necessary field operations, MDEP coordinates sample sorting and taxonomy, provides data analysis, and assesses compliance with established modeling criteria. Information from park streams will allow MDEP to continue to refine their analytical models 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. Although there are insufficient data at present to determine trends in macroinvertebrate populations, continued monitoring will provide important information for future assessments of biological integrity of park aquatic ecosystems. Annual assessment of the abundance and generic richness of the macroinvertebrate community may 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, and in 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. It is also recommended that an annual evaluation of data results and program objectives be continued to determine monitoring parameters and site selection for the following year.

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**References:**

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.

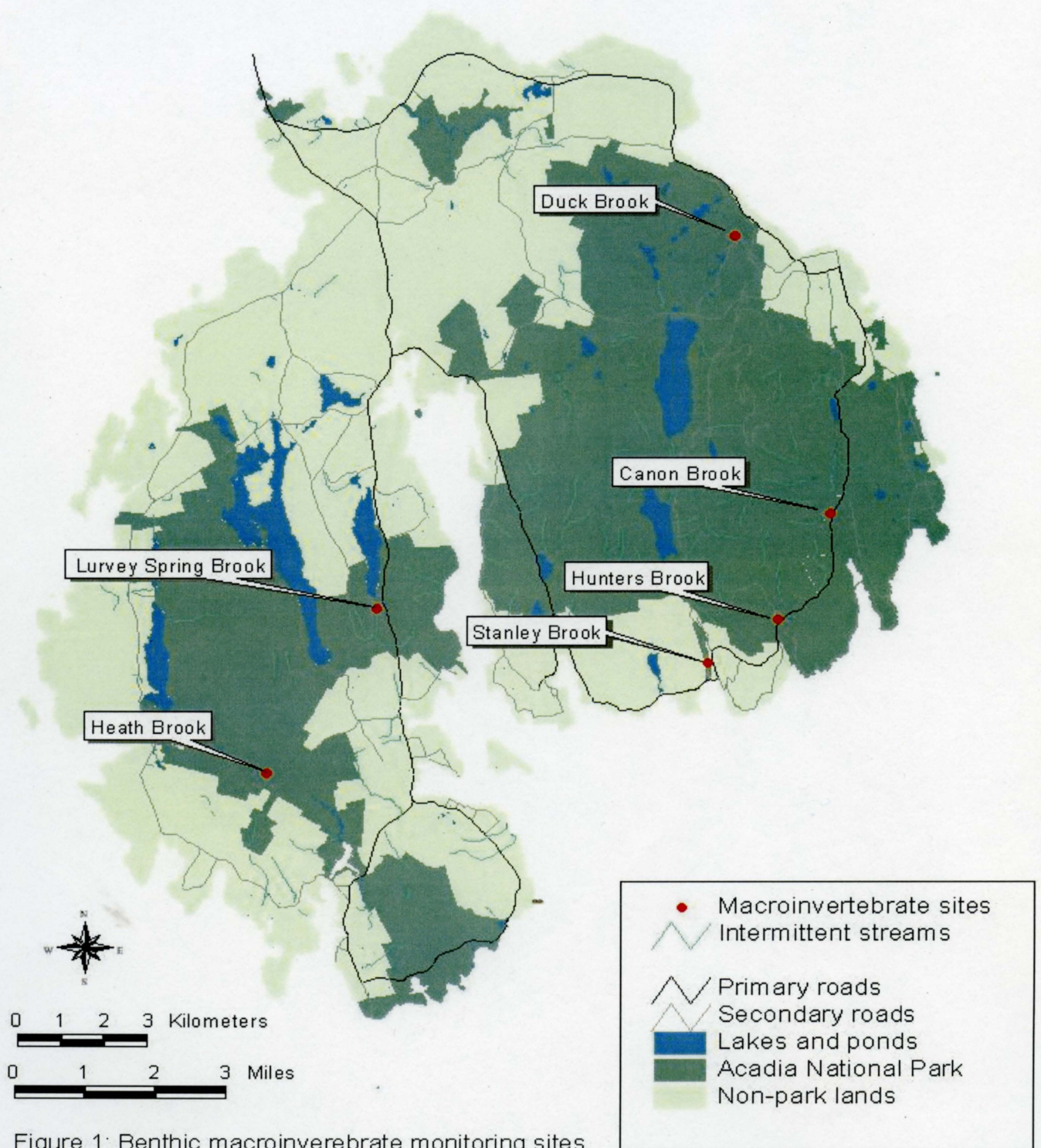


Figure 1: Benthic macroinvertebrate monitoring sites

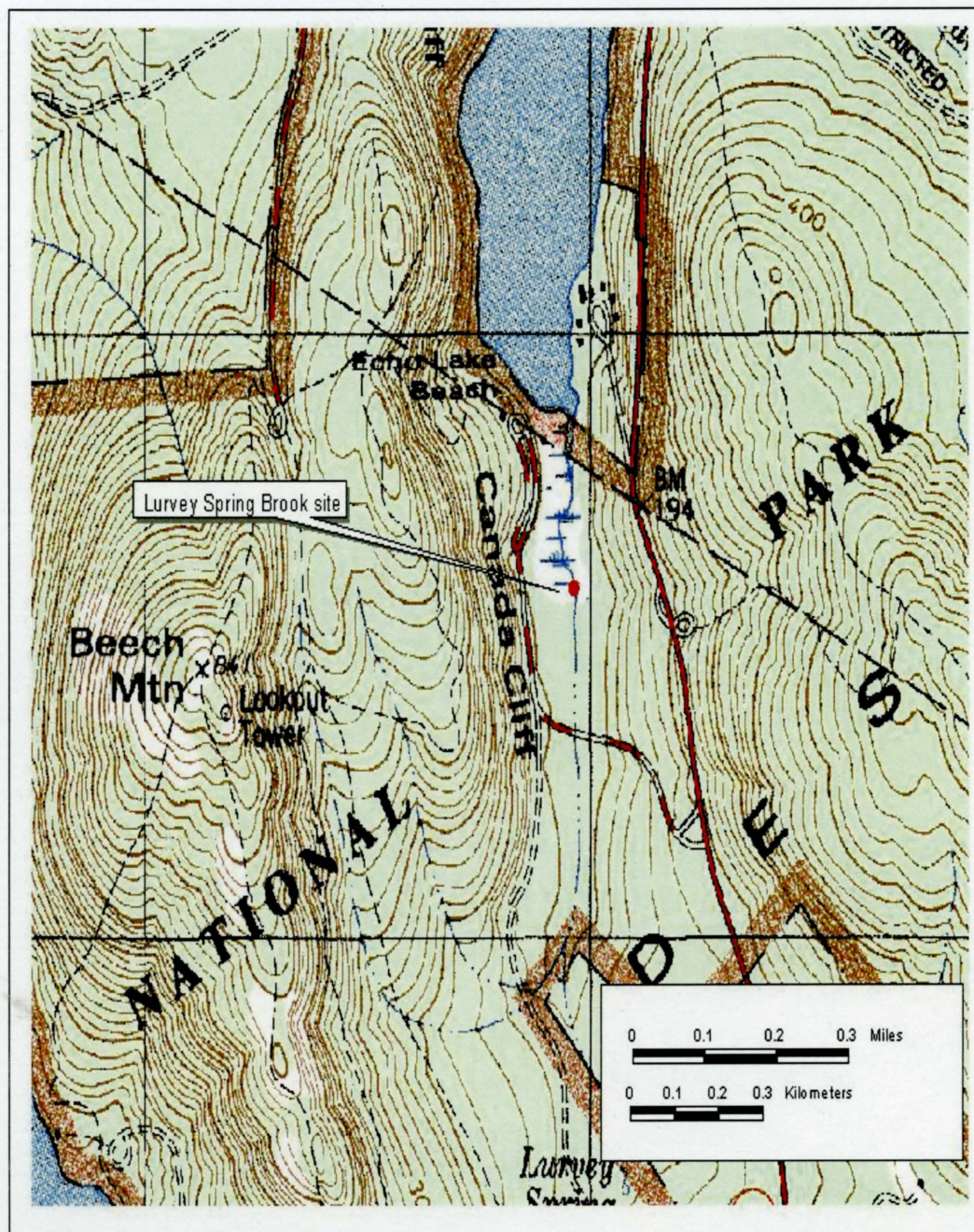


Figure 2: Lurvey Spring Brook monitoring site

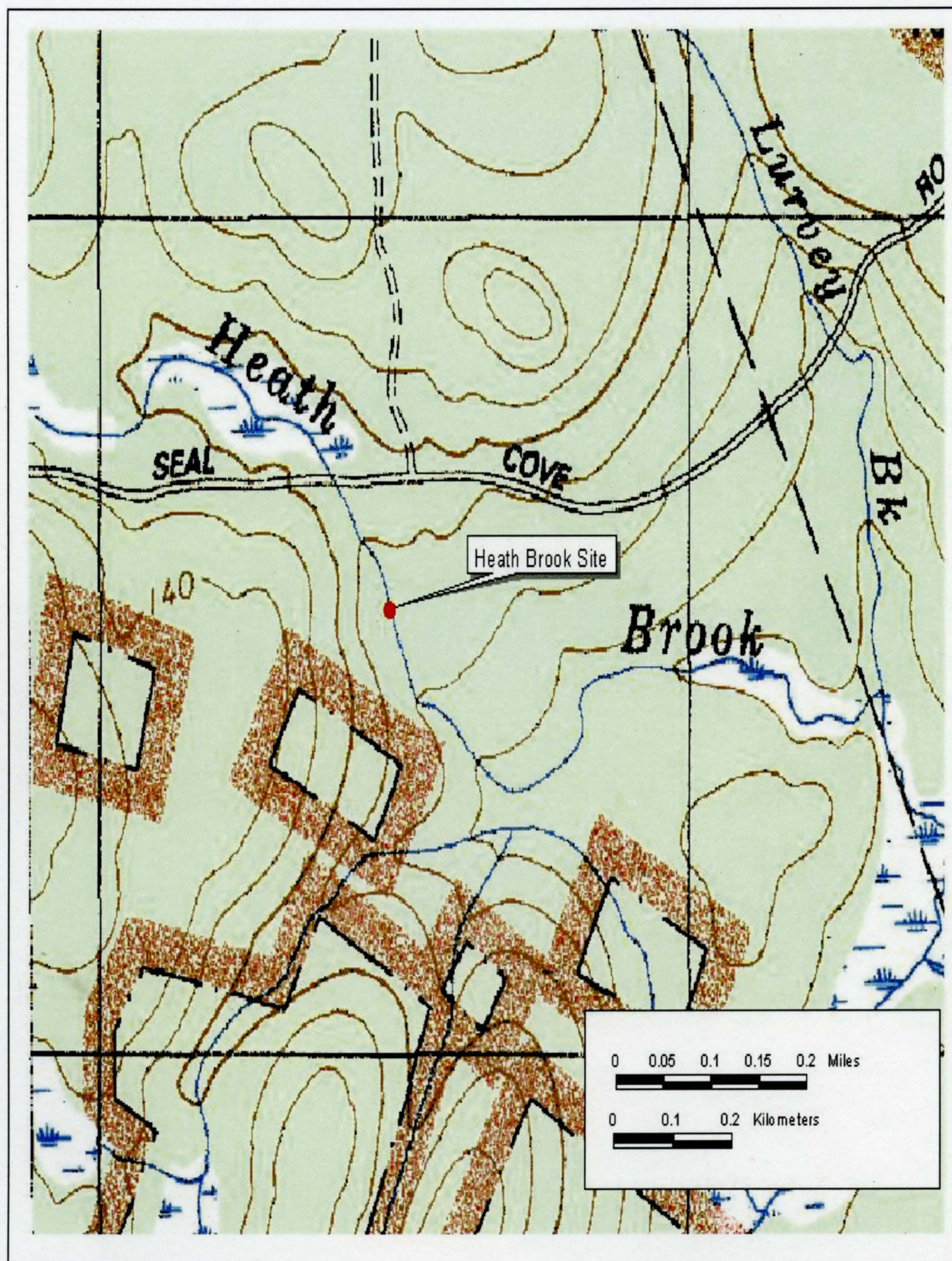


Figure 3: Heath Brook monitoring site

**Figure 4. 1997-1999 Data Summary** (data source: Maine DEP)

| Site                                                                                                                                                                                    | Date | Total <sup>1</sup> | Generic <sup>2</sup> | EPT Gen <sup>3</sup> | Legislative <sup>4</sup> | Model    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------|----------------------|----------------------|--------------------------|----------|
|                                                                                                                                                                                         |      | Abundance          | Richness             | Richness             | Classif.                 | Classif. |
| Cannon                                                                                                                                                                                  | 1997 | 9.66               | 8                    | 5                    | AA                       | C        |
| Cannon                                                                                                                                                                                  | 1998 | 32.96              | 23                   | 9                    | AA                       | C        |
| Cannon                                                                                                                                                                                  | 1999 | 74.97              | 29                   | 15                   | AA                       | A        |
| Duck                                                                                                                                                                                    | 1997 | 59.61              | 29                   | 11                   | AA                       | A        |
| Duck                                                                                                                                                                                    | 1998 | 121.6              | 29                   | 12                   | AA                       | A        |
| Duck                                                                                                                                                                                    | 1999 | 57.31              | 35                   | 10                   | AA                       | A        |
| Hunter                                                                                                                                                                                  | 1997 | 54.33              | 23                   | 14                   | AA                       | A        |
| Hunter                                                                                                                                                                                  | 1998 | 111                | 31                   | 15                   | AA                       | A        |
| Hunter                                                                                                                                                                                  | 1999 | 22.96              | 23                   | 10                   | AA                       | C        |
| Stanley                                                                                                                                                                                 | 1997 | 121                | 43                   | 20                   | AA                       | A        |
| Stanley                                                                                                                                                                                 | 1998 | 122.96             | 35                   | 15                   | AA                       | A        |
| Stanley                                                                                                                                                                                 | 1999 | 58.63              | 29                   | 17                   | AA                       | A        |
| Heath                                                                                                                                                                                   | 1998 | 340.62             | 44                   | 14                   | AA                       | C        |
| Heath                                                                                                                                                                                   | 1999 | 23.31              | 16                   | 5                    | AA                       | C        |
| Lurvey Spring                                                                                                                                                                           | 1998 | 167.29             | 45                   | 16                   | AA                       | B        |
| Lurvey Spring                                                                                                                                                                           | 1999 | 100.62             | 41                   | 14                   | AA                       | C        |
| <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                                                                              |      |                    |                      |                      |                          |          |
|                                                                                                                                                                                         |      |                    |                      |                      |                          |          |

**Appendix 1**  
**1998 Data**

KEY REPORT  
PRINTED 10/22/99 @ 08:52

STATION ID: S320  
LOG NUMBER: 743  
LAST CALCULATED: 10/22/99  
MODEL CALCULATED: 10/22/99  
ADJUSTED TO GENUS

|              |                 |                  |          |
|--------------|-----------------|------------------|----------|
| River Basin  | CENTRAL AND     | Sample Method    | R        |
| Water Body   | CANNON BROOK    | Subsample Factor | X1       |
| Town         | ACADIA NATIONAL | Ref LOG #        | 0        |
| Stream Order | 2               | Date IN          | 07/31/98 |
|              |                 | Date OUT         | 08/28/98 |

SUMMARY OF HABITAT CHARACTERISTICS

|          |                 |           |       |       |       |
|----------|-----------------|-----------|-------|-------|-------|
| Land Use | UPLAND HARDWOOD | Terrain   | FLAT  | Temp  | 15.0  |
|          | UPLAND CONIFER  | Cover     | DENSE | Width | 2.0   |
|          |                 | Pollutant |       | Depth | 19.0  |
|          |                 |           |       | Veloc | 16.20 |

Substrate Composition

|         |   |          |    |                   |  |
|---------|---|----------|----|-------------------|--|
| Bedrock |   | Gravel   | 65 | GIS Site Location |  |
| Boulder | 2 | Sand     | 25 | Latitude          |  |
| Rubble  | 8 | Silt     |    | Longitude         |  |
|         |   | Detritus |    |                   |  |

Legislative Class: AA      Model Classification: C with P >= 60%

Classification Attainment Model Probabilities

First Stage Model

|         |         |                |         |
|---------|---------|----------------|---------|
| Class A | 0.17179 | Class B        | 0.38347 |
| Class C | 0.44468 | Non-Attainment | 0.00007 |

C or better Model

|                 |         |
|-----------------|---------|
| Class A,B, or C | 1.00000 |
| Non-Attainment  | 0.00000 |

B or Better Model

|                           |         |
|---------------------------|---------|
| Class A or B              | 0.01286 |
| Class C or Non-Attainment | 0.98714 |

A Model

|                                |         |
|--------------------------------|---------|
| Class A                        | 0.05256 |
| Class B or C or Non-Attainment | 0.94744 |

Model Variable Values

|                 |        |                 |       |                 |       |
|-----------------|--------|-----------------|-------|-----------------|-------|
| 01 TOT ABUN     | 32.960 | 07 REL ABUN CHI | 0.515 | 13 REL ABUN OLI | 0.000 |
| 02 GEN RICH     | 23.000 | 08 REL RICH DIP | 0.521 | 14 PROB AB 1ST  | 0.555 |
| 03 PLEC ABUN    | 0.330  | 09 HYDRO ABUN   | 0.000 | 15 PERL ABUN    | 0.000 |
| 04 EPHEM ABUN   | 8.000  | 10 PROB ABC 1ST | 0.999 | 16 TANYPOD ABUN | 1.360 |
| 05 SW GEN DIV   | 3.720  | 11 CHEUM ABUN   | 0.000 | 17 CHIRON ABUN  | 0.340 |
| 06 HILS BIO IND | 5.600  | 12 EPT/DIPT     | 0.750 | 18 REL AB EPHEM | 0.242 |
| 19 EPT GEN RICH | 9.000  | 25 SUM ABUN     | 2.040 | 5 Dominant Taxa |       |
| 20 PROB(AB) SUB | 0.148  | 26 SUM ABUN     | 0.000 | MICROPSECTRA    | 22.6  |
| 01 SUMMED ABUN  | 7.480  | 27 PROB(A) SUB  | 0.297 | NYCTIOPHYLAX    | 12.1  |
| 21 PROB(A) 1ST  | 0.171  | 28 EP GEN RICH  | 0.357 | RHEOTANYTARSUS  | 10.3  |
| 23 REL PLEC RI  | 0.043  | 29 DOM A IND    | 0.000 | STENACRON       | 10.1  |
| 24 REL AB BRACH | 0.000  | 30 PRES A INDIC | 0.285 | LEPTOPHLEBIIDAE | 10.1  |

KEY REPORT  
 PRINTED 10/22/99 @ 08:52

STATION ID: S320  
 LOG NUMBER: 743      LAST CALCULATED: 10/22/99      MODEL CALCULATED: 10/22/99

| TAXA             | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |      |
|------------------|----------------|----------|--------|----|--------|-----------|------|
|                  |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ  |
| ISOTOMIDAE       | 09020102       | 0.3      | 0.3    |    |        | 1.0       | 1.0  |
| SWELTSIA         | 09020208040    | 0.3      | 0.3    |    | PR     | 1.0       | 1.0  |
| BOYERIA          | 09020301004    | 0.0      | 1.0    | 2  | PR     | 0.0       | 3.0  |
| BOYERIA          | 09020301004012 | 1.0      | 0.0    | 2  | PR     | 3.0       | 0.0  |
| BAETIDAE         | 09020401       | 0.3      | 0.3    |    |        | 1.0       | 1.0  |
| HEPTAGENIIDAE    | 09020402       | 1.6      | 0.0    |    |        | 5.0       | 0.0  |
| STENACRON        | 09020402014    | 1.0      | 3.3    | 7  | SC     | 3.0       | 10.1 |
| STENACRON        | 09020402014045 | 0.6      | 0.0    | 7  | SC     | 2.0       | 0.0  |
| LEPTOPHLEBIIDAE  | 09020406       | 3.3      | 3.3    |    |        | 10.1      | 10.1 |
| EURYLOPHELLA     | 09020410036    | 1.0      | 1.0    | 3  | CG     | 3.0       | 3.0  |
| NYCTIOPHYLAX     | 09020603009    | 0.0      | 4.0    | 5  | PR     | 0.0       | 12.1 |
| NYCTIOPHYLAX     | 09020603009013 | 4.0      | 0.0    | 5  | PR     | 12.1      | 0.0  |
| OLIGOSTOMIS      | 09020608039    | 1.3      | 1.3    | 2  | PR     | 4.0       | 4.0  |
| PYCNOPSYCHE      | 09020610049    | 0.3      | 0.3    | 4  | S      | 1.0       | 1.0  |
| PSILOTRETA       | 09020614068    | 0.3      | 0.3    | 0  | SC     | 1.0       | 1.0  |
| CHIRONOMIDAE     | 09021011       | 0.3      | 0.0    |    |        | 1.0       | 0.0  |
| CONCHAPELOPIA    | 09021011004    | 0.3      | 0.3    | 6  | PR     | 1.0       | 1.0  |
| LARSIA           | 09021011009    | 0.6      | 0.6    | 6  | PR     | 2.0       | 2.0  |
| PARAMERINA       | 09021011013    | 0.3      | 0.3    |    |        | 1.0       | 1.0  |
| CRICOTOPUS       | 09021011037    | 0.3      | 0.3    | 7  | S      | 1.0       | 1.0  |
| PARAMETRIOCNEMUS | 09021011053    | 0.3      | 0.3    | 5  | CG     | 1.0       | 1.0  |
| RHEOCRICOTOPUS   | 09021011057    | 0.0      | 0.3    | 6  | CG     | 0.0       | 1.0  |
| RHEOCRICOTOPUS   | 09021011057108 | 0.3      | 0.0    | 6  | CG     | 1.0       | 0.0  |
| THIENEMANNIELLA  | 09021011062    | 1.6      | 1.7    | 6  | CG     | 5.0       | 5.1  |
| MICROPSECTRA     | 09021011070    | 7.3      | 7.4    | 7  | CG     | 22.2      | 22.6 |
| RHEOTANYTARSUS   | 09021011072    | 3.3      | 3.4    | 6  | CF     | 10.1      | 10.3 |
| TANYTARSUS       | 09021011076    | 1.6      | 1.7    | 6  | CF     | 5.0       | 5.1  |
| POLYPEDILUM      | 09021011102    | 0.0      | 0.3    | 6  | S      | 0.0       | 1.0  |
| POLYPEDILUM      | 09021011102181 | 0.3      | 0.0    | 6  | S      | 1.0       | 0.0  |
| SIMULIUM         | 09021012047    | 0.0      | 0.3    | 4  | CF     | 0.0       | 1.0  |
| SIMULIUM         | 09021012047068 | 0.3      | 0.0    | 4  | CF     | 1.0       | 0.0  |

TOTAL

33.0

100.1

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

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |                           |
|---------------------|---------------------------|
| Sample Log No.:     | 743                       |
| Waterbody Name:     | Cannon Brook              |
| Town Name:          | Stream inlet - Bar Harbor |
| Date of Collection: | 28-Aug-98                 |
| Subsample Factor:   | 1.00                      |
| Sampler Type:       | Basket                    |

| Bar Code No. | Taxon                   |                      | No. identified from sample |          |          |
|--------------|-------------------------|----------------------|----------------------------|----------|----------|
|              | Genus                   | Species              | Basket 1                   | Basket 2 | Basket 3 |
| 09020401     | Baetidae                | (early instar)       | 0                          | 1        | 0        |
| 09020301004  | Boyeria                 | vinosa               | 0                          | 1        | 2        |
|              | Chironomini             | (early instar)       | 1                          | 0        | 0        |
|              | Conchapelopia genus-gr. | (early instar)       | 1                          | 0        | 0        |
| 09021011037  | Cricotopus              |                      | 0                          | 1        | 0        |
| 09020410036  | Eurylophella            |                      | 2                          | 0        | 1        |
| 09020402     | Heptageniidae           | (early instar)       | 2                          | 1        | 2        |
| 09020102     | Isotomidae              | ?Isotoma sp.         | 0                          | 1        | 0        |
| 09021011009  | Larsia                  |                      | 1                          | 0        | 1        |
| 09020406     | Leptophlebiidae         | (early instar, inc.) | 5                          | 1        | 4        |
| 09021011070  | Micropsectra            |                      | 1                          | 3        | 18       |
| 09020603009  | Nyctiophylax            | moestus              | 6                          | 3        | 3        |
| 09020608039  | Oligostomis             |                      | 0                          | 2        | 2        |
| 09021011013  | Paramerina              |                      | 1                          | 0        | 0        |
| 09021011053  | Parametriocnemus        |                      | 0                          | 1        | 0        |
| 09021011102  | Polypedilum             | aviceps              | 1                          | 0        | 0        |
| 09020614068  | Psilotreta              |                      | 1                          | 0        | 0        |
| 09020610049  | Pycnopsyche             |                      | 0                          | 1        | 0        |
| 09021011057  | Rheocricotopus          | pauciseta            | 0                          | 0        | 1        |
| 09021011072  | Rheotanytarsus          |                      | 2                          | 2        | 6        |
| 09021012047  | Simulium                | venustum             | 1                          | 0        | 0        |
| 09020402014  | Stenacron               | (early instar)       | 3                          | 0        | 0        |
| 09020402014  | Stenacron               | interpunctatum       | 1                          | 1        | 0        |
| 09020208040  | Sweltsa                 |                      | 1                          | 0        | 0        |
| 09021011076  | Tanytarsus              | sp. 06               | 1                          | 0        | 4        |
| 09021011062  | Thienemanniella         |                      | 0                          | 4        | 1        |

|                      |           |           |           |
|----------------------|-----------|-----------|-----------|
| <b>Total Benthos</b> | <b>31</b> | <b>23</b> | <b>45</b> |
| <b>Total OTUs</b>    | <b>17</b> | <b>14</b> | <b>12</b> |
| <b>Total spp.</b>    | <b>14</b> | <b>13</b> | <b>11</b> |

KEY REPORT  
PRINTED 10/22/99 @ 08:52

STATION ID: S321  
LOG NUMBER: 744

LAST CALCULATED: 10/22/99  
MODEL CALCULATED: 10/22/99

ADJUSTED TO GENUS

River Basin CENTRAL AND  
Water Body HUNTER BROOK  
Town ACADIA NATIONAL  
Stream Order 2

Sample Method R  
Subsample Factor X1  
Ref LOG # 0  
Date IN 07/31/98  
Date OUT 08/28/98

SUMMARY OF HABITAT CHARACTERISTICS

|          |                 |           |             |       |       |
|----------|-----------------|-----------|-------------|-------|-------|
| Land Use | UPLAND CONIFER  | Terrain   | FLAT        | Temp  | 15.0  |
|          | UPLAND HARDWOOD | Cover     | PARTLY OPEN | Width | 1.0   |
|          |                 | Pollutant |             | Depth | 15.0  |
|          |                 |           |             | Veloc | 24.40 |

Substrate Composition

|         |          |    |
|---------|----------|----|
| Bedrock | Gravel   | 65 |
| Boulder | Sand     | 5  |
| Rubble  | Silt     | 30 |
|         | Detritus |    |

GIS Site Location  
Latitude  
Longitude

Legislative Class: AA Model Classification: A with P >= 60%

Classification Attainment Model Probabilities

First Stage Model

|         |         |                |         |
|---------|---------|----------------|---------|
| Class A | 0.71088 | Class B        | 0.27892 |
| Class C | 0.01021 | Non-Attainment | 0.00000 |

C or better Model

|                 |         |
|-----------------|---------|
| Class A,B, or C | 1.00000 |
| Non-Attainment  | 0.00000 |

B or Better Model

|                           |         |
|---------------------------|---------|
| Class A or B              | 0.98524 |
| Class C or Non-Attainment | 0.01476 |

A Model

|                                |         |
|--------------------------------|---------|
| Class A                        | 0.74509 |
| Class B or C or Non-Attainment | 0.25491 |

Model Variable Values

|                 |         |                 |        |                 |        |
|-----------------|---------|-----------------|--------|-----------------|--------|
| 01 TOT ABUN     | 111.000 | 07 REL ABUN CHI | 0.414  | 13 REL ABUN OLI | 0.000  |
| 02 GEN RICH     | 31.000  | 08 REL RICH DIP | 0.387  | 14 PROB AB 1ST  | 0.989  |
| 03 PLEC ABUN    | 6.000   | 09 HYDRO ABUN   | 11.670 | 15 PERL ABUN    | 0.000  |
| 04 EPHEM ABUN   | 35.010  | 10 PROB ABC 1ST | 1.000  | 16 TANYPOD ABUN | 1.100  |
| 05 SW GEN DIV   | 3.660   | 11 CHEUM ABUN   | 0.000  | 17 CHIRON ABUN  | 23.180 |
| 06 HILS BIO IND | 4.460   | 12 EPT/DIPT     | 1.250  | 18 REL AB EPHEM | 0.315  |
| 19 EPT GEN RICH | 15.000  | 25 SUM ABUN     | 1.470  | 5 Dominant Taxa |        |
| 20 PROB(AB) SUB | 0.613   | 26 SUM ABUN     | 0.000  | POLYPEDILUM     | 20.8   |
| 21 SUMMED ABUN  | 0.740   | 27 PROB(A) SUB  | 0.848  | BAETIS          | 20.2   |
| 22 PROB(A) 1ST  | 0.710   | 28 EP GEN RICH  | 0.785  | RHEOTANYTARSUS  | 11.9   |
| 23 REL PLEC RI  | 0.129   | 29 DOM A IND    | 0.000  | HYDROPSYCHE     | 10.5   |
| 24 REL AB BRACH | 0.000   | 30 PRES A INDIC | 0.142  | RHYACOPHILA     | 6.3    |

