STATE OF CONNECTICUT

Department of Environmental Protection

Bureau of Fisheries

Federal Aid in Sport Fish Restoration F-66-R-1

Annual Performance Report

Project Title: **A Survey of Connecticut Streams and Rivers**

Job 1. Detailed Methodology and Schedule - Final Report

Job 2. Stream Survey

Job 3. Angler Survey

Job 4. Data base Development - Final Report

Period Covered: August 1, 1987 to March 31, 1989

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Abstract

A comprehensive survey of the streams and rivers of the State of Connecticut was begun by the Department of Environmental Protection Bureau of Fisheries in 1988. All methodologies and techniques included in the approved project proposal were reviewed and, where necessary, modified during the first project year. The methodology which is expected to be used throughout the remainder of this project is presented. A relational database was created using RBASE software to store/retrieve the data which will be collected during this project. A portable computer was purchased to allow data entry in the field, and a dual data entry system was established to protect against data entry mistakes.

Ninety five sites located on streams within the Farmington River, Stony Brook and Park River drainages were sampled during 1988. Data on water temperatures, stream discharge, water velocity, canopy, dissolved oxygen, pH, conductivity, alkalinity, width, depth, substrate composition, pool/riffle ratio, fish shelter and population size per species are presented for each of the ninety five sites. The Zippen method of population estimation produced variance estimates (RSE) well below 20% and had probabilities of capture averaging approximately 60%. Anglers were surveyed on twelve streams during 1988. Angler effort during the spring varied from a high of 1,376 hrs/km on the East Branch of Salmon Brook, a heavily stocked trout stream, to undetectable in four unstocked streams and one lightly stocked stream. Data on catch per unit effort of trout was sparce, and estimated values could only be produced for the three most heavily stocked streams.

Introduction

A comprehensive survey of the streams and rivers of the State of Connecticut was begun by the Department of Environmental Protection (DEP) Bureau of Fisheries in 1988. Historically, the Bureau of Fisheries has collected general survey data from CT's lakes and ponds (surveys 1939, 1959, 1973); however, no general survey has ever been conducted in streams and rivers. Such a survey has been given a high priority due to the State's expanding population and economy. This growth has resulted in generally heavy angler usage, locally intensive development pressure and frequent user conflict.

The State of Connecticut is populated by approximately three million people, nearly 400,000 of whom are freshwater anglers. Stream fishing is popular among CT anglers, as 79.7% of all licensed anglers are reported to fish in streams (Moulton 1975). Additionally, the State's population is expected to increase at .70% per year (Chase Econometrics 1986) adding approximately 45,000 freshwater anglers by the year 2000.

Developmental pressures on CT's stream resources are also expected to increase. Near term forecasts for manufacturing employment (+1.4%), nonmanufacturing employment (+2.4%) and housing starts (25,000/yr) all indicate increased growth within the State (Chase Econometrics 1986). Bureau of Fisheries personnel are routinely required to comment on the impacts of proposed construction on the lotic environment and associated recreational use. Typically, three or four environmental reviews are done each month throughout the year. The Bureau has recently initiated a technical assistance program to insure that these requests receive the attention that they merit. However, it is anticipated that time constraints will continue to prevent the collection of data from Connecticut streams on an as needed basis. Data collected during this survey will enable the Bureau's technical assistance biologists to respond to environmental assessment requests with quantitative data on a timely basis.

The State of Connecticut contains a variety of coldwater, warmwater and anadromous stream fishery resources. Over the years the Bureau of Fisheries has acquired specific data on some streams and fisheries (Orciari and Phillips 1986, Orciari et. al. 1985, Hyatt 1986, Barry 1986), and the University of Connecticut has gathered baseline data on the distribution of fish species throughout the State (Whitworth et. al. 1968). Effective statewide management, however, will require quantitative data from all streams in the State with existing or potential fishery value.

Seventy six percent of CT's licensed anglers prefer to fish for trout (Moulton 1975). As the number of anglers continues to increase, more efficient use of hatchery produced trout will be required if we are to maintain angling quality throughout the State. The State DEP stocks 500,000 trout into CT streams each year at a cost of approximately $450,000. The distribution of hatchery trout is presently based on historical records, and the subjective judgements of biologists, conservation officers and administrators. It must be assumed that a less than optimum distribution is thus achieved. Another, perhaps more effective, approach is to allocate trout stocking by stream habitat quality (Engstrom-Heg 1979, Embody 1927a, 1927b and 1928) or by fishing pressure (Butler and Borgeson 1965, Engstrom-Heg 1985, Kelly 1965). A comprehensive stream survey which includes the collection of biological, physical, chemical and socioeconomic data, will provide the information needed to develop a rational stocking formula for Connecticut trout streams.

The Bureau of Fisheries presently has very little information on warmwater and anadromous stream resources within the State. A comprehensive stream survey will provide quantitative biological, physical, chemical and angler usage data on existing resources. Under and over exploited populations, and areas where additional recreational fisheries may be developed need to be identified so that the Bureau of Fisheries can effectively manage these resources.

The objectives of Connecticut's statewide stream survey are:

1) To develop a stocking formula in order to allocate hatchery trout in a manner which produces cost effective quality trout fishing.

2) To provide the database required for comment on proposed construction and environmental impact statements, and the data needed to conduct environmental reviews.

3) To identify and quantify the State's coldwater, warmwater and anadromous stream resources.

4) To develop formulae which accurately predict fish biomass/species in CT streams.

5) To distribute survey results to the public: to publish the results including information on stream habitats and fisheries (stream flow rates, temperatures, insect populations, fish species abundance).

The expected results of Connecticut's stream survey are:

1) Improved management of CT's coldwater, warmwater and anadromous stream fishery resources.

2) Increased ability to protect CT's stream resources from the impacts of encroaching development.

3) Increased public awareness of CT's stream resources and fisheries. Such information may serve to heighten the quality of the fishing experience for CT anglers.

This report contains final reports for Jobs 1 (Detailed Methodology and Schedule Design) and 4 (Formulation of a Stream Survey Data Base), and progress reports for Jobs 2 (Stream Survey) and 3 (Angler Survey), of Federal Aid in Sport Fish Restoration project F-66-R. During the initial year of this project much effort was allocated to refining the original methodology and finalizing a data storage and retrieval system. Most of the analysis and discussion presented in this report are reflective of this emphasis. Therefore, very little work was done in relating the various physical, chemical, biological and socioeconomic data which were collected. Future reports will contain much more of this type of analysis and less discussion of methodologies.

2.0 Revised Detailed Methodology and Schedule Design

All methodologies and techniques included in the approved project proposal (Hyatt 1987) were scheduled to be reviewed and modified during the first project year. It is anticipated that the following methodology will be applied throughout the remainder of the stream survey. This section is a final report for Job 1 of F66R.

2.1 Resource Identification:

The location of all stocking sites in the study area will be identified from stocking maps marked by State conservation officers. Public access areas will be identified from the Connecticut Department of Environmental Protection (DEP), Natural Resources Center's Property Map and Community Water Systems in Connecticut. When time permits State land/purchase and lease records will be consulted for possible additional public access sites.

All surface waters within the bounds of the study area will be located on 24,000 scale USGS topographic maps and transposed onto single mat, 0.3 mil. mylar overlays. Vellum copies of the original overlays will be made and used for field checks.

Visual estimates of the width and depth of each stream will be made at all accessible stream crossings. If available, information on ownership and access will be obtained prior to further data collection.

Stream sections and subsections will be identified and coded by overlaying the vellum maps onto corresponding maps of the "Natural Drainage Basins in Connecticut" (State of Connecticut Department of Environmental Protection, Natural Resources Center, USGS, 1981). Stream sections and subsections will be assigned unique sequential codes, based on an extension of a numbering sequence developed by the Natural Resources Center and used on the drainage basin maps (Fig. 1). Each drainage basin number defines an area of a drainage basin called a "Polygon". Any area which has a permanent stream will be defined as a separate

polygon and anytime a stream joins another stream or river resulting in a change in flow volume a new polygon will be defined.

A listing of streams and stream subsections, by stream code, and associated reference information will be generated using RBASE for DOS. The information specific to each polygon will include: stream name, length and width, township, topographic map location, stream features (dams, swamps, postings and channelizing), stocking status, drainage area and water quality rating based on DEP, Water Compliance Unit's Water Quality Classification maps.

Normal Format: 4300032R150100

Polygon Coding Components

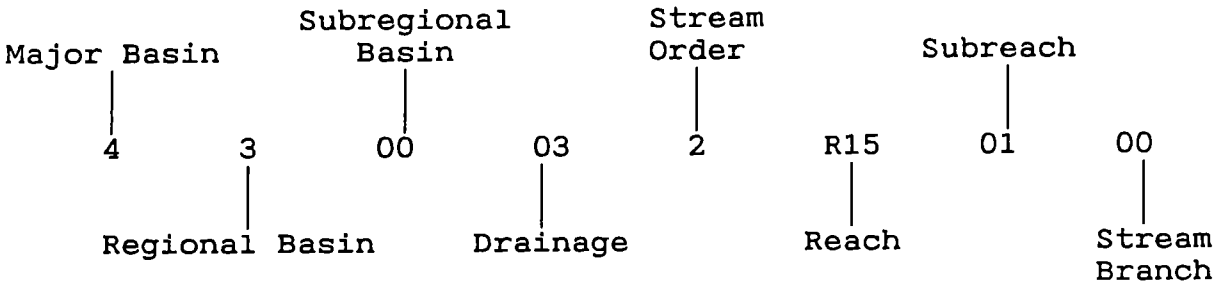

Figure 1. Polygon Coding System, an extension of DEP, Natural Resources Centers' Stream Classification System.

All streams will be characterized by habitat type, longitudinally, from the confluence with the next higher order stream to the head waters. Habitat types will be defined based on stream gradient (the percentage rise over run; 0-3% meadow, 3-8% upland, >8% plunge pool) and stream alteration (impoundment, channelization, underground culverts). Length of each habitat section will be measured with a planimeter and recorded sequentially on a stream kilometer basis. All dams and waterfalls will be identified and their location recorded.

2.2 Site Selection:

Approximately eighty to eighty five sites will be sampled during each project year in which normal flow regimes prevail. Additional sites (i.e. more than 80) will be sampled whenever flow conditions allow for extended sampling. Sites will be selected based on the following criteria.

A) **Mandatory Sites:**

1) One sample to the dominant habitat type in each subregional drainage basin;
2) One sample to a representative segment of each stocked stream (unless already included in priority 1 sites);
3) One sample to each creel survey location not covered by priority 1 or 2 sites.

B) **Optional Sites:**

4) Additional sites will be assigned to the dominant stream of each subregional drainage basin as required to adequately assess the variability between significantly differing habitat types (upland vs channelized meadow);
5) Using the list of all stream polygons sorted by widths, a random selection of sample sites will be made within each stream size group (1-1.5 m, 1.6-3.0 m, 3.1-6.0 m, 6.1-9.0 m and >9.0 m wide) until all sites are allocated.

Applying these priorities, we will attempt to sample all streams with existing or potential fishery value. However, some of our largest rivers will be impossible to sample using the described methodology. Consequently, data will not be collected from the lower Housatonic River (downstream of the Derby Dam), the Thames River, or the entire Connecticut River. Small streams (1-1.5 m) appear to be numerous in most of the State's major drainage basins and are typically inhabited by Brook trout (*Salvelinus fontinalis*). Despite the potential fishery value of these brooks, it will be logistically impossible to sample all of them and they will be subsampled as described in #5 above.

Each selected sample site will be visually inspected to identify any previously undetected sampling problems (postings). Where necessary, land owners will be contacted for permission to sample. Stream width will be measured at each site to help in planning manpower needs. Typically, all streams will be inspected and sites selected during the period beginning with the end of the previous field season and prior to April 15 of the following year.

2.3 Invertebrate Collections:

During 1988 invertebrates were sampled in midsummer, concurrent with the collection of data on fish populations. Over the course of the summer it became apparent that seasonal variation in invertebrate population biomass would make any correlations with fish biomass inaccurate. To obtain a set of samples that would be comparable between sites, it will be necessary to collect all in as short a time period as possible.

During the remainder of the project, aquatic invertebrates will be collected by a two man crew between May 15 and June 9 each year (insect biomass and species diversity will be near peak during this time). Samples will be collected from a representative riffle area which is centrally located within each sample site. An estimated four to six sites will be sampled per day.

Samples will be collected using a 0.25 m^2 surber sampler with 1.02 mm mesh bag. Five samples will be taken from a riffle area, starting close to the left bank, spacing the samples equidistantly from left to right, and moving diagonally upstream. Exact placement of the frame will be contingent on our ability to obtain a proper seal with the substrate. In some areas with large cobble substrate ideal fits will not be possible and the best possible will have to surfice. The substrate within the frame will be stirred to a depth of 2-4 cm. All adhering invertebrates will be dislodged into the collection net by brushing with a scrub brush. The net will be dipped into the stream once or twice to wash insects into the collection bag. The bag will then be slowly inverted and all insects and small bits of

detritus removed with forceps and placed into screw cap glass jars containing 70% ethanol. Additional ethanol will be added to completely cover the sample material and a label identifying the site and sample number will be placed into each jar. In large samples the jar will be gently shaken to insure an even distribution of the ethanol.

Samples will be taken to the lab and all debris and detritus removed, invertebrates sorted, identified and enumerated. A blotted wet weight per family will be recorded for each sample. Mean number and weight by family and total invertebrate number and weight will be calculated for each site. All numbers will be recorded on a square meter basis.

2.4 Low Flow Data Collection:

The majority of field data collection will be done during the normal low flow period between June 15 and October 1. Sampling will be delayed during periods of abnormally high runoff, and resumed when conditions return to normal.

2.4.1 Site Setup:

Precise instructions for locating a sample site will be recorded to allow accurate relocation in the future. Usually a street reference and distance from a major physical landmark will be sufficient (e.g. located at intersection of Rte. 20 and 195 in Windham, 50 m above bridge).

A block net will be placed at the downstream end of the sample site in an area which allows bank to bank coverage with a good bottom seal, and where the net will not be overwhelmed by water current. Bridge pool areas will be avoided when placing the block net. An appropriate length (12.2, 18.2 or 24.4 m) of 4 mm mesh net will be secured to a fixed object on each bank. The bottom of the net will be secured with rocks along the lead line and the float line propped up with sticks to prevent fish from escaping the sample site. In some large streams, width and velocity will prevent the use of block nets.

The length of the sample site will be determined by the stream width measured at the downstream block net as follows: 0-1.5 m wide (50 m long); 1.5-3.0 m wide (100 m long); and >3.0 m wide (150 m long). The length of a sample site will always be at least ten times the width and wherever possible, at least two pool/riffle combinations will be included.

Sample sites will be marked off into ten equidistant units using 60 cm surveying flags. Care will be taken to minimize disturbance to the substrate and water column while marking off subsample units. A block net will be installed at the upstream end of the sample site after the last water sample is collected. The net will be installed in the same manner as the downstream net. The exact length of a site may be modified to ensure a suitable area for placement of the upstream block net.

In large streams where the use of block nets is impossible, data will be collected from a length of stream approximately ten times the stream width. Mark/recapture methods will be used to produce population data on all sport fish species (see section 2.4.3). Shorter sections (five times the stream width) located just upstream and downstream of the aforementioned site will be used to collect data on forage species and to control for emigration of marked sport fish.

2.4.2 Physical-Chemical Data Collection:

While marking off the subsample units, a sequential record will be made of all pool and riffle lengths to the nearest 0.1 m. Runs will be included with riffles and glides will be included with pools. This information will be used to calculate a pool/riffle length ratio and total number of pools and riffles within the sample site.

Based on observations made while marking the site, three subjective estimates will be made (to be used in WNHF analysis, see section 2.6). Total length of cover will be estimated and expressed as a percentage of the total stream length. A subjective estimate of canopy will be expressed as a percentage with no canopy as zero and complete shade as 100%. An estimate of fish-

ing pressure based on evidence of fishing activities at the site will be rated on a 0 to 3 scale: 0) no fishing, 1) light fishing <200 hours/acre/year, 2) moderate fishing 200-500 hr/acre/year, 3) heavy fishing >500 hrs/acre/year).

Water chemistry data will be collected at sample flags one, five and nine: i.e. 10, 50 and 90 meters from the bottom net in a 100 meter section. First, a 500 ml water sample will be collected for alkalinity analysis. A plastic bottle will be plunged into the water top first and then inverted and filled. This prevents material in the surface film from influencing the sample results. pH will be measured to the nearest 0.1 pH unit with an Orion model SA 250 pH meter. A Nester 8500 portable Dissolved Oxygen Meter will be used to measure the D.O. to the nearest 0.1 ppm. Conductivity will be measured in Uhmos with a YSI Model 33 S-C-T conductivity meter. The pH meter will be calibrated with pH 7 and pH 10 standard solutions on a daily basis as per the manufactures standard procedure. Filling solution in the pH probes will be replaced on a monthly basis. The Nester dissolved oxygen meter will be calibrated daily at the sample site to compensate for the effect of changes in elevation.

A subjective decision will be made as to the water color and turbidity. Color will be described as one of the following: light amber, dark amber, brown, dark brown, milky, clear, green, red, blue, gray. Turbidity will be assigned one of the following values: none; slight (some material will be visible in the water column); moderate (turbidity limits visibility into the water column to no more than 50 cm) and heavy (visibility will be limited to the top 5-10 cm).

The stream's width will be measured at each subsample flag to the nearest 0.1 m. The total wetted distance perpendicular to the flow will be measured, including undercut areas. Any dry areas will be subtracted from the width and any objects or boulders with significant flow under them will be included. Stream depth will be measured along the width transect line to the nearest cm at the left bank, 1/4, 1/2 and 3/4 of the stream width.

Substrate type will be determined at every meter along the transect line formed by the width measurement. Using a 0.25 m^2 quadrat frame with the left edge lined up on the meter mark, the dominant substrate type will be determined based on Table 1 (from Platts et al. 1983). Substrate types will be determined at all width transects. A subjective estimate of the percent embeddedness of the dominant substrate by sand ($\leq$ 4.7mm, rating 1 and 2) will be made for each substrate sample.

Table 1. Substrate types and sizes from Platts et al. 1983.

Substrate type	Rating	Size
Fine Sand	1	<0.83 mm
Course Sand	2	0.83-4.71 mm
Gravel	3	4.71-76.0 mm
Cobble	4	76.0-304.00 mm
Small Boulders	5	304.0-609.0 mm
Large Boulders	6	>609.0 mm

Instream cover will be quantified by identifying individual habitat pieces and assigning each to a habitat category. The criterion and types of categories where selected based on Bowlby and Roff (1986), Platts et al. (1983), Scarnecchia and Bergersen (1987) and Wesche et al. (1987). The categories used will be: rock, undercut bank, overhanging plant material, logs (snags), deep water, turbulence, and artificial. The length of each piece of habitat will be measured along its long axis, and width will be measured perpendicular to the long axis. Stream structures must meet the following requirements to qualify as cover. All cover must have a minimum undercut/overhang of 9 cm and be in water having a minimum depth of 15 cm. Overhanging plants have to be within 30 cm of the water surface. Deep water habitat has to have a minimum depth of 45 cm, and turbulence must cause enough disturbance to hide a 200 cm fish in water at least 15 cm deep.

A crown densiometer will be used to measure the canopy at four randomly selected transects. Measurements will be made at midchannel and the data expressed as a percentage.

During 1988 stream gradient for each site was calculated using information taken from topographic maps. Often this did not accurately represent the sites, particularly in low gradient areas. During the remainder of the project we will use a hand level and stadia rod to measure the gradient of each sample site.

The gradient of the stream site will be measured at the water surface along the thalweg line using a 5x Lietz hand transect with prismatic bubble level. The transect will be mounted on a 1.75 m rod to insure even transect height. Starting with the transect at one of the block nets, a 0.1 ft graded stadia rod will be read at the farthest straight line siting possible. The reading will be recorded and the transect will be moved to the site of the stadia rod. The stadia rod will be then moved to the next possible straight line siting. This continues for the entire length of the sample area. The total drop in elevation will be calculated for the sample site and expressed as a percentage of the site length.

Streams influenced by agricultural runoff will be designated as "agricultural" based on information found on topographic maps, visual appearance of the site and knowledge of the area. These criteria include heavy fertilization by golf courses and some heavily maintained residential areas. Sample sites located below a dam or lake will be recorded as such, so as to assess the impact of lake fish species which may be transitory within these areas.

At approximately 12:00 am, air and water temperatures will be measured to the nearest degree Celsius at the midpoint of the sample site. Maximum air and water temperatures will be measured at as many sample sites as possible during a summer heat wave. The temperature may be measured by either placement of an air and a water max/min thermometer at the site in the morning, with recovery the next day; or by direct measurement of the air and water temperatures on an afternoon during the heat wave.

The bedrock type for each sample site will be determined from the DEP Natural Resources Center's Connecticut Natural Resources Atlas Series: Bedrock Geological map.

Flow stability will be rated on a four point scale: 0= intermittent; 1= fluctuating flows possibly drying up once every five to ten years; 2= fluctuating flows with no history of no flow periods; 3= flows do not fluctuate much more than 50% from average daily flows. Stability of flow for each stream will be determined from visual evidence and historic information.

During 1988 discharge volume was estimated by using either a 1) Marsh McBirney digital flow meter or 2) a salt dilution technique. The flow meter generates good volume estimates (Table 2), but requires so few samples that the technique does not give as accurate a mean velocity value as does the salt method. Salt discharge estimates used during 1988 were developed from work done by the New York Department of Environmental Conservation (Engstrom-Heg 1979). Accuracy of the calculations is dependent on certain length and flow characteristics of which we were not initially aware. Intuitively, the salt method would be expected to give a good overall average velocity since it utilizes the entire stream volume and can be applied to any length and to most flow conditions except standing water. A "stretch out" calculation is used to calculate the entire time needed for the salt slug to pass the measuring point where the time of the first conductivity change and peak conductivity were measured. This stretch out calculation was developed to work for long distances (500 m) and long times between addition of the salt brine and the time of the peak conductivity (15 minutes). The discharge volume estimates were variable where the time between the initial conductivity reading and the peak conductivity reading was less than 3 minutes. The conditions necessary to accurately apply the stretch out calculations did not occur often in our data. Alternatively, a technique using the average velocity times the cross sectional stream area (Allen's Salt Method) can be used under all conditions (Allen and Taylor 1924 and John 1978). The Allen salt method does not provide a variance value from the single velocity

value; however, the discharge volume has acceptable RSE values (Table 2). The best data will be obtained by using the flow meter for discharge volume and the salt technique for mean velocity.

Table 2. The average relative standard error (RSE) and average coefficient of variation (CV) of velocity and discharge volume for eighteen Marsh McBirney flow meter samples and sixty-seven Allen Salt Technique samples.

Method	Avg. CV	Avg. RSE
Velocity		
Flow Meter	35.9%	20.7%
Salt Method	----	-----
Discharge		
Flow Meter	30.0%	17.3%
Salt Method	66.0%	20.9%

When using the Marsh McBirney, flow will be measured along a transect line set perpendicular to the direction of stream flow. Flow velocity, water depth and distance from the left bank will be measured wherever depth or velocity visibly change. The velocity reading will be recorded to the nearest 0.01 m/sec, depth to the nearest cm and width to the nearest 0.1 m. The flow meter requires a minimum of 9 cm of depth to operate. The depth at which the velocity reading will be taken follow suggested USGS guidelines: 0-10 cm at 0.5 of the water depth; 11-76 cm at 0.6 of the water depth measured from the surface; for depths greater than 76 cm two readings will be taken one at 0.2 and one at 0.8 of the water depth. The calculations follow USGS guidelines as outlined in Platts et al. (1983).

The salt dilution method (Allen and Taylor 1924 and John, 1978) allows a good estimation of mean velocity and discharge where channel morphology and depth preclude use of the flow meter. An area will be selected excluding large standing pools

and three baseline conductivity readings will be taken. Upstream 40-100 m, depending on the site, a measured quantity of brine solution will be added to the stream. Concentration of the brine solution will be approximately 226 grams of salt for each estimated cfs of flow volume. Conductivity will be recorded at one minute intervals following the release of the brine. The time elapsed prior to the first change in conductivity from baseline will be noted as well as the time required to reach the highest conductivity reading. Conductivity will be monitored for two minutes following the peak reading.

2.4.3 Population Estimation:

Fish population size will be estimated at each sample site by either the Zippen removal (Zippen 1958) or the Peterson mark recapture method. The Zippen method will be used in all streams where it is possible to place block nets at the upstream and downstream ends of the sample site. In large streams where it is impossible to use block nets, mark recapture will be used. Sampling will be done with either Coffelt BP-4 dual electrode backpack electrofishing gear or a Coffelt VVP-2 stream shocker with 3 m electrodes. Prior to starting a shocking run the wind speed, weather and precipitation will be recorded along with output voltage, amperage and pulse frequency. Each shocking pass consists of one run upstream through the sample site. The length of time required for the first pass will be recorded and subsequent passes will be timed to maintain a consistent level of effort. Persons carrying the backpack or people holding the electrodes (stream shocker) will be changed after each pass. One to four netters will collect the stunned fish which will then be transported to an adjacent stream section and processed.

One problem encountered during 1988 was inflated sample sizes due to chance encounters with young of the year (YOY). Therefore, for the remainder of the study, Centrarchids below 5 cm and Cyprinids below 4 cm in length will not be collected. Usually three passes will be made for the Zippen method; but, if after three passes the dominant species present have not declined

at least 30% from the initial pass, a fourth or fifth pass will be added as needed.

All fish collected on the first pass of mark recapture runs will be measured, marked (caudal fin clips) and enumerated by species. The fish will then be released evenly throughout the sample area and any dead individuals collected and subtracted from the number of marked fish. A one hour readjustment period (Peterson and Cederholm 1984) will be allowed prior to beginning the recapture pass. All fish caught on this pass will be enumerated by species and the presence or absence of a fin clip noted.

Fish will be identified and the first 100 individuals of each species will be measured to the nearest centimeter class. All subsequent individuals will be tallied by species. Scale samples will be taken for all game fish from the first two individuals measured in each size class over 9 cm (*Salvelinus fontinalis, Salmo trutta, Salmo salar, Onchrhyncus mykiss, Micropterus salmoides, Micropterus dolomieui, Ambloplites rupestris,* and *Lepomis sp.*) Scale samples will be taken from above the lateral line for all soft-rayed fish and behind the point of the pectoral fin for spiny-rayed fishes. These fish will be measured to the nearest millimeter total length. Up to eight representative specimens for each species will be preserved in 10% formalin for independent confirmation of identification by Dr. W. Whitworth of the University of Connecticut, Department of Natural Resources.

