STATE OF CONNECTICUT

Department of Envrionmental Protection

Bureau of Natural Resources

Fisheries Division

Federal Aid in Sport Fish Restoration F-66-R-7

Annual Performance Report

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

Job 2. Stream Survey

Job 3. Angler Survey

Period Covered: April 1, 1994 to March 31, 1995

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## Acknowledgments

We would like to acknowledge the many private land owners, towns, water districts, and water companies who allowed us access to their properties. The diligence and dedication of the following field personnel was greatly appreciated: Mike Beauchene, Douglas Jann, Dirk DeBoer, Douglas Kartono, Nicolas Kaputa, Robert Richard and Rena Gutz. We appreciate the long hours endured by Mike Beauchene in processing our invertebrate samples. We wish to express our appreciation to Tony Petrillo, James Moulton and Ernest Beckwith for their review and comments on this document. Additional thanks are offered to all other project and division staff whose assistance has helped to make our job a lot easier.

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## ABSTRACT

A comprehensive stream survey was conducted in the upper Thames River basin as part of a multiple year study of Connecticut streams and rivers. A total of 174 sites on 130 streams were sampled for invertebrate populations, fish populations, and habitat information. Physical, chemical, and biological data were evaluated to determine if differences in these parameters could account for the presence or absence of trout and trout reproduction. Trout reproduction was found in 67.7% of the streams that were sampled. Preliminary data analyses were done on invertebrate samples collected in 1994.

Angler surveys were conducted on 10 stream sections. The heaviest fishing pressure during the Opening Day to June 15 period was measured on the Fenton River (1,281 hr/km). The largest amount of total angler usage was on the Natchaug River (13,770 angler hours). The Trout Management Areas (TMA) on the Moosup, Willimantic, and Salmon Rivers were also surveyed during 1994 prior to the traditional Opening Day. Unfavorable weather and flow conditions limited the use of some TMA sections during the preseason period, but the Willimantic River TMA and Salmon River TMA fly-fishing-only area had 307 hr/km and 292 hr/km respectively.

Data collected from over 900 sites were provided at the request of various federal agencies, state agencies, municipalities, land owners, private individuals and consultants.

## 1.0 Introduction

A comprehensive survey of the streams and rivers of the State of Connecticut was started by the Department of Environmental Protection (DEP) Fisheries Division in 1988. The objectives of this study include: development of trout stocking models to optimize allocation of hatchery fish, compilation of a data base which will allow timely and accurate completion of environmental permitting and reviews, identification and quantification of the state's coldwater and warmwater stream resources, development of models to accurately predict species composition and biomass in Connecticut streams, and dissemination of this information to the general public in a useful and comprehensible form. Most objectives cannot be realized until the last year of the study.

This report contains progress reports for Job 2 (Stream Survey) and Job 3 (Angler Survey), of Federal Aid in Sport Fish Restoration Project F-66-R, covering the seventh year of field sampling. The first six years covered sampling of the Connecticut River basin, the coastal streams, the Housatonic River basin and lower Thames River basin. The upper Thames River drainage was sampled during 1994 (Figure 1). This included the Natchaug River watershed, Willimantic River watershed, and the upper half of the Quinebaug River watershed above the Moosup River confluence (Table 1). These regions have been subject to a moderate level of development with approximately 1.29 construction permits per square mile issued per year during the mid 1980s (Chase Econometrics 1986).

### 1.1 Basin Description:

The upper Thames River basin is located in the eastern highlands. This is a primarily granitic area with sections of glacial till. The basin consists of three general areas: the upper Quinebaug River to the east, the Natchaug River and its tributaries in the center, and the Willimantic River on the western side of the basin. The entire Natchaug River system above Willimantic Reservoir, and portions of four other streams

(Little River, Furnace Brook, Fivemile River, and Whetstone Brook) are part of municipal water supply systems.

Table 1.-Area of drainages in the upper Thames River basin.

| Drainage Basin Name | Major and Regional Basin Codes | Area ($km^2$) | Portion Sampled in 1994 Area[1] ($km^2$) |
|---|---|---|---|
| Thames Major Basin | 3 | 3796 | * |
| Willimantic Regional Basin | 31 | | |
| Edson Brook | | 226 | * |
| Middle River | | 18 | 18 |
| Furnace Brook | | 34 | * |
| Roaring Brook | | 16 | * |
| Mill Brook | | 22 | 22 |
| Skungamaug River | | 6 | 6 |
| Burnap Brook | | 31 | 31 |
| Hop River | | 8 | 8 |
| Giffords Brook | | 80 | 80 |
| Tenmile River | | 6 | 6 |
| | | 17 | 17 |
| Natchaug Regional Basin | 32 | | |
| Bungee Brook | | 172 | * |
| Still River | | 17 | 17 |
| Bigelow Brook | | 32 | 32 |
| Stonehouse Brook | | 24 | * |
| Knowlton Brook | | 6 | 6 |
| Mount Hope River | | 8 | 8 |
| Fenton River | | 37 | 37 |
| Sawmill Brook | | 36 | 36 |
| | | 7 | 7 |
| French Regional Basin | 33 | 111 | * |
| Fivemile Regional Basin | 34 | | |
| Rocky Brook | | 77 | 77 |
| Mary Brown Brook | | 6 | * |
| Cady Brook | | 9 | * |
| Whetstone Brook | | 8 | * |
| | | 14 | * |
| Moosup Regional Basin | 35 | | |
| Quanduck Brook | | 89 | * |
| Snake Meadow Brook | | 20 | * |
| Ekonk Brook | | 11 | 11 |
| Moosup River | | 5 | 5 |
| Quinebaug Regional Basin | 37 | | |
| Hamilton Reservoir trib. | | 1922 | * |
| Breakneck Brook | | * | * |
| Hatchet Brook | | * | * |
| Cohasse Brook | | * | * |
| Lebanon Brook | | * | * |
| English Neighborhood Brook | | * | * |
| Mill/Taylor Brook | | 5 | 5 |
| Little River | | 7 | 7 |
| Wappoquia Brook | | 39 | * |
| Mashamoquet Brook | | 6 | 6 |
| Blackwell Brook | | 34 | 34 |
| Kitt Brook | | 28 | 28 |
| | | 12 | 12 |

[1] Area includes the entire watershed upstream of the mouth of each stream. This may include the area of other regions or subregions located upstream.

* All previously unsampled portions of these drainage basins located within the state were sampled.

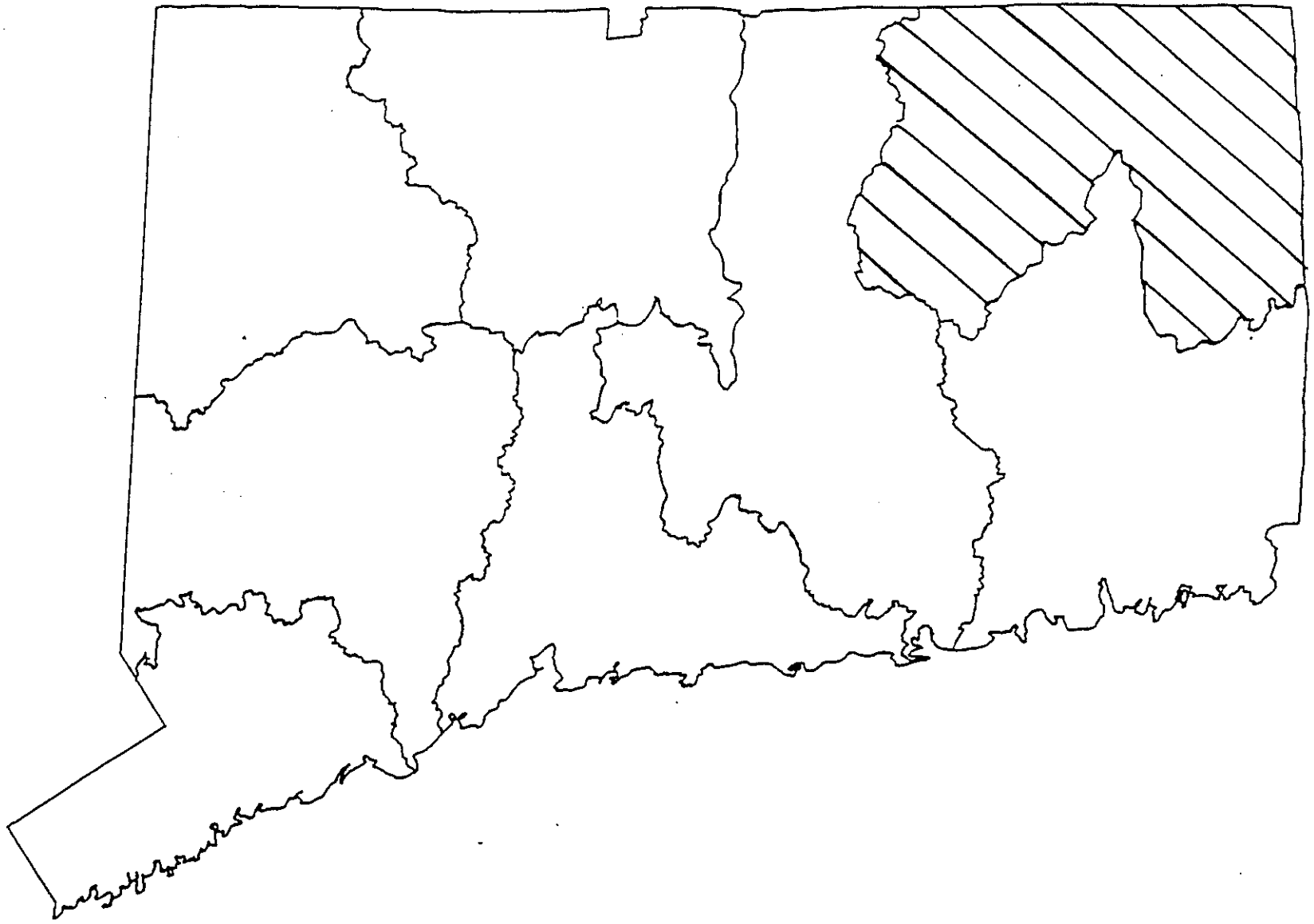

Figure 1. Drainage area sampled during 1994.

Impoundments warm the headwaters of the Quinebaug River before it enters the state from Massachusetts. West Thompson Reservoir on the Quinebaug River, and Mansfield Hollow Reservoir at the confluence of the Natchaug, Fenton, and Mount Hope rivers are Army Corps of Engineers flood control impoundments that moderate and warm the flows of the rivers. Much of the drainage was agricultural, and large sections of land are still in open meadows.

## 2.0 Methodology

### 2.1 Resource Identification:

The locations of all stocking sites in the study area were identified from stocking maps marked by state Conservation Officers. Public access areas were identified from the Connecticut DEP Property Map.

All surface waters within the bounds of the study area were located on 1:24,000 scale USGS topographic maps and transposed on to single mat, 0.3 mil. mylar overlays. Vellum copies of the original overlays were made and used for field checks.

Visual estimates of the width and depth of each stream were made at all accessible stream crossings. Where possible, information on ownership and access was obtained prior to further data collection.

Stream sections and subsections were 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 were 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 (Figure 2). Each drainage basin number defines an area of a drainage basin called a "Polygon". Any area which has a permanent stream was defined as a separate polygon, and anytime a stream joined another stream or river resulting in a change in flow volume a new polygon was defined.

A list of streams and stream subsections, by stream code, with associated reference information, was generated using RBASE for DOS. The information specific to each polygon includes: stream name, length, width, township, topographic map name, stream features (dams, swamps, postings, and channelizing),

stocking status, drainage area, and water quality rating based on DEP Water Management Unit's Water Quality Classification maps.

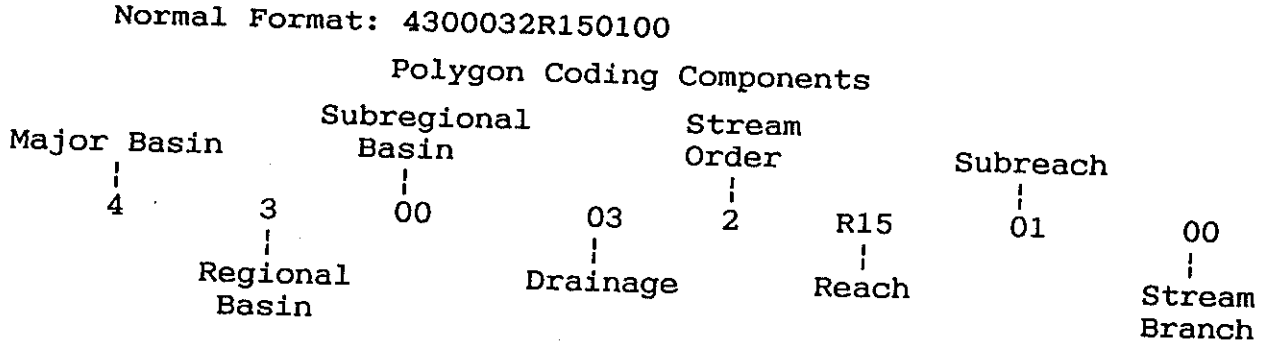


Figure 2. Polygon Coding System, an extension of DEP, Natural Resources Center's Stream Classification System.

All streams were characterized by habitat type, longitudinally, from the confluence with the next higher order stream to the head waters. Habitat types were 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 was measured with a planimeter and recorded sequentially on a stream kilometer basis. All dams and waterfalls were identified and their locations recorded by stream kilometer.

**2.2 Site Selection:**

Approximately 90-150 sites were sampled during each year in which normal flow regimes prevailed. Additional sites were sampled whenever flow conditions allowed for extended sampling. Sites were selected based on the following criteria.

A) **Mandatory Sites:**

1) One sample assigned to the dominant habitat type in each subregional drainage basin;

2) One sample site 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 were assigned to the dominant stream of each subregional drainage basin as required to adequately assess the variability between significantly differing habitat types (eg. upland vs. channelized meadow);
5) Using the list of all stream polygons sorted by widths, a random selection of sample sites was 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 were allocated.

Applying these priorities, we attempted to sample all streams with existing or potential fishery value. However, some of our largest rivers can not be sampled using the described methodology. Small streams (width 1-1.5 m) are 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 was logistically impossible to sample all of them. After being visually inspected and categorized, they were subsampled as described in #5 above.

Each selected sample site was visually inspected to identify any previously undetected sampling problems (i.e. postings). Where necessary, land owners were contacted for permission to sample. Stream width was measured at each site to help in planning manpower needs. All streams were inspected and sites selected during the period beginning with the end of the previous field season (October) and prior to April 15th.

## 2.3 Invertebrate Collections:

Aquatic invertebrates were collected between May 15 and June 9 (during this time insect biomass and diversity are near peak levels). Samples were collected from representative riffle areas, centrally located within each sample site.

Samples were collected using a 0.065 $m^2$ Surber sampler with 1.02 mm mesh bag. Five samples were 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 was contingent on the ability to obtain a good seal with the substrate. The substrate within the frame was stirred to a depth of 2-4 cm. All adhering invertebrates were dislodged into the collection net by brushing with a scrub brush. The net was dipped into the stream several times to wash insects into the collection bag. The bag was then 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 was added to completely cover the sample material, and a label identifying the site and sample number was placed into each jar.

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

## 2.4 Low Flow Data Collection:

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

### 2.4.1 Site set up:

The location of each sample site was recorded, usually as a street reference and a distance from major physical landmark (e.g. located at intersection of Rtes. 20 and 195 in Windham, 50 m above bridge).

A block net (6 mm mesh) was placed at the downstream end of the sample site in an area which allowed bank to bank coverage with a good bottom seal, and where the net was not overwhelmed by water current. Bridge pool areas were avoided when placing the block net. In some large streams, width and velocity prevented the use of block nets.

The length of the sample site was determined by 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 was always at least 10 times the width, and wherever possible at least two pool/riffle combinations were included.

Sample sites were marked off into ten equidistant units using surveying flags. Care was taken to minimize disturbance of the substrate and water column while marking off subsample units. A block net was installed at the upstream end of the sample site. The exact length of a site was sometimes modified to ensure a suitable area for placement of the upstream block net.

In large streams where the use of block nets was impossible, data were collected from a length of stream approximately ten times the stream width. Mark/recapture methods were 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 mark/recapture site were used to collect data on forage species and to control for emigration of marked sport fish.

### 2.4.2 Physical-chemical information collection:

While marking off the subsample units, a sequential record was made of all pool and riffle lengths to the nearest 0.1 m. Runs were included with riffles and glides were included with pools. This information was 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 were made. Total length of cover was estimated and expressed using length of cover as a percentage of the total stream section length. A subjective estimate of overhead canopy coverage was expressed as a percentage, with no canopy as zero and complete shade as 100%. An estimate of fishing pressure based on evidence of fishing activities at the site was rated on a 0 to 3 scale: 0) no fishing, 1) light fishing (believed to be <500 hrs/ha/year), 2) moderate fishing (believed to be 500-1,250 hrs/ha/year), 3) heavy fishing (believed to be >1,250 hrs/ha/year).

Water chemistry data were obtained at sample flags one, five and nine (e.g. 10, 50 and 90 meters from the bottom net in a 100 meter section). At each water chemistry flag a 500 ml water sample was collected for alkalinity analysis. A plastic bottle was plunged into the water top first and then inverted and filled. This prevented material in the surface film from influencing the sample results. The pH was measured to the nearest 0.1 pH unit with a pH meter. A Nester 8500 portable dissolved oxygen meter was used to measure dissolved oxygen concentrations to the nearest 0.1 ppm. Conductivity was measured in umhos with a YSI Model 33 S-C-T conductivity meter. The pH meter was calibrated with pH 7 and pH 10 standard solutions on a daily basis as per the manufacturers' standard procedure. The dissolved oxygen meter was calibrated at each sample site to compensate for the effect of changes in elevation.

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

The stream's width was measured at each subsample flag to the nearest 0.1 m. The total wetted distance perpendicular to the flow was measured including undercut areas. Any dry areas were subtracted from the width and any objects or boulders with significant flow under them were included in the width. Stream depths were 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 was determined at every meter along the transect line formed by the width measurement. Using a 0.06 $m^2$ quadrat frame with the left edge lined up on the meter mark, the dominant substrate type was determined as in Table 2 (from Platts et al. 1983). Substrate types were determined at all width transects. A subjective estimate of the percent embeddedness of the dominant substrate by sand ($\leq$4.7 mm ratings 1 and 2) was made for each substrate sample.

Table 2.-Substrate types and sizes from Platts et al. (1983).

| Substrate type | Rating | Size |
|---|---|---|
| Fine Sand | 1 | <0.83 mm |
| Coarse Sand | 2 | 0.83-4.7 mm |
| Gravel | 3 | 4.7-76.0 mm |
| Cobble | 4 | 76.0-304.0 mm |
| Small Boulders | 5 | 305.0-609.0 mm |
| Large Boulders | 6 | >609.0 mm |
| Bedrock | 7 | -- |

Instream cover was quantified by identifying individual habitat pieces and assigning each piece to a habitat category. The criteria 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 were: rock, undercut bank, overhanging plant material, logs (snags), deep water, turbulence, and artificial material. The length of each piece of habitat was measured along its long axis, and width was measured perpendicular to the long axis. Stream structures must meet certain 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 must be within 30 cm of the water surface. Deep water habitat must have a minimum depth of 45 cm, and turbulence must cause enough disturbance to hide a 20 cm fish in water at least 15 cm deep.

A crown densiometer was used to measure the canopy at five transects. Measurements were made at the water surface at mid-channel and the data expressed as a percentage.

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

At approximately 12:00 noon, air and water temperatures were measured to the nearest degree Celsius at the midpoint of the sample site. Maximum air and water temperatures were determined for as many sample sites as possible during summer heat waves.

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

Flow stability was 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 was determined from visual evidence and historic information.

Average stream velocity and discharge were measured by one of two methods: 1) Marsh McBirney digital flow meter, or 2) a salt dilution technique. With the flow meter, flow was measured along a transect perpendicular to the direction of stream flow. Flow velocity, water depth and distance from the left bank were measured wherever depth or velocity visibly changed. The velocity reading was 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 depths at which the velocity readings were taken follow suggested USGS guidelines: at 0.5 of the water column where total depth is 9-10 cm; and at 0.6 of the water column depth from the surface where total depth is 11-76 cm. For depths greater than 76 cm two readings were 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 1924, and John 1978) was used to estimate mean velocity and discharge wherever channel morphology and depth precluded use of the flow meter (i.e. shallow water, etc.). A 40-100 m reach of stream was selected, excluding large standing pools, and three baseline conductivity readings were taken. A measured quantity of brine solution was then added to the upstream end of the area. Concentration of the brine solution was approximately 226 grams of salt for each estimated cfs of flow volume. Conductivity was recorded at one minute intervals following the release of the brine. The time elapsed prior to the first change in conductivity from baseline was noted as was the time required to reach the highest conductivity reading.

### 2.4.3 Population estimation:

Fish population size was estimated at each sample site by either the Zippin removal method (Zippin 1958) or the Petersen mark-and-recapture method (Everhart and Youngs 1981). The Zippin method was used in all streams where it was possible to place block nets at the upstream and downstream ends of the sample site. In large streams where it was impossible to use block nets, mark-recapture was used or single pass relative abundance data were collected. Sampling was 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, weather, and precipitation were recorded along with output voltage, amperage, and pulse frequency. Each shocking pass consisted of one run upstream through the sample site. The length of time required for the first pass was recorded and subsequent passes were timed to maintain a consistent level of effort. Persons carrying the backpack or people holding the electrodes (stream shocker) were changed after each pass. One to four netters collected the stunned fish which were then transported to an adjacent stream section and processed. Inflated sample estimates caused by chance encounters with large numbers of young-of-the-year fish prompted us not to include centrarchids below 4.5 cm and cyprinids below 3.5 cm in length in population calculations. Usually three passes were made for the Zippin method, but if after three passes the dominant species present had not declined at least 30% from the initial pass then a fourth or fifth pass was added as needed. At sites with very few fish (less then ten on the second pass), two passes were sometimes adequate to calculate an accurate population estimate.

All fish collected on the first pass for mark/recapture sites were measured, marked (caudal fin clips), and enumerated by species. The fish were then released evenly throughout the sample area and any dead individuals collected and subtracted from the number of marked fish. A one hour readjustment period

(Petersen and Cederholm 1984) was allowed prior to beginning the recapture pass. All fish caught during this pass were enumerated by species, and presence or absence of a fin clip was noted.

Fish were identified and the first 100 individuals of each species were measured to the nearest centimeter. All subsequent individuals were tallied by species. Scale samples were taken from all game fish for the first two individuals measured in each 1 cm size class over 9 cm (brook trout *Salvelinus fontinalis*, brown trout *Salmo trutta*, rainbow trout *Oncorhynchus mykiss*, Atlantic salmon *Salmo salar*, largemouth bass *Micropterus salmoides*, smallmouth bass *Micropterus dolomieu*, rock bass *Ambloplites rupestris*, chain pickerel *Esox niger*, and sunfish *Lepomis* spp.) Scale samples were taken from above the lateral line for all soft-rayed fish, and behind the point of the pectoral fin for spiny-rayed fish. These fish were measured to the nearest millimeter total length. Up to eight representative specimens of each species were preserved in 10% formalin for independent confirmation of identification by Dr. W. Whitworth, University of Connecticut, Department of Natural Resources.

The tabulated length frequency data for each trout population were used to separate young-of-the-year (YOY), Age 1, and adult fish. In many cases the separations in age groups were obvious from the size distribution. In cases where the size range seemed extreme or where there was no clear split in age groups, scale samples were checked and fish were assigned to age groups proportional to the frequency distribution. In samples where stocked and wild trout could not be separated by obvious visible cues, scales were checked for hatchery or wild growth patterns. Age 1 and younger fish were assumed to be of wild origin unless available stocking information indicated otherwise. All scales were mounted between two glass slides or acetate impressions were made on a roller press. Ages were determined by visual inspection of scale images from a trisimplex scale projector or microfiche reader.

Biomass estimates for each site were generated using the length frequency data and species specific length/weight

relationships. The length/weight relationships were developed using the weight, in grams, of fish from several sample sites. In cases where the specimens were small (less than 8 cm), group weights of fish within a centimeter class were used to produce an average centimeter class weight for that species.

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

## 2.5 Laboratory Procedures:

Water samples were brought back to the lab to measure alkalinity. A potentiometric titration (APHA 1971) was used to analyze the three samples of water from each site. A 100 ml sample was measured in a graduated cylinder and added to a beaker. A digital microburette with 0.02 N HCl was used to titrate to pH 4.5 and pH 4.2 end points. If less than 1.0 ml total titrant was used, the process was repeated using a 200 ml sample. All glassware was rinsed twice with distilled water and then with a small amount of the sample water prior to doing the titrations. Alkalinity was calculated using the following formula:

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

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 were calculated for pH, conductivity, D.O., and alkalinity.

The total length for each cover category ($CL_j$) was 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) was summed from the separate cover categories.

A percent stream length as cover (PSL) was calculated from equation 4. The area of each piece of cover ($A_i$) was calculated from the width times the length measurements. A percent stream area as cover (PSA) for each category and total area cover (TCA) were calculated by equations 6 and 7. Total sample site area was 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 Zippin method followed the Maximum Weighted Likelihood Estimate (MWLE) of Carle and Stubb (1978) (equations 8-11).

$$T_i = \sum C_i \quad (8)$$

where $C_i$ = catch for pass 'i'

$$X = \sum (K-i)C_i \quad (9)$$

where K = total number of passes

The Maximum Weighted Likelihood Method Equality (equation 10) is an iterative solution where population size (N) was incremented until the solution of the equation was equal to or just less than one:

$$1.0 \geq \frac{(N+1)}{(N-T+1)} \sum_{i} \frac{(KN-X-T+(K-i)}{(KN-X+(K-i)} \qquad (10)$$

Probability of capture (p) was calculated to insure that an adequate reduction of the sampled population was accomplished. The minimum desired p-value for the total population was 0.3. The probability of capture was determined as follows:

$$p = T/(KN-X) \qquad (11)$$

The variance of the estimate of population size (N) was determined as in Zippin (1958):

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

The population size and variance for mark and recapture data were calculated with a Chapman version of a Petersen estimate (equation 13, Everhart and Youngs 1981).

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

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

periods as well as weekday (WD) and weekend/holiday (WE/H) were defined as primary sample units (PSU) for all sample periods. The stocked period was defined as the first two weeks after Opening Day and a four day period after an in-season trout stocking. Sample times (i.e. hours within a day) were defined as secondary sample units (SSU).

Because fishing effort was highly variable along a stream length, it was possible to divide streams into separate areas defined by high use (bridge-pools and easily accessible areas) and low use (areas between bridge-pools with poor access). High use areas were identified during preseason site examinations. Several bridge-pool combinations were included in each creel survey section. Estimates of effort in low use areas, collected shortly after Opening Day, were compared with high use area effort estimates collected during the same time period. Expansion values, produced from these comparisons, were used to generate effort and catch estimates for the entire stream.

To conserve manpower, three to four streams within close geographic proximity were creeled together as a single route. Creel routes were located in separate geographic locations in order to cover the drainage area. A starting time was assigned to the creel set based on sample probabilities (Tables 4 and 5). The order in which the streams were creeled was randomly assigned prior to the start of the sample.

Opening day was treated as an individual stratum because fishing pressure on that day differs from all other days of the year. A minimum of 3 samples were collected from each stream on opening day. Sample probabilities (Table 4) for Opening Day sample times were derived from Farmington River creel surveys (Hyatt 1986).

Table 4.-Opening Day sampling unit probabilities, derived from Farmington River creel data.

| Time of day | Probability of time block |
|---|---|
| 6:00 | 0.26 |
| 7:00 | 0.09 |
| 8:00 | 0.08 |
| 9:00 | 0.08 |
| 10:00 | 0.07 |
| 11:00 | 0.06 |
| 12:00 | 0.07 |
| 13:00 | 0.07 |
| 14:00 | 0.06 |
| 15:00 | 0.06 |
| 16:00 | 0.05 |
| 17:00 | 0.05 |

A total of 20 to 60 samples were scheduled for each stream based on variance estimates of angling effort from previously sampled streams. Equal probability was used for each hour within WE/H samples. Non-equal weighted probabilities were used for WD samples to account for increased fishing effort in late afternoon (Table 5). Period 2 was creel sampled on a "spot check" basis to acquire information on angler effort expended during late spring through early fall. Samples were assigned by use of a four digit random numbers table until the correct number of samples for each stratum was reached.

Small streams stocked with yearling brook trout required large sample sizes to reduce the variance in estimates of effort and catch. These waters were often sampled twice in the same creel set. This allowed us to optimize manpower when scheduling large and small streams that had different sample size requirements.

The variance of the estimate of population size (N) was 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 was calculated using a log-log regression (Ricker 1975) of weight in grams by length in millimeters. The length frequency data from each site with over 100 individuals were expanded proportionally to reflect the total number of individuals estimated for each species. The lengths were then converted to biomass values by centimeter class using the length/weight relationships, and summed for a total biomass by species. These biomass values were divided by the surface area of the sample site to generate biomass estimates in kg/ha for each species.

Growth rates for all trout species were calculated from the length frequency information as the mean length of each age class found at a site. Where enough scale samples were collected, back calculated length at age information was generated. Growth rates of other species of game fish were determined where appreciable numbers of individuals were collected.

The discharge volume calculations followed USGS recommendations outlined in Platts et al. (1983). The calculation of mean velocity using the salt method was as in equation 15. The stream discharge volume for the salt method was calculated by taking the cross sectional area from the width-depth information and multiplying by the average stream velocity. This gave the discharge at that stream transect. A mean discharge volume for all transects in the sample length was 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 were calculated for stream width and depth. Substrate data were tallied by type and a mean value for embeddedness was calculated for each substrate type. The length was calculated for each section of pool and riffle and then summed. A pool-length-to-riffle-length ratio (Platts et al. 1983) was calculated.

### 2.7 Creel Survey:

Creel surveys were conducted on a representative set of streams to supply information on the level of angler effort and to provide socioeconomic data on stream fishermen. The effort level information will also be used in the development of models that compensate for the impact of angler effort on the stream biomass estimates.

#### 2.7.1 Sampling design:

A stratified, random sampling design (non-uniform probability) was used for all streams and stream segments (Malvestuto et al. 1978 and 1983). Strata were non-overlapping. Two sampling periods were defined: period 1 (Opening Day to June 15) and period 2 (June 16 to October 15). A five stratum design was used for period 1 (Table 3) because of the variability in effort associated with stocking events (Thorpe et al. 1944, Butler and Borgensen 1965). Stocked (S) and non-stocked (NS)

Table 3.-Stratification of angler creel surveys

| Stratum | Description |
|---|---|
| 1. Opening Day | Third Saturday in April |
| 2. S-WE | Stocked weekend/holidays |
| 3. NS-WE | Non-stocked weekend/holidays |
| 4. S-WD | Stocked weekdays |
| 5. NS-WD | Non-stocked weekdays |

Table 5.-Sample probabilities for starting time of a three stream creel set and sample probabilities for the different areas to be subsampled by stratum.

| Strata<br>Subsample units | Weekdays | Weekends/holidays |
|---|---|---|
| **Time:** | | |
| 6:00 | 0.04 | 0.091 |
| 7:00 | 0.04 | 0.091 |
| 8:00 | 0.04 | 0.091 |
| 9:00 | 0.04 | 0.091 |
| 10:00 | 0.04 | 0.091 |
| 11:00 | 0.04 | 0.091 |
| 12:00 | 0.04 | 0.091 |
| 13:00 | 0.04 | 0.091 |
| 14:00 | 0.04 | 0.091 |
| 15:00 | 0.04 | 0.091 |
| 16:00 | 0.60 | 0.091 |

### 2.7.2 Site selection:

Creel sites were selected based on information generated from stream cataloging procedures discussed previously. Final site selections were made by visual inspections of individual streams, and were based on the following criteria: 1) angler accessibility (i.e. roads, trails, postings, etc.) and 2) length of accessible stream area. Stream sections that were representative of the "typical" accessibility of stocked streams in that area were used. As large an area as possible was creeled on each stream. On some small yearling brook trout stocked streams the creeled areas were less than 1 km in length.

### 2.7.3 Angler survey methods:

A roving creel clerk (Malvestuto et al. 1978) began at one end of a survey site and proceeded through the entire creel site.

Clerks performed counts of all anglers and interviewed as many anglers as possible within the allotted time frame of one hour per site.

Three forms were used during creel sampling. An angler count form was used to gather angler effort data. A "long" interview form was used to generate fishing effort, catch, and economic data. A "short" form was used to gather information on fishing effort and catch. Only two long interviews were conducted during a sample to increase speed.

### 2.7.4 Data analysis:

Calculations followed the methods of Malvestuto et al. (1980), and Hyatt (1986). Estimates of total angler hours per hectare were calculated. Estimates of total angler days were made by dividing the total angler hours by the average trip length estimated from Farmington River creel data (4.0 hr).

## 2.8 Model Development and Information Dissemination:

Much of the statistical analysis required to develop and test models capable of predicting the abundance of stream fish populations will be delayed until after the final year of data collection is complete. Preliminary assessments of two previously developed models, WNHF (Engstrom-Heg 1979) and HQI (Binns and Eiserman 1979, Binns 1982), have been completed (Hagstrom et al. 1990 and 1991).

Production of a document suitable for distribution to the general public, and the development of a trout stocking formula and management plan, are scheduled for the final year of the project (jobs 5 and 6 Hyatt 1987). In addition, methods used to determine trout stocking rates elsewhere in the United States will be evaluated.

## 3.0 Stream Survey Results:

The upper Thames River drainage occupies the eastern highlands of Connecticut. This part of the state is primarily underlain by granitic bedrock. Maximum temperature data were not collected because the only extended hot weather occurred early in the summer sample period (first week of July). It was assumed a more intense temperature episode would occur during the usual period at the end of July or the beginning of August, but no additional extended heat wave occurred.

Data were collected from 174 sites on 130 streams (Figure 3). Salmonids were present at 110 sites on 87 streams. Evidence of brook trout *Salvelinus fontinalis* and/or brown trout *Salmo trutta* reproduction was found at 88 sites on 79 streams (Table 6).

Preliminary data analyses were carried out on all chemical, habitat, and population data. More detailed analyses will be conducted during the final year of the study when the data set for the entire state has been compiled.

### 3.1 Chemical:

Means, standard deviations, and ranges of values were calculated for dissolved oxygen, pH, conductivity, and alkalinity (Table 7). Statistics were also calculated for streams grouped by presence of trout and streams with trout reproduction. Mean values of chemical parameters for trout streams with and without reproduction were not significantly different from means of all streams. However, as in previous years, the ranges were not as extreme for streams with trout.

Mean dissolved oxygen (D.O.) concentrations were not significantly different from those streams sampled in previous years. Four sites had D.O. levels below 5.0 mg/l, a level considered limiting to trout; two of these sites had D.O. concentrations below 4.0 mg/l, a value generally considered lethal to trout. Conductivity values were all within expected ranges.

Mean pH values were similar to those from drainages sampled in previous years. One site this year, Lebanon Brook, had an extremely low pH value (4.9) that would be limiting to trout (i.e. less than 5.0).

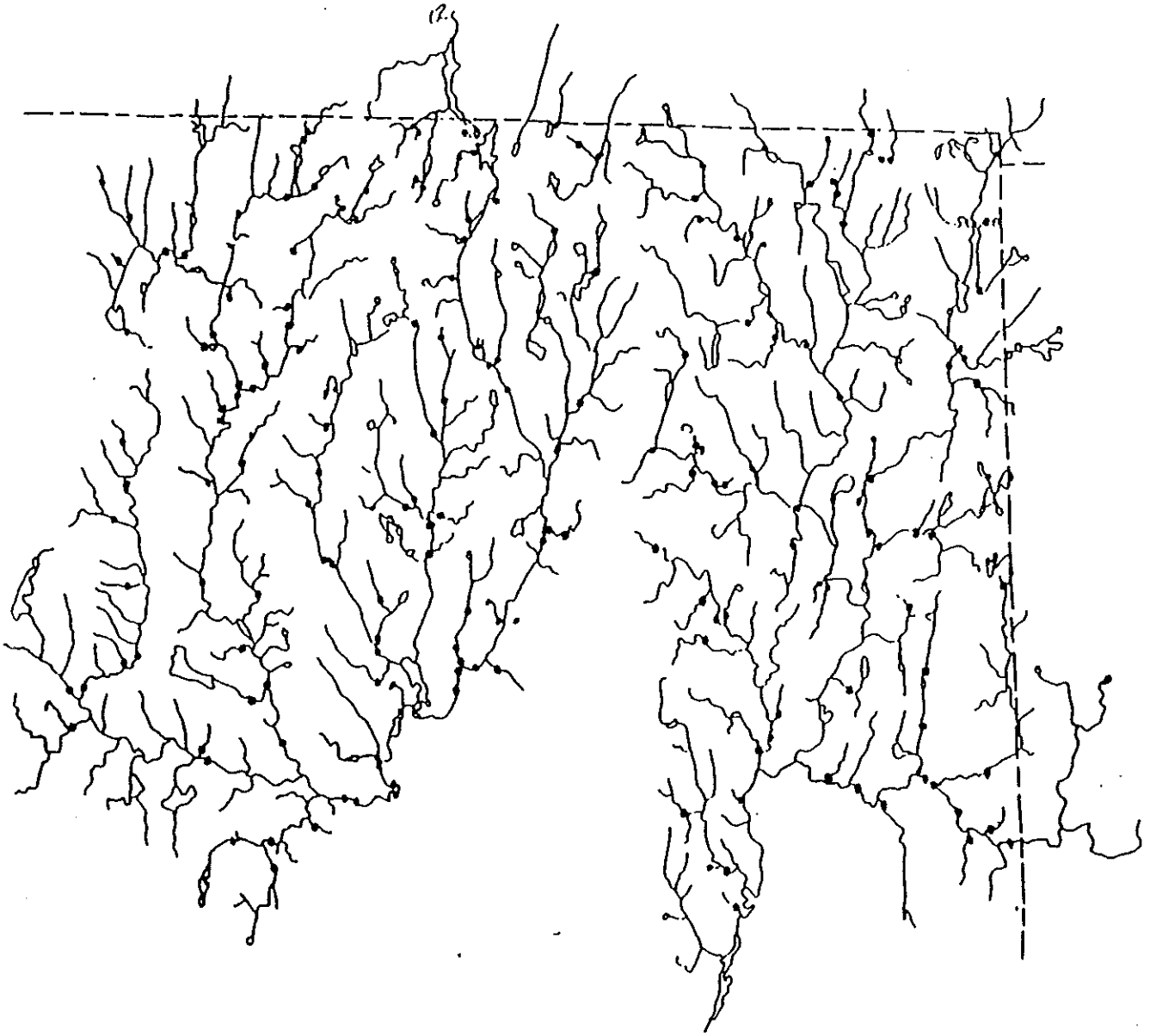

Figure 3. The 174 sites sampled during the 1994 season.

Table 6.-Percentage of streams with trout reproduction by species and drainage for the 1994 sample season.[1]

| Drainage Name and Code | Number of Streams | Percentage of Streams with Trout Reproduction | | |
|---|---|---|---|---|
| | | Brown Tr. | Brook Tr. | Total |
| Willimantic River 31 | 36 | 27.8% | 63.9% | 72.2% |
| Natchaug River 32 | 36 | 27.8% | 75.0% | 80.6% |
| French River 33 | 4 | 0.0% | 25.0% | 25.0% |
| Fivemile River 34 | 8 | 25.0% | 50.0% | 62.5% |
| Moosup River 35 | 7 | 42.9% | 71.4% | 85.7% |
| Quinebaug River 37 | 39 | 5.1% | 51.3% | 53.8% |
| **Entire Area Sampled** | **130** | **20.8%** | **61.5%** | **67.7%** |

1. No rainbow trout reproduction was detected in streams sampled during 1994.

Table 7.-Mean, ± standard deviation, and range ( ) of chemical parameters listed by trout presence, and occurrence of trout reproduction.

| Parameter | All Streams 1994 | Streams With Trout Present | Streams With Trout Reproduction |
|---|---|---|---|
| Dissolved Oxygen(mg/l) | 8.4±1.4 (0.8-11.5) | 8.7±1.0 (5.2-11.5) | 8.9±0.9 (6.1-11.5) |
| pH | 6.9±0.5 (4.9-9.0) | 7.0±0.4 (5.3-9.0) | 7.0±0.4 (5.3-9.0) |
| Conductivity[1] | 95±58 (15-433) | 89±43 (20-268) | 91±46 (20-268) |
| Alkalinity[2] | 14.7±8.5 (0.03-47.3) | 14.1±7.6 (0.03-41.3) | 14.9±7.5 (0.03-36.0) |

1 umhos/cm.
2 mg/l $CaCO_3$ equivalents.

The mean alkalinity values for this drainage area were below what has been previously found in other drainages, but were comparable to values from the lower half of the drainage. Five sites (Brandy Brook, Rocky Brook, Backwater Brook, Blackmore Brook, and Robbins Brook) had alkalinity values that were below 2.0 mg/l, indicating a susceptibility to acidification. Episodes of low pH are more likely to occur with low alkalinity and reduced buffering capacity, but none of these sites were pH limiting to trout at the time sampled. Most of the sites were small tannic drainages flowing out of marshes.

Several of the sites with low dissolved oxygen and pH had beaver activity upstream of the sample site. Beaver activity may periodically reduce or eliminate local fish populations when impoundment by beavers causes warming of the water and increased organic loading. The biological oxygen demand from this activity significantly reduces the dissolved oxygen available in the streams and can cause acidification.

**3.2 Physical:**

Means, standard deviations, and ranges were calculated for several physical parameters (Table 8). Mean water velocity was average (0.14 m/s) when compared to drainages sampled in previous years (0.11-0.22 m/s, Hagstrom et al. 1989, 1990, 1991, 1992, 1993, 1994). Mean discharge volume for all streams (0.68 $m^3/s$) was higher than in previously sampled drainages because of the larger number of medium to large streams that are present in this region. This value however, was not significantly different (alpha = .05) from mean values from other sample years/drainages (0.11-036 $m^3/s$ Hagstrom et al. 1989, 1990, 1991, 1992, 1993, 1994). Mean overhead canopy values were similar to those from previously sampled drainages. The mean embeddedness of type 3 and type 4 substrates for all streams was slightly lower compared to values from other drainages, but these values were not significantly different (alpha = .05).

For all streams combined, mean pool-riffle ratios were relatively low and comparable to values for the upper Housatonic

Table 8.-Mean, ± standard deviation, and range ( ) of selected physical parameters listed by trout presence, and occurrence of trout reproduction.

| Parameter | All Streams 1994 | Streams With Trout Present | Streams With Trout Reproduction |
|---|---|---|---|
| Mean Water Velocity m/s | 0.14±0.11 (0.01-0.64) | 0.15±0.11 (0.01-0.64) | 0.13±0.11 (0.01-0.64) |
| Discharge Volume $m^3/s$ | 0.68±1.14 (0.001-7.55) | 0.77±1.26 (0.001-7.55) | 0.64±1.14 (0.001-6.88) |
| Overhead Canopy (%) | 79.8±28.0 (0-100) | 81.1±25.7 (0-100) | 88.3±20.7 (1-100) |
| Pool/Riffle Ratio | 65.0±347.6 (0-2000) | 37.6±263.4 (0-2000) | 45.2±291.4 (0-2000) |
| Site elevation (meters above sea level) | 127±53 (17-276) | 127±52 (17-276) | 130±58 (17-276) |
| Substrate[1] Percent Embeddedness | | | |
| Type 3 | 32.4±24.3 (0-100) | 31.9±23.7 (0-100) | 32.1±24.4 (0-100) |
| Type 4 | 19.4±13.7 (0-65) | 19.8±12.7 (0-60) | 18.7±13.5 (0-60) |

1 Type 3 substrate is 4.7-76 mm in diameter, Type 4 substrate is 76-305 mm in diameter.

River drainage, but were not significantly different (alpha = .05) from those in other drainages, due to large standard deviations. The pool-riffle ratio has a very skewed distribution and the mean pool-riffle ratio for each year is affected by changes in the number and sizes of streams sampled. The number and proportion of different sized streams changed during the course of the study, so that the mean pool-riffle ratio is not the best variable to assess year to year differences (larger numbers of small streams were sampled in later years as project personnel became more efficient). It will be necessary to

examine pool-riffle ratios more closely in combination with such variables as gradient and stream size to test differences among the drainage areas. One general trend that was fairly consistent from year to year was a higher proportion of riffle habitat in streams with trout or trout reproduction.

### 3.3 Biological:

#### 3.3.1 Invertebrates:

During May and June 1994, 619 invertebrate samples were collected at low flow sample sites. Invertebrate samples collected during 1994 were sorted and identified to family (Appendix A) by August 1994. The mean number of families per site was calculated for sites without trout, sites with trout present, and sites with evidence of trout reproduction (Table 9). Mean-number-of-individuals, and mean-grams-of-invertebrates-per-square-meter were also calculated for the three types of streams. Bowlby and Roff (1986) indicated that invertebrates weighing less than 0.1 mg dry weight (approximately 1.0 mg wet weight) are not used for food by trout. To accommodate this observation, calculations were repeated on a subset of families where the average weight of the individuals was greater than or equal to 1.0 mg wet weight (Table 9).

Sites sampled in 1994 averaged 18 (± 4) families when trout were present and 16 (± 5) families when trout were absent. The mean number of families with trout present was similar to means from drainages sampled during 1988-1993. The number of families in streams with no trout present was also comparable to values from waters sampled during 1989-1993, and was higher than the 1988 mean (Farmington River watershed). There were no statistically significant differences among years/drainages in the numbers of families present. The mean-number-of-individuals-per-square-meter and mean-grams-of-invertebrates-per-square-meter were also similar among years/drainages except 1993 (Lower Thames River, Pawcatuck River, and Eastern Coastal drainages) when these values were greater.

Table 9.-Summary of invertebrate data from 1994 samples. Means, ± standard deviation, were calculated for number of invertebrate families, average weight, and average number of individuals per square meter for streams with no trout, trout present, and trout reproducing. The same calculations were performed on a subset of invertebrates with mean individual weights greater than or equal to 1.0 mg. Ranges of number of families are included in parentheses.

| Variable | No Trout | Trout Present | Trout Reproducing |
|---|---|---|---|
| **All Invertebrates** | | | |
| Sample Size (N) | 32 | 88 | 71 |
| Number of Families | 16.1±4.9 (1-27) | 18.4±4.3 (9-30) | 18.8±4.2 (9-30) |
| Individuals/$m^2$ | 1,336±1,079 (5-5,507) | 1,062±662 (141-3,904) | 1,114±670 (141-3,904) |
| Weight g/$m^2$ | 12.0 ± 10.4 (0.03-56.9) | 15.2±16.3 (1.5-98.7) | 13.1±9.4 (1.7-51.4) |
| **Ind. Wt ≥1.0 mg** | | | |
| Number of Families | 5.6±2.6 (1-12) | 5.8±2.0 (1-12) | 5.9±2.0 (1-12) |
| Individuals/$m^2$ | 372±880 | 248±298 | 244±192 |
| Weight g/$m^2$ | 10.2±10.5 | 13.7±16.3 | 11.2±9.2 |

### 3.3.2 Fish populations:

In 1994 banded sunfish were collected from one site and swamp darters were collected from three sites. These two fish species are limited in distribution to the eastern portion of Connecticut. All three sites with swamp darters were in the Moosup River Drainage. The banded sunfish was a single specimen collected in a Quinebaug River tributary, Quandock Brook. All of these sites are characterized by acidic water, slow flows, and

marshes. Much of the preferred habitat of these two species was not sampled with our study design so their abundance may be under-represented by our collections.

Collections of several other species were noteworthy. Specimens of rock bass were collected at four sites, one on each of the major rivers. Green sunfish were present in 13 sampled streams across all portions of the upper Thames River drainage. A single population of slimy sculpin was found in a cold gravelly tributary of the Willimantic River. Another isolated population of slimy sculpin was located in Hans Brook in the Coginchaug River drainage, a tributary to the Connecticut River. The location of this population was supplied by an angler and confirmed by sampling.

Creek chubs were sampled in five locations, three in the Willimantic River drainage and two in the Quinebaug River drainage. These may represent bait bucket releases, since this species is uncommon in this part of the state. Other possible bait bucket releases were the two collections of fathead minnows which were represented by a single specimen at each location.

Northern pike were collected upstream and downstream of Mansfield Hollow Reservoir, which is currently being stocked by the Fisheries Division to establish a pike population. The two individuals in the lower Fenton River and one individual from the Natchaug River below Mansfield Hollow Reservoir were juveniles, and two individuals captured in the Natchaug River below the Reservoir were adults (largest 662 mm T.L.). All juveniles had not been fin clipped and were apparently the result of wild reproduction. The two adults were fin clipped and were stocked in the reservoir by DEP fisheries personnel.

There were collections of yellow bullhead from 16 sites in the upper Thames River basin. No specimens were collected in the Willimantic River drainage. Brown bullheads were the only bullheads found in the Willimantic River system. It appears that yellow bullheads are expanding their range throughout the state, most likely with help from new introductions by people.

The capture efficiency (p) of all species combined was over 30% for most sites sampled with more than a single pass. Most of the mean capture efficiencies for individual species (all sites combined) were also above 30% (Table 10). The negatively buoyant species, longnose dace *Rhinichthys cataractae* and tessellated darter *Etheostoma olmstedi*, had the lowest mean capture efficiencies. Capture efficiencies were generally high enough to prevent any significant error in the population estimates for the dominant species at each site. The presence of large numbers of young-of-the-year fish at a few sites caused lower catch efficiencies. Capture efficiencies for individual species were nearly identical to, or slightly higher than those from other drainages (Hagstrom et al. 1989, 1990, 1991, 1992, 1993, 1994).

Estimates of standing crop for selected species were generated using length-weight equations (Table 11) and length frequency data. These estimates are presented by species in Tables 12 and 15.