KEY REPORT  
 PRINTED 10/22/99 @ 08:52

STATION ID: S321  
 LOG NUMBER: 744      LAST CALCULATED: 10/22/99      MODEL CALCULATED: 10/22/99

| TAXA             | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |      |
|------------------|----------------|----------|--------|----|--------|-----------|------|
|                  |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ  |
| LEUCTRIDAE       | 09020204       | 0.3      | 0.0    |    |        | 0.3       | 0.0  |
| LEUCTRA          | 09020204020    | 0.0      | 2.6    | 0  | S      | 0.0       | 2.4  |
| LEUCTRA          | 09020204020058 | 2.3      | 0.0    | 0  | S      | 2.1       | 0.0  |
| PERLODIDAE       | 09020207       | 0.6      | 0.6    |    |        | 0.6       | 0.6  |
| CHLOROPERLIDAE   | 09020208       | 2.0      | 2.0    |    |        | 1.8       | 1.8  |
| SWELTS           | 09020208040    | 0.6      | 0.6    |    | PR     | 0.6       | 0.6  |
| BAETIDAE         | 09020401       | 1.0      | 0.0    |    |        | 0.9       | 0.0  |
| BAETIS           | 09020401001    | 21.6     | 22.4   | 4  | CG     | 19.5      | 20.2 |
| ACERPENNA        | 09020401007    | 0.0      | 4.8    | 5  | CG     | 0.0       | 4.3  |
| ACERPENNA        | 09020401007001 | 4.6      | 0.0    | 5  | CG     | 4.2       | 0.0  |
| STENACRON        | 09020402014    | 0.0      | 0.3    | 7  | SC     | 0.0       | 0.3  |
| STENACRON        | 09020402014045 | 0.3      | 0.0    | 7  | SC     | 0.3       | 0.0  |
| LEPTOPHLEBIIDAE  | 09020406       | 0.6      | 0.6    |    |        | 0.6       | 0.6  |
| PARALEPTOPHLEBIA | 09020406026    | 0.6      | 0.6    | 1  | CG     | 0.6       | 0.6  |
| EPHEMERELLA      | 09020410035    | 5.6      | 5.6    | 1  | CG     | 5.1       | 5.1  |
| EURYLOPHELLA     | 09020410036    | 0.3      | 0.3    | 3  | CG     | 0.3       | 0.3  |
| MICROVELIA       | 09020510025    | 0.3      | 0.3    |    | PR     | 0.3       | 0.3  |
| DOLOPHILODES     | 09020601001    | 0.3      | 0.3    | 0  | CF     | 0.3       | 0.3  |
| HYDROPSYCHE      | 09020604016    | 1.6      | 11.6   | 4  | CF     | 1.5       | 10.5 |
| HYDROPSYCHE      | 09020604016033 | 10.0     | 0.0    | 4  | CF     | 9.0       | 0.0  |
| RHYACOPHILA      | 09020605019    | 3.6      | 7.0    | 2  | PR     | 3.3       | 6.3  |
| RHYACOPHILA      | 09020605019057 | 0.3      | 0.0    | 2  | PR     | 0.3       | 0.0  |
| RHYACOPHILA      | 09020605019060 | 3.0      | 0.0    | 2  | PR     | 2.7       | 0.0  |
| LIMNAPHILIDAE    | 09020610       | 0.6      | 0.6    |    |        | 0.6       | 0.6  |
| PYRALIDAE        | 09020901       | 0.3      | 0.3    |    |        | 0.3       | 0.3  |
| DICRANOTA        | 09021001005    | 0.3      | 0.3    | 3  | PR     | 0.3       | 0.3  |
| CHIRONOMIDAE     | 09021011       | 4.3      | 0.0    |    |        | 3.9       | 0.0  |
| TRISSOPELOPIA    | 09021011021    | 1.0      | 1.1    |    | PR     | 0.9       | 0.9  |
| CORYNONEURA      | 09021011036    | 2.3      | 2.5    | 7  | CG     | 2.1       | 2.3  |
| CRICOTOPUS       | 09021011037    | 0.0      | 1.4    | 7  | S      | 0.0       | 1.3  |
| CRICOTOPUS       | 09021011037057 | 1.3      | 0.0    | 7  | S      | 1.2       | 0.0  |
| PARAMETRIOCNEMUS | 09021011053    | 0.6      | 0.7    | 5  | CG     | 0.6       | 0.6  |
| PSECTROCLADIUS   | 09021011056    | 0.3      | 0.3    | 8  | CG     | 0.3       | 0.3  |
| SYNORTHOCCLADIUS | 09021011061    | 0.6      | 0.7    | 2  | CG     | 0.6       | 0.6  |
| THIENEMANNIELLA  | 09021011062    | 1.0      | 1.1    | 6  | CG     | 0.9       | 0.9  |
| TVETENIA         | 09021011065    | 0.0      | 0.7    | 5  | CG     | 0.0       | 0.6  |
| TVETENIA         | 09021011065111 | 0.6      | 0.0    | 5  | CG     | 0.6       | 0.0  |
| MICROPSECTRA     | 09021011070    | 0.6      | 0.7    | 7  | CG     | 0.6       | 0.6  |
| RHEOTANYTARSUS   | 09021011072    | 12.0     | 13.2   | 6  | CF     | 10.8      | 11.9 |
| POLYPEDILUM      | 09021011102    | 1.6      | 23.1   | 6  | S      | 1.5       | 20.8 |
| POLYPEDILUM      | 09021011102181 | 19.3     | 0.0    | 6  | S      | 17.4      | 0.0  |
| OULIMNIUS        | 09021113068    | 0.0      | 1.0    |    |        | 0.0       | 0.9  |
| OULIMNIUS        | 09021113068049 | 1.0      | 0.0    |    |        | 0.9       | 0.0  |
| TOTAL            |                | 108.6    |        |    |        | 97.8      |      |

KEY REPORT  
PRINTED 10/22/99 @ 08:52

TATION ID: S321  
LOG NUMBER: 744

LAST CALCULATED: 10/22/99      MODEL CALCULATED: 10/22/99

| TAXA       | CODE           | AVG/BSKT<br>ACTUAL | BI | FG | R/K | REL<br>ACT | ABUND<br>ADJ |
|------------|----------------|--------------------|----|----|-----|------------|--------------|
| PROMORESIA | 09021113069    | 0.0                |    |    |     | 0.0        | 2.1          |
| PROMORESIA | 09021113069052 | 2.3                |    |    |     | 2.1        | 0.0          |

TOTAL

111.0

100.0

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

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |               |
|---------------------|---------------|
| Sample Log No.:     | 744           |
| Waterbody Name:     | Hunters Brook |
| Town Name:          | Mt. Desert    |
| Date of Collection: | 28-Aug-98     |
| Subsample Factor:   | 1.00          |
| Sampler Type:       | Basket        |

| Bar Code No. | Taxon                       |                      | No. identified from sample |          |          |
|--------------|-----------------------------|----------------------|----------------------------|----------|----------|
|              | Genus                       | Species              | Basket 1                   | Basket 2 | Basket 3 |
|              | Acerpenna                   | macdunnoughi         | 5                          | 4        | 5        |
| 09020401     | Baetidae                    | (early instar)       | 0                          | 1        | 2        |
| 09020401001  | Baetis                      | (two-tail w/wp)      | 45                         | 5        | 7        |
| 09020401001  | Baetis                      |                      | 1                          | 3        | 4        |
| 09021011     | Chironomidae                | (no head)            | 2                          | 1        | 0        |
|              | Chironomini                 | (early instar)       | 0                          | 3        | 0        |
|              | Chloroperlidae?             | (very early instar)  | 0                          | 3        | 3        |
| 09021011036  | Corynoneura                 |                      | 0                          | 7        | 0        |
|              | Corynoneura/Thienemanniella | (inc.)               | 6                          | 0        | 0        |
| 09021011037  | Cricotopus                  | bicinctus            | 2                          | 2        | 0        |
| 09021001005  | Dicranota                   |                      | 1                          | 0        | 0        |
| 09020601001  | Dolophilodes                |                      | 0                          | 1        | 0        |
| 09020410035  | Ephemerella                 |                      | 11                         | 4        | 2        |
| 09020410036  | Eurylophella                |                      | 0                          | 0        | 1        |
| 09020604016  | Hydropsyche                 | (early instar)       | 4                          | 1        | 0        |
| 09020604016  | Hydropsyche                 | ventura              | 22                         | 7        | 1        |
| 09020406     | Leptophlebiidae             | (early instar, inc.) | 0                          | 1        | 1        |
| 09020204020  | Leuctra                     | truncata             | 5                          | 0        | 2        |
| 09020204     | Leuctridae                  | (early instar)       | 0                          | 1        | 0        |
| 09020610     | Limnephilidae               | (early instar)       | 0                          | 2        | 0        |
| 09021011070  | Micropsectra                |                      | 0                          | 0        | 2        |
| 09020510025  | Microvelia                  |                      | 0                          | 1        | 0        |
| 09021113068  | Oulimnius                   | latusculus           | 3                          | 0        | 0        |
| 09020406026  | Paraleptophlebia            |                      | 0                          | 1        | 1        |
| 09021011053  | Parametriocnemus            |                      | 2                          | 0        | 0        |
| 09020207     | Perlodidae                  | (early instar)       | 1                          | 1        | 0        |
| 09021011102  | Polypedilum                 | (pupa)               | 3                          | 0        | 2        |
| 09021011102  | Polypedilum                 | aviceps              | 39                         | 15       | 4        |
| 09021113069  | Promoresia                  | tardella             | 5                          | 1        | 1        |
| 09021011056  | Psectrocladius              |                      | 0                          | 0        | 1        |
| 09020901     | Pyralidae                   |                      | 0                          | 1        | 0        |
| 09021011072  | Rheotanytarsus              |                      | 11                         | 12       | 13       |
| 09020605019  | Rhyacophila                 | (early instar)       | 4                          | 6        | 1        |
| 09020605019  | Rhyacophila                 | carolina             | 0                          | 1        | 0        |

| Bar Code No. | Taxon           |                | No. identified from sample |          |          |
|--------------|-----------------|----------------|----------------------------|----------|----------|
|              | Genus           | Species        | Basket 1                   | Basket 2 | Basket 3 |
| 09020605019  | Rhyacophila     | fuscula        | 6                          | 1        | 2        |
| 09020402014  | Stenacron       | interpunctatum | 0                          | 0        | 1        |
| 09020208040  | Sweltsa         |                | 1                          | 0        | 1        |
| 09021011061  | Synorthocladius |                | 0                          | 0        | 2        |
|              | Tanypodinae     | (early instar) | 0                          | 1        | 0        |
| 09021011062  | Thienemanniella |                | 0                          | 3        | 0        |
| 09021011021  | Trissopelopia   |                | 1                          | 1        | 1        |
| 09021011065  | Tvetenia        | bavarica-gr.   | 1                          | 0        | 1        |

|                      |            |           |           |
|----------------------|------------|-----------|-----------|
| <b>Total Benthos</b> | <b>181</b> | <b>91</b> | <b>61</b> |
| <b>Total OTUs</b>    | <b>23</b>  | <b>29</b> | <b>24</b> |
| <b>Total spp.</b>    | <b>18</b>  | <b>21</b> | <b>19</b> |

LY REPORT  
PRINTED 10/22/99 @ 08:52

ATION ID: S323  
LOG NUMBER: 745 LAST CALCULATED: 10/22/99 ADJUSTED TO GENUS  
MODEL CALCULATED: 10/22/99

|              |                 |                  |          |
|--------------|-----------------|------------------|----------|
| River Basin  | CENTRAL AND     | Sample Method    | R        |
| Water Body   | STANLEY BROOK   | Subsample Factor | X1       |
| Town         | ACADIA NATIONAL | Ref LOG #        | 0        |
| Stream Order | 2               | Date IN          | 07/31/98 |
|              |                 | Date OUT         | 08/28/98 |

SUMMARY OF HABITAT CHARACTERISTICS

|          |                 |           |             |       |       |
|----------|-----------------|-----------|-------------|-------|-------|
| Land Use | UPLAND CONIFER  | Terrain   | ROLLING     | Temp  | 14.0  |
|          | UPLAND HARDWOOD | Cover     | PARTLY OPEN | Width | 2.0   |
|          |                 | Pollutant |             | Depth | 17.3  |
|          |                 |           |             | Veloc | 36.60 |

Substrate Composition

|         |          |    |                   |
|---------|----------|----|-------------------|
| Bedrock | Gravel   | 35 | GIS Site Location |
| Boulder | Sand     | 20 | Latitude          |
| Rubble  | Silt     |    | Longitude         |
|         | Detritus |    |                   |

Legislative Class: AA Model Classification: A with P >= 60%

Classification Attainment Model Probabilities

First Stage Model

|         |         |                |         |
|---------|---------|----------------|---------|
| Class A | 0.91997 | Class B        | 0.07985 |
| Class C | 0.00018 | Non-Attainment | 0.00000 |

C or better Model

|                 |         |
|-----------------|---------|
| Class A,B, or C | 1.00000 |
| Non-Attainment  | 0.00000 |

B or Better Model

|                           |         |
|---------------------------|---------|
| Class A or B              | 0.99984 |
| Class C or Non-Attainment | 0.00016 |

A Model

|                                |         |
|--------------------------------|---------|
| Class A                        | 0.99549 |
| Class B or C or Non-Attainment | 0.00451 |

Model Variable Values

|                 |         |                 |        |                 |       |
|-----------------|---------|-----------------|--------|-----------------|-------|
| 01 TOT ABUN     | 122.960 | 07 REL ABUN CHI | 0.102  | 13 REL ABUN OLI | 0.000 |
| 02 GEN RICH     | 35.000  | 08 REL RICH DIP | 0.428  | 14 PROB AB 1ST  | 0.999 |
| 03 PLEC ABUN    | 4.000   | 09 HYDRO ABUN   | 14.000 | 15 PERL ABUN    | 0.000 |
| 04 EPHEM ABUN   | 64.340  | 10 PROB ABC 1ST | 1.000  | 16 TANYPOD ABUN | 0.430 |
| 05 SW GEN DIV   | 3.670   | 11 CHEUM ABUN   | 0.000  | 17 CHIRON ABUN  | 1.310 |
| 06 HILS BIO IND | 2.870   | 12 EPT/DIPT     | 1.000  | 18 REL AB EPHEM | 0.523 |
| 19 EPT GEN RICH | 15.000  | 25 SUM ABUN     | 0.000  | 5 Dominant Taxa |       |
| 20 PROB(AB) SUB | 0.952   | 26 SUM ABUN     | 0.000  | BAETIS          | 24.6  |
| 01 SUMMED ABUN  | 3.050   | 27 PROB(A) SUB  | 0.993  | EPHEMERELLA     | 22.2  |
| 02 PROB(A) 1ST  | 0.919   | 28 EP GEN RICH  | 0.571  | HYDROPSYCHE     | 11.3  |
| 23 REL PLEC RI  | 0.114   | 29 DOM A IND    | 0.000  | RHYACOPHILA     | 8.1   |
| 24 REL AB BRACH | 0.000   | 30 PRES A INDIC | 0.285  | LEPTOPHLEBIIDAE | 4.6   |

EY REPORT  
 PRINTED 10/22/99 @ 08:52

TATION ID: S323  
 OG NUMBER: 745

LAST CALCULATED: 10/22/99

MODEL CALCULATED: 10/22/99

| TAXA             | CODE           | AVG/BSKT |        | BI | FG | R/K | REL ABUND |      |
|------------------|----------------|----------|--------|----|----|-----|-----------|------|
|                  |                | ACTUAL   | ADJUST |    |    |     | ACT       | ADJ  |
| ISOTOMIDAE       | 09020102       | 1.3      | 1.3    |    |    |     | 1.0       | 1.0  |
| PERLODIDAE       | 09020207       | 1.0      | 1.0    |    |    |     | 0.8       | 0.8  |
| DIURA            | 09020207030    | 1.0      | 1.0    |    |    | SC  | 0.8       | 0.8  |
| CHLOROPERLIDAE   | 09020208       | 0.3      | 0.3    |    |    |     | 0.2       | 0.2  |
| SWELTSIA         | 09020208040    | 1.6      | 1.6    |    |    | PR  | 1.3       | 1.3  |
| BAETIDAE         | 09020401       | 2.6      | 0.0    |    |    |     | 2.1       | 0.0  |
| BAETIS           | 09020401001    | 27.0     | 30.3   | 4  |    | CG  | 21.9      | 24.6 |
| BAETIS           | 09020401001004 | 0.6      | 0.0    | 4  |    | CG  | 0.5       | 0.0  |
| LEPTOPHLEBIIDAE  | 09020406       | 5.6      | 5.6    |    |    |     | 4.6       | 4.6  |
| EPHEMERELLA      | 09020410035    | 27.3     | 27.3   | 1  |    | CG  | 22.2      | 22.2 |
| EURYLOPHELLA     | 09020410036    | 1.0      | 1.0    | 3  |    | CG  | 0.8       | 0.8  |
| TRICHOPTERA      | 090206         | 0.3      | 0.3    |    |    |     | 0.2       | 0.2  |
| DOLOPHILODES     | 09020601001    | 1.0      | 1.0    | 0  |    | CF  | 0.8       | 0.8  |
| PARAPSYCHE       | 09020604013    | 0.0      | 5.0    | 0  |    | CF  | 0.0       | 4.0  |
| PARAPSYCHE       | 09020604013023 | 5.0      | 0.0    | 0  |    | CF  | 4.0       | 0.0  |
| HYDROPSYCHE      | 09020604016    | 1.6      | 14.0   | 4  |    | CF  | 1.3       | 11.3 |
| HYDROPSYCHE      | 09020604016033 | 12.3     | 0.0    | 4  |    | CF  | 10.0      | 0.0  |
| RHYACOPHILA      | 09020605019    | 4.3      | 9.9    | 2  |    | PR  | 3.5       | 8.1  |
| RHYACOPHILA      | 09020605019057 | 0.3      | 0.0    | 2  |    | PR  | 0.2       | 0.0  |
| RHYACOPHILA      | 09020605019060 | 5.3      | 0.0    | 2  |    | PR  | 4.3       | 0.0  |
| GLOSSOSOMA       | 09020606020    | 1.0      | 1.0    | 0  |    | SC  | 0.8       | 0.8  |
| OLIGOSTOMIS      | 09020608039    | 0.3      | 0.3    | 2  |    | PR  | 0.2       | 0.2  |
| LEPIDOSTOMA      | 09020611064    | 0.3      | 0.3    | 1  |    | S   | 0.2       | 0.2  |
| PYRALIDAE        | 09020901       | 0.3      | 0.3    |    |    |     | 0.2       | 0.2  |
| DICRANOTA        | 09021001005    | 0.6      | 0.6    | 3  |    | PR  | 0.5       | 0.5  |
| PEDICIA          | 09021001012    | 0.3      | 0.3    | 6  |    | PR  | 0.2       | 0.2  |
| CHIRONOMIDAE     | 09021011       | 3.0      | 0.0    |    |    |     | 2.4       | 0.0  |
| TRISSOPELOPIA    | 09021011021    | 0.3      | 0.4    |    |    | PR  | 0.2       | 0.3  |
| BRILLIA          | 09021011033    | 0.3      | 0.4    | 5  |    | S   | 0.2       | 0.3  |
| EUKIEFFERIELLA   | 09021011041    | 0.0      | 0.8    | 8  |    | CG  | 0.0       | 0.7  |
| EUKIEFFERIELLA   | 09021011041073 | 0.3      | 0.0    | 8  |    | CG  | 0.2       | 0.0  |
| EUKIEFFERIELLA   | 09021011041074 | 0.3      | 0.0    | 8  |    | CG  | 0.2       | 0.0  |
| LIMNOPHYES       | 09021011047    | 0.3      | 0.4    | 8  |    | CG  | 0.2       | 0.3  |
| PARAMETRIOCNEMUS | 09021011053    | 1.0      | 1.3    | 5  |    | CG  | 0.8       | 1.0  |
| RHEOCRICOTOPUS   | 09021011057    | 0.3      | 2.6    | 6  |    | CG  | 0.2       | 2.1  |
| RHEOCRICOTOPUS   | 09021011057111 | 1.6      | 0.0    | 6  |    | CG  | 1.3       | 0.0  |
| SYNORTHOCCLADIUS | 09021011061    | 0.3      | 0.4    | 2  |    | CG  | 0.2       | 0.3  |
| THIENEMANNIELLA  | 09021011062    | 1.0      | 1.3    | 6  |    | CG  | 0.8       | 1.0  |
| TVETENIA         | 09021011065    | 0.0      | 0.4    | 5  |    | CG  | 0.0       | 0.3  |
| TVETENIA         | 09021011065111 | 0.3      | 0.0    | 5  |    | CG  | 0.2       | 0.0  |
| MICROPSECTRA     | 09021011070    | 2.3      | 3.0    | 7  |    | CG  | 1.8       | 2.4  |
| POLYPEDILUM      | 09021011102    | 0.0      | 1.3    | 6  |    | S   | 0.0       | 1.0  |
| POLYPEDILUM      | 09021011102181 | 1.0      | 0.0    | 6  |    | S   | 0.8       | 0.0  |
| TOTAL            |                | 115.6    |        |    |    |     | 94.0      |      |

EY REPORT

PRINTED 10/22/99 @ 08:52

STATION ID: S323

LOG NUMBER: 745

LAST CALCULATED: 10/22/99

MODEL CALCULATED: 10/22/99

| TAXA         | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |     |
|--------------|----------------|----------|--------|----|--------|-----------|-----|
|              |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ |
| SIMULIUM     | 09021012047    | 0.0      | 1.6    | 4  | CF     | 0.0       | 1.3 |
| SIMULIUM     | 09021012047068 | 1.6      | 0.0    | 4  | CF     | 1.3       | 0.0 |
| WIEDEMANNIA  | 09021016059    | 0.6      | 0.6    | 3  | PR     | 0.5       | 0.5 |
| ELMIDAE      | 09021113       | 0.3      | 0.0    |    |        | 0.2       | 0.0 |
| OULIMNIUS    | 09021113068    | 0.0      | 0.7    |    |        | 0.0       | 0.6 |
| OULIMNIUS    | 09021113068049 | 0.6      | 0.0    |    |        | 0.5       | 0.0 |
| PROMORESIA   | 09021113069    | 0.0      | 2.2    |    |        | 0.0       | 1.8 |
| PROMORESIA   | 09021113069052 | 2.0      | 0.0    |    |        | 1.6       | 0.0 |
| HYDRACHNIDIA | 09030101       | 2.0      | 2.0    |    |        | 1.6       | 1.6 |

TOTAL

123.0

100.0

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

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |               |
|---------------------|---------------|
| Sample Log No.:     | 745           |
| Waterbody Name:     | Stanley Brook |
| Town Name:          | Seal Harbor   |
| Date of Collection: | 28-Aug-98     |
| Subsample Factor:   | 1.00          |
| Sampler Type:       | Basket        |

| Bar Code No. | Taxon                       |                      | No. identified from sample |          |          |
|--------------|-----------------------------|----------------------|----------------------------|----------|----------|
|              | Genus                       | Species              | Basket 1                   | Basket 2 | Basket 3 |
| 09020401     | Baetidae                    | (early instar)       | 1                          | 0        | 7        |
| 09020401001  | Baetis                      | (two tail w/wp)      | 31                         | 13       | 25       |
| 09020401001  | Baetis                      | flavistriga          | 0                          | 0        | 2        |
| 09020401001  | Baetis                      |                      | 2                          | 6        | 4        |
| 09021011033  | Brillia                     |                      | 0                          | 1        | 0        |
| 09021011     | Chironomidae                | (no head)            | 0                          | 6        | 1        |
|              | Chloroperlidae?             | (very early instar)  | 0                          | 0        | 1        |
| 09021011036  | Corynoneura                 |                      | 5                          | 12       | 15       |
|              | Corynoneura/Thienemanniella | (inc.)               | 0                          | 0        | 1        |
| 09021001005  | Dicranota                   |                      | 0                          | 0        | 2        |
| 09020207030  | Diura                       |                      | 0                          | 1        | 2        |
| 09020601001  | Dolophilodes                |                      | 0                          | 2        | 1        |
| 09021113     | Elmidae                     | (early instar)       | 1                          | 0        | 0        |
| 09020410035  | Ephemerella                 |                      | 33                         | 26       | 23       |
| 09021011041  | Eukiefferiella              | brehmi-gr.           | 1                          | 0        | 0        |
| 09021011041  | Eukiefferiella              | brevicalcar-gr.      | 1                          | 0        | 0        |
| 09020410036  | Eurylophella                |                      | 1                          | 1        | 1        |
| 09020606020  | Glossosoma                  |                      | 2                          | 0        | 1        |
| 09020604016  | Hydropsyche                 | (early instar)       | 3                          | 0        | 2        |
| 09020604016  | Hydropsyche                 | ventura              | 14                         | 16       | 7        |
|              | Hydrozetes                  |                      | 0                          | 0        | 6        |
| 09020102     | Isotomidae                  | ?Agrenia sp.         | 0                          | 0        | 3        |
| 09020102     | Isotomidae                  | ?Isotoma sp.         | 0                          | 0        | 1        |
| 09020611064  | Lepidostoma                 |                      | 0                          | 0        | 1        |
| 09020406     | Leptophlebiidae             | (early instar, inc.) | 2                          | 5        | 10       |
| 09021011047  | Limnophyes                  |                      | 1                          | 0        | 0        |
| 09021011070  | Micropsectra                |                      | 0                          | 3        | 4        |
| 09020608039  | Oligostomis                 |                      | 0                          | 1        | 0        |
| 09021113068  | Oulimnius                   | latiusculus          | 0                          | 0        | 2        |
| 09021011053  | Parametrioctenus            |                      | 0                          | 0        | 3        |
| 09020604013  | Parapsyche                  | apicalis             | 10                         | 3        | 2        |
|              | Pedicia?                    | (early instar)       | 1                          | 0        | 0        |
| 09020207     | Perlodidae                  | (early instar)       | 1                          | 0        | 2        |
| 09021011102  | Polypedilum                 | aviceps              | 2                          | 1        | 0        |

| Bar Code No. | Taxon           |                     | No. identified from sample |          |          |
|--------------|-----------------|---------------------|----------------------------|----------|----------|
|              | Genus           | Species             | Basket 1                   | Basket 2 | Basket 3 |
| 09021113069  | Promoresia      | tardella            | 1                          | 2        | 3        |
| 09020901     | Pyalidae        |                     | 0                          | 0        | 1        |
| 09021011057  | Rheocricotopus  | (early instar)      | 0                          | 0        | 1        |
| 09021011057  | Rheocricotopus  | pauciseta           | 0                          | 0        | 5        |
| 09020605019  | Rhyacophila     | (early instar)      | 2                          | 4        | 7        |
| 09020605019  | Rhyacophila     | carolina            | 1                          | 0        | 0        |
| 09020605019  | Rhyacophila     | fuscata             | 6                          | 6        | 4        |
| 09021012047  | Simulium        | venustum            | 2                          | 3        | 0        |
| 09020208040  | Sweltsa         |                     | 1                          | 4        | 0        |
| 09021011061  | Synorthocladius |                     | 0                          | 1        | 0        |
|              | Tanypodinae     | (early instar)      | 0                          | 0        | 1        |
| 09021011062  | Thienemanniella |                     | 0                          | 0        | 3        |
| 090206       | Trichoptera     | (very early instar) | 1                          | 0        | 0        |
| 09021011021  | Trissopelopia   |                     | 0                          | 1        | 0        |
| 09021011065  | Tvetenia        | bavarica-gr.        | 0                          | 1        | 0        |
| 09021016059  | Wiedemannia     |                     | 0                          | 1        | 1        |

|                      |            |            |            |
|----------------------|------------|------------|------------|
| <b>Total Benthos</b> | <b>126</b> | <b>120</b> | <b>155</b> |
| <b>Total OTUs</b>    | <b>25</b>  | <b>24</b>  | <b>35</b>  |
| <b>Total spp.</b>    | <b>22</b>  | <b>23</b>  | <b>26</b>  |

KEY REPORT  
PRINTED 10/22/99 @ 09:03

STATION ID: S322

LOG NUMBER: 746

LAST CALCULATED: 10/22/99

MODEL CALCULATED: 10/22/99

ADJUSTED TO GENUS

River Basin CENTRAL AND  
Water Body DUCK BROOK  
Town ACADIA NATIONAL  
Stream Order 2

Sample Method R  
Subsample Factor X1  
Ref LOG # 0  
Date IN 07/30/98  
Date OUT 08/27/98

SUMMARY OF HABITAT CHARACTERISTICS

|          |                 |           |             |       |       |
|----------|-----------------|-----------|-------------|-------|-------|
| Land Use | UPLAND HARDWOOD | Terrain   | ROLLING     | Temp  | 21.6  |
|          |                 | Cover     | PARTLY OPEN | Width | 3.6   |
|          |                 | Pollutant |             | Depth | 24.0  |
|          |                 |           |             | Veloc | 33.60 |

Substrate Composition

|         |    |          |    |
|---------|----|----------|----|
| Bedrock | 35 | Gravel   | 38 |
| Boulder | 15 | Sand     | 10 |
| Rubble  | 2  | Silt     |    |
|         |    | Detritus |    |

GIS Site Location  
Latitude  
Longitude

Legislative Class: AA Model Classification: A with P >= 60%

Classification Attainment Model Probabilities

First Stage Model

|         |         |                |         |
|---------|---------|----------------|---------|
| Class A | 0.76788 | Class B        | 0.23093 |
| Class C | 0.00120 | Non-Attainment | 0.00000 |

C or better Model

|                 |         |
|-----------------|---------|
| Class A,B, or C | 1.00000 |
| Non-Attainment  | 0.00000 |

B or Better Model

|                           |         |
|---------------------------|---------|
| Class A or B              | 0.99997 |
| Class C or Non-Attainment | 0.00003 |

A Model

|                                |         |
|--------------------------------|---------|
| Class A                        | 0.99924 |
| Class B or C or Non-Attainment | 0.00076 |

Model Variable Values

|                 |         |                 |        |                 |       |
|-----------------|---------|-----------------|--------|-----------------|-------|
| 01 TOT ABUN     | 121.600 | 07 REL ABUN CHI | 0.035  | 13 REL ABUN OLI | 0.000 |
| 02 GEN RICH     | 29.000  | 08 REL RICH DIP | 0.241  | 14 PROB AB 1ST  | 0.998 |
| 03 PLEC ABUN    | 3.000   | 09 HYDRO ABUN   | 1.330  | 15 PERL ABUN    | 3.000 |
| 04 EPHEM ABUN   | 95.650  | 10 PROB ABC 1ST | 1.000  | 16 TANYPOD ABUN | 1.080 |
| 05 SW GEN DIV   | 3.190   | 11 CHEUM ABUN   | 0.330  | 17 CHIRON ABUN  | 0.360 |
| 06 HILS BIO IND | 3.690   | 12 EPT/DIPT     | 1.714  | 18 REL AB EPHEM | 0.786 |
| 19 EPT GEN RICH | 12.000  | 25 SUM ABUN     | 2.130  | 5 Dominant Taxa |       |
| 20 PROB(AB) SUB | 0.998   | 26 SUM ABUN     | 31.410 | ACERPENNA       | 24.9  |
| 01 SUMMED ABUN  | 0.000   | 27 PROB(A) SUB  | 0.743  | STENONEMA       | 23.3  |
| 02 PROB(A) 1ST  | 0.767   | 28 EP GEN RICH  | 0.500  | LEUCROCUTA      | 19.3  |
| 23 REL PLEC RI  | 0.034   | 29 DOM A IND    | 0.400  | EURYLOPHELLA    | 9.3   |
| 04 REL AB BRACH | 0.000   | 30 PRES A INDIC | 0.428  | CALOPTERYX      | 3.5   |