The tabulated length frequency data for each trout population will be used to separate young of the year (YOY), Age 1+, and adult fish. In many cases the separation in age groups will be obvious from the size distribution. In cases where the size range seems extreme or where there is no clear split in age groups, scale samples will be checked and fish assigned to age groups proportional to the frequency distribution. In samples where stocked and wild trout cannot be separated by size, scales will be checked. Age 1+ and younger fish will be assumed to be of wild orgin unless there is stocking information available that indicates otherwise. All scales will be mounted between two

glass slides and age determined by visual inspection of scale image from a Trisimplex scale projector.

Biomass estimates will be generated using the length frequency data collected for each species at a given site and a general length/weight relationship for the specific species of Connecticut stream fish. The length/weight relationship will be developed using the weight, in grams, of fish from several sample sites. In cases where the specimens are small, less than 8 cm, group weights of fish within a centimeter class will be used to produce an average centimeter class weight for that species. Where individuals are rare it may be necessary to collect data for several years before a length/weight relationship can be calculated.

A set of subjective estimates for crayfish and freshwater mussel/clams could be useful and will require minimal additional effort. These values may be of interest at some later date when investigating potential food and water quality limitations.

Crayfish and muscle/clam abundance will be determined by visual observation during sampling procedures. The site will be rated on a three point scale: 0= not present; 1= present in low number; 2= abundant.

Copies of all field data collection forms are presented in Appendix A.

2.5 Laboratory Procedures:

Water samples will be stored cold and brought back to the lab to measure alkalinity. A potentiometric titration (APHA, 1971) will be used to analyze the three samples of water from each site. A 100 ml sample will be measured out in a graduated cylinder and added to a beaker which has been rinsed with a small alliquot of sample water. A digital microburet with 0.02 N HCl will be used to titrate to a 4.5 pH end point and continued to a second endpoint of pH 4.2. If less than 1.0 ml total titrant is used the process will be repeated using a 200 ml sample. All glassware will be rinsed twice with distilled water and then with a small amount of the water to be sampled. The alkalinity will be calculated using the following formula:

$$Alk = \frac{(2C-D) * N * 50{,}000}{Vol} \quad (1)$$

where: Alk = Alkalinity (mg/ml as $CaCO_3$)
C = 4.5 pH titration volume
D = 4.2 pH titration volume
N = 0.02 titrant Normality
Vol = sample volume in ml

2.6 Calculations:

Means and standard deviations will be calculated for ph, conductivity, D.O. and alkalinity.

The total length for each cover category (CL_j) will be summed for all individual pieces of cover (L_i) for each site (where j is the number of cover categories). A total length for all cover categories (TCL) will be summed from the separate cover categories. A percent stream length as cover (PSL) will be calculated from equation 4. The area of each piece of cover (A_i) will be calculated from the width times the length measurements. A percent stream area as cover (PSA) for each category and total area cover (TCA) will be calculated by equations 6 and 7. Total sample site area will be the average width times the sample length:

$$CL_j = \sum L_i \quad (2)$$

$$TCL = \sum CL_j \quad (3)$$

$$PSL = \frac{TCL}{\text{Site length}} * 100 \quad (4)$$

$$CA_j = \sum A_i \quad (5)$$

$$TCA = \sum CA_j \quad (6)$$

$$PSA = \frac{TCA}{\text{Total sample site area}} * 100 \quad (7)$$

Calculation of population size (N) and probability of capture (p) for the Zippen method follow the Maximum Weighted Likelihood Estimate (MWLE) of Carle and Strub, 1978 (equation 8-11). Population variance estimates will be after Zippen 1958 (equation 12). Probability of capture (p) will be calculated to insure that an adequate impact will be made on the sampled population, 0.3 is the desired minimum for the total population:

$$T_i = \sum C_i \tag{8}$$

where: C_i = catch for pass 'i'

$$X = \sum (K-i)C_i \tag{9}$$

where: K = total number of passes

The Maximum Weighted Likelihood Equality Method:

$$1.0 > = \frac{(N+1)}{(N-T+1)} \sum_i \frac{(KN-X-T+(K-i))}{(KN-X+(K-i))} \tag{10}$$

Equation 10 will be an iterative solution where N is incremented until the solution of the equation is equal to, or just less than one.

The probability of capture will be determined as follows:

$$p = T/(KN-X) \tag{11}$$

The variance of the estimate of population size (N) will be determined by:

$$Var(N) = \frac{(N(N-T)T}{(T^2-N(N-T))\frac{(Kp)^2}{(1-p)}}^{1/2} \tag{12}$$

The population size and variance for mark and recapture data will be calculated using the Chapman version of a Peterson estimate (Everhart and Youngs, 1981, equation 13).

$$N = \frac{(M+1)(C+1)}{(R+1)} \quad (13)$$

where: M = Number of marked fish released from first pass
C = Number of fish captured on second pass
R = Number of marked fish recaptured on second pass

The variance of the estimate of population size (N) will be determined by:

$$Var(N) = \frac{(M+1)^2(C+1)(C-R)}{(R+1)^2(R+2)} \quad (14)$$

The length/weight relationship for each species will be calculated using a log-log regression (Ricker 1975) of weight in grams by length in millimeters. The length frequency data from each site for the 100 individuals will be expanded proportionally to reflect the total number of individuals estimated for each species. The lengths will then be converted to biomass values by centimeter class using the length/weight relationships and summed for a total biomass by species. These biomass values will be divided by the surface area of the sample site to generate biomass estimates in grams/square meter for each species.

Growth rates for all trout species will be calculated from the length frequency information as the mean size of each age class found at a site. Growth rates of other species of game fish will be determined if appreciable numbers of individuals are collected.

The discharge volume calculations follow USGS recommendations outlined in Platts et al. 1983. The calculation of mean velocity using the salt method will be as in equation 15. The stream discharge volume for the salt method will be calculated by taking the cross sectional area from the width-depth information and multiplying times the average stream velocity. This gives the discharge at that stream transect. A mean of the discharge volume for all transects in the salt sample length will be used as the estimate of the stream discharge volume.

$$Vel = \frac{Length}{Peak * 60\ sec/min} \quad (15)$$

where Vel = Mean velocity of section
Length = length of salt discharge section

A mean and standard deviation will be calculated for stream width and depth. Substrate data will be tallied by type and a mean value for embeddedness will be calculated for each substrate type. The length will be calculated for each section of pool and riffle and then summed. A pool length to riffle length ratio (Platts et al. 1983) will be calculated.

The physical-chemical data collected will be compared with the biomass estimates of various fish species in hopes of developing models capable of predicting fish abundance. Multiple regression/correlation analysis will be used to explore these relationships (Binns 1979, Binns and Eiserman 1979, Bowlby and Roff 1986, Wesche et al. 1987). Independent variables will also include data on stream invertebrates as well as the biomass estimates and growth rates of cohabiting species and/or groups of species. The resulting models will provide quantitative estimates of the precision which may be expected when transferring data to unsampled stream areas. They may also enable the Bureau to produce statistically verifiable estimates of the impacts of habitat alterations.

Predictive equations will be developed for watersheds within the major area of the distribution of each species because low abundance outside this area may not indicate unsuitable conditions.

High levels of fishing pressure effect the use of biomass as a consistent index of habitat quality, (Binns 1979) and catastrophic events (floods) can cause similar problems with the development of accurate predictive equations. Therefore the records of flooding events and estimated fishing pressures will be used in the development of the predictive equations (Engstrom-Heg 1986).

The ability of previously developed models (Binns 1979, Binns and Eiserman 1979, Bowlby and Roff 1986, Wesche et al. 1987, Engstrom-Heg 1979) to accurately predict salmonid abundance in Connecticut waters will be tested.

Following the last year of data collection a method of determining trout stocking rates for Connecticut streams will be formulated. Trout stocking rates as determined by the WNHF and the CROTS (Wild trout, Non-trout, Habitat and Fertility index; Catch Rate Oriented Trout Stocking system) (Engstrom-Heg 1979 and 1985) methodologies will also be calculated.

2.7 Angler Survey:

An angler survey will be conducted on a representative set of streams to supply information on the level of angler effort and to provide socioeconomic data on stream fishermen. These data will be used in the development of models that compensate for the amount of angler effort on the stream.

2.7.1 Sampling Design:

A stratified, random sampling design (nonuniform probability) will be used for all streams and stream segments (Malvestuto 1978 and 1983). Strata will be nonoverlapping. Sample periods defined as strata will be divided into three individual subunits: 1) Period #1 (Opening Day) (15 April); 2) Period #2 (April 16-June 15); 3) Period #3 (June 16-October 15). Days (i.e. weekday (WD) and weekend/holiday (WE/H)) will be defined as primary sample units (PSU) for all sample periods. Sample time (i.e. hours within a day) and location (i.e. bridge/pool areas) will be defined as secondary sample units (SSU).

Because of a highly variable distribution of fishing effort along a stream length, it will be possible to divide the stream into separate secondary sampling units defined by high and low utilization (bridge/pools and easily accessible areas versus areas between bridge/pools with no access). Bridge/pool creel sites will be determined from precreel site examinations upstream and downstream of major road crossings. Several bridge/pool

combinations will be included in the portion of each creel survey section.

To conserve manpower, three streams with close geographic proximity will be creeled together as a single set. Creel sets will be located in separate geographic locations in order to cover the proposed drainage area. A creel set will consist of one major stocked trout stream, one small stocked trout stream and one non stocked stream. A starting time will be assigned to the creel set based on sample probabilities which reflect the percentage of the days angling effort believed to take place during each hour (Table 3 and 4). The order in which the streams are creeled will be randomly assigned prior to the start of the sample. A total of nine streams will be selected for the 1989 sampling season (3 groups of 3 streams).

Table 3. Opening day sampling unit probabilities, derived from Farmington River creel data (Hyatt 1986).

Time of day	Probability of time block
6:00 am	0.26
7:00 am	0.09
8:00 am	0.08
9:00 am	0.08
10:00 am	0.07
11:00 am	0.06
12:00 am	0.07
1:00 pm	0.07
2:00 pm	0.06
3:00 pm	0.06
4:00 pm	0.05
5:00 pm	0.05

Table 4. Sample probabilities for starting time of a three stream creel set and sample probabilities for the different areas to be subsampled by strata.

Strata Subsample units	Weekdays	Weekends/holidays
Time:		
6:00	0.01	0.091
7:00	0.01	0.091
8:00	0.01	0.091
9:00	0.01	0.091
10:00	0.01	0.091
11:00	0.01	0.091
12:00	0.01	0.091
13:00	0.01	0.091
14:00	0.01	0.091
15:00	0.01	0.091
16:00	0.90	0.091
Area:		
Bridge/Pools,etc	0.9	0.9
Low Access Areas	0.1	0.9

Opening day (O.D.) will be treated as an individual sample period because fishing pressure on that day differs from all other days of the year. Sample probabilities (Table 3) for O.D. sample times were derived from Farmington River creel surveys (Hyatt 1986). A total of four WD and seven WE/H samples will be sampled during period 2. Additional samples will be assigned as needed and if time constraints allow. Equal probability will be used for WE/H samples. Non-equal weighted probabilities will be used for WD samples to account for increased fishing effort in late afternoon and at bridge/pool areas (Table 4). Period 3 will receive creel samples on a "spot check" basis to determine angler effort expended during late summer through early fall. Samples will be assigned by use of a four digit random numbers table

until a predetermined number of samples for each strata are reached.

2.7.2 Site Selection:

Creel sites will be selected based on information generated from the previously discussed stream cataloging procedures. Final site selections will be made by visual inspections of individual streams and will be based on the following criteria: 1) angler accessibility (i.e. road, trails, postings, etc.) 2) length of accessible stream area. Steam sections that are representative of the "typical" accessibility of stocked streams in that area will be used and a section or sections of stream that are at least 1.5 km in total length will be selected. Information on the exact areas, sizes and species of trout stocked was gathered from DEP personnel and publications.

2.7.3 Angler Survey Methods:

A roving clerk (Malvestuto 1978) will begin at one end of a survey site and proceed through the entire location. Clerks will perform counts of all anglers and interview as many as possible within the alotted time frame of one hour per site. On larger streams a one or two man team may use a canoe to increase speed and allow for a more thorough survey.

Three forms will be used (Appendix B). An angler count form will be used to gather angler effort data. A "long" interview form will be used to collect catch and extensive economic information, whereas a "short" form will be used to gather catch data and a lesser amount of economic information. Only one long interview will be conducted during a sample to increase speed.

2.7.4 Data Analysis:

Calculations of angler effort will follow the methods of Malvestuto et al. (1980) and the economic analysis will be as in Hyatt (1986). Estimates of total angler hours per hectare will be determined. Estimates of total angler days will be calculated by dividing the total angler hours by the average trip length from Farmington River creel data (4.0 hrs).

2.8 Finalized Stream Survey Schedule:

The order and location of each years' data collection are presented in Table 5 and Figure 2. For the purposes of planning a long range sampling schedule, the State of Connecticut was divided into units which coincide with the State's Major Drainage Basins. Because one of the project's objectives is to provide data which will enable the Bureau of Fisheries to comment on proposed construction, we plan to allocate our initial efforts to watersheds which are subject to the greatest development pressures. The proposed schedule was developed using data on "Permit Authorized Construction" for the years 1983-1987 (State of Connecticut Department of Housing). This schedule will allow us to complete, by November 1990, all data collection in areas of the State where an average of four or more construction permits per square mile are issued per calendar year. In developing this schedule we also attempted to minimize the number of times the project's field headquarters would have to be relocated.

2.9 Proposed Modifications:

In the approved project proposal the Stream Survey was scheduled to begin in 1987 and to be completed by 1994. However, because of delays in hiring personnel we were unable to begin collecting data until 1988. In addition, our experiences during the first summer of field operations has led us to conclude that an additional year will be needed to collect an adequate amount of data from all of the State's watersheds. A proposal to extend the project by two years (through the end of 1995) will be submitted at a later date.

Table 5. Proposed data collection schedule for the Statewide stream survey project, 1988 - 1994.

Year	Drainage Basin	Area (sq mi)	Mean # Construction Permits per sq mi per yr	Field HQ
1988	Farmington River	746	4.78	Litchfield/ Pleasant Valley
1989	Connecticut River	762	5.75	Middletown
1990	Quinnipiac River & Southwest Coast Basin	868	8.29	Unknown
1991	Housatonic River	1,942	2.55	same as 1990
1992	Housatonic River cont...			same as 1990
1993	Thames River Basin & Southeast Coast Basins	1,664	3.01	Unknown
1994	Thames River cont...		1.29	same as 1993
1995	None - Data Analysis	---	---	---------

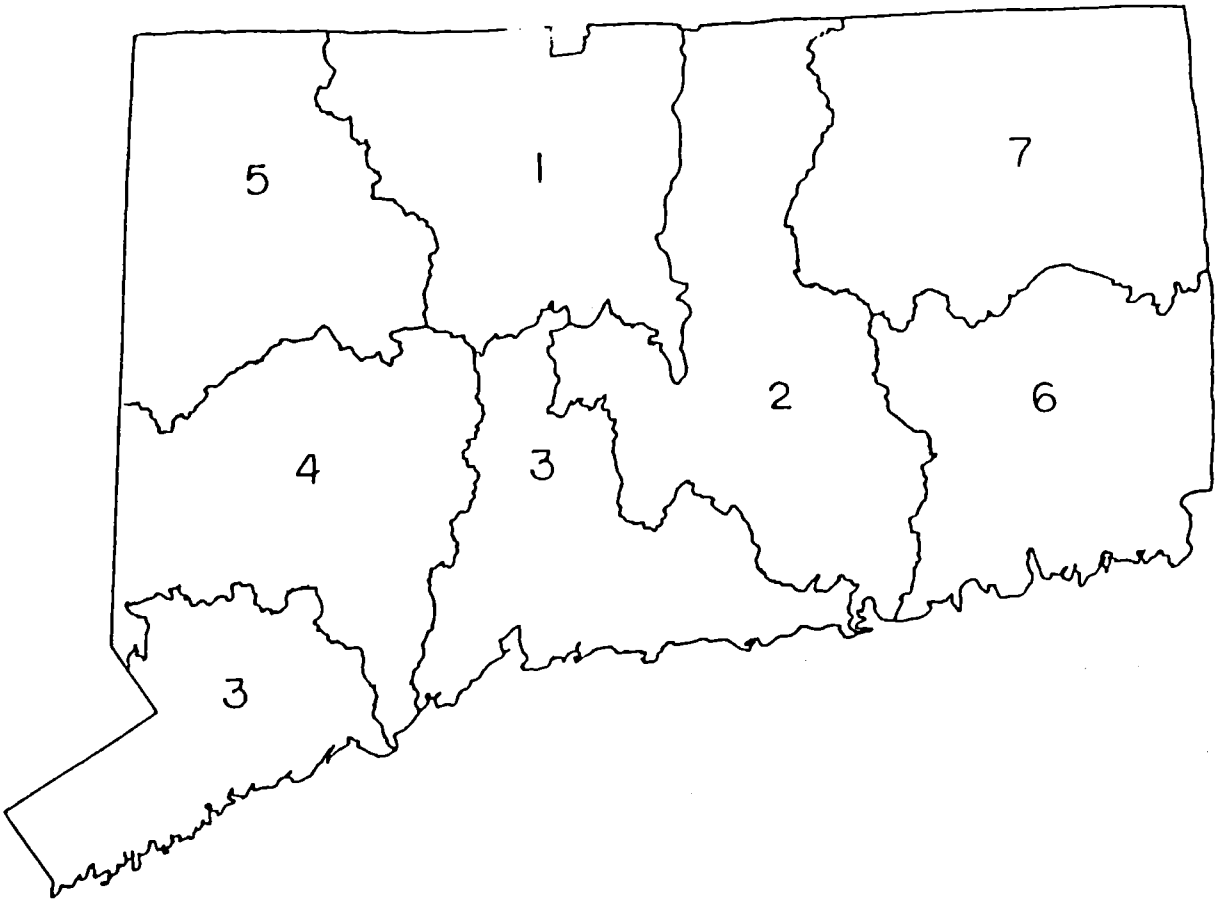

Figure 2. Drainage areas proposed for sampling by year.

3.0 Data Base Design

A relational database was devised to store the data which will be collected over the course of this 6 year project. As of this reporting the database contains 3.4Mb of data from the first years collection. The database will also be able to accept input from databases containing information from other projects. This section is a final report for Job 4 of F66R.

The tables within this database receive data of the following types; age and growth, pool/riffle, chemical, population dynamics, instream cover, width/depth, habitat, substrate, location, length frequency, discharge/velocity, general physical parameters, data entry forms with data validation rules at input time, report, results and temporary tables necessary for report processing. Several programs were written in 'SQL' and 'BASIC' to process data for reporting. These will be rewritten in 'C' and 'FORTRAN' as needed to increase speed and accommodate the expected volume of data.

After some preliminary field work, it was decided that the data collection process could be made more efficient by using a portable computer. A 'GRID 1530' 80386 based machine was purchased and equipped with a 20 Mb hard drive, 5 ," and 3 +" diskette drives, RBASE for DOS (version 2.11) database software and an internal modem. This machine is durable and capable of containing in excess of one year of data. Backups and a dual data entry process assures that the data entered is secured from accidents and is the same as the data collected stream side.

The database design allows for: site location, habitat, miscellaneous, chemical, physical, population estimate, pool/riffle, discharge/velocity, cover, width/depth, substrate, age/growth, length frequency, data entry rules, data entry forms, calculated results, and socioeconomic data. The location data is divided into name, code (basin, sub-basin, drainage, sub-drainage, sub-order, reaches, sub-reaches, sub-reach-branch), map quad # (State Plane Coordinates; SPC), mapname, stream classification, towns (through which the stream passes), stream length, stream

width, description and site comments.

Habitat data entries include: site name, site number, location code, stream distance range, classification, and presence/absence indicator for dams and falls. Miscellaneous entries contain the project #/segment #, code, name, sample date, sample time, sample length, air temp, water temp, agricultural area presence/absence, gradient description, below lake discharge indicator, comment, % canopy, flow stability, maximum air temp, maximum water temp, date of maximum reading, site number, weather, wind, population sampling gear used, voltage, amps, pulse, dominant rock type and any additional comments.

Chemical data entries include: site number, project #/segment #, location code, site name, sample date, sample time, dissolved oxygen readings (#1, #2, #3, mean, standard deviation), pH readings (#1, #2, #3, mean, standard deviation), conductivity readings (#1, #2, #3, mean, standard deviation), alkalinity readings (#1, #2, #3, mean, standard deviation), turbidity, and water color.

Physical data entries include: site number, code, name, sample date, sample time, sample length, air temp, water temp, maximum water temp, canopy cover, distance range, pool/riffle ratio, substrate type readings (1-10), embeddedness % reading (1-10), depth readings (1-4) @ 1 meter interval for the length of the sample area, width reading @ each 1 meter interval, velocity, and discharge.

Population dynamics data are entered into the population estimate table in the form of: project, location code, site name, sample date, sample time, sample length, method (M=mark/recapture, Z=Zippin), species, site number, pass(1-4); (for Zippin method), marked (#), released dead, released live, marked capture (#), and unmarked capture (#).

Data entry rules were established in order to insure that only expected values and/or ranges are entered into specific locations. In addition, a dual entry system was established which functions on the premise that two different operators will not make identical mistakes in precisely the same location. When

data entry is completed a program is run against the two data sets. If there is disagreement, the indicated record is examined and the necessary corrections made.

The data are entered into predefined, menu-driven data entry forms that lead the operator step by step. The forms are set up to simulate the actual data collection so that data entry can be performed in the field.

Several analysis programs were written so that summary forms (results) for each sample site could be generated. The internals of RBASE provided the majority of the computing power for this in the form of 'SQL' procedures. Most of the results were computed at the time of data entry. An external program was written in BASIC to speed up execution time when calculating population numbers and variance.

4.0 1988 Results

A review of all data and techniques tested during this project segment are reported in this section. The area sampled during this first year was the Farmington River, Stony Brook and the Park River drainages (Figure 3). The information in this section along with Appendices A-D are progress reports for Jobs 2 and 3 of F66R.

4.1 Physical, Chemical and Biological Data

Data were collected from a total of ninety five sites during 1988 (Figure 4 and Appendix C). A total of 39 fish species were encountered, including the first documentation of the cutlips minnow (*Exoglossum maxillingua*) in the Connecticut River drainage and the location of a naturally reproducing population of rainbow trout (*Oncorhynchus mykiss*) located in Hubbard Brook. This is presently the only known reproducing rainbow trout population in Connecticut. Most data which were collected are summarized by sample site in Appendix C. Data on the number and biomass of aquatic invertebrates are not included because samples are still being processed at the University of Connecticut. Invertebrates from 95 sample sites representing 56 families of aquatic insects have been identified. One genus (*Molannodes*) previously undocumented in North America, has been tentatively identified in Grimes Brook. Confirmation of the taxonomic status of this specimen has been requested from entomologists at both the University of Connecticut and Yale University.

The Zippen method of population estimation produced variance estimates well below the target level of 20% RSE for the dominant fish species (Appendix C). Variance in population estimates produced using mark recapture methodology were greater (RSEs typically >25%), most likely because mark recapture was used in the areas which were hardest to sample.

Projections of bias from Carle and Strub (1978) indicate that as long as the probability of capture is 30% or better then bias is almost nonexistent for a three pass sample. The probability of capture for species sampled during 1988 were typically much

greater than this level (Table 6). The New York State Department of Environmental Conservation's Catch-Rate Oriented Trout Stocking user guide (Engstrom-Heg, 1988) indicates that values below the desired 30% level are typical in streams wider then 10 m when a single shocking unit is used. We have structured our sampling procedures so that in areas over 10 m wide multiple shocking teams work concurrently to prevent escapement.

Table 6. Probability of capture (P) for ten important fish species sampled in the Farmington River drainage basin during 1988.

Species	Number of Sites Where Present	Number of Sites Where P > 30%	Mean	Maximum	Minimum
Brown Trout	27	27	65%	100%	34%
Brook Trout	24	23	60	100	22
Atlantic Salmon	9	8	64	100	28
White Sucker	44	41	61	100	21
Blacknose Dace	42	38	54	84	12
Longnose Dace	22	20	52	100	18
Fallfish	28	27	59	100	20
Creek Chub	16	16	64	100	31
Common Shiner	23	22	61	100	25
Tessellated Darter	28	24	51	100	11

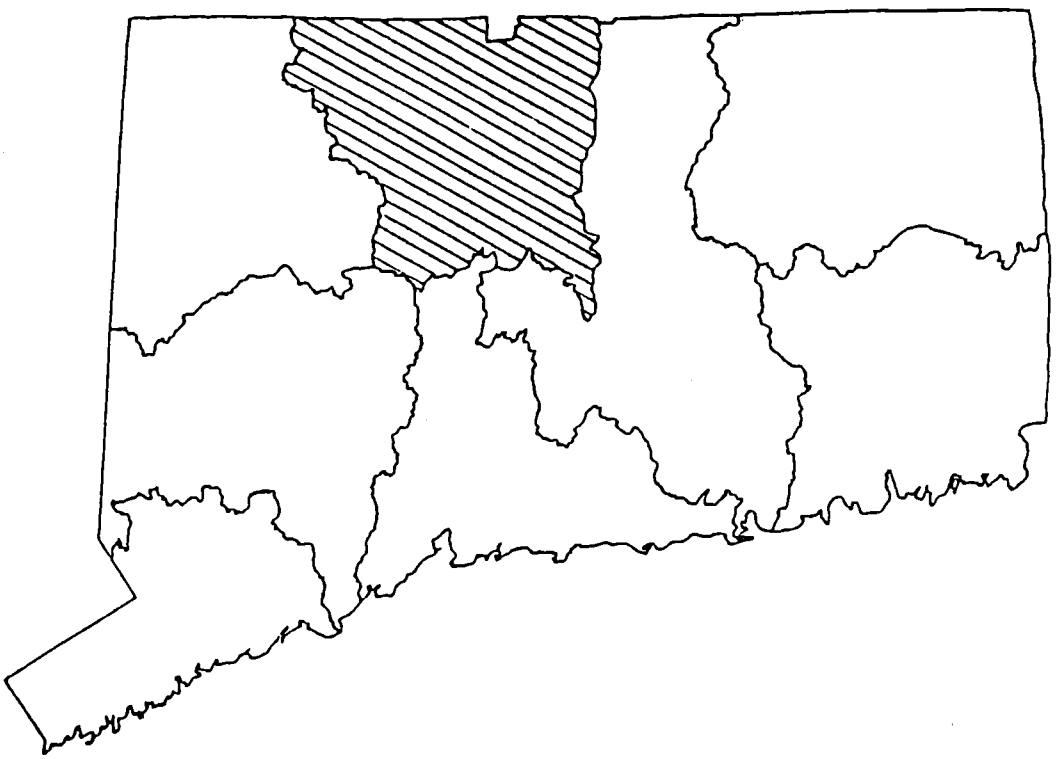

Figure 3. Area sampled in 1988, including Farmington River, Stony Brook and Park River drainages.