The percentage of streams with trout reproduction was highly variable between subregional basins and species (0-86%). The overall percentage of streams sampled with some measure of wild trout reproduction was 68%. Brown trout reproduction ranged from zero in the French River regional basin to 43% in the Moosup River regional basin. The overall mean was 21% for brown trout. The majority of the sites with brown trout reproduction were in the western side of the basin. The frequency of occurrence of brook trout reproduction was 61.5% of all streams sampled. The only subregional basin with little brook trout reproduction was the French River system where only four sample sites were located and only one site showed evidence of brook trout reproduction. Overall the percentage of streams with trout reproduction was lower than in the comparable western highlands area of the Housatonic River drainage.

The number of brook trout per hectare, stocked and wild combined, (Table 12) ranged from 5.2 to 26,167 fish/ha (mean 1,842 fish/ha). The number of brown trout per hectare, stocked

Table 10.-Efficiency of capture (p) during the 1994 sample season for selected species.

| Species | Number of Sites | Number p>30% | Mean p | Maximum p | Minimum p |
|---|---|---|---|---|---|
| American eel *Anguilla rostrata* | 45 | 45 | 71 | 100 | 33 |
| Brown trout *Salmo trutta* | 70 | 70 | 78 | 100 | 30 |
| Brook trout *Salvelinus fontinalis* | 100 | 99 | 74 | 100 | 27 |
| Fallfish *Semotilus corporalis* | 82 | 75 | 59 | 100 | 1 |
| White sucker *Catostomus commersoni* | 109 | 102 | 63 | 100 | 8 |
| Blacknose dace *Rhinichthys atratulus* | 108 | 100 | 61 | 100 | 5 |
| Common shiner *Luxilus cornutus* | 65 | 57 | 56 | 100 | 7 |
| Longnose dace *Rhinichthys cataractae* | 32 | 24 | 43 | 75 | 13 |
| Tessellated darter *Etheostoma olmstedi* | 57 | 49 | 56 | 100 | 6 |
| All species combined | 131 | 122 | 60 | 100 | 16 |

and wild combined, ranged from 2.4 to 1,034 fish/ha (mean 73 fish/ha). This was a considerably lower average density of brown trout than from the upper Housatonic River (399 fish/ha).

American eels were present at 45 sites, but densities were generally low. The dams on the lower Shetucket River and Quinebaug River limit the upstream movement of American eels, but do not eliminate it (Levesque and Whitworth, 1987). No sea lampreys were sampled in this drainage.

White sucker populations were common with a wide range of densities (20-9,239 fish/ha). Fallfish were widely distributed throughout the Thames River drainage. Transitory centrarchid populations (largemouth bass, bluegill, and pumpkinseed) were at approximately the same levels and ranges of densities as observed in drainages sampled in previous years. Chain pickerel were common in all portions of the drainages. Grass pickerel were taken at 6 sites in the Willimantic River drainage but were absent from all other portions of the upper Thames River basin that were sampled. Longnose dace showed an unusual distribution pattern being present at 29 sites, only one of which was in the Willimantic River drainage, and only one site was in the Natchaug River drainage, in the mainstem of the Natchaug River below Mansfield Hollow Dam. The distribution patterns of several of these species may be explained by reinvasion routes through Long Island Sound after the last glacial period (Whitworth et al., 1968).

Table 11.-Equations used to generate biomass estimates from length frequency data. Total lengths (TL) are in millimeters and weights (W) are in grams.

| Species | Equation | Source |
|---|---|---|
| Brook trout | Log(W)=-5.095 ± 3.04 Log(TL) | PA: Carlander(1969) |
| Brown trout | Log(W)=-4.862 ± 2.943 Log(TL) | CT: Stream Survey |
| American eel | Log(W)=-6.225 ± 3.167 Log(TL) | Nova Scotia: Jessop (1987) |
| Other species | Log(W)=-5.00 ± 3.0 Log(TL) | General Isometric Growth Equation |

Table 12.-Mean ± standard deviation of standing crop (kg/ha) and number per hectare of trout by drainage in the upper Thames River basin streams sampled in 1994.

| Species/ Drainage | Standing Crop | | Number per Hectare | |
|---|---|---|---|---|
| | Streams with Trout | Streams with Reproduction | Streams with Trout | Streams with Reproduction |
| **Brown trout** | | | | |
| Willimantic R. | 9.2± 9.7 | 8.3± 9.4 | 113± 235 | 146± 283 |
| Natchaug R. | 10.9±10.5 | 10.1±11.9 | 94± 71 | 113± 72 |
| French R. | --- --- | --- --- | --- --- | --- --- |
| Fivemile R. | 7.1± 7.2 | 5.0± 4.9 | 27± 20 | 18± 14 |
| Moosup R. | 2.8± 1.5 | 2.9± 1.4 | 19± 10 | 20± 11 |
| Quinebaug R. | 9.5± 5.0 | 12.3± 3.8 | 39± 33 | 44± 35 |
| All drainages | 8.5± 8.9 | 8.6± 9.7 | 73± 138 | 94± 168 |
| **Brook trout** | | | | |
| Willimantic R. | 21.0±26.5 | 22.4±27.1 | 1066± 2028 | 1282± 2124 |
| Natchaug R. | 23.6±26.8 | 24.2±27.1 | 2142± 3445 | 2221± 3483 |
| French R. | 7.1± --- | 7.1± --- | 193± --- | 194± --- |
| Fivemile R. | 20.9±25.7 | 20.9±25.7 | 2091± 2859 | 2601± 2987 |
| Moosup R. | 27.2±27.8 | 27.2±27.8 | 903± 941 | 903± 941 |
| Quinebaug R. | 38.6±66.9 | 40.7±68.2 | 3410± 6883 | 3599± 4032 |
| All drainages | 26.0±40.0 | 27.1±40.6 | 1827± 3935 | 1980± 4033 |

Smallmouth bass populations were sampled at 21 sites on 10 streams in 1994. Analysis of scale samples revealed significant variation in length-at-age (Table 13) and abundances of different age classes (Table 14) among different streams. In general, growth rate appeared to be positively correlated with stream width, temperature, and conductivity. Additionally, fish of age 5 and older were only sampled in larger, warmer streams. As a result, fish of quality size (> 280 mm), which were rare overall (Figure 4), occurred almost exclusively in the largest, warmest streams with the highest growth rates (Quinebaug River and Willimantic River).

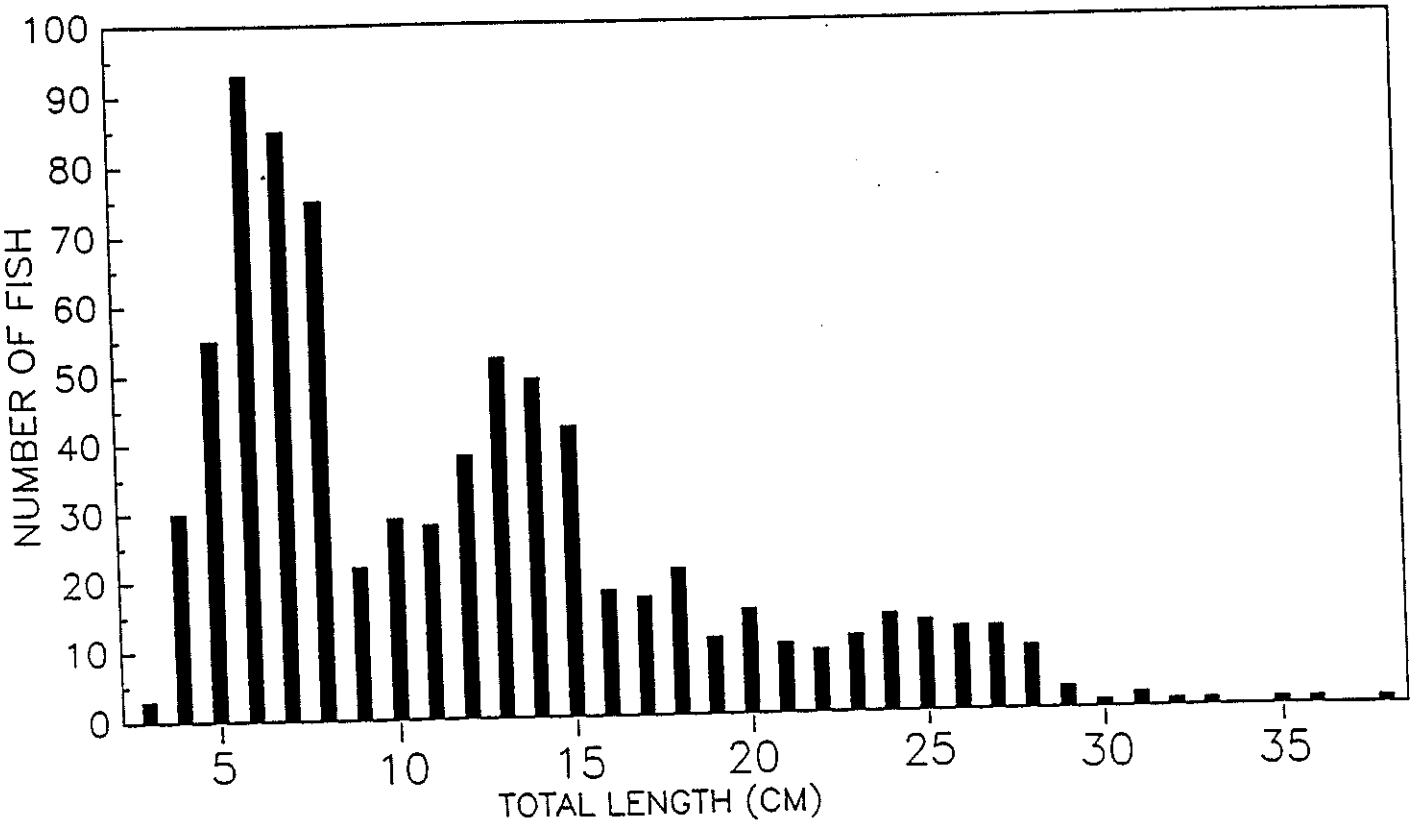


Figure 4. Smallmouth bass length frequency for all 1994 streams combined (783 fish total).

When growth rates of smallmouth bass from streams sampled in 1994 were compared to growth rates of smallmouth bass from the Housatonic River, a population characterized as exceptionally slow growing by Barry et al. (1993), it was apparent that some populations were even slower growing than in the Housatonic (Table 13). For example, back-calculated length at age 1 was significantly higher for the Housatonic River than for any of the 1994 streams regardless of whether scale data or otolith data were used. Similarly, length at age 2 in the Housatonic was the same (using scales) or greater than (using otoliths) the fastest growing population sampled in 1994 (Quinebaug River). Growth rates of older fish sampled in 1994 were generally less than or similar to those in the Housatonic, with the exception of the Quinebaug River which displayed faster growth. The Quinebaug River sample site that produced several of the larger size fish was only 100-200 m upstream of Thompson Reservior. Rapid growth rates at this site may have reflected reservoir growth resulting from migration of fish between the river and the reservoir.

Examination of smallmouth bass year class abundances (Table 14) revealed a widespread year class failure in 1992. The few smallmouth bass that were produced in 1992 were smaller at age 1 than all other cohorts at age 1 in a given river. Additionally, for older fish, 1992 growth increments were smaller than in other years for most ages and cohorts in all rivers. This poor recruitment and growth in 1992 was apparently due to unusually high flows and low temperatures. The summer of 1992 was the fifth wettest and sixth coolest in state history (Associated Press 1992). Smallmouth bass recruitment in streams is particularly sensitive to fluctuations in flow (Edwards et al. 1983), and the high waters in 1992 may have disrupted nesting behavior and egg development. Optimal temperature for smallmouth bass growth is reflected in the species preferred temperature

range of 28-31°C (Edwards et al. 1983). The unusually cool temperatures in 1992 were undoubtedly well below 30°C, as no temperatures measured in 1994 were above 27°C. The reduced 1992 temperatures probably contributed to the observed slow growth. Interestingly, unusually high summer survival and growth of stocked trout in the Housatonic River in 1992 was attributed to the cool wet weather (Orciari et al. 1994).

In some rivers, growth rates and population structures varied from site to site. In streams with multiple sample sites (Willimantic River-seven sites, Natchaug River-five sites, Quinebaug River-two sites), there appeared to be a general trend of increasing growth rate with distance downstream. This corresponded to trends of increasing temperature, flow volume, and conductivity.

The use of scales to determine age and growth of smallmouth bass in the Housatonic River proved misleading (Barry et al. 1994). Comparisons with otoliths revealed significantly slower growth rates and older ages than determined from scale analysis, particularly for larger, older fish. Given the slower growth rates and annual variation in growth increments from the populations sampled in 1994, it is likely that scale aging may be difficult and possibly misleading for older fish. However, very few larger, older fish were encountered (Figure 4), and preliminary comparisons of scales and otoliths of fish up to age six indicated close agreement. Also, the results of scale analysis consistently indicated a small growth increment in 1992 for most year classes in all streams, which serves as a strong indication of valid age determination from scales.

The absence or scarcity of quality size smallmouth bass at all sample sites may reflect angler harvest. Trout stocking (up to six stockings per stream each spring) generates high levels of angler effort at most of the sites. Also, no consumption

advisories (as on the Housatonic River) or size limits are in effect on these streams to reduce harvest, and small river smallmouth bass are notoriously vulnerable to angling. Spring creel survey data were collected on two of these streams (Willimantic River and Natchaug River). Catch rates of smallmouth bass were low on the Natchaug River (13 fish caught, all 13 released, catch-per-angler-hour: 0.035), and nonexistent on the Willimantic River (no smallmouth bass caught). Typically, smallmouth bass catch rates increase as water warms in the summer. It is likely that our creel survey, which was primarily designed for trout and ended June 15, missed the bulk of the smallmouth bass catch.

Smallmouth bass data from other years on other streams have not yet been thoroughly analyzed, however cursory examination of 1993 length frequency data from the Housatonic River and from streams in southeastern Connecticut also indicated the absence of a 1992 year class. It will be interesting to see how widespread the 1992 year class failure and poor growth was, and whether other trends observed in 1994 data hold true for other streams.

Mean lengths at age of wild brown trout for all 1994 streams combined (Table 16) were in the moderate growth range for all age classes (Newman 1985). The ranges of values were comparable to Connecticut's other highland area in the upper Housatonic River drainage.

The mean lengths at age of wild brook trout for all 1994 streams combined (Table 17) were below average compared to most of the other areas. The coastal drainages in particular had higher average values for brook trout growth, while the upper Housatonic River drainage, a highland area, had almost identical average growth rates and ranges.

Table 13.-Back-calculated lengths at age (year classes combined) ± standard deviations, of smallmouth bass from 10 rivers sampled in 1994, and comparison values for smallmouth bass from the Housatonic River (Barry et. al. 1994). Ages and measurements determined from scales for all rivers except the Housatonic River for which otoliths and scales were both used. (Numbers of fish are in parentheses.)

| | Age | | | | | | |
|---|---|---|---|---|---|---|---|
| Stream | I | II | III | IV | V | VI | VII |
| Housatonic River scale | 98 | 170 | 216 | 247 | 277 | 300 | 317 |
| Housatonic River otolith | 139 | 179 | 203 | 224 | 246 | 264 | 275 |
| Quinebaug River (2 sites) | 90±14 (33) | 170±25 (10) | 230±24 (8) | 284±31 (4) | 356 (1) | 374 (1) | - |
| Willimantic River (7 sites) | 87±14 (98) | 144±14 (44) | 195±17 (38) | 237±18 (19) | 264±16 (4) | 304±13 (4) | 333 (1) |
| Natchaug River (5 sites) | 82±13 (65) | 127±13 (26) | 172±20 (26) | 201±15 (15) | 223±17 (6) | 236±23 (4) | - |
| Mount Hope River | 71±10 (17) | 121±12 (10) | 169±18 (9) | 212±11 (5) | 241 (1) | 273 (1) | - |
| Skungamaug River | 82±14 (11) | 120±8 (2) | 163±12 (2) | 209±16 (2) | - | - | - |
| Ten Mile River | 80±7 (9) | 120±7 (5) | 157±6 (5) | 182±2 (3) | - | - | - |
| Hop River | 71±10 (7) | 112±19 (4) | 176±29 (4) | 197 (1) | - | - | - |
| Bigelow Brook | 78±6 (6) | 125±1 (2) | 164±8 (2) | - | - | - | - |
| Hockanum River | 78±6 (8) | 142±19 (6) | 190±17 (5) | 241±11 (3) | - | - | - |
| Tankerhoosen River | 73±5 (7) | 143±6 (3) | 193 (1) | 239 (1) | - | - | - |

Table 14.-Frequency of smallmouth bass by age (and year class) sampled from 10 streams in 1994.

| | Number of Fish in Age Class(Year Class) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Stream | 0(94) | I(93) | II(92) | III(91) | IV(90) | V(89) | VI(88) | VII(87) | total |
| Quinebaug River (2 sites) | 181 | 27 | 2 | 4 | 3 | 0 | 1 | 0 | 218 |
| Willimantic River (7 sites) | 72 | 139 | 6 | 19 | 20 | 0 | 3 | 1 | 260 |
| Natchaug River (5 sites) | 42 | 84 | 0 | 21 | 17 | 2 | 5 | 0 | 171 |
| Mount Hope River | 4 | 8 | 1 | 4 | 4 | 0 | 1 | 0 | 22 |
| Skungamaug River | 4 | 11 | 0 | 0 | 2 | 0 | 0 | 0 | 17 |
| Ten Mile River | 46 | 9 | 0 | 4 | 5 | 0 | 0 | 0 | 64 |
| Hop River | 2 | 3 | 0 | 3 | 1 | 0 | 0 | 0 | 9 |
| Bigelow Brook | 0 | 7 | 0 | 2 | 0 | 0 | 0 | 0 | 9 |
| Hockanum River | 0 | 2 | 1 | 2 | 3 | 0 | 0 | 0 | 8 |
| Tankerhoosen River | 2 | 4 | 2 | 0 | 1 | 0 | 0 | 0 | 9 |
| totals | 353 | 295 | 12 | 59 | 56 | 2 | 10 | 1 | 788 |

Table 15.-Mean ± standard deviation and range of standing crop (kg/ha) of fish species by drainage in the upper Thames River.

| Species/ Drainage | Number of Sites | Mean ± | sd | Max | Min |
|---|---|---|---|---|---|
| **White sucker, *Catostomus commersoni*** | | | | | |
| Willimantic River | 35 | 24.0± | 46.2 | 262.7 | 0.31 |
| Natchaug River | 29 | 12.6± | 19.4 | 82.0 | 0.16 |
| French River | 3 | 34.9± | 35.0 | 70.2 | 0.16 |
| Fivemile River | 8 | 6.3± | 6.1 | 16.6 | 0.38 |
| Moosup River | 10 | 12.4± | 13.4 | 42.9 | 1.16 |
| Quinebaug River | 21 | 26.4± | 46.9 | 207.2 | 0.43 |
| **American eel, *Anguilla rostrata*** | | | | | |
| Willimantic River | 9 | 4.6± | 4.3 | 10.8 | 0.00 |
| Natchaug River | 9 | 8.4± | 10.5 | 35.3 | 0.72 |
| French River | 2 | 20.5± | 19.1 | 34.0 | 6.92 |
| Fivemile River | 5 | 24.3± | 31.9 | 80.6 | 3.14 |
| Moosup River | 8 | 5.6± | 3.7 | 10.6 | 0.88 |
| Quinebaug River | 10 | 15.7± | 11.0 | 35.6 | 2.19 |
| **Blacknose dace, *Rhinicthys atratulus*** | | | | | |
| Willimantic River | 30 | 5.1± | 6.6 | 33.0 | 0.01 |
| Natchaug River | 28 | 7.3± | 7.0 | 26.8 | 0.13 |
| French River | 2 | 1.3± | 1.8 | 2.5 | 0.02 |
| Fivemile River | 6 | 6.8± | 4.9 | 12.0 | 0.63 |
| Moosup River | 12 | 3.3± | 4.7 | 13.5 | 0.02 |
| Quinebaug River | 26 | 10.5± | 11.7 | 49.4 | 0.01 |
| **Longnose dace, *Rhinicthys cataractae*** | | | | | |
| Willimantic River | 1 | --- | --- | ---- | ---- |
| Natchaug River | 1 | 0.2± | --- | ---- | ---- |
| French River | 0 | --- | --- | --- | ---- |
| Fivemile River | 6 | 7.0± | 6.1 | 17.7 | 0.45 |
| Moosup River | 10 | 4.5± | 2.5 | 9.4 | 1.01 |
| Quinebaug River | 11 | 6.1± | 7.5 | 27.4 | 0.37 |
| **Fallfish, *Semotilus corporalis*** | | | | | |
| Willimantic River | 23 | 17.0± | 22.2 | 87.2 | 0.31 |
| Natchaug River | 21 | 46.4± | 179.4 | 828.5 | 0.15 |
| French River | 2 | 62.6± | 59.9 | 105.0 | 20.23 |
| Fivemile River | 7 | 7.0± | 5.8 | 18.5 | 0.23 |
| Moosup River | 9 | 10.0± | 14.7 | 48.0 | 0.46 |
| Quinebaug River | 17 | 7.7± | 10.92 | 38.9 | 0.25 |

Table 15.-continued

| Species/ Drainage | Number of Sites | Mean ± | sd | Max | Min |
|---|---|---|---|---|---|
| **Chain pickerel, *Esox niger*** | | | | | |
| Willimantic River | 15 | 2.1± | 2.1 | 8.2 | 0.04 |
| Natchaug River | 16 | 3.9± | 6.1 | 25.1 | 0.03 |
| French River | 2 | 2.1± | 1.0 | 2.8 | 1.32 |
| Fivemile River | 6 | 5.8± | 5.6 | 14.9 | 0.06 |
| Moosup River | 8 | 3.4± | 2.8 | 7.5 | 0.35 |
| Quinebaug River | 15 | 6.8± | 7.0 | 22.5 | 0.05 |
| **Common shiner, *Luxilus cornutus*** | | | | | |
| Willimantic River | 17 | 5.8± | 9.6 | 38.2 | 0.05 |
| Natchaug River | 17 | 4.9± | 6.2 | 18.5 | 0.07 |
| French River | 2 | 0.5± | 0.3 | 0.7 | 0.03 |
| Fivemile River | 6 | 6.9± | 3.1 | 10.5 | 2.95 |
| Moosup River | 7 | 4.3± | 4.1 | 10.9 | 0.16 |
| Quinebaug River | 14 | 9.5± | 11.72 | 42.7 | 0.72 |
| **Redbreast sunfish, *Lepomis auritus*** | | | | | |
| Willimantic River | 11 | 1.1± | 1.6 | 4.5 | 0.05 |
| Natchaug River | 7 | 1.3± | 2.4 | 6.2 | 0.03 |
| French River | 1 | 0.1 | --- | --- | ---- |
| Fivemile River | 3 | 3.0± | 1.9 | 4.7 | 0.97 |
| Moosup River | 6 | 2.3± | 2.2 | 5.7 | 0.19 |
| Quinebaug River | 7 | 7.8± | 13.26 | 36.4 | 0.13 |
| **Pumpkinseed sunfish, *Lepomis gibbosus*** | | | | | |
| Willimantic River | 25 | 1.5± | 2.9 | 12.9 | 0.02 |
| Natchaug River | 16 | 0.5± | 0.5 | 1.9 | 0.01 |
| French River | 2 | 2.3± | 0.1 | 2.3 | 2.26 |
| Fivemile River | 6 | 0.2± | 0.2 | 0.5 | 0.03 |
| Moosup River | 6 | 0.7± | 1.0 | 2.6 | 0.04 |
| Quinebaug River | 17 | 1.6± | 2.0 | 6.9 | 0.04 |
| **Largemouth bass, *Micropterus salmoides*** | | | | | |
| Willimantic River | 16 | 0.9± | 1.4 | 5.9 | 0.01 |
| Natchaug River | 11 | 1.2± | 1.9 | 6.2 | 0.01 |
| French River | 2 | 8.0± | 8.6 | 14.1 | 1.95 |
| Fivemile River | 7 | 0.7± | 0.9 | 2.5 | 0.01 |
| Moosup River | 7 | 1.8± | 2.0 | 4.6 | 0.01 |
| Quinebaug River | 10 | 0.6± | 0.4 | 1.3 | 0.06 |

Table 15.-continued

| Species/ Drainage | Number of Sites | Mean ± | sd | Max | Min |
|---|---|---|---|---|---|
| **Smallmouth bass, *Micropterus dolomieu*** | | | | | |
| Willimantic River | 7 | 9.5± | 8.0 | 20.6 | 1.65 |
| Natchaug River | 5 | 3.9± | 2.2 | 6.5 | 1.49 |
| French River | 1 | 5.0± | --- | --- | --- |
| Fivemile River | 0 | --- | --- | --- | --- |
| Moosup River | 0 | --- | --- | --- | --- |
| Quinebaug River | 3 | 5.0± | 7.3 | 14.2 | 0.19 |
| **Tesselated darter, *Etheostoma olmstedi*** | | | | | |
| Willimantic River | 11 | 0.8± | 1.1 | 3.3 | 0.02 |
| Natchaug River | 10 | 0.6± | 0.8 | 2.0 | 0.03 |
| French River | 0 | --- | --- | --- | --- |
| Fivemile River | 8 | 0.3± | 0.2 | 0.7 | 0.03 |
| Moosup River | 9 | 2.0± | 2.2 | 7.0 | 0.33 |
| Quinebaug River | 16 | 1.3± | 1.3 | 4.2 | 0.05 |
| Species of limited state distribution | | | | | |
| **Green sunfish, *Lepomis cyanellus*** | | | | | |
| Willimantic River | 5 | 0.1± | 0.1 | 0.3 | 0.01 |
| Natchaug River | 11 | 0.6± | 0.7 | 2.1 | 0.01 |
| French River | 0 | --- | --- | --- | --- |
| Fivemile River | 0 | --- | --- | --- | --- |
| Moosup River | 0 | --- | --- | --- | --- |
| Quinebaug River | 8 | 1.4± | 2.6 | 7.2 | 0.05 |
| **Yellow bullhead, *Ameiurus natalis*** | | | | | |
| Willimantic River | 0 | --- | --- | --- | --- |
| Natchaug River | 3 | 1.9± | 1.9 | 4.1 | 0.67 |
| French River | 2 | 8.7± | 4.6 | 12.0 | 5.45 |
| Fivemile River | 4 | 0.4± | 0.3 | 0.8 | 0.09 |
| Moosup River | 1 | 0.0± | --- | --- | --- |
| Quinebaug River | 6 | 4.1± | 4.6 | 12.9 | 0.33 |
| **Swamp darter, *Etheostoma fusiforme*** | | | | | |
| Moosup River | 3 | 0.2± | 0.2 | 0.4 | 0.04 |
| **Banded sunfish, *Eneacanthus obesus*** | | | | | |
| Quinebaug River | 1 | 0.1 | --- | --- | --- |

Table 16.-Mean brown trout length and range at age for streams sampled through 1994, and selected comparison values.

| Source | Age 1 (mm) | Age 2 (mm) | Age 3 (mm) |
|---|---|---|---|
| Connecticut River Drainages, Conn. | 98 (73-131) | 177 (146-207) | 246 (197-280) |
| Farmington River | 86 (74-92) | 153 (133-181) | 222 (210-235) |
| Central Coastal Streams | 98 (63-136) | 200 (185-219) | 238 (-) |
| Western Coastal Streams | 109 (83-146) | 227 (218-237) | 308 (-) |
| Lower Housatonic and Adjacent Hudson River Drainages | 110 (77-149) | 201 (145-242) | 266 (183-292) |
| Upper Housatonic River Drainage | 94 (57-155) | 193 (132-250) | 259 (168-330) |
| Eastern Coastal and Pawactuck River Drainages | 104 (90-144) | 198 (174-226) | 268 (234-335) |
| Lower Thames River Drainage | 104 (92-144) | 210 (174-250) | 277 (244-297) |
| Upper Thames River Drainage | 91 (59-132) | 188 (147-232) | 256 (169-316) |
| NY, PA, NH[1] 21 Streams | 173 (97-241) | 229 (145-345) | 287 (236-566) |
| "Slow Growth"[2] | 73 (60-81) | 126 (120-138) | 172 (161-194) |
| "Moderate Growth"[2] | 99 (76-165) | 191 (149-272) | 249 (206-295) |
| "Fast Growth"[2] | 110 (94-122) | 231 (224-240) | 335 (325-345) |

1 From Carlander (1969), These data include measured lengths of fish at each age and are not directly comparable to back-calculated lengths.
2 Mean data from streams characterized as having "slow" (N=5), "moderate" (N=11), and "fast" (N=3) growth rates by Newman (1985).

Table 17.-Mean brook trout length and range at age for streams sampled through 1994, and selected comparison values.

| Source | Age 1 (mm) | Age 2 (mm) | Age 3 (mm) |
|---|---|---|---|
| Connecticut River Drainages, Conn. (15 streams) | 103 (68-141) | 182 (116-255) | 248 (223-299) |
| Farmington River | 89 (71-104) | 136 (115-161) | 191 (183-199) |
| Central Coastal Streams | 104 (79-128) | 175 (144-221) | --- |
| Western Coastal Streams and Adjacent Hudson River Drainages | 113 (91-145) | 198 (166-238) | --- |
| Lower Housatonic and Adjacent Hudson River Drainages | 97 (74-128) | 162 (121-203) | 210 (141-236) |
| Upper Housatonic River Drainage | 88 (63-130) | 146 (112-206) | 187 (140-223) |
| Eastern Coastal and Pawcatuck River Drainages | 99 (80-117) | 159 (129-195) | 244 (215-264) |
| Lower Thames River Drainage | 97 (73-133) | 157 (123-189) | 193 (176-217) |
| Upper Thames River Drainage | 88 (64-113) | 142 (107-204) | 185 (144-213) |
| NY Streams[1] | 109 (74-287) | 152 (66-287) | 175 (102-381) |
| PA Streams[1] (12 streams) | 102 (81-119) | 135 (119-142) | 163 (150-211) |
| NH Streams[1] (11 streams) | 107-130 (76-188) | 152-196 (127-272) | 198-246 (165-335) |

1 From Carlander (1969), These data include measured lengths at age and are not directly comparable to back-calculated lengths.

## 4.0 Angler Survey Results:

Angler surveys were conducted on 10 stream sections during 1994 (Figure 5 and Table 18). Six of these surveys were on adult-stocked stream sections managed under regular statewide trout regulations, and four stream sections were Trout Management Areas (TMAs), one of which was a non-stocked Wild Trout Management Area (WTMA). The Willimantic River contained both a general regulation section and a TMA. As part of an ongoing evaluation of angler usage patterns of TMAs, creel surveys were conducted on the four TMAs during the preseason open periods. TMAs on the Willimantic and Moosup rivers were also creeled during the regular spring fishing season. The Salmon River TMA was only creeled during the preseason period because it reverts to regular regulations on Opening Day and was previously creeled during the regular season. The four TMAs and one adult-stocked stream (Merrick Brook) were surveyed from top to bottom, through the entire section of interest, during each one-hour sample. The other five adult-stocked streams were surveyed at easy access and heavy use areas. These data were expanded to represent entire sections based on counts made while canoeing or walking the total length of the stream sections. Since the time period of significant usage for the WTMA was not known it was creeled through July 31, 1994.

### 4.1 Angler Survey Site Descriptions:

The Fenton River was creeled at several access points from Route 44 downstream to Chaffeeville Road. This small river averages approximately 10.5 m wide, is of moderate gradient, and contains a considerable amount of meadow habitat. The substrate is dominated by gravel and cobble and the riparian vegetation varies from dense hemlock forest to brushy fallow field. Large woody debris provides important cover for trout throughout this stretch. This river is stocked with adult trout, and also supports low densities of wild brook trout and brown trout. Access to the entire creel section is extremely good, with a well maintained and heavily used trail (Nipmuck Trail) closely

Table 17.-Mean brook trout length and range at age for streams sampled through 1994, and selected comparison values.

| Source | Age 1 (mm) | Age 2 (mm) | Age 3 (mm) |
|---|---|---|---|
| Connecticut River Drainages, Conn. (15 streams) | 103 (68-141) | 182 (116-255) | 248 (223-299) |
| Farmington River | 89 (71-104) | 136 (115-161) | 191 (183-199) |
| Central Coastal Streams | 104 (79-128) | 175 (144-221) | --- |
| Western Coastal Streams and Adjacent Hudson River Drainages | 113 (91-145) | 198 (166-238) | --- |
| Lower Housatonic and Adjacent Hudson River Drainages | 97 (74-128) | 162 (121-203) | 210 (141-236) |
| Upper Housatonic River Drainage | 88 (63-130) | 146 (112-206) | 187 (140-223) |
| Eastern Coastal and Pawcatuck River Drainages | 99 (80-117) | 159 (129-195) | 244 (215-264) |
| Lower Thames River Drainage | 97 (73-133) | 157 (123-189) | 193 (176-217) |
| Upper Thames River Drainage | 88 (64-113) | 142 (107-204) | 185 (144-213) |
| NY Streams[1] | 109 (74-287) | 152 (66-287) | 175 (102-381) |
| PA Streams[1] (12 streams) | 102 (81-119) | 135 (119-142) | 163 (150-211) |
| NH Streams[1] (11 streams) | 107-130 (76-188) | 152-196 (127-272) | 198-246 (165-335) |

1 From Carlander (1969), These data include measured lengths at age and are not directly comparable to back-calculated lengths.

## 4.0 Angler Survey Results:

Angler surveys were conducted on 10 stream sections during 1994 (Figure 5 and Table 18). Six of these surveys were on adult-stocked stream sections managed under regular statewide trout regulations, and four stream sections were Trout Management Areas (TMAs), one of which was a non-stocked Wild Trout Management Area (WTMA). The Willimantic River contained both a general regulation section and a TMA. As part of an ongoing evaluation of angler usage patterns of TMAs, creel surveys were conducted on the four TMAs during the preseason open periods. TMAs on the Willimantic and Moosup rivers were also creeled during the regular spring fishing season. The Salmon River TMA was only creeled during the preseason period because it reverts to regular regulations on Opening Day and was previously creeled during the regular season. The four TMAs and one adult-stocked stream (Merrick Brook) were surveyed from top to bottom, through the entire section of interest, during each one-hour sample. The other five adult-stocked streams were surveyed at easy access and heavy use areas. These data were expanded to represent entire sections based on counts made while canoeing or walking the total length of the stream sections. Since the time period of significant usage for the WTMA was not known it was creeled through July 31, 1994.

### 4.1 Angler Survey Site Descriptions:

The Fenton River was creeled at several access points from Route 44 downstream to Chaffeeville Road. This small river averages approximately 10.5 m wide, is of moderate gradient, and contains a considerable amount of meadow habitat. The substrate is dominated by gravel and cobble and the riparian vegetation varies from dense hemlock forest to brushy fallow field. Large woody debris provides important cover for trout throughout this stretch. This river is stocked with adult trout, and also supports low densities of wild brook trout and brown trout. Access to the entire creel section is extremely good, with a well maintained and heavily used trail (Nipmuck Trail) closely

following the stream along much of its length. One of the most popular and most heavily stocked sections of this stream is on University of Connecticut property adjacent to campus in the vicinity of the university water supply pump houses.

The Natchaug River is one of the larger (approximately 20.6 m wide), and more popular, adult-stocked streams in eastern Connecticut. It is formed by the confluence of Bigelow Brook and Still River, and ends 29.2 km downstream at its confluence with the00906`Willimanticer at the head of the Shetucket River. This river is impounded by Mansfield Hollow Dam immediately downstream of two large tributaries, the Fenton and Mount Hope rivers. A second smaller impoundment, Willimantic Reservoir, is located a short distance below Mansfield Hollow Dam and serves as the water supply for the city of Willimantic. The upper section of the Natchaug River above Mansfield Hollow Reservoir is bounded by Natchaug State Forest along several sections, and by four private campgrounds. The state has a 99 year lease on a narrow corridor along the river through the campgrounds and much of the other private land in this area. This provides numerous stocking sites and continuous fishing access through property owned by different land owners. The character of this river varies from a low-gradient meandering gravel-bottomed channel through overgrown meadows, to bedrock with small cascades and large deep plunge pools overhung by hemlocks. The majority of the river, however, is intermediate in nature, with moderate gradient through cobble and small boulder substrate. Two particularly scenic and popular areas, "Diana's Pool" State Fishing Access and Natchaug State Forest, are found on state land along the river. Trout reproduction in this river is minimal and the vast majority of the trout fishery is maintained by frequent stockings. In addition to trout, the Natchaug River supports a limited smallmouth bass fishery. The creel survey was conducted at heavy

use areas near bridges, campgrounds, and state property along the section of river upstream of Mansfield Hollow Reservoir.

Roaring Brook is a relatively large (10.4 m wide) tributary to the Willimantic River, entering at the top of the Willimantic TMA. Near its lower end this brook runs adjacent to, and is crossed twice by, interstate Route 84, and sections were relocated during highway construction. Upstream of Route 84, Roaring Brook drains out of water company reservoirs and passes through sections of Nipmuck State Forest, several private tracts of land, and a newly acquired piece of state land. Most of the stream is of moderate gradient with cobble and small boulder substrate, however several sections are marshy, and one area has bedrock substrate and small cascades. Angler access is intermittent and mostly confined to dirt roads and trails on state property. This stream is stocked with adult trout and fingerling brown trout. Moderate to low numbers of wild brook trout and brown trout are present.

Mashamoquet Brook is stocked with adult trout, and was creel surveyed at Mashamoquet State Park and at most bridge crossings in the stocked stretch from Taft Mill Pond downstream to the Quinebaug River. This moderate size brook (8.7 m) is dominated by gravel and cobble substrate in lower gradient areas, and by small boulders in areas with steeper gradient. The section flowing through the state park is particularly scenic with a restored mill and an old sluice and dam. The stream is negatively impacted in the park by a diversion which flows through a swimming pond then back into the brook. Several hundred meters of stream bed are dewatered during low flow periods, and the water returning to the stream is warm and contains less oxygen. During summer storm events flows are shunted away from the pond and down the old channel to prevent high levels of fecal coloform bacteria (from agricultural operations upstream) from entering the pond. Mashamoquet Brook contains low densities of wild brook trout and brown trout.

Merrick Brook flows south through Scotland and into the Shetucket River. A continuous 1.9 km long section of stream in

the state-owned Beaver Brook Wildlife Management Area was creel surveyed on foot from a well used streamside path. This brook averages 7.5 m wide and is dominated by gravel and cobble substrate in low gradient sections, and by cobble, small boulders, and bedrock in moderate gradient areas. The riparian zone is wooded throughout, with primarily deciduous trees in some areas and dense hemlock stands in others. Electrofishing data from 1993 revealed unusually high densities of catchable size wild brown trout and brook trout in this area. The combination of good numbers of wild trout and state ownership of the adjacent land make this stream section a candidate for wild trout regulations. It was determined that creel survey information would be helpful in any future decisions regarding the implementation and/or evaluation of special regulations. Merrick Brook is stocked with adult hatchery trout; however, the area which was surveyed is downstream of the stocked section. The nearest stocking site was located approximately 300 m upstream of the upper end of the creel site. In the past Merrick Brook has been stocked with low densities of Atlantic salmon fry in an effort to determine the ability of this stream to produce smolts.

The Willimantic River TMA and non-TMA sections were creeled separately. The non-TMA survey section runs from the bottom of the TMA downstream, approximately 17.5 km, to Depot Road. This moderate size river averages 17.3 m wide during low flows and is stocked with adult trout. The majority of this river is low gradient and quite shallow and wadeable, with cobble, gravel, and sand substrate. Deeper pools are typically associated with artificial structures such as dams and bridge abutments. In addition to stocked trout, the Willimantic River contains very low densities of wild trout and a fishable smallmouth bass population. The entire river is accessible by canoe, but the majority of fishing pressure occurred at easy access points near bridges.

The Willimantic TMA was created in 1976, making it the first Trout Management Area in the State of Connecticut. This 3.9 km long stream section runs from the mouth of Roaring Brook,

downstream to the route 74 bridge. It is similar to the non-TMA sections, with a mean width of 18.0 m, and a shallow low gradient channel with cobble, gravel, and sand substrate. Near the downstream end there is an uncharacteristically slow, deep, and sandy section. Parts of the TMA are in Nye-Holman State Forest and another section is adjacent to a route I-84 rest area. Angler access is via paths from parking areas at either end, and from an adjacent secondary road. This TMA is stocked regularly with adult trout, and receives annual stockings of brown trout fingerlings. In addition, the river contains a small population of wild brown trout and a moderate sized smallmouth bass population. Anglers are restricted to fly fishing, there is no closed season, and all trout must be released. After Opening Day (April 16, 1994) all creels were done by canoe with the entire TMA being surveyed during each one hour sample period. During the preseason period, when most trout streams are closed to fishing (between March 1 and Opening Day), the Willimantic TMA was creeled by canoe when possible, and was spot checked on foot when ice and snow hampered canoeing efforts.

The Salmon River TMA, located from the old Browns Mill Dam upstream to the confluence of the Jeremy and Blackledge rivers, averages 17 m in width and contains habitat consisting primarily of moderate sized pools and riffles having a boulder substrate. This TMA has both a fly-fishing-only area (downstream of the Day Meadow Bridge abutments) and an all-techniques section. These two sections were surveyed separately. During 1994, this TMA was open for catch and release fishing from September 1 to March 31, was closed to fishing April 1 through the day before opening day, and then reopened under five fish per day/nine inch minimum length limit regulations on April 16. This river was only creeled during the special regulation period, March 1 to March 30. Access to the fly-fishing-only section is via a Connecticut State Forest road which runs adjacent to the river along its north shore. This same road provides access to the all-techniques section, however this portion of the road is of limited use during the preseason because it is not maintained

during the winter. All anglers wishing to fish this section had to park and walk in.

The Moosup River TMA includes 2.8 kilometers of low to moderate gradient stream situated in Plainfield, running from the route 14 bridge downstream to its confluence with the Quinebaug River. It is located, in part, on Quinebaug Wildlife Management Area property near the Quinebaug State Hatchery. The lower 1.1 km are managed under fly-fishing-only regulations, while the upper section of the TMA (1.7 km) is open to all techniques. Both sections have no closed season and creel limits of zero at all times. The substrate is dominated by gravel and cobble with several sections of small boulder habitat. A portion of the stream located at the lower end of the all-techniques section is overgrown and braided into four sub-channels which were difficult to access (0.5 km from the nearest vehicle access). Wild trout are very rare in this section of river, and the fishery is supported by stocked adult trout and brown trout fingerlings.

Belding Wild Trout Management Area (WTMA) is located on a 2.2 km section of the Tankerhoosen River in Vernon. A small 0.5 acre pond is located 75 m above Bolton Rd, which bisects the WTMA. The Tankerhoosen River averages 5.0 m wide and has a gravel substrate with numerous pieces of large woody debris. The stream is accessible from several trails, but there is limited parking. The area has a zero creel limit and is open to fishing from January 1 to September 30 with single hook barbless artificials only. All small tributary streams on the Belding properties also fall under these regulations. This area is not stocked and the fishery is supported by wild populations of brook trout and brown trout.

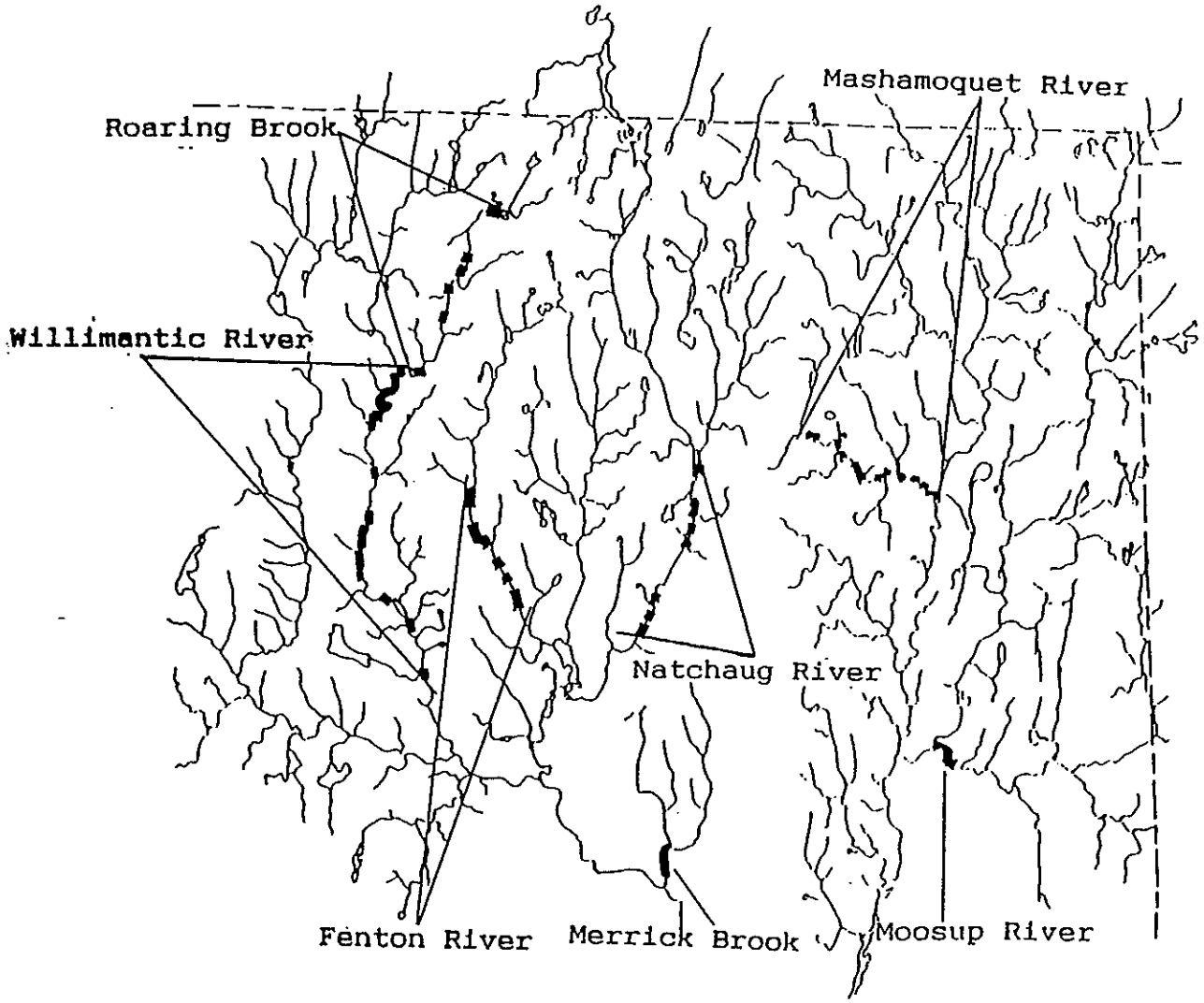


Figure 5.-Location of angler surveys in the upper Thames River drainage conducted during 1994.

Table 18.-Stocking information for streams on which angler surveys were conducted in 1994.

| Stream | Species Stocked[1] | Total Number of Trout Stocked | Harvestable Number Stocked per km | Number of In-season Stockings |
|---|---|---|---|---|
| Belding WTMA | | 0 | 0 | 0 |
| Fenton River | BK, BN, RW | 6,030 | 635 | 3 |
| Mashamoquet Brook | BK, BN, RW | 2,110 | 217 | 2 |
| Merrick Brook[2] | BK, BN, RW | 430 | --- | 1 |
| Moosup River (TMA) | | | | |
| 3/1/94-4/15/94 | | 0 | 0 | - |
| 4/16/94-6/15/94 | BN, | 400 | | 1 |
| | RW | 400 | 276 | 1 |
| | f-BN | 2,800 | | |
| Natchaug River | BK, BN, RW | 15,810 | 976 | 6 |
| Roaring Brook | BK, BN, RW | 3,850 | 592 | 3 |
| Salmon River (TMA) | | | | |
| 3/1/94-3/31/94 | BK, BN, RW | 1,500 | 455 | - |
| Willimantic River (TMA) | | | | |
| 3/1/94-4/15/94 | BN, | 400 | | - |
| | RW | 400 | 190 | - |
| 4/16/94-6/15/94 | BN, | 400 | 286 | 2 |
| | f-BN | 2,400 | | |
| Willimantic River (non-TMA) | BK, BN, RW | 7,260 | 249 | 5 |

1 BK= brook trout *Salvelinus fontinalis* adults, BN= brown trout *Salmo trutta* adults, RW= rainbow trout *Oncorhynchus mykiss* adults, (20-30 cm TL), f-BN=fingerling brown trout.

2 The exact number of trout stocked in the creeled area is not known.

**4.2 Angler Survey Summaries:**

During 1994 we continued to use the 5 stratum sample design that utilizes stocked and non-stocked time periods. During the preseason period, stratification by air temperature was effective in reducing sample variance in some cases.

**4.2.1 Effort:**

Angler effort results are presented in Table 19. The level of angler effort on all streams ranged from 65 to 1,281 hr/km during the period 4/16/94 through 6/15/94.

Effort in the TMAs during the normal closed period for trout, March 1 to Opening Day, was influenced by air temperature and weather conditions, as well as catch rates. Angler effort during the Opening-Day-to-June-15 creel period appeared to be driven mostly by CPUE within a given time of day and stratum. During the preseason period, the Salmon River and Moosup River had frequent high flows, access was often icy and difficult, and catch rates were poor, resulting in low levels of effort. In the Moosup, high flows delayed stocking until late May, which further reduced effort levels. The relative standard errors (RSE) of effort values on TMAs during the preseason period were generally high (38-99%) due to these weather related factors. Effort in both the fly-fishing-only (739 hr/km) and all-techniques section (240 hr/km) of the Moosup River TMA changed little from the 1993 levels (757 and 226 hr/km respectively).

Creel surveys on streams stocked with adult trout and managed under statewide regulations had RSE values for effort ranging from 13-59% during the 4/16/94 through 6/15/94 period. Of those surveys, only the creel on Merrick Brook had RSE values higher than expected for this sample design. This was due to low and irregular levels of effort. The Belding WTMA had a fair amount of effort during the preseason period (111 hours/km), but only occasional usage during the traditional open season (65 hours/km). The total angler effort (176 hours/km) for this area is comparable to fishing pressure on many yearling trout streams during the regular open season (24-377 hours/km).