KEY REPORT  
PRINTED 10/22/99 @ 09:03

TATION ID: S322  
LOG NUMBER: 746

LAST CALCULATED: 10/22/99

MODEL CALCULATED: 10/22/99

| TAXA            | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |      |
|-----------------|----------------|----------|--------|----|--------|-----------|------|
|                 |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ  |
| SYNURELLA       | 09010202006    | 0.3      | 0.3    |    |        | 0.2       | 0.2  |
| ENTOMOBRYIDAE   | 09020103       | 0.3      | 0.3    |    |        | 0.2       | 0.2  |
| ACRONEURIA      | 09020209042    | 0.0      | 3.0    | 0  | PR     | 0.0       | 2.4  |
| ACRONEURIA      | 09020209042121 | 3.0      | 0.0    | 0  | PR     | 2.4       | 0.0  |
| BOYERIA         | 09020301004    | 0.0      | 1.3    | 2  | PR     | 0.0       | 1.0  |
| BOYERIA         | 09020301004012 | 1.3      | 0.0    | 2  | PR     | 1.0       | 0.0  |
| CALOPTERYGIDAE  | 09020307       | 4.0      | 0.0    |    |        | 3.2       | 0.0  |
| CALOPTERYX      | 09020307043    | 0.0      | 4.3    | 5  | PR     | 0.0       | 3.5  |
| CALOPTERYX      | 09020307043088 | 0.3      | 0.0    | 5  | PR     | 0.2       | 0.0  |
| BAETIDAE        | 09020401       | 1.0      | 0.0    |    |        | 0.8       | 0.0  |
| ACERPENNA       | 09020401007    | 0.0      | 30.3   | 5  | CG     | 0.0       | 24.9 |
| ACERPENNA       | 09020401007001 | 0.3      | 0.0    | 5  | CG     | 0.2       | 0.0  |
| ACERPENNA       | 09020401007011 | 29.0     | 0.0    | 5  | CG     | 23.8      | 0.0  |
| HEPTAGENIIDAE   | 09020402       | 6.3      | 0.0    |    |        | 5.2       | 0.0  |
| LEUCROCUTA      | 09020402011    | 0.0      | 23.4   | 1  | SC     | 0.0       | 19.3 |
| LEUCROCUTA      | 09020402011038 | 20.6     | 0.0    | 1  | SC     | 16.9      | 0.0  |
| STENACRON       | 09020402014    | 0.6      | 0.7    | 7  | SC     | 0.5       | 0.6  |
| STENONEMA       | 09020402015    | 23.6     | 28.4   | 4  | SC     | 19.4      | 23.3 |
| STENONEMA       | 09020402015051 | 1.3      | 0.0    | 4  | SC     | 1.0       | 0.0  |
| LEPTOPHLEBIIDAE | 09020406       | 1.3      | 1.3    |    |        | 1.0       | 1.0  |
| EURYLOPHELLA    | 09020410036    | 11.3     | 11.3   | 3  | CG     | 9.3       | 9.3  |
| TREPOBATES      | 09020506021    | 0.3      | 0.3    |    | PR     | 0.2       | 0.2  |
| MICROVELIA      | 09020510025    | 0.6      | 0.6    |    | PR     | 0.5       | 0.5  |
| POLYCENTROPUS   | 09020603010    | 1.0      | 1.0    | 6  | PR     | 0.8       | 0.8  |
| CHEUMATOPSYCHE  | 09020604015    | 0.3      | 0.3    | 5  | CF     | 0.2       | 0.2  |
| HYDROPSYCHE     | 09020604016    | 0.3      | 1.3    | 4  | CF     | 0.2       | 1.0  |
| HYDROPSYCHE     | 09020604016032 | 1.0      | 0.0    | 4  | CF     | 0.8       | 0.0  |
| PSILOTRETA      | 09020614068    | 0.0      | 1.3    | 0  | SC     | 0.0       | 1.0  |
| PSILOTRETA      | 09020614068134 | 1.3      | 0.0    | 0  | SC     | 1.0       | 0.0  |
| OECETIS         | 09020618078    | 0.0      | 4.3    | 8  | PR     | 0.0       | 3.5  |
| OECETIS         | 09020618078157 | 4.3      | 0.0    | 8  | PR     | 3.5       | 0.0  |
| CHAULIODES      | 09020701001    | 0.3      | 0.3    | 4  | PR     | 0.2       | 0.2  |
| CHIRONOMIDAE    | 09021011       | 0.3      | 0.0    |    |        | 0.2       | 0.0  |
| CONCHAPELOPIA   | 09021011004    | 0.3      | 0.3    | 6  | PR     | 0.2       | 0.2  |
| PARAMERINA      | 09021011013    | 0.3      | 0.3    |    |        | 0.2       | 0.2  |
| TRISSOPELOPIA   | 09021011021    | 0.3      | 0.3    |    | PR     | 0.2       | 0.2  |
| CRICOTOPUS      | 09021011037    | 0.3      | 1.8    | 7  | S      | 0.2       | 1.4  |
| CRICOTOPUS      | 09021011037057 | 1.3      | 0.0    | 7  | S      | 1.0       | 0.0  |
| PSECTROCLADIUS  | 09021011056    | 0.6      | 0.7    | 8  | CG     | 0.5       | 0.6  |
| THIENEMANNIELLA | 09021011062    | 0.3      | 0.3    | 6  | CG     | 0.2       | 0.2  |
| MICROTENDIPES   | 09021011094    | 0.0      | 0.3    | 6  | CF     | 0.0       | 0.2  |
| MICROTENDIPES   | 09021011094166 | 0.3      | 0.0    | 6  | CF     | 0.2       | 0.0  |
| PSEPHEUS        | 09021108058    | 0.0      | 2.0    | 4  | SC     | 0.0       | 1.6  |

TOTAL

119.0

97.8

KEY REPORT  
PRINTED 10/22/99 @ 09:03

TATION ID: S322  
 LOG NUMBER: 746

LAST CALCULATED: 10/22/99

MODEL CALCULATED: 10/22/99

| TAXA       | CODE           | AVG/BSKT |        | BI | FG | R/K | REL | ABUND |
|------------|----------------|----------|--------|----|----|-----|-----|-------|
|            |                | ACTUAL   | ADJUST |    |    |     | ACT | ADJ   |
| PSEPHENUS  | 09021108058028 | 2.0      | 0.0    | 4  | SC |     | 1.6 | 0.0   |
| PROMORESIA | 09021113069    | 0.0      | 0.3    |    |    |     | 0.0 | 0.2   |
| PROMORESIA | 09021113069052 | 0.3      | 0.0    |    |    |     | 0.2 | 0.0   |
| PHYSELLA   | 10010202027    | 0.3      | 0.3    |    | SC |     | 0.2 | 0.2   |

TOTAL

121.6

100.0

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

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |            |
|---------------------|------------|
| Sample Log No.:     | 746        |
| Waterbody Name:     | Duck Brook |
| Town Name:          | Bar Harbor |
| Date of Collection: | 27-Aug-98  |
| Subsample Factor:   | 1.00       |
| Sampler Type:       | Basket     |

| Bar Code No. | Taxon                   |                      | No. identified from sample |          |          |
|--------------|-------------------------|----------------------|----------------------------|----------|----------|
|              | Genus                   | Species              | Basket 1                   | Basket 2 | Basket 3 |
|              | Acerpenna               | macdunnoughi         | 0                          | 1        | 0        |
|              | Acerpenna               | pygmaea              | 39                         | 26       | 22       |
| 09020209042  | Acroneuria              | abnormis             | 3                          | 0        | 6        |
| 09020401     | Baetidae                | (early instar)       | 0                          | 3        | 0        |
| 09020301004  | Boyeria                 | vinosa               | 2                          | 0        | 2        |
| 09020307     | Calopterygidae          | (early instar)       | 0                          | 11       | 1        |
| 09020307043  | Calopteryx              | maculata             | 0                          | 1        | 0        |
| 09020701001  | Chauliodes              | (early instar)       | 0                          | 1        | 0        |
| 09020604015  | Cheumatopsyche          |                      | 0                          | 0        | 1        |
|              | Conchapelopia genus-gr. | (early instar)       | 0                          | 0        | 1        |
| 09021011037  | Cricotopus              | (Isocladius) sp.     | 0                          | 1        | 0        |
| 09021011037  | Cricotopus              | bicinctus            | 0                          | 3        | 1        |
| 09020103     | Entomobryidae           | ?Entomobrya sp.      | 1                          | 0        | 0        |
| 09020410036  | Eurylophella            |                      | 7                          | 0        | 0        |
|              | Eurylophella?           | (early instar)       | 26                         | 0        | 1        |
| 09020402     | Heptageniidae           | (early instar)       | 11                         | 5        | 3        |
| 09020604016  | Hydropsyche             | (early instar)       | 0                          | 0        | 1        |
| 09020604016  | Hydropsyche             | sparna               | 0                          | 1        | 2        |
| 09020406     | Leptophlebiidae         | (early instar, inc.) | 3                          | 1        | 0        |
| 09020402011  | Leucrocuta              | hebe                 | 37                         | 9        | 16       |
| 09021011094  | Microtendipes           | pedellus-gr.         | 0                          | 0        | 1        |
| 09020510025  | Microvelia              |                      | 0                          | 0        | 2        |
| 09020618078  | Oecetis                 | persimilis           | 1                          | 10       | 2        |
|              | Orthocladiinae          | (early instar)       | 1                          | 0        | 0        |
| 09021011013  | Paramerina              |                      | 1                          | 0        | 0        |
| 10010202027  | Physella                |                      | 0                          | 1        | 0        |
| 09020603010  | Polycentropus           |                      | 1                          | 1        | 1        |
| 09021113069  | Promoresia              | tardella             | 1                          | 0        | 0        |
| 09021011056  | Psectrocladius          |                      | 0                          | 1        | 1        |
| 09021108058  | Psephenus               | herricki             | 1                          | 4        | 1        |
| 09020614068  | Psilotreta              | frondalis            | 2                          | 0        | 2        |
| 09020402014  | Stenacron               |                      | 2                          | 0        | 0        |
| 09020402015  | Stenonema               | modestum             | 1                          | 1        | 2        |
| 09020402015  | Stenonema               |                      | 26                         | 22       | 23       |

## Log 746

| Bar Code No. | Taxon           |         | No. identified from sample |          |          |
|--------------|-----------------|---------|----------------------------|----------|----------|
|              | Genus           | Species | Basket 1                   | Basket 2 | Basket 3 |
|              | Synurella       | sp. ?*  | 0                          | 1        | 0        |
| 09021011062  | Thienemanniella |         | 0                          | 0        | 1        |
| 09020506021  | Trepobates      |         | 0                          | 1        | 0        |
| 09021011021  | Trissopelopia   |         | 1                          | 0        | 0        |

|                      |            |            |           |
|----------------------|------------|------------|-----------|
| <b>Total Benthos</b> | <b>167</b> | <b>105</b> | <b>93</b> |
| <b>Total OTUs</b>    | <b>20</b>  | <b>21</b>  | <b>22</b> |
| <b>Total spp.</b>    | <b>17</b>  | <b>17</b>  | <b>19</b> |

\* = previous specimens identified as *S. chamberlaini* should be corrected to be *S. sp.*

KEY REPORT  
PRINTED 10/22/99 @ 08:52

STATION ID: S361

LOG NUMBER: 747

LAST CALCULATED: 10/22/99

MODEL CALCULATED: 10/22/99

ADJUSTED TO GENUS

River Basin CENTRAL AND  
Water Body HEATH BROOK  
Town ACADIA NATIONAL  
Stream Order 1

Sample Method R  
Subsample Factor X1  
Ref LOG # 0  
Date IN 07/30/98  
Date OUT 08/27/98

SUMMARY OF HABITAT CHARACTERISTICS

|          |                |           |             |       |       |
|----------|----------------|-----------|-------------|-------|-------|
| Land Use | SWAMP HARDWOOD | Terrain   | FLAT        | Temp  | 21.7  |
|          | SWAMP CONIFER  | Cover     | PARTLY OPEN | Width | 1.7   |
|          |                | Pollutant |             | Depth | 12.0  |
|          |                |           |             | Veloc | 14.40 |

Substrate Composition

|         |    |          |    |
|---------|----|----------|----|
| Bedrock | 40 | Gravel   | 25 |
| Boulder | 10 | Sand     | 15 |
| Rubble  | 10 | Silt     |    |
|         |    | Detritus |    |

GIS Site Location  
Latitude  
Longitude

Legislative Class: AA Model Classification: C with P >= 60%

Classification Attainment Model Probabilities

First Stage Model

|         |         |                |         |
|---------|---------|----------------|---------|
| Class A | 0.12372 | Class B        | 0.77902 |
| Class C | 0.09725 | Non-Attainment | 0.00000 |

C or better Model

|                 |         |
|-----------------|---------|
| Class A,B, or C | 1.00000 |
| Non-Attainment  | 0.00000 |

B or Better Model

|                           |         |
|---------------------------|---------|
| Class A or B              | 0.56707 |
| Class C or Non-Attainment | 0.43293 |

A Model

|                                |         |
|--------------------------------|---------|
| Class A                        | 0.02833 |
| Class B or C or Non-Attainment | 0.97167 |

Model Variable Values

|                 |         |                 |        |                 |       |
|-----------------|---------|-----------------|--------|-----------------|-------|
| 01 TOT ABUN     | 340.620 | 07 REL ABUN CHI | 0.485  | 13 REL ABUN OLI | 0.000 |
| 02 GEN RICH     | 44.000  | 08 REL RICH DIP | 0.409  | 14 PROB AB 1ST  | 0.902 |
| 03 PLEC ABUN    | 3.990   | 09 HYDRO ABUN   | 0.000  | 15 PERL ABUN    | 0.000 |
| 04 EPHEM ABUN   | 58.990  | 10 PROB ABC 1ST | 0.999  | 16 TANYPOD ABUN | 4.740 |
| 05 SW GEN DIV   | 3.690   | 11 CHEUM ABUN   | 0.000  | 17 CHIRON ABUN  | 1.020 |
| 06 HILS BIO IND | 5.720   | 12 EPT/DIPT     | 0.777  | 18 REL AB EPHEM | 0.173 |
| 19 EPT GEN RICH | 14.000  | 25 SUM ABUN     | 85.050 | 5 Dominant Taxa |       |
| 20 PROB(AB) SUB | 0.339   | 26 SUM ABUN     | 10.000 | CRICOTOPUS      | 23.7  |
| 01 SUMMED ABUN  | 10.500  | 27 PROB(A) SUB  | 0.162  | STENELMIS       | 16.3  |
| 02 PROB(A) 1ST  | 0.123   | 28 EP GEN RICH  | 0.500  | EUKIEFFERIELLA  | 14.5  |
| 23 REL PLEC RI  | 0.045   | 29 DOM A IND    | 0.000  | LEPTOPHLEBIIDAE | 9.2   |
| 04 REL AB BRACH | 0.000   | 30 PRES A INDIC | 0.285  | OXYETHIRA       | 7.8   |

KEY REPORT  
PRINTED 10/22/99 @ 08:52

STATION ID: S361  
LOG NUMBER: 747

LAST CALCULATED: 10/22/99

MODEL CALCULATED: 10/22/99

| TAXA             | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |      |
|------------------|----------------|----------|--------|----|--------|-----------|------|
|                  |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ  |
| DUGESIA          | 03010101002    | 3.0      | 3.0    |    |        | 0.8       | 0.8  |
| PHAGOCATA        | 03010101004    | 0.0      | 0.3    |    |        | 0.0       | 0.1  |
| PHAGOCATA        | 03010101004001 | 0.3      | 0.0    |    |        | 0.0       | 0.0  |
| NAIS             | 08020202009    | 0.0      | 0.3    |    | CG     | 0.0       | 0.1  |
| NAIS             | 08020202009008 | 0.3      | 0.0    |    | CG     | 0.0       | 0.0  |
| CAECIDOTEA       | 09010101001    | 2.0      | 3.0    | 8  | S      | 0.5       | 0.8  |
| CAECIDOTEA       | 09010101001002 | 1.0      | 0.0    | 8  | S      | 0.2       | 0.0  |
| HYALELLA         | 09010203006    | 0.0      | 1.3    | 8  | CG     | 0.0       | 0.3  |
| HYALELLA         | 09010203006011 | 1.3      | 0.0    | 8  | CG     | 0.3       | 0.0  |
| SMINTHURIDAE     | 09020104       | 0.3      | 0.3    |    |        | 0.0       | 0.1  |
| PLECOPTERA       | 090202         | 0.3      | 0.3    |    |        | 0.0       | 0.1  |
| LEUCTRA          | 09020204020    | 0.3      | 0.3    | 0  | S      | 0.0       | 0.1  |
| CHLOROPERLIDAE   | 09020208       | 3.3      | 3.3    |    |        | 0.9       | 0.9  |
| ODONATA          | 090203         | 0.3      | 0.3    |    |        | 0.0       | 0.1  |
| BOYERIA          | 09020301004    | 0.0      | 3.6    | 2  | PR     | 0.0       | 1.0  |
| BOYERIA          | 09020301004012 | 3.6      | 0.0    | 2  | PR     | 1.0       | 0.0  |
| STENONEMA        | 09020402015    | 9.6      | 10.0   | 4  | SC     | 2.8       | 2.9  |
| STENONEMA        | 09020402015051 | 0.3      | 0.0    | 4  | SC     | 0.0       | 0.0  |
| LEPTOPHLEBIIDAE  | 09020406       | 31.3     | 31.3   |    |        | 9.1       | 9.2  |
| PARALEPTOPHLEBIA | 09020406026    | 15.0     | 15.0   | 1  | CG     | 4.4       | 4.4  |
| EPHEMERELLA      | 09020410035    | 1.3      | 1.3    | 1  | CG     | 0.3       | 0.3  |
| EURYLOPHELLA     | 09020410036    | 1.3      | 1.3    | 3  | CG     | 0.3       | 0.3  |
| POLYCENTROPUS    | 09020603010    | 1.0      | 1.0    | 6  | PR     | 0.2       | 0.2  |
| OXYETHIRA        | 09020607028    | 26.6     | 26.6   | 3  | P      | 7.8       | 7.8  |
| PHRYGANEIDAE     | 09020608       | 0.6      | 0.6    |    |        | 0.1       | 0.2  |
| OLIGOSTOMIS      | 09020608039    | 1.3      | 1.3    | 2  | PR     | 0.3       | 0.3  |
| LIMNEPHILUS      | 09020610055    | 1.6      | 1.6    | 3  | S      | 0.4       | 0.4  |
| PSILOTRETA       | 09020614068    | 1.3      | 1.3    | 0  | SC     | 0.3       | 0.3  |
| LEPTOCERIDAE     | 09020618       | 0.3      | 0.3    |    |        | 0.0       | 0.1  |
| CHIRONOMIDAE     | 09021011       | 2.6      | 0.0    |    |        | 0.7       | 0.0  |
| CONCHAPELOPIA    | 09021011004    | 0.6      | 0.6    | 6  | PR     | 0.1       | 0.2  |
| MEROPELOPIA      | 09021011010    | 0.3      | 0.3    |    |        | 0.0       | 0.1  |
| PARAMERINA       | 09021011013    | 1.3      | 1.3    |    |        | 0.3       | 0.4  |
| TRISSOPELOPIA    | 09021011021    | 2.0      | 2.0    |    | PR     | 0.5       | 0.6  |
| ZAVRELIMYIA      | 09021011022    | 0.3      | 0.3    | 8  | PR     | 0.0       | 0.1  |
| CORYNONEURA      | 09021011036    | 0.3      | 0.3    | 7  | CG     | 0.0       | 0.1  |
| CRICOTOPUS       | 09021011037    | 79.6     | 80.9   | 7  | S      | 23.3      | 23.7 |
| EUKIEFFERIELLA   | 09021011041    | 0.0      | 49.4   | 8  | CG     | 0.0       | 14.5 |
| EUKIEFFERIELLA   | 09021011041073 | 44.0     | 0.0    | 8  | CG     | 12.9      | 0.0  |
| EUKIEFFERIELLA   | 09021011041078 | 4.6      | 0.0    | 8  | CG     | 1.3       | 0.0  |
| LIMNOPHYES       | 09021011047    | 0.3      | 0.3    | 8  | CG     | 0.0       | 0.1  |
| ORTHOCLADIUS     | 09021011050    | 0.0      | 0.3    | 6  | CG     | 0.0       | 0.1  |
| ORTHOCLADIUS     | 09021011050092 | 0.3      | 0.0    | 6  | CG     | 0.0       | 0.0  |
| TOTAL            |                | 245.0    |        |    |        | 71.9      |      |

KEY REPORT  
 PRINTED 10/22/99 @ 08:52

ATION ID: S361  
 LOG NUMBER: 747 LAST CALCULATED: 10/22/99 MODEL CALCULATED: 10/22/99

| TAXA            | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |      |
|-----------------|----------------|----------|--------|----|--------|-----------|------|
|                 |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ  |
| RHEOCRICOTOPUS  | 09021011057    | 0.0      | 2.0    | 6  | CG     | 0.0       | 0.6  |
| RHEOCRICOTOPUS  | 09021011057108 | 2.0      | 0.0    | 6  | CG     | 0.5       | 0.0  |
| THIENEMANNIELLA | 09021011062    | 4.6      | 4.7    | 6  | CG     | 1.3       | 1.3  |
| MICROPSECTRA    | 09021011070    | 10.3     | 10.5   | 7  | CG     | 3.0       | 3.0  |
| RHEOTANYTARSUS  | 09021011072    | 6.6      | 6.7    | 6  | CF     | 1.9       | 1.9  |
| TANYTARSUS      | 09021011076    | 4.0      | 4.0    | 6  | CF     | 1.1       | 1.1  |
| MICROTENDIPES   | 09021011094    | 0.0      | 0.6    | 6  | CF     | 0.0       | 0.2  |
| MICROTENDIPES   | 09021011094166 | 0.6      | 0.0    | 6  | CF     | 0.1       | 0.0  |
| POLYPEDILUM     | 09021011102    | 0.0      | 0.3    | 6  | S      | 0.0       | 0.1  |
| POLYPEDILUM     | 09021011102181 | 0.3      | 0.0    | 6  | S      | 0.0       | 0.0  |
| HYDROPHORUS     | 09021017060    | 0.3      | 0.3    | 2  | PR     | 0.0       | 0.1  |
| OULIMNIUS       | 09021113068    | 0.0      | 0.3    |    |        | 0.0       | 0.1  |
| OULIMNIUS       | 09021113068049 | 0.3      | 0.0    |    |        | 0.0       | 0.0  |
| PROMORESIA      | 09021113069    | 0.0      | 7.6    |    |        | 0.0       | 2.2  |
| PROMORESIA      | 09021113069052 | 7.6      | 0.0    |    |        | 2.2       | 0.0  |
| STENELMIS       | 09021113070    | 2.6      | 55.6   | 5  | SC     | 0.7       | 16.3 |
| STENELMIS       | 09021113070055 | 53.0     | 0.0    | 5  | SC     | 15.5      | 0.0  |
| ACARIFORMES     | 090301         | 0.3      | 0.3    |    |        | 0.0       | 0.1  |
| HYGROBATES      | 09030102001    | 2.3      | 2.3    |    |        | 0.6       | 0.6  |
| LEBERTIA        | 09030105001    | 0.3      | 0.3    |    |        | 0.0       | 0.1  |

TOTAL

340.6

100.0

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

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |             |
|---------------------|-------------|
| Sample Log No.:     | 747         |
| Waterbody Name:     | Heath Brook |
| Town Name:          | Treemont    |
| Date of Collection: | 27-Aug-98   |
| Subsample Factor:   | 1.00        |
| Sampler Type:       | Basket      |

| Bar Code No. | Taxon                   |                      | No. identified from sample |          |          |
|--------------|-------------------------|----------------------|----------------------------|----------|----------|
|              | Genus                   | Species              | Basket 1*                  | Basket 2 | Basket 3 |
|              | Acariformes             | unkn. genus          | 1                          | 0        | 0        |
| 09020301004  | Boyeria                 | vinosa               | 3                          | 3        | 5        |
|              | Caecidotea              | (imm, females)       | 6                          | 0        | 0        |
|              | Caecidotea              | racovitzai           | 3                          | 0        | 0        |
| 09021011     | Chironomidae            | (no head)            | 0                          | 1        | 0        |
|              | Chloroperlidae?         | (early instar)       | 3                          | 4        | 3        |
|              | Conchapelopia genus-gr. | (early instar)       | 0                          | 2        | 0        |
| 09021011036  | Corynoneura             |                      | 1                          | 0        | 0        |
| 09021011037  | Cricotopus              | (Isocladius) sp.     | 192                        | 0        | 0        |
| 09021011037  | Cricotopus              |                      | 47                         | 0        | 0        |
|              | Dugesia?                |                      | 6                          | 1        | 2        |
| 09020410035  | Ephemerella             |                      | 4                          | 0        | 0        |
| 09021011041  | Eukiefferiella          | brehmi-gr.           | 132                        | 0        | 0        |
| 09021011041  | Eukiefferiella          | devonica-gr.         | 14                         | 0        | 0        |
| 09020410036  | Eurylophella            |                      | 2                          | 0        | 1        |
|              | Eurylophella?           | (early instar)       | 1                          | 0        | 0        |
| 09010203006  | Hyaella                 | azteca               | 0                          | 1        | 3        |
| 09021017060  | Hydrophorus             |                      | 1                          | 0        | 0        |
|              | Hygrobates              |                      | 7                          | 0        | 0        |
|              | Lebertia                |                      | 1                          | 0        | 0        |
| 09020618     | Leptoceridae            | (pupa)               | 0                          | 0        | 1        |
| 09020406     | Leptophlebiidae         | (early instar, inc.) | 20                         | 51       | 23       |
| 09020204020  | Leuctra                 |                      | 1                          | 0        | 0        |
| 09020610055  | Limnephilus             | sp. 1                | 3                          | 1        | 0        |
| 09020610055  | Limnephilus             | sp. 2                | 0                          | 1        | 0        |
| 09021011047  | Limnophyes              |                      | 1                          | 0        | 0        |
| 09021011010  | Meropelopia             |                      | 0                          | 0        | 1        |
| 09021011070  | Micropsectra            |                      | 15                         | 7        | 9        |
| 09021011094  | Microtendipes           | pedellus-gr.         | 2                          | 0        | 0        |
| 08020202009  | Nais                    | nr. simplex/pardalis | 1                          | 0        | 0        |
| 090203       | Odonata                 | (early instar)       | 0                          | 0        | 1        |
| 09020608039  | Oligostomis             |                      | 3                          | 1        | 0        |
|              | Orthocladiinae          | (early instar)       | 5                          | 0        | 0        |
| 09021011050  | Orthocladius            | annectens            | 1                          | 0        | 0        |

| Bar Code No. | Taxon            |                           | No. identified from sample |          |          |
|--------------|------------------|---------------------------|----------------------------|----------|----------|
|              | Genus            | Species                   | Basket 1*                  | Basket 2 | Basket 3 |
| 09021113068  | Oulimnius        | latusculus                | 1                          | 0        | 0        |
| 09020607028  | Oxyethira        |                           | 79                         | 1        | 0        |
| 09020406026  | Paraleptophlebia |                           | 7                          | 17       | 21       |
| 09021011013  | Paramerina       |                           | 2                          | 0        | 2        |
|              | Phagocata        | gracilis                  | 1                          | 0        | 0        |
| 09020608     | Phryganeidae     | (early instar)            | 0                          | 2        | 0        |
| 090202       | Plecoptera       | (inc, early instar)       | 1                          | 0        | 0        |
| 09020603010  | Polycentropus    |                           | 2                          | 1        | 0        |
| 09021011102  | Polypedilum      | aviceps                   | 0                          | 1        | 0        |
| 09021113069  | Promoresia       | tardella                  | 14                         | 2        | 7        |
| 09020614068  | Psilotreta       |                           | 1                          | 0        | 3        |
| 09021011057  | Rheocricotopus   | pauciseta                 | 6                          | 0        | 0        |
| 09021011072  | Rheotanytarsus   |                           | 18                         | 2        | 0        |
| 09020104     | Sminthuridae     | Bourletiella sp.          | 0                          | 1        | 0        |
| 09021113070  | Stenelmis        | crenata                   | 52                         | 46       | 61       |
| 09021113070  | Stenelmis        |                           | 2                          | 3        | 3        |
| 09020402015  | Stenonema        | (early instar)            | 1                          | 9        | 19       |
| 09020402015  | Stenonema        | modestum                  | 0                          | 0        | 1        |
|              | Tanypodinae      | (early instar, inc. pupa) | 1                          | 1        | 0        |
| 09021011076  | Tanytarsus       | (pupa)                    | 0                          | 3        | 1        |
| 09021011076  | Tanytarsus       | sp. 06                    | 3                          | 4        | 1        |
| 09021011062  | Thienemanniella  |                           | 14                         | 0        | 0        |
| 09021011021  | Trissopelopia    |                           | 5                          | 1        | 0        |
| 09021011022  | Zavreliomyia     |                           | 0                          | 1        | 0        |

|                      |            |            |            |
|----------------------|------------|------------|------------|
| <b>Total Benthos</b> | <b>686</b> | <b>168</b> | <b>168</b> |
| <b>Total OTUs</b>    | <b>45</b>  | <b>27</b>  | <b>20</b>  |
| <b>Total spp.</b>    | <b>37</b>  | <b>21</b>  | <b>16</b>  |

**Basket 1 Chironomidae subsampled as follows:**

All midges (n = 79) not resembling the dominant small forms were removed and identified in total.