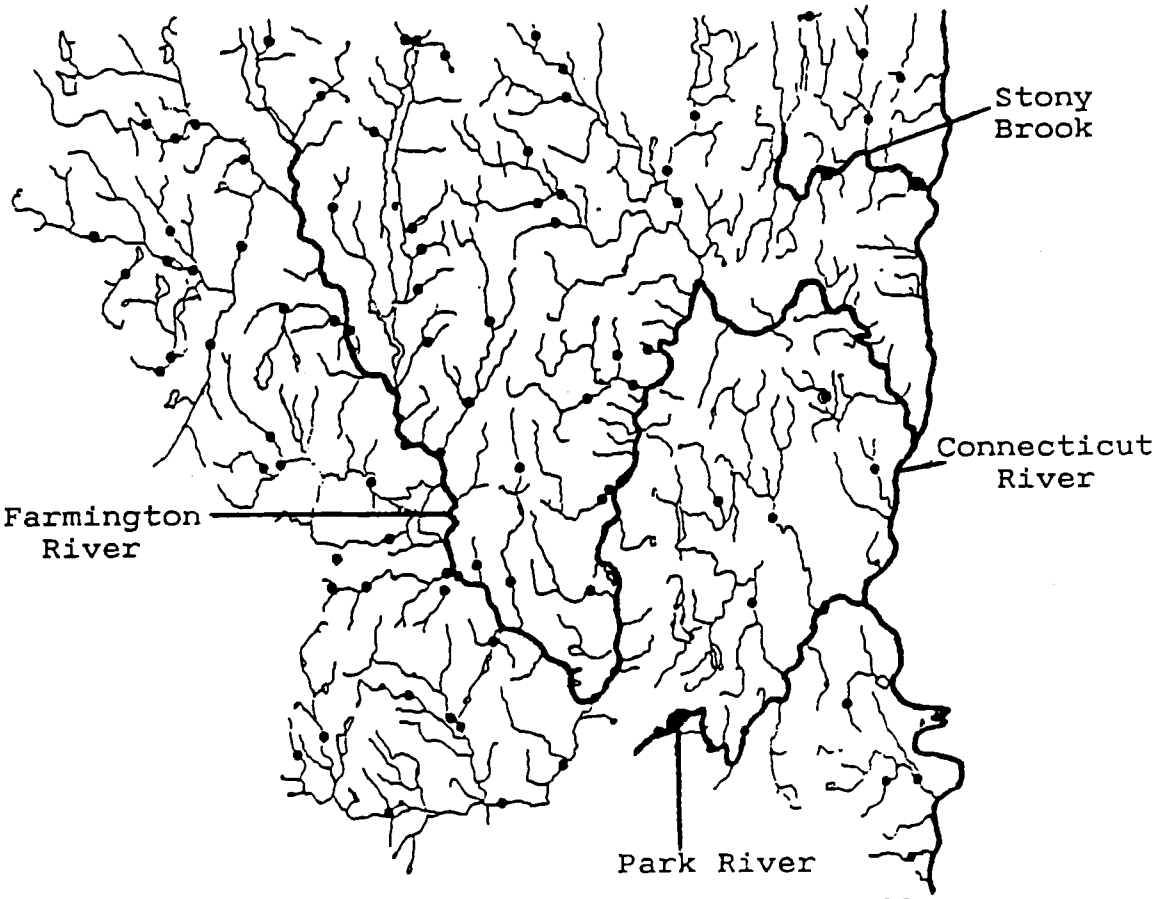

Figure 4. Ninety five sites sampled during the 1988 season.

4.2 Angler Survey Results:

The 1988 angler survey was done as described in the Revised Methodology except that: 1) the stream sites were not grouped, but were scheduled individually; 2) equal sample time probabilities were used for weekday samples in period 2 and 3; and 3) seven streams were creeled using the Farmington River opening day probabilities for period 1.

The sample sites (Figure 5) were chosen based on ease of accessibility and species of trout stocked. Streams stocked with catchable sized (9-12") brook, brown and rainbow trout are classified as "major stocked streams". Streams receiving yearling brook trout are classified as "minor stocked streams". Table 7 describes the twelve stream areas which were creeled. Four non-stocked streams were chosen including two with roadside access and two located 5 to 40 meters off the road. Two streams stocked with yearling brook trout, three streams stocked with adult brook and brown trout and three stocked with adult brook, brown and rainbow trout were selected. Creel sections were initially targeted for 1 mile lengths, but the final lengths were modified to accommodate stream bank accessibility and areas that were open to fishing. In one larger stream, the East Branch of Salmon Brook, we decided to use a canoe to minimize the time required for the survey.

As expected, angling effort on the opening day of trout season was greatest on the larger, more heavily stocked streams (Table 8). The opening day probabilities did little or nothing to reduce variance in the estimates of angler effort (Table 8). Discussions with anglers indicated that the opening day weather was unusually cold and catch rates extremely low. A consensus estimate by anglers who had previously fished Sandy Brook on opening day, was that angler effort during the first hour was about 30% below normal. In view of this the opening day probabilities will be used one more year before alternative probabilities are tested.

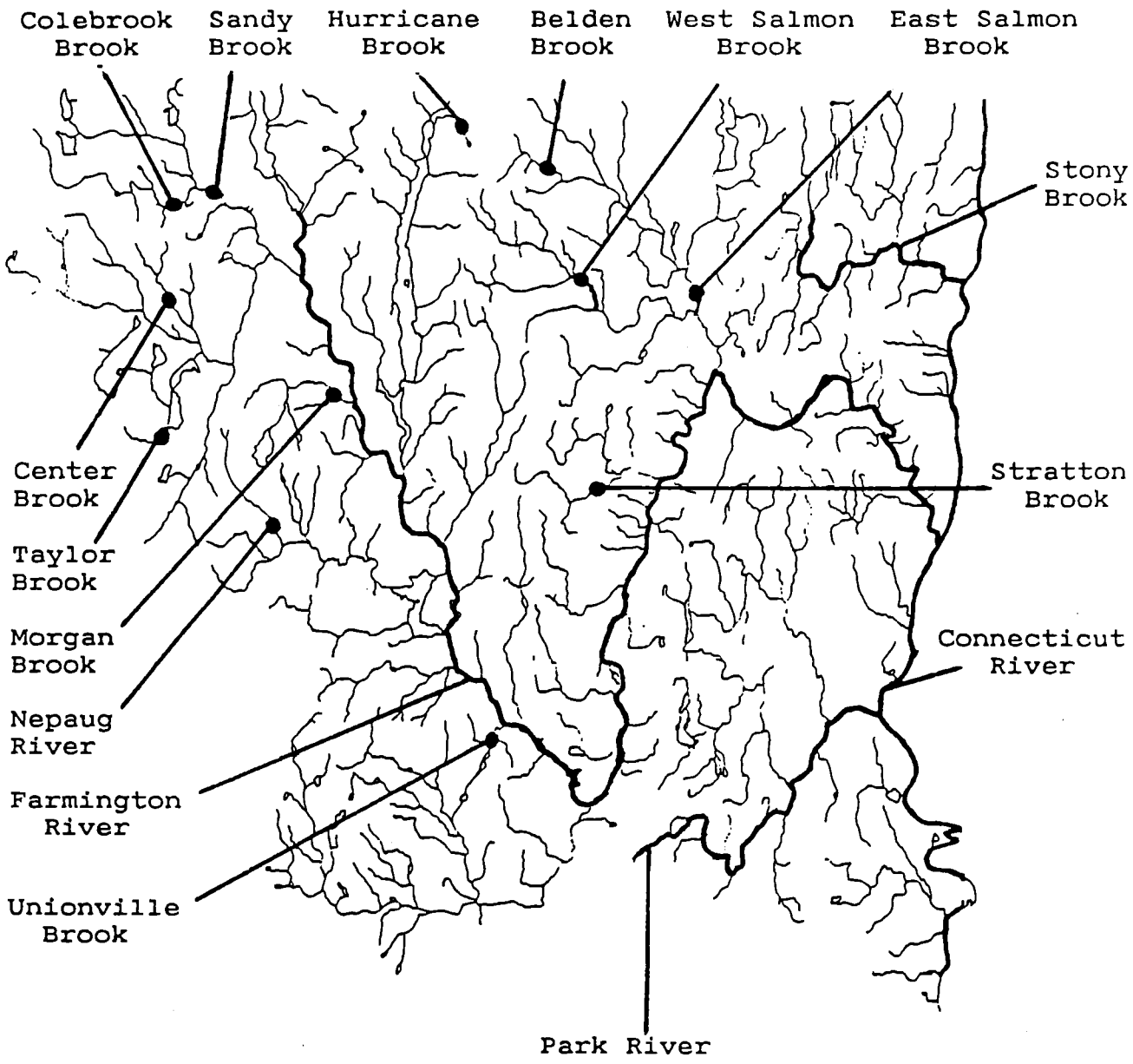

Figure 5. Twelve sites where angler surveys were conducted during 1988.

Table 7. Descriptions of streams where angler surveys were done during 1988.

Stream Name	Average Width(m)	Site Length(km)	Type of Trout Stocked[a]
East Salmon Brook[b]	12.3	1.9	Bn, Bk, Rw
Sandy Brook	9.8	1.5	Bn, Bk, Rw
Nepaug River	5.0	1.1	Bn, Bk, Rw
West Salmon Brook	5.8	1.6	Bn, Bk
Stratton Brook	4.5	1.7	Bn, Bk
Morgan Brook	4.6	1.0	Bn, Bk
Unionville Brook	3.7	1.6	YBk
Taylor Brook	1.5	0.7	YBk
Center Brook	6.3	0.3	---
Colebrook Brook	2.4	1.3	---
Belden Brook	2.4	0.6	---
Hurricane Brook	1.6	2.3	---

a- Trout types:Bn-Brown Trout, Rw- Rainbow Trout, Bk-Adult Brook Trout, and YBk-Yearling Brook Trout.
b- Creeled by canoe.

Table 8. Comparison of effect of equal and unequal sampling probabilities on opening day total effort estimates (Hrs) and precision.

Stream Name	Effort Probabilities Equal	RSE	Effort Probabilities Unequal	RSE
Nepaug River	277	16.4	198	24.4
Sandy Brook	191	11.0	172	11.0
Stratton Brook	56	4.6	51	24.7
Center Brook	7	76.0	9	76.0
Unionville Brook	80	45.0	83	43.0
Colebrook Brook	8	43.0	9	44.0

Angler effort for period 2 varied from a high of 1,376 hrs/km in the East Branch of the Salmon Brook, a heavily stocked trout stream, to undetectable in the four unstocked streams and one of the streams stocked with yearling brook trout (Taylor Brook) (Table 9). The RSEs of these estimates were all greater than our target level of 20%. It is hoped that the changes outlined in the Revised Methods will significantly reduce the variability of future estimates.

Data on catch per unit effort of trout was sparse, and estimated values for period 2 could only be produced for the three most heavily stocked streams (Table 10). Estimates of total catch (Table 11) are also reflective of the paucity of data. Catch estimates for Stratton, Unionville, Morgan and Colebrook Brooks only include openning day (period 1) values. Once again, it is hoped that the changes in methodology which have been implemented will provide greater and more precise data.

Table 9. Expanded total angler effort, relative standard errors (RSE) and sample size required to obtain 20% RSE values for Connecticut streams surveyed April to June 1988 (Period 2).

Steam Name	Expanded Total Effort			Number of Samples	Number Samples Needed	Stocked vs non-Stocked
	Hours	RSE	Hrs/km			
E. Salmon Brook	2615.0	25.7	1376	9	10	S
Nepaug River	780.0	45.4	709	7	21	S
Sandy Brook	395.3	50.6	263	8	26	S
Stratton Brook	125.9	91.0	74	7	82	S
Unionville Brook	272.0	77.9	170	7	61	S
Morgan Brook	219.0	96.6	219	7	93	S
W. Salmon Brook	70.7	84.0	44	9	70	NS
All Others	UNDETECTABLE					

Table 10. Mean catch per unit of effort (CPUE), confidence interval and number of CPUE samples of four salmonids from Connecticut streams surveyed April to June 1988.

Stream Name	Sample Period	Number of Samples	Mean CPUE and Confidence Interval[a] Brown Trout	Brook Trout	Rainbow Trout	Atlantic Salmon	Total
E. Salmon Brook	2	9	0.770 (0.234)	0.945 (0.579)	0.003 (0.002)	0.0 (0.0)	1.740 (0.710)
Nepaug River	2	3	0.310 (1.767)	0.780 (1.807)	0.0 (0.0)	0.0 (0.0)	1.310) (1.320)
Sandy Brook	2	3	0.546 (0.287)	0.048 (0.085)	0.280 (0.183)	0.040 (0.085)	0.676 (0.410)
Stratton Brook	2	1	0.0	0.0	0.0	0.0	0.0
Unionville Brook	2	1	0.0	0.0	0.0	0.0	0.0
Morgan Brook	2	1	0.0	0.0	0.0	0.0	0.0
Colebrook Brook	2	0	---	---	---	---	---
W. Salmon Brook	2	1	0.0	0.0	0.0	0.0	0.0
Center Brook	2	0	---	---	---	---	---

a = ±confidence interval in parenthesis.

Based on observations made during 1988, it was decided to increase sample size and to use unequal probabilities for weekday samples. Samples will be disproportionately allocated to increase sample size in the weekend strata where the majority of variability is occurring. In addition, a grouping of streams will be creeled at one time to reduce time lost to travel. Details of these changes are presented in the revised methodology.

Two uncontrolled sources of variability remain: there is the gradually decreasing fishing effort over period 2, and sudden increases in fishing effort which occur for a short time period following each inseason stocking. To adequately treat these sources of variance, it would be necessary to divide the season into shorter

periods and to treat poststocking periods as separate strata. This would require a marked increase in sampling effort beyond the scope of this project.

It would be desirable to increase information on CPUE. One method of decreasing variance and increasing information is to avoid sampling areas of little fishing effort and concentrate on where fisherman are present. Designating bridge-pool areas as high probability sample areas and the little or none fished areas between bridge-pools as low probability areas could increase sample efficiency. These probabilities would be treated as secondary sampling units for each strata.

Table 11. Catch estimates of salmonids from nine Connecticut streams surveyed April 16 to June 15, 1988.

Stream Name	Period	Brown Trout	Brook Trout	Rainbow Trout	Atlantic Salmon	Total
E. Salmon Brook	1	---	---	---	---	---
	2	992	666	24	0	1,742
	Total	992	666	24	0	1,742
Nepaug River	1	183	160	124	0	428
	2	163	413	0	0	576
	Total	346	573	124	0	1,004
Sandy Brook	1	39	2	4	16	61
	2	322	49	230	49	650
	Total	361	51	234	65	711
Stratton Brook	1	11	23	0	0	34
	2	0	0	0	0	0
	Total	11	23	0	0	34
Unionville Brook	1	10	40	0	0	50
	2	0	0	0	0	0
	Total	10	40	0	0	0
Morgan Brook	1	0	0	0	0	0
	2	0	0	0	0	0
	Total	0	0	0	0	0
Colebrook Brook	1	0	24	0	0	24
	2	0	0	0	0	0
	Total	0	24	0	0	24

5.0 Data Utilization

One of our primary objectives in planning the stream survey was to provide data which could be used to comment on proposed construction and land acquisition. There was an immediate demand for data collected during the initial project year. To date, approximately 30% of the data collected has been utilized at least once (Table 12). None of this information was subjected to the in-depth analyses which are planned. The more synthesized data which will be presented in future reports should be of even greater use.

In addition, the DEP is presently initiating a program whereby the State would attempt to purchase recreation rights in perpetuity from property owners who would retain ownership of their land (Laforte 1989). The amount payed to the landowner would be equivalent to the present value of the recreational rights (i.e. net economic value divided by a discount rate). Data on angling effort and consumer surplus which are collected during the angler survey portion of the Statewide stream survey will be used (along with data previously collected by the Bureau of Fisheries) to produce the necessary estimates of net economic value.

Table 12. Data information requests: October 1988 - March 1989.

Request type	Information Needed	Number of Sites used
Land Acquisition	Physical, Chemical, Biological	2
Access Acquisition	Socioeconomic	3
Environmental Review	Physical, Chemical, Biological	16
Use by Bureau of Fisheries on other Programs	Fish Population Data	14
Public Information	Fish Population Data	3
Federal Wild & Scenic Rivers Study	Physical, Chemical Biological	2

6.0 Expenditures

Total expenditures for this segment amounted to $245,954.08. This total includes $90,894.99 of Federal and $83,533.76 of State of Connecticut monies for salary expenses.

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Appendix A

STREAM SURVEY FORM (PHYSICAL DATA)

PROJECT F66R-2 INITIALS _____

SITE NUMBER _____ DATE ___/___/____

SAMPLE SITE LENGTH _____ (METER) STREAM NAME _____

STREAM WIDTH/DEPTH CHARACTERISTICS

	(M) WIDTH	DEPTH (CM) 1	2	3	4
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

WIDTH	$\bar{X}$=	SD=	DEPTH	$\bar{X}$=	SD=

COMMENTS: _____

STREAM SUBSTRATE CHARACTERISTICS (DOMINANT TYPE 1-6)
AND % EMBEDDEDNESS (0-100)

	1	2	3	4	5	6	7	8	9	10
1	/	/	/	/	/	/	/	/	/	/
2	/	/	/	/	/	/	/	/	/	/
3	/	/	/	/	/	/	/	/	/	/
4	/	/	/	/	/	/	/	/	/	/
5	/	/	/	/	/	/	/	/	/	/
6	/	/	/	/	/	/	/	/	/	/
7	/	/	/	/	/	/	/	/	/	/
8	/	/	/	/	/	/	/	/	/	/
9	/	/	/	/	/	/	/	/	/	/
10	/	/	/	/	/	/	/	/	/	/

PROJECT F66R-2 INITIALS _____

SITE NUMBER _____ DATE ___/___/____

SAMPLE SITE LENGTH _____(METER) STREAM NAME _____

COVER = AT LEAST 6" DEEP & 3" UNDERCUT COVER, PLANTS HANG OVER @ LEAST 12" UNDERCUT BANK, LOGS OR ROCKS (NATURAL OR ARTIFICIAL)
COVER TYPE CODES = P(PLANT), R(ROCK), U(UNDERCUT), L(LOG), A(ARTIFICIAL), T(TURBULANCE), D(DEEP WATER), AP(AQUATIC PLANTS)

SITE ##	LENGTH	WIDTH	COVER TYPE	SITE ##	LENGTH	WIDTH	COVER TYPE	SITE ##	LENGTH	WIDTH	COVER TYPE
1				39				77			
2				40				78			
3				41				79			
4				42				80			
5				43				81			
6				44				82			
7				45				83			
8				46				84			
9				47				85			
10				48				86			
11				49				87			
12				50				88			
13				51				89			
14				52				90			
15				53				91			
16				54				92			
17				55				93			
18				56				94			
19				57				95			
20				58				96			
21				59				97			
22				60				98			
23				61				99			
24				62				100			
25				63				101			
26				64				102			
27				65				103			
28				66				104			
29				67				105			
30				68				106			
31				69				107			
32				70				108			
33				71				109			
34				72				110			
35				73				111			
36				74				112			
37				75				113			
38				76				114			

STREAM SURVEY FORM (PHYSICAL DATA) (PAGE #3)

PROJECT F66R-2 INITIALS_____

SITE NUMBER_____ DATE___/___/____

SALT SAMPLE LENGTH_____(METER) STREAM NAME_____

STREAM DISCHARGE/VELOCITY

METHOD USED_____ (SALT/METER) IF SALT METHOD USE PAGE #3
IF METER METHOD USE PAGE #4
COMPLETE ONE OR THE OTHER

SALT METHOD

MEASURE FIRST CONDUCTIVITY CHANGE AND PEAK TO NEAREST SECOND.

TIME MINUTE	UMOHS/CM3	TIME MINUTE	UMOHS/CM3	TIME MINUTE	UMOHS/CM3
1		16		31	
2		17		32	
3		18		33	
4		19		34	
5		20		35	
6		21		36	
7		22		37	
8		23		38	
9		24		39	
10		25		40	
11		26		41	
12		27		42	
13		28		43	
14		29		44	
15		30		45	

WEIGHT OF SALT_____grams T.50 CONDUCTIVITY_____umohs/cm3

T.02 TIME_____MIN T.50 TIME_____MIN/SEC.

STREAM SURVEY FORM (PHYSICAL DATA) (PAGE #4)

SITE NUMBER_____ INITIALS_____

PROJECT F66R-2 DATE ___/___/___

SAMPLE SITE LENGTH_____ (METERS) STREAM NAME_____

STREAM DISCHARGE/VELOCITY

METHOD USED_____ (SALT/METER)

IF SALT METHOD USE PAGE #3
IF METER METHOD USE PAGE #4
COMPLETE ONE OR THE OTHER

FLOW METER METHOD

STREAM WIDTH(M)	SITE ##	LOCATION ##	WATER DEPTH	WIDTH @ READING	FLOW M/SEC	LOCATION ##	WATER DEPTH	WIDTH @ READING	FLOW M/SEC
	1	1				11			
		2				12			
		3				13			
		4				14			
		5				15			
		6				16			
		7				17			
		8				18			
		9				19			
		10				20			
	2	1				11			
		2				12			
		3				13			
		4				14			
		5				15			
		6				16			
		7				17			
		8				18			
		9				19			
		10				20			
	3	1				11			
		2				12			
		3				13			
		4				14			
		5				15			
		6				16			
		7				17			
		8				18			
		9				19			
		10				20			

$\bar{X}$ STREAM FLOW_____M3/SEC $\bar{X}$ STREAM VELOCITY_____M/SEC

STREAM SURVEY FORM (PHYSICAL DATA) (PAGE #5)

PROJECT F66R-2 INITIALS_____

SITE NUMBER_____ DATE___/___/____

SAMPLE SITE LENGTH_____(METER) STREAM NAME_____

POOL/RIFFLE ANALYSIS

	POOL	RIFFLE	UNDERGROUND

_____ % (POOL/RIFFLE)

STREAM SURVEY FORM (PHYSICAL DATA) (PAGE #6)

PROJECT F66R-2 INITIALS_____

SITE NUMBER_____ DATE___/___/____

SAMPLE SITE LENGTH_____(METER) STREAM NAME_____

ELEVATION/GRADIENT MEASUREMENTS

SIGHTING NUMBER	READING	ROD DEPTH	LEVEL DEPTH	SIGHTING NUMBER	READING	ROD DEPTH	LEVEL DEPTH
1				11			
2				12			
3				13			
4				14			
5				15			
6				16			
7				17			
8				18			
9				19			
10				20			

STREAM SURVEY FORM (CHEMICAL DATA)

PROJECT F66R-2 INITIALS _____

SITE NUMBER _____ DATE ___/___/____

SAMPLE SITE LENGTH _____(METER) STREAM NAME _____

DISOLVED OXYGEN, pH, ALKALINITY, AND CONDUCTIVITY DATA

	1	2	3
DO mg/l			
pH			
COND uS/cm3			
ALK (RESULT)			
SAMPLE VOL (ml)			
TITRA TO pH =4.5			
TITRA TO pH =4.2			
TITRANT NORMALITY =			

INITIAL TITRATION: _____

COMMENTS: _____

_____

_____

TURBIDITY: (circle one) NONE SLIGHT HEAVY EXTREME

WATER COLOR (circle one) LIGHT AMBER DARK AMBER BROWN DARK BROWN

MILKY CLEAR GREEN RED BLUE GRAY

COMMENTS ON AQUATIC PLANTS AND AMOUNT OF MOSS, ALGAE AND/OR LEAF LITTER IN STREAM:

_____

_____

STREAM STOCK ASSESSMENT FIELD NOTES

PROJECT F66R-2 LOCATION CODE_____

SITE NUMBER_____ STREAM NAME_____

DATE_____ SAMPLE TIME_____

FIELD TEAM_____ SAMPLE LENGTH_____

WEATHER: (circle one): clear, partly cldy, overcast, rain

(circle one): calm, breezy, windy

GEAR: (circle one) backpack, stream shocker

VOLTAGE_____ AMPS_____

MAX TEMP AIR:____ MAX TEMP WATER:_____ MAX TEMP DATE:__/__/__ INIT.___

AIR TEMP_____ WATER TEMP_____

FLOW THROUGH AGRICULTURAL AREA ?_____(YES/NO)

GRADIENT_____ IS SITE BELOW A DAM OR LAKE?_____(YES/NO)

SAMPLE SITE DESCRIPTOR_____

_____

CANOPY INDEX _____% FLOW STABILITY_____

ROCK TYPE:_____

SUBJECTIVE ESTIMATES

0-2 scale

CRAYFISH POP. EST _____ % IN STREAM COVER: _____

% CANOPY: _____

MUSSEL/CLAM POP. EST_____ FISHING PRESSURE: _____

OFFICE USE ONLY

*	DATE	INITIALS
L/F DATA COMPILED	_____	_____
AGING DONE	_____	_____
POPULATION NUMBERS CHECKED	_____	_____

STREAM ASSESSMENT DEPLETION FORM

PROJECT F66R-2 INITIALS_____

SITE NUMBER_____ DATE___/___/____

POPULATION SAMPLE LENGTH_____(METER) STREAM NAME_____

METHOD USED (ZIPPIN OR MARK RECAPTURE) (ENTER Z OR M)_____

FOUR PASS ZIPPIN REMOVAL METHOD OF POPULATION ESTIMATE

RECORD THE NUMBER OF EACH SPECIES CAPTURED AT EACH PASS

SPECIES CODES	PASS #1	PASS #2	PASS #3	PASS #4	PASS #5
TOTALS					

Stock Assessment Form

PROJECT F66R-2_ STREAM NAME_____ SITE NUMBER_____
DATE___/___/___ SAMPLE TIME_____-_____ INITIALS_____
SIZE RANGE (LIST SIZE RANGE 1, 2 OR 3 AND SPECIES)