Table 19.-Effort in angler-hours and catch-per-unit-of-effort (CPUE) in fish-per-hour for streams surveyed in 1994.

| Stream | Angler Effort | | | Catch Per Unit of Effort | | | |
|---|---|---|---|---|---|---|---|
| | Total Hrs | Hrs Per KM | ±RSE | Brown Trout | Brook Trout | Rainbow Trout | All Fish[1] |
| Belding WTMA | | | | | | | |
| 3/20-4/15/94 | 222 | 111 | ±42% | 0.170 | 0.250 | 0.0 | 0.666 |
| 4/16/94 | 23 | 10.5 | ±21% | 0.062 | 0.872 | 0.124 | 1.643 |
| 4/17-7/31/94 | 122 | 54.7 | ±68% | | | | 1.102 |
| Fenton River | 12,170 | 1,281 | ±17% | 0.368 | 0.196 | 0.087 | 0.668 |
| Mashamoquet Brook | 1,513 | 156 | ±17% | 0.433 | 0.045 | 0.107 | 0.666 |
| Merrick Brook | 398 | 173 | ±59% | 0.316 | 0.333 | 0.040 | 0.734 |
| Moosup River (TMA-Fly) | | | | | | | |
| 3/1-4/15/94 | 0 | 0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| 4/16-6/15/94 | 813 | 739 | ±38% | 0.870 | 0.009 | 0.960 | 2.276 |
| Moosup River (TMA-Open) | | | | | | | |
| 3/1-4/15/94 | 90 | 53 | ±99% | 0.0 | 0.0 | 0.0 | 0.0 |
| 4/16-6/15/94 | 408 | 240 | ±38% | 0.50 | 0.0 | 0.929 | 1.721 |
| Natchaug River | 13,770 | 850 | ±13% | 0.603 | 0.1 | 0.079 | 0.740 |
| Roaring Brook | 4,992 | 768 | ±14% | 0.448 | 0.275 | 0.232 | 1.015 |
| Salmon River (TMA-Fly) | | | | | | | |
| 3/1-3/31/94 | 409 | 292 | ±56% | 0.125 | 0.0 | 0.110 | 0.236 |
| Salmon River (TMA-Open) | | | | | | | |
| 3/1-3/31/94 | 61 | 32 | ±97% | 0.750 | 0.0 | 0.2 | 1.20 |
| Willimantic River (TMA) | | | | | | | |
| 3/1-4/15/94 | 1,289 | 307 | ±38% | 0.442 | 0.0 | 1.220 | 1.664 |
| 4/16-6/15/94 | 4,225 | 1,006 | ±24% | 0.522 | 0.043 | 0.241 | 0.806 |
| Willimantic River (non-TMA) | | | | | | | |
| 4/16-6/15/94 | 12,176 | 417 | ±18% | 0.305 | 0.124 | 0.050 | 0.624 |

[1] Additional species include largemouth bass *Micropterus salmoides*, smallmouth bass *Micropterus dolomieu*, chain pickerel *Esox niger*, bullheads *Ameiurus spp.*, sunfish *Lepomis spp.*, and yellow perch *Perca flavescens*.

### 4.2.2 Catch-per-unit-of-effort (CPUE)

The majority of catch-per-unit-of-effort (CPUE) values from streams creeled in 1994 were similiar to those measured on streams sampled in prior years (Table 19). The preseason CPUE values for the Moosup River and Salmon River TMAs were very low (0.0-0.05 fish/hr) largely due to the lateness of stocking (April 13). The highest CPUE value yet recorded for an adult-stocked stream, 2.27 fish/hr (1.84 trout/hr), was measured on the fly-fishing-only section of the Moosup River TMA during the regular season. Trout CPUE had improved over 1993 (1.45 trout/hr) for this section of the Moosup River. There was a decrease in trout CPUE for the all-techniques section from 1993 (1.67 trout/hr) to 1994 (1.43 trout/hr).

The Belding WTMA had a CPUE (1.06 trout/hr) which was higher than expected for a wild trout stream and similar to average stocked streams. High catch rate values for brook trout in Merrick Brook, Roaring Brook and Belding WTMA were sustained by the wild brook trout populations present in these streams. Total CPUE values for non-TMA adult-stocked streams were within the normal range of values.

The Fisheries Division stocks mostly brown trout in TMAs because this species has been shown to survive better in Connecticut streams. A stocking mixture of 50% rainbow trout and 50% brown trout was tested in two streams to evaluate the potential of this species mix to generate higher catch rates under catch and release fishing. Rainbow trout are more vulnerable to angling than brown trout (Anderson and Nehring 1984, McMichael and Kaya 1991) and it was hypothesized that altering the species mix would generate a higher catch rate from the same number of fish stocked. Equal numbers of rainbow trout and brown trout were stocked in the Willimantic TMA, (preseason) and the Moosup River TMA (inseason). During the preseason, the Willimantic River TMA had a high CPUE (1.66 trout/hr) with 73% of the catch being from rainbow trout. On average, each rainbow trout was caught 3.9 times during the preseason, compared to each

brown trout being caught only 1.43 times. At the beginning of the inseason period, an additional 400 brown trout were stocked into the Willimantic River TMA resulting in a 67% brown trout to 33% rainbow trout mix. Because of increases in angler effort during the inseason period (307 anglers/km preseason vs. 1,006 anglers/km inseason), it was necessary to compare the relative catch of the two species rather than CPUE to evaluate differences in catchability. During the inseason period, brown trout made up 68% of the total catch vs 32% for rainbow trout. These values are proportional to the number of each species stocked. Thus, rainbow trout showed higher catchability than brown trout during the preseason, but the two species demonstrated equal catchability during the inseason period. Factors that may have contributed to this apparent decline in rainbow trout relative to brown trout catchability during the inseason part of this study include: changes in the population proportions during the fishing season due to hooking mortality, emigration of fish from the TMA, possible temperature dependent diffences in catchability, and hook avoidance behavior learned by trout after repeated hooking events. On the Moosup River, rainbow trout made up 56% of the catch, only slightly more than brown trout and not statistically different from the proportions in the stocking mix (50% brown trout: 50% rainbow trout).

On the Housatonic River TMA, the 1992 catch was composed of 56% rainbow trout, whereas rainbows made up only 34.5% of the trout population (Orciari and Machowski 1993). Anderson and Nehring (1984) reported rainbow trout making up 78% of the total catch and only 59% of the population on a catch-and-release section of the South Platte River. McMichael and Kaya (1991) found rainbow trout made up 71-72% of the catch but only 51% of the trout community for a catch-and-release section of the Madison River. It appears that rainbow trout can effectively increase catch rates in catch-and-release areas providing they are non-migratory and able to survive. Furthermore, rainbow trout may be useful for increasing angling diversity and/or temporarily increasing catch rates in selected waters. Further

research and discussion is needed to determine the best use of trout species in Connecticut streams.

### 4.2.3 Total catch

Estimated total catches by stream and species are presented in Table 20. Trout catch averaged 566 trout/km for adult-stocked streams. The RSEs of the 1994 catch estimates from these streams (Mean RSE=47.5 ± 24.1%) were consistent with the range of precision of catch estimates seen on other adult-stocked streams with similar numbers of samples collected. Smallmouth bass contributed to the catch on the Natchaug River (an estimated 293 out of 10,620 fish caught were smallmouth bass).

Percent-return-to-the-angler was estimated by dividing the catch per kilometer (Table 20) by the total number of trout stocked per kilometer (Table 18). Percent-return-to-the-angler of trout (Table 21) averaged 165.6 ± 145.8% for all streams, 357.5 ± 137.9% for the two inseason TMA surveys, and 89 ± 36.5% for the adult stocked streams without special regulations. These numbers are sometimes misleading because of the influence of catch-and-release fishing, wild trout and holdover trout supplementing the creel, and possible poaching problems. It was impossible to calculate an accurate return-to-the-angler for Merrick Brook. A majority of the hatchery fish were stocked upstream of the survey area where no survey data were collected.

Table 20.-Total catch and catch by species for stream sections surveyed in 1994.

| Stream | Trout Catch Per KM | ±RSE | Total Catch Brown Trout | Brook Trout | Rainbow Trout | All Fish[1] |
|---|---|---|---|---|---|---|
| Belding WTMA | | | | | | |
| 3/20-4/15/94 | 50 | ±53% | 44 | 66 | 0 | 110 |
| 4/16/94 | 17 | ±70% | 1 | 20 | 2 | 38 |
| 4/17-7/31 | 61 | ±145% | | | | 134 |
| Fenton River | 834 | ±22% | 4,476 | 2,385 | 1,053 | 8,132 |
| Mashamoquet Brook | 95 | ±34% | 686 | 71 | 163 | 1,009 |
| Merrick Brook | 127 | ±80% | 134 | 141 | 17 | 292 |
| Moosup River (TMA-Fly) | | | | | | |
| 3/1-4/15/94 | 0 | ----- | 0 | 0 | 0 | 0 |
| 4/16-6/15/94 | 1,363 | ±78% | 710 | 7 | 781 | 1,850 |
| Moosup River (TMA-Open) | | | | | | |
| 3/1-4/15/94 | 0 | ----- | 0 | 0 | 0 | 0 |
| 4/16-6/15/94 | 344 | ±72% | 206 | 0 | 379 | 702 |
| Natchaug River | 629 | ±29% | 7,846 | 1,304 | 1,029 | 10,620 |
| Roaring Brook | 702 | ±30% | 2,140 | 1,314 | 1,108 | 5,064 |
| Salmon River (TMA-Fly) | | | | | | |
| 3/1-3/31/94 | 69 | ±60% | 51 | 0 | 44 | 97 |
| Salmon River (TMA-Open) | | | | | | |
| 3/1-3/31/94 | 38 | ±94% | 57 | 0 | 15 | 72 |
| Willimantic River (TMA) | | | | | | |
| 3/1-4/15/94 | 511 | ±76% | 571 | 0 | 1,574 | 2,146 |
| 4/16-6/15/94 | 791 | ±31% | 2,149 | 176 | 993 | 3,381 |
| Willimantic River (non-TMA) | | | | | | |
| 4/16-6/15/94 | 215 | ±29% | 3,996 | 1,625 | 652 | 7,592 |

1 Additional species include largemouth bass *Micropterus salmoides*, smallmouth bass *Micropterus dolomieu*, chain pickerel *Esox niger*, bullheads *Ameiurus spp.*, sunfish *Lepomis spp.*, and yellow perch *Perca flavescens*.

Table 21.-Return-to-the-angler for trout in stream sections surveyed in 1994; all trout species combined.

| Stream | # Caught per km | # Stocked per km | Percent return |
|---|---|---|---|
| Belding WTMA | | | |
| 3/20-4/15/94 | 50 | 0 | --- |
| 4/16/94 | 17 | 0 | --- |
| Fenton River | 834 | 635 | 131% |
| Mashamoquet Brook | 95 | 217 | 44% |
| Merrick Brook[1] | 127 | --- | --- |
| Moosup River (TMA)[2] | | | |
| 3/1-4/15/94 | 0 | 0 | --- |
| 4/16-6/15/94 | 719 | 276 | 260%[3] |
| Natchaug River | 629 | 976 | 64% |
| Roaring Brook | 702 | 592 | 119% |
| Salmon River (TMA)[2] | | | |
| 3/1-3/31/94 | 51 | 455 | 11% |
| Willimantic River (TMA) | | | |
| 3/1-4/15/94 | 511 | 190 | 269% |
| 4/16-6/15/94 | 791 | 286 | 455%[4] |
| Willimantic River (non-TMA) | | | |
| 4/16-6/15/94 | 215 | 249 | 86% |

1 The exact number of trout stocked in the creeled section is not known, so return-to-the-angler could not be calculated.

2 A single allotment of trout was split between the all-techniques and fly-fishing-only sections of this TMA. Return-to-the-angler was calculated from combined catches for all-techniques and fly-fishing-only areas.

3 An additional stocking of 2,800 fingerling brown trout (mean length 126 mm) occurred in late May. These fish were not included in percent-return-to-the-angler calculations.

4 This value is a cumulative return-to-the-angler for both time periods and does not include a June 3 stocking of 2,400 fingerling brown trout. These fish were not included in percent-return-to-the-angler calculations.

### 4.2.4 Wild trout in the creel:

Wild trout catch was assessed on four of the creel survey streams. Wild trout were differentiated from stocked trout during creeling based on fin condition, coloration and size. The percent contribution of wild trout to the creel is presented in Table 22 along with an estimate of the percentage of the harvestable-size wild trout that were caught during the creel period. Preseason densities of catchable sized wild trout were determined by electrofishing each of these streams prior to Opening Day. It was assumed that trout over 15 cm were vulnerable to capture.

Generally, wild trout did not make up a large portion of the trout caught(<5%), but the percentage of wild trout present that were caught was substantial (>20%). The one exception was Merrick Brook, where wild trout made up 37.5% of the catch, and 42.5% of the population was caught. It appears that this area could support a wild trout management area under catch-and-release regulations.

Table 22.-Percentage of wild trout in the creel and the percentage of harvestable size trout populations caught during the Spring 1994 trout season on selected streams.

| Stream Name | Percentage Wild Trout in the Creel | Percentage of Wild Trout Population Caught (>150mm) |
|---|---|---|
| Fenton River | 3.9 | 31.9 |
| Mashamoquet Brook | 4.2 | 39.8 |
| Merrick Brook | 37.5 | 42.5 |
| Roaring Brook | 4.5 | 23.1 |

## 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 for land acquisition. Data were made available for inquiry as soon as all calculations were complete (Table 23). Attempts have been made to make people aware of the data collected by the project through public speaking opportunities.

## 6.0 Expenditures:

A total of $163,999.63 was expended for Job 2 and $47,877.37 for Job 3. Federal reimbursement under the Federal Aid in Sport Fish Restoration Act amounted to 75%, $122,999.72 and $35,908.03 respectively. State expenditures were $40,999.91 for Job 2 and $11,969.34 for Job 3.

Table 23.-Data/information requests: January 1994-January 1995.

| Request Type | Information Needed | Number of Sites |
|---|---|---|
| 1) Environmental Review | Physical, Chemical, Biological | 45 |
| 2) Use by Other State Agencies | Physical, Chemical, Biological | 215 |
| 3) Public Information | Physical, Chemical, Biological, Angler Survey | 56 |
| 4) Land Owner Requests | Physical, Chemical, Biological | 15 |
| 5) Municipal Requests | Physical, Chemical, Biological | 6 |
| 6) Rivers Advisory Committee | Physical, Chemical, Biological, Angler Survey | 875 |

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# Appendix A

Table A-1.-List of invertebrate families found in Connecticut streams during the 1988-94 stream surveys.

| Phylum | Class | Order | | Family |
|---|---|---|---|---|
| Platyhelminthes | Turbellaria | | | |
| Nematoda | | | | |
| Nematomorpha | | | | |
| Tardigrada | | | | |
| Annelida | Oligochaeta | | | |
| | Hirudinea | | | |
| Arthropoda | Crustacea | | | |
| | | Amphipoda | | |
| | | Decapoda | | |
| | | Isopoda | | |
| | Insecta | Coleoptera | | Circulionidae |
| | | | | Dryopidae |
| | | | | Dytiscidae |
| | | | | Elmidae |
| | | | | Gyrinidae |
| | | | | Hydrophilidae |
| | | | | Ptilodactylidae |
| | | | | Psephenidae |
| | | Collembola | | |
| | | Diptera | | Athericidae |
| | | | | Ceratopogonidae |
| | | | | Chironomidae |
| | | | | Culicidae |
| | | | | Dixidae |
| | | | | Dolichopodidae |
| | | | | Empididae |
| | | | | Muscidae |
| | | | | Psychodidae |
| | | | | Simuliidae |
| | | | | Stratiomyidae |
| | | | | Tabanidae |
| | | | | Tipulidae |
| | | Ephemeroptera | | Baetidae |
| | | | | Caenidae |
| | | | | Ephemeridae |
| | | | | Ephemerellidae |
| | | | | Heptageniidae |
| | | | | Leptophlebiidae |
| | | | | Oligoneuriidae |
| | | | | Potamanthidae |
| | | | | Siphlonuridae |
| | | | | Tricorythidae |
| | | Hemiptera | | Corixidae |
| | | | | Gerridae |
| | | | | Saldidae |
| | | | | Veliidae |
| | | Lepidoptera | | Pyralidae |
| | | | | Tortricidae |
| | | Megaloptera | | Corydalidae |
| | | | | Syalidae |
| | | Odonata | Anisoptera[1] | |
| | | | | Aeshnidae |
| | | | | Cordulegastridae |
| | | | | Gomphidae |
| | | | | Macromiidae |
| | | | Zygoptera[1] | |
| | | | | Agrionidae |
| | | | | Coenagronidae |
| | | | | Calopterygidae |

[1] Super family

Table A-1.-Continued.

| Phylum | Class | Order | Family |
|---|---|---|---|
| | | Plecoptera | Capniidae |
| | | | Chloroperlidae |
| | | | Leuctridae |
| | | | Nemouridae |
| | | | Perlidae |
| | | | Perlodidae |
| | | | Peltoperlidae |
| | | | Pteronarcyidae |
| | | Trichoptera | Brachycentridae |
| | | | Glossosomatidae |
| | | | Helicopsychidae |
| | | | Hydropsychidae |
| | | | Hydroptilidae |
| | | | Lepidostomatidae |
| | | | Leptoceridae |
| | | | Limnephilidae |
| | | | Molannidae |
| | | | Odontoceridae |
| | | | Philopotamidae |
| | | | Phryganeidae |
| | | | Polycentropodidae |
| | | | Psychomyiidae |
| | | | Rhyacophilidae |
| | | | Sericostomatidae |
| | | Neuroptera | Sisyridae |
| Mollusca | Gastropoda | Basomnatophora | "limpets" |
| | | | Ancylidae |
| | | | Lymnaeidae |
| | | | Physidae |
| | | | Planorbidae |
| | | Mesogastropoda | Viviparidae |
| | Pelecypoda | | Spheriidae |
| Arachnoidea | | "Hydracarina" | |

# Appendix B

Stream names and site numbers where data were collected in 1994; and page numbers on which they are presented.

Stream names and site numbers where data were collected in 1994; and page numbers on which they are presented.

Stream names and site numbers where data were collected in 1994; and page numbers on which they are presented.

STREAM NAME : **WILLIMANTIC RIVER** SITE #: **6001**

SITE DESCRIPTION: AT PUMP HOUSE ON STATE PROPERTY 1.3 KM DOWNSTREAM OF MERROW RD. (ACCESS FROM RTE. 32).

TOWN: MANSFIELD

SAMPLE LENGTH : 200. SAMPLE DATE: 07/27/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :26.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 7.6 | 0.23 |
| WATER TEMP. . . | :25.00 (C) | pH . . . . . : | 6.9 | 0.26 |
| VELOCITY. . . . | : 0.1114(m/s) | COND . . . . . (uS/cm3). . : | 139.3 | 3.1 |
| DISCHARGE . . . | : 0.7946(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 13.1 | 0.76 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 17.09 | 5.05 | (m) | | |
| DEPTH. . . . . : | 35.92 | 26.84 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIPPLE RATIO . .: | 12.33 | |
| TYPE THREE SUBSTRATE . . . : | 0.09 | (%) | AIR/WATER TEMP. RATIO: | 1.04 | |
| EMBEDDEDNESS OF TYPE THREE : | 56.33 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 42.50 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 1509.6 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Anguilla rostrata | 27.3 | 0.0 |
| Lepomis macrochirus | 3.9 | 0.0 |
| Rhinichthys atratulus | 327.7 | 27.5 |
| Esox niger | 7.8 | 0.0 |
| Luxilus cornutus | 803.6 | 97.7 |
| juvenile cyprinid | 54.6 | 0.0 |
| Semotilus corporalis | 2239.1 | 60.7 |
| Esox americanus | 3.9 | 0.0 |
| Lepomis cyanellus | 3.9 | 0.0 |
| hybrid sunfish | 23.4 | 0.0 |
| Micropterus salmoides | 39.0 | 0.0 |
| Lepomis gibbosus | 120.9 | 10.4 |
| Lepomis auritus | 448.6 | 6.5 |
| Micropterus dolomieu | 397.9 | 47.3 |
| Etheostoma olmstedi | 23.4 | 0.0 |
| Catostomus commersoni | 924.5 | 6.2 |
| Perca flavescens | 117.0 | 0.0 |

STREAM NAME : **EDSON BROOK** SITE #: **6002**

SITE DESCRIPTION: UPSTREAM OF COOPER LANE.

TOWN: STAFFORD

SAMPLE LENGTH : 150. SAMPLE DATE: 06/15/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :27.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 5.9 | 0.55 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 6.2 | 0.06 |
| VELOCITY. . . . | : 0.2254(m/s) | COND . . . . . (uS/cm3). . : | 58.3 | 0.6 |
| DISCHARGE . . . | : 0.7195(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 4.6 | 0.76 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 5.95 | 1.55 | (m) | | |
| DEPTH. . . . . : | 40.83 | 20.50 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | POOL/RIFFLE RATIO . .: | | 5.82 |
| TYPE THREE SUBSTRATE . . . : | 0.31 | (%) | AIR/WATER TEMP. RATIO: | | 1.42 |
| EMBEDDEDNESS OF TYPE THREE : | 42.94 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 28.80 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 442.3 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salvelinus fontinalis | STOCKED | 78.4 | 0.0 |
| Salvelinus fontinalis | WILD | 11.2 | 0.0 |
| Salmo trutta | STOCKED | 145.7 | 0.0 |
| Esox niger | | 33.6 | 0.0 |
| Semotilus corporalis | | 683.5 | 12.8 |
| Notemigonus crysoleucas | | 11.2 | 0.0 |
| Oncorhynchus mykiss | STOCKED | 33.6 | 0.0 |
| Etheostoma olmstedi | | 78.4 | 0.0 |
| Catostomus commersoni | | 123.2 | 0.0 |
| Perca flavescens | | 11.2 | 0.0 |

STREAM NAME : **MIDDLE RIVER** SITE #: **6003**

SITE DESCRIPTION: DOWNSTREAM OF RTE. 190.

TOWN: STAFFORD

SAMPLE LENGTH : 150. SAMPLE DATE: 06/15/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.3 | 0.00 |
| WATER TEMP. . . | :21.00 (C) | pH . . . . . : | 6.8 | 0.06 |
| VELOCITY. . . . | : 0.4253(m/s) | COND . . . . . (uS/cm3). . : | 51.3 | 0.6 |
| DISCHARGE . . . | : 0.6015(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 6.7 | 0.26 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 8.94 | 1.61 | (m) | | |
| DEPTH. . . . . : | 28.50 | 17.83 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 1.24 |
| TYPE THREE SUBSTRATE . . . : | 0.06 | (%) | AIR/WATER TEMP. RATIO: | | 1.05 |
| EMBEDDEDNESS OF TYPE THREE : | 40.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 88.50 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 139.6 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Ameiurus nebulosus | | 7.5 | 0.0 |
| Salmo trutta | STOCKED | 22.4 | 0.0 |
| Esox niger | | 22.4 | 0.0 |
| Luxilus cornutus | | 7.5 | 0.0 |
| Semotilus corporalis | | 261.0 | 19.8 |
| Esox americanus | | 7.5 | 0.0 |
| Notemigonus crysoleucas | | 14.9 | 0.0 |
| Micropterus salmoides | | 7.5 | 0.0 |
| Lepomis auritus | | 74.6 | 0.0 |
| Oncorhynchus mykiss | STOCKED | | |
| Etheostoma olmstedi | | 29.8 | 0.0 |
| Catostomus commersoni | | 126.8 | 16.1 |

STREAM NAME : **FURNACE BROOK** SITE #: **6004**

SITE DESCRIPTION: UPSTREAM OF RTE. 319 (TOP 40 M CHANNELIZED).

TOWN: STAFFORD

SAMPLE LENGTH : 150. SAMPLE DATE: 06/16/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :26.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.4 | |
| WATER TEMP. . . | :23.00 (C) | pH . . . . . : | 7.2 | 0.00 |
| VELOCITY. . . . | : 0.3501(m/s) | COND . . . . . (uS/cm3). . : | 69.0 | 1.0 |
| DISCHARGE . . . | : 5.3648(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 9.2 | 0.12 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 8.24 | 1.70 | (m) | | |
| DEPTH. . . . . : | 19.50 | 13.10 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 0.55 | |
| TYPE THREE SUBSTRATE . . . : | 0.18 | (%) | AIR/WATER TEMP. RATIO: | 1.13 | |
| EMBEDDEDNESS OF TYPE THREE : | 60.71 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 0.95 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 19.8 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Ameiurus nebulosus | | 64.7 | 0.0 |
| Salvelinus fontinalis | STOCKED | 8.1 | 0.0 |
| Salvelinus fontinalis | WILD | 16.2 | 0.0 |
| Rhinichthys atratulus | | 598.7 | 234.6 |
| Salmo trutta | STOCKED | 8.1 | 0.0 |
| Semotilus corporalis | | 2435.3 | 148.0 |
| Notemigonus crysoleucas | | 8.1 | 0.0 |
| Lepomis gibbosus | | 32.4 | 0.0 |
| Catostomus commersoni | | 218.4 | 0.0 |
| Perca flavescens | | 89.0 | 0.0 |

STREAM NAME : **ROARING BROOK** SITE #: **6005**

SITE DESCRIPTION: 75 M DOWNSTREAM OF POLSTER RD. TO 75 M UPSTREAM.

TOWN: WILLINGTON

SAMPLE LENGTH : 150. SAMPLE DATE: 08/26/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :23.00 (C) | DISSOLVED OXYGEN (mg/l). . | : 10.3 | 0.06 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . | : 6.7 | 0.06 |
| VELOCITY. . . . | : 0.3687(m/s) | COND . . . . . (uS/cm3). . | : 51.0 | 0.0 |
| DISCHARGE . . . | : 6.8849(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 5.7 | 0.25 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | : 8.88 | 1.27 | (m) | | |
| DEPTH. . . . . | : 21.23 | 13.92 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | : 4 | | POOL/RIFFLE RATIO . .: | | 0.69 |
| TYPE THREE SUBSTRATE . . . | : 0.05 | (%) | AIR/WATER TEMP. RATIO: | | 1.21 |
| EMBEDDEDNESS OF TYPE THREE | : 55.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . | : 54.20 | (%) | | | |
| INSTREAM SHELTER . . . . . | : 103.8 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Anguilla rostrata | | 7.5 | 0.0 |
| Ameiurus nebulosus | | 7.5 | 0.0 |
| Lepomis macrochirus | | 322.8 | 75.3 |
| Salvelinus fontinalis | WILD | 217.7 | 26.7 |
| Rhinichthys atratulus | | 3055.6 | 81.6 |
| Salmo trutta | WILD | 90.1 | 0.0 |
| Luxilus cornutus | | 15.0 | 0.0 |
| Semotilus corporalis | | 337.8 | 50.4 |
| Esox americanus | | 15.0 | 0.0 |
| Notemigonus crysoleucas | | 15.0 | 0.0 |
| Micropterus salmoides | | 22.5 | 0.0 |
| Catostomus commersoni | | 352.9 | 33.6 |
| Perca flavescens | | 15.0 | 0.0 |

STREAM NAME : **MILL BROOK** SITE #: 6006

SITE DESCRIPTION: UPSTREAM OF SNAKE HILL RD.

TOWN: COVENTRY

SAMPLE LENGTH : 100. SAMPLE DATE: 06/20/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :25.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 7.7 | 0.06 |
| WATER TEMP. . . :24.00 (C) | | pH . . . . . : | 7.3 | 0.10 |
| VELOCITY. . . . : 0.2699(m/s) | | COND . . . . . (uS/cm3). . : | 127.3 | 0.6 |
| DISCHARGE . . . : 0.8628(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 17.2 | 0.40 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 3.64 | | 0.71 | (m) |
| DEPTH. . . . . : | 8.85 | | 6.87 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 0.56 |
| TYPE THREE SUBSTRATE . . . : | 0.27 | (%) | AIR/WATER TEMP. RATIO: | 1.04 |
| EMBEDDEDNESS OF TYPE THREE : | 22.50 | (%) | | |
| OVERHEAD CANOPY. . . . . : | 93.80 | (%) | | |
| INSTREAM SHELTER . . . . . : | 8.7 | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Lepomis macrochirus | 82.4 | |
| Rhinichthys atratulus | 219.8 | |
| Esox niger | 54.9 | |
| Lepomis gibbosus | 27.5 | |
| Catostomus commersoni | 247.3 | |

STREAM NAME : **SKUNGAMAUG RIVER** SITE #: **6007**

SITE DESCRIPTION: DOWNSTREAM OF CASE RD.

TOWN: COVENTRY

SAMPLE LENGTH : 150. SAMPLE DATE: 06/20/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :26.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 8.1 | 0.06 |
| WATER TEMP. . . :22.00 (C) | | pH . . . . . : | 7.2 | 0.00 |
| VELOCITY. . . . : 0.2495(m/s) | | COND . . . . . (uS/cm3). . : | 99.3 | 0.6 |
| DISCHARGE . . . : 1.0622(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 13.2 | 0.17 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 8.31 | 0.89 | (m) | | |
| DEPTH. . . . . : | 37.20 | 23.90 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 1.14 |
| TYPE THREE SUBSTRATE . . . : | 0.04 | (%) | AIR/WATER TEMP. RATIO: | | 1.18 |
| EMBEDDEDNESS OF TYPE THREE : | 28.33 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 32.30 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 574.8 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Lepomis macrochirus | | 112.3 | 0.0 |
| Rhinichthys atratulus | | 870.1 | MINIMAL ESTIMATE |
| Salmo trutta | STOCKED | 48.1 | 0.0 |
| Luxilus cornutus | | 617.7 | 244.1 |
| juvenile cyprinid | | 16.0 | 0.0 |
| Semotilus corporalis | | 1091.1 | 27.6 |
| Oncorhynchus mykiss | STOCKED | 16.0 | 0.0 |
| Catostomus commersoni | | 473.3 | 43.8 |

STREAM NAME : **BURNAP BROOK** SITE #: **6008**

SITE DESCRIPTION: 0.5 KM UPSTREAM OF RTE. 6, PARALLEL TO BURNAP RD.. OPPOSITE 59 BURNAP RD.

TOWN: ANDOVER

SAMPLE LENGTH : 150. SAMPLE DATE: 06/20/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :21.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.5 | 0.10 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 7.3 | 0.12 |
| VELOCITY. . . . | : 0.0989(m/s) | COND . . . . . (uS/cm3). . : | 112.3 | 1.2 |
| DISCHARGE . . . | : 0.8455(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 23.1 | 0.60 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 5.87 | 1.34 | (m) | | |
| DEPTH. . . . . : | 14.32 | 16.44 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 0.90 |
| TYPE THREE SUBSTRATE . . . : | 0.25 | (%) | AIR/WATER TEMP. RATIO: | | 1.11 |
| EMBEDDEDNESS OF TYPE THREE : | 33.85 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 97.50 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 69.1 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salvelinus fontinalis | WILD | 394.0 | 76.3 |
| Rhinichthys atratulus | | 1213.8 | 81.9 |
| Salmo trutta | WILD | 63.9 | 0.0 |
| Lepomis cyanellus | | 10.6 | 0.0 |
| Lepomis gibbosus | | 31.9 | 0.0 |
| Lepomis auritus | | 42.6 | 0.0 |
| Catostomus commersoni | | 138.4 | 52.2 |

STREAM NAME : **FENTON RIVER** SITE #: 6009

SITE DESCRIPTION: 1.4 KM UPSTREAM OF RTE. 89 (ACCESS FROM DIRT RD. ON LEFT OFF WORMWOOD HILL RD.).

TOWN: MANSFIELD

SAMPLE LENGTH : 200. SAMPLE DATE: 07/13/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :18.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 8.9 | 0.10 |
| WATER TEMP. . . :27.00 (C) | | pH . . . . . : | 7.3 | 0.00 |
| VELOCITY. . . . : 0.0618(m/s) | | COND . . . . . (uS/cm3). . : | 93.7 | 1.2 |
| DISCHARGE . . . : 0.1579(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 17.8 | 0.56 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 8.29 | 2.10 | (m) | | |
| DEPTH. . . . . : | 22.52 | 18.62 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 2.52 |
| TYPE THREE SUBSTRATE . . . : | 0.07 | (%) | AIR/WATER TEMP. RATIO: | | 0.67 |
| EMBEDDEDNESS OF TYPE THREE : | 46.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 40.90 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 100.2 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Ameiurus nebulosus | | 18.1 | 0.0 |
| Lepomis macrochirus | | 18.1 | 0.0 |
| Salvelinus fontinalis | STOCKED | 6.0 | 0.0 |
| Salvelinus fontinalis | WILD | 6.0 | 0.0 |
| Rhinichthys atratulus | | 3878.2 | 64.0 |
| Salmo trutta | STOCKED | 156.8 | 0.0 |
| Salmo trutta | WILD | 30.2 | 0.0 |
| Esox niger | | 108.6 | 0.0 |
| Luxilus cornutus | | 2563.0 | MINIMAL ESTIMATE |
| Semotilus corporalis | | 2690.0 | MINIMAL ESTIMATE |
| Notemigonus crysoleucas | | 235.2 | 19.5 |
| Micropterus salmoides | | 120.6 | 0.0 |
| Esox lucius | | 12.1 | 0.0 |
| Lepomis gibbosus | | 60.3 | 0.0 |
| Oncorhynchus mykiss | STOCKED | 6.0 | 0.0 |
| Notropis hudsonius | | 3009.0 | MINIMAL ESTIMATE |
| Etheostoma olmstedi | | 489.4 | MINIMAL ESTIMATE |
| Catostomus commersoni | | 3196.6 | 155.5 |
| Ameiurus natalis | | 36.3 | MINIMAL ESTIMATE |
| Perca flavescens | | 313.6 | 14.6 |

STREAM NAME : **GIFFORDS BROOK** SITE #: **6010**

SITE DESCRIPTION: UPSTREAM OF RTE. 87, 170 M BELOW CONFLUENCE WITH DAM BROOK (OLD DAM AT 30 M).

TOWN: COLUMBIA

SAMPLE LENGTH : 94. SAMPLE DATE: 06/21/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.8 | 0.12 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 7.3 | 0.06 |
| VELOCITY. . . . | : 0.0843(m/s) | COND . . . . . (uS/cm3). . : | 79.0 | 3.5 |
| DISCHARGE . . . | : 0.6555(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 15.8 | 1.72 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 4.33 | 2.02 | (m) | | |
| DEPTH. . . . . : | 13.25 | 17.11 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 6 | | POOL/RIFFLE RATIO . .: | | 0.74 |
| TYPE THREE SUBSTRATE . . . : | 0.04 | (%) | AIR/WATER TEMP. RATIO: | | 1.16 |
| EMBEDDEDNESS OF TYPE THREE : | 20.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 78.80 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 30.4 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Ameiurus nebulosus | WILD | 24.6 | 0.0 |
| Lepomis macrochirus | WILD | 442.4 | 0.0 |
| Salvelinus fontinalis | WILD | 270.3 | 0.0 |
| Rhinichthys atratulus | WILD | 2457.7 | 0.0 |
| juvenile centrarchid | WILD | 24.6 | 0.0 |
| Esox niger | WILD | 73.7 | 0.0 |
| Luxilus cornutus | WILD | 196.6 | 0.0 |
| Semotilus corporalis | WILD | 172.0 | 0.0 |
| Notemigonus crysoleucas | WILD | 73.7 | 0.0 |
| Lepomis gibbosus | WILD | 344.1 | 0.0 |
| S.fontinalis X S. trutta | WILD | | |
| Catostomus commersoni | WILD | 983.1 | 0.0 |

STREAM NAME : **TENMILE RIVER** SITE #: **6011**

SITE DESCRIPTION: DOWNSTREAM OF RAILROAD BRIDGE BELOW RTE. 87.

TOWN: COLUMBIA/LEBANON

SAMPLE LENGTH : 150. SAMPLE DATE: 06/21/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :20.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 5.3 | 0.29 |
| WATER TEMP. . . :20.00 (C) | | pH . . . . . : | 6.8 | 0.06 |
| VELOCITY. . . . : 0.1053(m/s) | | COND . . . . . (uS/cm3). . : | 87.0 | 0.0 |
| DISCHARGE . . . : 0.7125(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 24.7 | 0.89 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 5.23 | 1.20 | (m) | | |
| DEPTH. . . . . : | 13.13 | 10.45 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | POOL/RIFFLE RATIO . .: | | 3.17 |
| TYPE THREE SUBSTRATE . . . : | 0.44 | (%) | AIR/WATER TEMP. RATIO: | | 1.00 |
| EMBEDDEDNESS OF TYPE THREE : | 15.71 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 95.80 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 13.8 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Lepomis macrochirus | 25.5 | 0.0 |
| Rhinichthys atratulus | 5098.8 | 74.9 |
| Luxilus cornutus | 4716.4 | 139.3 |
| Semotilus corporalis | 1746.3 | 151.8 |
| Notemigonus crysoleucas | 127.5 | 0.0 |
| Lepomis gibbosus | 127.5 | 0.0 |
| Lepomis auritus | 12.7 | 0.0 |
| Catostomus commersoni | 3263.2 | 604.5 |

STREAM NAME : **NATCHAUG RIVER** SITE #: **6012**

SITE DESCRIPTION: 200 M BELOW NATCHAUG STATE FOREST ACCESS RD. AT CONFLUENCE WITH BEAVERDAM BROOK.

TOWN: CHAPLIN

SAMPLE LENGTH : 200. SAMPLE DATE: 06/29/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :24.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.1 | 0.10 |
| WATER TEMP. . . | :21.00 (C) | pH . . . . . : | 7.3 | 0.06 |
| VELOCITY. . . . | : 0.0776(m/s) | COND . . . . . (uS/cm3). . : | 77.0 | 3.5 |
| DISCHARGE . . . | : 0.2851(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 17.7 | 0.55 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 20.63 | 3.10 | (m) | | |
| DEPTH. . . . . : | 27.58 | 18.78 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 5 | | POOL/RIFFLE RATIO . .: | | 2.28 |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | AIR/WATER TEMP. RATIO: | | 1.14 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 0.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 56.8 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Anguilla rostrata | | 4.8 | 0.0 |
| Ameiurus nebulosus | | 2.4 | 0.0 |
| Lepomis macrochirus | | 34.0 | MINIMAL ESTIMATE |
| Rhinichthys atratulus | | 67.9 | 31.8 |
| Salmo trutta | STOCKED | 80.0 | 0.0 |
| Salmo trutta | WILD | 2.4 | 0.0 |
| juvenile centrarchid | | 4.8 | 0.0 |
| Luxilus cornutus | | 31.5 | 11.9 |
| Semotilus corporalis | | 332.0 | MINIMAL ESTIMATE |
| Lepomis cyanellus | | 2.4 | 0.0 |
| hybrid sunfish | | 2.4 | 0.0 |
| Micropterus salmoides | | 9.7 | 0.0 |
| Lepomis gibbosus | | 14.5 | 0.0 |
| Lepomis auritus | | 14.5 | 0.0 |
| Oncorhynchus mykiss | STOCKED | 4.8 | 0.0 |
| Micropterus dolomieu | | 152.7 | 7.2 |
| Catostomus commersoni | | 87.3 | 0.0 |

STREAM NAME : **BUNGEE BROOK** SITE #: 6013

SITE DESCRIPTION: UPSTREAM OF CONFLUENCE WITH INDIAN HUT BROOK, PARALLEL TO COLONY RD.

TOWN: EASTFORD

SAMPLE LENGTH : 163. SAMPLE DATE: 06/23/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 7.8 | 0.10 |
| WATER TEMP. . . | :17.00 (C) | pH . . . . . : | 7.0 | 0.00 |
| VELOCITY. . . . | : 0.0949(m/s) | COND . . . . . (uS/cm3). . : | 69.3 | 0.6 |
| DISCHARGE . . . | : 0.0965(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 12.0 | 0.36 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 4.54 | 0.88 | (m) | | |
| DEPTH. . . . . : | 20.13 | 15.86 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | POOL/RIFFLE RATIO . .: | | 2.07 |
| TYPE THREE SUBSTRATE . . . : | 0.46 | (%) | AIR/WATER TEMP. RATIO: | | 1.29 |
| EMBEDDEDNESS OF TYPE THREE : | 55.83 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 38.80 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 60.9 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Anguilla rostrata | | 13.5 | 0.0 |
| Lepomis macrochirus | | 27.0 | 0.0 |
| Salvelinus fontinalis | STOCKED | 27.0 | 0.0 |
| Rhinichthys atratulus | | 1581.0 | 22.4 |
| Esox niger | | 13.5 | 0.0 |
| Luxilus cornutus | | 4297.2 | 226.4 |
| Semotilus corporalis | | 3445.9 | 55.2 |
| Lepomis cyanellus | | 351.3 | 108.0 |
| Notemigonus crysoleucas | | 13.5 | 0.0 |
| Lepomis gibbosus | | 500.0 | 251.6 |
| Lepomis auritus | | 67.6 | 0.0 |
| Catostomus commersoni | | 4770.1 | 479.2 |
| Ameiurus natalis | | 0.0 | 0.0 |

STREAM NAME : **STILL RIVER** SITE #: **6014**

SITE DESCRIPTION: 400 M UPSTREAM OF RTE. 44 (AT SAND AND GRAVEL PROCESSING FACILITY).

TOWN: EASTFORD

SAMPLE LENGTH : 150. SAMPLE DATE: 06/23/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | 24.00 (C) | DISSOLVED OXYGEN (mg/l). . | 8.9 | 0.00 |
| WATER TEMP. . . | 18.00 (C) | pH . . . . . | 7.2 | 0.06 |
| VELOCITY. . . . | 0.1069(m/s) | COND . . . . . (uS/cm3). . | 79.0 | 1.0 |
| DISCHARGE . . . | 0.2269(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 15.0 | 0.06 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | 9.78 | 1.40 | (m) | | |
| DEPTH. . . . . | 17.70 | 12.84 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | 4 | | POOL/RIFFLE RATIO . .: | | 0.90 |
| TYPE THREE SUBSTRATE . . . | 0.15 | (%) | AIR/WATER TEMP. RATIO: | | 1.33 |
| EMBEDDEDNESS OF TYPE THREE | 22.31 | (%) | | | |
| OVERHEAD CANOPY. . . . . | 41.70 | (%) | | | |
| INSTREAM SHELTER . . . . . | 18.3 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salvelinus fontinalis | WILD | 6.8 | 0.0 |
| Rhinichthys atratulus | | 7975.5 | 115.1 |
| Salmo trutta | WILD | 34.1 | 0.0 |
| juvenile centrarchid | | 27.3 | 0.0 |
| Esox niger | | 6.8 | 0.0 |
| Luxilus cornutus | | 2774.4 | 62.1 |
| Semotilus corporalis | | 2276.8 | 26.5 |
| Lepomis cyanellus | | 518.4 | MINIMAL ESTIMATE |
| Notemigonus crysoleucas | | 6.8 | 0.0 |
| Micropterus salmoides | | 368.1 | 62.2 |
| Lepomis gibbosus | | 368.4 | MINIMAL ESTIMATE |
| Lepomis auritus | | 34.1 | 0.0 |
| Catostomus commersoni | | 2672.1 | 60.9 |

STREAM NAME : **BIGELOW BROOK** SITE #: **6015**

SITE DESCRIPTION: UPSTREAM OF ASHFORD RD.

TOWN: EASTFORD

SAMPLE LENGTH : 150. SAMPLE DATE: 06/28/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :24.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.5 | 0.26 |
| WATER TEMP. . . | :21.00 (C) | pH . . . . . : | 7.3 | 0.06 |
| VELOCITY. . . . | : 0.1743(m/s) | COND . . . . . (uS/cm3). . : | 74.7 | 2.5 |
| DISCHARGE . . . | : 2.8115(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 14.9 | 0.78 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 9.24 | 0.80 | (m) |
| DEPTH. . . . . : | 17.42 | 12.27 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | |
| TYPE THREE SUBSTRATE . . . : | 0.02 (%) | | |
| EMBEDDEDNESS OF TYPE THREE : | 15.00 (%) | | |
| OVERHEAD CANOPY. . . . . : | 75.00 (%) | | |
| INSTREAM SHELTER . . . . . : | 28.6 (m2) | | |

| | | POOL/RIFFLE RATIO . .: | 1.43 |
|---|---|---|---|
| | | AIR/WATER TEMP. RATIO: | 1.14 |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys atratulus | | 707.1 | 107.7 |
| Salmo trutta | STOCKED | 57.7 | 0.0 |
| Luxilus cornutus | | 505.0 | MINIMAL ESTIAMTE |
| Semotilus corporalis | | 1118.3 | 121.3 |
| Lepomis cyanellus | | 21.6 | 0.0 |
| Notemigonus crysoleucas | | 7.2 | 0.0 |
| Oncorhynchus mykiss | STOCKED | 14.4 | 0.0 |
| Micropterus dolomieu | | 64.9 | 0.0 |
| Catostomus commersoni | | 64.9 | 0.0 |

STREAM NAME : **STONEHOUSE BROOK** SITE #: 6016

SITE DESCRIPTION: UPSTREAM OF TOWER HILL RD.

TOWN: CHAPLIN

SAMPLE LENGTH : 110. SAMPLE DATE: 06/28/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.8 | 0.06 |
| WATER TEMP. . . | :18.00 (C) | pH . . . . . : | 7.1 | 0.00 |
| VELOCITY. . . . | : 0.1111(m/s) | COND . . . . . (uS/cm3). . : | 45.0 | 0.0 |
| DISCHARGE . . . | : 0.6515(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 11.5 | 0.67 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 3.97 | 0.77 | (m) | | |
| DEPTH. . . . . : | 15.48 | 12.87 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 5 | | POOL/RIFFLE RATIO . .: | | 0.53 |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | AIR/WATER TEMP. RATIO: | | 1.22 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 98.90 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 3.3 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salvelinus fontinalis | WILD | 4763.0 | 89.5 |
| Lepomis cyanellus | | 45.8 | 0.0 |
| hybrid sunfish | | 22.9 | 0.0 |
| Lepomis gibbosus | | 160.3 | 0.0 |

STREAM NAME : **SQUAW HOLLOW BROOK** SITE #: 6017

SITE DESCRIPTION: DOWNSTREAM OF RTE. 44.

TOWN: ASHFORD

SAMPLE LENGTH : 50. SAMPLE DATE: 07/05/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :24.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.8 | 0.15 |
| WATER TEMP. . . | :18.00 (C) | pH . . . . . : | 6.8 | 0.11 |
| VELOCITY. . . . | : 0.1010(m/s) | COND . . . . . (uS/cm3). . : | 117.3 | 7.2 |
| DISCHARGE . . . | : 0.1355(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 19.2 | |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.44 | 0.66 | (m) | | |
| DEPTH. . . . . : | 5.70 | 4.88 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 1.21 |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | AIR/WATER TEMP. RATIO: | | 1.33 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.6 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 2459.0 | |
| Rhinichthys atratulus | 327.9 | |

STREAM NAME : **MOUNT HOPE RIVER** SITE #: **6018**

SITE DESCRIPTION: DOWNSTREAM OF RTE. 89.

TOWN: ASHFORD

SAMPLE LENGTH : 230.

SAMPLE DATE: 08/02/94

PHYSICAL

AIR TEMP. . . . :27.00 (C)

WATER TEMP. . . :22.00 (C)

VELOCITY. . . . : 0.0199(m/s)

DISCHARGE . . . : 0.1049(m3/s)

| CHEMICAL | MEAN | STD |
|---|---|---|
| DISSOLVED OXYGEN (mg/l). . : | 8.3 | 0.21 |
| pH . . . . . : | 7.1 | 0.06 |
| COND . . . . . (uS/cm3). . : | 102.0 | 1.0 |
| ALKALINITY .(mg CaCO3 eq/l): | 21.0 | 0.71 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 11.26 | 1.17 | (m) |
| DEPTH. . . . . : | 53.28 | 37.75 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 2 | | |
| TYPE THREE SUBSTRATE . . . : | 0.13 | (%) | |
| EMBEDDEDNESS OF TYPE THREE : | 41.54 | (%) | |
| OVERHEAD CANOPY. . . . . : | 15.00 | (%) | |
| INSTREAM SHELTER . . . . . : | 1375.9 | (m2) | |

POOL/RIFFLE RATIO . .: 2000.00

AIR/WATER TEMP. RATIO: 1.23

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Anguilla rostrata | STOCKED | 7.7 | 0.0 |
| Lepomis macrochirus | | 42.5 | 0.0 |
| Rhinichthys atratulus | | 23.2 | 0.0 |
| Salmo trutta | | 73.4 | 0.0 |
| Esox niger | | 30.9 | 0.0 |
| Luxilus cornutus | | 351.4 | 8.6 |
| Semotilus corporalis | | 3.9 | 0.0 |
| Lepomis cyanellus | | 301.2 | 21.2 |
| Notemigonus crysoleucas | | 289.6 | 43.5 |
| Micropterus salmoides | | 115.8 | 4.7 |
| Lepomis gibbosus | | 84.9 | 0.0 |
| Micropterus dolomieu | | 19.3 | 0.0 |
| Etheostoma olmstedi | | 266.4 | 0.0 |
| Catostomus commersoni | | 409.3 | 62.9 |
| Perca flavescens | | | |

STREAM NAME : **FENTON RIVER** SITE #: 6019

SITE DESCRIPTION: 75 M UPSTREAM OF UCONN PUMP HOUSE 'UC-A'OFF ACCESS RD. FROM GURLEYVILLE RD.