One quarter of remaining small, early instar midges (n = 367) were subsampled:

| Taxon                       | No. in SS | Est. total in sample |
|-----------------------------|-----------|----------------------|
| Cricotopus                  | 12        | 47                   |
| Cricotopus (I.) sp.         | 44        | 171                  |
| Euk. devonica-gr.           | 3         | 12                   |
| Euk. brehmi-gr.             | 33        | 129                  |
| orthoclaadiini (early inst) | 1         | 4                    |
| Rheotanytarsus              | 1         | 4                    |
| <b>Total</b>                | <b>94</b> | <b>367</b>           |

## KEY REPORT

PRINTED 10/22/99 @ 08:52

STATION ID: S362

LOG NUMBER: 748

LAST CALCULATED: 10/22/99

MODEL CALCULATED: 10/22/99

ADJUSTED TO GENUS

River Basin CENTRAL AND  
 Water Body LURVEY SPRING  
 Town ACADIA NATIONAL  
 Stream Order 2

Sample Method R  
 Subsample Factor X1  
 Ref LOG # 0  
 Date IN 07/30/98  
 Date OUT 08/27/98

## SUMMARY OF HABITAT CHARACTERISTICS

|          |                |           |             |       |       |
|----------|----------------|-----------|-------------|-------|-------|
| Land Use | SWAMP HARDWOOD | Terrain   | FLAT        | Temp  | 12.0  |
|          | SWAMP CONIFER  | Cover     | PARTLY OPEN | Width | 1.2   |
|          |                | Pollutant |             | Depth | 18.0  |
|          |                |           |             | Veloc | 12.20 |

## Substrate Composition

|         |    |          |    |
|---------|----|----------|----|
| Bedrock |    | Gravel   | 80 |
| Boulder | 10 | Sand     | 10 |
| Rubble  |    | Silt     |    |
|         |    | Detritus |    |

GIS Site Location  
 Latitude  
 Longitude

Legislative Class: AA Model Classification: B with P &gt;= 60%

## Classification Attainment Model Probabilities

First Stage Model

|         |         |                |         |
|---------|---------|----------------|---------|
| Class A | 0.31620 | Class B        | 0.65378 |
| Class C | 0.03002 | Non-Attainment | 0.00000 |

C or better Model

|                 |         |
|-----------------|---------|
| Class A,B, or C | 1.00000 |
| Non-Attainment  | 0.00000 |

B or Better Model

|                           |         |
|---------------------------|---------|
| Class A or B              | 0.86663 |
| Class C or Non-Attainment | 0.13337 |

A Model

|                                |         |
|--------------------------------|---------|
| Class A                        | 0.02833 |
| Class B or C or Non-Attainment | 0.97167 |

## Model Variable Values

|                 |         |                 |        |                 |       |
|-----------------|---------|-----------------|--------|-----------------|-------|
| 01 TOT ABUN     | 167.290 | 07 REL ABUN CHI | 0.501  | 13 REL ABUN OLI | 0.000 |
| 02 GEN RICH     | 45.000  | 08 REL RICH DIP | 0.466  | 14 PROB AB 1ST  | 0.969 |
| 03 PLEC ABUN    | 4.650   | 09 HYDRO ABUN   | 0.000  | 15 PERL ABUN    | 0.000 |
| 04 EPHEM ABUN   | 12.000  | 10 PROB ABC 1ST | 1.000  | 16 TANYPOD ABUN | 5.520 |
| 05 SW GEN DIV   | 4.250   | 11 CHEUM ABUN   | 0.000  | 17 CHIRON ABUN  | 0.690 |
| 06 HILS BIO IND | 5.370   | 12 EPT/DIPT     | 0.761  | 18 REL AB EPHEM | 0.071 |
| 19 EPT GEN RICH | 16.000  | 25 SUM ABUN     | 28.340 | 5 Dominant Taxa |       |
| 20 PROB(AB) SUB | 0.393   | 26 SUM ABUN     | 0.000  | OXYETHIRA       | 19.3  |
| 21 SUMMED ABUN  | 19.700  | 27 PROB(A) SUB  | 0.177  | MICROPSECTRA    | 11.7  |
| 22 PROB(A) 1ST  | 0.316   | 28 EP GEN RICH  | 0.571  | CAECIDOTEA      | 10.9  |
| 23 REL PLEC RI  | 0.088   | 29 DOM A IND    | 0.000  | CRICOTOPUS      | 8.6   |
| 24 REL AB BRACH | 0.000   | 30 PRES A INDIC | 0.142  | TANYTARSUS      | 8.2   |

KEY REPORT  
PRINTED 10/22/99 @ 08:52

TATION ID: S362  
LOG NUMBER: 748      LAST CALCULATED: 10/22/99      MODEL CALCULATED: 10/22/99

| TAXA              | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |      |
|-------------------|----------------|----------|--------|----|--------|-----------|------|
|                   |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ  |
| CAECIDOTEA        | 09010101001    | 15.3     | 18.3   | 8  | S      | 9.1       | 10.9 |
| CAECIDOTEA        | 09010101001002 | 3.0      | 0.0    | 8  | S      | 1.7       | 0.0  |
| AMPHIPODA         | 090102         | 1.0      | 1.0    | 08 |        | 0.5       | 0.6  |
| ISOTOMIDAE        | 09020102       | 0.3      | 0.3    |    |        | 0.1       | 0.2  |
| LEUCTRA           | 09020204020    | 1.3      | 1.9    | 0  | S      | 0.7       | 1.2  |
| LEUCTRA           | 09020204020050 | 0.3      | 0.0    | 0  | S      | 0.1       | 0.0  |
| LEUCTRA           | 09020204020058 | 0.3      | 0.0    | 0  | S      | 0.1       | 0.0  |
| PERLODIDAE        | 09020207       | 0.3      | 0.3    |    |        | 0.1       | 0.2  |
| CHLOROPERLIDAE    | 09020208       | 1.0      | 1.0    |    |        | 0.5       | 0.6  |
| SWELTS            | 09020208040    | 1.3      | 1.3    |    | PR     | 0.7       | 0.8  |
| LEPTOPHLEBIIDAE   | 09020406       | 5.0      | 5.0    |    |        | 2.9       | 2.9  |
| PARALEPTOPHLEBIA  | 09020406026    | 2.3      | 2.3    | 1  | CG     | 1.3       | 1.3  |
| EPHEMERELLA       | 09020410035    | 2.0      | 2.0    | 1  | CG     | 1.1       | 1.2  |
| EURYLOPHELLA      | 09020410036    | 2.6      | 2.6    | 3  | CG     | 1.5       | 1.6  |
| TRICHOPTERA       | 090206         | 1.3      | 1.3    |    |        | 0.7       | 0.8  |
| POLYCENTROPUS     | 09020603010    | 0.3      | 0.3    | 6  | PR     | 0.1       | 0.2  |
| PARAPSYCHE        | 09020604013    | 0.0      | 0.6    | 0  | CF     | 0.0       | 0.4  |
| PARAPSYCHE        | 09020604013023 | 0.6      | 0.0    | 0  | CF     | 0.3       | 0.0  |
| OXYETHIRA         | 09020607028    | 32.3     | 32.3   | 3  | P      | 19.3      | 19.3 |
| OLIGOSTOMIS       | 09020608039    | 0.3      | 0.3    | 2  | PR     | 0.1       | 0.2  |
| HYDATOPHYLAX      | 09020610048    | 0.0      | 0.3    | 2  | S      | 0.0       | 0.2  |
| HYDATOPHYLAX      | 09020610048103 | 0.3      | 0.0    | 2  | S      | 0.1       | 0.0  |
| NEOPHYLAX         | 09020610062    | 0.0      | 0.6    | 3  | SC     | 0.0       | 0.4  |
| NEOPHYLAX         | 09020610062127 | 0.6      | 0.0    | 3  | SC     | 0.3       | 0.0  |
| LEPIDOSTOMA       | 09020611064    | 4.0      | 4.0    | 1  | S      | 2.3       | 2.3  |
| LEPTOCERIDAE      | 09020618       | 0.3      | 0.3    |    |        | 0.1       | 0.2  |
| SIALIS            | 09020702004    | 0.3      | 0.3    | 4  | PR     | 0.1       | 0.2  |
| CERATOPOGONIDAE   | 09021010       | 0.3      | 0.3    |    |        | 0.1       | 0.2  |
| CHIRONOMIDAE      | 09021011       | 3.0      | 0.0    |    |        | 1.7       | 0.0  |
| PARAMERINA        | 09021011013    | 0.6      | 0.6    |    |        | 0.3       | 0.4  |
| TRISSOPELOPIA     | 09021011021    | 4.3      | 4.4    |    | PR     | 2.5       | 2.6  |
| ZAVRELIMYIA       | 09021011022    | 0.3      | 0.3    | 8  | PR     | 0.1       | 0.2  |
| BRILLIA           | 09021011033    | 0.0      | 1.7    | 5  | S      | 0.0       | 1.0  |
| BRILLIA           | 09021011033050 | 1.6      | 0.0    | 5  | S      | 0.9       | 0.0  |
| CORYNONEURA       | 09021011036    | 2.0      | 2.0    | 7  | CG     | 1.1       | 1.2  |
| CRICOTOPUS        | 09021011037    | 13.6     | 14.5   | 7  | S      | 8.1       | 8.6  |
| CRICOTOPUS        | 09021011037057 | 0.3      | 0.0    | 7  | S      | 0.1       | 0.0  |
| EUKIEFFERIELLA    | 09021011041    | 0.0      | 7.6    | 8  | CG     | 0.0       | 4.5  |
| EUKIEFFERIELLA    | 09021011041073 | 6.6      | 0.0    | 8  | CG     | 3.9       | 0.0  |
| EUKIEFFERIELLA    | 09021011041078 | 0.6      | 0.0    | 8  | CG     | 0.3       | 0.0  |
| HETEROTRISOCLADIU | 09021011044    | 1.0      | 1.0    | 0  | CG     | 0.5       | 0.6  |
| LIMNOPHYES        | 09021011047    | 1.6      | 1.7    | 8  | CG     | 0.9       | 1.0  |
| ORTHOCLADIUS      | 09021011050    | 0.0      | 1.3    | 6  | CG     | 0.0       | 0.8  |
| TOTAL             |                | 113.3    |        |    |        | 67.7      |      |

KEY REPORT  
PRINTED 10/22/99 @ 08:52

STATION ID: S362  
LOG NUMBER: 748

LAST CALCULATED: 10/22/99

MODEL CALCULATED: 10/22/99

| TAXA             | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |      |
|------------------|----------------|----------|--------|----|--------|-----------|------|
|                  |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ  |
| ORTHOCLADIUS     | 09021011050092 | 1.0      | 0.0    | 6  | CG     | 0.5       | 0.0  |
| ORTHOCLADIUS     | 09021011050100 | 0.3      | 0.0    | 6  | CG     | 0.1       | 0.0  |
| PARAMETRIOCNEMUS | 09021011053    | 0.3      | 0.3    | 5  | CG     | 0.1       | 0.2  |
| PSECTROCLADIUS   | 09021011056    | 0.3      | 0.3    | 8  | CG     | 0.1       | 0.2  |
| RHEOCRICOTOPUS   | 09021011057    | 0.0      | 6.2    | 6  | CG     | 0.0       | 3.7  |
| RHEOCRICOTOPUS   | 09021011057106 | 0.3      | 0.0    | 6  | CG     | 0.1       | 0.0  |
| RHEOCRICOTOPUS   | 09021011057111 | 5.6      | 0.0    | 6  | CG     | 3.3       | 0.0  |
| THIENEMANNIELLA  | 09021011062    | 2.6      | 2.7    | 6  | CG     | 1.5       | 1.6  |
| MICROPSECTRA     | 09021011070    | 19.0     | 19.7   | 7  | CG     | 11.3      | 11.7 |
| RHEOTANYTARSUS   | 09021011072    | 3.3      | 3.4    | 6  | CF     | 1.9       | 2.0  |
| STEMPELLINELLA   | 09021011074    | 1.0      | 1.0    | 2  |        | 0.5       | 0.6  |
| TANYTARSUS       | 09021011076    | 13.3     | 13.8   | 6  | CF     | 7.9       | 8.2  |
| MICROTENDIPES    | 09021011094    | 0.0      | 0.6    | 6  | CF     | 0.0       | 0.4  |
| MICROTENDIPES    | 09021011094166 | 0.6      | 0.0    | 6  | CF     | 0.3       | 0.0  |
| HYDROPHORUS      | 09021017060    | 1.0      | 1.0    | 2  | PR     | 0.5       | 0.6  |
| OULIMNIUS        | 09021113068    | 0.0      | 0.3    |    |        | 0.0       | 0.2  |
| OULIMNIUS        | 09021113068049 | 0.3      | 0.0    |    |        | 0.1       | 0.0  |
| PROMORESIA       | 09021113069    | 0.0      | 1.0    |    |        | 0.0       | 0.6  |
| PROMORESIA       | 09021113069052 | 1.0      | 0.0    |    |        | 0.5       | 0.0  |
| HYGROBATES       | 09030102001    | 3.0      | 3.0    |    |        | 1.7       | 1.7  |
| PISIDIUM         | 10020201002    | 0.6      | 0.6    |    | CF     | 0.3       | 0.4  |

TOTAL

167.3

100.0

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

Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |                     |
|---------------------|---------------------|
| Sample Log No.:     | 748                 |
| Waterbody Name:     | Lurvey Spring Brook |
| Town Name:          | Southwest Harbor    |
| Date of Collection: | 27-Aug-98           |
| Subsample Factor:   | 1.00                |
| Sampler Type:       | Basket              |

| Bar Code No. | Taxon                     |                      | No. identified from sample |          |          |
|--------------|---------------------------|----------------------|----------------------------|----------|----------|
|              | Genus                     | Species              | Basket 1                   | Basket 2 | Basket 3 |
|              | Amphipoda: Ischyroceridae | Jassa sp.            | 3                          | 0        | 0        |
| 09021011033  | Brillia                   | parva                | 4                          | 0        | 1        |
|              | Caecidotea                | (imm, females)       | 14                         | 29       | 3        |
|              | Caecidotea                | racovitzi            | 5                          | 4        | 0        |
| 09021010     | Ceratopogonidae           | Bezzia/Palpomys      | 0                          | 1        | 0        |
| 09021011     | Chironomidae              | (no head)            | 1                          | 0        | 0        |
|              | Chironomini               | (early instar)       | 0                          | 1        | 0        |
|              | Chloroperlidae?           | (early instar)       | 3                          | 0        | 0        |
| 09021011036  | Corynoneura               |                      | 4                          | 2        | 0        |
| 09021011037  | Cricotopus                | (Cricotopus) sp.     | 0                          | 0        | 15       |
| 09021011037  | Cricotopus                | (Isocladius) sp.     | 4                          | 5        | 17       |
| 09021011037  | Cricotopus                | bicinctus            | 0                          | 0        | 1        |
| 09020410035  | Ephemerella               |                      | 3                          | 2        | 1        |
| 09021011041  | Eukiefferiella            | brehmi-gr.           | 4                          | 2        | 14       |
| 09021011041  | Eukiefferiella            | devonica-gr.         | 0                          | 0        | 2        |
| 09020410036  | Eurylophella              |                      | 0                          | 2        | 2        |
|              | Eurylophella?             | (early instar)       | 2                          | 1        | 1        |
| 09021011044  | Heterotrissocladius       |                      | 0                          | 3        | 0        |
| 09020610048  | Hydatophylax              | argus                | 1                          | 0        | 0        |
| 09021017060  | Hydrophorus               |                      | 0                          | 3        | 0        |
|              | Hygrobates                |                      | 3                          | 4        | 2        |
| 09020102     | Isotomidae                | ?Agrenia sp.         | 0                          | 1        | 0        |
| 09020611064  | Lepidostoma               |                      | 4                          | 6        | 2        |
| 09020618     | Leptoceridae              | (pupa)               | 1                          | 0        | 0        |
| 09020406     | Leptophlebiidae           | (early instar, inc.) | 8                          | 7        | 0        |
| 09020204020  | Leuctra                   | ferrugineum          | 1                          | 0        | 0        |
| 09020204020  | Leuctra                   | truncata             | 1                          | 0        | 0        |
| 09020204020  | Leuctra                   |                      | 0                          | 3        | 1        |
| 09021011047  | Limnophyes                |                      | 2                          | 2        | 1        |
| 09021011070  | Micropsectra              |                      | 38                         | 14       | 5        |
| 09021011094  | Microtendipes             | pedellus-gr.         | 1                          | 1        | 0        |
| 09020610062  | Neophylax                 | nacatus              | 2                          | 0        | 0        |
| 09020608039  | Oligostomis               |                      | 0                          | 1        | 0        |
|              | Orthocladiinae            | (early instar)       | 1                          | 1        | 3        |

| Bar Code No. | Taxon            |                | No. identified from sample |          |          |
|--------------|------------------|----------------|----------------------------|----------|----------|
|              | Genus            | Species        | Basket 1                   | Basket 2 | Basket 3 |
| 09021011050  | Orthocladus      | annectens      | 2                          | 0        | 1        |
| 09021011050  | Orthocladus      | lignicola      | 1                          | 0        | 0        |
| 09021113068  | Oulimnius        | latiusculus    | 1                          | 0        | 0        |
| 09020607028  | Oxyethira        |                | 37                         | 52       | 8        |
| 09020406026  | Paraleptophlebia |                | 3                          | 2        | 2        |
| 09021011013  | Paramerina       |                | 1                          | 1        | 0        |
| 09021011053  | Parametriocnemus |                | 1                          | 0        | 0        |
| 09020604013  | Parapsyche       | apicalis       | 2                          | 0        | 0        |
| 09020207     | Perlodidae       | (early instar) | 1                          | 0        | 0        |
| 10020201002  | Pisidium         |                | 0                          | 2        | 0        |
| 09020603010  | Polycentropus    |                | 0                          | 1        | 0        |
| 09021113069  | Promoresia       | tardella       | 3                          | 0        | 0        |
| 09021011056  | Psectrocladius   |                | 1                          | 0        | 0        |
| 09021011057  | Rheocricotopus   | pauciseta      | 10                         | 5        | 2        |
| 09021011057  | Rheocricotopus   | tuberculatus   | 0                          | 1        | 0        |
| 09021011072  | Rheotanytarsus   |                | 6                          | 0        | 4        |
| 09020702004  | Sialis           |                | 0                          | 1        | 0        |
| 09021011074  | Stempellinella   |                | 0                          | 3        | 0        |
| 09020208040  | Sweltsa          |                | 4                          | 0        | 0        |
|              | Tanypodinae      | (early instar) | 0                          | 2        | 0        |
| 09021011076  | Tanytarsus       | sp. 06         | 4                          | 31       | 2        |
| 09021011076  | Tanytarsus       |                | 2                          | 1        | 0        |
| 09021011062  | Thienemanniella  |                | 5                          | 0        | 3        |
| 090206       | Trichoptera      | (early instar) | 4                          | 0        | 0        |
| 09021011021  | Trissopelopia    |                | 6                          | 7        | 0        |
| 09021011022  | Zavreliomyia     |                | 0                          | 1        | 0        |

|                      |            |            |           |
|----------------------|------------|------------|-----------|
| <b>Total Benthos</b> | <b>204</b> | <b>205</b> | <b>93</b> |
| <b>Total OTUs</b>    | <b>42</b>  | <b>36</b>  | <b>23</b> |
| <b>Total spp.</b>    | <b>36</b>  | <b>29</b>  | <b>20</b> |

Acadia Natl Park - NUM

Maine Department of Environmental Protection Reference Collection

Acadia National Park

Total Number of Species in Reference Col 132

Current Date: 03-Mar-99

Michael Winnell -- Freshwater Benthic Services, Inc.

Source column: S = slide, V = vial, OV = oversized vial

| Reference Number | Source | Phylum     | Class     | Order         | Family           | Genus/species               | Comments | Log No.  | Town or Waterbody | Date of Collection |
|------------------|--------|------------|-----------|---------------|------------------|-----------------------------|----------|----------|-------------------|--------------------|
| 001              | V      | Arthropoda | Insecta   | Trichoptera   | Rhyacophilidae   | Rhyacophila fuscula         |          | 607, 608 | Duck Brk.         | 04-Apr-97          |
| 002              | V      | Arthropoda | Crustacea | Amphipoda     | Crangonyctidae   | Synurella chamberlaini      |          | 607      | Duck Brk.         | 04-Apr-97          |
| 003              | V      | Arthropoda | Insecta   | Ephemeroptera | Heptageniidae    | Rhithrogena sp.             |          | 607, 608 | Duck Brk.         | 04-Apr-97          |
| 004              | V      | Arthropoda | Insecta   | Plecoptera    | Chloroperlidae   | Sweltsa sp.                 |          | 607      | Duck Brk.         | 04-Apr-97          |
| 005              | V      | Arthropoda | Insecta   | Ephemeroptera | Heptageniidae    | Stenonema modestum          |          | 607      | Duck Brk.         | 04-Apr-97          |
| 006              | V      | Arthropoda | Crustacea | Amphipoda     | ?                | ?                           |          | 607      | Duck Brk.         | 04-Apr-97          |
| 007              | V      | Arthropoda | Insecta   | Diptera       | Tipulidae        | Tipula sp.                  |          | 607      | Duck Brk.         | 04-Apr-97          |
| 008              | V      | Arthropoda | Insecta   | Plecoptera    | Taeniopterygidae | Strophopteryx fasciata      |          | 607, 608 | Duck Brk.         | 04-Apr-97          |
| 009              | V      | Arthropoda | Insecta   | Trichoptera   | Philopotamidae   | Chimarra sp.                |          | 607      | Duck Brk.         | 04-Apr-97          |
| 010              | V      | Arthropoda | Insecta   | Diptera       | Simuliidae       | Prosimulium sp. 01          |          | 607      | Duck Brk.         | 04-Apr-97          |
| 011              | V      | Arthropoda | Insecta   | Diptera       | Simuliidae       | Prosimulium sp. 02          |          | 608      | Duck Brk.         | 04-Apr-97          |
| 012              | V      | Arthropoda | Insecta   | Coleoptera    | Pspheniidae      | Psphenus herricki           |          | 608      | Duck Brk.         | 04-Apr-97          |
| 013              | V      | Arthropoda | Insecta   | Ephemeroptera | Leptophlebiidae  | Paraleptophlebia sp.        |          | 608      | Duck Brk.         | 04-Apr-97          |
| 014              | V      | Arthropoda | Insecta   | Ephemeroptera | Ephemerellidae   | Ephemerella rotunda         |          | 607      | Duck Brk.         | 04-Apr-97          |
| 015              | V      | Arthropoda | Insecta   | Ephemeroptera | Ephemerellidae   | Ephemerella invaria         |          | 607      | Duck Brk.         | 04-Apr-97          |
| 016              | V      | Arthropoda | Insecta   | Trichoptera   | Hydropsychidae   | Cheumatopsyche sp.          |          | 607      | Duck Brk.         | 04-Apr-97          |
| 017              | V      | Arthropoda | Insecta   | Trichoptera   | Hydropsychidae   | Hydropsyche betteni complex |          | 607      | Duck Brk.         | 04-Apr-97          |
| 018              | V      | Arthropoda | Insecta   | Trichoptera   | Hydropsychidae   | Hydropsyche sparna          |          | 607, 608 | Duck Brk.         | 04-Apr-97          |
| 019              | V      | Arthropoda | Insecta   | Plecoptera    | Perlidae         | Acroneuria abnormis         |          | 607      | Duck Brk.         | 04-Apr-97          |
| 020              | V      | Arthropoda | Insecta   | Trichoptera   | Uenoidae         | Neophylax sp.               |          | 607      | Duck Brk.         | 04-Apr-97          |
| 021              | V      | Arthropoda | Insecta   | Trichoptera   | Lepidostomatidae | Lepidostoma sp.             |          | 607      | Duck Brk.         | 04-Apr-97          |
| 022              | V      | Arthropoda | Insecta   | Trichoptera   | Philopotamidae   | Dolophilodes sp.            |          | 608      | Duck Brk.         | 04-Apr-97          |
| 023              | V      | Arthropoda | Insecta   | Trichoptera   | Limnophilidae    | Pycnopsyche sp.             |          | 607      | Duck Brk.         | 04-Apr-97          |
| 024              | V      | Arthropoda | Insecta   | Plecoptera    | Perlodidae       | Isoperla ?similis           |          | 607      | Duck Brk.         | 04-Apr-97          |
| 025              | V      | Arthropoda | Insecta   | Odonata       | Aeschnidae       | Boyeria vinosa              |          | 607      | Duck Brk.         | 04-Apr-97          |

## Acadia Natl Park - NUM

|     |    |               |             |                |                 |                                 |  |     |              |           |
|-----|----|---------------|-------------|----------------|-----------------|---------------------------------|--|-----|--------------|-----------|
| 026 | V  | Arthropoda    | Insecta     | Ephemeroptera  | Heptageniidae   | Leucrocuta hebe                 |  | 607 | Duck Brk.    | 04-Apr-97 |
| 027 | V  | Arthropoda    | Crustacea   | Isopoda        | Asellidae       | Caecidotea sp.                  |  | 607 | Duck Brk.    | 04-Apr-97 |
| 028 | OV | Arthropoda    | Insecta     | Megaloptera    | Corydalidae     | Nigronia serricornis            |  | 607 | Duck Brk.    | 04-Apr-97 |
| 029 | S  | Arthropoda    | Insecta     | Diptera        | Chironomidae    | Microtendipes pedellus-gr.      |  | 607 | Duck Brk.    | 04-Apr-97 |
| 030 | S  | Arthropoda    | Insecta     | Diptera        | Chironomidae    | Nanocladius dowensi             |  | 607 | Duck Brk.    | 04-Apr-97 |
| 031 | S  | Arthropoda    | Insecta     | Diptera        | Chironomidae    | Tanytarsus sp.06                |  | 607 | Duck Brk.    | 04-Apr-97 |
| 032 | S  | Arthropoda    | Insecta     | Diptera        | Chironomidae    | Parametriocnemus sp.            |  | 607 | Duck Brk.    | 04-Apr-97 |
| 033 | S  | Arthropoda    | Insecta     | Diptera        | Chironomidae    | Eukiefferiella nr. brevicar-gr. |  | 607 | Duck Brk.    | 04-Apr-97 |
| 034 | S  | Arthropoda    | Insecta     | Diptera        | Chironomidae    | Thienemanniella sp.             |  | 607 | Duck Brk.    | 04-Apr-97 |
| 035 | S  | Annelida      | Oligochaet  | Lumbricida     | Lumbricidae     | ?                               |  | 607 | Duck Brk.    | 04-Apr-97 |
| 036 | S  | Arthropoda    | Insecta     | Diptera        | Chironomidae    | Eukiefferiella gracei-gr.       |  | 608 | Duck Brk.    | 04-Apr-97 |
| 037 | S  | Arthropoda    | Insecta     | Diptera        | Chironomidae    | Micropsectra sp.                |  | 608 | Duck Brk.    | 04-Apr-97 |
| 038 | V  | Arthropoda    | Insecta     | Odonata        | Calopterygidae  | Calopteryx maculata             |  | 675 | Duck Brk.    | 09-Sep-97 |
| 039 | V  | Platyhelminth | Turbellaria | Order ?        | Family ?        | Genus ?                         |  | 675 | Duck Brk.    | 09-Sep-97 |
| 040 | V  | Mollusca      | Gastropoda  | Basommatophora | Physidae        | Physella sp.                    |  | 675 | Duck Brk.    | 09-Sep-97 |
| 041 | V  | Mollusca      | Gastropoda  | Mesogastropoda | Hydrobiidae     | ?Amnicola limosa                |  | 675 | Duck Brk.    | 09-Sep-97 |
| 042 | V  | Arthropoda    | Insecta     | Coleoptera     | Dytiscidae      | Hydroporus sp.                  |  | 676 | Stanley Brk. | 09-Sep-97 |
| 043 | V  | Arthropoda    | Insecta     | Coleoptera     | Elmidae         | Promoresia tardella             |  | 676 | Stanley Brk. | 09-Sep-97 |
| 044 | V  | Arthropoda    | Insecta     | Coleoptera     | Elmidae         | Oulinnius latiusculus           |  | 676 | Stanley Brk. | 09-Sep-97 |
| 045 | V  | Arthropoda    | Insecta     | Lepidoptera    | Pyalidae        | Genus ?                         |  | 673 | Cannon Brk.  | 04-Sep-97 |
| 046 | V  | Arthropoda    | Insecta     | Coleoptera     | Elmidae         | Macronychus glabratus           |  | 674 | Hunter Brk.  | 04-Sep-97 |
| 047 | V  | Arthropoda    | Insecta     | Plecoptera     | Leuctridae      | Leuctra sp.                     |  | 674 | Hunter Brk.  | 04-Sep-97 |
| 048 | V  | Arthropoda    | Insecta     | Ephemeroptera  | Baetidae        | Baetis flavistriga              |  | 676 | Stanley Brk. | 09-Sep-97 |
| 049 | V  | Arthropoda    | Insecta     | Ephemeroptera  | Baetidae        | Baetis tricaudatus              |  | 676 | Stanley Brk. | 09-Sep-97 |
| 050 | V  | Arthropoda    | Insecta     | Ephemeroptera  | Heptageniidae   | Rhithrogena sp.                 |  | 676 | Stanley Brk. | 09-Sep-97 |
| 051 | V  | Arthropoda    | Insecta     | Ephemeroptera  | Heptageniidae   | Stenacron interpunctatum        |  | 673 | Cannon Brk.  | 04-Sep-97 |
| 052 | V  | Arthropoda    | Insecta     | Ephemeroptera  | Baetidae        | Acerpenna ?macdunnoughi         |  | 674 | Hunter Brk.  | 04-Sep-97 |
| 053 | V  | Arthropoda    | Insecta     | Ephemeroptera  | Ephemerellidae  | Eurylophella funeralis          |  | 674 | Hunter Brk.  | 04-Sep-97 |
| 054 | V  | Arthropoda    | Insecta     | Ephemeroptera  | Baetidae        | Centroptilum sp.                |  | 676 | Stanley Brk. | 09-Sep-97 |
| 055 | V  | Arthropoda    | Insecta     | Ephemeroptera  | Baetidae        | Centroptilum sp.                |  | 674 | Hunter Brk.  | 04-Sep-97 |
| 056 | V  | Arthropoda    | Insecta     | Diptera        | Tipulidae       | Hexatoma sp.                    |  | 676 | Stanley Brk. | 09-Sep-97 |
| 057 | V  | Arthropoda    | Insecta     | Diptera        | Tipulidae       | Tipula sp.                      |  | 676 | Stanley Brk. | 09-Sep-97 |
| 058 | V  | Arthropoda    | Insecta     | Lepidoptera    | ?Gracillariidae | Genus?                          |  | 676 | Stanley Brk. | 09-Sep-97 |
| 059 | V  | Arthropoda    | Insecta     | Diptera        | Family?         | Genus ?                         |  | 676 | Stanley Brk. | 09-Sep-97 |
| 060 | V  | Arthropoda    | Insecta     | Trichoptera    | Limnephilidae   | Psychoglypha ?subborealis       |  | 676 | Stanley Brk. | 09-Sep-97 |
| 061 | V  | Arthropoda    | Insecta     | Trichoptera    | Odontoceridae   | Psilotreta frontalis            |  | 675 | Duck Brk.    | 09-Sep-97 |

## Acadia Natl Park - NUM

|     |   |            |           |             |                   |                             |            |     |              |           |
|-----|---|------------|-----------|-------------|-------------------|-----------------------------|------------|-----|--------------|-----------|
| 062 | V | Arthropoda | Insecta   | Trichoptera | Odontoceridae     | Psilotreta prob. frontalis  |            | 674 | Hunter Brk.  | 04-Sep-97 |
| 063 | V | Arthropoda | Insecta   | Trichoptera | Rhyacophilidae    | Rhyacophila carolina        |            | 676 | Stanley Brk. | 09-Sep-97 |
| 064 | V | Arthropoda | Insecta   | Trichoptera | Hydropsychidae    | Parapsyche apicalis         |            | 676 | Stanley Brk. | 09-Sep-97 |
| 065 | V | Arthropoda | Insecta   | Trichoptera | Hydropsychidae    | Hydropsyche ventura         |            | 676 | Stanley Brk. | 09-Sep-97 |
| 066 | V | Arthropoda | Insecta   | Trichoptera | Limnephilidae     | Hydatophylax argus          |            | 676 | Stanley Brk. | 09-Sep-97 |
| 067 | V | Arthropoda | Insecta   | Trichoptera | Polycentropodidae | Polycentropus sp.           |            | 673 | Cannon Brk.  | 04-Sep-97 |
| 068 | V | Arthropoda | Insecta   | Trichoptera | Uenoidae          | Neophylax sp.               |            | 676 | Stanley Brk. | 09-Sep-97 |
| 069 | V | Arthropoda | Insecta   | Trichoptera | Limnephilidae     | Oligostoma sp.              |            | 676 | Stanley Brk. | 09-Sep-97 |
| 070 | V | Arthropoda | Insecta   | Trichoptera | Polycentropodidae | Nyctiopylax moestus         |            | 673 | Cannon Brk.  | 04-Sep-97 |
| 071 | V | Arthropoda | Insecta   | Trichoptera | Leptoceridae      | Oecetis persimilis          |            | 675 | Duck Brk.    | 09-Sep-97 |
| 072 | V | Arthropoda | Insecta   | Trichoptera | Glossosomatidae   | Glossosoma sp.              |            | 676 | Stanley Brk. | 09-Sep-97 |
| 073 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Ablabesmyia mallochii       |            | 673 | Cannon Brk.  | 04-Sep-97 |
| 074 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Rheocricotopus pauciseta    |            | 674 | Hunter Brk.  | 04-Sep-97 |
| 075 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Rheocricotopus tuberculatus |            | 674 | Hunter Brk.  | 04-Sep-97 |
| 076 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Psectrocladius sp.          |            | 674 | Hunter Brk.  | 04-Sep-97 |
| 077 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Cricotopus (C.) sp.         |            | 674 | Hunter Brk.  | 04-Sep-97 |
| 078 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Tanytarsus sp.06            |            | 674 | Hunter Brk.  | 04-Sep-97 |
| 079 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Orthocladius (O.) annectens |            | 674 | Hunter Brk.  | 04-Sep-97 |
| 080 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Paramerina sp.              |            | 674 | Hunter Brk.  | 04-Sep-97 |
| 081 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Cricotopus (C.) bicinctus   |            | 675 | Duck Brk.    | 09-Sep-97 |
| 082 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Eukiefferiella gracei-gr.   |            | 675 | Duck Brk.    | 09-Sep-97 |
| 083 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Pseudochironomus sp.        |            | 675 | Duck Brk.    | 09-Sep-97 |
| 084 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Corynoneura sp.             |            | 675 | Duck Brk.    | 09-Sep-97 |
| 085 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Macropelopia sp.            |            | 676 | Stanley Brk. | 09-Sep-97 |
| 086 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Trissopelopia sp.           |            | 676 | Stanley Brk. | 09-Sep-97 |
| 087 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Rheocricotopus eminellobus  |            | 676 | Stanley Brk. | 09-Sep-97 |
| 088 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Parakiefferiella sp.        |            | 676 | Stanley Brk. | 09-Sep-97 |
| 089 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Orthocladius (S.) lignicola |            | 676 | Stanley Brk. | 09-Sep-97 |
| 090 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Polypedilum tritum          |            | 676 | Stanley Brk. | 09-Sep-97 |
| 091 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Larsia sp.                  |            | 743 | Cannon Brk.  | 28-Aug-98 |
| 092 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Rheocricotopus pauciseta    |            | 743 | Cannon Brk.  | 28-Aug-98 |
| 093 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Polypedilum aviceps         |            | 744 | Hunters Brk. | 28-Aug-98 |
| 094 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Synorthocladius sp.         |            | 744 | Hunters Brk. | 28-Aug-98 |
| 095 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Limnophyes sp.              |            | 745 | Stanley Brk. | 28-Aug-98 |
| 096 | S | Arthropoda | Insecta   | Diptera     | Chironomidae      | Micropsectra sp.            |            | 745 | Stanley Brk. | 28-Aug-98 |
| 097 | S | Arthropoda | Crustacea | Amphipoda   | Crangonyctidae    | Synurella sp.               | gnathopods | 746 | Duck Brk.    | 27-Aug-98 |