(CM) 1:2:3												
2:30:58												
3:31:59												
4:32:60												
5:33:61												
6:34:62												
7:35:63												
8:36:64												
9:37:65												
10:38:66												
11:39:67												
12:40:68												
13:41:69												
14:42:70												
15:43:71												
16:44:72												
17:45:73												
18:46:74												
19:47:75												
20:48:76												
21:49:77												
22:50:78												
23:51:79												
24:52:80												
25:53:81												
26:54:82												
27:55:83												
28:56:84												
29:57:85												

STREAM MARK RECAPTURE FORM (PAGE #4)

PROJECT F66R-2 INITIALS_____

SITE NUMBER_____ DATE___/___/____

POPULATION SAMPLE LENGTH_____(METER) STREAM NAME_____

METHOD USED (ZIPPIN OR MARK RECAPTURE) (ENTER Z OR M)_____

SPECIES	# MARKED	# DEAD RELEASED	# LIVE RELEASED	# MARKED RECAP	# UNMARKED RECAP

TOTAL POPULATION $\bar{X}$	
TOTAL VARIANCE	

Appendix B

FISHERIES BUREAU

STATE OF CONNECTICUT

ANGLER COUNT FORM

DATE: _____ LOCATION: _____ SAMPLE TIME: _____

Check One - Weekday: __ Weekend/Holiday: __

Weather (circle one): clear, partly cldy, overcast, rain, snow

(circle one): calm, breezy, windy

TOTAL ANGLERS
(circle anglers in each boat)

TOTAL BOAT COUNT: ____

TOTAL SHORE COUNT: ____

TOTAL ANGLER COUNT: ____

LONG INTERVIEW FORM

Date_____ Location _____ Sample Time_____

(Check one) Boat angler_____ Shore angler_____

Completed trip? (Y/N) _____

1) Name _____, Licence #_____

2) Time started fishing_____, time now_____, duration _____

3) What are you fishing for _____

4)

	trt	smb	lmb	calico	sunf	yp	other1	other2
Number caught	___	___	___	___	____	___	_____	_____
Number released	___	___	___	___	____	___	_____	_____

Measured Size (nearest cm)				Approximated Size (nearest inch)			
SPECIES	LENGTH	SPECIES	LENGTH	SPECIES	LENGTH	SPECIES	LENGTH
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

5) Town traveled from _____, how many in car_____

6) Expenditures on this trip bait_____, food_____,
lures/flies_____, other_____

7) Method used: (circle one) Flies Bait (worms fish) Lures
other_____

(circle one) Still fishing Trolling Casting and retrieving

Jigging Tipups Both (jigging/tipups)

8) How would you rate your fishing success today? (circle one)

terrible poor average good excellent can't tell yet

Why?_____

9) Have you been interviewed previously during this fishing season yes___, no___ -If "yes" do not continue the survey

10) Equipment using fly rod/reel-graf___glass___boron___bamb___
spin rod/reel-graf___glass___boron___
bait-casting rod/reel-graf___glass___boron___
hip boots____, vest___, net___, creel___,
-OR- tackle box____, wader____, bait bucket____,
other_____

(ice fishing) # tipups_____, # jig rods_____,
creepers_____, sled_____ seats_____,
auger - spoon___, screw___,power___, chisel___,
skimmer_____, shanty_____, # tackle boxes_____,
other_____

If using flys/lures, how many do you buy each year _____

11) Do you fish elsewhere yes___, no___, if so what % of your time spent fishing is at "X" Location? _____%

12) Would you still buy a fishing license if not allowed to fish "X" Location yes___, no___

13) If not fishing "X" Location today , you would most probably _____, travel distance_____mi, expences_____

14) How much greater do you think your total expenses for todays trip would have to become before you would probably have decided not to have gone fishing today?

_____$ -Present range $.50, 1.00, 2.00, 5.00, 10.00 15.00, 20.00, >20.00
- allow angler to give exact amount.

15) What would be the minimum amount of money that you would consider to be adequate compensation for not being able to fish today ?

_____$ -Present range $.50, 1.00, 2.00, 5.00, 10.00 15.00, 20.00, >20.00
- allow angler to give exact amount.

16) What would be the minimum amount of money that you would consider to be adequate compensation for not being able to fish in "X" Location today, and having to fish elsewhere today?

_____$ -Present range $.50, 1.00, 2.00, 5.00, 10.00 15.00, 20.00, >20.00
- allow angler to give exact amount.

17) Description of boat _____, yr_____
Description of motor-make_____, hp____, yr____
Anglers estimation of worth_____,
What % of boat use is on "X" Location _____%

18) Occupation? _____

19) Approximate yearly income? $_____

20) Card Number: _____

SHORT INTERVIEW FORM

Date_____ Location _____ Sample Time_____

Completed trip? (Y/N) _____

1) Time started fishing_____, time now_____, duration _____

2) What are you fishing for _____

3)

	trt	smb	lmb	calico	sunf	yp	other1	other2
Number caught	___	___	___	___	____	___	_____	_____
Number released	___	___	___	___	____	___	_____	_____

Measured Size (nearest cm) Approximated Size (nearest inch)

SPECIES	LENGTH	SPECIES	LENGTH	SPECIES	LENGTH	SPECIES	LENGTH
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

4) Town traveled from _____, how many in car_____

5) Expenditures on this trip bait_____, food_____,
lures/flies_____, other_____

6) Method used: (circle one) Flies Bait (worms fish) Lures

other_____

(circle one) Still fishing Trolling

Casting and retrieving Jigging

Tipups Both (jigging/tipups)

7) How would you rate your fishing success today? (circle one)

terrible poor average good excellent can't tell yet

Why?_____

Appendix C

Species codes used on Stream Survey data summary sheets.

Common Name	Code
Sunfish	
Banded Sunfish	BS
Black Crappie	BC
Bluegill Sunfish	BG
Green Sunfish	GR
Hybrid Sunfish	HY
BGxPS	BP
BGxRS	RG
PSxRS	RP
Largemouth Bass	LM
Pumpkinseed	PS
Redbreast Sunfish	RS
Rock Bass	RB
Smallmouth Bass	SM
White Crappie	WH
Trout	
Atlantic Salmon	AS
Brook Trout	BK
Brown Trout	BN
Kokanee	KO
Lake Trout	LT
Rainbow Trout	RW
Salm-brown	SB
Herring	
Alewife	AL
American Shad	SA
Blueback Herring	BH
Gizzard Shad	GI
Hickory Shad	HS
Bass	
Striped Bass	BA
White Perch	WP
Perch	
Walleye	WA
Yellow Perch	YP
Swamp Darter	SD
Tesselated Darter	TD
Catfish	
Black Bullhead	BU
Brown Bullhead	BB
Channel Catfish	CC
White Catfish	WC
Yellow Bullhead	YB
Pike	
Chain Pickerel	CP
Grass Pickerel	GP
Northern Pike	NP

Common Name	Code
Suckers	
Creek Chubsucker	OH
White Sucker	WS
Minnows	
Blacknose Dace	BL
Bluntnose Minnow	BM
Bridled Shiner	BD
Carp	CA
Common Shiner	CS
Creek Chub	CR
Cutlips Minnow	CM
Fallfish	FA
Fathead Minnow	FM
Golden Orfe	GO
Golden Shiner	GS
Goldfish	GF
Grass Carp	GC
Longnose Dace	LD
Pearl Dace	PD
Spottail Shiner	SS
Stoneroller	SR
Tench	TE
Killifish	
Banded Killifish	KI
Mummichog	MU
Sheepshead Minnow	SP
Striped Killifish	SK
Sticklebacks	
Brook Stickleback	BO
Fourspine Stickleback	FS
Ninespine Stickleback	NS
Threespine Stickleback	TS
Miscellaneous	
American Eel	AE
Atlantic Needlefish	NE
Atlantic Silversides	SI
Atlantic Sturgeon	ST
Bowfin	BW
Bay Anchovy	AN
Brook Lamprey	LA
Central Mudminnow	MM
Hogchocker	HO
Rainbow Smelt	RA
Sea Lamprey	SL
Shortnose Sturgeon	SN
Slimy Sculpin	SC
Tidewater Silversides	TI
Tomcod	TO

Location names and site numbers for data which were collected; and page numbers on which it is presented.

Location name	Site #	Page #	Location name	Site #	Page #
Bakersville Brook	54	116	Nepaug River	32	94
Bass Brook	15	78	Nepaug River	33	95
Bass Brook	16	79	No Name	70	128
Beach Brook	80	133	No Name	81	134
Beaver Brook	23	85	No Name	83	136
Beaver Brook	154	152	No Name	85	138
Belden Brook	27	89	No Name	122	142
Belden Brook	28	90	No Name	139	150
Bunnell Brook	72	130	Nod Brook	51	113
Burlesson Brook	58	118	Nod Brook	63	123
Burlington Brook	34	96	North Park River	1	65
Center Brook	25	87	Owens Brook	137	148
Cherry Brook	30	92	Park River	4	68
Cherry Brook	31	93	Pequabuck River	47	109
Cherry Brook	84	137	Pequabuck River	48	110
Colebrook Brook	24	86	Pequabuck River	49	111
Coppermine Brook	29	91	Pequabuck River	59	119
Coppermine Brook	60	120	Pequabuck River	88	139
Decker Brook	112	141	Phelps Brook	125	144
Dividend Brook	61	120	Phelps Brook	132	147
E. B. Salmon Brook	12	75	Philo Brook	168	157
E. B. Salmon Brook	13	76	Piper Brook	5	69
E. B. Salmon Brook	44	106	Poland River	36	98
Folly Brook	14	77	Punch Brook	131	146
Fourmile Brook	167	156	Ratlum Brook	74	132
Goff Brook	17	80	Roaring Brook	35	97
Grimes Brook	138	149	Roaring Brook	65	125
Hawley Brook	123	143	Rugg Brook	82	135
Hop Brook	52	114	Sandy Brook	42	104
Howell's Brook	22	84	Sawmill Brook	155	153
Hubbard Brook	46	108	Slocum River	37	99
Hungary Brook	20	82	Stateline Brook	58	118
Hungary Brook	62	122	Still River	40	102
Hurricane Brook	21	83	Still River	41	103
Jim Brook	128	145	Stony Brook	7	71
Kettle Brook	66	126	Stony Brook	8	72
Loon Brook	71	129	Store House Brook	67	127
Mad River	38	100	Stratton Brook	19	81
Mad River	39	101	Taylor Brook	26	88
Mad River	163	155	Taylor Brook	73	131
Mallory Brook	158	154	Thompson Brook	50	112
Mill Brook	6	70	Torringford Brook	55	117
Moosehorn Brook	140	151	Trout Brook	3	67
Morgan Brook	43	105	Unionville Brook	53	115
Mountain Brook	64	124	Valley Brook	45	107
Muddy Brook	9	73	Wash Brook	2	66
Negrohill Brook	109	140	W. B. Salmon Brook	10	74

LOCATION NAME: NORTH PARK RIVER SITE #: 1
DESCRIPTION : NORTH OF ALBANY AVE BRIDGE 50 M

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 08/23/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.10 ..	0.36
AIR/WATER TEMP RATIO ..(%).	1.13	pH	7.80 ..	0.00
CANOPY COVER .....(%).	90.00	COND ....(uS/cm3).	800.00 ..	0.00
STREAM DISCHARGE .....(M3).	4.27	ALK .(mg CaCO3/l).	85.77 ..	0.90
STREAM VELOCITY ...(m/Sec).	0.20			

	MEAN	STD
STREAM WIDTH ...(M).....	8.18 ..	25.67
STREAM DEPTH ..(CM).....	23.55 ..	19.96
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	20.00 (%)	
TYPE 3 EMBEDDNESS	80.00 (%)	
POOL/RIFFLE RATIO	(%)	
TOTAL SHELTER	40.95 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	265.0	25.48	PD		
BG			WA			SS	217.0	6.56
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM	4.0	0.00	WC			SK		
PS	48.0	1.86	YB			BO		
RS	50.0	3.08	CP			FS		
RB	78.0	4.36	GP	2.0	0.00	NS		
SM			NP			TS		
WH			OH			AE	71.0	0.00
SA			WS	111.0	4.51	NE		
BK			BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA	6.0	0.00	AN		
RW			CS	71.0	0.00	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: WASH BROOK SITE #: 2
DESCRIPTION : UPSTREAM OF GABB RD BRIDGE OFF RT 189

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 09/09/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	6.57 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.19	pH	7.40 ..	0.00
CANOPY COVER .....(%).	73.80	COND ....(uS/cm3).	168.67 ..	7.57
STREAM DISCHARGE .....(M3).	0.02	ALK .(mg CaCO3/l).	53.83 ..	0.25
STREAM VELOCITY ...(m/Sec).	0.03			

	MEAN	STD
STREAM WIDTH ...(M).....	3.26 ..	10.30
STREAM DEPTH ..(CM).....	16.30 ..	10.54
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	11.11 (%)	
TYPE 3 EMBEDDNESS	40.00 (%)	
POOL/RIFFLE RATIO	(%)	
TOTAL SHELTER	6.77 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	3.0	0.00	PD		
BG	2.0	0.00	WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS	4.0	0.00	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	5.0	0.00
SA			WS	6.0	0.00	NE		
BK			BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	86.0	11.76	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	25.0	1.24	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: TROUT BROOK SITE #: 3
DESCRIPTION : NORTH OF FERN STREET PARALLEL TO TROUT BROOK ROAD

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 07/26/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.50 ..	0.10
AIR/WATER TEMP RATIO ..(%).	1.28	pH	7.90 ..	0.00
CANOPY COVER .....(%).	41.00	COND ....(uS/cm3).	284.33 ..	1.15
STREAM DISCHARGE .....(M3).	0.71	ALK .(mg CaCO3/1).	69.30 ..	1.06
STREAM VELOCITY ...(m/Sec).	0.26			

	MEAN	STD
STREAM WIDTH ...(M).....	11.28 ..	35.63
STREAM DEPTH ..(CM).....	22.73 ..	16.50
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.16 (%)	
TOTAL SHELTER	2.03 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	33.0	11.89
BC	0.0	1.304E19	TD	3468.0	823.67	PD		
BG	3.0	0.00	WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG		12.11	BB			MU		
RP			CC			SP		
LM	35.0	11.83	WC			SK		
PS	7.0	0.00	YB			BO		
RS			CP			FS		
RB	102.0	12.11	GP			NS		
SM			NP			TS		
WH			OH			AE	47.0	0.00
SA			WS	115.0	14.29	NE		
BK			BL	608.0	112.85	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	16.0	5.86	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	34.0	13.63	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: PARK RIVER SITE #: 4
DESCRIPTION : IMMEDIATELY BELOW NEWFIELD AVE OVERPASS, HARTFORD

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 08/01/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	29.00	DO .....(mg/l).	16.00 ..	0.00
AIR/WATER TEMP RATIO ..(%).	1.10	pH	9.00 ..	0.00
CANOPY COVER .....(%).	35.00	COND ....(uS/cm3).	400.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.15	ALK .(mg CaCO3/l).	102.83 ..	3.45
STREAM VELOCITY ...(m/Sec).	0.05			

	MEAN	STD
STREAM WIDTH ...(M).....	16.28 ..	51.46
STREAM DEPTH ..(CM).....	30.23 ..	23.22
DOMINANT SUBSTRATE TYPE ...	1,3	
TYPE 3 SUBSTRATE	70.00 (%)	
TYPE 3 EMBEDDNESS	10.00 (%)	
POOL/RIFFLE RATIO	16.05 (%)	
TOTAL SHELTER	43.68 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	150.0	2.53	PD		
BG	4.0	0.00	WA			SS	30.0	0.00
GR			WP			SR		
HY			YP			TE		
BP			BU			KI	1235.3	15.76
RG		0.00	BB			MU		
RP			CC			SP		
LM	3.0	0.00	WC			SK		
PS	9.0	1.15	YB			BO		
RS			CP			FS		
RB	4.0	0.00	GP	2.0	0.00	NS		
SM			NP			TS		
WH			OH			AE	299.5	14.44
SA			WS	253.0	8.49	NE		
BK			BL	1.0	0.00	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA	40.0	1.84	AN		
RW			CS	1.0	0.00	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: PIPER BROOK
DESCRIPTION : UPSTREAM OF WILLARD AVE BRIDGE

SITE #: 5

SAMPLE LENGTH: 150.00 (M)

SAMPLE DATE: 07/06/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	23.00	DO .....(mg/l).	11.87 ..	0.55
AIR/WATER TEMP RATIO ..(%).	1.20	pH	8.63 ..	0.06
CANOPY COVER .....(%).	81.20	COND ....(uS/cm3).	440.33 ..	2.52
STREAM DISCHARGE .....(M3).	0.17	ALK .(mg CaCO3/l).	143.13 ..	1.06
STREAM VELOCITY ...(m/Sec).	0.21			

	MEAN	STD
STREAM WIDTH ...(M).....	6.10 ..	19.25
STREAM DEPTH ..(CM).....	13.40 ..	11.15
DOMINANT SUBSTRATE TYPE ...	1,3	
TYPE 3 SUBSTRATE	40.00 (%)	
TYPE 3 EMBEDDNESS	86.25 (%)	
POOL/RIFFLE RATIO	1.55 (%)	
TOTAL SHELTER	30.06 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	90.0	8.52	PD		
BG	1.0	0.00	WA			SS	0.0	1.304E19
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS	2.0	0.00	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	37.0	0.00
SA			WS	531.0	8.86	NE		
BK			BL	777.0	15.18	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	45.0	3.16	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	131.0	6.46	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: MILL BROOK
DESCRIPTION : BELOW RTE 305 BRIDGE WINDSOR

SITE #: 6

SAMPLE LENGTH: 50.00 (M)

SAMPLE DATE: 08/08/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	5.77 ..	0.15
AIR/WATER TEMP RATIO ..(%).	0.97	pH	7.70 ..	0.00
CANOPY COVER .....(%).	66.00	COND ....(uS/cm3).	314.00 ..	6.24
STREAM DISCHARGE .....(M3).	0.02	ALK .(mg CaCO3/l).	92.77 ..	0.55
STREAM VELOCITY ...(m/Sec).	0.07			

	MEAN	STD
STREAM WIDTH ...(M).....	1.90 ..	6.00
STREAM DEPTH ..(CM).....	12.95 ..	9.91
DOMINANT SUBSTRATE TYPE ...	1,2	
TYPE 3 SUBSTRATE	20.00 (%)	
TYPE 3 EMBEDDNESS	99.50 (%)	
POOL/RIFFLE RATIO	0.00 (%)	
TOTAL SHELTER	21.42 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE
BS		
BC		
BG	77.0	11.14
GR		
HY		
BP		
RG		
RP		
LM	6.0	0.00
PS	8.0	0.00
RS		
RB		
SM		
WH		
SA		
BK		
BN		
KO		
LT		
RW		
SB		
AL		
AS		
AH		
BH		
GI		
HS		
BA		

SPECIES CODE	N	SE
SD		
TD		
WA		
WP		
YP		
BU		
BB	1.0	0.00
CC		
WC		
YB		
CP		
GP	1.0	0.00
NP		
OH		
WS	1.0	0.00
BL		
BM		
BD		
CA		
CS		
CR		
CM		
FA		
FM		
GO		
GS	1.0	0.00
GF		
GC		

SPECIES CODE	N	SE
LD		
PD		
SS		
SR		
TE		
KI		
MU		
SP		
SK		
BO		
FS		
NS		
TS		
AE	6.0	0.00
NE		
SI		
ST		
BW		
AN		
LA		
MM		
HO		
RA		
SL		
SN		
SC		
TI		
TO		

LOCATION NAME: STONY BROOK SITE #: 7
DESCRIPTION : STREAM PARALLELS BOSTON NECK RD OFF RTE 159 SUFFIELD

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 09/14/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.07 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.36	pH	7.63 ..	0.15
CANOPY COVER .....(%).	50.00	COND ....(uS/cm3).	239.33 ..	6.03
STREAM DISCHARGE .....(M3).	0.31	ALK .(mg CaCO3/l).	72.57 ..	0.51
STREAM VELOCITY ...(m/Sec).	0.10			

	MEAN	STD
STREAM WIDTH ...(M).....	6.52 ..	20.58
STREAM DEPTH ..(CM).....	41.83 ..	39.43
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	82.33 (%)	
TOTAL SHELTER	22.53 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	112.0	42.38	PD		
BG	10.0	3.30	WA			SS	1.0	0.00
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM	7.0	0.00	WC			SK		
PS	13.0	0.00	YB			BO		
RS	5.0	0.00	CP			FS		
RB			GP	40.0	9.22	NS		
SM			NP			TS		
WH			OH			AE	113.0	19.94
SA			WS	64.0	28.22	NE		
BK			BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	1.0	0.00	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	16.0	0.00	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	137.0	62.40	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: STONY BROOK SITE #: 8
DESCRIPTION :

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 08/02/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.70 ..	0.00
AIR/WATER TEMP RATIO ..(%).	1.12	pH	8.10 ..	0.00
CANOPY COVER .....(%).	58.30	COND ....(uS/cm3).	249.33 ..	1.15
STREAM DISCHARGE .....(M3).	2.36	ALK .(mg CaCO3/1).	66.37 ..	0.06
STREAM VELOCITY ...(m/Sec).	0.17			

	MEAN	STD
STREAM WIDTH ...(M).....	12.36 ..	39.03
STREAM DEPTH ..(CM).....	16.25 ..	15.65
DOMINANT SUBSTRATE TYPE ...	1,6	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.65 (%)	
TOTAL SHELTER	20.01 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	210.0	21.25
BC			TD	2.0	0.00	PD		
BG			WA			SS	2.0	0.50
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS	2.0	0.50	YB			BO		
RS	12.0	1.15	CP			FS		
RB			GP	6.0	1.15	NS		
SM	70.0	6.04	NP			TS		
WH			OH			AE	387.1	12.55
SA			WS	123.2	7.54	NE		
BK			BL	112.0	18.75	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	22.0	14.51	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	5.0	2.53	RA		
AH			FM			SL	3.0	1.15
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: STONY BROOK SITE #: 7
DESCRIPTION : STREAM PARALLELS BOSTON NECK RD OFF RTE 159 SUFFIELD

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 09/14/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.07 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.36	pH	7.63 ..	0.15
CANOPY COVER .....(%).	50.00	COND ....(uS/cm3).	239.33 ..	6.03
STREAM DISCHARGE .....(M3).	0.31	ALK .(mg CaCO3/1).	72.57 ..	0.51
STREAM VELOCITY ...(m/Sec).	0.10			

	MEAN	STD
STREAM WIDTH ...(M).....	6.52 ..	20.58
STREAM DEPTH ..(CM).....	41.83 ..	39.43
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	82.33 (%)	
TOTAL SHELTER	22.53 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	112.0	42.38	PD		
BG	10.0	3.30	WA			SS	1.0	0.00
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM	7.0	0.00	WC			SK		
PS	13.0	0.00	YB			BO		
RS	5.0	0.00	CP			FS		
RB			GP	40.0	9.22	NS		
SM			NP			TS		
WH			OH			AE	113.0	19.94
SA			WS	64.0	28.22	NE		
BK			BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	1.0	0.00	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	16.0	0.00	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	137.0	62.40	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: STONY BROOK SITE #: 8
DESCRIPTION :

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 08/02/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.70 ..	0.00
AIR/WATER TEMP RATIO ..(%).	1.12	pH	8.10 ..	0.00
CANOPY COVER .....(%).	58.30	COND ....(uS/cm3).	249.33 ..	1.15
STREAM DISCHARGE .....(M3).	2.36	ALK .(mg CaCO3/l).	66.37 ..	0.06
STREAM VELOCITY ...(m/Sec).	0.17			

	MEAN	STD
STREAM WIDTH ...(M).....	12.36 ..	39.03
STREAM DEPTH ..(CM).....	16.25 ..	15.65
DOMINANT SUBSTRATE TYPE ...	1,6	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.65 (%)	
TOTAL SHELTER	20.01 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	210.0	21.25
BC			TD	2.0	0.00	PD		
BG			WA			SS	2.0	0.50
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS	2.0	0.50	YB			BO		
RS	12.0	1.15	CP			FS		
RB			GP	6.0	1.15	NS		
SM	70.0	6.04	NP			TS		
WH			OH			AE	387.1	12.55
SA			WS	123.2	7.54	NE		
BK			BL	112.0	18.75	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	22.0	14.51	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	5.0	2.53	RA		
AH			FM			SL	3.0	1.15
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: MUDDY BROOK SITE #: 9
DESCRIPTION : AT END OF MADBURN RD. SUFFIELD, BORDERS GOLF COURSE

SAMPLE LENGTH: 120.00 (M) SAMPLE DATE: 09/08/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.17 ..	1.15
AIR/WATER TEMP RATIO ..(%).	1.36	pH	7.70 ..	0.00
CANOPY COVER .....(%).	86.00	COND ....(uS/cm3).	168.67 ..	4.93
STREAM DISCHARGE .....(M3).	0.46	ALK .(mg CaCO3/l).	48.40 ..	0.69
STREAM VELOCITY ...(m/Sec).	0.15			

	MEAN	STD
STREAM WIDTH ...(M).....	7.29 ..	19.21
STREAM DEPTH ..(CM).....	40.07 ..	28.88
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	10.54 (%)	
TOTAL SHELTER	75.38 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	12.0	3.20
BC			TD	50.0	8.60	PD		
BG	13.0	2.27	WA			SS	22.0	1.23
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB	1.0	0.00	MU		
RP			CC			SP		
LM	4.0	0.00	WC			SK		
PS	7.0	0.00	YB			BO		
RS	8.0	0.00	CP			FS		
RB			GP	2.0	0.00	NS		
SM			NP			TS		
WH			OH			AE	172.0	20.46
SA			WS	71.0	1.76	NE		
BK			BL	15.0	0.00	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	29.0	0.00	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	88.0	1.72	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: WEST BRANCH SALMON BROOK SITE #: 10
DESCRIPTION : PARALLEL TO RT 20 BETWEEN 219 AND WEST SIMSBURY RD.