TOWN: MANSFIELD

SAMPLE LENGTH : 150. SAMPLE DATE: 07/05/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :23.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 8.9 | 0.15 |
| WATER TEMP. . . :18.00 (C) | | pH . . . . . : | 7.2 | 0.10 |
| VELOCITY. . . . : 0.2141(m/s) | | COND . . . . . (uS/cm3). . : | 84.7 | 0.6 |
| DISCHARGE . . . : 2.8575(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 15.7 | 0.35 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 10.45 | | 2.60 | (m) |
| DEPTH. . . . . : | 13.65 | | 9.89 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 0.95 |
| TYPE THREE SUBSTRATE . . . : | 0.16 | (%) | AIR/WATER TEMP. RATIO: | 1.28 |
| EMBEDDEDNESS OF TYPE THREE : | 37.14 | (%) | | |
| OVERHEAD CANOPY. . . . . : | 93.80 | (%) | | |
| INSTREAM SHELTER . . . . . : | 13.4 | (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Anguilla rostrata | | 12.8 | 0.0 |
| Ameiurus nebulosus | | 19.1 | 0.0 |
| Salvelinus fontinalis | WILD | 12.3 | 0.0 |
| Rhinichthys atratulus | | 4823.0 | 216.9 |
| Salmo trutta | STOCKED | 28.7 | 0.0 |
| Salmo trutta | WILD | 32.8 | 0.0 |
| Semotilus corporalis | | 159.5 | 0.0 |
| Oncorhynchus mykiss | STOCKED | 0.0 | 0.0 |
| Etheostoma olmstedi | | 95.7 | 0.0 |
| Catostomus commersoni | | 191.4 | 17.5 |
| Perca flavescens | | 51.0 | 0.0 |

STREAM NAME : **SAWMILL BROOK** SITE #: **6020**

SITE DESCRIPTION: 100 M UPSTREAM OF PUDDIN LANE.

TOWN: MANSFIELD

SAMPLE LENGTH : 100. SAMPLE DATE: 07/05/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :21.00 (C) | DISSOLVED OXYGEN (mg/l). . | : 10.0 | 0.00 |
| WATER TEMP. . . | :14.00 (C) | pH . . . . . | : 7.1 | 0.17 |
| VELOCITY. . . . | : 0.0763(m/s) | COND . . . . . (uS/cm3). . | : 55.0 | 0.0 |
| DISCHARGE . . . | : 0.2267(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 14.0 | 0.25 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . | : 4.09 | | 1.42 | (m) |
| DEPTH. . . . . | : 7.32 | | 6.07 | (cm) |
| DOMINANT SUBSTRATE TYPE. . | : 4 | | POOL/RIFFLE RATIO . .: | 0.56 |
| TYPE THREE SUBSTRATE . . . | : 0.00 | (%) | AIR/WATER TEMP. RATIO: | 1.50 |
| EMBEDDEDNESS OF TYPE THREE | : | (%) | | |
| OVERHEAD CANOPY. . . . . | : 98.90 | (%) | | |
| INSTREAM SHELTER . . . . . | : 1.3 | (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Anguilla rostrata | WILD | 366.7 | 0.0 |
| Lepomis macrochirus | | 366.7 | 0.0 |
| Salvelinus fontinalis | | 1833.7 | 0.0 |
| Rhinichthys atratulus | | 6821.5 | 0.0 |
| Semotilus corporalis | | 146.7 | 0.0 |
| Etheostoma olmstedi | | 220.0 | 0.0 |
| Catostomus commersoni | | 782.4 | 0.0 |

STREAM NAME : **FRENCH RIVER** SITE #: **6021**

SITE DESCRIPTION: UPSTREAM OF MAIN ST., IN TOWN PARK IMMEDIATELY EAST OF INTERSECTION WITH RTE. 12.

TOWN: THOMPSON

SAMPLE LENGTH : 215. SAMPLE DATE: 07/19/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :26.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 8.0 | 0.06 |
| WATER TEMP. . . :25.00 (C) | | pH . . . . . : | 7.5 | 0.06 |
| VELOCITY. . . . : 0.0775(m/s) | | COND . . . . . (uS/cm3). . : | 269.7 | 0.6 |
| DISCHARGE . . . : 0.5606(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 44.8 | 0.66 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 15.68 | 1.12 | (m) | | |
| DEPTH. . . . . : | 30.65 | 22.85 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 1.69 |
| TYPE THREE SUBSTRATE . . . : | 0.18 | (%) | AIR/WATER TEMP. RATIO: | | 1.04 |
| EMBEDDEDNESS OF TYPE THREE : | 27.77 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 33.80 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 666.7 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Anguilla rostrata | 32.6 | 0.0 |
| Ameiurus nebulosus | 3.0 | 0.0 |
| Lepomis macrochirus | 17.8 | 0.0 |
| Esox niger | 20.8 | 0.0 |
| Luxilus cornutus | 20.8 | 0.0 |
| Semotilus corporalis | 2699.3 | 29.3 |
| Micropterus salmoides | 480.5 | 73.2 |
| Lepomis gibbosus | 243.2 | 14.4 |
| Catostomus commersoni | 1180.6 | 153.1 |
| Ameiurus natalis | 358.9 | 19.4 |
| Perca flavescens | 97.9 | 14.5 |

STREAM NAME : **FIVEMILE RIVER** SITE #: **6022**

SITE DESCRIPTION: FROM 75 M DOWNSTREAM OF RTE. 12 TO DAM ABOVE RTE 12.

TOWN: KILLINGLY

SAMPLE LENGTH : 150. SAMPLE DATE: 07/19/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :27.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.6 | 0.32 |
| WATER TEMP. . . | :21.00 (C) | pH . . . . . : | 7.2 | 0.06 |
| VELOCITY. . . . | : 0.2564(m/s) | COND . . . . . (uS/cm3). . : | 70.0 | 0.0 |
| DISCHARGE . . . | : 7.5544(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 11.5 | 1.18 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 12.20 | 3.81 | (m) | | |
| DEPTH. . . . . : | 26.10 | 22.76 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . :. | 4 | | | POOL/RIFFLE RATIO . .: | 0.97 |
| TYPE THREE SUBSTRATE . . . : | 0.24 | (%) | | AIR/WATER TEMP. RATIO: | 1.29 |
| EMBEDDEDNESS OF TYPE THREE : | 24.78 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 45.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 245.3 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Anguilla rostrata | STOCKED | 43.7 | 0.0 |
| Ameiurus nebulosus | | 27.3 | 0.0 |
| Lepomis macrochirus | | 87.4 | 0.0 |
| Rhinichthys atratulus | | 235.0 | 41.7 |
| Salmo trutta | | 76.5 | 22.3 |
| Esox niger | | 71.0 | 0.0 |
| Luxilus cornutus | | 311.5 | 13.0 |
| Semotilus corporalis | | 398.9 | 116.7 |
| Rhinichthys cataractae | | 661.2 | 127.5 |
| Micropterus salmoides | | 125.7 | 0.0 |
| Lepomis gibbosus | | 32.8 | 0.0 |
| Lepomis auritus | | 245.9 | 49.9 |
| Etheostoma olmstedi | | 21.9 | 0.0 |
| Catostomus commersoni | | 207.7 | 6.5 |
| Ameiurus natalis | | 10.9 | 0.0 |
| Perca flavescens | | 147.5 | 0.0 |

STREAM NAME : ROCKY BROOK SITE #: 6023

SITE DESCRIPTION: UPSTREAM OF EAST THOMPSON RD.

TOWN: THOMPSON

SAMPLE LENGTH : 100.

SAMPLE DATE: 07/07/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :27.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 8.6 | 0.15 |
| WATER TEMP. . . :21.00 (C) | | pH . . . . . : | 5.3 | 0.06 |
| VELOCITY. . . . : 0.1443(m/s) | | COND . . . . . (uS/cm3). . : | 20.0 | 1.7 |
| DISCHARGE . . . : 0.4340(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 0.03 | 0.90 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 3.16 | 1.14 | (m) | | |
| DEPTH. . . . . : | 9.30 | 6.40 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | | POOL/RIFFLE RATIO . .: | 0.56 |
| TYPE THREE SUBSTRATE . . . : | 0.52 | (%) | | AIR/WATER TEMP. RATIO: | 1.29 |
| EMBEDDEDNESS OF TYPE THREE : | 1.54 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 97.50 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 3.4 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salvelinus fontinalis | WILD | 3227.8 | 86.0 |

STREAM NAME : **MARY BROWN BROOK** SITE #: **6024**

SITE DESCRIPTION: ABOVE POND APPROX. 100 M UPSTREAM OF RTE. 44.

TOWN: PUTNAM

SAMPLE LENGTH : 100. SAMPLE DATE: 07/07/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :29.00 (C) | DISSOLVED OXYGEN (mg/l). . | 8.4 | 0.17 |
| WATER TEMP. . . | :24.00 (C) | pH . . . . . | 6.3 | 0.02 |
| VELOCITY. . . . | : 0.1905(m/s) | COND . . . . . (uS/cm3). . | 77.0 | 1.0 |
| DISCHARGE . . . | : 0.6597(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 8.3 | 1.36 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . | 4.34 | | 1.20 | (m) |
| DEPTH. . . . . | 8.70 | | 6.80 | (cm) |
| DOMINANT SUBSTRATE TYPE. . | 4 | | POOL/RIFFLE RATIO . .: | 1.13 |
| TYPE THREE SUBSTRATE . . . | 0.05 | (%) | AIR/WATER TEMP. RATIO: | 1.21 |
| EMBEDDEDNESS OF TYPE THREE | 10.00 | (%) | | |
| OVERHEAD CANOPY. . . . . | 77.00 | (%) | | |
| INSTREAM SHELTER . . . . . | 3.3 | (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Lepomis macrochirus | WILD | 115.2 | 0.0 |
| Salvelinus fontinalis | | 161.3 | 32.0 |
| Rhinichthys atratulus | | 5622.1 | 183.0 |
| Luxilus cornutus | | 944.7 | 27.0 |
| juvenile cyprinid | | 1129.0 | 0.0 |
| Semotilus corporalis | | 2603.7 | 143.8 |
| Notemigonus crysoleucas | | 161.3 | 0.0 |
| Rhinichthys cataractae | | 875.6 | 0.0 |
| Micropterus salmoides | | 23.0 | 0.0 |
| Etheostoma olmstedi | | 345.6 | 0.0 |
| Catostomus commersoni | | 829.5 | 61.5 |

STREAM NAME : **CADY BROOK** SITE #: **6025**

SITE DESCRIPTION: UPSTREAM OF CHASE RD.

TOWN: PUTNAM

SAMPLE LENGTH : 150. SAMPLE DATE: 07/12/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :25.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.7 | 0.15 |
| WATER TEMP. . . | :18.00 (C) | pH . . . . . : | 6.7 | 0.12 |
| VELOCITY. . . . | : 0.1063(m/s) | COND . . . . . (uS/cm3). . : | 68.7 | 1.2 |
| DISCHARGE . . . | : 2.2122(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 11.4 | 0.60 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 6.40 | 1.46 | (m) | | |
| DEPTH. . . . . : | 32.53 | 17.02 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | POOL/RIFFLE RATIO . .: | 20.43 | |
| TYPE THREE SUBSTRATE . . . : | 0.38 | (%) | AIR/WATER TEMP. RATIO: | 1.39 | |
| EMBEDDEDNESS OF TYPE THREE : | 50.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 77.50 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 189.4 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Ameiurus nebulosus | | 41.7 | |
| Salmo trutta | STOCKED | 10.4 | |
| Esox niger | | 156.3 | |
| Micropterus salmoides | | 31.3 | |
| Lepomis gibbosus | | 41.7 | |
| Oncorhynchus mykiss | STOCKED | 10.4 | |
| Etheostoma olmstedi | | 354.2 | 12.8 |
| Catostomus commersoni | | 562.5 | 47.4 |

STREAM NAME : **WHETSTONE BROOK** SITE #: **6026**

SITE DESCRIPTION: UPSTREAM OF OUTFLOW TO CRYSTAL POND.

TOWN: KILLINGLY

SAMPLE LENGTH : 150. SAMPLE DATE: 07/11/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :21.00 (C) | DISSOLVED OXYGEN (mg/l). . | 9.1 | 0.12 |
| WATER TEMP. . . | :20.00 (C) | pH . . . . . | 7.1 | |
| VELOCITY. . . . | : 0.2252(m/s) | COND . . . . . (uS/cm3). . | 79.0 | 0.0 |
| DISCHARGE . . . | : 1.8523(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 17.5 | 0.15 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | 5.29 | 0.89 | (m) | | |
| DEPTH. . . . . | 15.73 | 12.58 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | 4 | | POOL/RIFFLE RATIO . .: | 2.41 | |
| TYPE THREE SUBSTRATE . . . | 0.04 | (%) | AIR/WATER TEMP. RATIO: | 1.05 | |
| EMBEDDEDNESS OF TYPE THREE | 15.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . | 89.60 | (%) | | | |
| INSTREAM SHELTER . . . . . | 41.8 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Anguilla rostrata | | 37.8 | 0.0 |
| Salvelinus fontinalis | WILD | 63.0 | 0.0 |
| Rhinichthys atratulus | | 7032.1 | 271.4 |
| Salmo trutta | STOCKED | 37.8 | 0.0 |
| Salmo trutta | WILD | 12.6 | 0.0 |
| Luxilus cornutus | | 2092.0 | 152.7 |
| juvenile cyprinid | | 680.0 | MINIMAL ESTIMATE |
| Semotilus corporalis | | 1373.7 | 50.7 |
| Rhinichthys cataractae | | 1953.4 | 279.7 |
| Micropterus salmoides | | 12.6 | 0.0 |
| Lepomis gibbosus | | 277.3 | 92.4 |
| Etheostoma olmstedi | | 75.6 | 0.0 |
| Catostomus commersoni | | 1184.6 | 166.9 |
| Ameiurus natalis | | 37.8 | 0.0 |

STREAM NAME : **MOOSUP RIVER** SITE #: **6027**

SITE DESCRIPTION: 200 M BELOW QUANDUCK BROOK CONFLUENCE.

TOWN: PLAINFIELD

SAMPLE LENGTH : 185. SAMPLE DATE: 08/17/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.3 | 0.17 |
| WATER TEMP. . . | :18.00 (C) | pH . . . . . : | 6.7 | 0.00 |
| VELOCITY. . . . | : 0.1035(m/s) | COND . . . . . (uS/cm3). . : | 62.7 | 1.5 |
| DISCHARGE . . . | : 0.3800(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 8.4 | 1.02 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 12.20 | 2.51 | (m) |
| DEPTH. . . . . : | 17.95 | 13.10 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | |
| TYPE THREE SUBSTRATE . . . : | 0.20 | (%) | |
| EMBEDDEDNESS OF TYPE THREE : | 32.10 | (%) | |
| OVERHEAD CANOPY. . . . . : | 88.80 | (%) | |
| INSTREAM SHELTER . . . . . : | 79.9 | (m2) | |

| | | POOL/RIFFLE RATIO . .: | 2.25 |
|---|---|---|---|
| | | AIR/WATER TEMP. RATIO: | 1.22 |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Anguilla rostrata | | 31.0 | 0.0 |
| Rhinichthys atratulus | | 141.8 | 57.7 |
| Salmo trutta | STOCKED | 7.2 | 0.0 |
| Salmo trutta | WILD | 8.9 | 0.0 |
| Esox niger | | 4.4 | 0.0 |
| Luxilus cornutus | | 788.7 | 24.3 |
| Semotilus corporalis | | 979.2 | 9.0 |
| Rhinichthys cataractae | | 779.8 | 85.1 |
| Micropterus salmoides | | 602.6 | 80.3 |
| Lepomis auritus | | 75.3 | 0.0 |
| Etheostoma olmstedi | | 296.9 | 15.4 |
| Catostomus commersoni | | 155.1 | 8.6 |
| Perca flavescens | | 4.4 | 0.0 |

STREAM NAME : QUANDUCK BROOK SITE #: 6028

SITE DESCRIPTION: UPSTREAM OF GIBSON HILL RD.

TOWN: STERLING

SAMPLE LENGTH : 150. SAMPLE DATE: 07/11/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :27.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.5 | 0.10 |
| WATER TEMP. . . | :22.00 (C) | pH . . . . . : | 7.0 | 0.21 |
| VELOCITY. . . . | : 0.1317(m/s) | COND . . . . . (uS/cm3). . : | 82.0 | 2.6 |
| DISCHARGE . . . | : 1.3993(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 14.2 | 0.35 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 8.99 | 1.87 | (m) | | |
| DEPTH. . . . . : | 12.40 | 9.37 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 1.07 |
| TYPE THREE SUBSTRATE . . . : | 0.22 | (%) | AIR/WATER TEMP. RATIO: | | 1.23 |
| EMBEDDEDNESS OF TYPE THREE : | 13.42 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 93.80 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 5.8 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Anguilla rostrata | | 49.6 | 0.0 |
| Salvelinus fontinalis | WILD | 21.3 | 0.0 |
| Salvelinus fontinalis | | 14.2 | 0.0 |
| Rhinichthys atratulus | | 5724.7 | 262.2 |
| Salmo trutta | STOCKED | | |
| Salmo trutta | WILD | 35.4 | 0.0 |
| Luxilus cornutus | | 177.1 | 0.0 |
| Semotilus corporalis | | 49.6 | 0.0 |
| Rhinichthys cataractae | | 1650.8 | 169.3 |
| Lepomis gibbosus | | 7.1 | 0.0 |
| Etheostoma olmstedi | | 410.9 | 47.2 |
| Catostomus commersoni | | 800.6 | 135.8 |

STREAM NAME : **SNAKE MEADOW BROOK** SITE #: **6029**

SITE DESCRIPTION: DOWNSTREAM OF DEMERS RD.

TOWN: PLAINFIELD

SAMPLE LENGTH : 100. SAMPLE DATE: 07/12/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :20.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 5.2 | 0.72 |
| WATER TEMP. . . | :18.00 (C) | pH . . . . . : | 6.7 | 0.17 |
| VELOCITY. . . . | : 0.1961(m/s) | COND . . . . . (uS/cm3). . : | 92.0 | 0.0 |
| DISCHARGE . . . | : 0.8842(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 17.9 | 0.10 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 4.35 | 1.12 | (m) | | |
| DEPTH. . . . . : | 10.45 | 7.10 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 1.13 |
| TYPE THREE SUBSTRATE . . . : | 0.15 | (%) | AIR/WATER TEMP. RATIO: | | 1.11 |
| EMBEDDEDNESS OF TYPE THREE : | 45.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 91.70 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.04 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Anguilla rostrata | | 46.0 | 0.0 |
| Lepomis macrochirus | | 23.0 | 0.0 |
| Rhinichthys atratulus | | 160.9 | 0.0 |
| Salmo trutta | STOCKED | 23.0 | 0.0 |
| Esox niger | | 551.7 | 0.0 |
| Rhinichthys cataractae | | 505.7 | 28.3 |
| Micropterus salmoides | | | |
| Etheostoma olmstedi | | 3816.1 | 189.6 |
| Catostomus commersoni | | 620.7 | 0.0 |

STREAM NAME : **EKONK BROOK** SITE #: **6030**

SITE DESCRIPTION: ADJACENT TO BACK PARKING LOT OF MOOSUP GARDEN APARTMENTS OFF RIVER RD.

TOWN: PLAINFIELD

SAMPLE LENGTH : 100.

SAMPLE DATE: 07/14/94

PHYSICAL

AIR TEMP. . . . :23.00 (C)

WATER TEMP. . . :19.00 (C)

VELOCITY. . . . : 0.0522(m/s)

DISCHARGE . . . : 0.1239(m3/s)

CHEMICAL

| | MEAN | STD |
|---|---|---|
| DISSOLVED OXYGEN (mg/l). . : | 7.7 | 0.12 |
| pH . . . . . : | 6.9 | 0.06 |
| COND . . . . . (uS/cm3). . : | 120.0 | 17.3 |
| ALKALINITY .(mg CaCO3 eq/l): | 20.7 | 0.25 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 3.69 | 0.99 | (m) |
| DEPTH. . . . . : | 6.43 | 6.13 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | |
| TYPE THREE SUBSTRATE . . . : | 0.15 | (%) | |
| EMBEDDEDNESS OF TYPE THREE : | 41.00 | (%) | |
| OVERHEAD CANOPY. . . . . : | 98.00 | (%) | |
| INSTREAM SHELTER . . . . . : | 3.7 | (m2) | |

POOL/RIFFLE RATIO . .: 1.94

AIR/WATER TEMP. RATIO: 1.21

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 5826.6 | 123.0 |
| Rhinichthys atratulus | 216.8 | 63.5 |
| Luxilus cornutus | 271.0 | 0.0 |
| Semotilus corporalis | 813.0 | 74.2 |
| Rhinichthys cataractae | 216.8 | 0.0 |
| Micropterus salmoides | 54.2 | 0.0 |
| Lepomis auritus | 542.0 | 0.0 |
| Catostomus commersoni | | |

STREAM NAME : **QUINEBAUG RIVER** SITE #: **6031**

SITE DESCRIPTION: 75 M DOWNSTREAM OF RTE. 197.

TOWN: THOMPSON

SAMPLE LENGTH : 122. SAMPLE DATE: 08/10/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :23.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.5 | 0.17 |
| WATER TEMP. . . | :23.00 (C) | PH . . . . . : | 7.1 | 0.17 |
| VELOCITY. . . . | : 0.1999(m/s) | COND . . . . . (uS/cm3). . : | 165.0 | 6.1 |
| DISCHARGE . . . | : 1.0413(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 17.3 | 0.60 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 21.28 | 2.30 | (m) |
| DEPTH. . . . . : | 16.65 | 12.73 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | |
| TYPE THREE SUBSTRATE . . . : | 0.36 | (%) | |
| EMBEDDEDNESS OF TYPE THREE : | 52.50 | (%) | |
| OVERHEAD CANOPY. . . . . : | 40.00 | (%) | |
| INSTREAM SHELTER . . . . . : | 330.4 | (m2) | |

| | POOL/RIFFLE RATIO . .: | 0.74 |
|---|---|---|
| | AIR/WATER TEMP. RATIO: | 1.00 |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Lepomis macrochirus | 215.7 | 31.8 |
| Rhinichthys atratulus | 3.9 | 0.0 |
| Cyprinus carpio | 3.9 | 0.0 |
| Esox niger | | |
| Luxilus cornutus | 2245.6 | 52.0 |
| Semotilus corporalis | 785.8 | 76.5 |
| Rhinichthys cataractae | 73.2 | 8.1 |
| Micropterus salmoides | 34.7 | 0.0 |
| Lepomis gibbosus | 19.3 | 0.0 |
| Lepomis auritus | 73.2 | 4.9 |
| Micropterus dolomieu | 346.7 | 46.9 |
| Notropis hudsonius | 6213.0 | 96.3 |
| Etheostoma olmstedi | 27.0 | 0.0 |
| Catostomus commersoni | 635.6 | 21.5 |
| Ameiurus natalis | 165.6 | 0.0 |
| Perca flavescens | 19.3 | 0.0 |

STREAM NAME : **HAMILTON RESERVOIR TRIB.** SITE #: 6032

SITE DESCRIPTION: 50 M DOWNSTREAM OF RTE. I-84 (OFF DIRT ROAD AT END OF ENTRANCE RAMP).

TOWN: UNION

SAMPLE LENGTH : 50.

SAMPLE DATE: 07/20/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :29.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 4.3 | 1.23 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 6.7 | 0.12 |
| VELOCITY. . . . | : 0.0253(m/s) | COND . . . . . (uS/cm3). . : | 433.3 | 5.8 |
| DISCHARGE . . . | : 0.0452(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 9.3 | 1.23 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 1.36 | | 0.38 | (m) |
| DEPTH. . . . . : | 12.14 | | 9.20 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 2 | | POOL/RIFFLE RATIO . .: | 6.14 |
| TYPE THREE SUBSTRATE . . . : | 0.13 | (%) | AIR/WATER TEMP. RATIO: | 1.53 |
| EMBEDDEDNESS OF TYPE THREE : | 50.00 | (%) | | |
| OVERHEAD CANOPY. . . . . : | 43.80 | (%) | | |
| INSTREAM SHELTER . . . . . : | 1.5 | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| No fish present | | |

STREAM NAME : **COHASSE BROOK** SITE #: 6034

SITE DESCRIPTION: 300 M DOWNSTREAM OF RTE. 98, ADJACENT TO DIRT ACCESS RD.

TOWN: WOODSTOCK

SAMPLE LENGTH : 50.

SAMPLE DATE: 07/20/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :28.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 6.9 | 0.47 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 7.2 | 0.12 |
| VELOCITY. . . . | : (m/s) | COND . . . . . (uS/cm3). . : | 23.0 | 1.0 |
| DISCHARGE . . . | : (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 7.0 | 0.53 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 0.87 | | 0.35 | (m) |
| DEPTH. . . . . : | 3.15 | | 2.84 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | POOL/RIFFLE RATIO . .: | 0.43 |
| TYPE THREE SUBSTRATE . . . : | 0.30 | (%) | AIR/WATER TEMP. RATIO: | 1.47 |
| EMBEDDEDNESS OF TYPE THREE : | 23.33 | (%) | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | |
| INSTREAM SHELTER . . . . . : | 0.0 | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Rhinichthys atratulus | 9655.2 | |

STREAM NAME : **LEBANON BROOK** SITE #: 6035

SITE DESCRIPTION: 15 M DOWNSTREAM OF POLE BRIDGE RD.

TOWN: WOODSTOCK

SAMPLE LENGTH : 100.

SAMPLE DATE: 07/20/94

PHYSICAL

AIR TEMP. . . . :27.00 (C)

WATER TEMP. . . :25.00 (C)

VELOCITY. . . . : 0.0306(m/s)

DISCHARGE . . . : 0.1962(m3/s)

CHEMICAL

| | MEAN | STD |
|---|---|---|
| DISSOLVED OXYGEN (mg/l). . : | 4.3 | 0.00 |
| pH . . . . . : | 4.9 | 0.00 |
| COND . . . . . (uS/cm3). . : | 57.3 | 6.8 |
| ALKALINITY .(mg CaCO3 eq/l): | 6.7 | 1.50 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 4.82 | 1.30 | (m) |
| DEPTH. . . . . : | 13.18 | 11.04 | (cm) |

DOMINANT SUBSTRATE TYPE. . : 5

TYPE THREE SUBSTRATE . . . : 0.07 (%)

EMBEDDEDNESS OF TYPE THREE : 23.33 (%)

OVERHEAD CANOPY. . . . . : 9.50 (%)

INSTREAM SHELTER . . . . . : 1.9 (m2)

POOL/RIFFLE RATIO . .: 19.00

AIR/WATER TEMP. RATIO: 1.08

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Ameiurus nebulosus | 269.7 | 0.0 |
| juvenile centrarchid | 373.0 | MINIMAL ESTIMATE |
| Erimyzon oblongus | 1805.0 | 381.7 |
| Esox niger | 580.9 | 25.5 |
| Semotilus corporalis | 83.0 | 0.0 |
| Notemigonus crysoleucas | 892.1 | 52.9 |
| Lepomis gibbosus | 1410.8 | 172.3 |
| Catostomus commersoni | 20.7 | 0.0 |

STREAM NAME : **ENGLISH NEIGHBORHOOD BROOK** SITE #: 6036

SITE DESCRIPTION: UPSTREAM OF RTE. 169.

TOWN: WOODSTOCK

SAMPLE LENGTH : 62.

SAMPLE DATE: 07/20/94

PHYSICAL

AIR TEMP. . . . :28.00 (C)

WATER TEMP. . . :25.00 (C)

VELOCITY. . . . : 0.0427(m/s)

DISCHARGE . . . : 0.1188(m3/s)

CHEMICAL

| | MEAN | STD |
|---|---|---|
| DISSOLVED OXYGEN (mg/l). . : | 9.8 | 0.06 |
| pH . . . . . : | 6.6 | 0.00 |
| COND . . . . . (uS/cm3). . : | 130.7 | 8.1 |
| ALKALINITY .(mg CaCO3 eq/l): | 20.0 | 1.61 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 2.75 | | 0.79 | (m) |
| DEPTH. . . . . : | 9.10 | | 8.68 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | | |
| TYPE THREE SUBSTRATE . . . : | 0.27 | (%) | | |
| EMBEDDEDNESS OF TYPE THREE : | 1.66 | (%) | | |
| OVERHEAD CANOPY. . . . . : | 57.30 | (%) | | |
| INSTREAM SHELTER . . . . . : | 0.0 | (m2) | | |

POOL/RIFFLE RATIO . .: 5.89

AIR/WATER TEMP. RATIO: 1.12

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Rhinichthys atratulus | 25454.5 | 295.4 |
| juvenile centrarchid | 117.3 | 0.0 |
| Luxilus cornutus | 14428.2 | 221.8 |
| juvenile cyprinid | 469.2 | 0.0 |
| Semotilus corporalis | 1935.5 | 0.0 |
| Notemigonus crysoleucas | 58.7 | 0.0 |
| Etheostoma olmstedi | 1524.9 | 167.7 |
| Catostomus commersoni | 6217.0 | 155.8 |

STREAM NAME : **TAYLOR BROOK** SITE #: **6037**

SITE DESCRIPTION: DOWNSTREAM OF RTE. 171.

TOWN: WOODSTOCK

SAMPLE LENGTH : 100.

SAMPLE DATE: 08/15/94

PHYSICAL

AIR TEMP. . . . :19.00 (C)
WATER TEMP. . . :16.00 (C)
VELOCITY. . . . : 0.2612(m/s)
DISCHARGE . . . : 0.7350(m3/s)

CHEMICAL

| | MEAN | STD |
|---|---|---|
| DISSOLVED OXYGEN (mg/l). . : | 9.0 | 0.12 |
| pH . . . . . : | | |
| COND . . . . . (uS/cm3). . :110.7 | | 0.6 |
| ALKALINITY .(mg CaCO3 eq/l): 28.1 | | 0.68 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 3.68 | 1.22 | (m) |
| DEPTH. . . . . : | 7.55 | 6.76 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | |
| TYPE THREE SUBSTRATE . . . : | 0.14 | (%) | |
| EMBEDDEDNESS OF TYPE THREE : | 10.00 | (%) | |
| OVERHEAD CANOPY. . . . . : | 0.95 | (%) | |
| INSTREAM SHELTER . . . . . : | 4.0 | (m2) | |

POOL/RIFFLE RATIO . .: 0.62
AIR/WATER TEMP. RATIO: 1.19

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 27.2 | 0.0 |
| Rhinichthys atratulus | 11739.1 | 349.3 |
| Semotilus atromaculatus | 3206.5 | 181.8 |
| Luxilus cornutus | 6739.1 | 179.3 |
| Lepomis cyanellus | 81.5 | 0.0 |
| Notemigonus crysoleucas | 27.2 | 0.0 |
| Catostomus commersoni | 1712.0 | 79.5 |

STREAM NAME : **LITTLE RIVER** SITE #: **6038**

SITE DESCRIPTION: APPROX 250 M UPSTREAM OF DAM AT FRANCIS H. MURPHY TOWN PARK.

TOWN: PUTNAM

SAMPLE LENGTH : 150.

SAMPLE DATE: 06/27/94

PHYSICAL

AIR TEMP. . . . :25.00 (C)

WATER TEMP. . . :21.00 (C)

VELOCITY. . . . : 0.2015(m/s)

DISCHARGE . . . : 0.2002(m3/s)

CHEMICAL

| | MEAN | STD |
|---|---|---|
| DISSOLVED OXYGEN (mg/l). . : | 8.8 | 0.06 |
| pH . . . . . : | 6.5 | 0.00 |
| COND . . . . . (uS/cm3). . : | 123.3 | 0.6 |
| ALKALINITY .(mg CaCO3 eq/l): | 26.2 | 0.55 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 11.65 | 4.16 | (m) |
| DEPTH. . . . . : | 22.27 | 20.69 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | |
| TYPE THREE SUBSTRATE . . . : | 0.21 | (%) | |
| EMBEDDEDNESS OF TYPE THREE : | 35.79 | (%) | |
| OVERHEAD CANOPY. . . . . : | 72.90 | (%) | |
| INSTREAM SHELTER . . . . . : | 81.7 | (m2) | |

POOL/RIFFLE RATIO . .: 2.33

AIR/WATER TEMP. RATIO: 1.19

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Anguilla rostrata | 44.3 | 0.0 |
| Lepomis macrochirus | 149.5 | 28.6 |
| Rhinichthys atratulus | 996.8 | 24.2 |
| Esox niger | 216.0 | 17.9 |
| Luxilus cornutus | 570.4 | 14.8 |
| Semotilus corporalis | 935.9 | 34.9 |
| Pimephales promelas | 5.5 | 0.0 |
| Notemigonus crysoleucas | 11.1 | 0.0 |
| Rhinichthys cataractae | 1179.6 | 84.3 |
| Micropterus salmoides | 238.1 | 21.4 |
| Lepomis gibbosus | 66.5 | 12.4 |
| Lepomis auritus | 1113.1 | 128.3 |
| Micropterus dolomieu | 5.5 | 0.0 |
| Notropis hudsonius | 5.5 | 0.0 |
| Etheostoma olmstedi | 526.1 | 92.1 |
| Catostomus commersoni | 1528.5 | 20.5 |
| Ameiurus natalis | 27.7 | 0.0 |
| Perca flavescens | 33.2 | 0.0 |

STREAM NAME : **WAPPOQUIA BROOK** SITE #: **6039**

SITE DESCRIPTION: UPSTREAM OF VIADUCT AT STATE TRAIL ON OLD RAILROAD BED.

TOWN: POMFRET

SAMPLE LENGTH : 100.

SAMPLE DATE: 08/16/94

PHYSICAL

AIR TEMP. . . . :17.00 (C)
WATER TEMP. . . :14.00 (C)
VELOCITY. . . . : 0.1190(m/s)
DISCHARGE . . . : 0.7196(m3/s)

CHEMICAL

| | MEAN | STD |
|---|---|---|
| DISSOLVED OXYGEN (mg/l). . : | 9.5 | 0.23 |
| pH . . . . . : | 7.1 | 0.06 |
| COND . . . . . (uS/cm3). . : | 120.0 | 0.0 |
| ALKALINITY .(mg CaCO3 eq/l): | 27.9 | 0.25 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 4.21 | 2.04 | (m) |
| DEPTH. . . . . : | 13.55 | 15.86 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | |
| TYPE THREE SUBSTRATE . . . : | 0.06 | (%) | |
| EMBEDDEDNESS OF TYPE THREE : | 35.00 | (%) | |
| OVERHEAD CANOPY. . . . . : | 95.80 | (%) | |
| INSTREAM SHELTER . . . . . : | 30.0 | (m2) | |

POOL/RIFFLE RATIO . .: 1.38
AIR/WATER TEMP. RATIO: 1.21

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Anguilla rostrata | | 95.0 | 0.0 |
| Salvelinus fontinalis | STOCKED | 71.3 | 0.0 |
| Salvelinus fontinalis | WILD | 403.8 | 0.0 |
| Rhinichthys atratulus | | 9477.4 | 76.9 |
| Esox niger | | 23.8 | 0.0 |
| Luxilus cornutus | | 1876.5 | 116.4 |
| Semotilus corporalis | | 427.6 | 0.0 |
| Notemigonus crysoleucas | | 47.5 | 0.0 |
| Rhinichthys cataractae | | 1543.9 | 474.3 |
| Lepomis gibbosus | | 118.8 | 0.0 |
| Etheostoma olmstedi | | 95.0 | 0.0 |
| Catostomus commersoni | | 3966.7 | 78.6 |

STREAM NAME : **MASHAMOQUET BROOK** SITE #: **6040**

SITE DESCRIPTION: 30 M DOWNSTREAM OF RTE. 44 IN STATE PARK.

TOWN: POMFRET

SAMPLE LENGTH : 150.

SAMPLE DATE: 08/30/94

PHYSICAL

AIR TEMP. . . . :20.00 (C)

WATER TEMP. . . :18.00 (C)

VELOCITY. . . . : 0.3259(m/s)

DISCHARGE . . . : 5.0466(m3/s)

CHEMICAL

| | MEAN | STD |
|---|---|---|
| DISSOLVED OXYGEN (mg/l). . : | 10.1 | 0.00 |
| pH . . . . . : | 6.9 | 0.06 |
| COND . . . . . (uS/cm3). . : | 56.0 | 0.0 |
| ALKALINITY .(mg CaCO3 eq/l): | 5.6 | 0.20 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 10.31 | 2.22 | (m) |
| DEPTH. . . . . : | 15.68 | 10.33 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | |
| TYPE THREE SUBSTRATE . . . : | 0.10 | (%) | |
| EMBEDDEDNESS OF TYPE THREE : | 30.00 | (%) | |
| OVERHEAD CANOPY. . . . . : | 76.00 | (%) | |
| INSTREAM SHELTER . . . . . : | 105.5 | (m2) | |

POOL/RIFFLE RATIO . .: 0.19

AIR/WATER TEMP. RATIO: 1.11

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Anguilla rostrata | | 90.5 | 0.0 |
| Lepomis macrochirus | | 19.4 | 0.0 |
| Rhinichthys atratulus | | 1726.5 | 36.0 |
| Salmo trutta | STOCKED | 51.7 | 0.0 |
| Salmo trutta | WILD | 12.9 | 0.0 |
| Esox niger | | 6.5 | 0.0 |
| Luxilus cornutus | | 788.9 | 187.7 |
| Semotilus corporalis | | 381.5 | 43.5 |
| Lepomis cyanellus | | 6.5 | 0.0 |
| Notemigonus crysoleucas | | 6.5 | 0.0 |
| Rhinichthys cataractae | | 485.0 | 77.3 |
| Lepomis gibbosus | | 19.4 | 0.0 |
| Etheostoma olmstedi | | 45.3 | 0.0 |
| Catostomus commersoni | | 788.9 | 301.1 |
| Perca flavescens | | 38.8 | 0.0 |

STREAM NAME : **BLACKWELL BROOK** SITE #: **6041**

SITE DESCRIPTION: UPSTREAM OF LAUREL HILL RD.

TOWN: BROOKLYN

SAMPLE LENGTH : 150. SAMPLE DATE: 08/09/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :24.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.5 | 0.06 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 6.0 | 0.06 |
| VELOCITY. . . . | : 0.0811(m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . | : 0.0232(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 7.6 | 1.64 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 7.25 | 2.07 | (m) |
| DEPTH. . . . . : | 12.68 | 12.43 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | |
| TYPE THREE SUBSTRATE . . . : | 0.05 | (%) | |
| EMBEDDEDNESS OF TYPE THREE : | 0.00 | (%) | |
| OVERHEAD CANOPY. . . . . : | 92.50 | (%) | |
| INSTREAM SHELTER . . . . . : | 64.5 | (m2) | |

| | | BIOLOGICAL | |
|---|---|---|---|
| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
| Anguilla rostrata | | 64.4 | 0.0 |
| Rhinichthys atratulus | | 2427.6 | 76.7 |
| Salmo trutta | STOCKED | 9.2 | 0.0 |
| Salmo trutta | | 36.8 | 0.0 |
| Erimyzon oblongus | | 9.2 | 0.0 |
| Esox niger | | 183.9 | 0.0 |
| Luxilus cornutus | | 1085.1 | 49.0 |
| Semotilus corporalis | | 321.8 | 11.1 |
| Lepomis cyanellus | | 9.2 | 0.0 |
| Rhinichthys cataractae | | 800.0 | 140.0 |
| Lepomis gibbosus | | 441.4 | 17.1 |
| Etheostoma olmstedi | | 82.8 | 0.0 |
| Catostomus commersoni | | 137.9 | 0.0 |

STREAM NAME : KITT BROOK SITE #: 6042

SITE DESCRIPTION: 50 M UPSTREAM OF ELMDALE RD.

TOWN: CANTERBURY

SAMPLE LENGTH : 145.

SAMPLE DATE: 08/09/94

PHYSICAL

AIR TEMP. . . . :22.00 (C)

WATER TEMP. . . :17.00 (C)

VELOCITY. . . . : 0.0884(m/s)

DISCHARGE . . . : 0.7265(m3/s)

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 6.00 | 1.62 | (m) |
| DEPTH. . . . . : | 13.40 | 16.82 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 5 | | |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | 89.60 | (%) | |
| INSTREAM SHELTER . . . . . : | 29.3 | (m2) | |

CHEMICAL

| | MEAN | STD |
|---|---|---|
| DISSOLVED OXYGEN (mg/l). . : | 9.5 | 0.26 |
| pH . . . . . : | 7.2 | 0.10 |
| COND . . . . . (uS/cm3). . : | 87.7 | 4.5 |
| ALKALINITY .(mg CaCO3 eq/l): | 20.8 | 1.96 |

POOL/RIFFLE RATIO . .: 0.67

AIR/WATER TEMP. RATIO: 1.29

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Anguilla rostrata | | 137.9 | 15.4 |
| Lepomis macrochirus | | 34.5 | 0.0 |
| Salvelinus fontinalis | WILD | 34.5 | 0.0 |
| Rhinichthys atratulus | | 4908.0 | 52.3 |
| Salmo trutta | STOCKED | 34.5 | 0.0 |
| Salmo trutta | WILD | 11.5 | 0.0 |
| Esox niger | | 11.5 | 0.0 |
| Semotilus corporalis | | 310.3 | 0.0 |
| Rhinichthys cataractae | | 4896.6 | 648.1 |
| Micropterus salmoides | | 137.9 | 0.0 |
| Etheostoma olmstedi | | 34.5 | 0.0 |
| Catostomus commersoni | | 1046.0 | 19.5 |
| Perca flavescens | | 57.5 | 0.0 |

STREAM NAME : **CRYSTAL LAKE BROOK** SITE #: **6043**

SITE DESCRIPTION: AT BRIDGE ABUTMENTS ADJACENT TO RTE. 30, 200 M UPSTREAM OF CRYSTAL POND RD.

TOWN: STAFFORD

SAMPLE LENGTH : 150. SAMPLE DATE: 07/27/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :26.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . :23.00 (C) | | pH . . . . . : | | |
| VELOCITY. . . . : 0.0539(m/s) | | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : 0.0566(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 10.1 | 0.44 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 6.38 | 1.19 | (m) |
| DEPTH. . . . . : | 22.55 | 17.65 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 1 | POOL/RIFFLE RATIO . .: | 5.82 |
| TYPE THREE SUBSTRATE . . . : | 0.14 (%) | AIR/WATER TEMP. RATIO: | 1.13 |
| EMBEDDEDNESS OF TYPE THREE : | 69.38 (%) | | |
| OVERHEAD CANOPY. . . . . : | 71.30 (%) | | |
| INSTREAM SHELTER . . . . . : | 200.8 (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salvelinus fontinalis | | 31.3 | 0.0 |
| Rhinichthys atratulus | | 2528.7 | 218.9 |
| Salmo trutta | STOCKED | 10.4 | 0.0 |
| Salmo trutta | WILD | 10.4 | 0.0 |
| Salmo trutta | (?) | 31.3 | 0.0 |
| Esox niger | | 62.7 | 0.0 |
| Luxilus cornutus | | 1368.9 | 80.8 |
| Semotilus corporalis | | 2100.3 | 236.9 |
| Lepomis gibbosus | | 83.6 | 0.0 |
| Lepomis auritus | | 52.2 | 0.0 |
| Etheostoma olmstedi | | 10.4 | 0.0 |
| Catostomus commersoni | | 762.8 | 35.2 |

STREAM NAME : **CEDAR SWAMP BROOK** SITE #: **6044**

SITE DESCRIPTION: 25 M ABOVE CONFLUENCE WITH MOOSUP RIVER.

TOWN: STERLING

SAMPLE LENGTH : 67. SAMPLE DATE: 07/06/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :26.00 (C) | DISSOLVED OXYGEN (mg/l). . | 8.4 | 0.45 |
| WATER TEMP. . . | :18.00 (C) | pH . . . . . | 6.5 | 0.06 |
| VELOCITY. . . . | : 0.0500(m/s) | COND . . . . . (uS/cm3). . | 80.3 | 0.6 |
| DISCHARGE . . . | : 0.2400(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 3.9 | 0.20 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . | 2.68 | | 2.34 | (m) |
| DEPTH. . . . . | 9.55 | | 13.96 | (cm) |
| DOMINANT SUBSTRATE TYPE. . | 4 | | POOL/RIFFLE RATIO . .: | 2.94 |
| TYPE THREE SUBSTRATE . . . | 0.00 | (%) | AIR/WATER TEMP. RATIO: | 1.44 |
| EMBEDDEDNESS OF TYPE THREE | | (%) | | |
| OVERHEAD CANOPY. . . . . | 90.00 | (%) | | |
| INSTREAM SHELTER . . . . . | 44.4 | (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Ameiurus nebulosus | | 74.6 | 0.0 |
| Salvelinus fontinalis | STOCKED | 223.9 | 0.0 |
| Salvelinus fontinalis | WILD | 671.6 | 101.1 |
| Salvelinus fontinalis | | 1716.4 | 0.0 |
| Rhinichthys atratulus | | 373.1 | 0.0 |
| Esox niger | | 298.5 | 0.0 |
| Luxilus cornutus | | 74.6 | 0.0 |
| Semotilus corporalis | | 671.6 | 0.0 |
| Rhinichthys cataractae | | 746.3 | 0.0 |
| Etheostoma fusiforme | | 298.5 | 0.0 |
| Etheostoma olmstedi | | 447.8 | 0.0 |
| Catostomus commersoni | | 5298.5 | 1902.6 |

STREAM NAME : CROOKED BROOK SITE #: 6045

SITE DESCRIPTION: 20 M UPSTREAM OF OLD RAILROAD BRIDGE AT STATE PARK TRAIL.

TOWN: STERLING

SAMPLE LENGTH : 50. SAMPLE DATE: 07/28/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :26.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 7.8 | 0.10 |
| WATER TEMP. . . :22.00 (C) | | pH . . . . . : | 6.7 | 0.00 |
| VELOCITY. . . . : 0.1111(m/s) | | COND . . . . . (uS/cm3). . : | 71.0 | 2.0 |
| DISCHARGE . . . : 0.2998(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 7.7 | 0.64 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 1.69 | 0.64 | (m) | | |
| DEPTH. . . . . : | 12.95 | 13.49 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 2 | | POOL/RIFFLE RATIO . .: | 7.33 | |
| TYPE THREE SUBSTRATE . . . : | 0.42 | (%) | AIR/WATER TEMP. RATIO: | 1.18 | |
| EMBEDDEDNESS OF TYPE THREE : | 12.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 13.6 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Ameiurus nebulosus | 118.3 | |
| Salvelinus fontinalis | 2248.5 | |
| Rhinichthys atratulus | 236.7 | |
| Semotilus corporalis | 1065.1 | |
| Rhinichthys cataractae | 236.7 | |
| Perca flavescens | 118.3 | |

STREAM NAME : **NATCHAUG RIVER** SITE #: 6046

SITE DESCRIPTION: STARTED 50 M DOWNSTREAM OF STONEHOUSE BROOK CONFLUENCE (ACCESS FROM FIELD ROAD OFF BEDLAM RD.).

TOWN: CHAPLIN

SAMPLE LENGTH : 323. SAMPLE DATE: 08/30/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Perca flavescens | | |
| Esox niger | | |
| Salmo trutta | | |
| Lepomis macrochirus | | |
| Lepomis auritus | | |
| Luxilus cornutus | | |
| Ameiurus nebulosus | | |
| Lepomis gibbosus | | |
| Catostomus commersoni | | |
| Semotilus corporalis | | |
| Ameiurus natalis | | |
| Micropterus dolomieu | | |

STREAM NAME : **CEDAR SWAMP BROOK** SITE #: **6047**

SITE DESCRIPTION: DOWNSTREAM OF CROOKED RD.

TOWN: STAFFORD

SAMPLE LENGTH : 40. SAMPLE DATE: 07/27/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :26.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 0.8 | 0.40 |
| WATER TEMP. . . :26.00 (C) | | pH . . . . . : | 5.6 | 0.00 |
| VELOCITY. . . . : 0.0384(m/s) | | COND . . . . . (uS/cm3). . : | 75.7 | 1.2 |
| DISCHARGE . . . : 0.0831(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 9.5 | 1.39 |
| | MEAN | STD | | |
| WIDTH. . . . . : | 2.52 | 1.09 | (m) | |
| DEPTH. . . . . : | 7.95 | 8.29 | (cm) | |
| DOMINANT SUBSTRATE TYPE. . : | 1 | POOL/RIFFLE RATIO . .: | | 7.00 |
| TYPE THREE SUBSTRATE . . . : | 0.00 (%) | AIR/WATER TEMP. RATIO: | | 1.00 |
| EMBEDDEDNESS OF TYPE THREE : | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 20.80 (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.3 (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Esox americanus | 396.8 | 0.0 |
| Notemigonus crysoleucas | 2777.8 | 0.0 |
| Lepomis gibbosus | 99.2 | 0.0 |

STREAM NAME : **DELPHI BROOK** SITE #: **6048**

SITE DESCRIPTION: 750 M ABOVE STAFFORDVILLE RESERVIOR.

TOWN: STAFFORD

SAMPLE LENGTH : 150. SAMPLE DATE: 08/15/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :19.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.5 | 0.06 |
| WATER TEMP. . . | :16.00 (C) | pH . . . . . : | 7.2 | 0.06 |
| VELOCITY. . . . | : 0.1316(m/s) | COND . . . . . (uS/cm3). . : | 79.3 | 1.2 |
| DISCHARGE . . . | : 0.6950(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 10.9 | 0.49 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 4.06 | 1.06 | (m) |
| DEPTH. . . . . : | 13.20 | 11.59 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 6 | POOL/RIFFLE RATIO . .: | 0.56 |
| TYPE THREE SUBSTRATE . . . : | 0.18 (%) | AIR/WATER TEMP. RATIO: | 1.19 |
| EMBEDDEDNESS OF TYPE THREE : | 41.66 (%) | | |
| OVERHEAD CANOPY. . . . . : | 95.80 (%) | | |
| INSTREAM SHELTER . . . . . : | 9.0 (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys atratulus | | 1116.6 | 56.3 |
| Lepomis macrochirus | | 164.2 | 0.0 |
| Salvelinus fontinalis | STOCKED | 16.4 | 0.0 |
| Salvelinus fontinalis | WILD | 870.3 | 0.0 |
| Catostomus commersoni | | 476.2 | 32.6 |
| Salmo trutta | WILD | 1050.9 | 57.7 |
| Micropterus salmoides | | 558.3 | 151.7 |
| Lepomis gibbosus | | 476.2 | 0.0 |
| Ameiurus nebulosus | | 16.4 | 0.0 |

STREAM NAME : **NEW CITY BROOK** SITE #: **6049**

SITE DESCRIPTION: PARALLEL TO NEW CITY RD., 100 M UPSTREAM OF 76 NEW CITY RD.