## Acadia Natl Park - NUM

|     |   |            |            |               |                 |                             |                |     |              |           |
|-----|---|------------|------------|---------------|-----------------|-----------------------------|----------------|-----|--------------|-----------|
| 098 | S | Arthropoda | Crustacea  | Isopoda       | Asellidae       | Caecidotea racovitzai       | pleopods 1     | 747 | Heath Brk.   | 27-Aug-98 |
| 099 | S | Arthropoda | Insecta    | Diptera       | Chironomidae    | Eukiefferiella devonica-gr. |                | 747 | Heath Brk.   | 27-Aug-98 |
| 100 | S | Arthropoda | Insecta    | Diptera       | Chironomidae    | Cricotopus (Isocladius) sp. |                | 747 | Heath Brk.   | 27-Aug-98 |
| 101 | S | Annelida   | Oligochaet | Haplotaxida   | Naididae        | Nais nr. simplex/pardalis   | dorsal needl   | 747 | Heath Brk.   | 27-Aug-98 |
| 102 | S | Arthropoda | Insecta    | Collembola    | Sminthuridae    | Bourletiella sp.            |                | 747 | Heath Brk.   | 27-Aug-98 |
| 103 | S | Arthropoda | Insecta    | Plecoptera    | Chloroperlidae? |                             | glossa/parag   | 747 | Heath Brk.   | 27-Aug-98 |
| 104 | S | Arthropoda | Insecta    | Diptera       | Chironomidae    | Zavrelimyia sp.             |                | 747 | Heath Brk.   | 27-Aug-98 |
| 105 | S | Arthropoda | Insecta    | Diptera       | Chironomidae    | Meropelopia sp.             | (pupa)         | 747 | Heath Brk.   | 27-Aug-98 |
| 106 | S | Arthropoda | Crustacea  | Amphipoda     | Ischyroceridae  | Jassa sp.                   | mouth parts,   | 748 | Lurvey Sprin | 27-Aug-98 |
| 107 | S | Arthropoda | Insecta    | Diptera       | Chironomidae    | Brillia parva               |                | 748 | Lurvey Sprin | 27-Aug-98 |
| 108 | S | Arthropoda | Insecta    | Diptera       | Chironomidae    | Eukiefferiella brehmi-gr.   |                | 748 | Lurvey Sprin | 27-Aug-98 |
| 109 | S | Arthropoda | Insecta    | Diptera       | Chironomidae    | Orthocladius (S.) lignicola |                | 748 | Lurvey Sprin | 27-Aug-98 |
| 110 | S | Arthropoda | Insecta    | Diptera       | Chironomidae    | Limnophyes sp.              |                | 748 | Lurvey Sprin | 27-Aug-98 |
| 111 | S | Arthropoda | Insecta    | Collembola    | Isotomidae      | Agrenia? sp.                |                | 748 | Lurvey Sprin | 27-Aug-98 |
| 112 | S | Arthropoda | Insecta    | Diptera       | Chironomidae    | Rheocricotopus tuberculatus |                | 748 | Lurvey Sprin | 27-Aug-98 |
| 113 | S | Arthropoda | Insecta    | Diptera       | Ceratopogonidae | Bezzia/Palpomyia sp.        |                | 748 | Lurvey Sprin | 27-Aug-98 |
| 114 | S | Arthropoda | Insecta    | Diptera       | Chironomidae    | Heterotrissocladius sp.     |                | 748 | Lurvey Sprin | 27-Aug-98 |
| 115 | S | Arthropoda | Insecta    | Diptera       | Chironomidae    | Stempellinella sp.          |                | 748 | Lurvey Sprin | 27-Aug-98 |
| 116 | S | Arthropoda | Insecta    | Diptera       | Chironomidae    | Eukiefferiella brehmi-gr.   |                | 748 | Lurvey Sprin | 27-Aug-98 |
| 117 | S | Arthropoda | Insecta    | Collembola    | Isotomidae      | poss. Isotoma sp.           | *              | 748 | Lurvey Sprin | 27-Aug-98 |
| 118 | S | Arthropoda | Insecta    | Collembola    | Entomobryidae   | Entomobrya? sp.             |                | 748 | Lurvey Sprin | 27-Aug-98 |
| 119 | S | Arthropoda | Insecta    | Collembola    | Isotomidae      | Agrenia? sp.                |                | 748 | Lurvey Sprin | 27-Aug-98 |
| 120 | S | Arthropoda | Insecta    | Collembola    | Isotomidae      | Agrenia? sp.                |                | 748 | Lurvey Sprin | 27-Aug-98 |
| 121 | S | Arthropoda | Insecta    | Collembola    | Isotomidae      | Isotoma? sp.                |                | 748 | Lurvey Sprin | 27-Aug-98 |
| 122 | S | Arthropoda | Insecta    | Diptera       | Chironomidae    | Conchapelopia genus-gr.     | not a last ins | 743 | Cannon Brk.  | 28-Aug-98 |
| 123 | V | Arthropoda | Insecta    | Ephemeroptera | Baetidae        | Baetis sp.                  | two-tailed fo  | 744 | Hunters Brk. | 28-Aug-98 |
| 124 | V | Arthropoda | Insecta    | Ephemeroptera | Baetidae        | Acerpenna pygmaea           |                | 746 | Duck Brk.    | 27-Aug-98 |
| 125 | V | Arthropoda | Insecta    | Plecoptera    | Chloroperlidae? |                             | see Slide #1   | 747 | Heath Brk.   | 27-Aug-98 |
| 126 | V | Arthropoda | Insecta    | Plecoptera    | Leuctridae      | Leuctra ferrugineum         |                | 748 | Lurvey Sprin | 27-Aug-98 |
| 127 | V | Arthropoda | Insecta    | Plecoptera    | Leuctridae      | Leuctra truncata            |                | 744 | Hunters Brk. | 28-Aug-98 |
| 128 | V | Arthropoda | Insecta    | Plecoptera    | Perlodidae      | Diura sp.                   |                | 745 | Stanley Brk. | 28-Aug-98 |
| 129 | V | Arthropoda | Insecta    | Megaloptera   | Cordalyidae     | Chauliodes sp.              | early instar   | 746 | Duck Brk.    | 27-Aug-98 |
| 130 | V | Arthropoda | Insecta    | Megaloptera   | Sialidae        | Sialis sp.                  |                | 748 | Lurvey Sprin | 27-Aug-98 |
| 131 | V | Arthropoda | Insecta    | Trichoptera   | Lepterceridae   |                             | pupa           | 747 | Heath Brk.   | 27-Aug-98 |
| 132 | V | Arthropoda | Insecta    | Trichoptera   | Lepterceridae   | Oxythira sp.                |                | 747 | Heath Brk.   | 27-Aug-98 |
| 133 | V | Arthropoda | Insecta    | Trichoptera   | Limnephilidae   | Limnephilus sp. 1           |                | 747 | Heath Brk.   | 27-Aug-98 |

Acadia Natl Park - NUM

|     |   |               |             |                  |                |                       |               |          |              |           |
|-----|---|---------------|-------------|------------------|----------------|-----------------------|---------------|----------|--------------|-----------|
| 134 | V | Arthropoda    | Insecta     | Trichoptera      | Limnephilidae  | Limnephilus sp. 2     |               | 747      | Heath Brk.   | 27-Aug-98 |
| 135 | V | Arthropoda    | Insecta     | Trichoptera      | Uenoidae       | Neophylax nacatus     |               | 748      | Lurvey Sprin | 27-Aug-98 |
| 136 | V | Arthropoda    | Insecta     | Trichoptera      | Limnephilidae  |                       | pupa          | 747      | Heath Brk.   | 27-Aug-98 |
| 137 | V | Arthropoda    | Insecta     | Trichoptera      | Phryganeidae   | Oligostomis sp.       |               | 743      | Cannon Brk.  | 28-Aug-98 |
| 138 | V | Arthropoda    | Insecta     | Trichoptera      |                |                       | very early in | 745      | Stanley Brk. | 28-Aug-98 |
| 139 | V | Arthropoda    | Insecta     | Coleoptera       | Elmidae        | Stenelmis crenata     |               | 747      | Heath Brk.   | 27-Aug-98 |
| 140 | V | Arthropoda    | Insecta     | Hemiptera        | Veliidae       | Microvelia sp.        | early instar  | 744      | Hunters Brk. | 28-Aug-98 |
| 141 | V | Arthropoda    | Insecta     | Hemiptera        | Gerridae       | Trepobates sp.        |               | 746      | Duck Brk.    | 27-Aug-98 |
| 142 | V | Arthropoda    | Insecta     | Coleoptera       | Dytiscidae     | Hydroporus sp.        | larvae & adu  | 747, 748 | Lurvey Sprin | 27-Aug-98 |
| 143 | V | Arthropoda    | Insecta     | Diptera          | Simuliidae     | Simulium venustum     | larvae & pu   | 745      | Stanley Brk. | 28-Aug-98 |
| 144 | V | Arthropoda    | Insecta     | Diptera          | Tipulidae      | Pedicia? sp.          | early instar  | 745      | Stanley Brk. | 28-Aug-98 |
| 145 | V | Arthropoda    | Insecta     | Diptera          | Tipulidae      | Dicranota sp.         |               | 744      | Hunters Brk. | 28-Aug-98 |
| 146 | V | Arthropoda    | Insecta     | Diptera          | Dixidae        | Dixa sp.              |               | 743      | Cannon Brk.  | 28-Aug-98 |
| 147 | V | Arthropoda    | Insecta     | Diptera          | Empididae      | Wiedemannia sp.       |               | 745      | Stanley Brk. | 28-Aug-98 |
| 148 | V | Mollusca      | Pelecypoda  | Eulamellibranchi | Sphaeriidae    | Pisidium sp.          |               | 748      | Lurvey Sprin | 27-Aug-98 |
| 149 | V | Arthropoda    | Crustacea   | Amphipoda        | Ischyroceridae | Jassa sp.             | see Slide #1  | 748      | Lurvey Sprin | 27-Aug-98 |
| 150 | V | Arthropoda    | Crustacea   | Isopoda          | Asellidae      | Caecidotea racovitzai | see Slide #0  | 747      | Heath Brk.   | 27-Aug-98 |
| 151 | V | Arthropoda    | Crustacea   | Amphipoda        | Crangonyctidae | Synurella sp.         | see Slide #0  | 746      | Duck Brk.    | 27-Aug-98 |
| 152 | V | Arthropoda    | Crustacea   | Amphipoda        | Talitridae     | Hyalella azteca       |               | 747      | Heath Brk.   | 27-Aug-98 |
| 153 | V | Arthropoda    | Arachnida   | Acariformes      | Hygrobatidae   | Hygrobates sp.        |               | 747      | Heath Brk.   | 27-Aug-98 |
| 154 | V | Arthropoda    | Arachnida   | Acariformes      | Lebertidae     | Lebertia sp.          |               | 747      | Heath Brk.   | 27-Aug-98 |
| 155 | V | Arthropoda    | Arachnida   | Acariformes      | Family?        |                       |               | 747      | Heath Brk.   | 27-Aug-98 |
| 156 | V | Arthropoda    | Arachnida   | Acariformes      | Eremaeidae     | Hydrozetes sp.        |               | 745      | Stanley Brk. | 28-Aug-98 |
| 157 | V | Platyhelminth | Turbellaria | Tricladida       | Planariidae    | Dugesia?              |               | 747      | Heath Brk.   | 27-Aug-98 |
| 158 | V | Platyhelminth | Turbellaria | Tricladida       | Planariidae    | Phagocata gracilis    |               | 747      | Heath Brk.   | 27-Aug-98 |

**Appendix 2**  
**1999 Data**

KEY REPORT

PRINTED 10/24/00 @ 15:11

STATION ID: S320

LOG NUMBER: 834

LAST CALCULATED: 10/16/00

MODEL CALCULATED: 10/16/00

ADJUSTED TO GENUS

River Basin CENTRAL AND  
Water Body CANNON BROOK  
Town ACADIA NATIONAL  
Stream Order 1

Sample Method R  
Subsample Factor X1  
Ref LOG # 0  
Date IN 08/04/99  
Date OUT 08/31/99

SUMMARY OF HABITAT CHARACTERISTICS

|          |                 |           |       |       |       |
|----------|-----------------|-----------|-------|-------|-------|
| Land Use | UPLAND HARDWOOD | Terrain   | FLAT  | Temp  | 17.6  |
|          | UPLAND CONIFER  | Cover     | DENSE | Width | 1.0   |
|          | SWAMP CONIFER   | Pollutant |       | Depth | 20.8  |
|          |                 |           |       | Veloc | 15.00 |

Substrate Composition

|         |   |          |    |
|---------|---|----------|----|
| Bedrock |   | Gravel   | 65 |
| Boulder | 2 | Sand     | 25 |
| Rubble  | 8 | Silt     |    |
|         |   | Detritus |    |

GIS Site Location

Latitude  
Longitude

Legislative Class: AA Model Classification: A with P >= 60%

Classification Attainment Model Probabilities

| <u>First Stage Model</u>  |         | <u>C or better Model</u>       |         |
|---------------------------|---------|--------------------------------|---------|
| Class A                   | 0.74221 | Class A,B, or C                | 1.00000 |
| Class B                   | 0.24534 | Non-Attainment                 | 0.00000 |
| Class C                   | 0.01245 |                                |         |
| Non-Attainment            | 0.00000 |                                |         |
| <u>B or Better Model</u>  |         | <u>A Model</u>                 |         |
| Class A or B              | 0.99985 | Class A                        | 0.81690 |
| Class C or Non-Attainment | 0.00015 | Class B or C or Non-Attainment | 0.18310 |

Model Variable Values

|                 |        |                 |       |                  |       |
|-----------------|--------|-----------------|-------|------------------|-------|
| 01 TOT ABUN     | 74.970 | 07 REL ABUN CHI | 0.155 | 13 REL ABUN OLI  | 0.000 |
| 02 GEN RICH     | 29.000 | 08 REL RICH DIP | 0.310 | 14 PROB AB 1ST   | 0.987 |
| 03 PLEC ABUN    | 0.660  | 09 HYDRO ABUN   | 0.330 | 15 PERL ABUN     | 0.000 |
| 04 EPHEM ABUN   | 54.660 | 10 PROB ABC 1ST | 1.000 | 16 TANYPOD ABUN  | 1.410 |
| 05 SW GEN DIV   | 3.160  | 11 CHEUM ABUN   | 0.000 | 17 CHIRON ABUN   | 0.700 |
| 06 HILS BIO IND | 3.680  | 12 EPT/DIPT     | 1.666 | 18 REL AB EPHEM  | 0.729 |
| 09 EPT GEN RICH | 15.000 | 25 SUM ABUN     | 1.060 | 5 Dominant Taxa  |       |
| 20 PROB(AB) SUB | 0.986  | 26 SUM ABUN     | 0.000 | PARALEPTOPHLEBIA | 46.2  |
| 21 SUMMED ABUN  | 3.180  | 27 PROB(A) SUB  | 0.578 | HEPTAGENIIDAE    | 8.9   |
| 22 PROB(A) 1ST  | 0.742  | 28 EP GEN RICH  | 0.571 | STENACRON        | 8.0   |
| 23 REL PLEC RI  | 0.068  | 29 DOM A IND    | 0.000 | PROCLOEON        | 5.7   |
| 24 REL AB BRACH | 0.000  | 30 PRES A INDIC | 0.285 | PSECTROCLADIUS   | 4.7   |

KEY REPORT  
 PRINTED 10/24/00 @ 15:11

STATION ID: S320  
 LOG NUMBER: 834

LAST CALCULATED: 10/16/00 MODEL CALCULATED: 10/16/00

| TAXA             | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |      |
|------------------|----------------|----------|--------|----|--------|-----------|------|
|                  |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ  |
| COLLEMBOLA       | 090201         | 0.6      | 0.6    |    |        | 0.8       | 0.8  |
| CAPNIIDAE        | 09020203       | 0.3      | 0.3    |    |        | 0.4       | 0.4  |
| LEUCTRA          | 09020204020    | 0.0      | 0.3    | 0  | S      | 0.0       | 0.4  |
| LEUCTRA          | 09020204020058 | 0.3      | 0.0    | 0  | S      | 0.4       | 0.0  |
| AESHNA           | 09020301001    | 0.3      | 0.3    | 05 | PR     | 0.4       | 0.4  |
| BOYERIA          | 09020301004    | 0.3      | 0.6    | 2  | PR     | 0.4       | 0.8  |
| BOYERIA          | 09020301004011 | 0.3      | 0.0    | 2  | PR     | 0.4       | 0.0  |
| CORDULIIDAE      | 09020305       | 1.0      | 1.0    |    |        | 1.3       | 1.3  |
| PROCLOEON        | 09020401010    | 4.3      | 4.3    |    | CG     | 5.7       | 5.7  |
| HEPTAGENIIDAE    | 09020402       | 6.6      | 6.6    |    |        | 8.8       | 8.9  |
| STENACRON        | 09020402014    | 6.0      | 6.0    | 7  | SC     | 8.0       | 8.0  |
| LEPTOPHLEBIIDAE  | 09020406       | 18.6     | 0.0    |    |        | 24.8      | 0.0  |
| HABROPHLEBIA     | 09020406023    | 0.0      | 2.6    |    |        | 0.0       | 3.5  |
| HABROPHLEBIA     | 09020406023072 | 1.3      | 0.0    |    |        | 1.7       | 0.0  |
| PARALEPTOPHLEBIA | 09020406026    | 17.3     | 34.6   | 1  | CG     | 23.1      | 46.2 |
| EURYLOPHELLA     | 09020410036    | 0.3      | 0.3    | 3  | CG     | 0.4       | 0.4  |
| NYCTIOPHYLAX     | 09020603009    | 0.0      | 1.6    | 5  | PR     | 0.0       | 2.2  |
| NYCTIOPHYLAX     | 09020603009013 | 1.6      | 0.0    | 5  | PR     | 2.2       | 0.0  |
| POLYCENTROPUS    | 09020603010    | 0.3      | 0.3    | 6  | PR     | 0.4       | 0.4  |
| HYDROPSYCHE      | 09020604016    | 0.3      | 0.3    | 4  | CF     | 0.4       | 0.4  |
| PHRYGANEIDAE     | 09020608       | 0.6      | 0.6    |    |        | 0.8       | 0.8  |
| OLIGOSTOMIS      | 09020608039    | 0.3      | 0.3    | 2  | PR     | 0.4       | 0.4  |
| LEPIDOSTOMA      | 09020611064    | 0.6      | 0.6    | 1  | S      | 0.8       | 0.8  |
| PSILOTRETA       | 09020614068    | 0.6      | 1.0    | 0  | SC     | 0.8       | 1.3  |
| PSILOTRETA       | 09020614068134 | 0.3      | 0.0    | 0  | SC     | 0.4       | 0.0  |
| CHIRONOMIDAE     | 09021011       | 0.6      | 0.0    |    |        | 0.8       | 0.0  |
| PARAMERINA       | 09021011013    | 1.0      | 1.0    |    |        | 1.3       | 1.4  |
| TRISSOPELOPIA    | 09021011021    | 0.3      | 0.3    |    | PR     | 0.4       | 0.4  |
| PSECTROCLADIUS   | 09021011056    | 3.3      | 3.5    | 8  | CG     | 4.4       | 4.7  |
| RHEOCRICOTOPUS   | 09021011057    | 0.6      | 1.4    | 6  | CG     | 0.8       | 1.8  |
| RHEOCRICOTOPUS   | 09021011057108 | 0.6      | 0.0    | 6  | CG     | 0.8       | 0.0  |
| TVETENIA         | 09021011065    | 0.0      | 0.3    | 5  | CG     | 0.0       | 0.4  |
| TVETENIA         | 09021011065111 | 0.3      | 0.0    | 5  | CG     | 0.4       | 0.0  |
| MICROPSECTRA     | 09021011070    | 3.0      | 3.1    | 7  | CG     | 4.0       | 4.2  |
| TANYTARSUS       | 09021011076    | 1.0      | 1.0    | 6  | CF     | 1.3       | 1.4  |
| MICROTENDIPES    | 09021011094    | 0.0      | 0.3    | 6  | CF     | 0.0       | 0.4  |
| MICROTENDIPES    | 09021011094166 | 0.3      | 0.0    | 6  | CF     | 0.4       | 0.0  |
| POLYPEDILUM      | 09021011102    | 0.0      | 0.3    | 6  | S      | 0.0       | 0.4  |
| POLYPEDILUM      | 09021011102185 | 0.3      | 0.0    | 6  | S      | 0.4       | 0.0  |
| HYDRODROMA       | 09030113001    | 0.3      | 0.3    |    |        | 0.4       | 0.4  |

TOTAL

75.0

100.0

Maine Department of Environmental Protection  
**Acadia National Park**  
 Logsheet for Benthic Macroinvertebrates Identified  
 Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |              |
|---------------------|--------------|
| Sample Log No.:     | 834          |
| Station No.:        | 320          |
| Waterbody Name:     | Cannon Brook |
| Town Name:          | Bar Harbor   |
| Date of Collection: | 31 Aug 99    |
| Subsample Factor:   | 1.00         |
| Sampler Type:       | Basket       |

| Bar Code No. | Taxon                 |              |                          | No. identified from sample |          |          |
|--------------|-----------------------|--------------|--------------------------|----------------------------|----------|----------|
|              | Genus                 | Species      | Comment                  | Basket 1                   | Basket 2 | Basket 3 |
| 09020301001  | Aeshna                |              |                          | 1                          | 0        | 0        |
| 09020301004  | Boyeria               | grafiana     |                          | 1                          | 0        | 0        |
| 09020301004  | Boyeria               | vinosa       |                          | 1                          | 0        | 0        |
| 09020203     | Capniidae             |              | early instar             | 1                          | 0        | 0        |
| 090201       | Collembola            |              |                          | 0                          | 0        | 2        |
| 09020305     | Corduliidae           |              | early instar             | 3                          | 0        | 0        |
| 09020410036  | Eurylophella          |              | early instar             | 1                          | 0        | 0        |
| 09020406023  | Habrophlebia          | vibrans      |                          | 2                          | 0        | 2        |
| 09020402     | Heptageniidae         |              | early instar             | 8                          | 1        | 11       |
|              | Hydrodroma            |              |                          | 0                          | 0        | 1        |
| 09020604016  | Hydropsyche           |              | early instar             | 1                          | 0        | 0        |
| 09020611064  | Lepidostoma           |              |                          | 2                          | 0        | 0        |
| 09020406     | Leptophlebiidae       |              | early instar, inc. spec. | 29                         | 7        | 20       |
| 09020204020  | Leuctra               | truncata     |                          | 0                          | 0        | 1        |
| 09021011070  | Micropsectra          |              |                          | 7                          | 1        | 1        |
| 09021011094  | Microtendipes         | pedellus-gr. |                          | 0                          | 0        | 1        |
| 09020603009  | Nyctiophylax          | moestus      |                          | 1                          | 1        | 3        |
| 09020608039  | Oligostomis           |              |                          | 0                          | 0        | 1        |
| 09020406026  | Paraleptophlebia      |              |                          | 12                         | 2        | 38       |
| 09021011013  | Paramerina            |              |                          | 1                          | 0        | 2        |
| 09020608     | Phryganeidae          |              | early instar             | 1                          | 0        | 1        |
| 09020603010  | Polycentropus         |              |                          | 1                          | 0        | 0        |
| 09021011102  | Polypedilum           | illinoense   |                          | 1                          | 0        | 0        |
|              | Procloeon             |              |                          | 2                          | 1        | 9        |
|              | Procloeon/Centropilum |              | early instar, inc. spec. | 1                          | 0        | 0        |
| 09021011056  | Psectrocladius        |              |                          | 6                          | 0        | 4        |
| 09020614068  | Psilotreta            | frontalis    |                          | 1                          | 0        | 0        |
| 09020614068  | Psilotreta            |              |                          | 2                          | 0        | 0        |
| 09021011057  | Rheocricotopus        | pauciseta    |                          | 1                          | 1        | 0        |
| 09021011057  | Rheocricotopus        |              |                          | 1                          | 1        | 0        |
| 09020402014  | Stenacron             |              | early instar             | 13                         | 4        | 1        |
| 09021011076  | Tanytarsus            | sp. 06       |                          | 1                          | 0        | 0        |
| 09021011076  | Tanytarsus            | sp. 08-gr.   |                          | 0                          | 0        | 1        |
| 09021011076  | Tanytarsus            | sp. 08C      |                          | 0                          | 0        | 1        |

| Bar Code No. | Taxon             |              |                          | No. identified from sample |          |          |
|--------------|-------------------|--------------|--------------------------|----------------------------|----------|----------|
|              | Genus             | Species      | Comment                  | Basket 1                   | Basket 2 | Basket 3 |
| 09021011021  | Trissopelopia     |              |                          | 0                          | 1        | 0        |
| 09021011065  | Tvetenia          | bavarica-gr. |                          | 1                          | 0        | 0        |
|              | Unid. Tanypodinae |              | inc. spec., early instar | 1                          | 0        | 1        |

|                      |            |           |            |
|----------------------|------------|-----------|------------|
| <b>Total Benthos</b> | <b>104</b> | <b>20</b> | <b>101</b> |
| <b>Total OTUs</b>    | <b>29</b>  | <b>10</b> | <b>19</b>  |
| <b>Total spp.</b>    | <b>25</b>  | <b>7</b>  | <b>14</b>  |

## KEY REPORT

PRINTED 10/24/00 @ 15:11

STATION ID: S322

LOG NUMBER: 835

LAST CALCULATED: 10/16/00

ADJUSTED TO GENUS

MODEL CALCULATED: 10/16/00

River Basin CENTRAL AND  
 Water Body DUCK BROOK  
 Town ACADIA NATIONAL  
 Stream Order 1

Sample Method R  
 Subsample Factor X1  
 Ref LOG # 0  
 Date IN 08/04/99  
 Date OUT 08/31/99

## SUMMARY OF HABITAT CHARACTERISTICS

|                          |                   |              |
|--------------------------|-------------------|--------------|
| Land Use UPLAND HARDWOOD | Terrain ROLLING   | Temp 20.1    |
|                          | Cover PARTLY OPEN | Width -99.0  |
|                          | Pollutant         | Depth 18.4   |
|                          |                   | Veloc -99.00 |

## Substrate Composition

|            |           |
|------------|-----------|
| Bedrock 35 | Gravel 38 |
| Boulder 15 | Sand 10   |
| Rubble 2   | Silt      |
|            | Detritus  |

GIS Site Location  
 Latitude  
 Longitude

Legislative Class: AA Model Classification: A with P &gt;= 60%

## Classification Attainment Model Probabilities

| <u>First Stage Model</u> |                        | <u>C or better Model</u> |  |
|--------------------------|------------------------|--------------------------|--|
| Class A 0.69877          | Class B 0.29000        | Class A,B, or C 1.00000  |  |
| Class C 0.01123          | Non-Attainment 0.00000 | Non-Attainment 0.00000   |  |

| <u>B or Better Model</u>          |  | <u>A Model</u>                         |  |
|-----------------------------------|--|----------------------------------------|--|
| Class A or B 0.93488              |  | Class A 0.92367                        |  |
| Class C or Non-Attainment 0.06512 |  | Class B or C or Non-Attainment 0.07633 |  |

## Model Variable Values

|                        |                       |                       |
|------------------------|-----------------------|-----------------------|
| 01 TOT ABUN 57.310     | 07 REL ABUN CHI 0.395 | 13 REL ABUN OLI 0.000 |
| 02 GEN RICH 35.000     | 08 REL RICH DIP 0.371 | 14 PROB AB 1ST 0.988  |
| 03 PLEC ABUN 3.330     | 09 HYDRO ABUN 0.330   | 15 PERL ABUN 3.330    |
| 04 EPHEM ABUN 5.330    | 10 PROB ABC 1ST 1.000 | 16 TANYPOD ABUN 3.660 |
| 05 SW GEN DIV 4.250    | 11 CHEUM ABUN 0.000   | 17 CHIRON ABUN 8.000  |
| 06 HILS BIO IND 4.740  | 12 EPT/DIPT 0.769     | 18 REL AB EPHEM 0.093 |
| 19 EPT GEN RICH 10.000 | 25 SUM ABUN 8.000     | 5 Dominant Taxa       |
| 20 PROB(AB) SUB 0.401  | 26 SUM ABUN 6.250     | MICROTENDIPES 13.3    |
| 21 SUMMED ABUN 0.000   | 27 PROB(A) SUB 0.376  | PHYSELLA 13.3         |
| 22 PROB(A) 1ST 0.698   | 28 EP GEN RICH 0.500  | CRICOTOPUS 12.2       |
| 23 REL PLEC RI 0.028   | 29 DOM A IND 0.200    | SYNURELLA 8.1         |
| 24 REL AB BRACH 0.000  | 30 PRES A INDIC 0.285 | ACRONEURIA 5.8        |

## KEY REPORT

PRINTED 10/24/00 @ 15:11

STATION ID: S322

LOG NUMBER: 835

LAST CALCULATED: 10/16/00

MODEL CALCULATED: 10/16/00

| TAXA             | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |      |
|------------------|----------------|----------|--------|----|--------|-----------|------|
|                  |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ  |
| CURA             | 03010101001    | 0.0      | 0.3    |    |        | 0.0       | 0.5  |
| CURA             | 03010101001001 | 0.3      | 0.0    |    |        | 0.5       | 0.0  |
| DUGESIA          | 03010101002    | 0.0      | 0.3    |    |        | 0.0       | 0.5  |
| DUGESIA          | 03010101002003 | 0.3      | 0.0    |    |        | 0.5       | 0.0  |
| SYNURELLA        | 09010202006    | 0.0      | 4.6    |    |        | 0.0       | 8.1  |
| SYNURELLA        | 09010202006001 | 4.6      | 0.0    |    |        | 8.1       | 0.0  |
| ACRONEURIA       | 09020209042    | 1.0      | 3.3    | 0  | PR     | 1.7       | 5.8  |
| ACRONEURIA       | 09020209042121 | 2.3      | 0.0    | 0  | PR     | 4.0       | 0.0  |
| BOYERIA          | 09020301004    | 0.0      | 1.0    | 2  | PR     | 0.0       | 1.7  |
| BOYERIA          | 09020301004012 | 1.0      | 0.0    | 2  | PR     | 1.7       | 0.0  |
| CORDULIIDAE      | 09020305       | 0.3      | 0.3    |    |        | 0.5       | 0.5  |
| COENAGRIONIDAE   | 09020309       | 0.3      | 0.3    |    |        | 0.5       | 0.5  |
| ACERPENNA        | 09020401007    | 0.3      | 0.3    | 5  | CG     | 0.5       | 0.5  |
| PROCLOEON        | 09020401010    | 0.6      | 0.6    |    | CG     | 1.1       | 1.1  |
| HEPTAGENIIDAE    | 09020402       | 0.6      | 0.0    |    |        | 1.1       | 0.0  |
| STENACRON        | 09020402014    | 0.0      | 0.4    | 7  | SC     | 0.0       | 0.7  |
| STENACRON        | 09020402014045 | 0.3      | 0.0    | 7  | SC     | 0.5       | 0.0  |
| STENONEMA        | 09020402015    | 1.3      | 2.9    | 4  | SC     | 2.3       | 5.0  |
| STENONEMA        | 09020402015051 | 1.0      | 0.0    | 4  | SC     | 1.7       | 0.0  |
| PARALEPTOPHLEBIA | 09020406026    | 0.6      | 0.6    | 1  | CG     | 1.1       | 1.1  |
| EURYLOPHELLA     | 09020410036    | 0.3      | 0.3    | 3  | CG     | 0.5       | 0.5  |
| MICROVELIA       | 09020510025    | 1.0      | 1.0    |    | PR     | 1.7       | 1.7  |
| POLYCENTROPUS    | 09020603010    | 3.0      | 3.0    | 6  | PR     | 5.2       | 5.2  |
| HYDROPSYCHE      | 09020604016    | 0.0      | 0.3    | 4  | CF     | 0.0       | 0.5  |
| HYDROPSYCHE      | 09020604016032 | 0.3      | 0.0    | 4  | CF     | 0.5       | 0.0  |
| PSILOTRETA       | 09020614068    | 0.0      | 3.3    | 0  | SC     | 0.0       | 5.8  |
| PSILOTRETA       | 09020614068134 | 3.3      | 0.0    | 0  | SC     | 5.8       | 0.0  |
| TIPULA           | 09021001002    | 0.3      | 0.3    | 4  | S      | 0.5       | 0.5  |
| ABLABESMYIA      | 09021011001    | 0.0      | 0.6    | 08 | PR     | 0.0       | 1.1  |
| ABLABESMYIA      | 09021011001004 | 0.6      | 0.0    | 08 | PR     | 1.1       | 0.0  |
| CONCHAPELOPIA    | 09021011004    | 2.3      | 2.3    | 6  | PR     | 4.0       | 4.0  |
| RHEOPELOPIA      | 09021011017    | 0.3      | 0.3    |    | PR     | 0.5       | 0.5  |
| TRISSOPELOPIA    | 09021011021    | 0.3      | 0.3    |    | PR     | 0.5       | 0.5  |
| CRICOTOPUS       | 09021011037    | 0.3      | 7.0    | 7  | S      | 0.5       | 12.2 |
| CRICOTOPUS       | 09021011037057 | 6.6      | 0.0    | 7  | S      | 11.6      | 0.0  |
| LIMNOPHYES       | 09021011047    | 0.6      | 0.6    | 8  | CG     | 1.1       | 1.1  |
| PSECTROCLADIUS   | 09021011056    | 1.6      | 1.6    | 8  | CG     | 2.9       | 2.9  |
| SYNORTHOCCLADIUS | 09021011061    | 1.0      | 1.0    | 2  | CG     | 1.7       | 1.7  |
| TVETENIA         | 09021011065    | 0.0      | 0.3    | 5  | CG     | 0.0       | 0.5  |
| TVETENIA         | 09021011065111 | 0.3      | 0.0    | 5  | CG     | 0.5       | 0.0  |
| TANYTARSUS       | 09021011076    | 0.0      | 0.3    | 6  | CF     | 0.0       | 0.5  |
| TANYTARSUS       | 09021011076134 | 0.3      | 0.0    | 6  | CF     | 0.5       | 0.0  |
| MICROTENDIPES    | 09021011094    | 0.0      | 7.6    | 6  | CF     | 0.0       | 13.3 |