SAMPLE LENGTH: 154.40 (M) SAMPLE DATE: 07/07/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	10.20 ..	0.53
AIR/WATER TEMP RATIO ..(%).	1.38	pH	7.87 ..	0.06
CANOPY COVER .....(%).	75.00	COND ....(uS/cm3).	80.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.05	ALK .(mg CaCO3/l).	11.80 ..	0.40
STREAM VELOCITY ...(m/Sec).	0.07			

	MEAN	STD
STREAM WIDTH ...(M).....	5.78 ..	18.17
STREAM DEPTH ..(CM).....	11.88 ..	10.09
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	80.00 (%)	
POOL/RIFFLE RATIO	0.88 (%)	
TOTAL SHELTER	6.04 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	93.0	15.50	PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM	1.0	0.00	NP			TS		
WH			OH			AE	2.0	0.00
SA			WS	49.0	1.15	NE		
BK	19.0	2.11	BL	829.0	5.96	SI		
BN	153.0	10.33	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	2.0	0.00	LA		
SB			CR	1.0	0.00	MM		
AL			CM			HO		
AS	294.0	10.17	FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: EAST BRANCH SALMON BROOK SITE #: 12
DESCRIPTION : UPSTREAM OF DOGHERTY RD BRIDGE

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 08/09/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.10 ..	0.10
AIR/WATER TEMP RATIO ..(%).	1.38	pH	7.40 ..	0.00
CANOPY COVER .....(%).	85.00	COND ....(uS/cm3).	146.33 ..	1.15
STREAM DISCHARGE .....(M3).	1.20	ALK .(mg CaCO3/l).	39.37 ..	0.35
STREAM VELOCITY ...(m/Sec).	0.07			

	MEAN	STD
STREAM WIDTH ...(M).....	12.34 ..	38.93
STREAM DEPTH ..(CM).....	31.65 ..	25.50
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	20.00 (%)	
TYPE 3 EMBEDDNESS	75.00 (%)	
POOL/RIFFLE RATIO	16.05 (%)	
TOTAL SHELTER	13.85 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	4.0	0.00
BC			TD	86.0	10.44	PD		
BG	10.0	0.00	WA			SS		
GR			WP			SR		
HY			YP	24.0	2.05	TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM	9.0	1.36	WC			SK		
PS	12.0	3.20	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	51.0	4.33
SA			WS	771.0	126.31	NE		
BK			BL	509.0	10.74	SI		
BN	50.0	3.08	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW	1.0	0.00	CS	30.0	0.00	LA		
SB			CR			MM		
AL			CM			HO		
AS	2.0	0.00	FA	42.0	3.20	RA		
AH			FM			SL	363.0	115.08
BH			GO			SN		
GI			GS	12.0	0.00	SC	1.0	0.00
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: EAST BRANCH SALMON BROOK SITE #: 13
DESCRIPTION :

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 06/20/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	10.60 ..	0.20
AIR/WATER TEMP RATIO ..(%).	1.58	pH	6.80 ..	0.26
CANOPY COVER .....(%).	91.00	COND ....(uS/cm3).	66.00 ..	1.73
STREAM DISCHARGE .....(M3).	0.05	ALK .(mg CaCO3/l).	16.27 ..	0.38
STREAM VELOCITY ...(m/Sec).	0.17			

	MEAN	STD
STREAM WIDTH ...(M).....	2.69 ..	8.46
STREAM DEPTH ..(CM).....	9.57 ..	6.65
DOMINANT SUBSTRATE TYPE ...	1,3	
TYPE 3 SUBSTRATE	40.00 (%)	
TYPE 3 EMBEDDNESS	40.00 (%)	
POOL/RIFFLE RATIO	1.43 (%)	
TOTAL SHELTER	28.34 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	3.0	0.00	NE		
BK	147.0	5.39	BL	11.0	0.00	SI		
BN	118.0	10.64	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS	17.0	0.00	FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: FOLLY BROOK SITE #: 14
DESCRIPTION : APPROX. 15 m DOWNSTREAM OF CREST RD CULVERT

SAMPLE LENGTH: 80.00 (M) SAMPLE DATE: 07/05/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	24.00	DO .....(mg/l).	3.53 ..	0.80
AIR/WATER TEMP RATIO ..(%).	1.15	pH	7.83 ..	0.06
CANOPY COVER .....(%).	87.50	COND ....(uS/cm3).	351.33 ..	0.58
STREAM DISCHARGE .....(M3).	2.5E-3	ALK .(mg CaCO3/l).	144.23 ..	1.08
STREAM VELOCITY ...(m/Sec).	5.E-3			

	MEAN	STD
STREAM WIDTH ...(M).....	4.11 ..	11.63
STREAM DEPTH ..(CM).....	12.25 ..	8.30
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	(%)	
TOTAL SHELTER	0.18 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB	2.0	0.00	MU		
RP			CC			SP		
LM			WC			SK		
PS	78.0	4.88	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	10.0	0.00
SA			WS			NE		
BK			BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA	1.0	0.00	AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	6.0	0.00	SC		
HS			GF	149.0	18.25	TI		
BA			GC			TO		

LOCATION NAME: BASS BROOK SITE #: 15
DESCRIPTION : ABANDONED CANAL SECTION PARALLEL TO I-91 OFF RAMP AND FIENIMAN RD, N.B.
SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 06/30/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	14.00	DO .....(mg/l).	11.20 ..	0.00
AIR/WATER TEMP RATIO ..(%).	1.06	pH	8.13 ..	0.15
CANOPY COVER .....(%).	68.80	COND ....(uS/cm3).	359.00 ..	17.35
STREAM DISCHARGE .....(M3).	0.20	ALK .(mg CaCO3/l).	166.20 ..	0.72
STREAM VELOCITY ...(m/Sec).	0.17			

	MEAN	STD
STREAM WIDTH ...(M).....	5.04 ..	15.66
STREAM DEPTH ..(CM).....	17.73 ..	19.42
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	30.00 (%)	
TYPE 3 EMBEDDNESS	33.33 (%)	
POOL/RIFFLE RATIO	1.67 (%)	
TOTAL SHELTER	14.05 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	192.0	13.82	PD		
BG	62.0	7.19	WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG		0.00	BB			MU		
RP			CC			SP		
LM	8.0	0.00	WC			SK		
PS	3.0	0.00	YB			BO		
RS			CP			FS		
RB	3.0	0.00	GP	2.0	0.00	NS		
SM			NP			TS		
WH			OH			AE	44.0	0.00
SA			WS	708.0	17.56	NE		
BK			BL	247.0	3.46	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	2.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: BASS BROOK SITE #: 16
DESCRIPTION :

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 07/01/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	4.87 ..	0.32
AIR/WATER TEMP RATIO ..(%).	1.23	pH	7.53 ..	0.06
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	273.33 ..	2.89
STREAM DISCHARGE .....(M3).	5.4E-3	ALK .(mg CaCO3/1).	132.63 ..	4.11
STREAM VELOCITY ...(m/Sec).	5.E-3			

	MEAN		STD
STREAM WIDTH ...(M).....	3.36	..	10.62
STREAM DEPTH ..(CM).....	31.48	..	15.45
DOMINANT SUBSTRATE TYPE ...	1		
TYPE 3 SUBSTRATE	0.00	(%)	
TYPE 3 EMBEDDNESS		(%)	
POOL/RIFFLE RATIO		(%)	
TOTAL SHELTER	2.21	(M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG	1.0	0.00	WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP	9.0	0.00	NS		
SM			NP			TS		
WH			OH			AE		
SA			WS			NE		
BK			BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: GOFF BROOK SITE #: 17
DESCRIPTION : 1ST BRIDGE ON GOFF BROOK ROAD DOWNSTREAM APPROX. 1 MILE FROM SEWAGE PLANT
SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 09/06/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.77 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.06	pH	..	
CANOPY COVER .....(%).	93.60	COND ....(uS/cm3).	298.67 ..	1.53
STREAM DISCHARGE .....(M3).	0.36	ALK .(mg CaCO3/1).	..	
STREAM VELOCITY ...(m/Sec).	0.07			

	MEAN	STD
STREAM WIDTH ...(M).....	6.66 ..	21.04
STREAM DEPTH ..(CM).....	24.27 ..	15.10
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	8.74 (%)	
TOTAL SHELTER	6.74 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC	0.0	1.304E19	TD	913.0	600.99	PD		
BG	8.0	2.34	WA			SS	58.0	6.15
GR			WP			SR		
HY			YP	0.0	1.304E19	TE		
BP			BU			KI	6.0	0.00
RG			BB			MU		
RP			CC			SP		
LM	4.0	0.00	WC			SK		
PS	1.0	0.00	YB			BO		
RS	2.0	0.00	CP			FS		
RB			GP	3.0	0.00	NS		
SM			NP			TS		
WH			OH			AE	414.0	64.02
SA			WS	8.0	0.00	NE		
BK			BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA	1.0	0.00	AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	1.0	0.00	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	3.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: STRATTON BROOK SITE #: 19
DESCRIPTION : SITE 1/4 EAST ON NIMROD RD FROM STATE PARK

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 07/14/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	23.00	DO .....(mg/l).	9.17 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.33	pH	7.37 ..	0.06
CANOPY COVER .....(%).	31.30	COND ....(uS/cm3).	167.00 ..	1.73
STREAM DISCHARGE .....(M3).	0.10	ALK .(mg CaCO3/l).	35.93 ..	0.32
STREAM VELOCITY ...(m/Sec).	0.18			

	MEAN	STD
STREAM WIDTH ...(M).....	4.58 ..	14.42
STREAM DEPTH ..(CM).....	11.88 ..	10.44
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	55.00 (%)	
POOL/RIFFLE RATIO	1.54 (%)	
TOTAL SHELTER	4.44 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	440.0	58.58	PD		
BG	3.0	0.00	WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB	6.0	1.37	MU		
RP			CC			SP		
LM			WC			SK		
PS	5.0	0.00	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	6.0	0.00
SA			WS	3611.0	1997.19	NE		
BK	63.0	22.08	BL	468.0	196.31	SI		
BN	2.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	0.0	1.304E19	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	39.0	7.87	RA		
AH			FM	1.0	0.00	SL		
BH			GO			SN		
GI			GS	112.0	25.60	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: HUNGARY BROOK SITE #: 20
DESCRIPTION : QUARY RD 100 M PAST BRIDGE. HEAVILY EMBEDDED LOGS AND STICKS
SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 08/15/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.83 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.12	pH	7.53 ..	0.06
CANOPY COVER .....(%).	98.00	COND ....(uS/cm3).	150.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.22	ALK .(mg CaCO3/l).	48.33 ..	0.23
STREAM VELOCITY ...(m/Sec).	0.29			

	MEAN	STD
STREAM WIDTH ...(M).....	5.46 ..	17.22
STREAM DEPTH ..(CM).....	14.25 ..	13.02
DOMINANT SUBSTRATE TYPE ...	1,3	
TYPE 3 SUBSTRATE	60.00 (%)	
TYPE 3 EMBEDDNESS	80.00 (%)	
POOL/RIFFLE RATIO	2.41 (%)	
TOTAL SHELTER	41.11 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	1.0	0.00
BC			TD	9.0	0.00	PD		
BG	4.0	0.00	WA			SS	1.0	0.00
GR			WP			SR		
HY			YP	7.0	0.00	TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS	5.0	0.00	YB			BO		
RS			CP			FS		
RB			GP	3.0	0.00	NS		
SM			NP			TS		
WH			OH			AE	37.0	1.19
SA			WS	44.0	0.00	NE		
BK			BL	85.0	1.11	SI		
BN	22.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	4.0	0.00	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	145.0	1.63	RA		
AH			FM			SL	1.0	0.00
BH			GO			SN		
GI			GS	19.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: HURRICANE BROOK SITE #: 21
DESCRIPTION : 250 M UPSTREAM OF HURRICANE BROOK RD BRIDGE

SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 06/24/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	7.60 ..	2.01
AIR/WATER TEMP RATIO ..(%).	1.08	pH	5.27 ..	0.21
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	39.67 ..	2.08
STREAM DISCHARGE .....(M3).	8.E-4	ALK .(mg CaCO3/l).	-0.27 ..	0.46
STREAM VELOCITY ...(m/Sec).	0.02			

	MEAN	STD
STREAM WIDTH ...(M).....	1.65 ..	5.02
STREAM DEPTH ..(CM).....	2.95 ..	4.14
DOMINANT SUBSTRATE TYPE ...	1,6	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	45.00 (%)	
POOL/RIFFLE RATIO	0.81 (%)	
TOTAL SHELTER	2.73 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY	1.0	0.00	YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS			NE		
BK			BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: HOWELL'S BROOK SITE #: 22
DESCRIPTION : AT JCT OF MILL ST AND POND HILL RD, 15 M BELOW BRIDGE, STEEP LARGE BOULDERS
SAMPLE LENGTH: 115.50 (M) SAMPLE DATE: 06/22/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.70 ..	0.10
AIR/WATER TEMP RATIO ..(%).	1.32	pH	6.57 ..	0.21
CANOPY COVER .....(%).	75.00	COND ....(uS/cm3).	30.00 ..	1.00
STREAM DISCHARGE .....(M3).	0.02	ALK .(mg CaCO3/l).	5.60 ..	0.53
STREAM VELOCITY ...(m/Sec).	0.07			

	MEAN	STD
STREAM WIDTH ...(M).....	2.92 ..	9.18
STREAM DEPTH ..(CM).....	9.68 ..	9.89
DOMINANT SUBSTRATE TYPE ...	1,4,6	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.99 (%)	
TOTAL SHELTER	11.74 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB	2.0	0.00	MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	2.0	0.00
SA			WS			NE		
BK	96.0	5.65	BL	171.0	7.03	SI		
BN	3.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: BEAVER BROOK SITE #: 23
DESCRIPTION : JUST UPSTREAM OF BEAVER BROOK RD IN PEOPLE STATE FOREST

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 07/13/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	24.00	DO .....(mg/l).	9.43 ..	0.38
AIR/WATER TEMP RATIO ..(%).	1.26	pH	7.47 ..	0.12
CANOPY COVER .....(%).	75.00	COND ....(uS/cm3).	62.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.03	ALK .(mg CaCO3/l).	10.37 ..	0.40
STREAM VELOCITY ...(m/Sec).	0.05			

	MEAN	STD
STREAM WIDTH ...(M).....	4.63 ..	14.54
STREAM DEPTH ..(CM).....	11.25 ..	13.88
DOMINANT SUBSTRATE TYPE ...	1,5	
TYPE 3 SUBSTRATE	20.00 (%)	
TYPE 3 EMBEDDNESS	55.00 (%)	
POOL/RIFFLE RATIO	0.64 (%)	
TOTAL SHELTER	5.56 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS ..	..		SD ..	..		LD ..	115.0 ..	14.90
BC ..	..		TD ..	..		PD ..	..	
BG ..	..		WA ..	..		SS ..	..	
GR ..	..		WP ..	..		SR ..	..	
HY ..	..		YP ..	..		TE ..	..	
BP ..	..		BU ..	..		KI ..	..	
RG ..	..		BB ..	..		MU ..	..	
RP ..	..		CC ..	..		SP ..	..	
LM ..	..		WC ..	..		SK ..	..	
PS ..	..		YB ..	..		BO ..	..	
RS ..	..		CP ..	..		FS ..	..	
RB ..	..		GP ..	..		NS ..	..	
SM ..	..		NP ..	..		TS ..	..	
WH ..	..		OH ..	..		AE ..	..	
SA ..	..		WS ..	..		NE ..	..	
BK ..	51.0 ..	3.10	BL ..	295.0 ..	10.70	SI ..	..	
BN ..	..		BM ..	..		ST ..	..	
KO ..	..		BD ..	..		BW ..	..	
LT ..	..		CA ..	..		AN ..	..	
RW ..	..		CS ..	..		LA ..	..	
SB ..	..		CR ..	..		MM ..	..	
AL ..	..		CM ..	..		HO ..	..	
AS ..	..		FA ..	..		RA ..	..	
AH ..	..		FM ..	..		SL ..	..	
BH ..	..		GO ..	..		SN ..	..	
GI ..	..		GS ..	..		SC ..	..	
HS ..	..		GF ..	..		TI ..	..	
BA ..	..		GC ..	..		TO ..	..	

LOCATION NAME: COLEBROOK BROOK SITE #: 24
DESCRIPTION : 30M UPSTREAM OF SECOND RTE 183 CROSSING OF STREAM, WINSTED
SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 06/23/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	6.67 ..	0.31
AIR/WATER TEMP RATIO ..(%).	1.26	pH	6.63 ..	0.21
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	101.33 ..	0.58
STREAM DISCHARGE .....(M3).	0.05	ALK .(mg CaCO3/l).	27.87 ..	0.60
STREAM VELOCITY ...(m/Sec).	0.14			

	MEAN	STD
STREAM WIDTH ...(M).....	2.40 ..	7.58
STREAM DEPTH ..(CM).....	12.75 ..	11.58
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	20.00 (%)	
TYPE 3 EMBEDDNESS	50.00 (%)	
POOL/RIFFLE RATIO	2.12 (%)	
TOTAL SHELTER	2.32 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	64.0	0.00	NE		
BK	80.0	5.43	BL	245.0	3.46	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR	269.0	8.60	MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: CENTER BROOK SITE #: 25
DESCRIPTION : AT MIDDLE OF CREEL AREA ON MT PISGAH RD, COLEBROOK

SAMPLE LENGTH: 145.00 (M) SAMPLE DATE: 08/11/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/1).	8.50 ..	0.17
AIR/WATER TEMP RATIO ..(%).	1.00	pH	7.67 ..	0.06
CANOPY COVER .....(%).	91.60	COND ....(uS/cm3).	89.67 ..	0.58
STREAM DISCHARGE .....(M3).	0.37	ALK .(mg CaCO3/1).	28.93 ..	0.15
STREAM VELOCITY ...(m/Sec).	0.09			

	MEAN	STD
STREAM WIDTH ...(M).....	6.34 ..	19.99
STREAM DEPTH ..(CM).....	7.63 ..	8.05
DOMINANT SUBSTRATE TYPE ...	1,6	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	10.00 (%)	
POOL/RIFFLE RATIO	0.56 (%)	
TOTAL SHELTER	10.88 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	203.0	8.77
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	5.0	0.00
SA			WS	9.0	0.00	NE		
BK			BL	831.0	36.80	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: TAYLOR BROOK SITE #: 26
DESCRIPTION : 25 METERS FROM HIGHLAND LAKE

SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 06/15/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	10.50 ..	0.40
AIR/WATER TEMP RATIO ..(%).	1.75	pH	6.80 ..	0.46
CANOPY COVER .....(%).	25.00	COND ....(uS/cm3).	110.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.01	ALK .(mg CaCO3/l).	13.47 ..	0.55
STREAM VELOCITY ...(m/Sec).	0.06			

	MEAN	STD
STREAM WIDTH ...(M).....	1.51 ..	4.76
STREAM DEPTH ..(CM).....	10.82 ..	9.92
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.33 (%)	
TOTAL SHELTER	45.30 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS			NE		
BK	308.0	10.90	BL	36.0	1.94	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: BELDEN BROOK SITE #: 27
DESCRIPTION : AREA PARALLEL TO LOST ACRES RD AND NEAR HUMPHREY'S ROAD

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 08/05/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	6.93 ..	0.21
AIR/WATER TEMP RATIO ..(%).	1.14	pH	6.43 ..	0.06
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	57.67 ..	2.31
STREAM DISCHARGE .....(M3).	0.06	ALK .(mg CaCO3/l).	6.90 ..	0.69
STREAM VELOCITY ...(m/Sec).	0.14			

	MEAN	STD
STREAM WIDTH ...(M).....	2.91 ..	9.02
STREAM DEPTH ..(CM).....	10.80 ..	12.40
DOMINANT SUBSTRATE TYPE ...	1,3	
TYPE 3 SUBSTRATE	80.00 (%)	
TYPE 3 EMBEDDNESS	76.25 (%)	
POOL/RIFFLE RATIO	3.10 (%)	
TOTAL SHELTER	29.73 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS			NE		
BK	230.0	5.81	BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR	37.0	8.80	MM		
AL			CM			HO		
AS	9.0	0.00	FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: BELDEN BROOK SITE #: 28
DESCRIPTION :

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 08/05/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.80 ..	0.10
AIR/WATER TEMP RATIO ..(%).	1.14	pH	7.10 ..	0.10
CANOPY COVER .....(%).	85.00	COND ....(uS/cm3).	55.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.07	ALK .(mg CaCO3/1).	8.90 ..	0.17
STREAM VELOCITY ...(m/Sec).	0.13			

	MEAN	STD
STREAM WIDTH ...(M).....	3.84 ..	12.01
STREAM DEPTH ..(CM).....	16.35 ..	13.99
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	20.00 (%)	
TYPE 3 EMBEDDNESS	15.00 (%)	
POOL/RIFFLE RATIO	1.11 (%)	
TOTAL SHELTER	18.94 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS	1.0	0.00	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	1.0	0.00
SA			WS	8.0	0.00	NE		
BK	11.0	0.00	BL	20.0	2.13	SI		
BN	199.0	5.30	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR	2.0	0.00	MM		
AL			CM			HO		
AS	20.0	0.00	FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: COPPERMINE BROOK SITE #: 29
DESCRIPTION : 100M UPSTREAM OF MALTBY RD BRIDGE- WATER DEPARTMENT DIVERSION
SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 06/27/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	20.00	DO .....(mg/l).	10.53 ..	0.15
AIR/WATER TEMP RATIO ..(%).	1.60	pH	7.37 ..	0.12
CANOPY COVER .....(%).	58.30	COND ....(uS/cm3).	92.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.06	ALK .(mg CaCO3/l).	20.20 ..	0.35
STREAM VELOCITY ...(m/Sec).	0.13			

	MEAN	STD
STREAM WIDTH ...(M).....	4.50 ..	14.22
STREAM DEPTH ..(CM).....	9.40 ..	8.00
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	20.00 (%)	
TYPE 3 EMBEDDNESS	27.50 (%)	
POOL/RIFFLE RATIO	0.64 (%)	
TOTAL SHELTER	4.32 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	11.0	0.00
BC			TD	24.0	5.47	PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	4.0	0.00
SA			WS	2.0	0.00	NE		
BK	25.0	0.00	BL	309.0	5.71	SI		
BN	244.0	8.27	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: CHERRY BROOK SITE #: 30
DESCRIPTION : SOUTH FO RTE 179 , MILES MESSENGER PROP.