TOWN: STAFFORD

SAMPLE LENGTH : 100. SAMPLE DATE: 08/16/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :18.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.3 | 0.17 |
| WATER TEMP. . . | :15.00 (C) | pH . . . . . : | | |
| VELOCITY. . . . | : 0.0741(m/s) | COND . . . . . (uS/cm3). . : | 30.0 | 0.0 |
| DISCHARGE . . . | : 0.1416(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 7.1 | 0.57 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.37 | 0.64 | (m) | | |
| DEPTH. . . . . : | 7.90 | 7.43 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 0.78 |
| TYPE THREE SUBSTRATE . . . : | 0.38 | (%) | AIR/WATER TEMP. RATIO: | | 1.20 |
| EMBEDDEDNESS OF TYPE THREE : | 5.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 1.7 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 84.4 | 0.0 |
| Rhinichthys atratulus | 7594.9 | 86.6 |
| juvenile centrarchid | 126.6 | 0.0 |
| Micropterus salmoides | 295.4 | 58.5 |
| Lepomis gibbosus | 84.4 | 0.0 |
| Catostomus commersoni | 2194.1 | 128.4 |

STREAM NAME : **CONANT BROOK** SITE #: 6050

SITE DESCRIPTION: UPSTREAM OF LUCHON RD.

TOWN: WILLINGTON

SAMPLE LENGTH : 100. SAMPLE DATE: 06/30/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.3 | 0.20 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 7.2 | 0.00 |
| VELOCITY. . . . | : 0.6411(m/s) | COND . . . . . (uS/cm3). . : | 121.0 | 1.0 |
| DISCHARGE . . . | : 0.1075(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 10.7 | 0.30 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 3.25 | 0.88 | (m) | | |
| DEPTH. . . . . : | 20.25 | 11.56 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 1.56 |
| TYPE THREE SUBSTRATE . . . : | 0.10 | (%) | AIR/WATER TEMP. RATIO: | | 1.16 |
| EMBEDDEDNESS OF TYPE THREE : | 40.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 90.60 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 8.8 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Perca flavescens | | 61.5 | 0.0 |
| Notemigonus crysoleucas | | 30.8 | 0.0 |
| Esox niger | | 92.3 | 0.0 |
| Semotilus corporalis | | 861.5 | 0.0 |
| Salvelinus fontinalis | WILD | 492.4 | 41.2 |
| Lepomis gibbosus | | 153.8 | 0.0 |
| Catostomus commersoni | | 369.2 | 0.0 |
| Salvelinus fontinalis | STOCKED | 30.8 | 0.0 |

STREAM NAME : **BACKWATER BROOK** SITE #: **6051**

SITE DESCRIPTION: BELOW TRIBUTARY CONFLUENCE 75 M DOWNSTREAM OF RTE. 131.

TOWN: THOMPSON

SAMPLE LENGTH : 50. SAMPLE DATE: 08/24/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :20.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 8.1 | 0.15 |
| WATER TEMP. . . :16.00 (C) | | pH . . . . . : | | |
| VELOCITY. . . . : 0.1309(m/s) | | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : 0.0352(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 1.0 | |
| | MEAN | STD | | |
| WIDTH. . . . . : | 2.37 | 0.41 | (m) | |
| DEPTH. . . . . : | 15.30 | 10.39 | (cm) | |
| DOMINANT SUBSTRATE TYPE. . : | 2 | POOL/RIFFLE RATIO . .: | 2000.00 | |
| TYPE THREE SUBSTRATE . . . : | 0.00 (%) | AIR/WATER TEMP. RATIO: | 1.25 | |
| EMBEDDEDNESS OF TYPE THREE : | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 (%) | | | |
| INSTREAM SHELTER . . . . . : | 7.8 (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| No fish present | | |

STREAM NAME : **BUTTONBALL BROOK** SITE #: 6052

SITE DESCRIPTION: UPSTREAM OF RTE. 6.

TOWN: CHAPLIN

SAMPLE LENGTH : 100.

SAMPLE DATE: 07/14/94

PHYSICAL

AIR TEMP. . . . :23.00 (C)
WATER TEMP. . . :20.00 (C)
VELOCITY. . . . : 0.1080(m/s)
DISCHARGE . . . : 0.1574(m3/s)

CHEMICAL

| | MEAN | STD |
|---|---|---|
| DISSOLVED OXYGEN (mg/l). . : | 8.4 | 0.10 |
| pH . . . . . : | 6.9 | 0.21 |
| COND . . . . . (uS/cm3). . : | 68.7 | 1.2 |
| ALKALINITY .(mg CaCO3 eq/l): | 13.3 | 1.75 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 2.80 | | 0.30 | (m) |
| DEPTH. . . . . : | 5.20 | | 4.26 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | | |
| TYPE THREE SUBSTRATE . . . : | 0.19 | (%) | | |
| EMBEDDEDNESS OF TYPE THREE : | 18.75 | (%) | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | |
| INSTREAM SHELTER . . . . . : | 0.5 | (m2) | | |

| | MEAN | STD |
|---|---|---|
| POOL/RIFFLE RATIO . .: | 0.18 | |
| AIR/WATER TEMP. RATIO: | 1.15 | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salvelinus fontinalis | STOCKED | 571.4 | |
| Rhinichthys atratulus | | 2750.0 | |
| Salmo trutta | | | |
| Lepomis macrochirus | | 35.7 | |
| Esox niger | | 35.7 | |
| Catostomus commersoni | | 107.1 | |
| Micropterus salmoides | | 35.7 | |

STREAM NAME : 'HERRIDEAN BROOK' SITE #: 6053

SITE DESCRIPTION: DOWNSTREAM OF RTE. 179.

TOWN: UNION

SAMPLE LENGTH : 100.

SAMPLE DATE: 08/04/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :24.00 (C) | DISSOLVED OXYGEN (mg/l). . | : 9.0 | 0.45 |
| WATER TEMP. . . | :21.00 (C) | pH . . . . . | : 7.2 | 0.00 |
| VELOCITY. . . . | : 0.0613(m/s) | COND . . . . . (uS/cm3). . | : 80.0 | 0.0 |
| DISCHARGE . . . | : 0.0607(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 13.3 | 0.26 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . | 1.50 | | 0.60 | (m) |
| DEPTH. . . . . | 6.72 | | 6.11 | (cm) |
| DOMINANT SUBSTRATE TYPE. . | 4 | | POOL/RIFFLE RATIO . .: | 0.45 |
| TYPE THREE SUBSTRATE . . . | 0.00 | (%) | AIR/WATER TEMP. RATIO: | 1.14 |
| EMBEDDEDNESS OF TYPE THREE | | (%) | | |
| OVERHEAD CANOPY. . . . . | 100.00 | (%) | | |
| INSTREAM SHELTER . . . . . | 1.7 | (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys atratulus | | 2000.0 | |
| Esox niger | | 1000.0 | |
| Salvelinus fontinalis | WILD | 200.0 | |

STREAM NAME : **LONG BRANCH BROOK** SITE #: **6054**

SITE DESCRIPTION: 30 M UPSTREAM OF WAGNER RD.

TOWN: THOMPSON

SAMPLE LENGTH : 50. SAMPLE DATE: 08/26/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :23.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.5 | 0.06 |
| WATER TEMP. . . | :15.00 (C) | pH . . . . . : | 6.5 | |
| VELOCITY. . . . | : 0.1433(m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . | : 0.0609(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 7.8 | 0.29 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 3.10 | 1.14 | (m) | | |
| DEPTH. . . . . : | 16.35 | 12.56 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 0.11 |
| TYPE THREE SUBSTRATE . . . : | 0.04 | (%) | AIR/WATER TEMP. RATIO: | | 1.53 |
| EMBEDDEDNESS OF TYPE THREE : | 0.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 7.2 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 193.5 | |
| Catostomus commersoni | 129.0 | |
| Rhinichthys atratulus | 1096.8 | |

STREAM NAME : **MILL BROOK** SITE #: **6055**

SITE DESCRIPTION: DOWNSTREAM OF RTE. 171.

TOWN: WOODSTOCK

SAMPLE LENGTH : 100. SAMPLE DATE: 08/25/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :20.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 10.4 | 0.06 |
| WATER TEMP. . . :17.00 (C) | | pH . . . . . : | 6.8 | 0.06 |
| VELOCITY. . . . : 0.2857(m/s) | | COND . . . . . (uS/cm3). . : | 96.7 | 1.5 |
| DISCHARGE . . . : 2.5642(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 15.7 | 0.49 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 4.69 | | 1.70 | (m) |
| DEPTH. . . . . : | 21.00 | | 14.05 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 1.27 |
| TYPE THREE SUBSTRATE . . . : | 0.12 | (%) | AIR/WATER TEMP. RATIO: | 1.18 |
| EMBEDDEDNESS OF TYPE THREE : | 42.00 | (%) | | |
| OVERHEAD CANOPY. . . . . : | 62.50 | (%) | | |
| INSTREAM SHELTER . . . . . : | 12.5 | (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys atratulus | | 8272.9 | 126.7 |
| Salvelinus fontinalis | WILD | 21.3 | 0.0 |
| Lepomis cyanellus | | 21.3 | 0.0 |
| Micropterus salmoides | | 170.6 | 0.0 |
| Etheostoma olmstedi | | 597.0 | 0.0 |
| Luxilus cornutus | | 2217.5 | 76.7 |
| Catostomus commersoni | | 6780.4 | 306.0 |

STREAM NAME : **MUDDY BROOK** SITE #: **6056**

SITE DESCRIPTION: 500 M DOWNSTREAM OF CONFLUENCE WITH MAY BROOK, BELOW PRIVATE BRIDGE.

TOWN: WOODSTOCK

SAMPLE LENGTH : 125. SAMPLE DATE: 08/04/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 6.6 | 0.10 |
| WATER TEMP. . . | :21.00 (C) | pH . . . . . : | 7.0 | 0.06 |
| VELOCITY. . . . | : 0.1312(m/s) | COND . . . . . (uS/cm3). . : | 118.3 | 2.9 |
| DISCHARGE . . . | : 1.0090(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 24.8 | 0.81 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 4.65 | 1.17 | (m) | | |
| DEPTH. . . . . : | 16.95 | 15.90 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | POOL/RIFFLE RATIO . .: | | 6.35 |
| TYPE THREE SUBSTRATE . . . : | 0.52 | (%) | AIR/WATER TEMP. RATIO: | | 1.05 |
| EMBEDDEDNESS OF TYPE THREE : | 76.95 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 64.60 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 59.3 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salvelinus fontinalis | WILD | 412.9 | 0.0 |
| Luxilus cornutus | | 3733.3 | 72.3 |
| Rhinichthys atratulus | | 3578.5 | 79.0 |
| Notemigonus crysoleucas | | 17.2 | 0.0 |
| Lepomis gibbosus | | 17.2 | 0.0 |
| Etheostoma olmstedi | | 688.2 | 0.0 |
| Semotilus corporalis | | 344.1 | 21.9 |
| Catostomus commersoni | | 2081.7 | 74.6 |

STREAM NAME : **WHITE BROOK** SITE #: **6057**

SITE DESCRIPTION: DOWNSTREAM OF CONFLUENCE WITH BARRETT LEDGE BROOK.

TOWN: POMFRET

SAMPLE LENGTH : 110. SAMPLE DATE: 07/28/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :27.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.0 | 0.20 |
| WATER TEMP. . . | :22.00 (C) | pH . . . . . : | 6.8 | 0.00 |
| VELOCITY. . . . | : 0.1292(m/s) | COND . . . . . (uS/cm3). . : | 79.3 | 6.4 |
| DISCHARGE . . . | : 0.5463(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 14.2 | 2.15 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.73 | 0.68 | (m) | | |
| DEPTH. . . . . : | 13.98 | 12.70 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 2 | | POOL/RIFFLE RATIO . .: | 11.94 | |
| TYPE THREE SUBSTRATE . . . : | 0.09 | (%) | AIR/WATER TEMP. RATIO: | 1.23 | |
| EMBEDDEDNESS OF TYPE THREE : | 10.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 20.80 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 10.5 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| hybrid sunfish | | 33.3 | 0.0 |
| Lepomis gibbosus | | 1132.2 | 0.0 |
| Etheostoma olmstedi | | 2364.3 | 115.2 |
| Salvelinus fontinalis | WILD | 366.3 | 0.0 |
| Esox niger | | 1498.5 | 0.0 |
| Lepomis cyanellus | | 566.1 | 0.0 |
| Notemigonus crysoleucas | | 599.4 | 0.0 |
| Catostomus commersoni | | 399.6 | 0.0 |
| Micropterus salmoides | | 1232.1 | 63.6 |

STREAM NAME : **SHUNWAY BROOK** SITE #: 6058

SITE DESCRIPTION: DOWNSTREAM OF BRICKYARD RD.

TOWN: THOMPSON

SAMPLE LENGTH : 50. SAMPLE DATE: 07/12/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :26.00 (C) | DISSOLVED OXYGEN (mg/l). . | 8.3 | 0.00 |
| WATER TEMP. . . | :22.00 (C) | pH . . . . . | 6.9 | 0.06 |
| VELOCITY. . . . | : 0.0352(m/s) | COND . . . . . (uS/cm3). . | 43.7 | 2.9 |
| DISCHARGE . . . | : 0.0240(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 8.2 | 0.91 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | 2.62 | 1.17 | (m) | | |
| DEPTH. . . . . | 2.65 | 2.12 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | 4 | | POOL/RIFFLE RATIO . .: | | 0.39 |
| TYPE THREE SUBSTRATE . . . | 0.16 | (%) | AIR/WATER TEMP. RATIO: | | 1.18 |
| EMBEDDEDNESS OF TYPE THREE | 0.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . | 97.50 | (%) | | | |
| INSTREAM SHELTER . . . . . | 1.6 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Ameiurus nebulosus | 76.3 | |
| Ameiurus natalis | 458.0 | |
| Catostomus commersoni | 763.4 | |
| Lepomis gibbosus | 229.0 | |
| Rhinichthys atratulus | 2137.4 | |
| Esox niger | 76.3 | |
| Semotilus corporalis | 76.3 | |

STREAM NAME : **TATNIC BROOK** SITE #: **6059**

SITE DESCRIPTION: 400 M UPSTREAM OF CONFLUENCE WITH BLACKWELL BROOK.

TOWN: CANTERBURY

SAMPLE LENGTH : 96. SAMPLE DATE: 08/16/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :21.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | 9.4 | 0.06 |
| WATER TEMP. . . :16.00 | (C) | pH . . . . . : | 7.0 | 0.06 |
| VELOCITY. . . . : 0.2110 | (m/s) | COND . . . . . (uS/cm3). . : | 71.7 | 2.3 |
| DISCHARGE . . . : 0.8737 | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 14.0 | 0.32 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.92 | 0.90 | (m) | | |
| DEPTH. . . . . : | 14.20 | 14.32 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | POOL/RIFFLE RATIO . .: | 4.05 | |
| TYPE THREE SUBSTRATE . . . : | 0.33 | (%) | AIR/WATER TEMP. RATIO: | 1.31 | |
| EMBEDDEDNESS OF TYPE THREE : | 18.13 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 79.20 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 34.4 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Semotilus corporalis | | 1748.0 | |
| Rhinichthys cataractae | | 107.0 | |
| Ameiurus natalis | | | |
| Luxilus cornutus | | 285.4 | |
| Salvelinus fontinalis | WILD | 107.0 | |
| Lepomis macrochirus | | | |
| Lepomis auritus | | 71.3 | |
| Etheostoma olmstedi | | 891.8 | |
| Catostomus commersoni | | 1141.6 | |
| Rhinichthys atratulus | | 356.7 | |
| Esox niger | | 71.3 | |

STREAM NAME : **BRANDY BROOK** SITE #: 6060

SITE DESCRIPTION: DOWNSTREAM OF FENTON RD.

TOWN: STAFFORD

SAMPLE LENGTH : 50.

SAMPLE DATE: 06/21/94

PHYSICAL

AIR TEMP. . . . :18.00 (C)

WATER TEMP. . . :20.00 (C)

VELOCITY. . . . : 0.1092(m/s)

DISCHARGE . . . : 0.1393(m3/s)

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 2.17 | 0.65 | (m) |
| DEPTH. . . . . : | 6.18 | 6.15 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | |
| TYPE THREE SUBSTRATE . . . : | 0.12 | (%) | |
| EMBEDDEDNESS OF TYPE THREE : | 70.00 | (%) | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | |
| INSTREAM SHELTER . . . . . : | 0.2 | (m2) | |

CHEMICAL

| | MEAN | STD |
|---|---|---|
| DISSOLVED OXYGEN (mg/1). . : | 8.8 | 0.06 |
| pH . . . . . : | 6.2 | 0.10 |
| COND . . . . . (uS/cm3). . : | 52.7 | 3.5 |
| ALKALINITY .(mg CaCO3 eq/1): | 1.9 | 0.80 |

POOL/RIFFLE RATIO . .: 0.61

AIR/WATER TEMP. RATIO: 0.90

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys atratulus | | 92.2 | |
| Notemigonus crysoleucas | | 368.7 | |
| Catostomus commersoni | | 92.2 | |
| Salvelinus fontinalis | | 3318.0 | |
| Lepomis gibbosus | | 92.2 | |
| Salmo trutta | WILD | 92.2 | |

STREAM NAME : **MASHENTUCK BROOK** SITE #: **6061**

SITE DESCRIPTION: UPSTREAM OF VALLEY RD.

TOWN: KILLINGLY

SAMPLE LENGTH : 100. SAMPLE DATE: 07/12/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :24.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 6.8 | 0.80 |
| WATER TEMP. . . :16.00 (C) | | pH . . . . . : | | |
| VELOCITY. . . . : 0.1062(m/s) | | COND . . . . . (uS/cm3). . : | 82.0 | 0.0 |
| DISCHARGE . . . : 0.6011(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 21.2 | 0.53 |
| | MEAN | STD | | |
| WIDTH. . . . . : | 6.63 | 1.26 (m) | | |
| DEPTH. . . . . : | 8.88 | 7.30 (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | POOL/RIFFLE RATIO . .: | 1.60 | |
| TYPE THREE SUBSTRATE . . . : | 0.24 (%) | AIR/WATER TEMP. RATIO: | 1.50 | |
| EMBEDDEDNESS OF TYPE THREE : | 52.86 (%) | | | |
| OVERHEAD CANOPY. . . . . : | 99.00 (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.5 (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Lepomis gibbosus | | 11.6 | 0.0 |
| Etheostoma olmstedi | | 116.0 | 0.0 |
| Semotilus corporalis | | 34.8 | 0.0 |
| Rhinichthys cataractae | | 81.2 | 0.0 |
| Salvelinus fontinalis | WILD | 9711.1 | 300.5 |
| Esox niger | | 23.2 | 0.0 |
| Catostomus commersoni | | 34.8 | 0.0 |
| Perca flavescens | | | |
| Rhinichthys atratulus | | 3608.3 | 82.2 |

STREAM NAME : **SIBLEY BROOK** SITE #: 6062

SITE DESCRIPTION: 20 M UPSTREAM OF WESTFORD RD.

TOWN: EASTFORD

SAMPLE LENGTH : 50. SAMPLE DATE: 06/28/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | 24.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.5 | 0.30 |
| WATER TEMP. . . | 21.00 (C) | pH . . . . . : | 7.2 | 0.06 |
| VELOCITY. . . . | 0.0513(m/s) | COND . . . . . (uS/cm3). . : | 59.7 | 0.6 |
| DISCHARGE . . . | 0.0324(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 14.1 | 0.36 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 1.73 | 0.63 | (m) | | |
| DEPTH. . . . . : | 4.07 | 3.80 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 0.25 |
| TYPE THREE SUBSTRATE . . . : | 0.14 | (%) | AIR/WATER TEMP. RATIO: | | 1.14 |
| EMBEDDEDNESS OF TYPE THREE : | 10.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.5 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Lepomis cyanellus | 231.2 | |
| Notemigonus crysoleucas | 115.6 | |
| Salvelinus fontinalis | 809.2 | |

STREAM NAME : **MAY BROOK** SITE #: 6063

SITE DESCRIPTION: 300 M SOUTH OF STATE LINE, 30 M ABOVE FOREST ACCESS ROAD, NIPMUCK STATE FOREST.

TOWN: UNION

SAMPLE LENGTH : 100. SAMPLE DATE: 07/14/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.8 | 0.06 |
| WATER TEMP. . . | :18.00 (C) | pH . . . . . : | 6.8 | 0.00 |
| VELOCITY. . . . | : 0.0540(m/s) | COND . . . . . (uS/cm3). . : | 60.7 | 3.2 |
| DISCHARGE . . . | : 0.1605(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 15.6 | 0.57 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 3.12 | 0.93 | (m) | | |
| DEPTH. . . . . : | 8.88 | 8.90 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 1.22 |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | AIR/WATER TEMP. RATIO: | | 1.22 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 97.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.06 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys atratulus | | 9294.9 | 117.7 |
| Notemigonus crysoleucas | | 288.5 | 0.0 |
| Lepomis gibbosus | | 64.1 | 0.0 |
| Salvelinus fontinalis | WILD | 5224.4 | 66.7 |
| Catostomus commersoni | | 1923.1 | 0.0 |

STREAM NAME : **BROWNS BROOK** SITE #: 6064

SITE DESCRIPTION: UPSTREAM OF ACCESS RD., 500 M ABOVE POND, NIPMUCK STATE FOREST.

TOWN: UNION

SAMPLE LENGTH : 50. SAMPLE DATE: 08/10/94

| PHYSICAL | | | CHEMICAL | | | MEAN | STD |
|---|---|---|---|---|---|---|---|
| AIR TEMP. . . . : | 20.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | | | 7.6 | 0.21 |
| WATER TEMP. . . : | 17.00 | (C) | pH . . . . . : | | | | |
| VELOCITY. . . . : | | (m/s) | COND . . . . . (uS/cm3). . : | | | | |
| DISCHARGE . . . : | | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | | 10.3 | 2.25 |
| | | | MEAN | STD | | | |
| WIDTH. . . . . : | | | 0.63 | 0.47 | (m) | | |
| DEPTH. . . . . : | | | 1.65 | 2.56 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | | | 4 | POOL/RIFFLE RATIO . .: | | | 0.19 |
| TYPE THREE SUBSTRATE . . . : | | | 0.00 | (%) | AIR/WATER TEMP. RATIO: | | 1.18 |
| EMBEDDEDNESS OF TYPE THREE : | | | | (%) | | | |
| OVERHEAD CANOPY. . . . . : | | | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | | | 0.0 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys atratulus | | 8888.9 | |
| Notemigonus crysoleucas | | | |
| Lepomis gibbosus | | | |
| Salvelinus fontinalis | WILD | 1587.3 | |
| Catostomus commersoni | | | |

STREAM NAME : **WELLS BROOK** SITE #: 6065

SITE DESCRIPTION: 75 M UPSTREAM FROM MASHAPAUG LAKE.

TOWN: UNION

SAMPLE LENGTH : 50. SAMPLE DATE: 08/15/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :19.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | 9.1 | 0.00 |
| WATER TEMP. . . :17.00 | (C) | pH . . . . . : | 7.2 | 0.00 |
| VELOCITY. . . . : 0.1431 | (m/s) | COND . . . . . (uS/cm3). . : | 123.0 | 0.0 |
| DISCHARGE . . . : 0.2308 | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 10.8 | 0.35 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.82 | 1.10 | (m) | | |
| DEPTH. . . . . : | 6.65 | 6.27 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | | POOL/RIFFLE RATIO . .: | 0.79 |
| TYPE THREE SUBSTRATE . . . : | 0.05 | (%) | | AIR/WATER TEMP. RATIO: | 1.12 |
| EMBEDDEDNESS OF TYPE THREE : | 70.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.5 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Perca flavescens | | 141.8 | |
| Esox niger | | | |
| Salmo trutta | WILD | 141.8 | |
| Ameiurus nebulosus | | | |
| Catostomus commersoni | | 3546.1 | |
| Lepomis gibbosus | | 70.9 | |
| Semotilus corporalis | | | |
| Notemigonus crysoleucas | | | |
| Micropterus salmoides | | | |

STREAM NAME : **ABORN BROOK** SITE #: 6066

SITE DESCRIPTION: 5 M UPSTREAM OF SANDY BEACH RD.

TOWN: ELLINGTON

SAMPLE LENGTH : 50. SAMPLE DATE: 08/08/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.8 | 0.10 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | | |
| VELOCITY. . . . | : 0.0217(m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . | : 0.0092(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 4.0 | 0.25 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 2.16 | | 0.64 | (m) |
| DEPTH. . . . . : | 8.55 | | 5.96 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | POOL/RIFFLE RATIO . .: | 1.04 |
| TYPE THREE SUBSTRATE . . . : | 0.59 | (%) | AIR/WATER TEMP. RATIO: | 1.16 |
| EMBEDDEDNESS OF TYPE THREE : | 34.00 | (%) | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | |
| INSTREAM SHELTER . . . . . : | 1.7 | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Lepomis macrochirus | 4259.3 | 174.4 |
| Ameiurus nebulosus | 4259.3 | 353.8 |
| Perca flavescens | 92.6 | 0.0 |
| Catostomus commersoni | 92.6 | 0.0 |
| Etheostoma olmstedi | 1203.7 | 0.0 |
| Salvelinus fontinalis | 8703.7 | 296.3 |
| Fundulus diaphanus | 92.6 | 0.0 |
| Micropterus salmoides | 7037.0 | 668.4 |

STREAM NAME : **WILLIMANTIC RIVER** SITE #: **6067**

SITE DESCRIPTION: UPSTREAM OF RTE. 32 AT TOLLAND TOWN LINE.

TOWN: TOLLAND

SAMPLE LENGTH : 200. SAMPLE DATE: 06/22/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :25.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.3 | 0.10 |
| WATER TEMP. . . | :20.00 (C) | pH . . . . . : | 7.0 | 0.06 |
| VELOCITY. . . . | : 0.3355(m/s) | COND . . . . . (uS/cm3). . : | 80.0 | 0.0 |
| DISCHARGE . . . | : 1.6768(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 8.4 | 0.35 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 16.86 | 3.47 | (m) | | |
| DEPTH. . . . . : | 25.38 | 19.24 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 1.89 |
| TYPE THREE SUBSTRATE . . . : | 0.03 | (%) | AIR/WATER TEMP. RATIO: | | 1.25 |
| EMBEDDEDNESS OF TYPE THREE : | 100.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 65.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 531.9 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Lepomis auritus | | 20.8 | 0.0 |
| Lepomis gibbosus | | 5.9 | 0.0 |
| Notemigonus crysoleucas | | 5.9 | 0.0 |
| juvenile centrarchid | | 3.0 | 0.0 |
| Luxilus cornutus | | 963.0 | MINIMAL ESTIMATE |
| Semotilus corporalis | | 2025.5 | 160.4 |
| Etheostoma olmstedi | | 80.1 | 31.5 |
| Anguilla rostrata | | 20.8 | 0.0 |
| Lepomis macrochirus | | 3.0 | 0.0 |
| Rhinichthys atratulus | | 1370.1 | 60.7 |
| Salmo trutta | STOCKED | 29.7 | 0.0 |
| Catostomus commersoni | | 815.5 | 76.7 |
| Perca flavescens | | 148.3 | 25.5 |
| Micropterus dolomieu | | 53.4 | 3.7 |

STREAM NAME : **FURNACE BROOK** SITE #: 6068

SITE DESCRIPTION: UPSTREAM OF RTE. 19, 150 M BELOW COLBURN RD.

TOWN: STAFFORD

SAMPLE LENGTH : 158. SAMPLE DATE: 08/16/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :19.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.3 | 0.06 |
| WATER TEMP. . . | :22.00 (C) | pH . . . . . : | | |
| VELOCITY. . . . | : 0.1702(m/s) | COND . . . . . (uS/cm3). . : | 66.7 | 1.2 |
| DISCHARGE . . . | : 1.2500(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 9.9 | 0.53 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | 5.31 | 1.58 | (m) | | |
| DEPTH. . . . . | 13.18 | 13.31 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 0.55 |
| TYPE THREE SUBSTRATE . . . : | 0.11 | (%) | AIR/WATER TEMP. RATIO: | | 0.86 |
| EMBEDDEDNESS OF TYPE THREE : | 62.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 97.50 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 26.2 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Catostomus commersoni | WILD | 703.2 | 56.7 |
| Salmo trutta | | 71.5 | 0.0 |
| Micropterus salmoides | | 381.4 | 120.5 |
| Ameiurus nebulosus | | 59.6 | 0.0 |
| Rhinichthys atratulus | | 11.9 | 0.0 |
| Perca flavescens | | 143.0 | 26.6 |
| Lepomis gibbosus | | 47.7 | 0.0 |

STREAM NAME : **ROARING BROOK** SITE #: 6069

SITE DESCRIPTION: 75 M BELOW VILLAGE HILL RD. TO 75 M ABOVE BRIDGE.

TOWN: WILLINGTON

SAMPLE LENGTH : 155. SAMPLE DATE: 06/16/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.2 | 0.00 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 7.4 | 0.00 |
| VELOCITY. . . . | : 0.6065(m/s) | COND . . . . . (uS/cm3). . : | 78.3 | 1.2 |
| DISCHARGE . . . | : 0.6675(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 8.3 | 0.15 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 11.83 | 2.53 | (m) |
| DEPTH. . . . . : | 23.25 | 17.12 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 7 | | |
| TYPE THREE SUBSTRATE . . . : | 0.04 | (%) | |
| EMBEDDEDNESS OF TYPE THREE : | 17.50 | (%) | |
| OVERHEAD CANOPY. . . . . : | 66.70 | (%) | |
| INSTREAM SHELTER . . . . . : | 287.5 | (m2) | |

POOL/RIFFLE RATIO . .: 1.03

AIR/WATER TEMP. RATIO: 1.16

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Luxilus cornutus | | 87.3 | 0.0 |
| Semotilus corporalis | | 332.7 | 0.0 |
| Salmo trutta | STOCKED | 76.4 | 0.0 |
| Salmo trutta | WILD | 10.9 | 0.0 |
| Notemigonus crysoleucas | | 229.1 | 13.9 |
| hybrid sunfish | | 16.4 | 0.0 |
| Rhinichthys cataractae | | | |
| Micropterus salmoides | | 16.4 | 0.0 |
| Lepomis gibbosus | | 409.0 | 33.8 |
| Perca flavescens | | 392.7 | 12.6 |
| Oncorhynchus mykiss | STOCKED | 5.5 | 0.0 |
| Catostomus commersoni | | 283.6 | 0.0 |
| Rhinichthys atratulus | | 818.0 | 24.7 |
| Salvelinus fontinalis | STOCKED | 5.5 | 0.0 |
| Anguilla rostrata | | 10.9 | 0.0 |
| Ameiurus nebulosus | | 32.7 | 0.0 |
| Lepomis auritus | | 5.5 | 0.0 |
| Esox americanus | | 5.5 | 0.0 |
| Lepomis cyanellus | | 16.4 | 0.0 |
| Salvelinus fontinalis | WILD | 174.5 | 47.6 |
| Lepomis macrochirus | | 485.4 | 17.7 |

STREAM NAME : **LABONTE BROOK** SITE #: **6070**

SITE DESCRIPTION: DOWNSTREAM OF RIVER RD.

TOWN: TOLLAND

SAMPLE LENGTH : 50. SAMPLE DATE: 07/21/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :28.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.7 | 0.17 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 6.8 | 0.06 |
| VELOCITY. . . . | : 0.0761(m/s) | COND . . . . . (uS/cm3). . : | 44.0 | 1.7 |
| DISCHARGE . . . | : 0.0782(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 6.4 | 0.06 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 2.23 | | 0.96 | (m) |
| DEPTH. . . . . : | 4.53 | | 3.26 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 0.28 |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | AIR/WATER TEMP. RATIO: | 1.47 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | |
| OVERHEAD CANOPY. . . . . : | 96.30 | (%) | | |
| INSTREAM SHELTER . . . . . : | 0.0 | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 5201.8 | |
| Rhinichthys atratulus | 7802.7 | |

STREAM NAME : **WILLIMANTIC RIVER** SITE #: **6071**

SITE DESCRIPTION: 50 M UPSTREAM OF RTE. I-84 BRIDGE (IN TROUT MANAGEMENT AREA).

TOWN: TOLLAND/WILLINGTON

SAMPLE LENGTH : 210. SAMPLE DATE: 08/08/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :24.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.9 | 0.10 |
| WATER TEMP. . . | :17.00 (C) | pH . . . . . : | 7.0 | 0.06 |
| VELOCITY. . . . | : 0.1676(m/s) | COND . . . . . (uS/cm3). . : | 104.0 | 3.6 |
| DISCHARGE . . . | : 0.7085(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 7.7 | 1.06 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 17.95 | 2.53 | (m) |
| DEPTH. . . . . : | 25.23 | 17.55 | (cm) |

| | | | |
|---|---|---|---|
| DOMINANT SUBSTRATE TYPE. . : | 4 | POOL/RIFFLE RATIO . .: | 3.88 |
| TYPE THREE SUBSTRATE . . . : | 0.08 (%) | AIR/WATER TEMP. RATIO: | 1.41 |
| EMBEDDEDNESS OF TYPE THREE : | 28.75 (%) | | |
| OVERHEAD CANOPY. . . . . : | 21.30 (%) | | |
| INSTREAM SHELTER . . . . . : | 89.8 (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Lepomis macrochirus | | 21.2 | 0.0 |
| Rhinichthys atratulus | | 384.7 | 69.5 |
| Lepomis gibbosus | | 53.1 | 7.8 |
| Anguilla rostrata | | 8.0 | 0.0 |
| Lepomis auritus | | 10.6 | 0.0 |
| Micropterus salmoides | | 29.2 | 0.0 |
| Semotilus corporalis | | 4353.4 | 84.8 |
| Esox americanus | | 5.3 | 0.0 |
| Notemigonus crysoleucas | | 10.6 | 0.0 |
| Etheostoma olmstedi | | 170.0 | MINIMAL ESTIMATE |
| Salmo trutta | STOCKED | 140.6 | 0.0 |
| Esox niger | | 2.7 | 0.0 |
| Luxilus cornutus | | 1522.7 | 49.9 |
| juvenile cyprinid | | 10.6 | 0.0 |
| Catostomus commersoni | | 1273.4 | 34.7 |
| Perca flavescens | | 331.6 | 15.0 |
| Micropterus dolomieu | | 169.8 | 18.8 |

STREAM NAME : **ROARING BROOK** SITE #: 6072

SITE DESCRIPTION: DOWNSTREAM OF SATORI RD.

TOWN: UNION

SAMPLE LENGTH : 50. SAMPLE DATE: 08/16/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :19.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.7 | 0.00 |
| WATER TEMP. . . | :15.00 (C) | pH . . . . . : | | |
| VELOCITY. . . . | : 0.0840(m/s) | COND . . . . . (uS/cm3). . : | 109.7 | 2.5 |
| DISCHARGE . . . | : 0.1766(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 27.7 | 1.59 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 2.26 | | 0.51 | (m) |
| DEPTH. . . . . : | 8.98 | | 7.51 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 1.63 |
| TYPE THREE SUBSTRATE . . . : | 0.11 | (%) | AIR/WATER TEMP. RATIO: | 1.27 |
| EMBEDDEDNESS OF TYPE THREE : | 65.00 | (%) | | |
| OVERHEAD CANOPY. . . . . : | 93.80 | (%) | | |
| INSTREAM SHELTER . . . . . : | 1.0 | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Catostomus commersoni | 4070.8 | 164.0 |
| Notemigonus crysoleucas | 3539.8 | 287.7 |
| Micropterus salmoides | 708.0 | 0.0 |
| Ameiurus nebulosus | 973.5 | 0.0 |
| Rhinichthys atratulus | 88.5 | 0.0 |

STREAM NAME : **E. BR. MOUNT HOPE RIVER** SITE #: **6073**

SITE DESCRIPTION: 700 M DOWNSTREAM OF SOUTH CHISOLM RD.

TOWN: ASHFORD

SAMPLE LENGTH : 100. SAMPLE DATE: 08/10/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :23.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.2 | 0.15 |
| WATER TEMP. . . | :18.00 (C) | pH . . . . . : | 7.1 | 0.06 |
| VELOCITY. . . . | : 0.0684(m/s) | COND . . . . . (uS/cm3). . : | 49.7 | 0.6 |
| DISCHARGE . . . | : 0.2657(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 11.5 | 0.49 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 4.07 | 1.73 | (m) | | |
| DEPTH. . . . . : | 8.20 | 7.79 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 0.41 |
| TYPE THREE SUBSTRATE . . . : | 0.06 | (%) | AIR/WATER TEMP. RATIO: | | 1.28 |
| EMBEDDEDNESS OF TYPE THREE : | 10.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 93.80 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 2.1 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys atratulus | | 491.4 | 33.1 |
| Esox niger | | 49.1 | 0.0 |
| Luxilus cornutus | | 196.6 | 0.0 |
| Catostomus commersoni | | 393.1 | 0.0 |
| juvenile cyprinid | | 663.4 | 0.0 |
| Lepomis gibbosus | | 24.6 | 0.0 |
| Semotilus corporalis | | 638.8 | 53.1 |
| Salvelinus fontinalis | WILD | 270.3 | 0.0 |
| Etheostoma olmstedi | | 24.6 | 0.0 |

STREAM NAME : **HOP RIVER** SITE #: **6074**

SITE DESCRIPTION: 200 M UPSTREAM OF CONFLUENCE WITH ASH BROOK.

TOWN: COVENTRY

SAMPLE LENGTH : 150.

SAMPLE DATE: 08/01/94

PHYSICAL

AIR TEMP. . . . :23.00 (C)

WATER TEMP. . . :21.00 (C)

VELOCITY. . . . : 0.2208(m/s)

DISCHARGE . . . : 2.4497(m3/s)

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 5.07 | 1.06 | (m) |
| DEPTH. . . . . : | 21.58 | 17.77 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | |
| TYPE THREE SUBSTRATE . . . : | 0.48 | (%) | |
| EMBEDDEDNESS OF TYPE THREE : | 43.57 | (%) | |
| OVERHEAD CANOPY. . . . . : | 76.00 | (%) | |
| INSTREAM SHELTER . . . . . : | 82.2 | (m2) | |

CHEMICAL

| | MEAN | STD |
|---|---|---|
| DISSOLVED OXYGEN (mg/l). . : | 9.1 | 0.12 |
| pH . . . . . : | 7.1 | 0.00 |
| COND . . . . . (uS/cm3). . : | 132.7 | 0.6 |
| ALKALINITY .(mg CaCO3 eq/l): | 14.7 | 1.04 |

POOL/RIFFLE RATIO . .: 1.68

AIR/WATER TEMP. RATIO: 1.10

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Ameiurus nebulosus | | 26.3 | 0.0 |
| Lepomis macrochirus | | 526.0 | 0.0 |
| Salvelinus fontinalis | WILD | 420.8 | 0.0 |
| Anguilla rostrata | | 13.1 | 0.0 |
| Etheostoma olmstedi | | 723.2 | 47.5 |
| Lepomis gibbosus | | 26.3 | 0.0 |
| Micropterus salmoides | | 170.9 | 0.0 |
| Luxilus cornutus | | 355.0 | 67.9 |
| Semotilus corporalis | | 1512.2 | 127.7 |
| Pimephales promelas | | 13.1 | 0.0 |
| Perca flavescens | | 118.3 | 0.0 |
| Rhinichthys atratulus | | 2629.8 | 130.6 |
| Salmo trutta | WILD | 13.1 | 0.0 |
| juvenile centrarchid | | 13.1 | 0.0 |
| Semotilus atromaculatus | | 118.3 | 0.0 |
| Catostomus commersoni | | 1512.2 | 64.5 |

STREAM NAME : **SKUNGAMAUG RIVER** SITE #: 6075

SITE DESCRIPTION: 100 M ABOVE TOP OF POND AT CHANNEL 3 CAMP, 300 M UPSTREAM OF COVENTRY-ANDOVER TOWN LINE.

TOWN: ANDOVER

SAMPLE LENGTH : 200. SAMPLE DATE: 09/01/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :21.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.1 | 0.06 |
| WATER TEMP. . . | :18.00 (C) | pH . . . . . : | 7.2 | 0.06 |
| VELOCITY. . . . | : 0.2635(m/s) | COND . . . . . (uS/cm3). . : | 89.7 | 2.5 |
| DISCHARGE . . . | : 0.6352(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 10.7 | 0.46 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 11.28 | 2.81 | (m) | | |
| DEPTH. . . . . : | 22.85 | 16.67 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 5 | | POOL/RIFFLE RATIO . .: | | 0.90 |
| TYPE THREE SUBSTRATE . . . : | 0.09 | (%) | AIR/WATER TEMP. RATIO: | | 1.17 |
| EMBEDDEDNESS OF TYPE THREE : | 32.50 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 77.50 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 87.4 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys atratulus | | 2597.5 | 107.7 |
| Salmo trutta | STOCKED | 22.2 | 0.0 |
| Micropterus dolomieu | | 75.4 | 0.0 |
| Anguilla rostrata | | 17.7 | 0.0 |
| Semotilus corporalis | | 1307.6 | 47.5 |
| Luxilus cornutus | | 1666.7 | 26.4 |
| Semotilus atromaculatus | | 57.6 | 21.7 |
| Catostomus commersoni | | 784.6 | 12.7 |
| Micropterus salmoides | | 133.0 | 57.9 |

STREAM NAME : **GOODWIN BROOK** SITE #: **6076**

SITE DESCRIPTION: 100 M DOWNSTREAM OF STATE FOREST ACCESS ROAD COSSING OFF MOREY RD., 200 M UPSTREAM OF NATCHAUG RIVER.

TOWN: CHAPLIN

SAMPLE LENGTH : 54. SAMPLE DATE: 06/30/94

PHYSICAL

| | | |
|---|---|---|
| AIR TEMP. . . . | 23.00 | (C) |
| WATER TEMP. . . | 16.00 | (C) |
| VELOCITY. . . . | | (m/s) |
| DISCHARGE . . . | | (m3/s) |

CHEMICAL

| | MEAN | STD |
|---|---|---|
| DISSOLVED OXYGEN (mg/l). . : | 9.0 | 0.21 |
| pH . . . . . : | 6.9 | 0.15 |
| COND . . . . . (uS/cm3). . : | | |
| ALKALINITY .(mg CaCO3 eq/l): | 8.0 | 0.35 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 1.88 | | 1.07 | (m) |
| DEPTH. . . . . : | 7.32 | | 6.83 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 6 | | | |
| TYPE THREE SUBSTRATE . . . : | 0.13 | (%) | | |
| EMBEDDEDNESS OF TYPE THREE : | 5.00 | (%) | | |
| OVERHEAD CANOPY. . . . . : | 98.80 | (%) | | |
| INSTREAM SHELTER . . . . . : | 1.9 | (m2) | | |

| | |
|---|---|
| POOL/RIFFLE RATIO . .: | 1.45 |
| AIR/WATER TEMP. RATIO: | 1.44 |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 11489.4 | 576.6 |

STREAM NAME : **BEAVER DAM BROOK** SITE #: 6077

SITE DESCRIPTION: 800 M UPSTREAM OF CONFLUENCE WITH NATCHAUG RIVER.

TOWN: EASTFORD

SAMPLE LENGTH : 100.

SAMPLE DATE: 08/26/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :18.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 9.6 | 0.06 |
| WATER TEMP. . . :17.00 (C) | | pH . . . . . : | 6.2 | 0.06 |
| VELOCITY. . . . : 0.1860(m/s) | | COND . . . . . (uS/cm3). . : | 23.0 | 0.0 |
| DISCHARGE . . . : 1.6316(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 2.8 | 0.76 |
| | MEAN | STD | | |
| WIDTH. . . . . : | 5.77 | 1.61 | (m) | |
| DEPTH. . . . . : | 15.52 | 11.88 | (cm) | |
| DOMINANT SUBSTRATE TYPE. . : | 6 | POOL/RIFFLE RATIO . .: | | 0.59 |
| TYPE THREE SUBSTRATE . . . : | 0.06 (%) | AIR/WATER TEMP. RATIO: | | 1.06 |
| EMBEDDEDNESS OF TYPE THREE : | 5.00 (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 (%) | | | |
| INSTREAM SHELTER . . . . . : | 8.1 (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Luxilus cornutus | 34.7 | 0.0 |
| Semotilus corporalis | 52.0 | 0.0 |
| Catostomus commersoni | 173.3 | 0.0 |
| Rhinichthys atratulus | 1542.5 | 41.1 |

STREAM NAME : **ABINGTON BROOK** SITE #: 6078

SITE DESCRIPTION: 100 M UPSTREAM OF CHENEY RD. UNDER RTE. 44 (ADJACENT TO AIRLINE STATE TRAIL, ACCESS UPSTREAM OF RTE. 44).

TOWN: POMFRET

SAMPLE LENGTH : 100.

SAMPLE DATE: 09/01/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :18.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.3 | 0.23 |
| WATER TEMP. . . | :17.00 (C) | pH . . . . . : | 7.0 | 0.06 |
| VELOCITY. . . . | : 0.1251(m/s) | COND . . . . . (uS/cm3). . : | 128.0 | 1.0 |
| DISCHARGE . . . | : 0.2242(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 21.1 | 0.31 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 2.38 | | 0.64 | (m) |
| DEPTH. . . . . : | 7.85 | | 8.16 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 0.54 |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | AIR/WATER TEMP. RATIO: | 1.06 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | |
| OVERHEAD CANOPY. . . . . : | 92.50 | (%) | | |
| INSTREAM SHELTER . . . . . : | 0.6 | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Catostomus commersoni | 1722.7 | 106.3 |
| Luxilus cornutus | 504.2 | 0.0 |
| Semotilus corporalis | 126.1 | 0.0 |
| Lepomis cyanellus | 1386.6 | 0.0 |
| hybrid sunfish | 42.0 | 0.0 |
| Rhinichthys cataractae | 168.1 | 0.0 |
| Micropterus salmoides | 168.1 | 0.0 |
| Anguilla rostrata | 84.0 | 0.0 |
| Rhinichthys atratulus | 12226.9 | 44.3 |
| Lepomis gibbosus | 42.0 | 0.0 |

STREAM NAME : **SANDY BROOK** SITE #: 6079

SITE DESCRIPTION: UPSTREAM OF ELLIOTT RD.

TOWN: BROOKLYN

SAMPLE LENGTH : 50. SAMPLE DATE: 08/25/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :20.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 10.0 | 0.52 |
| WATER TEMP. . . | :15.00 (C) | pH . . . . . : | 6.8 | 0.06 |
| VELOCITY. . . . | : 0.0946(m/s) | COND . . . . . (uS/cm3). . : | 75.7 | 1.2 |
| DISCHARGE. . . . | : 0.3316(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 7.8 | 0.06 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.76 | 0.83 | (m) | | |
| DEPTH. . . . . : | 12.75 | 9.81 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | | POOL/RIFFLE RATIO . .: | 2.33 |
| TYPE THREE SUBSTRATE . . . : | 0.40 | (%) | | AIR/WATER TEMP. RATIO: | 1.33 |
| EMBEDDEDNESS OF TYPE THREE : | 40.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 6.7 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys atratulus | | 1376.8 | |
| Lepomis gibbosus | | 869.6 | |
| Salvelinus fontinalis | WILD | 362.3 | |
| Semotilus corporalis | | 4130.4 | |
| Esox niger | | 362.3 | |
| Erimyzon oblongus | | 579.7 | |

STREAM NAME : **MASHAMOQUET BROOK** SITE #: 6080

SITE DESCRIPTION: 150 M ABOVE WHITE BROOK CONFLUENCE, PARALLEL TO RTE. 101.

TOWN: POMFRET

SAMPLE LENGTH : 150.

SAMPLE DATE: 08/04/94

PHYSICAL

AIR TEMP. . . . :26.00 (C)

WATER TEMP. . . :22.00 (C)

VELOCITY. . . . : 0.1026(m/s)

DISCHARGE . . . : 0.0481(m3/s)

CHEMICAL

| | MEAN | STD |
|---|---|---|
| DISSOLVED OXYGEN (mg/l). . : | 8.7 | 0.12 |
| pH . . . . . : | 6.7 | 0.06 |
| COND . . . . . (uS/cm3). . : | | |
| ALKALINITY .(mg CaCO3 eq/l): | 23.4 | 0.75 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 7.14 | 2.61 | (m) |
| DEPTH. . . . . : | 20.27 | 17.87 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | |
| TYPE THREE SUBSTRATE . . . : | 0.33 | (%) | |
| EMBEDDEDNESS OF TYPE THREE : | 22.87 | (%) | |
| OVERHEAD CANOPY. . . . . : | 42.50 | (%) | |
| INSTREAM SHELTER . . . . . : | 32.1 | (m2) | |

POOL/RIFFLE RATIO . .: 5.25

AIR/WATER TEMP. RATIO: 1.18

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Etheostoma olmstedi | 1437.9 | 53.3 |
| Catostomus commersoni | 2250.2 | 53.5 |
| Ameiurus natalis | 392.2 | 42.9 |
| Perca flavescens | 65.4 | 0.0 |
| Lepomis macrochirus | 84.0 | 0.0 |
| Rhinichthys atratulus | 793.7 | 93.2 |
| Lepomis auritus | 1139.1 | 74.4 |
| Ameiurus nebulosus | 28.0 | 0.0 |
| Salmo trutta | 9.3 | 0.0 |
| Notemigonus crysoleucas | 74.7 | 21.9 |
| hybrid sunfish | 74.7 | 0.0 |
| juvenile centrarchid | 252.1 | 18.8 |
| Esox niger | 102.7 | 0.0 |
| Luxilus cornutus | 616.2 | 16.7 |
| juvenile cyprinid | 326.8 | 38.8 |
| Semotilus corporalis | 2175.5 | 84.6 |
| Lepomis cyanellus | 37.3 | 0.0 |
| Lepomis gibbosus | 326.8 | 18.1 |
| Micropterus salmoides | 28.0 | 0.0 |
| Notropis hudsonius | 410.1 | MINIMAL ESTIMATE |
| Rhinichthys cataractae | 486.9 | MINIMAL ESTIMATE |

STREAM NAME : **WHETSTONE BROOK** SITE #: **6081**

SITE DESCRIPTION: 300 M UPSTREAM OF CONFLUENCE WITH FIVEMILE RIVER.