TOTAL

38.3

66.8

KEY REPORT  
PRINTED 10/24/00 @ 15:11

STATION ID: S322  
LOG NUMBER: 835

LAST CALCULATED: 10/16/00

MODEL CALCULATED: 10/16/00

| TAXA          | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |      |
|---------------|----------------|----------|--------|----|--------|-----------|------|
|               |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ  |
| MICROTENDIPES | 09021011094166 | 7.6      | 0.0    | 6  | CF     | 13.3      | 0.0  |
| POLYPEDILUM   | 090210111102   | 0.0      | 0.3    | 6  | S      | 0.0       | 0.5  |
| POLYPEDILUM   | 09021011102181 | 0.3      | 0.0    | 6  | S      | 0.5       | 0.0  |
| ENOCHRUS      | 09021105044    | 0.6      | 0.6    |    | CG     | 1.1       | 1.1  |
| PSEPHENUS     | 09021108058    | 0.0      | 1.6    | 4  | SC     | 0.0       | 2.9  |
| PSEPHENUS     | 09021108058028 | 1.6      | 0.0    | 4  | SC     | 2.9       | 0.0  |
| PROMORESIA    | 09021113069    | 0.0      | 0.6    |    |        | 0.0       | 1.1  |
| PROMORESIA    | 09021113069052 | 0.6      | 0.0    |    |        | 1.1       | 0.0  |
| PHYSELLA      | 10010202027    | 7.6      | 7.6    |    | SC     | 13.3      | 13.3 |
| HELISOMA      | 10010203030    | 0.0      | 0.3    |    | SC     | 0.0       | 0.5  |
| HELISOMA      | 10010203030058 | 0.3      | 0.0    |    | SC     | 0.5       | 0.0  |

TOTAL

57.3

100.0

Maine Department of Environmental Protection  
**Acadia National Park**  
 Logsheet for Benthic Macroinvertebrates Identified  
 Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |            |
|---------------------|------------|
| Sample Log No.:     | 835        |
| Station No.:        | 322        |
| Waterbody Name:     | Duck Brook |
| Town Name:          |            |
| Date of Collection: | 30 Aug 99  |
| Subsample Factor:   | 1.00       |
| Sampler Type:       | Bag        |

| Bar Code No. | Taxon                     |                  |                          | No. identified from sample |       |       |
|--------------|---------------------------|------------------|--------------------------|----------------------------|-------|-------|
|              | Genus                     | Species          | Comment                  | Bag 1                      | Bag 2 | Bag 3 |
| 09021011001  | Ablabesmyia               | mallochi         |                          | 0                          | 2     | 0     |
|              | Acerpenna                 |                  | inc. spec.               | 0                          | 0     | 1     |
| 09020209042  | Acroneuria                | abnormis         |                          | 4                          | 0     | 3     |
| 09020209042  | Acroneuria                |                  | inc. spec., early instar | 0                          | 0     | 3     |
| 09020301004  | Boyeria                   | vinosa           |                          | 2                          | 0     | 1     |
| 09020309     | Coenagrionidae            |                  | early instar             | 1                          | 0     | 0     |
|              | Conchapelopia genus group |                  | early instar             | 1                          | 4     | 2     |
| 09020305     | Corduliidae               |                  | early instar             | 1                          | 0     | 0     |
| 09021011037  | Cricotopus                | (Cricotopus) sp. |                          | 0                          | 1     | 0     |
| 09021011037  | Cricotopus                | bicinctus        |                          | 1                          | 4     | 15    |
| 03010101001  | Cura                      | foremanii        |                          | 0                          | 0     | 1     |
| 03010101002  | Dugesia                   | tigrina          |                          | 1                          | 0     | 0     |
| 09021105044  | Enochrus                  | collinus?        |                          | 2                          | 0     | 0     |
| 09020410036  | Eurylophella              |                  |                          | 0                          | 1     | 0     |
| 10010203030  | Helisoma                  | anceps           |                          | 0                          | 1     | 0     |
| 09020402     | Heptageniidae             |                  | early instar             | 0                          | 1     | 1     |
| 09020604016  | Hydropsyche               | sparna           |                          | 0                          | 0     | 1     |
| 09021011047  | Limnophyes                |                  |                          | 0                          | 0     | 2     |
| 09021011094  | Microtendipes             | pedellus-gr.     |                          | 4                          | 19    | 0     |
| 09020510025  | Microvelia                |                  |                          | 1                          | 0     | 2     |
| 09020406026  | Paraleptophlebia          |                  |                          | 0                          | 2     | 0     |
| 10010202027  | Physella                  |                  |                          | 2                          | 21    | 0     |
| 09020603010  | Polycentropus             |                  |                          | 0                          | 9     | 0     |
| 09021011102  | Polypedilum               | aviceps          |                          | 0                          | 0     | 1     |
|              | Proclotron                |                  |                          | 0                          | 2     | 0     |
| 09021113069  | Promoresia                | tardella         |                          | 0                          | 0     | 2     |
| 09021011056  | Psectrocladius            |                  |                          | 0                          | 5     | 0     |
| 09021108058  | Psephenus                 | herricki         |                          | 1                          | 3     | 1     |
| 09020614068  | Psilotreta                | frontalis        |                          | 7                          | 2     | 1     |
| 09021011017  | Rheopelopia               |                  |                          | 1                          | 0     | 0     |
| 09020402014  | Stenacron                 | interpunctatum   |                          | 0                          | 1     | 0     |
| 09020402015  | Stenonema                 | modestum         |                          | 1                          | 0     | 2     |
| 09020402015  | Stenonema                 |                  | early instar             | 1                          | 0     | 3     |
| 09021011061  | Synorthocladius           |                  |                          | 2                          | 0     | 1     |

| Bar Code No. | Taxon         |                        |         | No. identified from sample |       |       |
|--------------|---------------|------------------------|---------|----------------------------|-------|-------|
|              | Genus         | Species                | Comment | Bag 1                      | Bag 2 | Bag 3 |
|              | Synurella     | chamberlaini           |         | 5                          | 5     | 4     |
| 09021011076  | Tanytarsus    | glabrascens-gr. sp. 01 |         | 0                          | 1     | 0     |
| 09021001002  | Tipula        |                        |         | 0                          | 0     | 1     |
| 09021011021  | Trissopelopia |                        |         | 0                          | 1     | 0     |
| 09021011065  | Tvetenia      | bavarica-gr.           |         | 0                          | 0     | 1     |

|                      |           |           |           |
|----------------------|-----------|-----------|-----------|
| <b>Total Benthos</b> | <b>38</b> | <b>85</b> | <b>49</b> |
| <b>Total OTUs</b>    | <b>18</b> | <b>19</b> | <b>21</b> |
| <b>Total spp.</b>    | <b>17</b> | <b>18</b> | <b>19</b> |

## KEY REPORT

PRINTED 10/24/00 @ 15:11

STATION ID: S323

LOG NUMBER: 836

LAST CALCULATED: 10/16/00

ADJUSTED TO GENUS

MODEL CALCULATED: 10/16/00

River Basin CENTRAL AND  
Water Body STANLEY BROOK  
Town ACADIA NATIONAL  
Stream Order 1

Sample Method R  
Subsample Factor X1  
Ref LOG # 0  
Date IN 08/05/99  
Date OUT 09/01/99

## SUMMARY OF HABITAT CHARACTERISTICS

|          |                 |           |             |       |       |
|----------|-----------------|-----------|-------------|-------|-------|
| Land Use | UPLAND HARDWOOD | Terrain   | ROLLING     | Temp  | 16.6  |
|          | UPLAND CONIFER  | Cover     | PARTLY OPEN | Width | 1.5   |
|          | SWAMP CONIFER   | Pollutant |             | Depth | 16.9  |
|          |                 |           |             | Veloc | 25.26 |

## Substrate Composition

|         |    |          |    |
|---------|----|----------|----|
| Bedrock |    | Gravel   | 35 |
| Boulder | 30 | Sand     | 20 |
| Rubble  | 15 | Silt     |    |
|         |    | Detritus |    |

GIS Site Location  
Latitude  
Longitude

Legislative Class: AA Model Classification: A with P &gt;= 60%

## Classification Attainment Model Probabilities

| <u>First Stage Model</u> |         | <u>C or better Model</u> |         |
|--------------------------|---------|--------------------------|---------|
| Class A                  | 0.88623 | Class A,B, or C          | 1.00000 |
| Class C                  | 0.00087 | Non-Attainment           | 0.00000 |

| <u>B or Better Model</u>  |         | <u>A Model</u>                 |         |
|---------------------------|---------|--------------------------------|---------|
| Class A or B              | 0.99995 | Class A                        | 0.97795 |
| Class C or Non-Attainment | 0.00005 | Class B or C or Non-Attainment | 0.02205 |

## Model Variable Values

|                 |        |                 |       |                 |       |
|-----------------|--------|-----------------|-------|-----------------|-------|
| 01 TOT ABUN     | 58.630 | 07 REL ABUN CHI | 0.102 | 13 REL ABUN OLI | 0.000 |
| 02 GEN RICH     | 29.000 | 08 REL RICH DIP | 0.310 | 14 PROB AB 1ST  | 0.999 |
| 03 PLEC ABUN    | 2.330  | 09 HYDRO ABUN   | 6.000 | 15 PERL ABUN    | 0.000 |
| 04 EPHEM ABUN   | 30.660 | 10 PROB ABC 1ST | 1.000 | 16 TANYPOD ABUN | 0.000 |
| 05 SW GEN DIV   | 3.410  | 11 CHEUM ABUN   | 0.000 | 17 CHIRON ABUN  | 2.150 |
| 06 HILS BIO IND | 3.470  | 12 EPT/DIPT     | 1.888 | 18 REL AB EPHEM | 0.522 |
| 19 EPT GEN RICH | 17.000 | 25 SUM ABUN     | 0.000 | 5 Dominant Taxa |       |
| 20 PROB(AB) SUB | 0.993  | 26 SUM ABUN     | 0.000 | BAETIS          | 39.7  |
| 21 SUMMED ABUN  | 0.860  | 27 PROB(A) SUB  | 0.990 | RHYACOPHILA     | 11.3  |
| 22 PROB(A) 1ST  | 0.886  | 28 EP GEN RICH  | 0.642 | HYDROPSYCHE     | 10.2  |
| 23 REL PLEC RI  | 0.103  | 29 DOM A IND    | 0.000 | PROMORESIA      | 4.5   |
| 24 REL AB BRACH | 0.000  | 30 PRES A INDIC | 0.142 | LEPTOPHLEBIIDAE | 3.9   |

KEY REPORT  
 PRINTED 10/24/00 @ 15:11

STATION ID: S323  
 LOG NUMBER: 836

LAST CALCULATED: 10/16/00 MODEL CALCULATED: 10/16/00

| TAXA             | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |      |
|------------------|----------------|----------|--------|----|--------|-----------|------|
|                  |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ  |
| ISOTOMIDAE       | 09020102       | 0.3      | 0.3    |    |        | 0.5       | 0.5  |
| CAPNIIDAE        | 09020203       | 0.3      | 0.3    |    |        | 0.5       | 0.5  |
| PERLODIDAE       | 09020207       | 1.6      | 1.6    |    |        | 2.8       | 2.8  |
| SWELTS           | 09020208040    | 0.3      | 0.3    |    | PR     | 0.5       | 0.5  |
| BAETIDAE         | 09020401       | 0.6      | 0.0    |    |        | 1.1       | 0.0  |
| BAETIS           | 09020401001    | 0.0      | 23.3   | 4  | CG     | 0.0       | 39.7 |
| BAETIS           | 09020401001004 | 2.0      | 0.0    | 4  | CG     | 3.4       | 0.0  |
| BAETIS           | 09020401001012 | 20.6     | 0.0    | 4  | CG     | 35.2      | 0.0  |
| ACERPENNA        | 09020401007    | 0.3      | 0.3    | 5  | CG     | 0.5       | 0.5  |
| EPEORUS          | 09020402009    | 1.0      | 1.0    | 0  | CG     | 1.7       | 1.7  |
| LEPTOPHLEBIIDAE  | 09020406       | 2.3      | 2.3    |    |        | 3.9       | 3.9  |
| PARALEPTOPHLEBIA | 09020406026    | 1.3      | 1.3    | 1  | CG     | 2.2       | 2.2  |
| EPHEMERELLA      | 09020410035    | 0.0      | 2.3    | 1  | CG     | 0.0       | 3.9  |
| EPHEMERELLA      | 09020410035109 | 2.3      | 0.0    | 1  | CG     | 3.9       | 0.0  |
| DOLOPHILODES     | 09020601001    | 0.6      | 0.6    | 0  | CF     | 1.1       | 1.1  |
| PSYCHOMYIA       | 09020602005    | 0.0      | 0.3    | 2  | CG     | 0.0       | 0.5  |
| PSYCHOMYIA       | 09020602005006 | 0.3      | 0.0    | 2  | CG     | 0.5       | 0.0  |
| POLYCENTROPUS    | 09020603010    | 0.3      | 0.3    | 6  | PR     | 0.5       | 0.5  |
| PARAPSYCHE       | 09020604013    | 0.0      | 0.6    | 0  | CF     | 0.0       | 1.1  |
| PARAPSYCHE       | 09020604013023 | 0.6      | 0.0    | 0  | CF     | 1.1       | 0.0  |
| HYDROPSYCHE      | 09020604016    | 0.3      | 6.0    | 4  | CF     | 0.5       | 10.2 |
| HYDROPSYCHE      | 09020604016033 | 5.6      | 0.0    | 4  | CF     | 9.6       | 0.0  |
| RHYACOPHILA      | 09020605019    | 5.0      | 6.6    | 2  | PR     | 8.5       | 11.3 |
| RHYACOPHILA      | 09020605019060 | 1.6      | 0.0    | 2  | PR     | 2.8       | 0.0  |
| PSILOTRETA       | 09020614068    | 0.0      | 0.3    | 0  | SC     | 0.0       | 0.5  |
| PSILOTRETA       | 09020614068134 | 0.3      | 0.0    | 0  | SC     | 0.5       | 0.0  |
| LEPTOCERIDAE     | 09020618       | 0.3      | 0.3    |    |        | 0.5       | 0.5  |
| DIPTERA          | 090210         | 0.3      | 0.3    |    |        | 0.5       | 0.5  |
| TIPULA           | 09021001002    | 0.3      | 0.3    | 4  | S      | 0.5       | 0.5  |
| CHIRONOMIDAE     | 09021011       | 1.3      | 0.0    |    |        | 2.2       | 0.0  |
| BRILLIA          | 09021011033    | 0.3      | 0.4    | 5  | S      | 0.5       | 0.7  |
| CORYNONEURA      | 09021011036    | 1.0      | 1.2    | 7  | CG     | 1.7       | 2.2  |
| SYNORTHOCCLADIUS | 09021011061    | 0.3      | 0.4    | 2  | CG     | 0.5       | 0.7  |
| TVETENIA         | 09021011065    | 0.0      | 0.4    | 5  | CG     | 0.0       | 0.7  |
| TVETENIA         | 09021011065111 | 0.3      | 0.0    | 5  | CG     | 0.5       | 0.0  |
| MICROPSECTRA     | 09021011070    | 0.6      | 0.8    | 7  | CG     | 1.1       | 1.4  |
| RHEOTANYTARSUS   | 09021011072    | 0.3      | 0.4    | 6  | CF     | 0.5       | 0.7  |
| POLYPEDILUM      | 09021011102    | 0.0      | 2.1    | 6  | S      | 0.0       | 3.6  |
| POLYPEDILUM      | 09021011102181 | 1.6      | 0.0    | 6  | S      | 2.8       | 0.0  |
| SIMULIUM         | 09021012047    | 0.3      | 0.3    | 4  | CF     | 0.5       | 0.5  |
| OULIMNIUS        | 09021113068    | 0.0      | 0.3    |    |        | 0.0       | 0.5  |
| OULIMNIUS        | 09021113068049 | 0.3      | 0.0    |    |        | 0.5       | 0.0  |
| PROMORESIA       | 09021113069    | 0.0      | 2.6    |    |        | 0.0       | 4.5  |
| TOTAL            |                | 56.0     |        |    |        | 95.5      |      |

KEY REPORT  
PRINTED 10/24/00 @ 15:11

STATION ID: S323  
LOG NUMBER: 836

LAST CALCULATED: 10/16/00      MODEL CALCULATED: 10/16/00

| TAXA       | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |     |
|------------|----------------|----------|--------|----|--------|-----------|-----|
|            |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ |
| PROMORESIA | 09021113069052 | 2.6      | 0.0    |    |        | 4.5       | 0.0 |

TOTAL

58.6

100.0

Maine Department of Environmental Protection  
**Acadia National Park**  
 Logsheet for Benthic Macroinvertebrates Identified  
 Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |               |
|---------------------|---------------|
| Sample Log No.:     | 836           |
| Station No.:        | 323           |
| Waterbody Name:     | Stanley Brook |
| Town Name:          |               |
| Date of Collection: | 01 Sep 99     |
| Subsample Factor:   | 1.00          |
| Sampler Type:       | Bag           |

| Bar Code No. | Taxon                       |             |                          | No. identified from sample |       |       |
|--------------|-----------------------------|-------------|--------------------------|----------------------------|-------|-------|
|              | Genus                       | Species     | Comment                  | Bag 1                      | Bag 2 | Bag 3 |
|              | Acerpenna                   |             | inc. spec.               | 0                          | 1     | 0     |
| 09020401     | Baetidae                    |             | early instar             | 1                          | 1     | 0     |
| 09020401001  | Baetis                      | flavistriga |                          | 2                          | 3     | 1     |
| 09020401001  | Baetis                      | tricaudatus |                          | 34                         | 23    | 5     |
| 09021011033  | Brillia                     |             |                          | 0                          | 1     | 0     |
| 09020203     | Capniidae                   |             | early instar             | 0                          | 1     | 0     |
| 09021011036  | Corynoneura                 |             |                          | 0                          | 3     | 0     |
|              | Corynoneura/Thienemanniella |             | inc. spec.               | 0                          | 4     | 0     |
| 09020601001  | Dolophilodes                |             |                          | 0                          | 2     | 0     |
| 09020402009  | Epeorus                     | (Iron) sp.  |                          | 2                          | 1     | 0     |
| 09020410035  | Ephemerella                 | rotunda     |                          | 4                          | 3     | 0     |
| 09020604016  | Hydropsyche                 | ventura     |                          | 13                         | 4     | 0     |
| 09020604016  | Hydropsyche                 |             | inc. spec.               | 1                          | 0     | 0     |
|              | Isotomidae                  |             |                          | 0                          | 0     | 1     |
| 09020618     | Leptoceridae                |             | early instar             | 1                          | 0     | 0     |
| 09020406     | Leptophlebiidae             |             | early instar, inc. spec. | 1                          | 4     | 2     |
| 09021011070  | Micropsectra                |             |                          | 0                          | 0     | 2     |
|              | Muscomorpha                 |             |                          | 0                          | 0     | 1     |
| 09021113068  | Oulimnius                   | latiusculus |                          | 1                          | 0     | 0     |
| 09020406026  | Paraleptophlebia            |             |                          | 3                          | 0     | 1     |
| 09020604013  | Parapsyche                  | apicalis    |                          | 1                          | 1     | 0     |
| 09020207     | Perlodidae                  |             | early instar             | 0                          | 5     | 0     |
| 09020603010  | Polycentropus               |             |                          | 0                          | 0     | 1     |
| 09021011102  | Polypedilum                 | aviceps     |                          | 0                          | 5     | 0     |
| 09021113069  | Promoresia                  | tardella    |                          | 5                          | 2     | 1     |
| 09020614068  | Psilotreta                  | frontalis   |                          | 0                          | 0     | 1     |
| 09020602005  | Psychomyia                  | flavida     |                          | 0                          | 0     | 1     |
| 09021011072  | Rheotanytarsus              |             |                          | 1                          | 0     | 0     |
| 09020605019  | Rhyacophila                 | fuscula     |                          | 0                          | 5     | 0     |
| 09020605019  | Rhyacophila                 |             | early instar             | 7                          | 5     | 3     |
| 09021012047  | Simulium                    |             | early instar             | 0                          | 1     | 0     |
| 09020208040  | Sweltsa                     |             |                          | 1                          | 0     | 0     |
| 09021011061  | Synorthocladius             |             |                          | 1                          | 0     | 0     |
| 09021001002  | Tipula                      |             |                          | 0                          | 1     | 0     |

| Bar Code No. | Taxon    |              |         | No. identified from sample |       |       |
|--------------|----------|--------------|---------|----------------------------|-------|-------|
|              | Genus    | Species      | Comment | Bag 1                      | Bag 2 | Bag 3 |
| 09021011065  | Tvetenia | bavarica-gr. |         | 0                          | 1     | 0     |

|                      |           |           |           |
|----------------------|-----------|-----------|-----------|
| <b>Total Benthos</b> | <b>79</b> | <b>77</b> | <b>20</b> |
| <b>Total OTUs</b>    | <b>17</b> | <b>22</b> | <b>12</b> |
| <b>Total spp.</b>    | <b>14</b> | <b>19</b> | <b>11</b> |

KEY REPORT  
PRINTED 10/24/00 @ 15:11

STATION ID: S321  
LOG NUMBER: 837

LAST CALCULATED: 10/16/00  
MODEL CALCULATED: 10/16/00

ADJUSTED TO GENUS

River Basin CENTRAL AND  
Water Body HUNTER BROOK  
Town ACADIA NATIONAL  
Stream Order 1

Sample Method R  
Subsample Factor X1  
Ref LOG # 0  
Date IN 08/05/99  
Date OUT 09/01/99

SUMMARY OF HABITAT CHARACTERISTICS

|          |                 |           |             |       |        |
|----------|-----------------|-----------|-------------|-------|--------|
| Land Use | UPLAND HARDWOOD | Terrain   | FLAT        | Temp  | 17.6   |
|          | UPLAND CONIFER  | Cover     | PARTLY OPEN | Width | 0.4    |
|          | SWAMP CONIFER   | Pollutant |             | Depth | 15.2   |
|          |                 |           |             | Veloc | -99.00 |

Substrate Composition

|         |          |    |                   |
|---------|----------|----|-------------------|
| Bedrock | Gravel   | 65 | GIS Site Location |
| Boulder | Sand     | 5  | Latitude          |
| Rubble  | Silt     |    | Longitude         |
|         | Detritus |    |                   |

Legislative Class: AA Model Classification: C with P >= 60%

Classification Attainment Model Probabilities

First Stage Model

|         |         |                |         |
|---------|---------|----------------|---------|
| Class A | 0.23976 | Class B        | 0.42714 |
| Class C | 0.33306 | Non-Attainment | 0.00004 |

C or better Model

|                 |         |
|-----------------|---------|
| Class A,B, or C | 1.00000 |
| Non-Attainment  | 0.00000 |

B or Better Model

|                           |         |
|---------------------------|---------|
| Class A or B              | 0.03539 |
| Class C or Non-Attainment | 0.96461 |

A Model

|                                |         |
|--------------------------------|---------|
| Class A                        | 0.00723 |
| Class B or C or Non-Attainment | 0.99277 |

Model Variable Values

|                 |        |                 |       |                 |       |
|-----------------|--------|-----------------|-------|-----------------|-------|
| 01 TOT ABUN     | 22.960 | 07 REL ABUN CHI | 0.521 | 13 REL ABUN OLI | 0.000 |
| 02 GEN RICH     | 23.000 | 08 REL RICH DIP | 0.565 | 14 PROB AB 1ST  | 0.666 |
| 03 PLEC ABUN    | 0.330  | 09 HYDRO ABUN   | 0.000 | 15 PERL ABUN    | 0.000 |
| 04 EPHEM ABUN   | 6.980  | 10 PROB ABC 1ST | 0.999 | 16 TANYPOD ABUN | 2.660 |
| 05 SW GEN DIV   | 3.770  | 11 CHEUM ABUN   | 0.000 | 17 CHIRON ABUN  | 4.000 |
| 06 HILS BIO IND | 5.610  | 12 EPT/DIPT     | 0.769 | 18 REL AB EPHEM | 0.304 |
| 19 EPT GEN RICH | 10.000 | 25 SUM ABUN     | 3.330 | 5 Dominant Taxa |       |
| 20 PROB(AB) SUB | 0.152  | 26 SUM ABUN     | 0.000 | LEPTOPHLEBIIDAE | 18.8  |
| 21 SUMMED ABUN  | 0.000  | 27 PROB(A) SUB  | 0.228 | POLYPEDILUM     | 17.4  |
| 22 PROB(A) 1ST  | 0.239  | 28 EP GEN RICH  | 0.428 | CRICOTOPUS      | 14.5  |
| 23 REL PLEC RI  | 0.043  | 29 DOM A IND    | 0.000 | TRISSOPELOPIA   | 8.7   |
| 24 REL AB BRACH | 0.000  | 30 PRES A INDIC | 0.000 | ACERPENNA       | 7.2   |

## KEY REPORT

PRINTED 10/24/00 @ 15:11

STATION ID: S321

LOG NUMBER: 837

LAST CALCULATED: 10/16/00

MODEL CALCULATED: 10/16/00

| TAXA             | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |      |
|------------------|----------------|----------|--------|----|--------|-----------|------|
|                  |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ  |
| PERLODIDAE       | 09020207       | 0.3      | 0.3    |    |        | 1.4       | 1.4  |
| ACERPENNA        | 09020401007    | 0.3      | 1.6    | 5  | CG     | 1.4       | 7.2  |
| ACERPENNA        | 09020401007011 | 1.3      | 0.0    | 5  | CG     | 5.8       | 0.0  |
| PROCLOEON        | 09020401010    | 0.3      | 0.3    |    | CG     | 1.4       | 1.4  |
| HEPTAGENIIDAE    | 09020402       | 0.3      | 0.3    |    |        | 1.4       | 1.4  |
| LEPTOPHLEBIIDAE  | 09020406       | 4.3      | 4.3    |    |        | 18.8      | 18.8 |
| EPHEMERELLA      | 09020410035    | 0.0      | 0.3    | 1  | CG     | 0.0       | 1.4  |
| EPHEMERELLA      | 09020410035109 | 0.3      | 0.0    | 1  | CG     | 1.4       | 0.0  |
| POLYCENTROPUS    | 09020603010    | 0.6      | 0.6    | 6  | PR     | 2.9       | 2.9  |
| RHYACOPHILA      | 09020605019    | 0.0      | 0.6    | 2  | PR     | 0.0       | 2.9  |
| RHYACOPHILA      | 09020605019060 | 0.6      | 0.0    | 2  | PR     | 2.9       | 0.0  |
| LIMNEPHILIDAE    | 09020610       | 0.6      | 0.6    |    |        | 2.9       | 2.9  |
| LEPIDOSTOMA      | 09020611064    | 0.3      | 0.3    | 1  | S      | 1.4       | 1.4  |
| DIXA             | 09021006023    | 0.3      | 0.3    |    | CG     | 1.4       | 1.4  |
| DIXELLA          | 09021006024    | 0.6      | 0.6    |    | CG     | 2.9       | 2.9  |
| LABRUNDINIA      | 09021011008    | 0.0      | 0.3    | 7  | PR     | 0.0       | 1.4  |
| LABRUNDINIA      | 09021011008022 | 0.3      | 0.0    | 7  | PR     | 1.4       | 0.0  |
| PARAMERINA       | 09021011013    | 0.3      | 0.3    |    |        | 1.4       | 1.4  |
| TRISSOPELOPIA    | 09021011021    | 2.0      | 2.0    |    | PR     | 8.7       | 8.7  |
| BRILLIA          | 09021011033    | 0.3      | 0.3    | 5  | S      | 1.4       | 1.4  |
| CRICOTOPUS       | 09021011037    | 3.3      | 3.3    | 7  | S      | 14.5      | 14.5 |
| ORTHOCLADIUS     | 09021011050    | 0.3      | 0.3    | 6  | CG     | 1.4       | 1.4  |
| PARAMETRIOCNEMUS | 09021011053    | 0.6      | 0.6    | 5  | CG     | 2.9       | 2.9  |
| PSECTROCLADIUS   | 09021011056    | 0.3      | 0.3    | 8  | CG     | 1.4       | 1.4  |
| RHEOCRICOTOPUS   | 09021011057    | 0.0      | 0.3    | 6  | CG     | 0.0       | 1.4  |
| RHEOCRICOTOPUS   | 09021011057109 | 0.3      | 0.0    | 6  | CG     | 1.4       | 0.0  |
| POLYPEDILUM      | 09021011102    | 0.3      | 4.0    | 6  | S      | 1.4       | 17.4 |
| POLYPEDILUM      | 09021011102181 | 3.6      | 0.0    | 6  | S      | 15.9      | 0.0  |
| WIEDEMANNIA      | 09021016059    | 0.3      | 0.3    | 3  | PR     | 1.4       | 1.4  |