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 07/13/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	24.00	DO .....(mg/l).	6.27 ..	0.21
AIR/WATER TEMP RATIO ..(%).	1.20	pH	..	
CANOPY COVER .....(%).	18.70	COND ....(uS/cm3).	106.67 ..	3.21
STREAM DISCHARGE .....(M3).	0.04	ALK .(mg CaCO3/l).	22.10 ..	0.70
STREAM VELOCITY ...(m/Sec).	0.02			

	MEAN	STD
STREAM WIDTH ...(M).....	7.49 ..	23.63
STREAM DEPTH ..(CM).....	25.15 ..	18.51
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	45.00 (%)	
POOL/RIFFLE RATIO	42.48 (%)	
TOTAL SHELTER	12.96 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	69.0	1.12	PD		
BG	7.0	0.00	WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB	10.0	0.00	MU		
RP			CC			SP		
LM			WC			SK		
PS	3.0	0.00	YB			BO		
RS			CP			FS		
RB			GP	5.0	0.00	NS		
SM			NP			TS		
WH			OH			AE	7.0	0.00
SA			WS	225.0	4.08	NE		
BK	2.0	0.00	BL	187.0	20.57	SI		
BN	6.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	145.0	15.32	LA		
SB			CR	5.0	0.00	MM		
AL			CM			HO		
AS			FA	26.0	0.00	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: CHERRY BK SITE #: 31
DESCRIPTION : SITEL LOCATED BELOW PICNIC AREA AT END OF PRIVATE RD-WEST BANK NEAR RTE44 X-ING
SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 08/03/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	23.00	DO .....(mg/l).	8.13 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.13	pH	7.30 ..	0.00
CANOPY COVER .....(%).	91.70	COND ....(uS/cm3).	99.67 ..	0.58
STREAM DISCHARGE .....(M3).	0.03	ALK .(mg CaCO3/l).	18.93 ..	0.35
STREAM VELOCITY ...(m/Sec).	0.10			

	MEAN	STD
STREAM WIDTH ...(M).....	11.76 ..	37.02
STREAM DEPTH ..(CM).....	19.48 ..	20.35
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	50.00 (%)	
POOL/RIFFLE RATIO	2.95 (%)	
TOTAL SHELTER	20.59 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	37.0	4.71
BC			TD	24.0	2.05	PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM	6.0	0.00	NP			TS		
WH			OH			AE	9.0	0.00
SA			WS	52.0	4.36	NE		
BK			BL	158.0	7.99	SI		
BN	24.0	5.47	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	16.0	0.00	LA		
SB			CR	15.0	2.21	MM		
AL			CM			HO		
AS	28.0	0.00	FA	28.0	2.80	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: NEPAUG RIVER SITE #: 32
DESCRIPTION : APPROX 90M UPSTREAM OF RTE 202, FIRST BRIDGE UPSTREAM FROM NEPAUG RES.
SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 07/18/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	23.00	DO .....(mg/l).	8.10 ..	0.00
AIR/WATER TEMP RATIO ..(%).	1.24	pH	7.33 ..	0.23
CANOPY COVER .....(%).	63.00	COND ....(uS/cm3).	98.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.25	ALK .(mg CaCO3/l).	19.97 ..	0.47
STREAM VELOCITY ...(m/Sec).	0.14			

	MEAN	STD
STREAM WIDTH ...(M).....	8.68 ..	27.40
STREAM DEPTH ..(CM).....	31.77 ..	22.65
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	2.75 (%)	
TOTAL SHELTER	142.77 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	1.0	0.00
BC			TD	290.3	17.89	PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	185.3	12.30	NE		
BK	53.8	5.10	BL	81.0	10.73	SI		
BN	13.0	3.33	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	63.0	16.94	LA		
SB			CR	96.0	8.35	MM		
AL			CM			HO		
AS			FA	116.3	12.52	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	22.0	3.57	SC	3.0	0.00
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: NEPAUG SITE #: 33
DESCRIPTION : PLUNGE POOL AREA IN UPPER PART OF CREEL AREA, CEDAR SWAMP RD PARALLELS STREAM
SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 08/11/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.63 ..	0.21
AIR/WATER TEMP RATIO ..(%).	1.08	pH	7.27 ..	0.15
CANOPY COVER .....(%).	96.20	COND ....(uS/cm3).	84.67 ..	2.31
STREAM DISCHARGE .....(M3).	0.03	ALK .(mg CaCO3/l).	22.10 ..	0.44
STREAM VELOCITY ...(m/Sec).	0.06			

	MEAN	STD
STREAM WIDTH ...(M).....	5.37 ..	16.91
STREAM DEPTH ..(CM).....	8.27 ..	10.43
DOMINANT SUBSTRATE TYPE ...	1,6	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	1.48 (%)	
TOTAL SHELTER	4.80 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	50.0	1.15
BC			TD	16.0	0.00	PD		
BG			WA			SS		
GR			WP			SR		
HY			YP	304.0	13.72	TE		
BP			BU			KI		
RG			BB	9.0	0.00	MU		
RP			CC			SP		
LM	11.0	1.33	WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	8.0	0.00	NE		
BK	36.0	1.90	BL	68.0	0.00	SI		
BN	20.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	60.0	1.14	LA		
SB			CR	15.0	0.00	MM		
AL			CM			HO		
AS			FA	3.0	0.00	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	1.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: BURLINGTON BROOK SITE #: 34
DESCRIPTION : BEHIND WOOD WORKING SHOP AT INTERSECTION OF RT 4 AND 179

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 08/03/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	25.00	DO .....(mg/l).	10.37 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.32	pH	7.57 ..	0.12
CANOPY COVER .....(%).	87.50	COND ....(uS/cm3).	104.33 ..	2.08
STREAM DISCHARGE .....(M3).	0.14	ALK .(mg CaCO3/l).	13.07 ..	0.23
STREAM VELOCITY ...(m/Sec).	0.23			

	MEAN	STD
STREAM WIDTH ...(M).....	7.88 ..	24.77
STREAM DEPTH ..(CM).....	8.90 ..	9.20
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	50.00 (%)	
POOL/RIFFLE RATIO	0.20 (%)	
TOTAL SHELTER	14.52 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	106.0	19.34
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM	2.0	0.00	WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	5.0	0.00
SA			WS	6.0	0.00	NE		
BK			BL	308.0	13.99	SI		
BN	317.0	18.51	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS	129.0	7.79	FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: ROARING BROOK SITE #: 35
DESCRIPTION : MDC PROPERTY IMMEDIATELY ABOVE ACCESS ROAD AND TOP BELOW OLD WIER STRUCTURE
SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 07/05/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.93 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.47	pH	7.10 ..	0.10
CANOPY COVER .....(%).		COND ....(uS/cm3).	120.67 ..	0.58
STREAM DISCHARGE .....(M3).	0.09	ALK .(mg CaCO3/l).	20.63 ..	4.97
STREAM VELOCITY ...(m/Sec).	0.13			

	MEAN	STD
STREAM WIDTH ...(M).....	3.43 ..	10.83
STREAM DEPTH ..(CM).....	20.38 ..	15.21
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	30.00 (%)	
TYPE 3 EMBEDDNESS	66.67 (%)	
POOL/RIFFLE RATIO	1.60 (%)	
TOTAL SHELTER	67.71 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC	2.0	0.00	TD	147.0	5.81	PD		
BG	34.0	3.44	WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG		0.00	BB	1.0	0.00	MU		
RP			CC			SP		
LM	1.0	0.00	WC			SK		
PS	68.0	4.54	YB			BO		
RS	1.0	0.00	CP			FS		
RB	1.0	0.00	GP	62.0	5.97	NS		
SM			NP			TS		
WH			OH			AE	20.0	0.00
SA			WS	8.0	0.00	NE		
BK			BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	11.0	0.00	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	3.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: POLAND RIVER SITE #: 36
DESCRIPTION : UPSTREAM OF FIRST BRIDGE NORTH OF INT OF RTE 72 AND PRESTON RD BRISTOL, BWC LAND
SAMPLE LENGTH: 147.00 (M) SAMPLE DATE: 06/21/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	10.03 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.26	pH	6.27 ..	0.42
CANOPY COVER .....(%).	83.30	COND ....(uS/cm3).	40.67 ..	0.58
STREAM DISCHARGE .....(M3).	0.14	ALK .(mg CaCO3/l).	5.20 ..	0.26
STREAM VELOCITY ...(m/Sec).	0.14			

	MEAN	STD
STREAM WIDTH ...(M).....	6.28 ..	19.84
STREAM DEPTH ..(CM).....	16.25 ..	11.80
DOMINANT SUBSTRATE TYPE ...	1,2	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	1.02 (%)	
TOTAL SHELTER	6.93 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP	5.0	0.00	TE		
BP			BU			KI		
RG			BB	7.0	0.00	MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP	3.0	0.00	NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	47.0	1.18	NE		
BK	12.0	0.00	BL	229.0	18.48	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR	38.0	1.91	MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: SLOCUM RIVER SITE #: 37
DESCRIPTION : MDC-LOGGING ROAD- UPSTREAM OF WATERFALL, AREA LOGGED PREVIOUS WINTER
SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 07/08/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.93 ..	0.12
AIR/WATER TEMP RATIO ..(%).	1.35	pH	7.50 ..	0.00
CANOPY COVER .....(%).	91.60	COND ....(uS/cm3).	57.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.02	ALK .(mg CaCO3/1).	21.93 ..	0.23
STREAM VELOCITY ...(m/Sec).	0.05			

	MEAN	STD
STREAM WIDTH ...(M).....	4.48 ..	14.10
STREAM DEPTH ..(CM).....	7.70 ..	6.94
DOMINANT SUBSTRATE TYPE ...	1,6	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	1.08 (%)	
TOTAL SHELTER	17.42 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	58.0	5.43
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS			NE		
BK	124.0	3.91	BL	46.0	2.47	SI		
BN	3.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	0.0	1.304E19	LA		
SB			CR	4.0	0.00	MM		
AL			CM	1.0	0.00	HO		
AS			FA	3.0	0.00	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: MAD RIVER SITE #: 38
DESCRIPTION : DOWNSTREAM OF GRANTVILLE RD BRIDGE WINSTED

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 08/26/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.57 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.37	pH	7.73 ..	0.06
CANOPY COVER .....(%).	81.00	COND ....(uS/cm3).	81.33 ..	5.51
STREAM DISCHARGE .....(M3).	0.14	ALK .(mg CaCO3/l).	23.53 ..	0.64
STREAM VELOCITY ...(m/Sec).	0.19			

	MEAN	STD
STREAM WIDTH ...(M).....	4.76 ..	14.99
STREAM DEPTH ..(CM).....	15.80 ..	13.18
DOMINANT SUBSTRATE TYPE ...	1,5	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.98 (%)	
TOTAL SHELTER	18.64 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	36.0	0.00
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP	3.0	0.00	TE		
BP			BU			KI		
RG		0.00	BB			MU		
RP			CC			SP		
LM			WC			SK		
PS	12.0	0.00	YB			BO		
RS			CP			FS		
RB	2.0	0.00	GP			NS		
SM	15.0	1.28	NP			TS		
WH			OH			AE	9.0	0.00
SA			WS	19.0	0.00	NE		
BK			BL	13.0	0.00	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	21.0	0.00	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	307.0	6.80	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	3.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: MAD RIVER SITE #: 39
DESCRIPTION :

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 08/15/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.47 ..	0.42
AIR/WATER TEMP RATIO ..(%).	1.17	pH	7.73 ..	0.06
CANOPY COVER .....(%).	56.00	COND ....(uS/cm3).	89.00 ..	1.00
STREAM DISCHARGE .....(M3).	0.09	ALK .(mg CaCO3/l).	21.33 ..	0.31
STREAM VELOCITY ...(m/Sec).	0.13			

	MEAN	STD
STREAM WIDTH ...(M).....	7.84 ..	24.75
STREAM DEPTH ..(CM).....	9.77 ..	10.14
DOMINANT SUBSTRATE TYPE ...	1,5	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.29 (%)	
TOTAL SHELTER	1.98 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	5.0	0.00
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP	12.0	0.00	TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS	5.0	0.00	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM	7.0	0.00	NP			TS		
WH			OH			AE		
SA			WS	53.0	1.15	NE		
BK	11.0	0.00	BL	992.0	36.27	SI		
BN	9.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	2.0	0.00	LA		
SB			CR	16.0	0.00	MM		
AL			CM			HO		
AS			FA	447.0	14.97	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	2.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: STILL RIVER SITE #: 40
DESCRIPTION : PARALLEL TO RTE 8 SOUTH OF WINSTED BY THE ENTRANCE TO THE PRECAST CONCRETE FACT.
SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 08/16/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	7.63 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.04	pH	7.60 ..	0.00
CANOPY COVER .....(%).	50.00	COND ....(uS/cm3).	239.67 ..	0.58
STREAM DISCHARGE .....(M3).	0.73	ALK .(mg CaCO3/l).	46.43 ..	0.21
STREAM VELOCITY ...(m/Sec).	0.09			

	MEAN	STD
STREAM WIDTH ...(M).....	12.63 ..	39.88
STREAM DEPTH ..(CM).....	13.82 ..	12.51
DOMINANT SUBSTRATE TYPE ...	1,3	
TYPE 3 SUBSTRATE	50.00 (%)	
TYPE 3 EMBEDDNESS	80.00 (%)	
POOL/RIFFLE RATIO	2.23 (%)	
TOTAL SHELTER	1.84 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	278.0	5.24
BC			TD	24.0	0.00	PD		
BG			WA			SS		
GR			WP			SR		
HY			YP	2.0	0.00	TE		
BP			BU			KI		
RG		0.00	BB	1.0	0.00	MU		
RP			CC			SP		
LM			WC			SK		
PS	11.0	0.00	YB			BO		
RS			CP			FS		
RB	27.0	0.00	GP			NS		
SM	4.0	0.00	NP			TS		
WH			OH			AE		
SA			WS	981.0	8.23	NE		
BK			BL	811.0	5.81	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	353.0	5.50	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	486.0	4.23	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	3.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: STILL RIVER SITE #: 41
DESCRIPTION :

SAMPLE LENGTH: 128.00 (M) SAMPLE DATE: 10/03/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	7.23 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.38	pH	7.27 ..	0.06
CANOPY COVER .....(%).	57.50	COND ....(uS/cm3).	208.67 ..	1.15
STREAM DISCHARGE .....(M3).	0.13	ALK .(mg CaCO3/l).	35.27 ..	0.15
STREAM VELOCITY ...(m/Sec).	0.01			

	MEAN	STD
STREAM WIDTH ...(M).....	6.37 ..	20.11
STREAM DEPTH ..(CM).....	33.13 ..	27.22
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	75.00 (%)	
POOL/RIFFLE RATIO	7.65 (%)	
TOTAL SHELTER	111.08 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	33.0	6.56	PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG		0.00	BB			MU		
RP			CC			SP		
LM			WC			SK		
PS	3.0	0.00	YB			BO		
RS			CP	2.0	0.00	FS		
RB	4.0	0.00	GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	90.0	1.69	NE		
BK			BL	21.0	0.00	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	56.0	5.51	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	166.0	15.52	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: SANDY BROOK SITE #: 42
DESCRIPTION : 1/4 MILE DOWNSTREAM OF MT PISGAH RD ON SANDY BROOK ROAD

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 08/17/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.03 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.05	pH	7.77 ..	0.06
CANOPY COVER .....(%).	72.20	COND ....(uS/cm3).	80.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.65	ALK .(mg CaCO3/1).	27.13 ..	0.29
STREAM VELOCITY ...(m/Sec).	0.21			

	MEAN	STD
STREAM WIDTH ...(M).....	9.82 ..	30.89
STREAM DEPTH ..(CM).....	12.50 ..	14.57
DOMINANT SUBSTRATE TYPE ...	1,6	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.53 (%)	
TOTAL SHELTER	10.92 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	814.0	184.01
BC			TD	1.0	0.00	PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM	1.0	0.00	WC			SK		
PS	19.0	0.00	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM	1.0	0.00	NP			TS		
WH			OH			AE	15.0	0.00
SA			WS	22.0	3.75	NE		
BK			BL	524.0	15.42	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	1.0	0.00	LA		
SB			CR			MM		
AL			CM			HO		
AS	85.0	20.51	FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: MORGAN BROOK SITE #: 43
DESCRIPTION : UPSTREAM OF MORGAN BROOK RD BRIDGE

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 08/17/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	24.00	DO .....(mg/l).	9.97 ..	0.12
AIR/WATER TEMP RATIO ..(%).	0.88	pH	7.80 ..	0.10
CANOPY COVER .....(%).		COND ....(uS/cm3).	132.67 ..	0.58
STREAM DISCHARGE .....(M3).	0.05	ALK .(mg CaCO3/l).	41.53 ..	0.23
STREAM VELOCITY ...(m/Sec).	0.10			

	MEAN	STD
STREAM WIDTH ...(M).....	4.67 ..	14.70
STREAM DEPTH ..(CM).....	10.77 ..	9.83
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.57 (%)	
TOTAL SHELTER	2.02 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	372.0	40.10
BC			TD	3.0	0.00	PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB	4.0	0.00	MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	20.0	5.67
SA			WS	73.0	2.29	NE		
BK			BL	1554.0	21.08	SI		
BN	3.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	166.0	7.87	LA		
SB			CR	14.0	0.00	MM		
AL			CM			HO		
AS	3.0	0.00	FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: EAST BRANCH SALMON BROOK SITE #: 44
DESCRIPTION :

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 06/20/00

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.73 ..	0.12
AIR/WATER TEMP RATIO ..(%).		pH	6.93 ..	0.12
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	59.67 ..	0.58
STREAM DISCHARGE .....(M3).	0.08	ALK .(mg CaCO3/l).	12.57 ..	0.50
STREAM VELOCITY ...(m/Sec).	0.11			

	MEAN	STD
STREAM WIDTH ...(M).....	5.90 ..	18.62
STREAM DEPTH ..(CM).....	12.68 ..	10.31
DOMINANT SUBSTRATE TYPE ...	1,3	
TYPE 3 SUBSTRATE	30.00 (%)	
TYPE 3 EMBEDDNESS	38.33 (%)	
POOL/RIFFLE RATIO	0.42 (%)	
TOTAL SHELTER	4.94 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	1.0	0.00	NE		
BK	4.0	0.00	BL	30.0	5.15	SI		
BN	308.0	13.34	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: VALLEY BROOK SITE #: 45
DESCRIPTION : NORTH END OF BARKHAMSTEAD RES. OFF RTE 20

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 08/19/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.50 ..	0.75
AIR/WATER TEMP RATIO ..(%).	1.11	pH	6.87 ..	0.21
CANOPY COVER .....(%).	40.60	COND ....(uS/cm3).	32.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.08	ALK .(mg CaCO3/l).	8.13 ..	0.42
STREAM VELOCITY ...(m/Sec).	0.08			

	MEAN	STD
STREAM WIDTH ...(M).....	4.40 ..	13.83
STREAM DEPTH ..(CM).....	18.80 ..	18.74
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	0.00 (%)	
POOL/RIFFLE RATIO	2.33 (%)	
TOTAL SHELTER	80.25 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS	3.0	0.00	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS			NE		
BK	417.0	46.13	BL	2636.0	28.70	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC	3384.0	692.77
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: HUBBARD BROOK SITE #: 46
DESCRIPTION : MDC PROPERTIES OFF RTE 20 STARTS 150 M FROM MASS. BORDER. WEIR AT BORDER
SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 07/27/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.27 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.27	pH	7.10 ..	0.10
CANOPY COVER .....(%).	41.70	COND ....(uS/cm3).	32.67 ..	1.15
STREAM DISCHARGE .....(M3).	0.88	ALK .(mg CaCO3/l).	4.87 ..	0.12
STREAM VELOCITY ...(m/Sec).	0.24			

	MEAN	STD
STREAM WIDTH ...(M).....	12.13 ..	36.06
STREAM DEPTH ..(CM).....	27.19 ..	26.35
DOMINANT SUBSTRATE TYPE ...	1,4,5,6	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	1.30 (%)	
TOTAL SHELTER	37.38 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	225.6	19.15
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB	4.0	0.00	MU		
RP			CC			SP		
LM			WC			SK		
PS	6.0	1.77	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	108.8	8.28	NE		
BK	119.6	9.24	BL	295.0	47.13	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW	36.4	3.84	CS	2.0	0.50	LA		
SB			CR	8.0	1.84	MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC	43.3	5.26
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: PEQUABUCK RIVER SITE #: 47
DESCRIPTION : PREVIOUS ATTEMPT TO SAMPLE SITE 48, STOPPED BY THUNDER STORM
SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 08/18/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	2.47 ..	0.23
AIR/WATER TEMP RATIO ..(%).	1.17	pH	6.93 ..	0.06
CANOPY COVER .....(%).	31.00	COND ....(uS/cm3).	450.33 ..	0.58
STREAM DISCHARGE .....(M3).	2.83	ALK .(mg CaCO3/1).	88.83 ..	1.07
STREAM VELOCITY ...(m/Sec).	0.25			

	MEAN		STD
STREAM WIDTH ...(M).....	7.86	..	24.84
STREAM DEPTH ..(CM).....	32.78	..	22.64
DOMINANT SUBSTRATE TYPE ...	1		
TYPE 3 SUBSTRATE	0.00	(%)	
TYPE 3 EMBEDDNESS		(%)	
POOL/RIFFLE RATIO		(%)	
TOTAL SHELTER	169.64	(M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS	0.0	1.304E19	YB			BO		
RS			CP			FS		
RB			GP	0.0	1.304E19	NS		
SM			NP			TS		
WH			OH			AE		
SA			WS			NE		
BK			BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA	0.0	1.304E19	AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	0.0	1.304E19	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: PEQUABUCK RIVER SITE #: 48
DESCRIPTION :

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 08/18/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.77 ..	0.15
AIR/WATER TEMP RATIO ..(%).	1.08	pH	8.07 ..	0.06
CANOPY COVER .....(%).	44.00	COND ....(uS/cm3).	330.00 ..	0.00
STREAM DISCHARGE .....(M3).	1.76	ALK .(mg CaCO3/l).	49.60 ..	1.23
STREAM VELOCITY ...(m/Sec).	0.17			

	MEAN	STD
STREAM WIDTH ...(M).....	10.12 ..	31.93
STREAM DEPTH ..(CM).....	14.85 ..	11.86
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.59 (%)	
TOTAL SHELTER	2.82 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	37.0	7.99
BC			TD	74.0	4.99	PD		
BG	1.0	0.00	WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM	21.0	2.96	WC			SK		
PS	11.0	0.00	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	23.0	0.00
SA			WS	667.0	12.06	NE		
BK			BL	296.0	40.47	SI		
BN	3.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	3.0	0.00	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	11.0	0.00	RA		
AH			FM	2.0	0.00	SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: PEQUABUCK RIVER SITE #: 49
DESCRIPTION :

SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 08/10/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.63 ..	0.72
AIR/WATER TEMP RATIO ..(%).	1.17	pH	6.90 ..	0.56
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	46.67 ..	3.21
STREAM DISCHARGE .....(M3).	8.E-4	ALK .(mg CaCO3/1).	6.30 ..	0.78
STREAM VELOCITY ...(m/Sec).	0.03			

	MEAN	STD
STREAM WIDTH ...(M).....	1.18 ..	3.71
STREAM DEPTH ..(CM).....	2.97 ..	3.17
DOMINANT SUBSTRATE TYPE ...	1,5	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	10.00 (%)	
POOL/RIFFLE RATIO	1.11 (%)	
TOTAL SHELTER	0.62 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	37	
BC			TD	71		PD		
BG	1.0	0.00	WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM	21		WC			SK		
PS	11		YB			BO		
RS			CP			FS		
RB			GP	X		NS		
SM			NP			TS		
WH			OH	667		AE	23	
SA			WS	13.0	0.00	NE		
BK	3.0	0.00	BL	296 14.0	0.00	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA	X		AN		
RW			CS	3		LA		
SB			CR	42.0	1.87	MM		
AL			CM			HO		
AS			FA	4		RA		
AH			FM	2		SL		
BH			GO			SN		
GI			GS	13.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: THOMPSON BROOK SITE #: 50
DESCRIPTION : UPSTREAM OF BRIDGE ON OLD AVON FARMS RD. AVON

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 07/01/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	23.00	DO .....(mg/l).	10.30 ..	0.00
AIR/WATER TEMP RATIO ..(%).	1.07	pH	8.40 ..	0.10
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	157.67 ..	11.85
STREAM DISCHARGE .....(M3).	0.17	ALK .(mg CaCO3/l).	47.47 ..	1.01
STREAM VELOCITY ...(m/Sec).	0.25			

	MEAN	STD
STREAM WIDTH ...(M).....	4.57 ..	14.40
STREAM DEPTH ..(CM).....	16.17 ..	18.10
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	20.00 (%)	
TYPE 3 EMBEDDNESS	30.00 (%)	
POOL/RIFFLE RATIO	0.46 (%)	
TOTAL SHELTER	18.55 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	7.0	0.00
SA			WS	18.0	1.26	NE		
BK	10.0	0.00	BL	179.0	1.08	SI		
BN	341.0	6.90	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	2.0	0.00	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC	197.0	22.40
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: NOD BROOK SITE #: 51
DESCRIPTION : DIRECTLY DOWNSTREAM OF 'AVON PARK NORTH' ROAD, AVON

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 07/07/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	7.93 ..	0.12
AIR/WATER TEMP RATIO ..(%).	1.12	pH	7.93 ..	0.15
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	229.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.11	ALK .(mg CaCO3/1).	65.30 ..	2.03
STREAM VELOCITY ...(m/Sec).	0.26			

	MEAN	STD
STREAM WIDTH ...(M).....	3.46 ..	10.94
STREAM DEPTH ..(CM).....	12.43 ..	9.46
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	30.00 (%)	
TYPE 3 EMBEDDNESS	15.00 (%)	
POOL/RIFFLE RATIO	0.40 (%)	
TOTAL SHELTER	9.61 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	13.0	1.29
BC			TD	11.0	0.00	PD		
BG	2.0	0.00	WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS	1.0	0.00	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	21.0	0.00
SA			WS	3.0	0.00	NE		
BK			BL	46.0	3.13	SI		
BN	1.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	24.0	0.00	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: HOP BROOK SITE #: 52
DESCRIPTION : DOWNSTREAM OF HOP BROOK RESTAURNT,

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 09/15/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.97 ..	0.06
AIR/WATER TEMP RATIO ..(%).	0.91	pH	7.63 ..	0.06
CANOPY COVER .....(%).	93.75	COND ....(uS/cm3).	160.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.20	ALK .(mg CaCO3/l).	50.73 ..	0.59
STREAM VELOCITY ...(m/Sec).	0.25			

	MEAN	STD
STREAM WIDTH ...(M).....	5.59 ..	17.64
STREAM DEPTH ..(CM).....	14.30 ..	15.04
DOMINANT SUBSTRATE TYPE ...	1,6	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.62 (%)	
TOTAL SHELTER	17.28 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	39.0	5.42	PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM	1.0	0.00	WC			SK		
PS	1.0	0.00	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	41.0	1.86
SA			WS	14.0	0.00	NE		
BK			BL	353.0	5.28	SI		
BN	9.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	1.0	0.00	LA		
SB			CR	2.0	0.00	MM		
AL			CM			HO		
AS			FA	29.0	0.00	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	2.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: UNIONVILLE BROOK SITE #: 53
DESCRIPTION : SECTION NEAR RIVER RD, UNIONVILLE, BELOW LAKE GARDA, STOCKED AREA
SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 06/28/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	27.00	DO .....(mg/l).	9.40 ..	0.26
AIR/WATER TEMP RATIO ..(%).	1.20	pH	7.43 ..	0.06
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	136.67 ..	1.53
STREAM DISCHARGE .....(M3).	0.07	ALK .(mg CaCO3/l).	35.47 ..	0.38
STREAM VELOCITY ...(m/Sec).	0.13			

	MEAN	STD
STREAM WIDTH ...(M).....	3.69 ..	11.66
STREAM DEPTH ..(CM).....	14.55 ..	10.75
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	20.00 (%)	
TYPE 3 EMBEDDNESS	45.00 (%)	
POOL/RIFFLE RATIO	1.13 (%)	
TOTAL SHELTER	12.03 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	3.0	0.00
BC			TD	1.0	0.00	PD		
BG	2.0	0.00	WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM	3.0	0.00	WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	13.0	2.27
SA			WS	12.0	0.00	NE		
BK	2.0	0.00	BL	26.0	0.00	SI		
BN	1.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	72.0	5.58	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	97.0	3.21	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	1.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: BAKERSVILLE BK SITE #: 54
DESCRIPTION : IMMEDIATELY UPSTREAM OF BRIDGE ON WINCHESTER RD., BAKERSVILLE
SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 07/11/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	24.00	DO .....(mg/l).	8.70 ..	0.26
AIR/WATER TEMP RATIO ..(%).	1.10	pH	6.93 ..	0.23
CANOPY COVER .....(%).		COND ....(uS/cm3).	122.67 ..	9.24
STREAM DISCHARGE .....(M3).	0.09	ALK .(mg CaCO3/l).	26.47 ..	0.12
STREAM VELOCITY ...(m/Sec).	0.13			

	MEAN	STD
STREAM WIDTH ...(M).....	5.13 ..	16.13
STREAM DEPTH ..(CM).....	12.88 ..	18.01
DOMINANT SUBSTRATE TYPE ...	1,4,5,6	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	1.03 (%)	
TOTAL SHELTER	25.48 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	154.0	2.09
BC			TD			PD		
BG	1.0	0.00	WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP	1.0	0.00	FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	33.0	0.00	NE		
BK	76.0	0.00	BL	243.0	0.00	SI		
BN	127.0	1.67	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	6.0	0.00	LA		
SB			CR	43.0	0.00	MM		
AL			CM			HO		
AS			FA	1.0	0.00	RA		
AH			FM	2.0	0.00	SL		
BH			GO			SN		
GI			GS	2.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: TORRINGFORD BROOK SITE #: 55
DESCRIPTION : 50 YDS UP FROM BRIGDE ON BEHREN'S ROAD