TOWN: KILLINGLY

SAMPLE LENGTH : 150.

SAMPLE DATE: 07/11/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :24.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 8.8 | 0.10 |
| WATER TEMP. . . :24.00 (C) | | pH . . . . . : | | |
| VELOCITY. . . . : 0.2026(m/s) | | COND . . . . . (uS/cm3). . : | 85.3 | 0.6 |
| DISCHARGE . . . : 1.2665(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 16.1 | 0.17 |
| | MEAN | STD | | |
| WIDTH. . . . . : | 4.51 | 1.08 (m) | | |
| DEPTH. . . . . : | 13.85 | 9.59 (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | POOL/RIFFLE RATIO . .: | 1.42 | |
| TYPE THREE SUBSTRATE . . . : | 0.03 (%) | AIR/WATER TEMP. RATIO: | 1.00 | |
| EMBEDDEDNESS OF TYPE THREE : | 10.00 (%) | | | |
| OVERHEAD CANOPY. . . . . : | 72.90 (%) | | | |
| INSTREAM SHELTER . . . . . : | 4.2 (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys cataractae | | 2527.7 | 133.0 |
| Notemigonus crysoleucas | | 88.7 | 0.0 |
| Semotilus corporalis | | 665.2 | 0.0 |
| Esox niger | | 59.1 | 0.0 |
| Luxilus cornutus | | 1552.1 | 174.2 |
| juvenile cyprinid | | 14.8 | 0.0 |
| Etheostoma olmstedi | | 103.5 | 0.0 |
| Anguilla rostrata | | 206.9 | 0.0 |
| Lepomis macrochirus | | 576.5 | 92.1 |
| Rhinichthys atratulus | | 2764.2 | 208.8 |
| Salmo trutta | STOCKED | 14.8 | 0.0 |
| Catostomus commersoni | | 783.4 | 36.6 |
| Micropterus salmoides | | 133.0 | 0.0 |

STREAM NAME : **QUANDUCK BROOK** SITE #: **6082**

SITE DESCRIPTION: UPSTREAM OF BRICKHOUSE RD. ADJACENT TO TRANSFER STATION.

TOWN: KILLINGLY

SAMPLE LENGTH : 100. SAMPLE DATE: 08/26/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :27.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 7.9 | 0.15 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | | |
| VELOCITY. . . . | : 0.0964(m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . | : 0.0450(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 6.9 | 1.31 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.64 | 0.39 | (m) | | |
| DEPTH. . . . . : | 10.95 | 7.81 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | | POOL/RIFFLE RATIO . .: | 0.75 |
| TYPE THREE SUBSTRATE . . . : | 0.45 | (%) | | AIR/WATER TEMP. RATIO: | 1.42 |
| EMBEDDEDNESS OF TYPE THREE : | 36.66 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 88.80 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 6.8 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys atratulus | | 795.5 | |
| Etheostoma fusiforme | | 75.8 | |
| Micropterus salmoides | | 1060.6 | |
| Salvelinus fontinalis | WILD | 340.9 | |
| Lepomis gibbosus | | 75.8 | |
| Esox niger | | 75.8 | |

STREAM NAME : **SNAKE MEADOW BROOK** SITE #: **6083**

SITE DESCRIPTION: DOWNSTREAM OF HUBBARD RD., 300 M DOWNSTREAM OF RTE. 6.

TOWN: KILLINGLY

SAMPLE LENGTH : 100. SAMPLE DATE: 07/12/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :23.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 7.2 | 0.06 |
| WATER TEMP. . . | :23.00 (C) | pH . . . . . : | 7.3 | |
| VELOCITY. . . . | : 0.1458(m/s) | COND . . . . . (uS/cm3). . : | 122.7 | 2.1 |
| DISCHARGE . . . | : 0.4927(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 30.8 | 0.72 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 3.38 | 0.94 | (m) | | |
| DEPTH. . . . . : | 9.90 | 6.80 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 1.08 |
| TYPE THREE SUBSTRATE . . . : | 0.07 | (%) | AIR/WATER TEMP. RATIO: | | 1.00 |
| EMBEDDEDNESS OF TYPE THREE : | 60.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 88.50 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 2.6 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Ameiurus nebulosus | | 29.6 | 0.0 |
| Rhinichthys atratulus | | 798.8 | 0.0 |
| Salmo trutta | STOCKED | 29.6 | 0.0 |
| Etheostoma olmstedi | | 177.5 | 0.0 |
| Esox niger | | 473.4 | 0.0 |
| Rhinichthys cataractae | | 1065.1 | 0.0 |
| Notemigonus crysoleucas | | 355.0 | 0.0 |
| Anguilla rostrata | | 88.8 | 0.0 |
| Catostomus commersoni | | 3402.4 | 118.8 |
| Lepomis gibbosus | | 325.4 | 0.0 |

STREAM NAME : **THEIMS BROOK** SITE #: **6084**

SITE DESCRIPTION: UPSTREAM FROM HOP RIVER.

TOWN: COVENTRY

SAMPLE LENGTH : 50. SAMPLE DATE: 08/29/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :18.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.8 | 0.23 |
| WATER TEMP. . . | :14.00 (C) | pH . . . . . : | | |
| VELOCITY. . . . | : 0.0192(m/s) | COND . . . . . (uS/cm3). . : | 60.0 | 0.0 |
| DISCHARGE . . . | : 0.0041(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 12.1 | 1.36 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 1.61 | | 0.72 | (m) |
| DEPTH. . . . . : | 15.43 | | 15.11 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 2 | | POOL/RIFFLE RATIO . .: | 3.17 |
| TYPE THREE SUBSTRATE . . . : | 0.23 | (%) | AIR/WATER TEMP. RATIO: | 1.29 |
| EMBEDDEDNESS OF TYPE THREE : | 53.33 | (%) | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | |
| INSTREAM SHELTER . . . . . : | 7.4 | (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys atratulus | WILD | 372.7 | |
| Catostomus commersoni | | 248.4 | |
| Esox niger | | 124.2 | |
| Salvelinus fontinalis | | 372.7 | |
| Semotilus corporalis | | 248.4 | |
| Salmo trutta | STOCKED | 124.2 | |
| Lepomis gibbosus | | 248.4 | |

STREAM NAME : **HOP RIVER** SITE #: **6085**

SITE DESCRIPTION: 50 M UPSTREAM OF THEIMS BROOK CONFLUENCE (ACCESS THROUGH SARAZIN CONTRACTORS).

TOWN: COLUMBIA/COVENTRY

SAMPLE LENGTH : 150. SAMPLE DATE: 08/02/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :26.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.4 | 0.00 |
| WATER TEMP. . . | :23.00 (C) | pH . . . . . : | 7.1 | 0.00 |
| VELOCITY. . . . | : 0.2582(m/s) | COND . . . . . (uS/cm3). . : | 119.3 | 1.2 |
| DISCHARGE . . . | : 0.6745(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 16.5 | 0.50 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 12.51 | 3.05 | (m) |
| DEPTH. . . . . : | 50.75 | 36.77 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 3 | POOL/RIFFLE RATIO . .: | 24.00 |
| TYPE THREE SUBSTRATE . . . : | 0.44 (%) | AIR/WATER TEMP. RATIO: | 1.13 |
| EMBEDDEDNESS OF TYPE THREE : | 48.78 (%) | | |
| OVERHEAD CANOPY. . . . . : | 28.80 (%) | | |
| INSTREAM SHELTER . . . . . : | 535.3 (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Semotilus corporalis | | 417.7 | |
| Notemigonus crysoleucas | | 247.5 | |
| Etheostoma olmstedi | | 41.3 | |
| Luxilus cornutus | | 98.0 | |
| Perca flavescens | | 30.9 | |
| Micropterus dolomieu | | 56.7 | |
| Salvelinus fontinalis | WILD | 15.5 | |
| Anguilla rostrata | | 20.6 | |
| Lepomis macrochirus | | 46.4 | |
| Salvelinus fontinalis | STOCKED | 5.2 | |
| Micropterus salmoides | | 10.3 | |
| Lepomis gibbosus | | 25.8 | |
| Lepomis auritus | | 453.8 | |
| juvenile centrarchid | | 5.2 | |
| Esox niger | | 20.6 | |
| Catostomus commersoni | | 283.6 | |
| Salmo trutta | STOCKED | 5.2 | |
| Salvelinus fontinalis | | 10.3 | |

STREAM NAME : **CIDER MILL BROOK** SITE #: 6086

SITE DESCRIPTION: UPSTREAM OF CONFLUENCE WITH WILLIMANTIC RIVER.

TOWN: MANSFIELD

SAMPLE LENGTH : 50. SAMPLE DATE: 08/04/94

| PHYSICAL | | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|---|
| AIR TEMP. . . . | 27.00 | (C) | DISSOLVED OXYGEN (mg/l). . | 8.5 | 0.46 |
| WATER TEMP. . . | 25.00 | (C) | pH . . . . . | 7.5 | 0.42 |
| VELOCITY. . . . | | (m/s) | COND . . . . . (uS/cm3). . | | |
| DISCHARGE . . . | | (m3/s) | ALKALINITY .(mg CaCO3 eq/l) | 19.8 | 0.35 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . | 0.99 | | 0.49 | (m) |
| DEPTH. . . . . | 4.70 | | 5.17 | (cm) |
| DOMINANT SUBSTRATE TYPE. . | 3 | | POOL/RIFFLE RATIO . . | 0.62 |
| TYPE THREE SUBSTRATE . . . | 0.55 | (%) | AIR/WATER TEMP. RATIO: | 1.08 |
| EMBEDDEDNESS OF TYPE THREE | 18.33 | (%) | | |
| OVERHEAD CANOPY. . . . . | 80.00 | (%) | | |
| INSTREAM SHELTER . . . . . | 0.7 | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Micropterus salmoides | 202.0 | |
| Luxilus cornutus | 202.0 | |
| Semotilus corporalis | 10505.0 | |
| Ameiurus nebulosus | 606.1 | |
| Rhinichthys atratulus | 13737.4 | |
| Etheostoma olmstedi | 606.1 | |
| Catostomus commersoni | 5656.6 | |
| Lepomis cyanellus | 0.0 | |

STREAM NAME : **WILLIMANTIC RIVER** SITE #: **6087**

SITE DESCRIPTION: UPSTREAM OF DEPOT RD./COVENTRY RD.

TOWN: MANSFIELD/COVENTRY

SAMPLE LENGTH : 200. SAMPLE DATE: 07/25/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :24.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 6.9 | 0.38 |
| WATER TEMP. . . | :26.00 (C) | pH . . . . . : | 6.8 | 0.15 |
| VELOCITY. . . . | : 0.4186(m/s) | COND . . . . . (uS/cm3). . : | 150.0 | 0.0 |
| DISCHARGE . . . | : 1.6468(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 16.1 | 0.32 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 17.39 | 2.59 | (m) | | |
| DEPTH. . . . . : | 26.38 | 21.73 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 1.82 |
| TYPE THREE SUBSTRATE . . . : | 0.27 | (%) | AIR/WATER TEMP. RATIO: | | 0.92 |
| EMBEDDEDNESS OF TYPE THREE : | 31.11 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 74.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 452.4 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Ameiurus nebulosus | 5.6 | 0.0 |
| Notemigonus crysoleucas | 44.9 | 0.0 |
| Micropterus salmoides | 5.6 | 0.0 |
| Anguilla rostrata | 11.2 | 0.0 |
| Lepomis cyanellus | 16.8 | 3.8 |
| Lepomis auritus | 143.1 | 56.4 |
| Micropterus dolomieu | 213.0 | MINIMAL ESTIMATE |
| Notropis hudsonius | 47.7 | 3.6 |
| Etheostoma olmstedi | 67.3 | 12.8 |
| Lepomis macrochirus | 5.6 | 0.0 |
| Rhinichthys atratulus | 8.4 | 0.0 |
| Salmo trutta | 2.8 | 0.0 |
| juvenile centrarchid | 2.8 | 0.0 |
| Esox niger | 11.2 | 0.0 |
| Luxilus cornutus | 1924.3 | 157.7 |
| Semotilus corporalis | 2219.0 | MINIMAL ESTIMATE |
| Ambloplites rupestris | 28.1 | 0.0 |
| Catostomus commersoni | 667.6 | 18.8 |
| Perca flavescens | 33.7 | 3.8 |
| Lepomis gibbosus | 8.4 | 0.0 |

STREAM NAME : **MOOSUP RIVER** SITE #: **6088**

SITE DESCRIPTION: 100 M DOWNSTREAM OF CONNECTICUT-RHODE ISLAND STATELINE.

TOWN: STERLING

SAMPLE LENGTH : 159. SAMPLE DATE: 08/01/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :27.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 5.4 | 0.10 |
| WATER TEMP. . . | :22.00 (C) | pH . . . . . : | 5.8 | 0.06 |
| VELOCITY. . . . | : 0.0730(m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . | : 0.1563(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 9.1 | 0.50 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 9.02 | 1.44 | (m) | | |
| DEPTH. . . . . : | 36.58 | 21.31 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | POOL/RIFFLE RATIO . .: | | 5.52 |
| TYPE THREE SUBSTRATE . . . : | 0.56 | (%) | AIR/WATER TEMP. RATIO: | | 1.23 |
| EMBEDDEDNESS OF TYPE THREE : | 46.95 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 47.90 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 411.3 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Esox niger | 127.1 | 0.0 |
| Catostomus commersoni | 49.4 | 9.8 |
| Salmo trutta | 14.1 | 0.0 |
| Erimyzon oblongus | 28.2 | 0.0 |
| Perca flavescens | 127.1 | 40.7 |
| Semotilus corporalis | 550.8 | 38.8 |
| Micropterus salmoides | 21.2 | 0.0 |
| Anguilla rostrata | 7.1 | 0.0 |
| Ameiurus nebulosus | 14.1 | 0.0 |
| Rhinichthys atratulus | 14.1 | 0.0 |
| Etheostoma olmstedi | 297.0 | MINIMAL ESTIMATE |
| Lepomis gibbosus | 28.2 | 0.0 |
| Lepomis auritus | 169.5 | 51.2 |
| Etheostoma fusiforme | 28.2 | 0.0 |

STREAM NAME : **MOOSUP RIVER** SITE #: **6089**

SITE DESCRIPTION: 200 M DOWNSTREAM OF CONFLUENCE WITH CEDAR SWAMP BROOK.

TOWN: STERLING

SAMPLE LENGTH : 200. SAMPLE DATE: 07/06/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :26.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 7.5 | 0.38 |
| WATER TEMP. . . | :21.00 (C) | pH . . . . . : | 6.6 | 0.00 |
| VELOCITY. . . . | : 0.1516(m/s) | COND . . . . . (uS/cm3). . : | 67.0 | 1.7 |
| DISCHARGE . . . | : 0.3359(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 7.5 | 0.26 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 13.77 | 3.34 | (m) | | |
| DEPTH. . . . . : | 31.50 | 24.32 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 4.71 |
| TYPE THREE SUBSTRATE . . . : | 0.34 | (%) | AIR/WATER TEMP. RATIO: | | 1.24 |
| EMBEDDEDNESS OF TYPE THREE : | 44.71 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 72.50 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 466.5 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Notemigonus crysoleucas | | 155.1 | 56.0 |
| Semotilus corporalis | | 543.8 | 38.0 |
| juvenile cyprinid | | 128.7 | 43.2 |
| Lepomis gibbosus | | 36.3 | 0.0 |
| Etheostoma olmstedi | | 1043.0 | MINIMAL ESTIMATE |
| Luxilus cornutus | | 963.9 | 107.0 |
| Catostomus commersoni | | 244.3 | 18.6 |
| Anguilla rostrata | | 29.7 | 0.0 |
| Ameiurus nebulosus | | 19.8 | 0.0 |
| Lepomis macrochirus | | 6.6 | 0.0 |
| Rhinichthys atratulus | | 468.7 | 166.5 |
| Salmo trutta | STOCKED | 9.9 | 0.0 |
| Esox niger | | 122.1 | 41.2 |
| Rhinichthys cataractae | | 1168.5 | 159.6 |
| Micropterus salmoides | | 6.6 | 0.0 |
| Perca flavescens | | 36.3 | 16.6 |
| Lepomis auritus | | 191.0 | MINIMAL ESTIMATE |

STREAM NAME : **QUANDUCK BROOK** SITE #: **6090**

SITE DESCRIPTION: 20 M UPSTREAM OF CONFLUENCE WITH MOOSUP RIVER.

TOWN: STERLING

SAMPLE LENGTH : 150.

SAMPLE DATE: 08/17/94

PHYSICAL

AIR TEMP. . . . :23.00 (C)

WATER TEMP. . . :17.00 (C)

VELOCITY. . . . : 0.1442(m/s)

DISCHARGE . . . : 0.1156(m3/s)

CHEMICAL

| | MEAN | STD |
|---|---|---|
| DISSOLVED OXYGEN (mg/l). . : | 8.9 | 0.06 |
| pH . . . . . : | 6.9 | 0.06 |
| COND . . . . . (uS/cm3). . : | 70.0 | 0.0 |
| ALKALINITY .(mg CaCO3 eq/l): | 12.4 | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 7.75 | 2.42 | (m) |
| DEPTH. . . . . : | 22.85 | 22.20 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | |
| TYPE THREE SUBSTRATE . . . : | 0.37 | | (%) |
| EMBEDDEDNESS OF TYPE THREE : | 28.07 | | (%) |
| OVERHEAD CANOPY. . . . . : | 83.80 | | (%) |
| INSTREAM SHELTER . . . . . : | 186.3 | | (m2) |

POOL/RIFFLE RATIO . .: 2.49

AIR/WATER TEMP. RATIO: 1.35

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Semotilus corporalis | | 1247.3 | 14.1 |
| Esox niger | | 8.6 | 0.0 |
| Micropterus salmoides | | 1548.4 | 211.5 |
| Lepomis gibbosus | | 137.6 | 11.1 |
| Lepomis auritus | | 335.5 | 74.7 |
| Etheostoma olmstedi | | 1212.9 | 137.0 |
| Luxilus cornutus | | 1849.5 | 71.4 |
| Perca flavescens | | 25.8 | 0.0 |
| Ameiurus nebulosus | | 34.4 | 0.0 |
| Lepomis macrochirus | | 68.8 | 0.0 |
| Salvelinus fontinalis | WILD | 43.0 | 0.0 |
| Rhinichthys atratulus | | 937.6 | 35.0 |
| Salmo trutta | WILD | 25.8 | 0.0 |
| Rhinichthys cataractae | | 1092.5 | 106.7 |
| Catostomus commersoni | | 2348.4 | 55.4 |
| Anguilla rostrata | | 17.2 | 0.0 |
| Notemigonus crysoleucas | | 43.0 | 0.0 |

STREAM NAME : **CONE BROOK** SITE #: **6091**

SITE DESCRIPTION: DOWNSTREAM OF PHINNEY RD.

TOWN: CANTERBURY

SAMPLE LENGTH : 50. SAMPLE DATE: 08/16/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :24.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 8.9 | 0.15 |
| WATER TEMP. . . :17.00 (C) | | pH . . . . . : | 6.9 | 0.06 |
| VELOCITY. . . . : 0.0308(m/s) | | COND . . . . . (uS/cm3). . : | 65.3 | 0.6 |
| DISCHARGE . . . : 0.0137(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 12.0 | 0.42 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 1.48 | 0.64 | (m) |
| DEPTH. . . . . : | 3.08 | 3.74 | (cm) |

4 POOL/RIFFLE RA@@653`DOMINAN@.$@BSTRATE TYPE. . :

| | | | |
|---|---|---|---|
| TYPE THREE SUBSTRATE . . . : | 0.17 | (%) | AIR/WATER TEMP. RATIO: 1.41 |
| EMBEDDEDNESS OF TYPE THREE : | 0.00 | (%) | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | |
| INSTREAM SHELTER . . . . . : | 0.0 | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys atratulus | | 2432.4 | |
| juvenile centrarchid | | 135.1 | |
| Salvelinus fontinalis | WILD | 405.4 | |

STREAM NAME : **ANGELL BROOK** SITE #: 6092

SITE DESCRIPTION: DOWNSTREAM OF RTE. 14 (MEADOW DITCH, INTERMITTENT IN PARTS).

TOWN: PLAINFIELD

SAMPLE LENGTH : 50. SAMPLE DATE: 07/11/94

| PHYSICAL | | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|---|
| AIR TEMP. . . . | 28.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | 6.8 | 0.15 |
| WATER TEMP. . . | 25.00 | (C) | pH . . . . . : | 6.9 | 0.00 |
| VELOCITY. . . . | | (m/s) | COND . . . . . (uS/cm3). . : | 268.3 | 2.9 |
| DISCHARGE . . . | | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 26.3 | 0.72 |

| | MEAN | | STD | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | 1.22 | | 0.45 | (m) | |
| DEPTH. . . . . | 5.05 | | 4.10 | (cm) | |
| DOMINANT SUBSTRATE TYPE. . | 3 | | POOL/RIFFLE RATIO . .: | | 0.00 |
| TYPE THREE SUBSTRATE . . . | 0.50 | (%) | AIR/WATER TEMP. RATIO: | | 1.12 |
| EMBEDDEDNESS OF TYPE THREE | 2.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . | 0.0 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salvelinus fontinalis | WILD | | |
| Notemigonus crysoleucas | | | |
| Catostomus commersoni | | | |
| Lepomis gibbosus | | | |
| Salmo trutta | WILD | | |
| Rhinichthys atratulus | | | |

STREAM NAME : **MOOSUP RIVER** SITE #: **6093**

SITE DESCRIPTION: UPSTREAM OF POWERLINE POOL, 500 M UPSTREAM OF QUINEBAUG RIVER (HATCHERY LAND, FLY-FISHING-ONLY AREA)

TOWN: PLAINFIELD

SAMPLE LENGTH : 150. SAMPLE DATE: 09/09/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :25.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.1 | 0.06 |
| WATER TEMP. . . | :16.00 (C) | pH . . . . . : | 7.3 | 0.06 |
| VELOCITY. . . . | : 0.2017(m/s) | COND . . . . . (uS/cm3). . : | 86.0 | 1.0 |
| DISCHARGE . . . | : 0.5885(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 12.2 | 0.21 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 12.75 | 2.64 | (m) | | |
| DEPTH. . . . . : | 29.50 | 28.69 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 5.25 | |
| TYPE THREE SUBSTRATE . . . : | 0.43 | (%) | AIR/WATER TEMP. RATIO: | 1.56 | |
| EMBEDDEDNESS OF TYPE THREE : | 32.02 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 67.50 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 384.4 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Notemigonus crysoleucas | | 10.5 | 0.0 |
| Rhinichthys cataractae | | 878.4 | 199.1 |
| Micropterus salmoides | | 125.5 | 33.3 |
| Lepomis auritus | | 470.6 | MINIMAL ESTIMATE |
| Anguilla rostrata | | 10.5 | 0.0 |
| Salmo trutta | STOCKED | 5.2 | 0.0 |
| Rhinichthys atratulus | | 2321.6 | 117.1 |
| Lepomis macrochirus | | 5.2 | 0.0 |
| Perca flavescens | | 5.2 | 0.0 |
| Semotilus corporalis | | 1019.6 | MINIMAL ESTIAMTE |
| Pomoxis nigromaculatus | | 5.2 | 0.0 |
| Luxilus cornutus | | 596.0 | MINIMAL ESTIMATE |
| Notropis hudsonius | | 496.7 | MINIMAL ESTIMATE |
| Etheostoma olmstedi | | 219.6 | 91.4 |
| Catostomus commersoni | | 930.7 | 194.0 |
| Ameiurus natalis | | 5.2 | 0.0 |

STREAM NAME : **NATCHAUG RIVER (OLD CHANNEL)** SITE #: 6095

SITE DESCRIPTION: 400 M DOWNSTREAM OF RTE 6, SOUTH END OF OLD CHANNEL (PARALLEL TO SITE 6096).

TOWN: WINDHAM/MANSFIELD

SAMPLE LENGTH : 150. SAMPLE DATE: 07/18/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 7.9 | 0.15 |
| WATER TEMP. . . | :23.00 (C) | pH . . . . . : | 7.4 | 0.06 |
| VELOCITY. . . . | : 0.2126(m/s) | COND . . . . . (uS/cm3). . : | 93.3 | 1.5 |
| DISCHARGE . . . | : 0.3181(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 17.9 | 0.31 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 8.47 | 1.01 | (m) | | |
| DEPTH. . . . . : | 18.85 | 13.55 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 6.50 |
| TYPE THREE SUBSTRATE . . . : | 0.39 | (%) | AIR/WATER TEMP. RATIO: | | 0.96 |
| EMBEDDEDNESS OF TYPE THREE : | 57.58 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 65.60 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 39.8 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Esox lucius | 7.9 | 0.0 |
| Lepomis gibbosus | 125.9 | 0.0 |
| Ambloplites rupestris | 173.2 | 50.9 |
| Lepomis auritus | 1149.2 | 296.7 |
| Anguilla rostrata | 204.6 | 28.2 |
| Semotilus corporalis | 1078.3 | 46.4 |
| Luxilus cornutus | 86.6 | 0.0 |
| Esox niger | 70.8 | 0.0 |
| Lepomis macrochirus | 928.8 | 188.2 |
| Micropterus salmoides | 23.6 | 0.0 |
| Rhinichthys cataractae | 63.0 | 18.4 |
| Perca flavescens | 31.5 | 0.0 |
| Micropterus dolomieu | 196.8 | 41.4 |
| Etheostoma olmstedi | 574.6 | 73.1 |
| Catostomus commersoni | 519.5 | 55.1 |

STREAM NAME : **NATCHAUG RIVER** SITE #: **6096**

SITE DESCRIPTION: 200 M DOWNSTREAM OF RTE. 6, NEW CHANNEL (ARMY CORPS FLOOD CONTROL CHANNELIZATION, PARALLEL TO SITE 6095).

TOWN: MANSFIELD

SAMPLE LENGTH : 200. SAMPLE DATE: 07/18/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 7.5 | 0.06 |
| WATER TEMP. . . | :24.00 (C) | pH . . . . . : | 7.8 | 0.15 |
| VELOCITY. . . . | : 0.0642(m/s) | COND . . . . . (uS/cm3). . : | 91.7 | 0.6 |
| DISCHARGE . . . | : 0.8464(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 15.7 | 0.57 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 23.13 | 1.41 | (m) | | |
| DEPTH. . . . . : | 52.40 | 33.12 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | POOL/RIFFLE RATIO . .: | 2000.00 | |
| TYPE THREE SUBSTRATE . . . : | 0.82 | (%) | AIR/WATER TEMP. RATIO: | 0.92 | |
| EMBEDDEDNESS OF TYPE THREE : | 42.69 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 0.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 2770.1 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Lepomis gibbosus | 287.5 | 67.8 |
| Notemigonus crysoleucas | 67.0 | 14.4 |
| Micropterus salmoides | 45.4 | 4.5 |
| Esox lucius | 4.3 | 0.0 |
| Lepomis macrochirus | 430.4 | MINIMAL ESTIMATE |
| Luxilus cornutus | 10.8 | 0.0 |
| Semotilus corporalis | 58.4 | 2.6 |
| Ameiurus natalis | 30.3 | 0.0 |
| Perca flavescens | 164.3 | 6.1 |
| Etheostoma olmstedi | 21.6 | 0.0 |
| Catostomus commersoni | 82.1 | 5.7 |
| Pomoxis nigromaculatus | 4.3 | 0.0 |
| Ameiurus nebulosus | 2.2 | 0.0 |
| Ambloplites rupestris | 84.3 | 28.3 |
| Lepomis auritus | 13.0 | 3.0 |
| Micropterus dolomieu | 51.9 | 15.7 |
| Notropis hudsonius | 4.3 | 0.0 |
| Anguilla rostrata | 45.4 | 2.7 |
| Esox niger | 25.9 | 2.9 |
| Cyprinus carpio | 110.2 | 5.3 |

STREAM NAME : **TENMILE RIVER** SITE #: 6097

SITE DESCRIPTION: UPSTREAM OF COOKS HILL RD.

TOWN: COLUMBIA/LEBANON

SAMPLE LENGTH : 150. SAMPLE DATE: 08/01/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :25.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.8 | 0.06 |
| WATER TEMP. . . | :23.00 (C) | pH . . . . . : | 7.7 | 0.06 |
| VELOCITY. . . . | : 0.1553(m/s) | COND . . . . . (uS/cm3). . : | 143.0 | 1.7 |
| DISCHARGE . . . | : 1.7622(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 41.3 | 0.64 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 6.75 | 3.12 | (m) | | |
| DEPTH. . . . . : | 14.18 | 15.22 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 6 | | POOL/RIFFLE RATIO . .: | | 1.05 |
| TYPE THREE SUBSTRATE . . . : | 0.08 | (%) | AIR/WATER TEMP. RATIO: | | 1.09 |
| EMBEDDEDNESS OF TYPE THREE : | 11.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 79.20 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 40.4 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Lepomis auritus | | 9.9 | 0.0 |
| Ameiurus nebulosus | | 2804.9 | 240.9 |
| Semotilus corporalis | | 98.8 | MINIMAL ESTIMATE |
| juvenile cyprinid | | 9.9 | 0.0 |
| Salvelinus fontinalis | WILD | 9.9 | 0.0 |
| Notemigonus crysoleucas | | 533.3 | 0.0 |
| Catostomus commersoni | | 404.9 | 25.0 |
| Rhinichthys atratulus | | 187.7 | 0.0 |
| Luxilus cornutus | | 1195.1 | 201.7 |
| Micropterus dolomieu | | | |

STREAM NAME : **WILLIMANTIC RIVER** SITE #: **6098**

SITE DESCRIPTION: 300 M UPSTREAM OF CONFLUENCE WITH NATCHAUG RIVER IN WILLIMANTIC TOWN PARK.

TOWN: WINDHAM

SAMPLE LENGTH : 200. SAMPLE DATE: 07/25/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :29.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.4 | 0.26 |
| WATER TEMP. . . | :26.00 (C) | pH . . . . . : | 8.2 | 0.36 |
| VELOCITY. . . . | : 0.2347(m/s) | COND . . . . . (uS/cm3). . : | 142.0 | 0.0 |
| DISCHARGE . . . | : 2.5956(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 17.1 | 0.40 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 30.05 | 6.96 | (m) | | |
| DEPTH. . . . . : | 76.43 | 99.66 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | | POOL/RIFFLE RATIO . .: | 0.90 |
| TYPE THREE SUBSTRATE . . . : | 0.04 | (%) | | AIR/WATER TEMP. RATIO: | 1.12 |
| EMBEDDEDNESS OF TYPE THREE : | 57.50 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 0.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 1302.9 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Lepomis macrochirus | | |
| Perca flavescens | | |
| Micropterus dolomieu | | |
| Lepomis gibbosus | | |
| Luxilus cornutus | | |
| Semotilus corporalis | | |
| Rhinichthys cataractae | | |
| Notropis hudsonius | | |
| Etheostoma olmstedi | | |
| Ambloplites rupestris | | |
| Pomoxis nigromaculatus | | |
| Catostomus commersoni | | |
| Lepomis auritus | | |
| Anguilla rostrata | | |

STREAM NAME : **ELDREDGE BROOK** SITE #: 6099

SITE DESCRIPTION: UPSTREAM OF ELDREDGE RD.

TOWN: WILLINGTON

SAMPLE LENGTH : 50. SAMPLE DATE: 07/05/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | 21.00 (C) | DISSOLVED OXYGEN (mg/l). . | 10.1 | 0.12 |
| WATER TEMP. . . | 16.00 (C) | pH . . . . . | 6.9 | |
| VELOCITY. . . . | 0.0926(m/s) | COND . . . . . (uS/cm3). . | 90.7 | 0.6 |
| DISCHARGE . . . | 0.2049(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 13.6 | 0.55 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . | 3.75 | | 1.00 | (m) |
| DEPTH. . . . . | 6.03 | | 4.39 | (cm) |
| DOMINANT SUBSTRATE TYPE. . | 4 | | POOL/RIFFLE RATIO . .: | 0.43 |
| TYPE THREE SUBSTRATE . . . | 0.25 | (%) | AIR/WATER TEMP. RATIO: | 1.31 |
| EMBEDDEDNESS OF TYPE THREE | 6.25 | (%) | | |
| OVERHEAD CANOPY. . . . . | 100.00 | (%) | | |
| INSTREAM SHELTER . . . . . | 0.0 | (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salmo trutta | WILD | 213.3 | 0.0 |
| Catostomus commersoni | | 1546.7 | 0.0 |
| Perca flavescens | | 186.7 | 0.0 |
| Salmo trutta | STOCKED | 26.7 | 0.0 |
| Salvelinus fontinalis | STOCKED | | |
| Salvelinus fontinalis | WILD | 2133.3 | 60.4 |
| Rhinichthys atratulus | | 4426.7 | 55.4 |
| Lepomis macrochirus | | 346.7 | 0.0 |
| Etheostoma olmstedi | | 53.3 | 0.0 |
| Semotilus corporalis | | 80.0 | 0.0 |
| Notemigonus crysoleucas | | 186.7 | 0.0 |
| Lepomis gibbosus | | 346.7 | 0.0 |

STREAM NAME : KNOWLTON BROOK SITE #: 6100

SITE DESCRIPTION: UPSTREAM OF LAWRENCE CUSHMAN RD.

TOWN: ASHFORD

SAMPLE LENGTH : 150. SAMPLE DATE: 06/30/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :23.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | 8.6 | 0.21 |
| WATER TEMP. . . :19.00 | (C) | pH . . . . . : | 7.3 | 0.06 |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | 72.3 | 1.5 |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 16.6 | 0.68 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 5.72 | 1.80 | (m) | | |
| DEPTH. . . . . : | 16.48 | 13.24 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 6 | | | POOL/RIFFLE RATIO . .: | 0.74 |
| TYPE THREE SUBSTRATE . . . : | 0.06 | (%) | | AIR/WATER TEMP. RATIO: | 1.21 |
| EMBEDDEDNESS OF TYPE THREE : | 3.33 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 95.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 47.1 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salvelinus fontinalis | WILD | 244.8 | 0.0 |
| Lepomis cyanellus | | 23.3 | 0.0 |
| Micropterus salmoides | | 163.2 | 0.0 |
| Lepomis macrochirus | | 11.7 | 0.0 |
| Lepomis auritus | | 23.3 | 0.0 |
| Rhinichthys atratulus | | 2424.2 | 28.6 |
| Salmo trutta | WILD | 81.6 | 0.0 |
| Luxilus cornutus | | 174.8 | 14.9 |
| Semotilus corporalis | | 477.9 | 29.5 |
| Catostomus commersoni | | 314.7 | 23.5 |
| Perca flavescens | | 11.7 | 0.0 |
| Lepomis gibbosus | | 11.7 | 0.0 |

STREAM NAME : **MOUNT HOPE RIVER** SITE #: **6101**

SITE DESCRIPTION: UPSTREAM OF RTE. 89.

TOWN: ASHFORD

SAMPLE LENGTH : 150. SAMPLE DATE: 06/15/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | 24.00 (C) | DISSOLVED OXYGEN (mg/l). . | 9.1 | 0.06 |
| WATER TEMP. . . | 21.00 (C) | pH . . . . . | 7.4 | 0.00 |
| VELOCITY. . . . | 0.2950(m/s) | COND . . . . . (uS/cm3). . | 91.7 | 1.2 |
| DISCHARGE . . . | 0.5414(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 11.1 | 1.06 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | 6.79 | 0.77 | (m) | | |
| DEPTH. . . . . | 25.38 | 15.04 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | 5 | | POOL/RIFFLE RATIO . .: | | 0.32 |
| TYPE THREE SUBSTRATE . . . | 0.03 | (%) | AIR/WATER TEMP. RATIO: | | 1.14 |
| EMBEDDEDNESS OF TYPE THREE | 90.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . | 89.60 | (%) | | | |
| INSTREAM SHELTER . . . . . | 45.6 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Esox niger | | 9.1 | 0.0 |
| Rhinichthys atratulus | | 318.2 | 24.1 |
| Salmo trutta | STOCKED | 9.1 | 0.0 |
| Anguilla rostrata | | 9.1 | 0.0 |
| Salvelinus fontinalis | WILD | 90.9 | 0.0 |
| Catostomus commersoni | | 54.5 | 0.0 |
| Perca flavescens | | 18.2 | 0.0 |
| Salmo trutta | WILD | 145.5 | 0.0 |
| Lepomis gibbosus | | 9.1 | 0.0 |
| Luxilus cornutus | | 163.6 | 44.1 |
| Semotilus corporalis | | 209.1 | 0.0 |
| Notemigonus crysoleucas | | 9.1 | 0.0 |

STREAM NAME : **FIVEMILE RIVER** SITE #: **6102**

SITE DESCRIPTION: DOWNSTREAM OF RTE. 44.

TOWN: PUTNAM

SAMPLE LENGTH : 150. SAMPLE DATE: 08/30/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :21.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 7.4 | 0.06 |
| WATER TEMP. . . | :20.00 (C) | pH . . . . . : | | |
| VELOCITY. . . . | : 0.2338(m/s) | COND . . . . . (uS/cm3). . : | 57.7 | 2.5 |
| DISCHARGE . . . | : 0.4940(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 5.2 | 0.55 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | : 10.10 | 1.54 | (m) | | |
| DEPTH. . . . . | : 21.08 | 17.27 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | : 3 | | POOL/RIFFLE RATIO . .: | | 1.83 |
| TYPE THREE SUBSTRATE . . . | : 0.46 | (%) | AIR/WATER TEMP. RATIO: | | 1.05 |
| EMBEDDEDNESS OF TYPE THREE | : 23.24 | (%) | | | |
| OVERHEAD CANOPY. . . . . | : 62.50 | (%) | | | |
| INSTREAM SHELTER . . . . . | : 225.7 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Notemigonus crysoleucas | | 165.0 | 0.0 |
| Esox niger | | 79.2 | 0.0 |
| Luxilus cornutus | | 2099.0 | 24.0 |
| Semotilus corporalis | | 409.2 | 26.8 |
| Ameiurus nebulosus | | 13.2 | 0.0 |
| Lepomis macrochirus | | 132.0 | 14.1 |
| Salmo trutta | STOCKED | 13.2 | 0.0 |
| juvenile centrarchid | | 6.6 | 0.0 |
| Erimyzon oblongus | | 6.6 | 0.0 |
| Etheostoma olmstedi | | 79.2 | 0.0 |
| Catostomus commersoni | | 85.8 | 0.0 |
| Anguilla rostrata | | 39.6 | 0.0 |
| Perca flavescens | | 19.8 | 0.0 |
| hybrid sunfish | | 6.6 | 0.0 |
| Micropterus salmoides | | 59.4 | 8.9 |
| Lepomis gibbosus | | 33.0 | 0.0 |
| Lepomis auritus | | 323.4 | 25.0 |
| Ameiurus natalis | | 33.0 | 0.0 |

STREAM NAME : **QUINEBAUG RIVER** SITE #: **6104**

SITE DESCRIPTION: 250 M BELOW END OF SEWAGE TREATMENT PLANT ACCESS RD., PARALLEL TO RTE. I-395 (RELOCATED CHANNEL AREA).

TOWN: PUTNAM

SAMPLE LENGTH : 242. SAMPLE DATE: 08/03/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :28.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 7.6 | 0.15 |
| WATER TEMP. . . | :27.00 (C) | pH . . . . . : | 7.1 | 0.06 |
| VELOCITY. . . . | : 0.2336(m/s) | COND . . . . . (uS/cm3). . : | 240.7 | 4.2 |
| DISCHARGE . . . | : 2.1093(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 38.4 | 0.90 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 35.09 | 5.71 | (m) | | |
| DEPTH. . . . . : | 23.95 | 19.30 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | POOL/RIFFLE RATIO . .: | | 1.85 |
| TYPE THREE SUBSTRATE . . . : | 0.79 | (%) | AIR/WATER TEMP. RATIO: | | 1.04 |
| EMBEDDEDNESS OF TYPE THREE : | 27.53 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 20.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 457.2 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Esox niger | 44.2 | 9.4 |
| Rhinichthys atratulus | 108.0 | MINIMAL ESTIMATE |
| Semotilus corporalis | 847.8 | 62.8 |
| juvenile centrarchid | 1.4 | 0.0 |
| Etheostoma olmstedi | 372.1 | MINIMAL ESTIMATE |
| Catostomus commersoni | 2746.1 | MINIMAL ESTIMATE |
| Ameiurus natalis | 194.2 | MINIMAL ESTIAMTE |
| Perca flavescens | 216.6 | 12.0 |
| Lepomis auritus | 1228.2 | MINIMAL ESTIMATE |
| Luxilus cornutus | 122.5 | 3.2 |
| Micropterus dolomieu | 213.7 | MINIMAL ESTIMATE |
| Notemigonus crysoleucas | 73.1 | MINIMAL ESTIMATE |
| Fundulus diaphanus | 7.1 | 0.0 |
| Rhinichthys cataractae | 694.8 | MINIMAL ESTIMATE |
| Micropterus salmoides | 183.8 | 9.0 |
| Lepomis gibbosus | 5.7 | 0.0 |
| Ambloplites rupestris | 1.4 | 0.0 |
| Anguilla rostrata | 17.1 | 1.9 |
| Cyprinus carpio | 1.4 | 0.0 |
| Notropis hudsonius | 4167.9 | 63.2 |
| Lepomis macrochirus | 31.3 | 4.0 |

STREAM NAME : **BLACKWELL BROOK** SITE #: **6105**

SITE DESCRIPTION: 500 M DOWNSTREAM OF WAUREGAN RD.

TOWN: BROOKLYN

SAMPLE LENGTH : 150. SAMPLE DATE: 08/09/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :23.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.5 | 0.21 |
| WATER TEMP. . . | :17.00 (C) | pH . . . . . : | 7.4 | 0.00 |
| VELOCITY. . . . | : 0.1566(m/s) | COND . . . . . (uS/cm3). . : | 117.7 | 3.5 |
| DISCHARGE . . . | : 0.1638(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 25.8 | 0.21 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 10.36 | 1.65 | (m) | | |
| DEPTH. . . . . : | 18.48 | 15.89 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 0.90 |
| TYPE THREE SUBSTRATE . . . : | 0.07 | (%) | AIR/WATER TEMP. RATIO: | | 1.35 |
| EMBEDDEDNESS OF TYPE THREE : | 40.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 95.80 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 95.4 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Anguilla rostrata | | 38.6 | 0.0 |
| Rhinichthys atratulus | | 1248.4 | 23.1 |
| Perca flavescens | | 51.5 | 0.0 |
| Rhinichthys cataractae | | 991.0 | 209.8 |
| Salvelinus fontinalis | WILD | 12.9 | 0.0 |
| Micropterus salmoides | | 12.9 | 0.0 |
| Salmo trutta | STOCKED | 109.4 | 0.0 |
| Esox niger | | 6.4 | 0.0 |
| Luxilus cornutus | | 785.1 | 88.2 |
| Semotilus corporalis | | 205.9 | 0.0 |
| Lepomis cyanellus | | 32.2 | 0.0 |
| hybrid sunfish | | 6.4 | 0.0 |
| Catostomus commersoni | | 534.1 | 24.3 |
| Ameiurus natalis | | 25.7 | 0.0 |
| Lepomis auritus | | 38.6 | 0.0 |
| Etheostoma olmstedi | | 186.6 | 43.5 |

STREAM NAME : **CEDAR SWAMP BROOK** SITE #: **6106**

SITE DESCRIPTION: 200 M DOWNSTREAM OF CONFLUENCE WITH NELSON BROOK
(ACCESS BY TRAIL FROM END OF CARRIAGE HOUSE RD.).

TOWN: COVENTRY

SAMPLE LENGTH : 150. SAMPLE DATE: 06/29/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :24.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.0 | 0.06 |
| WATER TEMP. . . | :21.00 (C) | pH . . . . . : | 7.2 | 0.06 |
| VELOCITY. . . . | : 0.1623(m/s) | COND . . . . . (uS/cm3). . : | 109.3 | 2.3 |
| DISCHARGE . . . | : 1.1172(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 16.4 | 0.20 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 7.07 | 2.71 | (m) | | |
| DEPTH. . . . . : | 10.18 | 8.47 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | POOL/RIFFLE RATIO . .: | | 1.38 |
| TYPE THREE SUBSTRATE . . . : | 0.33 | (%) | AIR/WATER TEMP. RATIO: | | 1.14 |
| EMBEDDEDNESS OF TYPE THREE : | 66.90 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 95.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 9.2 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Lepomis macrochirus | 103.7 | 0.0 |
| Rhinichthys atratulus | 226.3 | 11.7 |
| Lepomis cyanellus | 47.1 | 0.0 |
| Notemigonus crysoleucas | 47.1 | 0.0 |
| Salvelinus fontinalis | 28.3 | 0.0 |
| Catostomus commersoni | 1565.3 | 52.3 |
| juvenile centrarchid | 9.4 | 0.0 |
| Esox niger | 37.7 | 0.0 |
| Luxilus cornutus | 9.4 | 0.0 |
| Semotilus corporalis | 1904.8 | 50.1 |
| Perca flavescens | 9.4 | 0.0 |
| Lepomis gibbosus | 1254.1 | 32.3 |

STREAM NAME : **STONEHOUSE BROOK** SITE #: **6107**

SITE DESCRIPTION: DOWNSTREAM OF BEDLAM RD.

TOWN: CHAPLIN

SAMPLE LENGTH : 153. SAMPLE DATE: 06/28/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | 24.00 (C) | DISSOLVED OXYGEN (mg/l). . | 7.0 | 0.06 |
| WATER TEMP. . . | 22.00 (C) | pH . . . . . | 6.8 | 0.00 |
| VELOCITY. . . . | 0.0241(m/s) | COND . . . . . (uS/cm3). . | 82.0 | 0.0 |
| DISCHARGE . . . | 0.0437(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 14.5 | 0.78 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | 6.53 | 0.95 | (m) | | |
| DEPTH. . . . . | 52.10 | 34.07 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | 1 | | POOL/RIFFLE RATIO . .: | 2000.00 | |
| TYPE THREE SUBSTRATE . . . | 0.18 | (%) | AIR/WATER TEMP. RATIO: | 1.09 | |
| EMBEDDEDNESS OF TYPE THREE | 66.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . | 68.80 | (%) | | | |
| INSTREAM SHELTER . . . . . | 473.8 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Perca flavescens | | | |
| Catostomus commersoni | | | |
| Esox niger | | | |
| Salvelinus fontinalis | WILD | | |
| Semotilus corporalis | | | |

STREAM NAME : **QUANDOCK BROOK** SITE #: **6108**

SITE DESCRIPTION: UPSTREAM OF RTE. 12.

TOWN: KILLINGLY

SAMPLE LENGTH : 103. SAMPLE DATE: 08/24/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :27.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.3 | 0.06 |
| WATER TEMP. . . | :20.00 (C) | pH . . . . . : | | |
| VELOCITY. . . . | : 0.1163(m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . | : 0.0701(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 28.6 | 1.01 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 3.21 | 0.50 | (m) | | |
| DEPTH. . . . . : | 12.35 | 10.42 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 0.28 | |
| TYPE THREE SUBSTRATE . . . : | 0.19 | (%) | AIR/WATER TEMP. RATIO: | 1.35 | |
| EMBEDDEDNESS OF TYPE THREE : | 12.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 6.7 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Anguilla rostrata | 30.2 | |
| Salvelinus fontinalis | 302.5 | |
| Micropterus salmoides | 30.2 | |
| Esox niger | 60.5 | |
| Enneacanthus obesus | 30.2 | |
| Etheostoma olmstedi | 60.5 | |
| Semotilus corporalis | 30.2 | |

STREAM NAME : **STICKNEY HILL BROOK** SITE #: **6109**

SITE DESCRIPTION: 500 M ABOVE CONFLUENCE WITH ROARING BROOK, 50 M UPSTREAM OF BROWN RD.

TOWN: UNION

SAMPLE LENGTH : 100. SAMPLE DATE: 08/24/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :18.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 10.1 | 0.25 |
| WATER TEMP. . . | :17.00 (C) | pH . . . . . : | 6.5 | 0.00 |
| VELOCITY. . . . | : 0.2727(m/s) | COND . . . . . (uS/cm3). . : | 49.0 | 0.0 |
| DISCHARGE . . . | : 2.4556(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 6.0 | 0.38 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 4.35 | 1.84 | (m) |
| DEPTH. . . . . : | 19.52 | 13.31 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 5 | POOL/RIFFLE RATIO . .: | 0.89 |
| TYPE THREE SUBSTRATE . . . : | 0.03 (%) | AIR/WATER TEMP. RATIO: | 1.06 |
| EMBEDDEDNESS OF TYPE THREE : | 30.00 (%) | | |
| OVERHEAD CANOPY. . . . . : | 98.90 (%) | | |
| INSTREAM SHELTER . . . . . : | 18.1 (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys atratulus | | 2919.5 | |
| Salvelinus fontinalis | WILD | 712.6 | |
| Catostomus commersoni | | 183.9 | |

STREAM NAME : **RUBY BROOK** SITE #: **6110**

SITE DESCRIPTION: 100 M UPSTREAM OF SOUTHERN MOST RUBY RD.CROSSING.