TOTAL

23.0

100.1

Maine Department of Environmental Protection  
**Acadia National Park**  
 Logsheet for Benthic Macroinvertebrates Identified  
 Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |               |
|---------------------|---------------|
| Sample Log No.:     | 837           |
| Station No.:        | 321           |
| Waterbody Name:     | Hunters Brook |
| Town Name:          |               |
| Date of Collection: | 01 Sep 99     |
| Subsample Factor:   | 1.00          |
| Sampler Type:       | Bag           |

| Bar Code No. | Taxon            |                    |                          | No. identified from sample |       |       |
|--------------|------------------|--------------------|--------------------------|----------------------------|-------|-------|
|              | Genus            | Species            | Comment                  | Bag 1                      | Bag 2 | Bag 3 |
|              | Acerpenna        | pygmaea            |                          | 1                          | 3     | 0     |
|              | Acerpenna        |                    | inc. spec.               | 1                          | 0     | 0     |
| 09021011033  | Brillia          |                    |                          | 0                          | 1     | 0     |
| 09021011037  | Cricotopus       | (Cricotopus) sp.   |                          | 3                          | 1     | 6     |
| 09021006023  | Dixa             |                    |                          | 1                          | 0     | 0     |
| 09021006024  | Dixella          |                    |                          | 2                          | 0     | 0     |
| 09020410035  | Ephemerella      | rotundum           |                          | 1                          | 0     | 0     |
| 09020402     | Heptageniidae    |                    | early instar             | 1                          | 0     | 0     |
| 09021011008  | Labrundinia      | pilosella          |                          | 1                          | 0     | 0     |
| 09020611064  | Lepidostoma      |                    |                          | 1                          | 0     | 0     |
| 09020406     | Leptophlebiidae  |                    | early instar, inc. spec. | 7                          | 4     | 2     |
| 09020610     | Limnephilidae    |                    | early instar             | 1                          | 0     | 1     |
| 09021011050  | Orthocladius     | (Orthocladius) sp. |                          | 0                          | 1     | 0     |
| 09021011013  | Paramerina       |                    |                          | 1                          | 0     | 0     |
| 09021011053  | Parametriocnemus |                    |                          | 0                          | 0     | 2     |
| 09020207     | Perlodidae       |                    | early instar             | 0                          | 0     | 1     |
| 09020603010  | Polycentropus    |                    |                          | 1                          | 0     | 1     |
| 09021011102  | Polypedilum      | aviceps            |                          | 2                          | 2     | 7     |
| 09021011102  | Polypedilum      |                    |                          | 1                          | 0     | 0     |
|              | Proclleon        |                    |                          | 0                          | 0     | 1     |
| 09021011056  | Psectrocladius   |                    |                          | 1                          | 0     | 0     |
| 09021011057  | Rheocricotopus   | eminellobus        |                          | 0                          | 0     | 1     |
| 09020605019  | Rhyacophila      | fuscula            |                          | 0                          | 1     | 1     |
| 09021011021  | Trissopelopia    |                    |                          | 4                          | 0     | 2     |
| 09021016059  | Wiedemannia      |                    |                          | 0                          | 0     | 1     |

|               |    |    |    |
|---------------|----|----|----|
| Total Benthos | 30 | 13 | 26 |
| Total OTUs    | 17 | 7  | 12 |
| Total spp.    | 15 | 7  | 12 |

## KEY REPORT

PRINTED 10/16/00 @ 11:07

STATION ID: S362

LOG NUMBER: 838

LAST CALCULATED: 10/16/00

ADJUSTED TO GENUS

MODEL CALCULATED: 10/16/00

River Basin CENTRAL AND  
 Water Body LURVEY SPRING  
 Town ACADIA NATIONAL  
 Stream Order 1

Sample Method R  
 Subsample Factor X1  
 Ref LOG # 0  
 Date IN 08/05/99  
 Date OUT 09/02/99

## SUMMARY OF HABITAT CHARACTERISTICS

|          |                |           |             |       |       |
|----------|----------------|-----------|-------------|-------|-------|
| Land Use | SWAMP HARDWOOD | Terrain   | FLAT        | Temp  | 12.7  |
|          | SWAMP CONIFER  | Cover     | PARTLY OPEN | Width | 1.0   |
|          |                | Pollutant |             | Depth | 27.3  |
|          |                |           |             | Veloc | 16.77 |

## Substrate Composition

|         |    |          |    |
|---------|----|----------|----|
| Bedrock |    | Gravel   | 80 |
| Boulder | 10 | Sand     | 10 |
| Rubble  |    | Silt     |    |
|         |    | Detritus |    |

GIS Site Location  
 Latitude  
 Longitude

Legislative Class: AA Model Classification: C with P &gt;= 60%

## Classification Attainment Model Probabilities

| <u>First Stage Model</u> |         | <u>C or better Model</u> |         |
|--------------------------|---------|--------------------------|---------|
| Class A                  | 0.27220 | Class B                  | 0.63630 |
| Class C                  | 0.09149 | Non-Attainment           | 0.00000 |

| <u>B or Better Model</u>  |         | <u>A Model</u>                 |         |
|---------------------------|---------|--------------------------------|---------|
| Class A or B              | 0.45925 | Class A                        | 0.02317 |
| Class C or Non-Attainment | 0.54075 | Class B or C or Non-Attainment | 0.97683 |

## Model Variable Values

|                 |         |                 |        |                 |       |
|-----------------|---------|-----------------|--------|-----------------|-------|
| 01 TOT ABUN     | 100.620 | 07 REL ABUN CHI | 0.552  | 13 REL ABUN OLI | 0.000 |
| 02 GEN RICH     | 41.000  | 08 REL RICH DIP | 0.439  | 14 PROB AB 1ST  | 0.908 |
| 03 PLEC ABUN    | 1.330   | 09 HYDRO ABUN   | 0.000  | 15 PERL ABUN    | 0.000 |
| 04 EPHEM ABUN   | 18.330  | 10 PROB ABC 1ST | 0.999  | 16 TANYPOD ABUN | 3.740 |
| 05 SW GEN DIV   | 4.390   | 11 CHEUM ABUN   | 0.000  | 17 CHIRON ABUN  | 7.510 |
| 06 HILS BIO IND | 5.420   | 12 EPT/DIPT     | 0.777  | 18 REL AB EPHEM | 0.182 |
| 19 EPT GEN RICH | 14.000  | 25 SUM ABUN     | 14.010 | 5 Dominant Taxa |       |
| 20 PROB(AB) SUB | 0.260   | 26 SUM ABUN     | 0.000  | CRICOTOPUS      | 12.2  |
| 21 SUMMED ABUN  | 6.490   | 27 PROB(A) SUB  | 0.189  | PROMORESIA      | 10.6  |
| 22 PROB(A) 1ST  | 0.272   | 28 EP GEN RICH  | 0.500  | RHEOCRICOTOPUS  | 10.5  |
| 23 REL PLEC RI  | 0.073   | 29 DOM A IND    | 0.000  | LEPTOPHLEBIIDAE | 7.9   |
| 24 REL AB BRACH | 0.000   | 30 PRES A INDIC | 0.142  | MICROTENDIPES   | 7.4   |

KEY REPORT  
 PRINTED 10/16/00 @ 11:07

STATION ID: S362  
 LOG NUMBER: 838

LAST CALCULATED: 10/16/00

MODEL CALCULATED: 10/16/00

| TAXA             | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |      |
|------------------|----------------|----------|--------|----|--------|-----------|------|
|                  |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ  |
| PHAGOCATA        | 03010101004    | 0.0      | 0.3    |    |        | 0.0       | 0.3  |
| PHAGOCATA        | 03010101004001 | 0.3      | 0.0    |    |        | 0.3       | 0.0  |
| GLOSSIPHONIA     | 08030101004    | 0.0      | 0.3    |    |        | 0.0       | 0.3  |
| GLOSSIPHONIA     | 08030101004001 | 0.3      | 0.0    |    |        | 0.3       | 0.0  |
| CAECIDOTEA       | 09010101001    | 2.3      | 2.6    | 8  | S      | 2.3       | 2.6  |
| CAECIDOTEA       | 09010101001002 | 0.3      | 0.0    | 8  | S      | 0.3       | 0.0  |
| NEMOURIDAE       | 09020201       | 0.3      | 0.3    |    |        | 0.3       | 0.3  |
| CAPNIIDAE        | 09020203       | 0.6      | 0.6    |    |        | 0.6       | 0.6  |
| PERLODIDAE       | 09020207       | 0.3      | 0.3    |    |        | 0.3       | 0.3  |
| EPHEMEROPTERA    | 090204         | 0.3      | 0.3    |    |        | 0.3       | 0.3  |
| LEPTOPHLEBIIDAE  | 09020406       | 8.0      | 8.0    |    |        | 7.9       | 7.9  |
| PARALEPTOPHLEBIA | 09020406026    | 2.3      | 2.3    | 1  | CG     | 2.3       | 2.3  |
| EPHEMERELLA      | 09020410035    | 0.0      | 2.6    | 1  | CG     | 0.0       | 2.6  |
| EPHEMERELLA      | 09020410035109 | 2.6      | 0.0    | 1  | CG     | 2.6       | 0.0  |
| EURYLOPHELLA     | 09020410036    | 1.0      | 5.0    | 3  | CG     | 0.9       | 4.9  |
| EURYLOPHELLA     | 09020410036115 | 4.0      | 0.0    | 3  | CG     | 3.9       | 0.0  |
| POLYCENTROPUS    | 09020603010    | 0.3      | 0.3    | 6  | PR     | 0.3       | 0.3  |
| HYDROPSYCHIDAE   | 09020604       | 0.3      | 0.3    |    |        | 0.3       | 0.3  |
| PARAPSYCHE       | 09020604013    | 0.0      | 1.6    | 0  | CF     | 0.0       | 1.6  |
| PARAPSYCHE       | 09020604013023 | 1.6      | 0.0    | 0  | CF     | 1.6       | 0.0  |
| RHYACOPHILA      | 09020605019    | 0.6      | 0.6    | 2  | PR     | 0.6       | 0.6  |
| OXYETHIRA        | 09020607028    | 3.6      | 3.6    | 3  | P      | 3.6       | 3.6  |
| OLIGOSTOMIS      | 09020608039    | 0.3      | 0.3    | 2  | PR     | 0.3       | 0.3  |
| NEOPHYLAX        | 09020610062    | 0.3      | 0.3    | 3  | SC     | 0.3       | 0.3  |
| SIALIS           | 09020702004    | 0.3      | 0.3    | 4  | PR     | 0.3       | 0.3  |
| CHIRONOMIDAE     | 09021011       | 0.6      | 0.0    |    |        | 0.6       | 0.0  |
| CHIRONOMIDAE     | 09021011       | 0.6      | 0.0    |    |        | 0.6       | 0.0  |
| PARAMERINA       | 09021011013    | 0.3      | 0.3    |    |        | 0.3       | 0.3  |
| TRISOPELOPIA     | 09021011021    | 3.3      | 3.4    |    | PR     | 3.3       | 3.3  |
| BRILLIA          | 09021011033    | 0.3      | 0.3    | 5  | S      | 0.3       | 0.3  |
| CORYNONEURA      | 09021011036    | 0.3      | 0.3    | 7  | CG     | 0.3       | 0.3  |
| CRICOTOPUS       | 09021011037    | 12.0     | 12.3   | 7  | S      | 11.9      | 12.2 |
| EUKIEFFERIELLA   | 09021011041    | 1.0      | 3.7    | 8  | CG     | 0.9       | 3.7  |
| EUKIEFFERIELLA   | 09021011041074 | 2.6      | 0.0    | 8  | CG     | 2.6       | 0.0  |
| LIMNOPHYES       | 09021011047    | 0.3      | 0.3    | 8  | CG     | 0.3       | 0.3  |
| RHEOCRICOTOPUS   | 09021011057    | 0.6      | 10.6   | 6  | CG     | 0.6       | 10.5 |
| RHEOCRICOTOPUS   | 09021011057108 | 9.6      | 0.0    | 6  | CG     | 9.6       | 0.0  |
| SYNORTHOCCLADIUS | 09021011061    | 0.3      | 0.3    | 2  | CG     | 0.3       | 0.3  |
| THIENEMANNIELLA  | 09021011062    | 1.6      | 4.4    | 6  | CG     | 1.6       | 4.4  |
| THIENEMANNIELLA  | 09021011062110 | 1.3      | 0.0    | 6  | CG     | 1.3       | 0.0  |
| THIENEMANNIELLA  | 09021011062112 | 1.3      | 0.0    | 6  | CG     | 1.3       | 0.0  |
| TVETENIA         | 09021011065    | 0.0      | 0.6    | 5  | CG     | 0.0       | 0.6  |
| TVETENIA         | 09021011065111 | 0.6      | 0.0    | 5  | CG     | 0.6       | 0.0  |

TOTAL

68.0

67.5

KEY REPORT  
PRINTED 10/16/00 @ 11:07

STATION ID: S362  
OG NUMBER: 838

LAST CALCULATED: 10/16/00

MODEL CALCULATED: 10/16/00

| TAXA           | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |      |
|----------------|----------------|----------|--------|----|--------|-----------|------|
|                |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ  |
| MICROPSECTRA   | 09021011070    | 6.3      | 6.4    | 7  | CG     | 6.2       | 6.4  |
| RHEOTANYTARSUS | 09021011072    | 2.3      | 2.3    | 6  | CF     | 2.3       | 2.3  |
| STEMPELLINELLA | 09021011074    | 0.3      | 0.3    | 2  |        | 0.3       | 0.3  |
| TANYTARSUS     | 09021011076    | 1.6      | 1.7    | 6  | CF     | 1.6       | 1.7  |
| MICROTENDIPES  | 09021011094    | 0.0      | 7.5    | 6  | CF     | 0.0       | 7.4  |
| MICROTENDIPES  | 09021011094166 | 7.3      | 0.0    | 6  | CF     | 7.2       | 0.0  |
| MACROPELOPIA   | 09021011111    | 0.3      | 0.3    |    | P      | 0.3       | 0.3  |
| SIMULIUM       | 09021012047    | 0.0      | 1.6    | 4  | CF     | 0.0       | 1.6  |
| SIMULIUM       | 09021012047067 | 1.6      | 0.0    | 4  | CF     | 1.6       | 0.0  |
| NEOPORUS       | 09021103033    | 0.3      | 0.3    |    | PR     | 0.3       | 0.3  |
| HYDROBIUS      | 09021105047    | 0.3      | 0.3    |    |        | 0.3       | 0.3  |
| PROMORESIA     | 09021113069    | 0.0      | 10.6   |    |        | 0.0       | 10.6 |
| PROMORESIA     | 09021113069052 | 10.6     | 0.0    |    |        | 10.6      | 0.0  |
| HYGROBATES     | 09030102001    | 0.3      | 0.3    |    |        | 0.3       | 0.3  |
| SPERCHON       | 09030107001    | 1.0      | 1.0    |    |        | 0.9       | 0.9  |

TOTAL

100.6

100.0

Maine Department of Environmental Protection  
**Acadia National Park**  
 Logsheet for Benthic Macroinvertebrates Identified  
 Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |               |
|---------------------|---------------|
| Sample Log No.:     | 838           |
| Station No.:        | 362           |
| Waterbody Name:     | Lurvey Spring |
| Town Name:          |               |
| Date of Collection: | 03 Sep 99     |
| Subsample Factor:   | 1.00          |
| Sampler Type:       | Bag           |

| Bar Code No. | Taxon                       |                  |                          | No. identified from sample |       |       |
|--------------|-----------------------------|------------------|--------------------------|----------------------------|-------|-------|
|              | Genus                       | Species          | Comment                  | Bag 1                      | Bag 2 | Bag 3 |
| 09021011033  | Brillia                     |                  |                          | 1                          | 0     | 0     |
|              | Caecidotea                  | racovitzai       |                          | 1                          | 0     | 0     |
|              | Caecidotea                  |                  | imm. spec., female       | 6                          | 1     | 0     |
| 09020203     | Capniidae                   |                  | early instar             | 2                          | 0     | 0     |
| 09021011036  | Corynoneura                 |                  |                          | 1                          | 0     | 0     |
|              | Corynoneura/Thienemanniella |                  | inc. spec.               | 1                          | 0     | 1     |
| 09021011037  | Cricotopus                  | (Cricotopus) sp. |                          | 2                          | 0     | 2     |
| 09021011037  | Cricotopus                  | (Isocladius) sp. |                          | 7                          | 3     | 22    |
| 09020410035  | Ephemerella                 | rotunda          |                          | 3                          | 1     | 4     |
| 090204       | Ephemeroptera               |                  | inc. spec.               | 0                          | 1     | 0     |
| 09021011041  | Eukiefferiella              | brevicalcar-gr.  |                          | 5                          | 0     | 3     |
| 09021011041  | Eukiefferiella              |                  |                          | 2                          | 0     | 1     |
| 09020410036  | Eurylophella                | funeralis        |                          | 8                          | 4     | 0     |
| 09020410036  | Eurylophella                |                  | early instar             | 3                          | 0     | 0     |
| 08030101004  | Glossiphonia                | complanata       |                          | 1                          | 0     | 0     |
| 09021105047  | Hydrobius                   |                  |                          | 1                          | 0     | 0     |
| 09020604     | Hydropsychidae              |                  |                          | 1                          | 0     | 0     |
|              | Hygrobatas                  |                  |                          | 0                          | 1     | 0     |
| 09020406     | Leptophlebiidae             |                  | early instar, inc. spec. | 8                          | 12    | 4     |
| 09021011047  | Limnophyes                  |                  |                          | 1                          | 0     | 0     |
|              | Macropelopia                |                  |                          | 1                          | 0     | 0     |
| 09021011070  | Micropsectra                |                  |                          | 11                         | 0     | 8     |
| 09021011094  | Microtendipes               | pedellus-gr.     |                          | 14                         | 8     | 0     |
| 09020201     | Nemouridae                  |                  | early instar             | 1                          | 0     | 0     |
| 09020610062  | Neophylax                   |                  |                          | 0                          | 0     | 1     |
|              | Neoporus                    |                  |                          | 1                          | 0     | 0     |
| 09020608039  | Oligostomis                 |                  |                          | 0                          | 0     | 1     |
| 09020607028  | Oxyethira                   |                  |                          | 2                          | 1     | 8     |
| 09020406026  | Paraleptophlebia            |                  |                          | 0                          | 3     | 4     |
| 09021011013  | Paramerina                  |                  |                          | 1                          | 0     | 0     |
| 09020604013  | Parapsyche                  | apicalis         |                          | 4                          | 0     | 1     |
| 09020207     | Perlodidae                  |                  |                          | 1                          | 0     | 0     |
|              | Phagocata                   | gracilis         |                          | 1                          | 0     | 0     |
| 09020603010  | Polycentropus               |                  |                          | 0                          | 1     | 0     |

| Bar Code No. | Taxon                |                   |              | No. identified from sample |       |       |
|--------------|----------------------|-------------------|--------------|----------------------------|-------|-------|
|              | Genus                | Species           | Comment      | Bag 1                      | Bag 2 | Bag 3 |
| 09021113069  | Promoresia           | tardella          |              | 27                         | 4     | 1     |
| 09021011057  | Rheocricotopus       | pauciseta         |              | 11                         | 0     | 18    |
| 09021011057  | Rheocricotopus       |                   |              | 0                          | 1     | 1     |
| 09021011072  | Rheotanytarsus       |                   |              | 0                          | 0     | 7     |
| 09020605019  | Rhyacophila          |                   | early instar | 0                          | 0     | 2     |
| 09020702004  | Sialis               |                   |              | 1                          | 0     | 0     |
| 09021012047  | Simulium             | tuberosum complex |              | 5                          | 0     | 0     |
|              | Sperchon             |                   |              | 2                          | 0     | 0     |
|              | Sperchon (prob.)     |                   | early instar | 1                          | 0     | 0     |
| 09021011074  | Stempellinella       |                   |              | 1                          | 0     | 0     |
| 09021011061  | Synorthocladius      |                   |              | 1                          | 0     | 0     |
| 09021011076  | Tanytarsus           | sp. 06            |              | 5                          | 0     | 0     |
| 09021011062  | Thienemanniella      | partita           |              | 4                          | 0     | 0     |
| 09021011062  | Thienemanniella      | xena              |              | 4                          | 0     | 0     |
| 09021011062  | Thienemanniella      |                   | inc. spec.   | 4                          | 1     | 0     |
| 09021011021  | Trissopelopia        |                   |              | 8                          | 1     | 1     |
| 09021011065  | Tvetenia             | bavarica-gr.      |              | 2                          | 0     | 0     |
|              | Unid. Orthocladiinae |                   | early instar | 2                          | 0     | 0     |
|              | Mudpuppy             |                   |              | [0]                        | [1]   | [0]   |

|                      |            |           |           |
|----------------------|------------|-----------|-----------|
| <b>Total Benthos</b> | <b>169</b> | <b>43</b> | <b>90</b> |
| <b>Total OTUs</b>    | <b>43</b>  | <b>15</b> | <b>19</b> |
| <b>Total spp.</b>    | <b>36</b>  | <b>13</b> | <b>17</b> |

## KEY REPORT

PRINTED 10/24/00 @ 15:12

STATION ID: S361

LOG NUMBER: 839

LAST CALCULATED: 10/16/00

ADJUSTED TO GENUS

MODEL CALCULATED: 10/16/00

River Basin CENTRAL AND  
 Water Body HEATH BROOK  
 Town ACADIA NATIONAL  
 Stream Order 1

Sample Method R  
 Subsample Factor X1  
 Ref LOG # 0  
 Date IN 08/05/99  
 Date OUT 09/02/99

## SUMMARY OF HABITAT CHARACTERISTICS

|          |                |           |             |       |        |
|----------|----------------|-----------|-------------|-------|--------|
| Land Use | SWAMP HARDWOOD | Terrain   | ROLLING     | Temp  | 16.3   |
|          | SWAMP CONIFER  | Cover     | PARTLY OPEN | Width | 0.8    |
|          |                | Pollutant |             | Depth | 41.7   |
|          |                |           |             | Veloc | -99.00 |

## Substrate Composition

|         |    |          |    |                   |
|---------|----|----------|----|-------------------|
| Bedrock | 40 | Gravel   | 25 | GIS Site Location |
| Boulder | 10 | Sand     | 15 | Latitude          |
| Rubble  | 10 | Silt     |    | Longitude         |
|         |    | Detritus |    |                   |

Legislative Class: AA Model Classification: C with P &gt;= 60%

## Classification Attainment Model Probabilities

| <u>First Stage Model</u> |         | <u>C or better Model</u> |         |
|--------------------------|---------|--------------------------|---------|
| Class A                  | 0.50330 | Class B                  | 0.23233 |
| Class C                  | 0.21333 | Non-Attainment           | 0.05104 |
|                          |         | Class A, B, or C         | 0.99950 |
|                          |         | Non-Attainment           | 0.00050 |

| <u>B or Better Model</u>  |         | <u>A Model</u>                 |         |
|---------------------------|---------|--------------------------------|---------|
| Class A or B              | 0.05754 | Class A                        | 0.12616 |
| Class C or Non-Attainment | 0.94246 | Class B or C or Non-Attainment | 0.87384 |

## Model Variable Values

|                 |        |                 |       |                  |       |
|-----------------|--------|-----------------|-------|------------------|-------|
| 01 TOT ABUN     | 23.310 | 07 REL ABUN CHI | 0.028 | 13 REL ABUN OLI  | 0.000 |
| 02 GEN RICH     | 16.000 | 08 REL RICH DIP | 0.187 | 14 PROB AB 1ST   | 0.735 |
| 03 PLEC ABUN    | 0.000  | 09 HYDRO ABUN   | 0.000 | 15 PERL ABUN     | 0.000 |
| 04 EPHEM ABUN   | 6.330  | 10 PROB ABC 1ST | 0.948 | 16 TANYPOD ABUN  | 0.000 |
| 05 SW GEN DIV   | 3.280  | 11 CHEUM ABUN   | 0.000 | 17 CHIRON ABUN   | 0.330 |
| 06 HILS BIO IND | 3.220  | 12 EPT/DIPT     | 1.666 | 18 REL AB EPHEM  | 0.271 |
| 19 EPT GEN RICH | 5.000  | 25 SUM ABUN     | 0.330 | 5 Dominant Taxa  |       |
| 20 PROB(AB) SUB | 0.148  | 26 SUM ABUN     | 0.000 | PARALEPTOPHLEBIA | 24.9  |
| 21 SUMMED ABUN  | 0.330  | 27 PROB(A) SUB  | 0.324 | BOYERIA          | 17.1  |
| 22 PROB(A) 1ST  | 0.503  | 28 EP GEN RICH  | 0.142 | POLYCENTROPUS    | 14.2  |
| 23 REL PLEC RI  | 0.000  | 29 DOM A IND    | 0.000 | PHAGOCATA        | 11.4  |
| 24 REL AB BRACH | 0.000  | 30 PRES A INDIC | 0.142 | LIMNEPHILUS      | 7.1   |

KEY REPORT  
 PRINTED 10/24/00 @ 15:12

STATION ID: S361  
 LOG NUMBER: 839

LAST CALCULATED: 10/16/00

MODEL CALCULATED: 10/16/00

| TAXA             | CODE           | AVG/BSKT |        | BI | FG R/K | REL ABUND |      |
|------------------|----------------|----------|--------|----|--------|-----------|------|
|                  |                | ACTUAL   | ADJUST |    |        | ACT       | ADJ  |
| PHAGOCATA        | 03010101004    | 0.0      | 2.6    |    |        | 0.0       | 11.4 |
| PHAGOCATA        | 03010101004001 | 2.6      | 0.0    |    |        | 11.4      | 0.0  |
| HELOBDELLA       | 08030101005    | 0.0      | 0.3    |    |        | 0.0       | 1.4  |
| HELOBDELLA       | 08030101005004 | 0.3      | 0.0    |    |        | 1.4       | 0.0  |
| HYALELLA         | 09010203006    | 0.0      | 1.0    | 8  | CG     | 0.0       | 4.2  |
| HYALELLA         | 09010203006011 | 1.0      | 0.0    | 8  | CG     | 4.2       | 0.0  |
| ISOTOMIDAE       | 09020102       | 0.3      | 0.3    |    |        | 1.4       | 1.4  |
| AESHNA           | 09020301001    | 0.3      | 0.3    | 05 | PR     | 1.4       | 1.4  |
| BOYERIA          | 09020301004    | 0.0      | 4.0    | 2  | PR     | 0.0       | 17.1 |
| BOYERIA          | 09020301004011 | 1.3      | 0.0    | 2  | PR     | 5.7       | 0.0  |
| BOYERIA          | 09020301004012 | 2.6      | 0.0    | 2  | PR     | 11.4      | 0.0  |
| LEPTOPHLEBIIDAE  | 09020406       | 2.3      | 0.0    |    |        | 10.0      | 0.0  |
| LEPTOPHLEBIA     | 09020406025    | 0.3      | 0.5    | 4  | CG     | 1.4       | 2.2  |
| PARALEPTOPHLEBIA | 09020406026    | 3.6      | 5.8    | 1  | CG     | 15.7      | 24.9 |
| POLYCENTROPUS    | 09020603010    | 3.3      | 3.3    | 6  | PR     | 14.3      | 14.2 |
| LIMNEPHILUS      | 09020610055    | 1.6      | 1.6    | 3  | S      | 7.1       | 7.1  |
| PSILOTRETA       | 09020614068    | 0.0      | 1.0    | 0  | SC     | 0.0       | 4.2  |
| PSILOTRETA       | 09020614068134 | 1.0      | 0.0    | 0  | SC     | 4.2       | 0.0  |
| TIPULA           | 09021001002    | 0.3      | 0.3    | 4  | S      | 1.4       | 1.4  |
| TANYTARSUS       | 09021011076    | 0.3      | 0.3    | 6  | CF     | 1.4       | 1.4  |
| PAGASTIELLA      | 09021011096    | 0.3      | 0.3    |    |        | 1.4       | 1.4  |
| PROMORESIA       | 09021113069    | 0.0      | 1.0    |    |        | 0.0       | 4.2  |
| PROMORESIA       | 09021113069051 | 0.3      | 0.0    |    |        | 1.4       | 0.0  |
| PROMORESIA       | 09021113069052 | 0.6      | 0.0    |    |        | 2.8       | 0.0  |
| STENELMIS        | 09021113070    | 0.3      | 0.3    | 5  | SC     | 1.4       | 1.4  |

TOTAL

23.3

100.1

Maine Department of Environmental Protection  
**Acadia National Park**  
 Logsheets for Benthic Macroinvertebrates Identified  
 Michael Winnell -- Freshwater Benthic Services, Inc.

|                     |             |
|---------------------|-------------|
| Sample Log No.:     | 839         |
| Station No.:        | 361         |
| Waterbody Name:     | Heath Brook |
| Town Name:          |             |
| Date of Collection: | 02 Sep 99   |
| Subsample Factor:   | 1.00        |
| Sampler Type:       | Bag         |

| Bar Code No. | Taxon            |           |                          | No. identified from sample |       |       |
|--------------|------------------|-----------|--------------------------|----------------------------|-------|-------|
|              | Genus            | Species   | Comment                  | Bag 1                      | Bag 2 | Bag 3 |
| 09020301001  | Aeshna           |           |                          | 1                          | 0     | 0     |
| 09020301004  | Boyeria          | grafiana  |                          | 1                          | 0     | 3     |
| 09020301004  | Boyeria          | vinosa    |                          | 2                          | 4     | 2     |
| 08030101005  | Helobdella       | stagnalis |                          | 1                          | 0     | 0     |
| 09010203006  | Hyaella          | azteca    |                          | 1                          | 2     | 0     |
|              | Isotomidae       |           |                          | 0                          | 0     | 1     |
| 09020406025  | Leptophlebia     |           |                          | 0                          | 0     | 1     |
| 09020406     | Leptophlebiidae  |           | early instar, inc. spec. | 1                          | 3     | 3     |
| 09020610055  | Limnephilus      |           |                          | 5                          | 0     | 0     |
| 09021011096  | Pagastiella      |           |                          | 1                          | 0     | 0     |
| 09020406026  | Paraleptophlebia |           |                          | 1                          | 1     | 9     |
|              | Phagocata        | gracilis  |                          | 0                          | 7     | 1     |
| 09020603010  | Polycentropus    |           |                          | 2                          | 1     | 7     |
| 09021113069  | Promoresia       | elegans   |                          | 0                          | 0     | 1     |
| 09021113069  | Promoresia       | tardella  |                          | 0                          | 1     | 1     |
| 09020614068  | Psilotreta       | frontalis |                          | 0                          | 1     | 2     |
| 09021113070  | Stenelmis        |           |                          | 0                          | 0     | 1     |
| 09021011076  | Tanytarsus       | sp. 08C   |                          | 0                          | 0     | 1     |
| 09021001002  | Tipula           |           |                          | 0                          | 0     | 1     |
|              | Mudpuppy         |           |                          | [0]                        | [2]   | [0]   |

|               |    |    |    |
|---------------|----|----|----|
| Total Benthos | 16 | 20 | 34 |
| Total OTUs    | 10 | 8  | 14 |
| Total spp.    | 9  | 7  | 13 |

Acadia Natl Park - ALPHA

Maine Department of Environmental Protection Reference Collection  
Acadia National Park

Total Number of Species in Reference Collection: 160

Current Date: 25-Aug-00

Michael Winnell -- Freshwater Benthic Services, Inc.  
Source column: S = slide, V = vial, OV = oversized vial