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 07/11/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	24.00	DO .....(mg/l).	9.57 ..	0.15
AIR/WATER TEMP RATIO ..(%).	1.25	pH	7.17 ..	0.32
CANOPY COVER .....(%).	50.00	COND ....(uS/cm3).	108.33 ..	1.15
STREAM DISCHARGE .....(M3).	2.6E-3	ALK .(mg CaCO3/1).	25.73 ..	0.93
STREAM VELOCITY ...(m/Sec).	0.01			

	MEAN	STD
STREAM WIDTH ...(M).....	3.38 ..	10.57
STREAM DEPTH ..(CM).....	5.55 ..	6.86
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	22.22 (%)	
TYPE 3 EMBEDDNESS	45.00 (%)	
POOL/RIFFLE RATIO	0.96 (%)	
TOTAL SHELTER	0.93 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	23.0	0.00
BC			TD			PD		
BG			WA			SS	0.0	1.304E19
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	36.0	0.00	NE		
BK	229.0	9.08	BL	1184.0	12.69	SI		
BN	67.0	1.76	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	26.0	0.00	LA		
SB			CR	140.0	1.65	MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: BURLESSON BROOK, STATELINE BK SITE #: 58
DESCRIPTION : SITE 30 M DOWNSTREAM OF BRIDGE ON RTE 187, JUST SOUTH OF MASS. BORDER, SUFFIELD
SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 06/17/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	27.00	DO .....(mg/l).	6.13 ..	0.29
AIR/WATER TEMP RATIO ..(%).	0.92	pH	8.47 ..	0.15
CANOPY COVER .....(%).	75.00	COND ....(uS/cm3).	262.00 ..	1.00
STREAM DISCHARGE .....(M3).	0.07	ALK .(mg CaCO3/l).	61.43 ..	0.57
STREAM VELOCITY ...(m/Sec).	0.21			

	MEAN	STD
STREAM WIDTH ...(M).....	3.31 ..	10.42
STREAM DEPTH ..(CM).....	10.80 ..	9.19
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	30.00 (%)	
TYPE 3 EMBEDDNESS	65.00 (%)	
POOL/RIFFLE RATIO	1.34 (%)	
TOTAL SHELTER	0.90 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	4.0	0.00	PD		
BG	73.0	1.74	WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB	33.0	7.39	MU		
RP			CC			SP		
LM			WC			SK		
PS	30.0	5.15	YB			BO		
RS			CP			FS		
RB			GP	10.0	2.29	NS		
SM			NP			TS		
WH			OH			AE	249.0	22.28
SA			WS	24.0	0.00	NE		
BK			BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	87.0	3.75	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	3.0	0.00	SC		
HS			GF	1.0	0.00	TI		
BA			GC			TO		

LOCATION NAME: PEQUABUCK RIVER SITE #: 59
DESCRIPTION :

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 08/31/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.37 ..	0.15
AIR/WATER TEMP RATIO ..(%).	1.15	pH	7.10 ..	0.00
CANOPY COVER .....(%).	83.00	COND ....(uS/cm3).	190.67 ..	6.51
STREAM DISCHARGE .....(M3).	0.19	ALK .(mg CaCO3/l).	35.93 ..	0.42
STREAM VELOCITY ...(m/Sec).	0.25			

	MEAN	STD
STREAM WIDTH ...(M).....	5.43 ..	17.11
STREAM DEPTH ..(CM).....	13.68 ..	11.00
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.87 (%)	
TOTAL SHELTER	11.80 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG	1.0	0.00	WA			SS		
GR			WP			SR		
HY			YP	33.0	0.00	TE		
BP			BU			KI	165.0	5.93
RG			BB			MU		
RP			CC			SP		
LM	11.0	0.00	WC			SK		
PS	44.0	3.23	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	2.0	0.00
SA			WS	866.0	10.16	NE		
BK			BL	36.0	3.37	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR	1.0	0.00	MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: COPPERMINE BROOK SITE #: 60
DESCRIPTION :

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 07/06/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	20.00	DO .....(mg/l).	9.70 ..	0.20
AIR/WATER TEMP RATIO ..(%).	1.32	pH	7.40 ..	0.10
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	108.33 ..	2.89
STREAM DISCHARGE .....(M3).	0.09	ALK .(mg CaCO3/l).	26.57 ..	0.55
STREAM VELOCITY ...(m/Sec).	0.02			

	MEAN	STD
STREAM WIDTH ...(M).....	7.28 ..	22.99
STREAM DEPTH ..(CM).....	54.53 ..	33.23
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	(%)	
TOTAL SHELTER	123.11 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	49.0	17.48	PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP	7.0	1.39	NS		
SM			NP			TS		
WH			OH			AE	6.0	0.00
SA			WS	107.0	5.01	NE		
BK	8.0	0.00	BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	2.0	0.00	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: DIVIDEND BROOK SITE #: 61
DESCRIPTION : AT PLEASANT VALLEY RD, ROCKY HILL

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 06/28/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	19.00	DO .....(mg/l).	10.00 ..	0.10
AIR/WATER TEMP RATIO ..(%).	1.42	pH	7.37 ..	0.21
CANOPY COVER .....(%).	87.50	COND ....(uS/cm3).	315.00 ..	1.00
STREAM DISCHARGE .....(M3).	0.06	ALK .(mg CaCO3/l).	65.93 ..	0.95
STREAM VELOCITY ...(m/Sec).	0.25			

	MEAN	STD
STREAM WIDTH ...(M).....	3.20 ..	10.09
STREAM DEPTH ..(CM).....	8.18 ..	7.33
DOMINANT SUBSTRATE TYPE ...	1,3	
TYPE 3 SUBSTRATE	40.00 (%)	
TYPE 3 EMBEDDNESS	80.00 (%)	
POOL/RIFFLE RATIO	0.75 (%)	
TOTAL SHELTER	5.37 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	17.0	0.00
SA			WS	56.0	1.81	NE		
BK	6.0	0.00	BL	24.0	0.00	SI		
BN	7.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: HUNGARY BROOK SITE #: 62
DESCRIPTION :

SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 06/17/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	25.00	DO .....(mg/l).	6.27 ..	0.15
AIR/WATER TEMP RATIO ..(%).	0.90	pH	6.87 ..	0.25
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	150.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.23	ALK .(mg CaCO3/l).	49.03 ..	0.85
STREAM VELOCITY ...(m/Sec).	0.25			

	MEAN	STD
STREAM WIDTH ...(M).....	5.16 ..	16.29
STREAM DEPTH ..(CM).....	18.48 ..	14.59
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	80.00 (%)	
POOL/RIFFLE RATIO	0.88 (%)	
TOTAL SHELTER	21.28 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	7.0	0.00	PD		
BG	22.0	0.00	WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB	1.0	0.00	MU		
RP			CC			SP		
LM	2.0	0.00	WC			SK		
PS	2.0	0.00	YB			BO		
RS			CP			FS		
RB			GP	5.0	0.00	NS		
SM			NP			TS		
WH			OH			AE	15.0	0.00
SA			WS	21.0	4.60	NE		
BK			BL			SI		
BN	16.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	0.0	1.304E19	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	8.0	0.00	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	4.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: NOD BROOK SITE #: 63
DESCRIPTION :

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 06/27/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	26.00	DO .....(mg/l).	9.20 ..	0.00
AIR/WATER TEMP RATIO ..(%).	1.00	pH	7.93 ..	0.06
CANOPY COVER .....(%).	92.00	COND ....(uS/cm3).	217.00 ..	1.73
STREAM DISCHARGE .....(M3).	0.12	ALK .(mg CaCO3/l).	63.27 ..	1.24
STREAM VELOCITY ...(m/Sec).	0.27			

	MEAN	STD
STREAM WIDTH ...(M).....	4.49 ..	14.15
STREAM DEPTH ..(CM).....	10.95 ..	9.78
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	20.00 (%)	
TYPE 3 EMBEDDNESS	27.50 (%)	
POOL/RIFFLE RATIO	0.16 (%)	
TOTAL SHELTER	2.35 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD	90.0	2.76
BC			TD	3.0	0.00	PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM	1.0	0.00	WC			SK		
PS	3.0	0.00	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	41.0	3.27
SA			WS	35.0	6.45	NE		
BK			BL	249.0	14.72	SI		
BN	4.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR	0.0	1.304E19	MM		
AL			CM			HO		
AS			FA	28.0	1.97	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: MOUNTAIN BROOK SITE #: 64
DESCRIPTION : SECTION BY ROUNDHILL RD APPROX 20M UPSTREAM FROM RT219, 2 FT DAM AT 75 M
SAMPLE LENGTH: 150.00 (M) SAMPLE DATE: 06/23/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.43 ..	0.32
AIR/WATER TEMP RATIO ..(%).	1.26	pH	6.90 ..	0.00
CANOPY COVER .....(%).	91.70	COND ....(uS/cm3).	77.33 ..	4.62
STREAM DISCHARGE .....(M3).	0.04	ALK .(mg CaCO3/1).	10.43 ..	0.81
STREAM VELOCITY ...(m/Sec).	0.08			

	MEAN	STD
STREAM WIDTH ...(M).....	4.86 ..	15.23
STREAM DEPTH ..(CM).....	9.48 ..	9.30
DOMINANT SUBSTRATE TYPE ...	1,4,6	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	80.00 (%)	
POOL/RIFFLE RATIO	0.56 (%)	
TOTAL SHELTER	5.03 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	8.0	0.00	PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS	1.0	0.00	YB			BO		
RS			CP	4.0	0.00	FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	4.0	0.00
SA			WS	6.0	0.00	NE		
BK			BL	46.0	1.85	SI		
BN	224.0	14.86	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	1.0	0.00	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: ROARING BROOK SITE #: 65
DESCRIPTION :

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 06/29/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	10.07 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.54	pH	6.40 ..	0.20
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	20.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.02	ALK .(mg CaCO3/l).	4.07 ..	0.23
STREAM VELOCITY ...(m/Sec).	0.02			

	MEAN	STD
STREAM WIDTH ...(M).....	3.74 ..	10.87
STREAM DEPTH ..(CM).....	18.94 ..	25.62
DOMINANT SUBSTRATE TYPE ...	1,6	
TYPE 3 SUBSTRATE	12.50 (%)	
TYPE 3 EMBEDDNESS	15.00 (%)	
POOL/RIFFLE RATIO	1.14 (%)	
TOTAL SHELTER	60.74 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB	3.0	0.00	MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	4.0	0.00	NE		
BK	134.0	2.13	BL	2.0	0.00	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	3.0	0.00	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: KETTLE BROOK SITE #: 66
DESCRIPTION : MDC PROPERTY, OLD BEAVER MEADOW APPROX. 0.23 MILES FROM RESERVOIR
SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 06/29/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	10.07 ..	0.12
AIR/WATER TEMP RATIO ..(%).	1.17	pH	7.47 ..	0.45
CANOPY COVER .....(%).	25.00	COND ....(uS/cm3).	27.67 ..	0.58
STREAM DISCHARGE .....(M3).	4.E-3	ALK .(mg CaCO3/l).	5.60 ..	0.53
STREAM VELOCITY ...(m/Sec).	0.04			

	MEAN	STD
STREAM WIDTH ...(M).....	2.07 ..	6.51
STREAM DEPTH ..(CM).....	4.53 ..	4.34
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	30.00 (%)	
TYPE 3 EMBEDDNESS	50.00 (%)	
POOL/RIFFLE RATIO	0.96 (%)	
TOTAL SHELTER	8.22 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS			NE		
BK	279.0	8.53	BL	158.0	2.95	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: STORE HOUSE BROOK SITE #: 67
DESCRIPTION : IMMED UPSTREAM OF 219 OVERPASS

SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 08/04/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	10.10 ..	0.10
AIR/WATER TEMP RATIO ..(%).	1.20	pH	6.63 ..	0.06
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	88.33 ..	4.62
STREAM DISCHARGE .....(M3).	9.4E-3	ALK .(mg CaCO3/l).	5.10 ..	0.10
STREAM VELOCITY ...(m/Sec).	0.08			

	MEAN	STD
STREAM WIDTH ...(M).....	2.29 ..	7.18
STREAM DEPTH ..(CM).....	4.68 ..	4.98
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	12.50 (%)	
TYPE 3 EMBEDDNESS	0.00 (%)	
POOL/RIFFLE RATIO	0.95 (%)	
TOTAL SHELTER	0.83 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS			NE		
BK	59.0	0.00	BL	16.0	0.00	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: NO NAME SITE #: 70
DESCRIPTION : UPSTREAM OF RTE 219 IN ENDERS FOREST, SAMPLED AFTER LIGHT RAIN
SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 06/30/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	10.60 ..	0.17
AIR/WATER TEMP RATIO ..(%).	1.19	pH	8.30 ..	0.00
CANOPY COVER .....(%).	83.30	COND ....(uS/cm3).	458.33 ..	7.64
STREAM DISCHARGE .....(M3).	0.02	ALK .(mg CaCO3/l).	164.60 ..	1.44
STREAM VELOCITY ...(m/Sec).	0.11			

	MEAN	STD
STREAM WIDTH ...(M).....	2.95 ..	9.32
STREAM DEPTH ..(CM).....	6.00 ..	5.94
DOMINANT SUBSTRATE TYPE ...	1,3	
TYPE 3 SUBSTRATE	90.00 (%)	
TYPE 3 EMBEDDNESS	30.00 (%)	
POOL/RIFFLE RATIO	0.92 (%)	
TOTAL SHELTER	2.95 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB	3.0	0.00	MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	9.0	0.00
SA			WS	97.0	1.71	NE		
BK			BL	134.0	1.09	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: LOON BK SITE #: 71
DESCRIPTION : UPSTREAM ABOUT 50 YDS OFF RTE 183 IN MEADOW

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 08/22/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	7.77 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.21	pH	7.33 ..	0.15
CANOPY COVER .....(%).	5.00	COND ....(uS/cm3).	69.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.04	ALK .(mg CaCO3/l).	100.00 ..	1.18E-5
STREAM VELOCITY ...(m/Sec).	0.01			

	MEAN		STD
STREAM WIDTH ...(M).....	5.18	..	16.34
STREAM DEPTH ..(CM).....	40.15	..	28.96
DOMINANT SUBSTRATE TYPE ...	1		
TYPE 3 SUBSTRATE	0.00	(%)	
TYPE 3 EMBEDDNESS		(%)	
POOL/RIFFLE RATIO		(%)	
TOTAL SHELTER	182.39	(M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB	14.0	2.18	MU		
RP			CC			SP		
LM			WC			SK		
PS	2.0	0.00	YB			BO		
RS	17.0	1.26	CP	6.0	0.00	FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	2.0	0.00
SA			WS			NE		
BK			BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	9.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: BUNNELL BROOK SITE #: 72
DESCRIPTION : 50M DOWNSTREAM OF RTE 4 BRIDGE NEAR UPSON RD, BURLINGTON

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 06/21/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	21.00	DO .....(mg/l).	9.30 ..	0.35
AIR/WATER TEMP RATIO ..(%).		pH	6.60 ..	0.30
CANOPY COVER .....(%).	80.00	COND ....(uS/cm3).	79.33 ..	0.58
STREAM DISCHARGE .....(M3).	0.02	ALK .(mg CaCO3/l).	11.87 ..	0.35
STREAM VELOCITY ...(m/Sec).	0.04			

	MEAN	STD
STREAM WIDTH ...(M).....	4.02 ..	12.04
STREAM DEPTH ..(CM).....	16.83 ..	19.16
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	5.17 (%)	
TOTAL SHELTER	36.21 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP	11.0	3.13	TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS	2.0	0.00	YB			BO		
RS			CP	5.0	0.00	FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS			NE		
BK	20.0	2.13	BL	1.0	0.00	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR	1.0	0.00	MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: TAYLOR BROOK SITE #: 73
DESCRIPTION :

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 06/16/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.50 ..	0.30
AIR/WATER TEMP RATIO ..(%).	1.67	pH	7.10 ..	0.17
CANOPY COVER .....(%).	91.00	COND ....(uS/cm3).	116.67 ..	1.53
STREAM DISCHARGE .....(M3).	1.E-2	ALK .(mg CaCO3/l).	14.73 ..	0.32
STREAM VELOCITY ...(m/Sec).	0.05			

	MEAN	STD
STREAM WIDTH ...(M).....	2.21 ..	6.58
STREAM DEPTH ..(CM).....	7.28 ..	6.93
DOMINANT SUBSTRATE TYPE ...	1,6	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.37 (%)	
TOTAL SHELTER	1.55 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS			NE		
BK	21.0	0.00	BL	11.0	0.00	SI		
BN	4.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: RATLUM BROOK SITE #: 74
DESCRIPTION : DOWNSTREAM OF SECOND ROAD CROSSING ON RATLUM BROOK ROAD, DIRT ROAD PAST SKISUNDO
SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 08/22/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	10.33 ..	0.15
AIR/WATER TEMP RATIO ..(%).	1.42	pH	7.23 ..	0.15
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	27.33 ..	4.04
STREAM DISCHARGE .....(M3).	3.3E-3	ALK .(mg CaCO3/l).	8.87 ..	0.50
STREAM VELOCITY ...(m/Sec).	0.05			

	MEAN	STD
STREAM WIDTH ...(M).....	1.29 ..	4.05
STREAM DEPTH ..(CM).....	5.07 ..	11.71
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	60.00 (%)	
POOL/RIFFLE RATIO	2.45 (%)	
TOTAL SHELTER	3.52 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS			NE		
BK	66.0	5.80	BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: BEACH BROOK SITE #: 80
DESCRIPTION : SITE ON BROAD HILL ROAD 30METER MARK IS AT BRIDGE,

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 07/25/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.10 ..	0.10
AIR/WATER TEMP RATIO ..(%).	1.37	pH	6.83 ..	0.15
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	56.33 ..	2.31
STREAM DISCHARGE .....(M3).	0.04	ALK .(mg CaCO3/l).	2.00 ..	0.36
STREAM VELOCITY ...(m/Sec).	0.08			

	MEAN	STD
STREAM WIDTH ...(M).....	3.66 ..	11.47
STREAM DEPTH ..(CM).....	12.52 ..	9.33
DOMINANT SUBSTRATE TYPE ...	1,6	
TYPE 3 SUBSTRATE	20.00 (%)	
TYPE 3 EMBEDDNESS	25.00 (%)	
POOL/RIFFLE RATIO	0.46 (%)	
TOTAL SHELTER	10.91 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS			NE		
BK	177.0	3.29	BL	48.0	0.00	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	1.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: NO NAME SITE #: 81
DESCRIPTION :

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 07/25/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	23.00	DO .....(mg/l).	9.63 ..	0.32
AIR/WATER TEMP RATIO ..(%).	1.24	pH	6.80 ..	0.35
CANOPY COVER .....(%).	91.00	COND ....(uS/cm3).	40.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.04	ALK .(mg CaCO3/l).	100.00 ..	4.67E-6
STREAM VELOCITY ...(m/Sec).	0.13			

	MEAN	STD
STREAM WIDTH ...(M).....	3.83 ..	12.11
STREAM DEPTH ..(CM).....	8.90 ..	9.07
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	5.00 (%)	
POOL/RIFFLE RATIO	0.45 (%)	
TOTAL SHELTER	2.75 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	3.0	0.00
SA			WS			NE		
BK	260.0	9.69	BL	28.0	0.00	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC	181.0	16.69
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: RUGG BROOK SITE #: 82
DESCRIPTION : 200 METERS UP FROM LAST ROAD CROSSING, 1/4 UP FROM RESERVOIR
SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 06/24/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).	23.00	DO .....(mg/l).	10.37 ..	0.23
AIR/WATER TEMP RATIO ..(%).	1.79	pH	6.63 ..	0.12
CANOPY COVER .....(%).	91.60	COND ....(uS/cm3).	27.67 ..	2.52
STREAM DISCHARGE .....(M3).	0.02	ALK .(mg CaCO3/l).	4.97 ..	0.45
STREAM VELOCITY ...(m/Sec).	0.05			

	MEAN	STD
STREAM WIDTH ...(M).....	4.00 ..	12.63
STREAM DEPTH ..(CM).....	9.90 ..	7.95
DOMINANT SUBSTRATE TYPE ...	1,5	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	30.00 (%)	
POOL/RIFFLE RATIO	1.27 (%)	
TOTAL SHELTER	9.18 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	1.0	0.00	NE		
BK	301.0	10.06	BL	32.0	0.00	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: NO NAME SITE #: 83
DESCRIPTION :

SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 06/28/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.57 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.00	pH	6.70 ..	0.00
CANOPY COVER .....(%).	0.00	COND ....(uS/cm3).	81.67 ..	2.52
STREAM DISCHARGE .....(M3).	3.E-3	ALK .(mg CaCO3/1).	8.67 ..	0.21
STREAM VELOCITY ...(m/Sec).	0.05			

	MEAN	STD
STREAM WIDTH ...(M).....	0.62 ..	1.94
STREAM DEPTH ..(CM).....	9.52 ..	7.69
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	20.00 (%)	
TYPE 3 EMBEDDNESS	75.00 (%)	
POOL/RIFFLE RATIO	0.28 (%)	
TOTAL SHELTER	0.04 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS ..	..		SD ..	..		LD ..	..	
BC ..	..		TD ..	..		PD ..	..	
BG ..	..		WA ..	..		SS ..	..	
GR ..	..		WP ..	..		SR ..	..	
HY ..	..		YP ..	..		TE ..	..	
BP ..	..		BU ..	..		KI ..	..	
RG ..	..		BB ..	..		MU ..	..	
RP ..	..		CC ..	..		SP ..	..	
LM ..	..		WC ..	..		SK ..	..	
PS ..	..		YB ..	..		BO ..	..	
RS ..	..		CP ..	..		FS ..	..	
RB ..	..		GP ..	..		NS ..	..	
SM ..	..		NP ..	..		TS ..	..	
WH ..	..		OH ..	..		AE ..	..	
SA ..	..		WS ..	..		NE ..	..	
BK ..	..		BL ..	16.0 ..	2.14	SI ..	..	
BN ..	..		BM ..	..		ST ..	..	
KO ..	..		BD ..	..		BW ..	..	
LT ..	..		CA ..	..		AN ..	..	
RW ..	..		CS ..	..		LA ..	..	
SB ..	..		CR ..	6.0 ..	0.00	MM ..	..	
AL ..	..		CM ..	..		HO ..	..	
AS ..	..		FA ..	..		RA ..	..	
AH ..	..		FM ..	..		SL ..	..	
BH ..	..		GO ..	..		SN ..	..	
GI ..	..		GS ..	..		SC ..	..	
HS ..	..		GF ..	..		TI ..	..	
BA ..	..		GC ..	..		TO ..	..	

LOCATION NAME: CHERRY BROOK SITE #: 84
DESCRIPTION :

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 06/22/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.83 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.33	pH	6.40 ..	0.20
CANOPY COVER .....(%).	81.20	COND ....(uS/cm3).	80.67 ..	0.58
STREAM DISCHARGE .....(M3).	0.05	ALK .(mg CaCO3/l).	8.47 ..	0.81
STREAM VELOCITY ...(m/Sec).	0.12			

	MEAN	STD
STREAM WIDTH ...(M).....	4.20 ..	13.25
STREAM DEPTH ..(CM).....	9.57 ..	11.67
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	65.00 (%)	
POOL/RIFFLE RATIO	1.28 (%)	
TOTAL SHELTER	1.90 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	1.0	0.00
SA			WS	19.0	2.11	NE		
BK	163.0	11.82	BL	499.0	12.40	SI		
BN	24.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	2.0	0.00	LA		
SB			CR	75.0	3.87	MM		
AL			CM			HO		
AS			FA	17.0	1.26	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC	107.0	4.05
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: NO NAME SITE #: 85
DESCRIPTION :

SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 07/01/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	10.90 ..	0.17
AIR/WATER TEMP RATIO ..(%).	1.55	pH	7.60 ..	0.10
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	20.67 ..	0.58
STREAM DISCHARGE .....(M3).	6.E-3	ALK .(mg CaCO3/l).	6.58 ..	0.41
STREAM VELOCITY ...(m/Sec).	0.08			

	MEAN	STD
STREAM WIDTH ...(M).....	1.53 ..	4.55
STREAM DEPTH ..(CM).....	4.89 ..	4.63
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	11.11 (%)	
TYPE 3 EMBEDDNESS	40.00 (%)	
POOL/RIFFLE RATIO	0.19 (%)	
TOTAL SHELTER	0.35 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS			NE		
BK	68.0	0.00	BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: PEQUABUCK RIVER SITE #: 88
DESCRIPTION :

SAMPLE LENGTH: (M) SAMPLE DATE: 07/19/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.20 ..	0.00
AIR/WATER TEMP RATIO ..(%).	1.05	pH	7.70 ..	0.10
CANOPY COVER .....(%).		COND ....(uS/cm3).	264.00 ..	9.00
STREAM DISCHARGE .....(M3).		ALK .(mg CaCO3/l).	..	
STREAM VELOCITY ...(m/Sec).				

	MEAN	STD
STREAM WIDTH ...(M).....	..	0.00
STREAM DEPTH ..(CM).....	..	0.00
DOMINANT SUBSTRATE TYPE ...	1,2,3,4,5,6	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	(%)	
TOTAL SHELTER	35.14 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS	..	..	SD	..	..	LD	..	..
BC	..	..	TD	..	..	PD	..	..
BG	..	..	WA	..	..	SS	..	..
GR	..	..	WP	..	..	SR	..	..
HY	..	..	YP	..	..	TE	..	..
BP	..	..	BU	..	..	KI	..	..
RG	..	..	BB	..	..	MU	..	..
RP	..	..	CC	..	..	SP	..	..
LM	..	..	WC	..	..	SK	..	..
PS	..	..	YB	..	..	BO	..	..
RS	..	..	CP	..	..	FS	..	..
RB	..	..	GP	..	..	NS	..	..
SM	..	..	NP	..	..	TS	..	..
WH	..	..	OH	..	..	AE	..	..
SA	..	..	WS	..	..	NE	..	..
BK	..	..	BL	..	..	SI	..	..
BN	..	..	BM	..	..	ST	..	..
KO	..	..	BD	..	..	BW	..	..
LT	..	..	CA	..	..	AN	..	..
RW	..	..	CS	..	..	LA	..	..
SB	..	..	CR	..	..	MM	..	..
AL	..	..	CM	..	..	HO	..	..
AS	..	..	FA	..	..	RA	..	..
AH	..	..	FM	..	..	SL	..	..
BH	..	..	GO	..	..	SN	..	..
GI	..	..	GS	..	..	SC	..	..
HS	..	..	GF	..	..	TI	..	..
BA	..	..	GC	..	..	TO	..	..