TOWN: WILLINGTON

SAMPLE LENGTH : 100. SAMPLE DATE: 06/15/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :25.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 7.8 | |
| WATER TEMP. . . | :23.00 (C) | pH . . . . . : | 7.1 | 0.00 |
| VELOCITY. . . . | : 0.3655(m/s) | COND . . . . . (uS/cm3). . :177.0 | | 2.6 |
| DISCHARGE . . . | : 2.2488(m3/s) | ALKALINITY .(mg CaCO3 eq/l): 29.1 | | 0.61 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 4.06 | 0.62 | (m) |
| DEPTH. . . . . : | 15.25 | 6.43 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | POOL/RIFFLE RATIO . .: | 0.35 |
| TYPE THREE SUBSTRATE . . . : | 0.11 (%) | AIR/WATER TEMP. RATIO: | 1.09 |
| EMBEDDEDNESS OF TYPE THREE : | 12.50 (%) | | |
| OVERHEAD CANOPY. . . . . : | 100.00 (%) | | |
| INSTREAM SHELTER . . . . . : | 3.5 (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salvelinus fontinalis | WILD | | |
| Notemigonus crysoleucas | | | |

STREAM NAME : METCALF BROOK SITE #: 6111

SITE DESCRIPTION: 100 M UPSTREAM OF WEIGOLD RD.

TOWN: TOLLAND

SAMPLE LENGTH : 100. SAMPLE DATE: 06/30/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :23.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.3 | 0.06 |
| WATER TEMP. . . | :21.00 (C) | pH . . . . . : | 7.2 | 0.15 |
| VELOCITY. . . . | : 0.3353(m/s) | COND . . . . . (uS/cm3). . : | 165.0 | 0.0 |
| DISCHARGE . . . | : 2.4408(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 12.0 | 0.55 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 4.82 | | 1.43 | (m) |
| DEPTH. . . . . : | 15.35 | | 7.83 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 0.33 |
| TYPE THREE SUBSTRATE . . . : | 0.02 | (%) | AIR/WATER TEMP. RATIO: | 1.10 |
| EMBEDDEDNESS OF TYPE THREE : | 0.00 | (%) | | |
| OVERHEAD CANOPY. . . . . : | 92.70 | (%) | | |
| INSTREAM SHELTER . . . . . : | 1.5 | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Micropterus salmoides | 269.7 | 82.6 |
| Ameiurus nebulosus | 83.0 | 0.0 |
| Semotilus corporalis | 103.7 | 0.0 |
| Esox niger | 41.5 | 0.0 |
| Catostomus commersoni | 249.0 | 0.0 |
| Lepomis gibbosus | 954.4 | 51.3 |
| Notemigonus crysoleucas | 373.4 | 0.0 |

STREAM NAME : **FISHERS BROOK** SITE #: **6113**

SITE DESCRIPTION: UPSTREAM OF CONFLUENCE WITH PENTON RIVER.

TOWN: MANSFIELD

SAMPLE LENGTH : 50. SAMPLE DATE: 06/30/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :23.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.9 | 0.26 |
| WATER TEMP. . . | :21.00 (C) | pH . . . . . : | 7.0 | 0.12 |
| VELOCITY. . . . | : 0.1852(m/s) | COND . . . . . (uS/cm3). . : | 93.0 | 9.5 |
| DISCHARGE . . . | : 0.6193(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 17.8 | 0.32 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 4.00 | 0.80 | (m) | | |
| DEPTH. . . . . : | 8.45 | 4.27 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 0.19 | |
| TYPE THREE SUBSTRATE . . . : | 0.06 | (%) | AIR/WATER TEMP. RATIO: | 1.10 | |
| EMBEDDEDNESS OF TYPE THREE : | 0.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.0 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Lepomis macrochirus | | 50.0 | 0.0 |
| Etheostoma olmstedi | | 50.0 | 0.0 |
| Salmo trutta | WILD | 250.0 | 0.0 |
| Catostomus commersoni | | 550.0 | 0.0 |
| Semotilus corporalis | | 250.0 | 0.0 |
| Rhinichthys atratulus | | 7600.0 | 186.8 |

STREAM NAME : **PEAKE BROOK** SITE #: **6114**

SITE DESCRIPTION: UPSTREAM OF PEAKE BROOK ROAD.

TOWN: WOODSTOCK

SAMPLE LENGTH : 112. SAMPLE DATE: 06/27/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :24.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.8 | 0.06 |
| WATER TEMP. . . | :17.00 (C) | pH . . . . . : | 7.3 | 0.12 |
| VELOCITY. . . . | : 0.0538(m/s) | COND . . . . . (uS/cm3). . : | 123.3 | 2.1 |
| DISCHARGE . . . | : 0.0094(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 24.3 | 0.76 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | 3.11 | 0.77 | (m) | | |
| DEPTH. . . . . | 13.35 | 12.72 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | POOL/RIFFLE RATIO . .: | | 3.58 |
| TYPE THREE SUBSTRATE . . . : | 0.54 | (%) | AIR/WATER TEMP. RATIO: | | 1.41 |
| EMBEDDEDNESS OF TYPE THREE : | 39.23 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 97.50 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 19.6 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Notemigonus crysoleucas | 58.5 | 0.0 |
| Etheostoma olmstedi | 1344.6 | 602.8 |
| Salvelinus fontinalis | 496.9 | 0.0 |
| Anguilla rostrata | | |
| Lepomis macrochirus | 29.2 | 0.0 |
| Lepomis gibbosus | 146.2 | 0.0 |
| Catostomus commersoni | 818.5 | 0.0 |
| Rhinichthys atratulus | 6226.3 | 172.8 |
| Lepomis auritus | 87.7 | 0.0 |

STREAM NAME : CEMETERY BROOK SITE #: 6115

SITE DESCRIPTION: DOWNSTREAM OF CHASE HILL RD.

TOWN: POMFRET

SAMPLE LENGTH : 50. SAMPLE DATE: 06/23/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :25.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 9.3 | 0.15 |
| WATER TEMP. . . :18.00 (C) | | pH . . . . . : | 6.5 | 0.06 |
| VELOCITY. . . . : 0.0238(m/s) | | COND . . . . . (uS/cm3). . : | 48.7 | 1.2 |
| DISCHARGE . . . : 0.0161(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 3.0 | 0.21 |
| | MEAN | STD | | |
| WIDTH. . . . . : | 1.12 | 0.52 (m) | | |
| DEPTH. . . . . : | 6.05 | 4.53 (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 6 | POOL/RIFFLE RATIO . .: | 2.57 | |
| TYPE THREE SUBSTRATE . . . : | 0.10 (%) | AIR/WATER TEMP. RATIO: | 1.39 | |
| EMBEDDEDNESS OF TYPE THREE : | 0.00 (%) | | | |
| OVERHEAD CANOPY. . . . . : | 93.80 (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.4 (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 23928.6 | 0.0 |

STREAM NAME : HEMLOCK BROOK SITE #: 6116

SITE DESCRIPTION: UPSTREAM OF WRIGHTS MILL RD.

TOWN: COVENTRY

SAMPLE LENGTH : 50. SAMPLE DATE: 06/20/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :22.00 (C) | | DISSOLVED OXYGEN (mg/l). . : | 8.9 | 0.12 |
| WATER TEMP. . . :18.00 (C) | | pH . . . . . : | 7.0 | 0.00 |
| VELOCITY. . . . : 0.0385(m/s) | | COND . . . . . (uS/cm3). . : | 53.7 | 4.0 |
| DISCHARGE . . . : 0.0268(m3/s) | | ALKALINITY .(mg CaCO3 eq/l): | 10.2 | 0.30 |
| | MEAN | STD | | |
| WIDTH. . . . . : | 2.09 | 0.68 (m) | | |
| DEPTH. . . . . : | 3.45 | 2.87 (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | POOL/RIFFLE RATIO . .: | 0.47 | |
| TYPE THREE SUBSTRATE . . . : | 0.31 (%) | AIR/WATER TEMP. RATIO: | 1.22 | |
| EMBEDDEDNESS OF TYPE THREE : | 38.00 (%) | | | |
| OVERHEAD CANOPY. . . . . : | 97.50 (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.0 (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salmo trutta WILD | | |
| Semotilus atromaculatus | | |

STREAM NAME : **FENTON RIVER TRIB.** SITE #: **6117**

SITE DESCRIPTION: DOWNSTREAM OF HANKS HILL RD.

TOWN: MANSFIELD

SAMPLE LENGTH : 50. SAMPLE DATE: 06/21/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :20.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.0 | 0.21 |
| WATER TEMP. . . | :17.00 (C) | pH . . . . . : | 7.3 | 0.06 |
| VELOCITY. . . . | : 0.0400(m/s) | COND . . . . . (uS/cm3). . : | 121.0 | 1.0 |
| DISCHARGE . . . | : 0.0267(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 20.4 | 0.55 |

| | MEAN | STD | | |
|---|---|---|---|---|
| WIDTH. . . . . : | 1.78 | 1.14 | (m) | |
| DEPTH. . . . . : | 3.35 | 2.99 | (cm) | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 0.22 |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | AIR/WATER TEMP. RATIO: | 1.18 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | |
| INSTREAM SHELTER . . . . . : | 0.1 | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | | |

STREAM NAME : **FENTON RIVER TRIB.** SITE #: **6118**

SITE DESCRIPTION: DOWNSTREAM OF WILDWOOD RD.

TOWN: MANSFIELD

SAMPLE LENGTH : 50. SAMPLE DATE: 07/05/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 7.1 | 0.06 |
| WATER TEMP. . . | :17.00 (C) | pH . . . . . : | 9.0 | 0.00 |
| VELOCITY. . . . | : 0.0482(m/s) | COND . . . . . (uS/cm3). . : | 93.3 | 1.5 |
| DISCHARGE . . . | : 0.0389(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 19.2 | 0.36 |

| | MEAN | STD | | |
|---|---|---|---|---|
| WIDTH. . . . . : | 1.66 | 0.34 | (m) | |
| DEPTH. . . . . : | 4.78 | 3.19 | (cm) | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 0.39 |
| TYPE THREE SUBSTRATE . . . : | 0.18 | (%) | AIR/WATER TEMP. RATIO: | 1.29 |
| EMBEDDEDNESS OF TYPE THREE : | 0.00 | (%) | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | |
| INSTREAM SHELTER . . . . . : | 0.0 | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 3012.0 | 0.0 |
| Rhinichthys atratulus | 2048.2 | |

STREAM NAME : QUINEBAUG RIVER TRIB. SITE #: 6119
SITE DESCRIPTION: DOWNSTREAM OF RTE. 169.

TOWN: CANTERBURY
SAMPLE LENGTH : 50. SAMPLE DATE: 08/16/94

| PHYSICAL | | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|---|
| AIR TEMP. . . . | 21.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | 9.1 | 0.25 |
| WATER TEMP. . . | | (C) | pH . . . . . : | 6.7 | 0.15 |
| VELOCITY. . . . | | (m/s) | COND . . . . . (uS/cm3). . : | 86.3 | 2.9 |
| DISCHARGE . . . | | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 15.5 | 1.11 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | 0.81 | 0.58 | (m) | | |
| DEPTH. . . . . | 1.38 | 1.46 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | 4 | | POOL/RIFFLE RATIO . .: | | 0.68 |
| TYPE THREE SUBSTRATE . . . | 0.27 | (%) | AIR/WATER TEMP. RATIO: | | |
| EMBEDDEDNESS OF TYPE THREE | 60.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . | 97.90 | (%) | | | |
| INSTREAM SHELTER . . . . . | 0.0 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| No fish present | | |

STREAM NAME : BENNETT BROOK SITE #: 6120
SITE DESCRIPTION: UPSTREAM OF BUNTZ RD.

TOWN: CANTERBURY
SAMPLE LENGTH : 50. SAMPLE DATE: 08/09/94

| PHYSICAL | | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|---|
| AIR TEMP. . . . | 27.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | 8.3 | 0.06 |
| WATER TEMP. . . | 17.00 | (C) | pH . . . . . : | | |
| VELOCITY. . . . | 0.0129 | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . | 0.0010 | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 4.5 | 0.06 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | 1.39 | 0.53 | (m) | | |
| DEPTH. . . . . | 4.82 | 5.30 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | 4 | | POOL/RIFFLE RATIO . .: | | 0.92 |
| TYPE THREE SUBSTRATE . . . | 0.27 | (%) | AIR/WATER TEMP. RATIO: | | 1.59 |
| EMBEDDEDNESS OF TYPE THREE | 1.66 | (%) | | | |
| OVERHEAD CANOPY. . . . . | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . | 0.3 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | | |
| Ameiurus nebulosus | | |
| Anguilla rostrata | | |

STREAM NAME : **NATCHAUG RIVER TRIB.** SITE #: **6121**

SITE DESCRIPTION: DOWNSTREAM OF NORTH BEAR HILL RD.

TOWN: CHAPLIN

SAMPLE LENGTH : 50. SAMPLE DATE: 06/27/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :25.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 7.5 | 0.06 |
| WATER TEMP. . . | :23.00 (C) | pH . . . . . : | 6.9 | 0.06 |
| VELOCITY. . . . | : 0.0589(m/s) | COND . . . . . (uS/cm3). . : | 62.0 | 1.7 |
| DISCHARGE . . . | : 0.0472(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 8.1 | 0.45 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 1.89 | 0.55 | (m) | | |
| DEPTH. . . . . : | 4.15 | 3.63 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 0.43 |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | AIR/WATER TEMP. RATIO: | | 1.09 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.0 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Esox niger | 16825.4 | |

STREAM NAME : **ELLIS BROOK** SITE #: **6122**

SITE DESCRIPTION: UPSTREAM OF DEEPWOODS CIRLCE IN SUN VALLEY CAMPGROUND.

TOWN: STAFFORD

SAMPLE LENGTH : 100. SAMPLE DATE: 07/21/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :27.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.4 | 0.06 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 7.2 | 0.06 |
| VELOCITY. . . . | : 0.0879(m/s) | COND . . . . . (uS/cm3). . : | 56.0 | 1.7 |
| DISCHARGE . . . | : 0.4868(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 9.9 | 0.17 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 4.19 | 1.15 | (m) | | |
| DEPTH. . . . . : | 12.95 | 14.16 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 2 | | POOL/RIFFLE RATIO . .: | | 1.50 |
| TYPE THREE SUBSTRATE . . . : | 0.19 | (%) | AIR/WATER TEMP. RATIO: | | 1.42 |
| EMBEDDEDNESS OF TYPE THREE : | 92.86 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 10.1 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Semotilus corporalis | 23.9 | 0.0 |
| Lepomis gibbosus | 358.3 | MINIMAL ESTIMATE |
| Catostomus commersoni | 1312.6 | 43.1 |
| Salvelinus fontinalis | 1264.9 | 132.4 |
| Rhinichthys atratulus | 3198.1 | 72.2 |
| Esox niger | 23.9 | 0.0 |

STREAM NAME : **PATTEN BROOK** SITE #: **6123**

SITE DESCRIPTION: SOUTH OF ACCESS ROAD OFF STAFFORD RD.

TOWN: STAFFORD

SAMPLE LENGTH : 50. SAMPLE DATE: 08/15/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :19.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 2.3 | 0.06 |
| WATER TEMP. . . | :17.00 (C) | pH . . . . . : | 5.4 | 0.00 |
| VELOCITY. . . . | : 0.0617(m/s) | COND . . . . . (uS/cm3). . : | 43.0 | 2.6 |
| DISCHARGE . . . | : 0.1061(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 3.6 | 1.24 |

| | MEAN | | STD | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 1.44 | | 0.48 | (m) | |
| DEPTH. . . . . : | 12.10 | | 8.96 | (cm) | |
| DOMINANT SUBSTRATE TYPE. . : | 6 | | POOL/RIFFLE RATIO . .: | | 1.63 |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | AIR/WATER TEMP. RATIO: | | 1.12 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 90.60 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 1.2 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Notemigonus crysoleucas | 4444.4 | |
| Lepomis gibbosus | 3888.9 | |
| Catostomus commersoni | 416.7 | |
| Ameiurus nebulosus | 138.9 | |

STREAM NAME : STILES BROOK SITE #: 6125

SITE DESCRIPTION: DOWNSTREAM OF OLD TOWN RD.

TOWN: WILLINGTON

SAMPLE LENGTH : 53. SAMPLE DATE: 07/27/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :23.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.4 | 0.10 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 7.4 | 0.10 |
| VELOCITY. . . . | : 0.0931(m/s) | COND . . . . . (uS/cm3). . : | 101.7 | 2.9 |
| DISCHARGE . . . | : 0.0437(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 24.9 | 1.61 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 1.61 | | 0.50 | (m) |
| DEPTH. . . . . : | 2.90 | | 2.50 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 0.53 |
| TYPE THREE SUBSTRATE . . . : | 0.08 | (%) | AIR/WATER TEMP. RATIO: | 1.21 |
| EMBEDDEDNESS OF TYPE THREE : | 30.00 | (%) | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | |
| INSTREAM SHELTER . . . . . : | 0.9 | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 11953.6 | |

STREAM NAME : CURTIS BROOK SITE #: 6126

SITE DESCRIPTION: 100 M UPSTREAM OF FENTON RIVER IN MOOSE MEADOW CAMPGROUND, ADJACENT TO KECHKES RD.

TOWN: WILLINGTON

SAMPLE LENGTH : 50. SAMPLE DATE: 06/16/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :26.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.9 | 0.12 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 7.1 | 0.06 |
| VELOCITY. . . . | : 0.2506(m/s) | COND . . . . . (uS/cm3). . : | 40.7 | 0.6 |
| DISCHARGE . . . | : 0.4444(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 7.9 | 0.25 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.35 | 0.77 | (m) | | |
| DEPTH. . . . . : | 7.63 | 5.76 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 0.19 |
| TYPE THREE SUBSTRATE . . . : | 0.21 | (%) | AIR/WATER TEMP. RATIO: | | 1.37 |
| EMBEDDEDNESS OF TYPE THREE : | 42.50 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 97.50 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.6 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Catostomus commersoni | | 340.4 | 0.0 |
| Notemigonus crysoleucas | | 340.4 | 0.0 |
| Rhinichthys atratulus | | 2468.1 | 104.7 |
| Salmo trutta | WILD | 85.1 | 0.0 |
| Salvelinus fontinalis | | 1957.4 | 136.2 |
| Lepomis gibbosus | | 170.2 | 0.0 |

STREAM NAME : **BONEMILL BROOK** SITE #: **6127**

SITE DESCRIPTION: 200 M UPSTREAM OF SWEETHEART LAKE (AT GIRL SCOUT CAMP).

TOWN: TOLLAND

SAMPLE LENGTH : 100. SAMPLE DATE: 06/22/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :24.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.9 | 0.17 |
| WATER TEMP. . . | :16.00 (C) | pH . . . . . : | 6.8 | 0.06 |
| VELOCITY. . . . | : 0.1407(m/s) | COND . . . . . (uS/cm3). . : | 38.7 | 1.2 |
| DISCHARGE . . . | : 1.0262(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 3.3 | 0.75 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 4.06 | 1.15 | (m) | | |
| DEPTH. . . . . : | 16.48 | 13.80 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 0.89 | |
| TYPE THREE SUBSTRATE . . . : | 0.34 | (%) | AIR/WATER TEMP. RATIO: | 1.50 | |
| EMBEDDEDNESS OF TYPE THREE : | 36.15 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 99.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 32.3 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Cottus cognatus | 5566.5 | 602.5 |
| Salvelinus fontinalis | 4655.2 | 141.1 |
| Catostomus commersoni | 394.1 | 0.0 |
| Lepomis gibbosus | 24.6 | 0.0 |

STREAM NAME : **CLOUGH BROOK** SITE #: **6128**

SITE DESCRIPTION: UPSTREAM OF TORRY RD.

TOWN: TOLLAND

SAMPLE LENGTH : 50. SAMPLE DATE: 06/21/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | : (C) | DISSOLVED OXYGEN (mg/l). . : | 9.5 | 0.06 |
| WATER TEMP. . . | :15.00 (C) | pH . . . . . : | 7.2 | 0.06 |
| VELOCITY. . . . | : 0.1353(m/s) | COND . . . . . (uS/cm3). . : | 83.3 | 2.3 |
| DISCHARGE . . . | : 0.2593(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 9.5 | 0.79 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.17 | 0.59 | (m) | | |
| DEPTH. . . . . : | 9.43 | 6.92 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 2 | | POOL/RIFFLE RATIO . .: | 0.28 | |
| TYPE THREE SUBSTRATE . . . : | 0.33 | (%) | AIR/WATER TEMP. RATIO: | 0.00 | |
| EMBEDDEDNESS OF TYPE THREE : | 68.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 4.0 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 2304.1 | |

STREAM NAME : **TENMILE RIVER TRIB.** SITE #: **6129**

SITE DESCRIPTION: 100 M ABOVE POWERLINE ACCESS ROAD OFF OF CARD ST.

TOWN: WINDHAM

SAMPLE LENGTH : 50. SAMPLE DATE: 06/21/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :19.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.6 | 0.06 |
| WATER TEMP. . . | :16.00 (C) | pH . . . . . : | 6.9 | 0.06 |
| VELOCITY. . . . | : 0.0408(m/s) | COND . . . . . (uS/cm3). . : | 55.0 | 0.0 |
| DISCHARGE . . . | : 0.0262(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 12.8 | 0.10 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 1.48 | 0.36 | (m) | | |
| DEPTH. . . . . : | 4.22 | 4.77 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | | POOL/RIFFLE RATIO . .: | 1.63 |
| TYPE THREE SUBSTRATE . . . : | 0.10 | (%) | | AIR/WATER TEMP. RATIO: | 1.19 |
| EMBEDDEDNESS OF TYPE THREE : | 100.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.5 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Rhinichthys atratulus | 16621.6 | 171.2 |
| Esox niger | 135.1 | 0.0 |
| Salvelinus fontinalis | 10135.1 | 0.0 |

STREAM NAME : **BUSH HILL BROOK** SITE #: **6130**

SITE DESCRIPTION: DOWNSTREAM OF FITZGERALD RD.

TOWN: BROOKLYN

SAMPLE LENGTH : 50. SAMPLE DATE: 08/09/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :24.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.4 | |
| WATER TEMP. . . | :17.00 (C) | pH . . . . . : | 5.6 | |
| VELOCITY. . . . | : (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . | : (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 9.4 | |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 1.20 | 0.78 | (m) | | |
| DEPTH. . . . . : | 4.25 | 5.20 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | | POOL/RIFFLE RATIO . .: | 0.56 |
| TYPE THREE SUBSTRATE . . . : | 0.17 | (%) | | AIR/WATER TEMP. RATIO: | 1.41 |
| EMBEDDEDNESS OF TYPE THREE : | 75.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.0 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Lepomis gibbosus | | |
| Notemigonus crysoleucas | | |
| Luxilus cornutus | | |

STREAM NAME : **STONY BROOK** SITE #: **6131**

SITE DESCRIPTION: DOWNSTREAM OF APPELL RD.

TOWN: BROOKLYN

SAMPLE LENGTH : 50. SAMPLE DATE: 07/19/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :24.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.7 | 0.12 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 7.0 | 0.00 |
| VELOCITY. . . . | : 0.0689(m/s) | COND . . . . . (uS/cm3). . : | 68.7 | 8.5 |
| DISCHARGE . . . | : 0.1122(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 12.2 | 2.18 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.03 | 0.58 | (m) | | |
| DEPTH. . . . . : | 7.55 | 5.84 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | | POOL/RIFFLE RATIO . .: | 49.00 |
| TYPE THREE SUBSTRATE . . . : | 0.41 | (%) | | AIR/WATER TEMP. RATIO: | 1.26 |
| EMBEDDEDNESS OF TYPE THREE : | 65.71 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 0.99 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 1.2 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis WILD | | |

STREAM NAME : **COLD SPRING BROOK** SITE #: **6132**

SITE DESCRIPTION: UPSTREAM OF BEECHERS RD.

TOWN: BROOKLYN

SAMPLE LENGTH : 50. SAMPLE DATE: 08/01/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :26.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.1 | 0.15 |
| WATER TEMP. . . | :20.00 (C) | pH . . . . . : | 7.2 | 0.17 |
| VELOCITY. . . . | : (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . | : (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 28.9 | 1.07 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 0.82 | 0.18 | (m) | | |
| DEPTH. . . . . : | 4.63 | 4.43 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 1 | | | POOL/RIFFLE RATIO . .: | 2000.00 |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | | AIR/WATER TEMP. RATIO: | 1.30 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.3 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | | |

STREAM NAME : **MASHAMOQUET BROOK TRIB.** SITE #: 6133

SITE DESCRIPTION: ADJACENT TO BULL BROOK RD., 300 M UPSTREAM OF RTE. 97.

TOWN: POMFRET

SAMPLE LENGTH : 50. SAMPLE DATE: 06/27/94

| PHYSICAL | | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|---|
| AIR TEMP. . . . | 23.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | 9.1 | |
| WATER TEMP. . . | 19.00 | (C) | pH . . . . . : | 7.3 | 0.06 |
| VELOCITY. . . . | 0.0267 | (m/s) | COND . . . . . (uS/cm3). . : | 68.3 | 2.9 |
| DISCHARGE . . . | 0.0095 | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 17.3 | 0.29 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 1.79 | 0.57 | (m) | | |
| DEPTH. . . . . : | 1.95 | 1.63 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 0.25 |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | AIR/WATER TEMP. RATIO: | | 1.21 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.0 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Rhinichthys atratulus | 2234.6 | |

STREAM NAME : **SAP TREE RUN** SITE #: 6134

SITE DESCRIPTION: 25 M DOWNSTREAM OF RTE. 44.

TOWN: POMFRET

SAMPLE LENGTH : 50. SAMPLE DATE: 08/04/94

| PHYSICAL | | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|---|
| AIR TEMP. . . . | 25.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | 8.4 | 0.26 |
| WATER TEMP. . . | 20.00 | (C) | pH . . . . . : | 7.1 | 0.06 |
| VELOCITY. . . . : | | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 30.3 | 0.78 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 1.36 | 0.59 | (m) | | |
| DEPTH. . . . . : | 2.85 | 3.27 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 0.00 |
| TYPE THREE SUBSTRATE . . . : | 0.08 | (%) | AIR/WATER TEMP. RATIO: | | 1.25 |
| EMBEDDEDNESS OF TYPE THREE : | 80.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.0 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Rhinichthys atratulus | | |
| Salvelinus fontinalis | | |

STREAM NAME : **MUDDY BROOK** SITE #: **6135**

SITE DESCRIPTION: 50 M UPSTREAM OF GREEN RD.

TOWN: WOODSTOCK

SAMPLE LENGTH : 78. SAMPLE DATE: 07/07/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :26.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 5.7 | 1.56 |
| WATER TEMP. . . | :24.00 (C) | pH . . . . . : | 6.5 | 0.12 |
| VELOCITY. . . . | : 0.0933(m/s) | COND . . . . . (uS/cm3). . : | 87.3 | 2.1 |
| DISCHARGE . . . | : 0.3424(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 24.3 | 1.00 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 3.99 | | 2.73 | (m) |
| DEPTH. . . . . : | 8.67 | | 6.26 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 0.86 |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | AIR/WATER TEMP. RATIO: | 1.08 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | |
| OVERHEAD CANOPY. . . . . : | 93.80 | (%) | | |
| INSTREAM SHELTER . . . . . : | 0.9 | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Anguilla rostrata | 32.1 | 0.0 |
| Esox niger | 353.5 | 0.0 |
| Rhinichthys atratulus | 5528.2 | 317.0 |
| Perca flavescens | 899.9 | 0.0 |
| Lepomis gibbosus | 6138.8 | 126.5 |
| Ameiurus nebulosus | 64.3 | 0.0 |

STREAM NAME : **WILLIMANTIC RIVER TRIB.** SITE #: **6138**

SITE DESCRIPTION: UPSTREAM OF WHITES HILL RD. (TRIB. TO EAGLEVILLE LAKE).

TOWN: COVENTRY

SAMPLE LENGTH : 50. SAMPLE DATE: 06/15/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :28.00 (C) | DISSOLVED OXYGEN (mg/l). . | : 10.2 | 0.23 |
| WATER TEMP. . . | :18.00 (C) | pH . . . . . | : 7.2 | 0.15 |
| VELOCITY. . . . | : 0.0420(m/s) | COND . . . . . (uS/cm3). . | : 82.3 | 0.6 |
| DISCHARGE . . . | : 0.0686(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 24.3 | 0.82 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | : 2.29 | 0.92 | (m) | | |
| DEPTH. . . . . | : 6.93 | 6.01 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | : 6 | | POOL/RIFFLE RATIO . .: | 0.85 | |
| TYPE THREE SUBSTRATE . . . | : 0.22 | (%) | AIR/WATER TEMP. RATIO: | 1.56 | |
| EMBEDDEDNESS OF TYPE THREE | : 0.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . | : 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . | : 2.5 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| No fish present | | |

STREAM NAME : **GREEN BROOK** SITE #: **6139**

SITE DESCRIPTION: DOWNSTREAM OF SOUTH RIVER RD.

TOWN: WILLINGTON

SAMPLE LENGTH : 50. SAMPLE DATE: 06/20/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :23.00 (C) | DISSOLVED OXYGEN (mg/l). . | : 9.2 | 0.15 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . | : 7.2 | 0.00 |
| VELOCITY. . . . | : 0.2126(m/s) | COND . . . . . (uS/cm3). . | : 70.7 | 1.5 |
| DISCHARGE . . . | : 0.4606(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 8.2 | 0.15 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | : 2.19 | 0.65 | (m) | | |
| DEPTH. . . . . | : 9.90 | 5.16 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | : 4 | | POOL/RIFFLE RATIO . .: | 0.19 | |
| TYPE THREE SUBSTRATE . . . | : 0.13 | (%) | AIR/WATER TEMP. RATIO: | 1.21 | |
| EMBEDDEDNESS OF TYPE THREE | : 25.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . | : 67.70 | (%) | | | |
| INSTREAM SHELTER . . . . . | : 0.1 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Rhinichthys atratulus | 3013.7 | |
| Salvelinus fontinalis | 547.9 | |

STREAM NAME : **WADE BROOK** SITE #: **6140**

SITE DESCRIPTION: 150 M ABOVE BROOKLYN RD.

TOWN: POMFRET

SAMPLE LENGTH : 50. SAMPLE DATE: 07/28/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :26.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.0 | 0.35 |
| WATER TEMP. . . | :22.00 (C) | pH . . . . . : | 6.4 | 0.06 |
| VELOCITY. . . . | : 0.0204(m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . | : 0.0041(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 6.5 | 1.14 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.27 | 0.68 | (m) | | |
| DEPTH. . . . . : | 5.57 | 4.58 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 2.85 |
| TYPE THREE SUBSTRATE . . . : | 0.33 | (%) | AIR/WATER TEMP. RATIO: | | 1.18 |
| EMBEDDEDNESS OF TYPE THREE : | 35.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 97.50 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.7 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Erimyzon oblongus | 264.3 | |
| Lepomis gibbosus | 88.1 | 0.0 |
| Catostomus commersoni | 2731.3 | |
| Rhinichthys atratulus | 1762.1 | |

STREAM NAME : **FURNACE BROOK TRIB.** SITE #: **6141**

SITE DESCRIPTION: DOWNSTREAM OF FURNACE AVE.

TOWN: STAFFORD

SAMPLE LENGTH : 50. SAMPLE DATE: 06/15/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :24.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.9 | 0.10 |
| WATER TEMP. . . | :17.00 (C) | pH . . . . . : | 7.0 | 0.15 |
| VELOCITY. . . . | : 0.1667(m/s) | COND . . . . . (uS/cm3). . : | 48.7 | 0.6 |
| DISCHARGE . . . | : 0.3647(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 5.2 | 0.06 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.86 | 0.98 | (m) | | |
| DEPTH. . . . . : | 8.05 | 5.22 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 0.25 |
| TYPE THREE SUBSTRATE . . . : | 0.09 | (%) | AIR/WATER TEMP. RATIO: | | 1.41 |
| EMBEDDEDNESS OF TYPE THREE : | 50.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 96.90 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 8.E-2 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 647.5 | |

STREAM NAME : E. BR. MOUNT HOPE RIVER SITE #: 6142

SITE DESCRIPTION: DOWNSTREAM OF WESTFORD RD.

TOWN: ASHFORD

SAMPLE LENGTH : 50. SAMPLE DATE: 06/27/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :27.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 7.5 | 0.06 |
| WATER TEMP. . . | :22.00 (C) | pH . . . . . : | 6.3 | 0.00 |
| VELOCITY. . . . | : 0.0689(m/s) | COND . . . . . (uS/cm3). . : | 40.0 | 2.0 |
| DISCHARGE . . . | : 0.0809(m3/s) | ALKALINITY .(mg CaCO3 eq/1): | 5.6 | 0.23 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 1.93 | 0.49 | (m) | | |
| DEPTH. . . . . : | 6.05 | 4.78 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | | POOL/RIFFLE RATIO . .: | 0.85 |
| TYPE THREE SUBSTRATE . . . : | 0.17 | (%) | | AIR/WATER TEMP. RATIO: | 1.23 |
| EMBEDDEDNESS OF TYPE THREE : | 35.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 6.E-2 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Rhinichthys atratulus | | |

STREAM NAME : **BEBBINGTON BROOK** SITE #: **6143**

SITE DESCRIPTION: ADJACENT TO BICKNELL RD., APPROX. 400 M ABOVE RTE. 89.

TOWN: ASHFORD

SAMPLE LENGTH : 100. SAMPLE DATE: 06/29/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.5 | 0.06 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 7.6 | 0.00 |
| VELOCITY. . . . | : 0.1026(m/s) | COND . . . . . (uS/cm3). . : | 119.3 | 1.5 |
| DISCHARGE . . . | : 0.1565(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 36.0 | 1.74 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | 3.04 | 1.03 | (m) | | |
| DEPTH. . . . . | 4.88 | 4.32 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 6 | | POOL/RIFFLE RATIO . .: | 0.52 | |
| TYPE THREE SUBSTRATE . . . : | 0.15 | (%) | AIR/WATER TEMP. RATIO: | 1.16 | |
| EMBEDDEDNESS OF TYPE THREE : | 50.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 1.5 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 65.8 | 0.0 |
| Catostomus commersoni | 32.9 | 0.0 |
| Lepomis cyanellus | 65.8 | 0.0 |
| Rhinichthys atratulus | 11315.8 | 98.4 |
| Esox niger | 32.9 | 0.0 |
| Semotilus atromaculatus | 2861.8 | 36.5 |

STREAM NAME : **MOUNT HOPE RIVER TRIB.** SITE #: **6144**

SITE DESCRIPTION: UPSTREAM OF RIVER RD.

TOWN: MANSFIELD

SAMPLE LENGTH : 50. SAMPLE DATE: 07/05/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :23.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.6 | 0.06 |
| WATER TEMP. . . | :18.00 (C) | pH . . . . . : | 7.2 | 0.00 |
| VELOCITY. . . . | : 0.0768(m/s) | COND . . . . . (uS/cm3). . : | 42.0 | 1.7 |
| DISCHARGE . . . | : 0.0413(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 15.3 | 3.55 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 1.08 | 0.38 | (m) | | |
| DEPTH. . . . . : | 4.75 | 4.89 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | | POOL/RIFFLE RATIO . .: | 0.56 |
| TYPE THREE SUBSTRATE . . . : | 0.30 | (%) | | AIR/WATER TEMP. RATIO: | 1.28 |
| EMBEDDEDNESS OF TYPE THREE : | 33.33 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.0 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Rhinichthys atratulus | | |

STREAM NAME : **BIGELOW BROOK TRIB.** SITE #: **6145**

SITE DESCRIPTION: 150 M ABOVE CONFLUENCE WITH BIGELOW BROOK.

TOWN: EASTFORD

SAMPLE LENGTH : 50. SAMPLE DATE: 08/24/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :15.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.8 | 0.15 |
| WATER TEMP. . . | :15.00 (C) | pH . . . . . : | 6.9 | 0.12 |
| VELOCITY. . . . | : 0.1725(m/s) | COND . . . . . (uS/cm3). . : | 40.0 | 0.0 |
| DISCHARGE . . . | : 0.3184(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 11.9 | 0.32 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.28 | 0.49 | (m) | | |
| DEPTH. . . . . : | 7.90 | 4.57 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | | POOL/RIFFLE RATIO . .: | 0.19 |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | | AIR/WATER TEMP. RATIO: | 1.00 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.3 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Rhinichthys atratulus | 2543.9 | |
| Salvelinus fontinalis | 614.0 | |

STREAM NAME : **ROBBINS BROOK** SITE #: **6146**

SITE DESCRIPTION: DOWNSTREAM OF QUADDUCK FARM RD. (DAM AT 45 M).

TOWN: THOMPSON

SAMPLE LENGTH : 47. SAMPLE DATE: 07/07/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :28.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 7.6 | 0.47 |
| WATER TEMP. . . | :23.00 (C) | pH . . . . . : | 5.3 | 0.06 |
| VELOCITY. . . . | : 0.1380(m/s) | COND . . . . . (uS/cm3). . : | 49.0 | 0.0 |
| DISCHARGE . . . | : 0.3535(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 0.4 | 0.06 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.48 | 0.64 | (m) | | |
| DEPTH. . . . . : | 10.60 | 6.22 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 0.74 |
| TYPE THREE SUBSTRATE . . . : | 0.18 | (%) | AIR/WATER TEMP. RATIO: | | 1.22 |
| EMBEDDEDNESS OF TYPE THREE : | 0.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 6.3 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Esox niger | | | |

STREAM NAME : **MASON BROOK** SITE #: **6147**

SITE DESCRIPTION: 10 M UPSTREAM OF FENTON RIVER.

TOWN: MANSFIELD

SAMPLE LENGTH : 50. SAMPLE DATE: 06/29/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.3 | 0.23 |
| WATER TEMP. . . | :17.00 (C) | pH . . . . . : | 7.3 | 0.00 |
| VELOCITY. . . . | : 0.0667(m/s) | COND . . . . . (uS/cm3). . : | 216.0 | 5.3 |
| DISCHARGE . . . | : 0.0624(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 15.6 | |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 1.43 | 0.61 | (m) | | |
| DEPTH. . . . . : | 6.43 | 6.97 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 1.00 |
| TYPE THREE SUBSTRATE . . . : | 0.08 | (%) | AIR/WATER TEMP. RATIO: | | 1.29 |
| EMBEDDEDNESS OF TYPE THREE : | 0.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 96.90 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.4 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys atratulus | | 22377.6 | |
| Salvelinus fontinalis | WILD | 419.6 | |
| Salmo trutta | STOCKED | 139.9 | |
| Catostomus commersoni | | 839.2 | |

STREAM NAME : **GULF BROOK** SITE #: **6148**

SITE DESCRIPTION: UPSTREAM OF LOGGING ROAD OFF KINNEY HOLLOW RD., 75 M ABOVE MYERS POND.

TOWN: UNION

SAMPLE LENGTH : 50. SAMPLE DATE: 07/20/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :28.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.4 | 0.12 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 7.2 | 0.15 |
| VELOCITY. . . . | : 0.0583(m/s) | COND . . . . . (uS/cm3). . : | 104.0 | 1.7 |
| DISCHARGE . . . | : 0.1540(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 10.1 | 0.23 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 2.46 | 2.71 | (m) |
| DEPTH. . . . . : | 7.78 | 8.93 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 5 | POOL/RIFFLE RATIO . .: | 0.56 |
| TYPE THREE SUBSTRATE . . . : | 0.09 (%) | AIR/WATER TEMP. RATIO: | 1.47 |
| EMBEDDEDNESS OF TYPE THREE : | 5.00 (%) | | |
| OVERHEAD CANOPY. . . . . : | 67.50 (%) | | |
| INSTREAM SHELTER . . . . . : | 2.2 (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 6097.6 | 142.6 |

STREAM NAME : **BUSH MEADOW BROOK** SITE #: **6149**

SITE DESCRIPTION: 1 KM DOWNSTREAM OF SCRANTON BROOK, ABOVE PONDS.

TOWN: UNION

SAMPLE LENGTH : 100. SAMPLE DATE: 08/24/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :17.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 10.7 | 0.06 |
| WATER TEMP. . . | :14.00 (C) | pH . . . . . : | 7.1 | 0.06 |
| VELOCITY. . . . | : 0.2887(m/s) | COND . . . . . (uS/cm3). . : | 119.0 | 1.0 |
| DISCHARGE . . . | : 2.0688(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 10.3 | 0.10 |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | 4.65 | 1.22 | (m) |
| DEPTH. . . . . : | 15.07 | 13.05 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | POOL/RIFFLE RATIO . .: | 0.49 |
| TYPE THREE SUBSTRATE . . . : | 0.15 (%) | AIR/WATER TEMP. RATIO: | 1.21 |
| EMBEDDEDNESS OF TYPE THREE : | 43.33 (%) | | |
| OVERHEAD CANOPY. . . . . : | 93.80 (%) | | |
| INSTREAM SHELTER . . . . . : | 6.5 (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys atratulus | | 1247.3 | |
| Salmo trutta | WILD | 21.5 | |
| Ameiurus nebulosus | | 258.1 | |
| Salvelinus fontinalis | WILD | 365.6 | |
| Catostomus commersoni | | 344.1 | |

STREAM NAME : **BIGELOW POND TRIB.** SITE #: **6150**

SITE DESCRIPTION: DOWNSTREAM OF BIGLEOW HOLLOW STATE PARK, ACCESS ROAD (NEXT TO BOAT LAUNCH).

TOWN: UNION

SAMPLE LENGTH : 50. SAMPLE DATE: 07/12/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :27.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.2 | 0.72 |
| WATER TEMP. . . | :18.00 (C) | pH . . . . . : | 6.7 | 0.21 |
| VELOCITY. . . . | : 0.0286(m/s) | COND . . . . . (uS/cm3). . : | 77.0 | 4.6 |
| DISCHARGE . . . | : 0.0186(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 12.7 | 1.23 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 1.44 | 0.54 | (m) | | |
| DEPTH. . . . . : | 4.25 | 5.23 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 0.47 |
| TYPE THREE SUBSTRATE . . . : | 0.36 | (%) | AIR/WATER TEMP. RATIO: | | 1.50 |
| EMBEDDEDNESS OF TYPE THREE : | 7.50 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.0 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Lepomis gibbosus | | |
| Salvelinus fontinalis | 1805.6 | |
| Lepomis macrochirus | | |

STREAM NAME : **MAY BROOK TRIB.** SITE #: **6151**

SITE DESCRIPTION: 50 M ABOVE CONFLUENCE WITH MAY BROOK.

TOWN: UNION

SAMPLE LENGTH : 28.5 SAMPLE DATE: 07/14/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . | : 10.4 | 0.59 |
| WATER TEMP. . . | : 9.00 (C) | pH . . . . . | : 6.8 | 0.06 |
| VELOCITY. . . . | : 0.0233(m/s) | COND . . . . . (uS/cm3). . | : 30.0 | 0.0 |
| DISCHARGE . . . | : 0.0037(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 6.9 | 0.59 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | : 0.59 | 0.19 | (m) | | |
| DEPTH. . . . . | : 2.63 | 2.26 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | : 4 | | | POOL/RIFFLE RATIO . .: | 0.58 |
| TYPE THREE SUBSTRATE . . . | : 0.30 | (%) | | AIR/WATER TEMP. RATIO: | 2.44 |
| EMBEDDEDNESS OF TYPE THREE | : 60.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . | : 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . | : 0.0 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 29735.3 | |

STREAM NAME : **BROWNS BROOK TRIB.** SITE #: **6152**

SITE DESCRIPTION: 300 M UPSTREAM OF BROWNS BROOK, UPSTREAM OF FOREST ACCESS RD. IN NIPMUCK STATE FOREST.

TOWN: UNION

SAMPLE LENGTH : 50. SAMPLE DATE: 08/15/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :19.00 (C) | DISSOLVED OXYGEN (mg/l). . | : 11.5 | 0.06 |
| WATER TEMP. . . | :15.00 (C) | pH . . . . . | : | |
| VELOCITY. . . . | : 0.0354(m/s) | COND . . . . . (uS/cm3). . | : 73.7 | 1.2 |
| DISCHARGE . . . | : 0.0160(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 32.9 | 0.50 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | : 0.93 | 0.27 | (m) | | |
| DEPTH. . . . . | : 4.65 | 8.06 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | : 4 | | | POOL/RIFFLE RATIO . .: | 0.47 |
| TYPE THREE SUBSTRATE . . . | : 0.30 | (%) | | AIR/WATER TEMP. RATIO: | 1.27 |
| EMBEDDEDNESS OF TYPE THREE | : 20.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . | : 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . | : 0.3 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 7311.8 | |

STREAM NAME : **LEADMINE BROOK** SITE #: 6153

SITE DESCRIPTION: UPSTREAM OF AXE FACTORY RD.

TOWN: ASHFORD

SAMPLE LENGTH : 100. SAMPLE DATE: 08/08/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :22.00 (C) | DISSOLVED OXYGEN (mg/l). . | : 10.8 | 0.15 |
| WATER TEMP. . . | :15.00 (C) | pH . . . . . | : 7.5 | 0.06 |
| VELOCITY. . . . | : 0.0754(m/s) | COND . . . . . (uS/cm3). . | : 60.7 | 1.2 |
| DISCHARGE . . . | : 0.1844(m3/s) | ALKALINITY .(mg CaCO3 eq/l) | : 18.3 | 1.05 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | : 3.11 | 1.21 | (m) | | |
| DEPTH. . . . . | : 8.52 | 7.22 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | : 5 | | POOL/RIFFLE RATIO . .: | | 0.56 |
| TYPE THREE SUBSTRATE . . . | : 0.00 | (%) | AIR/WATER TEMP. RATIO: | | 1.47 |
| EMBEDDEDNESS OF TYPE THREE | : | (%) | | | |
| OVERHEAD CANOPY. . . . . | : 94.80 | (%) | | | |
| INSTREAM SHELTER . . . . . | : 2.7 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Lepomis macrochirus | | | |
| Salvelinus fontinalis | WILD | 289.4 | |
| Lepomis cyanellus | | 96.5 | |
| Salmo trutta | WILD | | |
| Luxilus cornutus | | 96.5 | |
| Semotilus corporalis | | 96.5 | |
| hybrid sunfish | | | |
| Catostomus commersoni | | 96.5 | |
| Rhinichthys atratulus | | 1832.8 | |
| Notemigonus crysoleucas | | | |

STREAM NAME : **BUNGEE BROOK** SITE #: **6154**

SITE DESCRIPTION: PARALLEL TO MARCY RD. 700 M BELOW CHAMBERLAIN LAKE.

TOWN: WOODSTOCK

SAMPLE LENGTH : 51. SAMPLE DATE: 06/27/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :25.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.4 | 0.06 |
| WATER TEMP. . . | :21.00 (C) | pH . . . . . : | 7.1 | 0.00 |
| VELOCITY. . . . | : 0.1093(m/s) | COND . . . . . (uS/cm3). . : | 72.3 | 0.6 |
| DISCHARGE . . . | : 0.2834(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 9.0 | 0.38 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | : 3.15 | 0.88 | (m) | | |
| DEPTH. . . . . | : 8.43 | 7.79 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | : 4 | | POOL/RIFFLE RATIO . .: | | 1.27 |
| TYPE THREE SUBSTRATE . . . | : 0.35 | (%) | AIR/WATER TEMP. RATIO: | | 1.19 |
| EMBEDDEDNESS OF TYPE THREE | : 37.77 | (%) | | | |
| OVERHEAD CANOPY. . . . . | : 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . | : 2.3 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Lepomis macrochirus | | |
| Semotilus corporalis | | |
| Catostomus commersoni | 952.4 | |
| Rhinichthys atratulus | 6730.2 | |
| Esox niger | 63.5 | |

STREAM NAME : **GRAVELLY BROOK** SITE #: **6155**

SITE DESCRIPTION: 100 M DOWNSTREAM OF RTE. 169.

TOWN: WOODSTOCK

SAMPLE LENGTH : 50. SAMPLE DATE: 07/20/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :28.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 6.1 | 0.21 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 6.1 | 0.00 |
| VELOCITY. . . . | : 0.0108(m/s) | COND . . . . . (uS/cm3). . : | 243.3 | 7.4 |
| DISCHARGE . . . | : 0.0072(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 20.3 | 0.76 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 1.49 | | 0.89 | (m) |
| DEPTH. . . . . : | 4.20 | | 4.00 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 0.79 |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | AIR/WATER TEMP. RATIO: | 1.47 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | |
| INSTREAM SHELTER . . . . . : | 0.2 | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Rhinichthys atratulus | 23355.7 | |
| Salvelinus fontinalis | 5503.4 | |
| Lepomis macrochirus | 2013.4 | |

STREAM NAME : **BLACKMORE BROOK** SITE #: **6156**

SITE DESCRIPTION: UPSTREAM OF LECLAIRE RD.

TOWN: THOMPSON

SAMPLE LENGTH : 50. SAMPLE DATE: 07/07/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :28.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 7.7 | 0.06 |
| WATER TEMP. . . | :23.00 (C) | pH . . . . . : | 6.0 | 0.06 |
| VELOCITY. . . . | : 0.0766(m/s) | COND . . . . . (uS/cm3). . : | 24.0 | 1.7 |
| DISCHARGE . . . | : 0.1544(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 1.9 | 0.42 |

| | MEAN | | STD | |
|---|---|---|---|---|
| WIDTH. . . . . : | 3.75 | | 1.28 | (m) |
| DEPTH. . . . . : | 5.65 | | 4.92 | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | 0.22 |
| TYPE THREE SUBSTRATE . . . : | 0.03 | (%) | AIR/WATER TEMP. RATIO: | 1.22 |
| EMBEDDEDNESS OF TYPE THREE : | 0.00 | (%) | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | |
| INSTREAM SHELTER . . . . . : | 0.1 | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salmo trutta | | |
| Salvelinus fontinalis | | |
| Catostomus commersoni | | |

STREAM NAME : **SKUNGAMAUG RIVER TRIB.** SITE #: **6157**

SITE DESCRIPTION: DOWNSTREAM OF CARPENTER RD.

TOWN: COVENTRY

SAMPLE LENGTH : 50. SAMPLE DATE: 06/20/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :25.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.0 | 0.17 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | 6.8 | 0.10 |
| VELOCITY. . . . | : 0.0600(m/s) | COND . . . . . (uS/cm3). . : | 86.0 | 1.7 |
| DISCHARGE . . . | : 0.0796(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 14.0 | 0.76 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.07 | 0.70 | (m) | | |
| DEPTH. . . . . : | 6.22 | 4.97 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 0.67 |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | AIR/WATER TEMP. RATIO: | | 1.32 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 97.90 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.0 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Semotilus atromaculatus | 289.9 | |
| Catostomus commersoni | | |
| Rhinichthys atratulus | 1932.4 | |

STREAM NAME : **SILVERMINE BROOK** SITE #: **6158**

SITE DESCRIPTION: 150 M UPSTREAM OF BEAVER DAM WMA POND, 50 M ABOVE HORSE TRAIL.