Alphabetical listing of contents of Reference Collection

| Reference Number | Source | Phylum     | Class       | Order           | Family          | Genus/species             | Log No.      |              | Town or Waterbody   | Date of Collection |
|------------------|--------|------------|-------------|-----------------|-----------------|---------------------------|--------------|--------------|---------------------|--------------------|
| 169              | V      | Annelida   | Hirudinea   | Rhynchobdellida | Glossiphoniidae | Glossiphonia complanata   | Log No.: 838 | St. No.: 362 | Lurvey Spring Brook | 03-Sep-99          |
| 178              | V      | Annelida   | Hirudinea   | Rhynchobdellida | Glossiphoniidae | Helobdella stagnalis      | Log No.: 839 | St. No.: 361 | Heath Brook         | 02-Sep-99          |
| 101              | S      | Annelida   | Oligochaeta | Haplotaxida     | Naididae        | Nais nr. simplex/pardalis | 747          |              | Heath Brk.          | 27-Aug-98          |
| 035              | S      | Annelida   | Oligochaeta | Lumbricida      | Lumbricidae     | ?                         | 607          |              | Duck Brk.           | 04-Apr-97          |
| 156              | V      | Arthropoda | Arachnida   | Acariformes     | Eremaeidae      | Hydrozetes sp.            | 745          |              | Stanley Brk.        | 28-Aug-98          |
| 155              | V      | Arthropoda | Arachnida   | Acariformes     | Family?         |                           | 747          |              | Heath Brk.          | 27-Aug-98          |
| 153              | V      | Arthropoda | Arachnida   | Acariformes     | Hygrobatidae    | Hygrobates sp.            | 747          |              | Heath Brk.          | 27-Aug-98          |
| 154              | V      | Arthropoda | Arachnida   | Acariformes     | Lebertidae      | Lebertia sp.              | 747          |              | Heath Brk.          | 27-Aug-98          |
| 170              | V      | Arthropoda | Arachnida   | Acariformes     | Sperchonidae    | Sperchon sp.              | Log No.: 838 | St. No.: 362 | Lurvey Spring Brook | 03-Sep-99          |
| 006              | V      | Arthropoda | Crustacea   | Amphipoda       | ?               | ?                         | 607          |              | Duck Brk.           | 04-Apr-97          |
| 002              | V      | Arthropoda | Crustacea   | Amphipoda       | Crangonyctidae  | Synurella chamberlaini    | 607          |              | Duck Brk.           | 04-Apr-97          |
| 097              | S      | Arthropoda | Crustacea   | Amphipoda       | Crangonyctidae  | Synurella sp.             | 746          |              | Duck Brk.           | 27-Aug-98          |
| 151              | V      | Arthropoda | Crustacea   | Amphipoda       | Crangonyctidae  | Synurella sp.             | 746          |              | Duck Brk.           | 27-Aug-98          |
| 106              | S      | Arthropoda | Crustacea   | Amphipoda       | Ischyroceridae  | Jassa sp.                 | 748          |              | Lurvey Spring Brk.  | 27-Aug-98          |
| 149              | V      | Arthropoda | Crustacea   | Amphipoda       | Ischyroceridae  | Jassa sp.                 | 748          |              | Lurvey Spring Brk.  | 27-Aug-98          |
| 152              | V      | Arthropoda | Crustacea   | Amphipoda       | Talitridae      | Hyalella azteca           | 747          |              | Heath Brk.          | 27-Aug-98          |
| 098              | S      | Arthropoda | Crustacea   | Isopoda         | Asellidae       | Caecidotea racovitzai     | 747          |              | Heath Brk.          | 27-Aug-98          |
| 150              | V      | Arthropoda | Crustacea   | Isopoda         | Asellidae       | Caecidotea racovitzai     | 747          |              | Heath Brk.          | 27-Aug-98          |
| 027              | V      | Arthropoda | Crustacea   | Isopoda         | Asellidae       | Caecidotea sp.            | 607          |              | Duck Brk.           | 04-Apr-97          |
| 042              | V      | Arthropoda | Insecta     | Coleoptera      | Dytiscidae      | Hydroporus sp.            | 676          |              | Stanley Brk.        | 09-Sep-97          |
| 142              | V      | Arthropoda | Insecta     | Coleoptera      | Dytiscidae      | Hydroporus sp.            | 747, 748     |              | Lurvey Spring Brk.  | 27-Aug-98          |
| 171              | V      | Arthropoda | Insecta     | Coleoptera      | Dytiscidae      | Neoporus sp.              | Log No.: 838 | St. No.: 362 | Lurvey Spring Brook | 03-Sep-99          |
| 046              | V      | Arthropoda | Insecta     | Coleoptera      | Elmidae         | Macronychus glabratus     | 674          |              | Hunter Brk.         | 04-Sep-97          |
| 044              | V      | Arthropoda | Insecta     | Coleoptera      | Elmidae         | Oulimnius latiusculus     | 676          |              | Stanley Brk.        | 09-Sep-97          |
| 174              | V      | Arthropoda | Insecta     | Coleoptera      | Elmidae         | Promoresia elegans        | Log No.: 839 | St. No.: 361 | Heath Brook         | 02-Sep-99          |
| 043              | V      | Arthropoda | Insecta     | Coleoptera      | Elmidae         | Promoresia tardella       | 676          |              | Stanley Brk.        | 09-Sep-97          |
| 175              | V      | Arthropoda | Insecta     | Coleoptera      | Elmidae         | Promoresia tardella       | Log No.: 839 | St. No.: 361 | Heath Brook         | 02-Sep-99          |
| 139              | V      | Arthropoda | Insecta     | Coleoptera      | Elmidae         | Stenelmis crenata         | 747          |              | Heath Brk.          | 27-Aug-98          |
| 163              | V      | Arthropoda | Insecta     | Coleoptera      | Hydrophilidae   | Enochrus collinus?        | Log No.: 835 | St. No.: 322 | Duck Brook          | 30-Aug-99          |
| 172              | V      | Arthropoda | Insecta     | Coleoptera      | Hydrophilidae   | Hydrobius sp.             | Log No.: 838 | St. No.: 362 | Lurvey Spring Brook | 03-Sep-99          |

## Acadia Natl Park - ALPHA

|     |   |            |         |            |                 |                                    |              |              |                     |           |
|-----|---|------------|---------|------------|-----------------|------------------------------------|--------------|--------------|---------------------|-----------|
| 012 | V | Arthropoda | Insecta | Coleoptera | Psepheniidae    | Psephenus herricki                 | 608          |              | Duck Brk.           | 04-Apr-97 |
| 118 | S | Arthropoda | Insecta | Collembola | Entomobryidae   | Entomobrya? sp.                    | 748          |              | Lurvey Spring Brk.  | 27-Aug-98 |
| 111 | S | Arthropoda | Insecta | Collembola | Isotomidae      | Agrenia? sp.                       | 748          |              | Lurvey Spring Brk.  | 27-Aug-98 |
| 119 | S | Arthropoda | Insecta | Collembola | Isotomidae      | Agrenia? sp.                       | 748          |              | Lurvey Spring Brk.  | 27-Aug-98 |
| 120 | S | Arthropoda | Insecta | Collembola | Isotomidae      | Agrenia? sp.                       | 748          |              | Lurvey Spring Brk.  | 27-Aug-98 |
| 121 | S | Arthropoda | Insecta | Collembola | Isotomidae      | Isotoma? sp.                       | 748          |              | Lurvey Spring Brk.  | 27-Aug-98 |
| 117 | S | Arthropoda | Insecta | Collembola | Isotomidae      | poss. Isotoma sp.                  | 748          |              | Lurvey Spring Brk.  | 27-Aug-98 |
| 185 | S | Arthropoda | Insecta | Collembola | Isotomidae      | Unid. genus                        | Log No.: 836 | St. No.: 323 | Stanley Brook       | 01-Sep-99 |
| 102 | S | Arthropoda | Insecta | Collembola | Sminthuridae    | Bourletiella sp.                   | 747          |              | Heath Brk.          | 27-Aug-98 |
| 113 | S | Arthropoda | Insecta | Diptera    | Ceratopogonidae | Bezzia/Palpomyia sp.               | 748          |              | Lurvey Spring Brk.  | 27-Aug-98 |
| 073 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Ablabesmyia mallochi               | 673          |              | Cannon Brk.         | 04-Sep-97 |
| 107 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Brillia parva                      | 748          |              | Lurvey Spring Brk.  | 27-Aug-98 |
| 122 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Conchapelopia genus-gr.            | 743          |              | Cannon Brk.         | 28-Aug-98 |
| 084 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Corynoneura sp.                    | 675          |              | Duck Brk.           | 09-Sep-97 |
| 081 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Cricotopus (C.) bicinctus          | 675          |              | Duck Brk.           | 09-Sep-97 |
| 077 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Cricotopus (C.) sp.                | 674          |              | Hunter Brk.         | 04-Sep-97 |
| 100 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Cricotopus (Isocladius) sp.        | 747          |              | Heath Brk.          | 27-Aug-98 |
| 108 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Eukiefferiella brehmi-gr.          | 748          |              | Lurvey Spring Brk.  | 27-Aug-98 |
| 116 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Eukiefferiella brehmi-gr.          | 748          |              | Lurvey Spring Brk.  | 27-Aug-98 |
| 187 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Eukiefferiella brevicalcar-gr.     | Log No.: 838 | St. No.: 362 | Lurvey Spring Brook | 03-Sep-99 |
| 099 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Eukiefferiella devonica-gr.        | 747          |              | Heath Brk.          | 27-Aug-98 |
| 036 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Eukiefferiella gracei-gr.          | 608          |              | Duck Brk.           | 04-Apr-97 |
| 082 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Eukiefferiella gracei-gr.          | 675          |              | Duck Brk.           | 09-Sep-97 |
| 033 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Eukiefferiella nr. brevicalcar-gr. | 607          |              | Duck Brk.           | 04-Apr-97 |
| 114 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Heterotrissocladius sp.            | 748          |              | Lurvey Spring Brk.  | 27-Aug-98 |
| 186 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Labrundinia pilosella              | Log No.: 837 | St. No.: 321 | Hunters Brook       | 01-Sep-99 |
| 091 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Larsia sp.                         | 743          |              | Cannon Brk.         | 28-Aug-98 |
| 095 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Limnophyes sp.                     | 745          |              | Stanley Brk.        | 28-Aug-98 |
| 110 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Limnophyes sp.                     | 748          |              | Lurvey Spring Brk.  | 27-Aug-98 |
| 085 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Macropelopia sp.                   | 676          |              | Stanley Brk.        | 09-Sep-97 |
| 105 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Meropelopia sp.                    | 747          |              | Heath Brk.          | 27-Aug-98 |
| 037 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Micropsectra sp.                   | 608          |              | Duck Brk.           | 04-Apr-97 |
| 096 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Micropsectra sp.                   | 745          |              | Stanley Brk.        | 28-Aug-98 |
| 029 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Microtendipes pedellus-gr.         | 607          |              | Duck Brk.           | 04-Apr-97 |
| 030 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Nanocladius dowensi                | 607          |              | Duck Brk.           | 04-Apr-97 |
| 079 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Orthocladius (O.) annectens        | 674          |              | Hunter Brk.         | 04-Sep-97 |
| 089 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Orthocladius (S.) lignicola        | 676          |              | Stanley Brk.        | 09-Sep-97 |
| 109 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Orthocladius (S.) lignicola        | 748          |              | Lurvey Spring Brk.  | 27-Aug-98 |
| 190 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Pagastiella sp.                    | Log No.: 839 | St. No.: 361 | Heath Brook         | 02-Sep-99 |
| 088 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Parakiefferiella sp.               | 676          |              | Stanley Brk.        | 09-Sep-97 |
| 080 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Paramerina sp.                     | 674          |              | Hunter Brk.         | 04-Sep-97 |
| 032 | S | Arthropoda | Insecta | Diptera    | Chironomidae    | Parametriocnemus sp.               | 607          |              | Duck Brk.           | 04-Apr-97 |

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|     |   |            |         |               |              |                                   |              |              |                     |           |
|-----|---|------------|---------|---------------|--------------|-----------------------------------|--------------|--------------|---------------------|-----------|
| 093 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Polypedilum aviceps               | 744          |              | Hunters Brk.        | 28-Aug-98 |
| 090 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Polypedilum tritum                | 676          |              | Stanley Brk.        | 09-Sep-97 |
| 076 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Psectrocladius sp.                | 674          |              | Hunter Brk.         | 04-Sep-97 |
| 083 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Pseudochironomus sp.              | 675          |              | Duck Brk.           | 09-Sep-97 |
| 087 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Rheocricotopus eminellobus        | 676          |              | Stanley Brk.        | 09-Sep-97 |
| 074 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Rheocricotopus pauciseta          | 674          |              | Hunter Brk.         | 04-Sep-97 |
| 092 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Rheocricotopus pauciseta          | 743          |              | Cannon Brk.         | 28-Aug-98 |
| 075 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Rheocricotopus tuberculatus       | 674          |              | Hunter Brk.         | 04-Sep-97 |
| 112 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Rheocricotopus tuberculatus       | 748          |              | Lurvey Spring Brk.  | 27-Aug-98 |
| 184 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Rheopelopia sp.                   | Log No.: 836 | St. No.: 323 | Stanley Brook       | 01-Sep-99 |
| 183 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Rheotanytarsus sp.                | Log No.: 836 | St. No.: 323 | Stanley Brook       | 01-Sep-99 |
| 115 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Stempellinella sp.                | 748          |              | Lurvey Spring Brk.  | 27-Aug-98 |
| 094 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Synorthocladius sp.               | 744          |              | Hunters Brk.        | 28-Aug-98 |
| 181 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Tanytarsus glabrascens-gr. sp. 01 | Log No.: 835 | St. No.: 322 | Duck Brook          | 30-Aug-99 |
| 180 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Tanytarsus sp. 08C                | Log No.: 834 | St. No.: 320 | Cannon Brook        | 31-Aug-99 |
| 191 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Tanytarsus sp. 08C                | Log No.: 839 | St. No.: 361 | Heath Brook         | 02-Sep-99 |
| 031 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Tanytarsus sp.06                  | 607          |              | Duck Brk.           | 04-Apr-97 |
| 078 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Tanytarsus sp.06                  | 674          |              | Hunter Brk.         | 04-Sep-97 |
| 189 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Thienemanniella partita           | Log No.: 838 | St. No.: 362 | Lurvey Spring Brook | 03-Sep-99 |
| 034 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Thienemanniella sp.               | 607          |              | Duck Brk.           | 04-Apr-97 |
| 188 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Thienemanniella xena              | Log No.: 838 | St. No.: 362 | Lurvey Spring Brook | 03-Sep-99 |
| 086 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Trissopelopia sp.                 | 676          |              | Stanley Brk.        | 09-Sep-97 |
| 179 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Tvetenia bavarica-gr.             | Log No.: 834 | St. No.: 320 | Cannon Brook        | 31-Aug-99 |
| 182 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Tvetenia bavarica-gr.             | Log No.: 835 | St. No.: 322 | Duck Brook          | 30-Aug-99 |
| 104 | S | Arthropoda | Insecta | Diptera       | Chironomidae | Zavrelimyia sp.                   | 747          |              | Heath Brk.          | 27-Aug-98 |
| 146 | V | Arthropoda | Insecta | Diptera       | Dixidae      | Dixa sp.                          | 743          |              | Cannon Brk.         | 28-Aug-98 |
| 168 | V | Arthropoda | Insecta | Diptera       | Dixidae      | Dixella sp.                       | Log No.: 837 | St. No.: 321 | Hunters Brook       | 01-Sep-99 |
| 147 | V | Arthropoda | Insecta | Diptera       | Empididae    | Wiedemannia sp.                   | 745          |              | Stanley Brk.        | 28-Aug-98 |
| 059 | V | Arthropoda | Insecta | Diptera       | Family?      | Genus ?                           | 676          |              | Stanley Brk.        | 09-Sep-97 |
| 010 | V | Arthropoda | Insecta | Diptera       | Simuliidae   | Prosimulium sp. 01                | 607          |              | Duck Brk.           | 04-Apr-97 |
| 011 | V | Arthropoda | Insecta | Diptera       | Simuliidae   | Prosimulium sp. 02                | 608          |              | Duck Brk.           | 04-Apr-97 |
| 143 | V | Arthropoda | Insecta | Diptera       | Simuliidae   | Simulium venustum                 | 745          |              | Stanley Brk.        | 28-Aug-98 |
| 145 | V | Arthropoda | Insecta | Diptera       | Tipulidae    | Dicranota sp.                     | 744          |              | Hunters Brk.        | 28-Aug-98 |
| 056 | V | Arthropoda | Insecta | Diptera       | Tipulidae    | Hexatoma sp.                      | 676          |              | Stanley Brk.        | 09-Sep-97 |
| 144 | V | Arthropoda | Insecta | Diptera       | Tipulidae    | Pedicia? sp.                      | 745          |              | Stanley Brk.        | 28-Aug-98 |
| 007 | V | Arthropoda | Insecta | Diptera       | Tipulidae    | Tipula sp.                        | 607          |              | Duck Brk.           | 04-Apr-97 |
| 057 | V | Arthropoda | Insecta | Diptera       | Tipulidae    | Tipula sp.                        | 676          |              | Stanley Brk.        | 09-Sep-97 |
| 052 | V | Arthropoda | Insecta | Ephemeroptera | Baetidae     | Acerpenna ?macdunnoughi           | 674          |              | Hunter Brk.         | 04-Sep-97 |
| 124 | V | Arthropoda | Insecta | Ephemeroptera | Baetidae     | Acerpenna pygmaea                 | 746          |              | Duck Brk.           | 27-Aug-98 |
| 048 | V | Arthropoda | Insecta | Ephemeroptera | Baetidae     | Baetis flavistriga                | 676          |              | Stanley Brk.        | 09-Sep-97 |
| 123 | V | Arthropoda | Insecta | Ephemeroptera | Baetidae     | Baetis sp.                        | 744          |              | Hunters Brk.        | 28-Aug-98 |
| 049 | V | Arthropoda | Insecta | Ephemeroptera | Baetidae     | Baetis tricaudatus                | 676          |              | Stanley Brk.        | 09-Sep-97 |

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|     |    |            |         |               |                  |                             |              |              |                    |           |
|-----|----|------------|---------|---------------|------------------|-----------------------------|--------------|--------------|--------------------|-----------|
| 054 | V  | Arthropoda | Insecta | Ephemeroptera | Baetidae         | Centroptilum sp.            | 676          |              | Stanley Brk.       | 09-Sep-97 |
| 055 | V  | Arthropoda | Insecta | Ephemeroptera | Baetidae         | Centroptilum sp.            | 674          |              | Hunter Brk.        | 04-Sep-97 |
| 015 | V  | Arthropoda | Insecta | Ephemeroptera | Ephemerellidae   | Ephemerella invaria         | 607          |              | Duck Brk.          | 04-Apr-97 |
| 014 | V  | Arthropoda | Insecta | Ephemeroptera | Ephemerellidae   | Ephemerella rotunda         | 607          |              | Duck Brk.          | 04-Apr-97 |
| 053 | V  | Arthropoda | Insecta | Ephemeroptera | Ephemerellidae   | Eurylophella funeralis      | 674          |              | Hunter Brk.        | 04-Sep-97 |
| 167 | V  | Arthropoda | Insecta | Ephemeroptera | Heptageniidae    | Epeorus (Iron) sp.          | Log No.: 836 | St. No.: 323 | Stanley Brook      | 01-Sep-99 |
| 026 | V  | Arthropoda | Insecta | Ephemeroptera | Heptageniidae    | Leucrocuta hebe             | 607          |              | Duck Brk.          | 04-Apr-97 |
| 003 | V  | Arthropoda | Insecta | Ephemeroptera | Heptageniidae    | Rhithrogena sp.             | 607, 608     |              | Duck Brk.          | 04-Apr-97 |
| 050 | V  | Arthropoda | Insecta | Ephemeroptera | Heptageniidae    | Rhithrogena sp.             | 676          |              | Stanley Brk.       | 09-Sep-97 |
| 051 | V  | Arthropoda | Insecta | Ephemeroptera | Heptageniidae    | Stenacron interpunctatum    | 673          |              | Cannon Brk.        | 04-Sep-97 |
| 005 | V  | Arthropoda | Insecta | Ephemeroptera | Heptageniidae    | Stenonema modestum          | 607          |              | Duck Brk.          | 04-Apr-97 |
| 161 | V  | Arthropoda | Insecta | Ephemeroptera | Leptophlebiidae  | Habrophlebia sp.            | Log No.: 834 | St. No.: 320 | Cannon Brook       | 31-Aug-99 |
| 173 | V  | Arthropoda | Insecta | Ephemeroptera | Leptophlebiidae  | Leptophlebia sp.            | Log No.: 839 | St. No.: 361 | Heath Brook        | 02-Sep-99 |
| 013 | V  | Arthropoda | Insecta | Ephemeroptera | Leptophlebiidae  | Paraleptophlebia sp.        | 608          |              | Duck Brk.          | 04-Apr-97 |
| 141 | V  | Arthropoda | Insecta | Hemiptera     | Gerridae         | Trepobates sp.              | 746          |              | Duck Brk.          | 27-Aug-98 |
| 140 | V  | Arthropoda | Insecta | Hemiptera     | Veliidae         | Microvelia sp.              | 744          |              | Hunters Brk.       | 28-Aug-98 |
| 058 | V  | Arthropoda | Insecta | Lepidoptera   | ?Gracillariidae  | Genus?                      | 676          |              | Stanley Brk.       | 09-Sep-97 |
| 045 | V  | Arthropoda | Insecta | Lepidoptera   | Pyrilidae        | Genus ?                     | 673          |              | Cannon Brk.        | 04-Sep-97 |
| 129 | V  | Arthropoda | Insecta | Megaloptera   | Cordalyidae      | Chauliodes sp.              | 746          |              | Duck Brk.          | 27-Aug-98 |
| 028 | OV | Arthropoda | Insecta | Megaloptera   | Corydalidae      | Nigronia serricornis        | 607          |              | Duck Brk.          | 04-Apr-97 |
| 130 | V  | Arthropoda | Insecta | Megaloptera   | Sialidae         | Sialis sp.                  | 748          |              | Lurvey Spring Brk. | 27-Aug-98 |
| 025 | V  | Arthropoda | Insecta | Odonata       | Aeshnidae        | Boyeria vinosa              | 607          |              | Duck Brk.          | 04-Apr-97 |
| 160 | V  | Arthropoda | Insecta | Odonata       | Aesnidae         | Aeshna sp.                  | Log No.: 834 | St. No.: 320 | Cannon Brook       | 31-Aug-99 |
| 177 | V  | Arthropoda | Insecta | Odonata       | Aesnidae         | Aeshna sp.                  | Log No.: 839 | St. No.: 361 | Heath Brook        | 02-Sep-99 |
| 159 | V  | Arthropoda | Insecta | Odonata       | Aesnidae         | Boyeria grafiana            | Log No.: 834 | St. No.: 320 | Cannon Brook       | 31-Aug-99 |
| 176 | V  | Arthropoda | Insecta | Odonata       | Aesnidae         | Boyeria grafiana            | Log No.: 839 | St. No.: 361 | Heath Brook        | 02-Sep-99 |
| 038 | V  | Arthropoda | Insecta | Odonata       | Calopterygidae   | Calopteryx maculata         | 675          |              | Duck Brk.          | 09-Sep-97 |
| 162 | V  | Arthropoda | Insecta | Odonata       | Corduliidae      | Helocordulia uhleri         | Log No.: 835 | St. No.: 322 | Duck Brook         | 30-Aug-99 |
| 004 | V  | Arthropoda | Insecta | Plecoptera    | Chloroperlidae   | Sweltsa sp.                 | 607          |              | Duck Brk.          | 04-Apr-97 |
| 103 | S  | Arthropoda | Insecta | Plecoptera    | Chloroperlidae?  |                             | 747          |              | Heath Brk.         | 27-Aug-98 |
| 125 | V  | Arthropoda | Insecta | Plecoptera    | Chloroperlidae?  |                             | 747          |              | Heath Brk.         | 27-Aug-98 |
| 126 | V  | Arthropoda | Insecta | Plecoptera    | Leuctridae       | Leuctra ferrugineum         | 748          |              | Lurvey Spring Brk. | 27-Aug-98 |
| 047 | V  | Arthropoda | Insecta | Plecoptera    | Leuctridae       | Leuctra sp.                 | 674          |              | Hunter Brk.        | 04-Sep-97 |
| 127 | V  | Arthropoda | Insecta | Plecoptera    | Leuctridae       | Leuctra truncata            | 744          |              | Hunters Brk.       | 28-Aug-98 |
| 019 | V  | Arthropoda | Insecta | Plecoptera    | Perlidae         | Acroneuria abnormis         | 607          |              | Duck Brk.          | 04-Apr-97 |
| 128 | V  | Arthropoda | Insecta | Plecoptera    | Perlodidae       | Diura sp.                   | 745          |              | Stanley Brk.       | 28-Aug-98 |
| 024 | V  | Arthropoda | Insecta | Plecoptera    | Perlodidae       | Isoperla ?similis           | 607          |              | Duck Brk.          | 04-Apr-97 |
| 008 | V  | Arthropoda | Insecta | Plecoptera    | Taeniopterygidae | Strophopteryx fasciata      | 607, 608     |              | Duck Brk.          | 04-Apr-97 |
| 072 | V  | Arthropoda | Insecta | Trichoptera   | Glossosomatidae  | Glossosoma sp.              | 676          |              | Stanley Brk.       | 09-Sep-97 |
| 016 | V  | Arthropoda | Insecta | Trichoptera   | Hydropsychidae   | Cheumatopsyche sp.          | 607          |              | Duck Brk.          | 04-Apr-97 |
| 017 | V  | Arthropoda | Insecta | Trichoptera   | Hydropsychidae   | Hydropsyche betteni complex | 607          |              | Duck Brk.          | 04-Apr-97 |
| 018 | V  | Arthropoda | Insecta | Trichoptera   | Hydropsychidae   | Hydropsyche sparna          | 607, 608     |              | Duck Brk.          | 04-Apr-97 |

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|     |   |                 |             |                   |                   |                            |              |              |                    |           |
|-----|---|-----------------|-------------|-------------------|-------------------|----------------------------|--------------|--------------|--------------------|-----------|
| 065 | V | Arthropoda      | Insecta     | Trichoptera       | Hydropsychidae    | Hydropsyche ventura        | 676          |              | Stanley Brk.       | 09-Sep-97 |
| 064 | V | Arthropoda      | Insecta     | Trichoptera       | Hydropsychidae    | Parapsyche apicalis        | 676          |              | Stanley Brk.       | 09-Sep-97 |
| 021 | V | Arthropoda      | Insecta     | Trichoptera       | Lepidostomatidae  | Lepidostoma sp.            | 607          |              | Duck Brk.          | 04-Apr-97 |
| 132 | V | Arthropoda      | Insecta     | Trichoptera       | Leptoceridae      | Oxeythira sp.              | 747          |              | Heath Brk.         | 27-Aug-98 |
| 131 | V | Arthropoda      | Insecta     | Trichoptera       | Leptoceridae      |                            | 747          |              | Heath Brk.         | 27-Aug-98 |
| 071 | V | Arthropoda      | Insecta     | Trichoptera       | Leptoceridae      | Oecetis persimilis         | 675          |              | Duck Brk.          | 09-Sep-97 |
| 066 | V | Arthropoda      | Insecta     | Trichoptera       | Limnephilidae     | Hydatophylax argus         | 676          |              | Stanley Brk.       | 09-Sep-97 |
| 133 | V | Arthropoda      | Insecta     | Trichoptera       | Limnephilidae     | Limnephilus sp. 1          | 747          |              | Heath Brk.         | 27-Aug-98 |
| 134 | V | Arthropoda      | Insecta     | Trichoptera       | Limnephilidae     | Limnephilus sp. 2          | 747          |              | Heath Brk.         | 27-Aug-98 |
| 069 | V | Arthropoda      | Insecta     | Trichoptera       | Limnephilidae     | Oligostoma sp.             | 676          |              | Stanley Brk.       | 09-Sep-97 |
| 060 | V | Arthropoda      | Insecta     | Trichoptera       | Limnephilidae     | Psychoglypha ?subborealis  | 676          |              | Stanley Brk.       | 09-Sep-97 |
| 136 | V | Arthropoda      | Insecta     | Trichoptera       | Limnephilidae     |                            | 747          |              | Heath Brk.         | 27-Aug-98 |
| 023 | V | Arthropoda      | Insecta     | Trichoptera       | Limnephilidae     | Pycnopsyche sp.            | 607          |              | Duck Brk.          | 04-Apr-97 |
| 061 | V | Arthropoda      | Insecta     | Trichoptera       | Odontoceridae     | Psilotreta frontalis       | 675          |              | Duck Brk.          | 09-Sep-97 |
| 062 | V | Arthropoda      | Insecta     | Trichoptera       | Odontoceridae     | Psilotreta prob. frontalis | 674          |              | Hunter Brk.        | 04-Sep-97 |
| 009 | V | Arthropoda      | Insecta     | Trichoptera       | Philopotamidae    | Chimarra sp.               | 607          |              | Duck Brk.          | 04-Apr-97 |
| 022 | V | Arthropoda      | Insecta     | Trichoptera       | Philopotamidae    | Dolophilodes sp.           | 608          |              | Duck Brk.          | 04-Apr-97 |
| 137 | V | Arthropoda      | Insecta     | Trichoptera       | Phryganeidae      | Oligostomis sp.            | 743          |              | Cannon Brk.        | 28-Aug-98 |
| 070 | V | Arthropoda      | Insecta     | Trichoptera       | Polycentropodidae | Nyctiopylax moestus        | 673          |              | Cannon Brk.        | 04-Sep-97 |
| 067 | V | Arthropoda      | Insecta     | Trichoptera       | Polycentropodidae | Polycentropus sp.          | 673          |              | Cannon Brk.        | 04-Sep-97 |
| 063 | V | Arthropoda      | Insecta     | Trichoptera       | Rhyacophilidae    | Rhyacophila carolina       | 676          |              | Stanley Brk.       | 09-Sep-97 |
| 001 | V | Arthropoda      | Insecta     | Trichoptera       | Rhyacophilidae    | Rhyacophila fuscula        | 607, 608     |              | Duck Brk.          | 04-Apr-97 |
| 135 | V | Arthropoda      | Insecta     | Trichoptera       | Uenoidae          | Neophylax nacatus          | 748          |              | Lurvey Spring Brk. | 27-Aug-98 |
| 020 | V | Arthropoda      | Insecta     | Trichoptera       | Uenoidae          | Neophylax sp.              | 607          |              | Duck Brk.          | 04-Apr-97 |
| 068 | V | Arthropoda      | Insecta     | Trichoptera       | Uenoidae          | Neophylax sp.              | 676          |              | Stanley Brk.       | 09-Sep-97 |
| 138 | V | Arthropoda      | Insecta     | Trichoptera       |                   |                            | 745          |              | Stanley Brk.       | 28-Aug-98 |
| 040 | V | Mollusca        | Gastropoda  | Lymnophila        | Physidae          | Physella sp.               | 675          |              | Duck Brk.          | 09-Sep-97 |
| 165 | V | Mollusca        | Gastropoda  | Lymnophila        | Planorbidae       | Helisoma anceps            | Log No.: 835 | St. No.: 322 | Duck Brook         | 30-Aug-99 |
| 041 | V | Mollusca        | Gastropoda  | Mesogastropoda    | Hydrobiidae       | ?Amnicola limosa           | 675          |              | Duck Brk.          | 09-Sep-97 |
| 148 | V | Mollusca        | Pelecypoda  | Eulamellibranchia | Sphaeriidae       | Pisidium sp.               | 748          |              | Lurvey Spring Brk. | 27-Aug-98 |
| 039 | V | Platyhelminthes | Turbellaria | Order ?           | Family ?          | Genus ?                    | 675          |              | Duck Brk.          | 09-Sep-97 |
| 166 | V | Platyhelminthes | Turbellaria | Tricladida        | Planariidae       | Cura foremanii             | Log No.: 835 | St. No.: 322 | Duck Brook         | 30-Aug-99 |
| 164 | V | Platyhelminthes | Turbellaria | Tricladida        | Planariidae       | Dugesia tigrina            | Log No.: 835 | St. No.: 322 | Duck Brook         | 30-Aug-99 |
| 157 | V | Platyhelminthes | Turbellaria | Tricladida        | Planariidae       | Dugesia?                   | 747          |              | Heath Brk.         | 27-Aug-98 |
| 158 | V | Platyhelminthes | Turbellaria | Tricladida        | Planariidae       | Phagocata gracilis         | 747          |              | Heath Brk.         | 27-Aug-98 |