LOCATION NAME: NEGROHILL BROOK SITE #: 109
DESCRIPTION : WEST OF RTE 69 IN STATE FOREST

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 09/26/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	10.27 ..	0.12
AIR/WATER TEMP RATIO ..(%).	1.83	pH	6.97 ..	0.06
CANOPY COVER .....(%).	98.30	COND ....(uS/cm3).	25.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.01	ALK .(mg CaCO3/l).	7.13 ..	0.31
STREAM VELOCITY ...(m/Sec).	0.06			

	MEAN	STD
STREAM WIDTH ...(M).....	3.46 ..	10.90
STREAM DEPTH ..(CM).....	7.45 ..	7.05
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.56 (%)	
TOTAL SHELTER	2.15 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS	5.0	0.00	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	5.0	0.00
SA			WS			NE		
BK	236.0	12.52	BL	152.0	2.52	SI		
BN	1.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: DECKER BROOK SITE #: 112
DESCRIPTION : INTERSECTION OF ARROWBROOK RD AND RTE 159

SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 09/09/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	13.93 ..	0.21
AIR/WATER TEMP RATIO ..(%).		pH	9.57 ..	0.06
CANOPY COVER .....(%).	0.00	COND ....(uS/cm3).	331.33 ..	1.15
STREAM DISCHARGE .....(M3).	1.E-2	ALK .(mg CaCO3/l).	86.67 ..	0.81
STREAM VELOCITY ...(m/Sec).	0.42			

	MEAN	STD
STREAM WIDTH ...(M).....	1.28 ..	4.04
STREAM DEPTH ..(CM).....	1.83 ..	1.22
DOMINANT SUBSTRATE TYPE ...	1,6	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.00 (%)	
TOTAL SHELTER	0.00 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS	..	..	SD	..	..	LD	..	..
BC	..	..	TD	..	..	PD	..	..
BG	..	..	WA	..	..	SS	..	..
GR	..	..	WP	..	..	SR	..	..
HY	..	..	YP	..	..	TE	..	..
BP	..	..	BU	..	..	KI	..	0.0 ..1.304E19
RG	..	..	BB	..	..	MU	..	..
RP	..	..	CC	..	..	SP	..	..
LM	..	..	WC	..	..	SK	..	..
PS	..	0.0 ..1.304E19	YB	..	..	BO	..	..
RS	..	..	CP	..	..	FS	..	..
RB	..	..	GP	..	..	NS	..	..
SM	..	..	NP	..	..	TS	..	..
WH	..	..	OH	..	..	AE	..	..
SA	..	..	WS	..	0.0 ..1.304E19	NE	..	..
BK	..	..	BL	..	..	SI	..	..
BN	..	..	BM	..	..	ST	..	..
KO	..	..	BD	..	..	BW	..	..
LT	..	..	CA	..	..	AN	..	..
RW	..	..	CS	..	..	LA	..	..
SB	..	..	CR	..	..	MM	..	..
AL	..	..	CM	..	..	HO	..	..
AS	..	..	FA	..	..	RA	..	..
AH	..	..	FM	..	..	SL	..	..
BH	..	..	GO	..	..	SN	..	..
GI	..	..	GS	..	..	SC	..	..
HS	..	..	GF	..	..	TI	..	..
BA	..	..	GC	..	..	TO	..	..

LOCATION NAME: NO NAME SITE #: 122
DESCRIPTION :

SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 08/25/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	7.33 ..	0.58
AIR/WATER TEMP RATIO ..(%).	1.12	pH	7.37 ..	0.06
CANOPY COVER .....(%).	17.00	COND ....(uS/cm3).	241.33 ..	53.58
STREAM DISCHARGE .....(M3).	8.7E-3	ALK .(mg CaCO3/l).	72.20 ..	0.80
STREAM VELOCITY ...(m/Sec).	0.10			

	MEAN	STD
STREAM WIDTH ...(M).....	2.49 ..	7.88
STREAM DEPTH ..(CM).....	3.38 ..	2.51
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.28 (%)	
TOTAL SHELTER	0.00 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS	..	..	SD	..	..	LD	..	..
BC	..	..	TD	..	..	PD	..	..
BG	..	..	WA	..	..	SS	..	..
GR	..	..	WP	..	..	SR	..	..
HY	..	..	YP	..	..	TE	..	..
BP	..	..	BU	..	..	KI	..	..
RG	..	..	BB	..	..	MU	..	..
RP	..	..	CC	..	..	SP	..	..
LM	..	..	WC	..	..	SK	..	..
PS	..	..	YB	..	..	BO	..	..
RS	..	..	CP	..	..	FS	..	..
RB	..	..	GP	..	..	NS	..	..
SM	..	..	NP	..	..	TS	..	..
WH	..	..	OH	..	..	AE	..	..
SA	..	..	WS	..	..	NE	..	..
BK	..	..	BL	..	..	SI	..	..
BN	..	..	BM	..	..	ST	..	..
KO	..	..	BD	..	..	BW	..	..
LT	..	..	CA	..	..	AN	..	..
RW	..	..	CS	..	..	LA	..	..
SB	..	..	CR	..	..	MM	..	..
AL	..	..	CM	..	..	HO	..	..
AS	..	..	FA	..	..	RA	..	..
AH	..	..	FM	..	..	SL	..	..
BH	..	..	GO	..	..	SN	..	..
GI	..	..	GS	..	..	SC	..	..
HS	..	..	GF	..	..	TI	..	..
BA	..	..	GC	..	..	TO	..	..

LOCATION NAME: HAWLEY BROOK SITE #: 123
DESCRIPTION : UPSTREAM OF COUNTRY SIDE PARK ON HUCKLEBERRY HILL RD, AVON
SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 08/25/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.13 ..	0.12
AIR/WATER TEMP RATIO ..(%).	1.19	pH	7.30 ..	0.00
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	89.67 ..	0.58
STREAM DISCHARGE .....(M3).	0.02	ALK .(mg CaCO3/l).	22.17 ..	0.23
STREAM VELOCITY ...(m/Sec).	0.08			

	MEAN	STD
STREAM WIDTH ...(M).....	2.30 ..	7.25
STREAM DEPTH ..(CM).....	8.90 ..	8.30
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.47 (%)	
TOTAL SHELTER	5.85 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB	29.0	0.00	MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	6.0	0.00	NE		
BK	5.0	0.00	BL	436.0	9.65	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	6.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: PHELPS BROOK SITE #: 125
DESCRIPTION : AREA ON MDC PROPERTY, 50M UPSTREAM OF MILL DAM RD BRIDGE

SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 08/25/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.87 ..	0.25
AIR/WATER TEMP RATIO ..(%).		pH	4.80 ..	0.00
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	56.33 ..	1.15
STREAM DISCHARGE .....(M3).	3.E-3	ALK .(mg CaCO3/l).	-0.42 ..	0.16
STREAM VELOCITY ...(m/Sec).	0.04			

	MEAN	STD
STREAM WIDTH ...(M).....	1.40 ..	4.36
STREAM DEPTH ..(CM).....	6.03 ..	6.22
DOMINANT SUBSTRATE TYPE ...	1,5	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	1.32 (%)	
TOTAL SHELTER	0.83 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS ..	..		SD ..	..		LD ..	..	
BC ..	..		TD ..	..		PD ..	..	
BG ..	..		WA ..	..		SS ..	..	
GR ..	..		WP ..	..		SR ..	..	
HY ..	..		YP ..	..		TE ..	..	
BP ..	..		BU ..	..		KI ..	..	
RG ..	..		BB ..	..		MU ..	..	
RP ..	..		CC ..	..		SP ..	..	
LM ..	..		WC ..	..		SK ..	..	
PS ..	..		YB ..	..		BO ..	..	
RS ..	..		CP ..	..		FS ..	..	
RB ..	..		GP ..	..		NS ..	..	
SM ..	..		NP ..	..		TS ..	..	
WH ..	..		OH ..	..		AE ..	..	
SA ..	..		WS ..	..		NE ..	..	
BK ..	..		BL ..	..		SI ..	..	
BN ..	..		BM ..	..		ST ..	..	
KO ..	..		BD ..	..		BW ..	..	
LT ..	..		CA ..	..		AN ..	..	
RW ..	..		CS ..	..		LA ..	..	
SB ..	..		CR ..	19.0 ..	0.00	MM ..	..	
AL ..	..		CM ..	..		HO ..	..	
AS ..	..		FA ..	..		RA ..	..	
AH ..	..		FM ..	..		SL ..	..	
BH ..	..		GO ..	..		SN ..	..	
GI ..	..		GS ..	..		SC ..	..	
HS ..	..		GF ..	..		TI ..	..	
BA ..	..		GC ..	..		TO ..	..	

LOCATION NAME: JIM BROOK SITE #: 128
DESCRIPTION : DOWNSTREAM OF GRACEY RD IN CANTON

SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 08/30/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.67 ..	0.21
AIR/WATER TEMP RATIO ..(%).	1.06	pH	7.53 ..	0.06
CANOPY COVER .....(%).	99.00	COND ....(uS/cm3).	70.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.02	ALK .(mg CaCO3/l).	19.87 ..	0.15
STREAM VELOCITY ...(m/Sec).	0.08			

	MEAN	STD
STREAM WIDTH ...(M).....	2.40 ..	7.49
STREAM DEPTH ..(CM).....	7.00 ..	7.23
DOMINANT SUBSTRATE TYPE ...	1,6	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.35 (%)	
TOTAL SHELTER	10.68 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	1.0	0.00
SA			WS	1.0	0.00	NE		
BK	20.0	0.00	BL	40.0	0.00	SI		
BN	2.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR	8.0	0.00	MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: PUNCH BROOK SITE #: 131
DESCRIPTION : DOWNSTREAM SIDE OF PUNCH BROOK ROAD 1/2 EAST OF RTE 4

SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 09/27/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	10.43 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.23	pH	7.50 ..	0.00
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	56.33 ..	1.15
STREAM DISCHARGE .....(M3).	0.03	ALK .(mg CaCO3/l).	13.20 ..	0.20
STREAM VELOCITY ...(m/Sec).	0.19			

	MEAN	STD
STREAM WIDTH ...(M).....	2.72 ..	8.54
STREAM DEPTH ..(CM).....	6.40 ..	7.60
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	20.00 (%)	
POOL/RIFFLE RATIO	0.28 (%)	
TOTAL SHELTER	7.95 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	2.0	0.00
SA			WS			NE		
BK			BL			SI		
BN	79.0	2.31	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: PHELPS BROOK SITE #: 132
DESCRIPTION :

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 08/10/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	7.53 ..	0.15
AIR/WATER TEMP RATIO ..(%).	1.19	pH	6.87 ..	0.06
CANOPY COVER .....(%).	93.75	COND ....(uS/cm3).	50.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.01	ALK .(mg CaCO3/1).	10.43 ..	0.38
STREAM VELOCITY ...(m/Sec).	0.03			

	MEAN	STD
STREAM WIDTH ...(M).....	4.68 ..	14.62
STREAM DEPTH ..(CM).....	9.00 ..	8.95
DOMINANT SUBSTRATE TYPE ...	1,3,4	
TYPE 3 SUBSTRATE	30.00 (%)	
TYPE 3 EMBEDDNESS	23.33 (%)	
POOL/RIFFLE RATIO	2.38 (%)	
TOTAL SHELTER	10.54 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG	2.0	0.00	WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB	6.0	0.00	MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	350.0	24.19	NE		
BK	2.0	0.00	BL	722.0	11.05	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR	540.0	66.99	MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	33.0	11.89	SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: OWENS BROOK SITE #: 137
DESCRIPTION : PARALLEL TO OWENS BROOK RD, 1/4 MILES FROM JCT WITH RTE 10(202) SIMSBURY
SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 09/27/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	10.37 ..	0.15
AIR/WATER TEMP RATIO ..(%).	1.75	pH	7.87 ..	0.06
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	203.00 ..	1.73
STREAM DISCHARGE .....(M3).	4.4E-3	ALK .(mg CaCO3/l).	56.27 ..	1.33
STREAM VELOCITY ...(m/Sec).	0.07			

	MEAN	STD
STREAM WIDTH ...(M).....	1.37 ..	4.31
STREAM DEPTH ..(CM).....	4.25 ..	5.42
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	60.00 (%)	
POOL/RIFFLE RATIO	0.48 (%)	
TOTAL SHELTER	0.65 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS			NE		
BK	47.0	1.18	BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: GRIMES BROOK SITE #: 138
DESCRIPTION :

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 10/06/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	10.77 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.33	pH	7.60 ..	0.00
CANOPY COVER .....(%).	96.60	COND ....(uS/cm3).	152.67 ..	1.15
STREAM DISCHARGE .....(M3).	0.06	ALK .(mg CaCO3/1).	54.20 ..	0.20
STREAM VELOCITY ...(m/Sec).	0.15			

	MEAN	STD
STREAM WIDTH ...(M).....	3.01 ..	9.49
STREAM DEPTH ..(CM).....	12.90 ..	10.00
DOMINANT SUBSTRATE TYPE ...	1,3	
TYPE 3 SUBSTRATE	40.00 (%)	
TYPE 3 EMBEDDNESS	72.50 (%)	
POOL/RIFFLE RATIO	4.56 (%)	
TOTAL SHELTER	16.37 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	7.0	1.39	NE		
BK	14.0	0.00	BL	105.0	2.19	SI		
BN	8.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR	48.0	0.00	MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: NO NAME SITE #: 139
DESCRIPTION :

SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 08/30/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.67 ..	0.35
AIR/WATER TEMP RATIO ..(%).	1.12	pH	5.80 ..	0.20
CANOPY COVER .....(%).	88.00	COND ....(uS/cm3).	48.00 ..	0.00
STREAM DISCHARGE .....(M3).	8.1E-3	ALK .(mg CaCO3/l).	1.72 ..	0.08
STREAM VELOCITY ...(m/Sec).	0.06			

	MEAN	STD
STREAM WIDTH ...(M).....	2.19 ..	6.90
STREAM DEPTH ..(CM).....	5.95 ..	4.98
DOMINANT SUBSTRATE TYPE ...	1,4,6	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	90.00 (%)	
POOL/RIFFLE RATIO	0.72 (%)	
TOTAL SHELTER	1.05 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS	..	..	SD	..	..	LD	..	..
BC	..	..	TD	..	..	PD	..	..
BG	..	..	WA	..	..	SS	..	..
GR	..	..	WP	..	..	SR	..	..
HY	..	..	YP	..	..	TE	..	..
BP	..	..	BU	..	..	KI	..	..
RG	..	..	BB	..	..	MU	..	..
RP	..	..	CC	..	..	SP	..	..
LM	..	..	WC	..	..	SK	..	..
PS	..	..	YB	..	..	BO	..	..
RS	..	..	CP	..	..	FS	..	..
RB	..	..	GP	..	..	NS	..	..
SM	..	..	NP	..	..	TS	..	..
WH	..	..	OH	..	..	AE	..	..
SA	..	..	WS	..	..	NE	..	..
BK	..	..	BL	..	..	SI	..	..
BN	..	..	BM	..	..	ST	..	..
KO	..	..	BD	..	..	BW	..	..
LT	..	..	CA	..	..	AN	..	..
RW	..	..	CS	..	..	LA	..	..
SB	..	..	CR	..	..	MM	..	..
AL	..	..	CM	..	..	HO	..	..
AS	..	..	FA	..	..	RA	..	..
AH	..	..	FM	..	..	SL	..	..
BH	..	..	GO	..	..	SN	..	..
GI	..	..	GS	..	..	SC	..	..
HS	..	..	GF	..	..	TI	..	..
BA	..	..	GC	..	..	TO	..	..

LOCATION NAME: MOOSEHORN BROOK SITE #: 140
DESCRIPTION :

SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 09/21/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	9.07 ..	0.12
AIR/WATER TEMP RATIO ..(%).	1.19	pH	7.00 ..	0.00
CANOPY COVER .....(%).	96.30	COND ....(uS/cm3).	47.00 ..	1.73
STREAM DISCHARGE .....(M3).	6.7E-3	ALK .(mg CaCO3/l).	10.13 ..	0.12
STREAM VELOCITY ...(m/Sec).	0.05			

	MEAN	STD
STREAM WIDTH ...(M).....	3.73 ..	11.63
STREAM DEPTH ..(CM).....	3.97 ..	5.40
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	1.52 (%)	
TOTAL SHELTER	1.14 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE	1.0	0.00
SA			WS			NE		
BK	89.0	7.39	BL	497.0	61.34	SI		
BN	23.0	0.00	BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	0.0	1.304E19	LA		
SB			CR	511.0	20.67	MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: BEAVER BROOK SITE #: 154
DESCRIPTION :

SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 09/07/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	11.30 ..	0.00
AIR/WATER TEMP RATIO ..(%).	1.42	pH	..	
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	38.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.03	ALK .(mg CaCO3/l).	10.77 ..	0.25
STREAM VELOCITY ...(m/Sec).	0.08			

	MEAN	STD
STREAM WIDTH ...(M).....	4.33 ..	13.64
STREAM DEPTH ..(CM).....	7.32 ..	8.27
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	10.00 (%)	
TYPE 3 EMBEDDNESS	100.00 (%)	
POOL/RIFFLE RATIO	1.00 (%)	
TOTAL SHELTER	1.29 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	3.0	0.00	NE		
BK	30.0	4.28	BL	171.0	3.69	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR	36.0	0.00	MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: SAWMILL BROOK SITE #: 155
DESCRIPTION : 500 YDS FROM ACCESS GATE TO RTE 20 AT JCT WITH DIRT RD ON MAP.
SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 08/04/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.80 ..	0.00
AIR/WATER TEMP RATIO ..(%).	1.37	pH	6.90 ..	0.00
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	53.00 ..	0.00
STREAM DISCHARGE .....(M3).	2.E-3	ALK .(mg CaCO3/l).	7.27 ..	0.32
STREAM VELOCITY ...(m/Sec).	0.02			

	MEAN	STD
STREAM WIDTH ...(M).....	1.57 ..	4.90
STREAM DEPTH ..(CM).....	4.47 ..	5.90
DOMINANT SUBSTRATE TYPE ...	1,3,4,5	
TYPE 3 SUBSTRATE	30.00 (%)	
TYPE 3 EMBEDDNESS	6.67 (%)	
POOL/RIFFLE RATIO	0.48 (%)	
TOTAL SHELTER	8.85 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS ..	..		SD ..	..		LD ..	..	
BC ..	..		TD ..	..		PD ..	..	
BG ..	..		WA ..	..		SS ..	..	
GR ..	..		WP ..	..		SR ..	..	
HY ..	..		YP ..	..		TE ..	..	
BP ..	..		BU ..	..		KI ..	..	
RG ..	..		BB ..	..		MU ..	..	
RP ..	..		CC ..	..		SP ..	..	
LM ..	..		WC ..	..		SK ..	..	
PS ..	..		YB ..	..		BO ..	..	
RS ..	..		CP ..	..		FS ..	..	
RB ..	..		GP ..	..		NS ..	..	
SM ..	..		NP ..	..		TS ..	..	
WH ..	..		OH ..	..		AE ..	..	
SA ..	..		WS ..	..		NE ..	..	
BK ..	91.0 ..	2.77	BL ..	..		SI ..	..	
BN ..	..		BM ..	..		ST ..	..	
KO ..	..		BD ..	..		BW ..	..	
LT ..	..		CA ..	..		AN ..	..	
RW ..	..		CS ..	..		LA ..	..	
SB ..	..		CR ..	..		MM ..	..	
AL ..	..		CM ..	..		HO ..	..	
AS ..	..		FA ..	..		RA ..	..	
AH ..	..		FM ..	..		SL ..	..	
BH ..	..		GO ..	..		SN ..	..	
GI ..	..		GS ..	..		SC ..	..	
HS ..	..		GF ..	..		TI ..	..	
BA ..	..		GC ..	..		TO ..	..	

LOCATION NAME: MALLORY BROOK SITE #: 158
DESCRIPTION : PARALLEL TO RTE 44 100 M UPSTREAM OF ROAD CROSSING, HEAVY SEDIMENT FROM CONSTRUC
SAMPLE LENGTH: 100.00 (M) SAMPLE DATE: 09/22/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.73 ..	0.06
AIR/WATER TEMP RATIO ..(%).	1.20	pH	7.47 ..	0.06
CANOPY COVER .....(%).	78.50	COND ....(uS/cm3).	152.67 ..	2.52
STREAM DISCHARGE .....(M3).	0.02	ALK .(mg CaCO3/l).	57.27 ..	0.25
STREAM VELOCITY ...(m/Sec).	0.04			

	MEAN	STD
STREAM WIDTH ...(M).....	3.91 ..	12.35
STREAM DEPTH ..(CM).....	12.65 ..	9.95
DOMINANT SUBSTRATE TYPE ...	1,3	
TYPE 3 SUBSTRATE	50.00 (%)	
TYPE 3 EMBEDDNESS	76.00 (%)	
POOL/RIFFLE RATIO	3.35 (%)	
TOTAL SHELTER	12.47 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	148.0	41.74	PD		
BG			WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS			YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	234.0	8.01	NE		
BK	5.0	0.00	BL	140.0	5.44	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	53.0	0.00	LA		
SB			CR	183.0	2.85	MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: MAD RIVER SITE #: 163
DESCRIPTION :

SAMPLE LENGTH: 140.00 (M) SAMPLE DATE: 09/21/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.83 ..	0.15
AIR/WATER TEMP RATIO ..(%).	1.12	pH	7.43 ..	0.12
CANOPY COVER .....(%).	68.80	COND ....(uS/cm3).	50.00 ..	0.00
STREAM DISCHARGE .....(M3).	0.12	ALK .(mg CaCO3/1).	15.63 ..	0.15
STREAM VELOCITY ...(m/Sec).	0.11			

	MEAN	STD
STREAM WIDTH ...(M).....	5.92 ..	18.64
STREAM DEPTH ..(CM).....	18.50 ..	21.42
DOMINANT SUBSTRATE TYPE ...	1,4	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	0.75 (%)	
TOTAL SHELTER	4.96 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD			PD		
BG	1.0	0.00	WA			SS		
GR			WP			SR		
HY			YP	3.0	0.00	TE		
BP			BU			KI		
RG			BB	1.0	0.00	MU		
RP			CC			SP		
LM			WC			SK		
PS	6.0	0.00	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	400.0	14.10	NE		
BK	4.0	0.00	BL	1321.0	17.93	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	720.0	28.90	LA		
SB			CR	196.0	1.61	MM		
AL			CM			HO		
AS			FA	97.0	4.68	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: FOURMILE BROOK SITE #: 167
DESCRIPTION : DIRECTLY ON UPSTREAM SIDE OF HALLOWAY AVE.

SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 09/19/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.37 ..	0.15
AIR/WATER TEMP RATIO ..(%).	1.29	pH	7.77 ..	0.12
CANOPY COVER .....(%).	100.00	COND ....(uS/cm3).	372.00 ..	9.17
STREAM DISCHARGE .....(M3).	4.E-3	ALK .(mg CaCO3/l).	118.43 ..	0.50
STREAM VELOCITY ...(m/Sec).	0.03			

	MEAN	STD
STREAM WIDTH ...(M).....	1.26 ..	3.97
STREAM DEPTH ..(CM).....	9.45 ..	6.50
DOMINANT SUBSTRATE TYPE ...	1,3	
TYPE 3 SUBSTRATE	90.00 (%)	
TYPE 3 EMBEDDNESS	96.11 (%)	
POOL/RIFFLE RATIO	17.52 (%)	
TOTAL SHELTER	2.71 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	1.0	0.00	PD		
BG	4.0	0.00	WA			SS		
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM	2.0	0.00	WC			SK		
PS	13.0	0.00	YB			BO		
RS			CP			FS		
RB			GP			NS		
SM			NP			TS		
WH			OH			AE		
SA			WS	3.0	0.00	NE		
BK			BL	8.0	0.00	SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS			LA		
SB			CR			MM		
AL			CM			HO		
AS			FA			RA		
AH			FM			SL		
BH			GO			SN		
GI			GS			SC		
HS			GF			TI		
BA			GC			TO		

LOCATION NAME: PHILO BROOK SITE #: 168
DESCRIPTION : DOWNSTREAM OF BRIDGE ON RUSSELL RD,SUFFIELD

SAMPLE LENGTH: 50.00 (M) SAMPLE DATE: 09/19/88

STREAM CHARACTERISTICS

PHYSICAL		CHEMICAL	MEAN	STD
MAX WATER TEMP .....(C).		DO .....(mg/l).	8.30 ..	0.00
AIR/WATER TEMP RATIO ..(%).	1.44	pH	7.60 ..	0.00
CANOPY COVER .....(%).	77.00	COND ....(uS/cm3).	211.33 ..	4.04
STREAM DISCHARGE .....(M3).	0.08	ALK .(mg CaCO3/l).	56.97 ..	0.85
STREAM VELOCITY ...(m/Sec).	0.13			

	MEAN	STD
STREAM WIDTH ...(M).....	2.61 ..	8.18
STREAM DEPTH ..(CM).....	20.20 ..	19.22
DOMINANT SUBSTRATE TYPE ...	1	
TYPE 3 SUBSTRATE	0.00 (%)	
TYPE 3 EMBEDDNESS	(%)	
POOL/RIFFLE RATIO	9.87 (%)	
TOTAL SHELTER	38.91 (M2)	

BIOLOGICAL

SPECIES CODE	N	SE	SPECIES CODE	N	SE	SPECIES CODE	N	SE
BS			SD			LD		
BC			TD	37.0	15.30	PD		
BG	14.0	0.00	WA			SS	0.0	1.304E19
GR			WP			SR		
HY			YP			TE		
BP			BU			KI		
RG			BB			MU		
RP			CC			SP		
LM			WC			SK		
PS	24.0	0.00	YB			BO		
RS			CP			FS		
RB			GP	8.0	0.00	NS		
SM			NP			TS		
WH			OH			AE	12.0	0.00
SA			WS	9.0	0.00	NE		
BK			BL			SI		
BN			BM			ST		
KO			BD			BW		
LT			CA			AN		
RW			CS	53.0	1.82	LA		
SB			CR			MM		
AL			CM			HO		
AS			FA	25.0	1.22	RA		
AH			FM			SL		
BH			GO			SN		
GI			GS	50.0	0.00	SC		
HS			GF			TI		
BA			GC			TO		