TOWN: EASTFORD

SAMPLE LENGTH : 50. SAMPLE DATE: 08/25/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :16.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.9 | 0.06 |
| WATER TEMP. . . | :15.00 (C) | pH . . . . . : | | |
| VELOCITY. . . . | : 0.0575(m/s) | COND . . . . . (uS/cm3). . : | 15.3 | 2.1 |
| DISCHARGE . . . | : 0.1857(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.11 | 0.69 | (m) | | |
| DEPTH. . . . . : | 15.02 | 10.03 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 6 | | POOL/RIFFLE RATIO . .: | | 1.50 |
| TYPE THREE SUBSTRATE . . . : | 0.00 | (%) | AIR/WATER TEMP. RATIO: | | 1.07 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 2.1 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| No fish present | | |

STREAM NAME : **LONG BROOK** SITE #: **6159**

SITE DESCRIPTION: UPSTREAM OF RAY ST.

TOWN: BROOKLYN

SAMPLE LENGTH : 100. SAMPLE DATE: 08/25/94

| PHYSICAL | | | CHEMICAL | | MEAN | STD |
|---|---|---|---|---|---|---|
| AIR TEMP. . . . | :21.00 | (C) | DISSOLVED OXYGEN (mg/l). . | : | 8.7 | |
| WATER TEMP. . . | :17.00 | (C) | pH . . . . . | : | 6.6 | |
| VELOCITY. . . . | : | (m/s) | COND . . . . . (uS/cm3). . | :159.0 | | |
| DISCHARGE . . . | : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 26.2 | | |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | : | | (m) | | |
| DEPTH. . . . . | : | | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | : | | POOL/RIFFLE RATIO . .: | 2000.00 | |
| TYPE THREE SUBSTRATE . . . | : | (%) | AIR/WATER TEMP. RATIO: | 1.24 | |
| EMBEDDEDNESS OF TYPE THREE | : | (%) | | | |
| OVERHEAD CANOPY. . . . . | : 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . | : 0.0 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Catostomus commersoni | | |
| Semotilus corporalis | | |
| Lepomis gibbosus | | |
| Lepomis macrochirus | | |

STREAM NAME : **FALL BROOK** SITE #: **6160**

SITE DESCRIPTION: DOWNSTREAM OF DANIELSON RD.

TOWN: KILLINGLY

SAMPLE LENGTH : 35. SAMPLE DATE: 08/24/94

| PHYSICAL | | | CHEMICAL | | MEAN | STD |
|---|---|---|---|---|---|---|
| AIR TEMP. . . . | :24.00 | (C) | DISSOLVED OXYGEN (mg/l). . | : | 8.4 | 0.17 |
| WATER TEMP. . . | :17.00 | (C) | pH . . . . . | : | | |
| VELOCITY. . . . | : | (m/s) | COND . . . . . (uS/cm3). . | : | | |
| DISCHARGE . . . | : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 13.8 | | 0.46 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | : 0.89 | 0.22 | (m) | | |
| DEPTH. . . . . | : 4.85 | 5.05 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . | : 4 | | POOL/RIFFLE RATIO . .: | 0.25 | |
| TYPE THREE SUBSTRATE . . . | : 0.30 | (%) | AIR/WATER TEMP. RATIO: | 1.41 | |
| EMBEDDEDNESS OF TYPE THREE | : 6.67 | (%) | | | |
| OVERHEAD CANOPY. . . . . | : 38.80 | (%) | | | |
| INSTREAM SHELTER . . . . . | : 3.75E-2 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| juvenile centrarchid | | |

STREAM NAME : **FRENCH RIVER** SITE #: **6161**

SITE DESCRIPTION: DOWNSTREAM OF CONN.-MASS. STATE LINE.

TOWN: THOMPSON

SAMPLE LENGTH : 150. SAMPLE DATE: 07/26/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :29.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 5.6 | 0.06 |
| WATER TEMP. . . | :25.00 (C) | pH . . . . . : | 7.0 | 0.10 |
| VELOCITY. . . . | : 0.1840(m/s) | COND . . . . . (uS/cm3). . : | 331.7 | 2.9 |
| DISCHARGE . . . | : 0.7007(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 47.3 | 0.72 |

| | MEAN | STD | | |
|---|---|---|---|---|
| WIDTH. . . . . : | 13.88 | 4.44 | (m) | |
| DEPTH. . . . . : | 29.75 | 19.97 | (cm) | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIPPLE RATIO . .: | 3.17 |
| TYPE THREE SUBSTRATE . . . : | 0.04 | (%) | AIR/WATER TEMP. RATIO: | 1.16 |
| EMBEDDEDNESS OF TYPE THREE : | 32.50 | (%) | | |
| OVERHEAD CANOPY. . . . . : | 52.50 | (%) | | |
| INSTREAM SHELTER . . . . . : | 95.6 | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Lepomis gibbosus | 273.8 | 11.6 |
| Anguilla rostrata | 293.0 | 22.5 |
| Micropterus salmoides | 230.5 | MINIMAL ESTIMATE |
| Esox niger | 24.0 | 0.0 |
| juvenile centrarchid | 4.8 | 0.0 |
| Rhinichthys atratulus | 9.6 | 0.0 |
| Catostomus commersoni | 331.4 | 13.8 |
| Ameiurus natalis | 110.5 | 0.0 |
| Lepomis macrochirus | 312.2 | 31.0 |
| Semotilus corporalis | 302.6 | MINIMAL ESTIMATE |
| Lepomis auritus | 9.6 | 0.0 |
| Micropterus dolomieu | 230.2 | MINIMAL ESTIMATE |
| Luxilus cornutus | 48.0 | 0.0 |
| Perca flavescens | 19.2 | 0.0 |

STREAM NAME : **FENTON RIVER** SITE #: 6162

SITE DESCRIPTION: 1.1 KM UPSTREAM OF DAYVILLE SCHOOL RD., AT BEND IN STREAM CLOSE TO DAYVILLE RD. (FORD 15 M FROM BOTTOM E ND)

TOWN: WILLINGTON

SAMPLE LENGTH : 150. SAMPLE DATE: 07/13/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :27.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.3 | 0.12 |
| WATER TEMP. . . | :24.00 (C) | pH . . . . . : | 7.1 | 0.06 |
| VELOCITY. . . . | : 0.0829(m/s) | COND . . . . . (uS/cm3). . : | 103.3 | 2.9 |
| DISCHARGE . . . | : 0.0663(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 19.1 | 0.53 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 7.13 | 1.61 | (m) | | |
| DEPTH. . . . . : | 23.23 | 15.83 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 2 | | POOL/RIFFLE RATIO . .: | 24.00 | |
| TYPE THREE SUBSTRATE . . . : | 0.20 | (%) | AIR/WATER TEMP. RATIO: | 1.13 | |
| EMBEDDEDNESS OF TYPE THREE : | 54.60 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 13.80 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 141.8 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Catostomus commersoni | | 2122.5 | 291.6 |
| Rhinichthys atratulus | | 1178.1 | 314.3 |
| Lepomis auritus | | 663.9 | 94.5 |
| Lepomis gibbosus | | 74.8 | 21.9 |
| Lepomis macrochirus | | 37.4 | 0.0 |
| Semotilus corporalis | | 2805.0 | 94.0 |
| Luxilus cornutus | | 5226.7 | 226.3 |
| Esox niger | | 46.8 | 0.0 |
| Salmo trutta | STOCKED | 74.8 | 0.0 |
| Anguilla rostrata | | 18.7 | 0.0 |
| Perca flavescens | | 9.4 | 0.0 |
| Micropterus salmoides | | 907.0 | MINIMAL ESTIMATE |

STREAM NAME : **FIVEMILE RIVER** SITE #: **6163**

SITE DESCRIPTION: 50 M DOWNSTREAM OF RAILROAD BRIDGE, 700 M UPSTREAM OF DAYVILLE BROOK (BEHIND ANCHOR GLASS, DAYVILLE).

TOWN: KILLINGLY

SAMPLE LENGTH : 150. SAMPLE DATE: 07/26/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | 25.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.5 | 0.26 |
| WATER TEMP. . . | 22.00 (C) | pH . . . . . : | 7.2 | 0.02 |
| VELOCITY. . . . | 0.0489(m/s) | COND . . . . . (uS/cm3). . : | 90.0 | 0.0 |
| DISCHARGE . . . | 0.3198(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 14.1 | 0.61 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 13.16 | 1.97 | (m) | | |
| DEPTH. . . . . : | 30.17 | 25.65 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 2.49 |
| TYPE THREE SUBSTRATE . . . : | 0.28 | (%) | AIR/WATER TEMP. RATIO: | | 1.14 |
| EMBEDDEDNESS OF TYPE THREE : | 43.21 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 64.60 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 494.1 | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Ameiurus natalis | | 5.1 | 0.0 |
| Semotilus corporalis | | 410.3 | 16.9 |
| Catostomus commersoni | | 106.4 | 6.3 |
| Rhinichthys cataractae | | 835.9 | 35.9 |
| Luxilus cornutus | | 1712.3 | 22.6 |
| Lepomis gibbosus | | 30.4 | 0.0 |
| Micropterus salmoides | | 562.3 | 55.0 |
| Etheostoma olmstedi | | 5.1 | 0.0 |
| Lepomis macrochirus | | 623.1 | 26.6 |
| Rhinichthys atratulus | | 461.0 | 16.5 |
| Notemigonus crysoleucas | | 5.1 | 0.0 |
| Anguilla rostrata | | 20.3 | 0.0 |
| Salmo trutta | WILD | 5.1 | 0.0 |
| Esox niger | | 20.3 | 0.0 |
| Perca flavescens | | 35.5 | 0.0 |
| Lepomis auritus | | 81.1 | 0.0 |

STREAM NAME : **BRANCH BROOK** SITE #: 6181

SITE DESCRIPTION: UPSTREAM OF WESTFORD RD., 150 M ABOVE POND (ACCESS THRU TRANSFER STATION).

TOWN: EASTFORD

SAMPLE LENGTH : 80. SAMPLE DATE: 06/22/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :24.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.6 | 0.06 |
| WATER TEMP. . . | :20.00 (C) | pH . . . . . : | 7.1 | 0.12 |
| VELOCITY. . . . | : 0.0784(m/s) | COND . . . . . (uS/cm3). . : | 53.3 | 1.5 |
| DISCHARGE . . . | : 0.4914(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 16.2 | 0.35 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 5.14 | 1.31 | (m) | | |
| DEPTH. . . . . : | 12.03 | 10.06 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | POOL/RIFFLE RATIO . .: | 19.00 | |
| TYPE THREE SUBSTRATE . . . : | 0.44 | (%) | AIR/WATER TEMP. RATIO: | 1.20 | |
| EMBEDDEDNESS OF TYPE THREE : | 40.63 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 78.80 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 3.7 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Semotilus atromaculatus | 24.3 | 0.0 |
| Salvelinus fontinalis | 754.3 | 0.0 |
| Catostomus commersoni | 194.6 | 0.0 |
| Semotilus corporalis | 24.3 | 0.0 |
| Rhinichthys atratulus | 5012.2 | 77.5 |
| Luxilus cornutus | 389.3 | MINIMAL ESTIMATE |

STREAM NAME : **SCHOOLHOUSE BROOK** SITE #: **6184**

SITE DESCRIPTION: UPSTREAM OF CLOVER MILL RD.

TOWN: MANSFIELD

SAMPLE LENGTH : 51. SAMPLE DATE: 08/09/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :26.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.4 | 0.12 |
| WATER TEMP. . . | :19.00 (C) | pH . . . . . : | | |
| VELOCITY. . . . | : 0.0700(m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . | : 0.0027(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 14.6 | 0.40 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 1.80 | 0.80 | (m) | | |
| DEPTH. . . . . : | 5.50 | 7.04 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 0.79 |
| TYPE THREE SUBSTRATE . . . : | 0.20 | (%) | AIR/WATER TEMP. RATIO: | | 1.37 |
| EMBEDDEDNESS OF TYPE THREE : | 43.33 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 95.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 1.2 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Rhinichthys atratulus | 6555.6 | |
| Catostomus commersoni | 1222.2 | |
| Esox niger | 222.2 | |

STREAM NAME : **BACKWATER BROOK TRIB.** SITE #: **6185**

SITE DESCRIPTION: 50 M ABOVE BACKWATER BROOK CONFLUENCE.

TOWN: THOMPSON

SAMPLE LENGTH : 27. SAMPLE DATE: 08/24/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :20.00 (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . | :17.00 (C) | pH . . . . . : | | |
| VELOCITY. . . . | : (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . | : (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | | | (m) | | |
| DEPTH. . . . . : | | | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: | | |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: | | 1.18 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | | |
| OVERHEAD CANOPY. . . . . : | | (%) | | | |
| INSTREAM SHELTER . . . . . : | | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Esox niger | | |
| Micropterus salmoides | | |
| juvenile centrarchid | | |

STREAM NAME : **MOUNT HOPE RIVER** SITE #: 6186

SITE DESCRIPTION: 1 KM BELOW WATERFALL RD., OFF NAGY RD.

TOWN: ASHFORD

SAMPLE LENGTH : 125. SAMPLE DATE: 08/25/94

| PHYSICAL | | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|---|
| AIR TEMP. . . . | 23.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | 8.6 | |
| WATER TEMP. . . | 18.00 | (C) | pH . . . . . : | | |
| VELOCITY. . . . | | (m/s) | COND . . . . . (uS/cm3). . : | 147.0 | |
| DISCHARGE . . . | | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 5.13 | 0.57 | (m) | | |
| DEPTH. . . . . : | 8.92 | 7.35 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | |
| TYPE THREE SUBSTRATE . . . : | 0.14 | (%) | AIR/WATER TEMP. RATIO: | 1.28 | |
| EMBEDDEDNESS OF TYPE THREE : | 30.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Lepomis gibbosus | | |
| Catostomus commersoni | | |
| Rhinichthys atratulus | | |
| Salmo trutta | | |
| Micropterus salmoides | | |
| Salvelinus fontinalis | | |

STREAM NAME : **CHARTERS BROOK** SITE #: **6187**

SITE DESCRIPTION: 224 M BELOW CEMETERY BROOK CONFLUENCE (100 M FROM WHERE SHENIPSIT LAKE RD. TURNS TO DIRT.

TOWN: TOLLAND

SAMPLE LENGTH : 324. SAMPLE DATE: 08/25/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :24.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . :15.00 | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | | |
|---|---|---|---|---|
| WIDTH. . . . . : | | (m) | | |
| DEPTH. . . . . : | | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | | POOL/RIFFLE RATIO . .: | | |
| TYPE THREE SUBSTRATE . . . : | (%) | AIR/WATER TEMP. RATIO: | 1.60 | |
| EMBEDDEDNESS OF TYPE THREE : | (%) | | | |
| OVERHEAD CANOPY. . . . . : | (%) | | | |
| INSTREAM SHELTER . . . . . : | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Esox americanus | | |
| Salvelinus fontinalis | | |
| Esox niger | | |
| Notemigonus crysoleucas | | |
| Micropterus salmoides | | |
| Lepomis macrochirus | | |
| Lepomis gibbosus | | |
| Semotilus corporalis | | |
| Catostomus commersoni | | |
| Salmo trutta | | |

STREAM NAME : LONG BRANCH BROOK SITE #: 6188

SITE DESCRIPTION: 50 M DOWNSTREAM OF WAGHER RD. (BELOW OLD DAM, BELOW SITE 6054).

TOWN: THOMPSON

SAMPLE LENGTH : 50. SAMPLE DATE: 08/26/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Lepomis macrochirus | | | |
| Salvelinus fontinalis | STOCKED | | |
| Rhinichthys atratulus | | | |
| Catostomus commersoni | | | |
| Salvelinus fontinalis | WILD | | |
| Micropterus salmoides | | | |
| Lepomis gibbosus | | | |
| Anguilla rostrata | | | |

STREAM NAME : **WILLIMANTIC RIVER** SITE #: **6190**

SITE DESCRIPTION: BELOW DAM 300 M DOWNSTREAM OF RTE.32 CROSSING (LOWEST DAM AT AMERICAN THREAD COMPLEX IN WILLIMANTIC).

TOWN: WINDHAM

SAMPLE LENGTH :

SAMPLE DATE: 07/25/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Ambloplites rupestris | | | |
| Catostomus commersoni | | | |
| Salmo trutta | STOCKED | | |
| Micropterus dolomieu | | | |
| Cyprinus carpio | | | |

STREAM NAME : **NATCHAUG RIVER** SITE #: **6191**

SITE DESCRIPTION: 200 M UPSTREAM OF RTE. 198 CROSSING (TOP OF DIANA'S POOL UPSTREAM TO OLD STONE MILL WALL. SINGLE PASS SAM PLE).

TOWN: CHAPLIN

SAMPLE LENGTH : 192. SAMPLE DATE: 08/30/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salmo trutta | STOCKED | | |
| Catostomus commersoni | | | |
| Anguilla rostrata | | | |
| Micropterus salmoides | | | |
| Luxilus cornutus | | | |
| Micropterus dolomieu | | | |

STREAM NAME : **CHARTERS BROOK** SITE #: **6192**

SITE DESCRIPTION: 224 M SECTION BELOW CEMETERY BROOK CONFLUENCE (IMMEDIATELY UPSTREAM OF SITE 6187).

TOWN: TOLLAND

SAMPLE LENGTH : 234. SAMPLE DATE: 08/25/94

| PHYSICAL | | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|---|
| AIR TEMP. . . . : | 24.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | 15.00 | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | | |
|---|---|---|---|---|
| WIDTH. . . . . : | | | (m) | |
| DEPTH. . . . . : | | | (cm) | |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: | |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: | 1.60 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | |
| OVERHEAD CANOPY. . . . . : | | (%) | | |
| INSTREAM SHELTER . . . . . : | | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salmo trutta | | |
| Salvelinus fontinalis | | |

STREAM NAME : **CHARTERS BROOK** SITE #: **6193**

SITE DESCRIPTION: ABOVE CONFLUENCE WITH CEMETERY BROOK (UPSTREAM TO LARGE POOL, 226 M SECTION ABOVE SITE 6192).

TOWN: TOLLAND

SAMPLE LENGTH : 224. SAMPLE DATE: 08/25/94

| PHYSICAL | | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|---|
| AIR TEMP. . . . : | 24.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | 15.00 | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | | |
|---|---|---|---|---|
| WIDTH. . . . . : | | | (m) | |
| DEPTH. . . . . : | | | (cm) | |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: | |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: | 1.60 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | |
| OVERHEAD CANOPY. . . . . : | | (%) | | |
| INSTREAM SHELTER . . . . . : | | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salmo trutta | | |
| Salvelinus fontinalis | | |

STREAM NAME : **TANKERHOOSEN RIVER** SITE #: **6194**

SITE DESCRIPTION: 200 M UPSTREAM OF BOLTON RD., ABOVE POND IN BELDING WILD TROUT MANAGEMENT AREA.

TOWN: VERNON

SAMPLE LENGTH : 222. SAMPLE DATE: 08/31/94

| PHYSICAL | | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|---|
| AIR TEMP. . . . : | | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | 16.00 | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: 0.00 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salmo trutta | WILD | | |
| Salvelinus fontinalis | WILD | | |

STREAM NAME : **TANKERHOOSEN RIVER** SITE #: **6195**

SITE DESCRIPTION: DOWNSTREAM FROM CONFLUENCE WITH RAILROAD BROOK (LOWER WILD TROUT MANAGEMENT AREA).

TOWN: VERNON

SAMPLE LENGTH : 379. SAMPLE DATE: 08/31/94

| PHYSICAL | | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|---|
| AIR TEMP. . . . : | | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salmo trutta | WILD | | |
| Salvelinus fontinalis | WILD | | |

STREAM NAME : WILLIMANTIC RIVER SITE #: 6196

SITE DESCRIPTION: RTE. 74 TO RTE. I-84 (LOWER TROUT MANAGEMENT AREA).

TOWN: WILLINGTON

SAMPLE LENGTH : 1900. SAMPLE DATE: 08/31/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salmo trutta | STOCKED | | |
| Micropterus dolomieu | | | |
| Salmo trutta | WILD | | |
| Semotilus corporalis | | | |

STREAM NAME : **WILLIMANTIC RIVER** SITE #: 6197

SITE DESCRIPTION: RTE. I-84 TO ROARING BROOK CONLFUENCE (UPPER TROUT MANAGEMENT AREA).,

TOWN: WILLINGTON

SAMPLE LENGTH : 2100. SAMPLE DATE: 08/31/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | | |
|---|---|---|---|---|
| WIDTH. . . . . : | | | (m) | |
| DEPTH. . . . . : | | | (cm) | |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: | |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: | |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | |
| OVERHEAD CANOPY. . . . . : | | (%) | | |
| INSTREAM SHELTER . . . . . : | | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salmo trutta | STOCKED, ADIPOSE FIN CLIPPED | |
| Salmo trutta | STOCKED, LEFT VENTRAL FIN CLIPPED | |
| Salmo trutta | WILD | |
| Oncorhynchus mykiss | STOCKED | |
| Salmo trutta | STOCKED, NO MARK | |

STREAM NAME : **CHARTERS BROOK** SITE #: **6198**

SITE DESCRIPTION: 226 M ABOVE CEMETERY BROOK, UPSTREAM 270 M (SECTION ABOVE SITE 6193, LARGE POOL TO WEIR STRUCTURE).

TOWN: TOLLAND

SAMPLE LENGTH : 270. SAMPLE DATE: 08/25/94

| PHYSICAL | | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|---|
| AIR TEMP. . . . | 24.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . | 15.00 | (C) | pH . . . . . : | | |
| VELOCITY. . . . | | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . | | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | | |
|---|---|---|---|---|
| WIDTH. . . . . : | | | (m) | |
| DEPTH. . . . . : | | | (cm) | |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: | |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: | 1.60 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | |
| OVERHEAD CANOPY. . . . . : | | (%) | | |
| INSTREAM SHELTER . . . . . : | | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salmo trutta | | |
| Salvelinus fontinalis | | |

STREAM NAME : **CHARTERS BROOK** SITE #: **6199**

SITE DESCRIPTION: 496 M ABOVE CEMETERY BROOK (250 M SECTION ABOVE SITE 6198, FROM WEIR STRUCTURE UP TO ROAD ACCESS).

TOWN: TOLLAND

SAMPLE LENGTH : 250. SAMPLE DATE: 08/25/94

| PHYSICAL | | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|---|
| AIR TEMP. . . . | 24.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . | 15.00 | (C) | pH . . . . . : | | |
| VELOCITY. . . . | | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . | | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | | |
|---|---|---|---|---|
| WIDTH. . . . . : | | | (m) | |
| DEPTH. . . . . : | | | (cm) | |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: | |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: | 1.60 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | |
| OVERHEAD CANOPY. . . . . : | | (%) | | |
| INSTREAM SHELTER . . . . . : | | (m2) | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | | |

STREAM NAME : **TANKERHOOSEN RIVER** SITE #: **6200**

SITE DESCRIPTION: BRIDGE POOL UNDER BOLTON RD. (IN BELDING WTMA).

TOWN: VERNON

SAMPLE LENGTH : 27. SAMPLE DATE: 08/31/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | | | (m) | | |
| DEPTH. . . . . : | | | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: | | |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: | | |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | | |
| OVERHEAD CANOPY. . . . . : | | (%) | | | |
| INSTREAM SHELTER . . . . . : | | (m2) | | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salvelinus fontinalis | WILD | | |
| Salmo trutta | WILD | | |

STREAM NAME : **ROARING BROOK TRIB.** SITE #: **6202**

SITE DESCRIPTION: 50 M ABOVE CONFLUENCE WITH ROARING BROOK (FIRST TRIB ABOVE RTE. 32).

TOWN: WILLINGTON

SAMPLE LENGTH : 50. SAMPLE DATE: 06/16/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . :24.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | 9.9 | 0.12 |
| WATER TEMP. . . :14.00 | (C) | pH . . . . . : | 7.4 | 0.06 |
| VELOCITY. . . . : 0.1088 | (m/s) | COND . . . . . (uS/cm3). . : | 128.0 | 0.0 |
| DISCHARGE . . . : 0.2405 | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 7.3 | 0.50 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.35 | 1.03 | (m) | | |
| DEPTH. . . . . : | 8.88 | 7.12 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 5 | | POOL/RIFFLE RATIO . .: | | 0.35 |
| TYPE THREE SUBSTRATE . . . : | 0.11 | (%) | AIR/WATER TEMP. RATIO: | | 1.71 |
| EMBEDDEDNESS OF TYPE THREE : | 0.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 97.90 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 1.0 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 2893.6 | 102.4 |

STREAM NAME : **STONEHOUSE BROOK** SITE #: **6203**

SITE DESCRIPTION: UPSTREAM OF PALMER RD.

TOWN: CHAPLIN

SAMPLE LENGTH : 100. SAMPLE DATE: 06/28/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :21.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 7.2 | 0.10 |
| WATER TEMP. . . | :21.00 (C) | pH . . . . . : | 6.8 | 0.06 |
| VELOCITY. . . . | : 0.0682(m/s) | COND . . . . . (uS/cm3). . : | 54.3 | 0.6 |
| DISCHARGE . . . | : 0.0441(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 13.9 | 0.10 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 3.29 | 0.73 | (m) | | |
| DEPTH. . . . . : | 14.73 | 11.69 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | POOL/RIFFLE RATIO . .: | | 6.14 |
| TYPE THREE SUBSTRATE . . . : | 0.63 | (%) | AIR/WATER TEMP. RATIO: | | 1.00 |
| EMBEDDEDNESS OF TYPE THREE : | 46.47 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 93.80 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 6.7 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Lepomis cyanellus | 121.6 | 0.0 |
| Semotilus corporalis | 1276.6 | 56.7 |
| Micropterus salmoides | 30.4 | 0.0 |
| Luxilus cornutus | 1337.4 | 160.7 |
| juvenile cyprinid | 152.0 | 0.0 |
| Lepomis gibbosus | 30.4 | 0.0 |
| Perca flavescens | 182.4 | 0.0 |
| Catostomus commersoni | 881.5 | 82.6 |

STREAM NAME : **STONEHOUSE BROOK TRIB.** SITE #: **6204**

SITE DESCRIPTION: 50 M UPSTREAM OF STONEHOUSE BROOK (FIRST TRIB. UP FROM NATCHAUG RIVER).

TOWN: CHAPLIN

SAMPLE LENGTH : 50. SAMPLE DATE: 06/28/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :24.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 9.4 | 0.10 |
| WATER TEMP. . . | :16.00 (C) | pH . . . . . : | 7.5 | 0.00 |
| VELOCITY. . . . | : 0.1111(m/s) | COND . . . . . (uS/cm3). . : | 117.0 | 1.7 |
| DISCHARGE . . . | : 0.0174(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 23.7 | 0.15 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . | 0.68 | 0.21 | (m) | | |
| DEPTH. . . . . | 2.15 | 1.72 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 3 | | POOL/RIFFLE RATIO . .: | | 0.92 |
| TYPE THREE SUBSTRATE . . . : | 0.50 | (%) | AIR/WATER TEMP. RATIO: | | 1.50 |
| EMBEDDEDNESS OF TYPE THREE : | 16.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.0 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salvelinus fontinalis | 17647.1 | |

STREAM NAME : **FENTON RIVER TRIB.** SITE #: **6205**

SITE DESCRIPTION: UPSTREAM OF CONFLUENCE WITH FENTON RIVER (ADJACENT TO SITE 6009).

TOWN: MANSFIELD

SAMPLE LENGTH : 50. SAMPLE DATE: 07/13/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :26.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.8 | 0.10 |
| WATER TEMP. . . | :20.00 (C) | pH . . . . . : | 7.0 | 0.06 |
| VELOCITY. . . . | : 0.1712(m/s) | COND . . . . . (uS/cm3). . : | 60.3 | 0.6 |
| DISCHARGE . . . | : 0.4211(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | 16.9 | 0.17 |

| | MEAN | STD | | | |
|---|---|---|---|---|---|
| WIDTH. . . . . : | 2.89 | 1.38 | (m) | | |
| DEPTH. . . . . : | 7.83 | 5.38 | (cm) | | |
| DOMINANT SUBSTRATE TYPE. . : | 4 | | POOL/RIFFLE RATIO . .: | | 1.38 |
| TYPE THREE SUBSTRATE . . . : | 0.09 | (%) | AIR/WATER TEMP. RATIO: | | 1.30 |
| EMBEDDEDNESS OF TYPE THREE : | 20.00 | (%) | | | |
| OVERHEAD CANOPY. . . . . : | 87.50 | (%) | | | |
| INSTREAM SHELTER . . . . . : | 0.4 | (m2) | | | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Micropterus salmoides | 346.2 | 0.0 |
| Esox niger | 69.2 | 0.0 |
| Semotilus corporalis | 1661.5 | 0.0 |
| juvenile cyprinid | 69.2 | 0.0 |
| Salvelinus fontinalis | 346.2 | 0.0 |
| Ameiurus natalis | 138.5 | 0.0 |
| Rhinichthys atratulus | 14538.5 | 1752.3 |
| Notemigonus crysoleucas | 207.7 | 0.0 |
| Catostomus commersoni | 623.1 | 0.0 |
| Etheostoma olmstedi | 830.8 | 0.0 |
| Luxilus cornutus | 207.7 | 0.0 |

STREAM NAME : **DELPHI BROOK TRIB.** SITE #: **6206**

SITE DESCRIPTION: UPSTREAM OF CONFLUENCE WITH DELPHI BROOK.

TOWN: STAFFORD

SAMPLE LENGTH : 50. SAMPLE DATE: 08/15/94

| PHYSICAL | | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|---|
| AIR TEMP. . . . : | 19.00 | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | 14.00 | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | | |
|---|---|---|---|---|
| WIDTH. . . . . : | | | (m) | |
| DEPTH. . . . . : | | | (cm) | |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: | |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: | 1.36 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | |
| OVERHEAD CANOPY. . . . . : | 100.00 | (%) | | |
| INSTREAM SHELTER . . . . . : | | (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salmo trutta | WILD | | |
| Salvelinus fontinalis | | | |

STREAM NAME : **HOCKANUM RIVER** SITE #: **6207**

SITE DESCRIPTION: FROM CHINESE RESTRAUNT ON FRONTAGE ROAD TO TANKERHOOSEN RIVER CONFLUENCE.

TOWN: VERNON

SAMPLE LENGTH : 1150. SAMPLE DATE: 09/06/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | | |
|---|---|---|---|---|
| WIDTH. . . . . : | | | (m) | |
| DEPTH. . . . . : | | | (cm) | |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: | |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: | |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | |
| OVERHEAD CANOPY. . . . . : | | (%) | | |
| INSTREAM SHELTER . . . . . : | | (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salvelinus fontinalis | WILD | | |
| Salmo trutta | STOCKED | | |
| Micropterus dolomieu | | | |
| Salmo trutta | WILD | | |

STREAM NAME : **TANKERHOOSEN RIVER** SITE #: **6208**

SITE DESCRIPTION: FROM HOCKANUM RIVER CONFLUENCE, 400 M UPSTREAM TO 50 M ABOVE SECOND BRIDGE.

TOWN: VERNON

SAMPLE LENGTH : 400. SAMPLE DATE: 09/06/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salmo trutta | STOCKED | |
| Salmo trutta | WILD | |
| Ambloplites rupestris | | |
| Micropterus dolomieu | | |

STREAM NAME : **TANKERHOOSEN RIVER-BELDING POND** SITE #: 6209

SITE DESCRIPTION: 100 M UPSTREAM OF BOLTON RD. (SEINE SAMPLE AT BELDING POND AT WTMA).

TOWN: VERNON

SAMPLE LENGTH :

SAMPLE DATE: 09/06/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Catostomus commersoni | | | |
| Pomoxis nigromaculatus | | | |
| Salvelinus fontinalis | WILD | | |
| Lepomis macrochirus | | | |
| Salmo trutta | WILD | | |
| Lepomis gibbosus | | | |
| Micropterus salmoides | | | |
| Notemigonus crysoleucas | | | |

STREAM NAME : **PEQUABUCK RIVER** SITE #: **6211**

SITE DESCRIPTION: 25 M ABOVE RTE. 177 (SAME AS SITE 5244).

TOWN: BRISTOL

SAMPLE LENGTH : 150. SAMPLE DATE: 09/08/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Catostomus commersoni | | | |
| Anguilla rostrata | | | |
| Salmo trutta | WILD | | |
| Lepomis gibbosus | | | |
| Micropterus salmoides | | | |
| Rhinichthys atratulus | | | |
| Rhinichthys cataractae | | | |

STREAM NAME : **PEQUABUCK RIVER** SITE #: **6212**

SITE DESCRIPTION: 175 M ABOVE RTE. 177 (75 M SECTION ABOVE SITE 6211, SAME AS SITE 5245).

TOWN: BRISTOL

SAMPLE LENGTH : 75. SAMPLE DATE: 09/08/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Ameiurus nebulosus | | | |
| Anguilla rostrata | | | |
| Luxilus cornutus | | | |
| Micropterus salmoides | | | |
| Catostomus commersoni | | | |
| Salmo trutta | WILD | | |
| Perca flavescens | | | |
| Lepomis gibbosus | | | |
| Semotilus corporalis | | | |
| juvenile centrarchid | | | |
| Lepomis macrochirus | | | |

STREAM NAME : **PEQUABUCK RIVER** SITE #: **6213**

SITE DESCRIPTION: 250 M ABOVE RTE. 177 (IMPACTED ZONE ABOVE SITE 6212, AREA OF HEAVY BANK EROSION).

TOWN: BRISTOL

SAMPLE LENGTH : 300. SAMPLE DATE: 09/08/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Semotilus corporalis | | | |
| Ameiurus nebulosus | | | |
| Rhinichthys atratulus | | | |
| Catostomus commersoni | | | |
| Anguilla rostrata | | | |
| Perca flavescens | | | |
| Salmo trutta | WILD | | |
| Rhinichthys cataractae | | | |

STREAM NAME : **PEQUABUCK RIVER** SITE #: **6214**

SITE DESCRIPTION: UPSTREAM OF NORTHWEST AVE. (BIANNUAL SAMPLE SITE).

TOWN: PLAINVILLE

SAMPLE LENGTH : 150. SAMPLE DATE: 09/08/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Esox americanus | | |
| Luxilus cornutus | | |
| Semotilus corporalis | | |
| Micropterus salmoides | | |
| Catostomus commersoni | | |
| Perca flavescens | | |
| Notemigonus crysoleucas | | |
| Anguilla rostrata | | |
| Notropis hudsonius | | |
| Etheostoma olmstedi | | |

STREAM NAME : **PEQUABUCK RIVER** SITE #: **6215**

SITE DESCRIPTION: 75 M BELOW LOWER FOOT BRIDGE IN ROCKWELL PARK (SALMON AND TROUT SAMPLE BELOW SWIMMING POOL EFFLUENT PIPES).

TOWN: BRISTOL

SAMPLE LENGTH : 200. SAMPLE DATE: 09/08/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salmo trutta WILD | | |

STREAM NAME : **PEQUABUCK RIVER** SITE #: **6216**

SITE DESCRIPTION: 200 M UPSTREAM OF LOWER FOOT BRIDGE IN ROCKWELL PARK (ABOVE SITE 6215, ABOVE POOL DRAIN, TROUT AND SALMON O NLY)

TOWN: BRISTOL

SAMPLE LENGTH : 105. SAMPLE DATE: 09/08/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Oncorhynchus mykiss STOCKED | | |
| Salmo salar STOCKED | | |
| Salmo trutta WILD | | |
| Salmo trutta STOCKED | | |

STREAM NAME : **PEQUABUCK RIVER** SITE #: 6217

SITE DESCRIPTION: 50 M DOWNSTREAM OF RTE. 72 IN ROCKWELL PARK (BIANNUAL SAMPLE SITE).

TOWN: BRISTOL

SAMPLE LENGTH : 150. SAMPLE DATE: 09/08/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salmo salar | STOCKED | | |
| Rhinichthys atratulus | | | |
| Salmo trutta | STOCKED | | |
| Salvelinus fontinalis | STOCKED | | |
| Salmo trutta | WILD | | |
| Catostomus commersoni | | | |

STREAM NAME : **PEQUABUCK RIVER** SITE #: **6218**

SITE DESCRIPTION: UPSTREAM OF CENTRAL ST. (BIANNUAL SAMPLE).

TOWN: BRISTOL

SAMPLE LENGTH : 150. SAMPLE DATE: 09/08/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys cataractae | | | |
| Salmo trutta | WILD | | |
| Anguilla rostrata | | | |
| Rhinichthys atratulus | | | |

STREAM NAME : **PEQUABUCK RIVER** SITE #: **6219**

SITE DESCRIPTION: FROM 200 M UPSTREAM OF CENTRAL ST. TO COPPERMINE BROOK CONFLUENCE (SINGLE PASS TROUT ONLY, UP FROM SIT E 6218)

TOWN: BRISTOL

SAMPLE LENGTH : 510. SAMPLE DATE: 09/08/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Oncorhynchus mykiss | STOCKED | | |
| Salmo trutta | WILD | | |
| Salmo trutta | STOCKED | | |

STREAM NAME : **MOOSUP RIVER (TMA FLY-ONLY)** SITE #: **6220**

SITE DESCRIPTION: FROM POWERLINE CROSSING AT QUINEBAUG HATCHERY UP 550 M (TO TOP OF FLY-ONLY AREA, TROUT ONLY, ANNUAL TMA EVALUATION).

TOWN: PLAINFIELD

SAMPLE LENGTH : SAMPLE DATE: 09/09/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salmo trutta | WILD | | |
| Oncorhynchus mykiss | STOCKED | | |
| Salmo trutta | STOCKED | | |

STREAM NAME : **MOOSUP RIVER (TMA-OPEN)** SITE #: **6221**

SITE DESCRIPTION: DOWNSTREAM OF SEWAGE TREATMENT PLANT OUTFALL PIPE (DOWN TO TOP OF FLY-ONLY AREA, TROUT ONLY, ANNUAL TMA EVALUATION).

TOWN: PLAINFIELD

SAMPLE LENGTH : 1200. SAMPLE DATE: 09/09/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salmo trutta | STOCKED | | |
| Oncorhynchus mykiss | STOCKED | | |
| Salmo trutta | WILD | | |

STREAM NAME : **HAMMONASSET RIVER** SITE #: **6222**

SITE DESCRIPTION: UPSTREAM OF CHESTNUT HILL RD. (TROUT ONLY, STANDARD TMA SITE).

TOWN: KILLINGLY/MADISON

SAMPLE LENGTH : 582. SAMPLE DATE: 09/12/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : 0.0693 | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : 0.1191 | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salmo trutta | STOCKED | | |
| Salmo trutta | WILD | | |

STREAM NAME : **HAMMONASSET RIVER** SITE #: 6223

SITE DESCRIPTION: 1.2 KM UPSTREAM OF CHESTNUT HILL RD. (MILL SITE UPSTREAM TO 30 M ABOVE OLD DAM SLUICE, TROUT ONLY, TMA EVALUATION ).

TOWN: KILLINGLY/MADISON

SAMPLE LENGTH : 240. SAMPLE DATE: 09/12/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salmo trutta | STOCKED | |
| Salmo trutta | WILD | |

STREAM NAME : **HAMMONASSET RIVER** SITE #: 6224

SITE DESCRIPTION: APPROXIMATELY 1.6 KM UPSTREAM OF CHESTNUT HILL RD. (STARTING JUST BELOW TRIB. ON WEST SIDE WITH FOOT BRIDGE, TROUT ONLY, TMA EVALUATION).

TOWN: KILLINGLY/MADISON

SAMPLE LENGTH : 200. SAMPLE DATE: 09/12/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salmo trutta | STOCKED | |
| Salmo trutta | WILD | |

STREAM NAME : **HAMMONASSET RIVER** SITE #: 6225

SITE DESCRIPTION: 300 M BELOW HAMMONASSET RESERVOIR DAM (IN BOULDER AREA BETWEEN POOLS OF UPPER TMA).

TOWN: KILLINGLY/MADISON

SAMPLE LENGTH : 100. SAMPLE DATE: 09/12/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Anguilla rostrata | | |
| Rhinichthys atratulus | | |
| Rhinichthys cataractae | | |

STREAM NAME : **SALMON RIVER** SITE #: **6226**

SITE DESCRIPTION: UPSTREAM FROM DAY MEADOW BRIDGE ABUTMENTS TO WOLF BROOK (SALMONIDS AND BASS ONLY, TMA EVALUATION).

TOWN: MARLBOROUGH

SAMPLE LENGTH : 650. SAMPLE DATE: 09/13/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salmo trutta | WILD | | |
| Salmo trutta | STOCKED, NO M ARK | | |
| Salmo trutta | STOCKED, LEFT VENTRAL FIN CLIP | | |
| Micropterus dolomieu | | | |
| Salmo salar | STOCKED | | |
| Oncorhynchus mykiss | STOCKED | | |

STREAM NAME : **SALMON RIVER** SITE #: **6227**

SITE DESCRIPTION: POWER LINE CROSSING UPSTREAM TO DAY MEADOW BRIDGE ABUTMENTS (FLY-ONLY AREA, SALMONIDS AND BASS ONLY).

TOWN: MARLBOROUGH

SAMPLE LENGTH : 750. SAMPLE DATE: 09/13/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salmo trutta | STOCKED, AD IPOSE FIN CLIP | | |
| Salmo trutta | STOCKED, LEFT VENTRAL FIN CLIP | | |
| Micropterus dolomieu | | | |
| Oncorhynchus mykiss | STOCKED | | |
| Salmo salar | STOCKED | | |
| Salmo trutta | STOCKED, NO MARK | | |
| Salmo trutta | WILD | | |

STREAM NAME : **SALMON RIVER** SITE #: **6228**

SITE DESCRIPTION: 2.4 KM DOWNSTREAM OF RTE. 16 (AT USHER BROOK ACCESS IN LOWER SALMON RIVER STATE PARK, SALMONIDS AND BASS ONLY).

TOWN: MARLBOROUGH

SAMPLE LENGTH : 750. SAMPLE DATE: 09/13/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salmo trutta | STOCKED, NO MARK | |
| Salmo salar | STOCKED | |
| Micropterus dolomieu | | |

STREAM NAME : **MOOSUP RIVER (TMA-OPEN)** SITE #: **6229**

SITE DESCRIPTION: STP OUTFALL PIPE UPSTREAM TO 100 M BELOW RTE. 14 (TROUT ONLY, ANNUAL TMA EVALUATION).

TOWN: PLAINFIELD

SAMPLE LENGTH : 325. SAMPLE DATE: 09/09/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|
| Salmo trutta | STOCKED | |

STREAM NAME : **FACTORY BROOK** SITE #: **6300**

SITE DESCRIPTION: DOWNSTREAM OF SALMON KILL RD. (SAME AS SITE 4008, BIANNUAL SAMPLE).

TOWN: SALISBURY

SAMPLE LENGTH : 155. SAMPLE DATE: 08/29/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Lepomis macrochirus | | 69.1 | 0.0 |
| Semotilus atromaculatus | | 1451.6 | 69.5 |
| Notemigonus crysoleucas | | 11.5 | 0.0 |
| Rhinichthys cataractae | | 564.5 | 129.0 |
| Micropterus salmoides | | 23.0 | 0.0 |
| Etheostoma olmstedi | | 80.6 | 16.0 |
| Catostomus commersoni | | 1129.0 | 149.7 |
| Rhinichthys atratulus | | 1520.7 | 237.1 |
| Salmo trutta | WILD | 265.0 | 0.0 |

STREAM NAME : **EAST ASPETUCK RIVER** SITE #: **6301**

SITE DESCRIPTION: SOUTH OF FIRST CROSSING OF RTE. 202 (SAME AS SITE 4035, BIANNUAL SAMPLE).

TOWN: WASHINGTON

SAMPLE LENGTH : 154. SAMPLE DATE: 08/29/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . : | (C) | DISSOLVED OXYGEN (mg/l). . : | | |
| WATER TEMP. . . : | (C) | pH . . . . . : | | |
| VELOCITY. . . . : | (m/s) | COND . . . . . (uS/cm3). . : | | |
| DISCHARGE . . . : | (m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | |
|---|---|---|---|
| WIDTH. . . . . : | | | (m) |
| DEPTH. . . . . : | | | (cm) |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | |
| OVERHEAD CANOPY. . . . . : | | (%) | |
| INSTREAM SHELTER . . . . . : | | (m2) | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Salmo trutta | WILD | 66.0 | 0.0 |
| Exoglossum maxillingua | | 24.8 | 0.0 |
| Luxilus cornutus | | 8.3 | 0.0 |
| Semotilus corporalis | | 280.6 | 0.0 |
| Fundulus diaphanus | | 16.5 | 0.0 |
| Rhinichthys cataractae | | 354.8 | 69.7 |
| Lepomis macrochirus | | 33.0 | 0.0 |
| Rhinichthys atratulus | | 181.5 | 38.5 |
| Perca flavescens | | 33.0 | 0.0 |
| Catostomus commersoni | | 717.9 | 9.2 |
| Micropterus salmoides | | 33.0 | 0.0 |

STREAM NAME : **WILLOW BROOK** SITE #: **6322**

SITE DESCRIPTION: UPSTREAM OF INTERSECTION OF HARRIS RD. AND MT. SANFORD RD. (SCRWA PROPERTY, SAME AS SITE 2022).

TOWN: CHESHIRE

SAMPLE LENGTH : 150. SAMPLE DATE: 07/21/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :26.00 (C) | DISSOLVED OXYGEN (mg/l). . : | 8.8 | 0.10 |
| WATER TEMP. . . | :20.00 (C) | pH . . . . . : | 6.9 | 0.04 |
| VELOCITY. . . . | : 0.1384(m/s) | COND . . . . . (uS/cm3). . : | 219.0 | 0.0 |
| DISCHARGE . . . | : 0.1531(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | | |
|---|---|---|---|---|
| WIDTH. . . . . : | 5.97 | | (m) | |
| DEPTH. . . . . : | | | (cm) | |
| DOMINANT SUBSTRATE TYPE. . : | | | POOL/RIFFLE RATIO . .: | |
| TYPE THREE SUBSTRATE . . . : | | (%) | AIR/WATER TEMP. RATIO: | 1.30 |
| EMBEDDEDNESS OF TYPE THREE : | | (%) | | |
| OVERHEAD CANOPY. . . . . : | | (%) | | |
| INSTREAM SHELTER . . . . . : | | (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Rhinichthys cataractae | | 502.5 | 151.5 |
| Catostomus commersoni | | 647.7 | 12.7 |
| Salmo trutta | WILD | 569.5 | 13.0 |
| Lepomis gibbosus | | 44.7 | 0.0 |
| Etheostoma olmstedi | | 223.3 | 0.0 |
| Esox americanus | | 11.2 | 0.0 |
| Anguilla rostrata | | 323.8 | 75.6 |
| Lepomis macrochirus | | 11.2 | 0.0 |
| Salvelinus fontinalis | WILD | 201.0 | 0.0 |
| Rhinichthys atratulus | | 737.0 | 263.5 |
| Apeltes quadracus | | 11.2 | 0.0 |
| Semotilus corporalis | | 1105.5 | 62.7 |

STREAM NAME : **MILL RIVER** SITE #: 6323

SITE DESCRIPTION: DOWNSTREAM OF TUTTLE RD. (BIANNUAL SITE, SAME AS 2023).

TOWN: HAMDEN

SAMPLE LENGTH : 162. SAMPLE DATE: 07/21/94

| PHYSICAL | | CHEMICAL | MEAN | STD |
|---|---|---|---|---|
| AIR TEMP. . . . | :26.00 (C) | DISSOLVED OXYGEN (mg/l). . | : 9.0 | 0.06 |
| WATER TEMP. . . | :22.00 (C) | pH . . . . . | : 7.2 | 0.00 |
| VELOCITY. . . . | : 0.0309(m/s) | COND . . . . . (uS/cm3). . | :213.0 | 3.6 |
| DISCHARGE . . . | : 0.0948(m3/s) | ALKALINITY .(mg CaCO3 eq/l): | | |

| | MEAN | STD | | |
|---|---|---|---|---|
| WIDTH. . . . . | : | | (m) | |
| DEPTH. . . . . | : | | (cm) | |
| DOMINANT SUBSTRATE TYPE. . | : | | POOL/RIFFLE RATIO . .: | |
| TYPE THREE SUBSTRATE . . . | : | (%) | AIR/WATER TEMP. RATIO: | 1.18 |
| EMBEDDEDNESS OF TYPE THREE | : | (%) | | |
| OVERHEAD CANOPY. . . . . | : | (%) | | |
| INSTREAM SHELTER . . . . . | : | (m2) | | |

BIOLOGICAL

| SPECIES | | POPULATION SIZE (Number/ha) | STANDARD ERROR (Number/ha) |
|---|---|---|---|
| Anguilla rostrata | | 78.3 | 0.0 |
| Rhinichthys cataractae | | 240.2 | 23.2 |
| Micropterus salmoides | | 130.6 | 6.4 |
| Lepomis gibbosus | | 5.2 | 0.0 |
| Lepomis auritus | | 114.9 | 0.0 |
| Etheostoma olmstedi | | 501.4 | 27.0 |
| Catostomus commersoni | | 688.5 | 26.8 |
| Lepomis macrochirus | | 5.2 | 0.0 |
| Salvelinus fontinalis | WILD | 15.7 | 0.0 |
| Rhinichthys atratulus | | 626.7 | 52.1 |
| Salmo trutta | STOCKED | 26.1 | 0.0 |
| Salmo trutta | WILD | 5.2 | 0.0 |
| Esox niger | | 10.4 | 0.0 |
| Luxilus cornutus | | 5.2 | 0.0 |
| Semotilus corporalis | | 130.6 | 6.4 |
| Apeltes quadracus | | 26.1 | 0.0 |
| Esox americanus | | 41.8 | 0.0 |