STATE OF CONNECTICUT

Department of Envrionmental Protection

Bureau of Natural Resources

Fisheries Division

Federal Aid in Sport Fish Restoration F-66-R-5

Annual Performance Report

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

Job 2. Stream Survey

Job 3. Angler Survey

Period Covered: April 1, 1992 to March 31, 1993

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ABSTRACT

A comprehensive stream survey was conducted in the upper Housatonic River drainage basin as part of a multiple year study of Connecticut streams and rivers. A total of 156 sites on 131 streams were sampled for invertebrate populations, fish populations, and habitat information. Preliminary data analysis was done for most physical, chemical, and biological parameters measured, based on the presence or absence of trout and trout reproduction. Trout reproduction was found in 80% of the streams that were sampled. Preliminary data analyses were done on invertebrate samples collected in 1991.

Angler surveys were done on twelve streams. The scheduled creation of a new Trout Management Area (TMA) on the Moosup River during 1993 allowed an opportunity to incorporate a pre- and post-regulation-change evaluation as part of the normal survey work. The proposed TMA portion of the Moosup River was surveyed during 1992 as part of this evaluation. The heaviest fishing pressure during 1992 (760 hr/km) was measured on the Moosup River. Generally the streams in this year's samples had low levels of angler effort on an hours-per-kilometer basis. The Bulls Bridge portion of the Housatonic River was the first stream section creeled for this project containing a non-salmonid fishery, as well as a salmonid fishery not supported by Connecticut stocking efforts. The trout/smallmouth bass fishery in this stretch of river attracted a level of effort (270 h/km) comparable to a lightly fished stocked trout stream. Yearling brook trout streams had effort levels comparable to what has been seen in prior years. Catch-per-unit-of-effort on one adult stocked stream (East Branch Naugatuck River-1.64 fish/h) and one yearling stocked stream (Lake Waramaug Brook-2.48 fish/h) were the highest levels encountered to date.

Data collected from over 450 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 begun 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 fifth year of a seven year stream sampling program. The first four years covered sampling of the Connecticut River basin, the southwest coastal streams, and the lower Housatonic River basin. The upper Housatonic River drainage, north of State Route 109, was sampled during 1992 (Figure 1). This included the northern half of the Naugatuck River and Shepaug River drainages, as well as four other regional basins greater than 100 km^2 (Table 1). These regions have been undergoing a moderate level of development with approximately 2.55 construction permits per square mile issued per year during the mid 1980s (Chase Econometrics 1986). The flows in the upper half of the Naugatuck River have been modified by extensive flood control impoundment construction during the 1960s. At least six flood control structures have been built in this area, some of which serve as water diversion structures. The upper Shepaug River system has a large water supply dam and reservoir approximately 13.3 km upstream of the river mouth. Approximately 98.4 hectares (>1%) of the drainage area are located above this impoundment. The upper Housatonic River is mostly free-flowing with numerous streams entering its entire length in Connecticut. The Housatonic River enters the state as

Table 1.-Area of drainage basins in the upper Housatonic River basin, upper Shepaug River basin, and upper Naugatuck River basin.

Drainage Basin Name	Major and Regional Basin Codes	Area[1] (km^2)	Portion Sampled in 1992 Area (km^2)
Housatonic Major Basin	6	5040	1416
Housatonic River Regional Basin	60		537
Sages Brook		9	2
Shenob Brook		40	20
Konkapot River		52	2
Factory Brook		38	38
Spruce Swamp Brook		27	27
Salmon Creek		99	99
Mill Brook		17	17
Carse Brook		14	14
Furnace Brook		34	34
Guinea Brook		23	23
Kent Falls Brook		15	15
Cobble Brook		12	12
Bog Hollow Brook		17	15
Macedonia Brook		45	28
Womenshenuck Brook		24	24
Morrissey Brook		19	14
Blackberry River Regional Basin	61	120	92
Whiting River		52	*
Hollenbeck River Regional Basin	62	112	112
Brown Brook		15	15
Wangum Lake Brook		28	28
Tenmile River Regional Basin	63	544	88
Mudge Pond Brook		49	*
Mill Brook		39	*
Webatuck Creek		207	*
Aspetuck River Regional Basin	65	131	131
Merryall Brook		15	15
East Aspetuck River		65	65
Shepaug River	67	404	269
Marshepaug River		29	29
West Branch Shepaug River		27	27
West Branch Bantam River		22	22
Butternut Brook		16	16
Bantam River		140	140
Naugatuck River	69	802	279
Hall Meadow Brook		32	32
Hart Brook		18	18
Nickel Mine Brook		15	15
West Branch Naugatuck River		88	88
East Branch Naugatuck River		37	37
Spruce Brook		15	15
Rock Brook		23	23
Leadmine Brook		64	64
Northfield Brook		17	17

* All portions of these drainage basins located within the state were sampled.
[1] Area includes the entire watershed upstream of the mouth of each stream. This may include the area of other subregions located upstream.

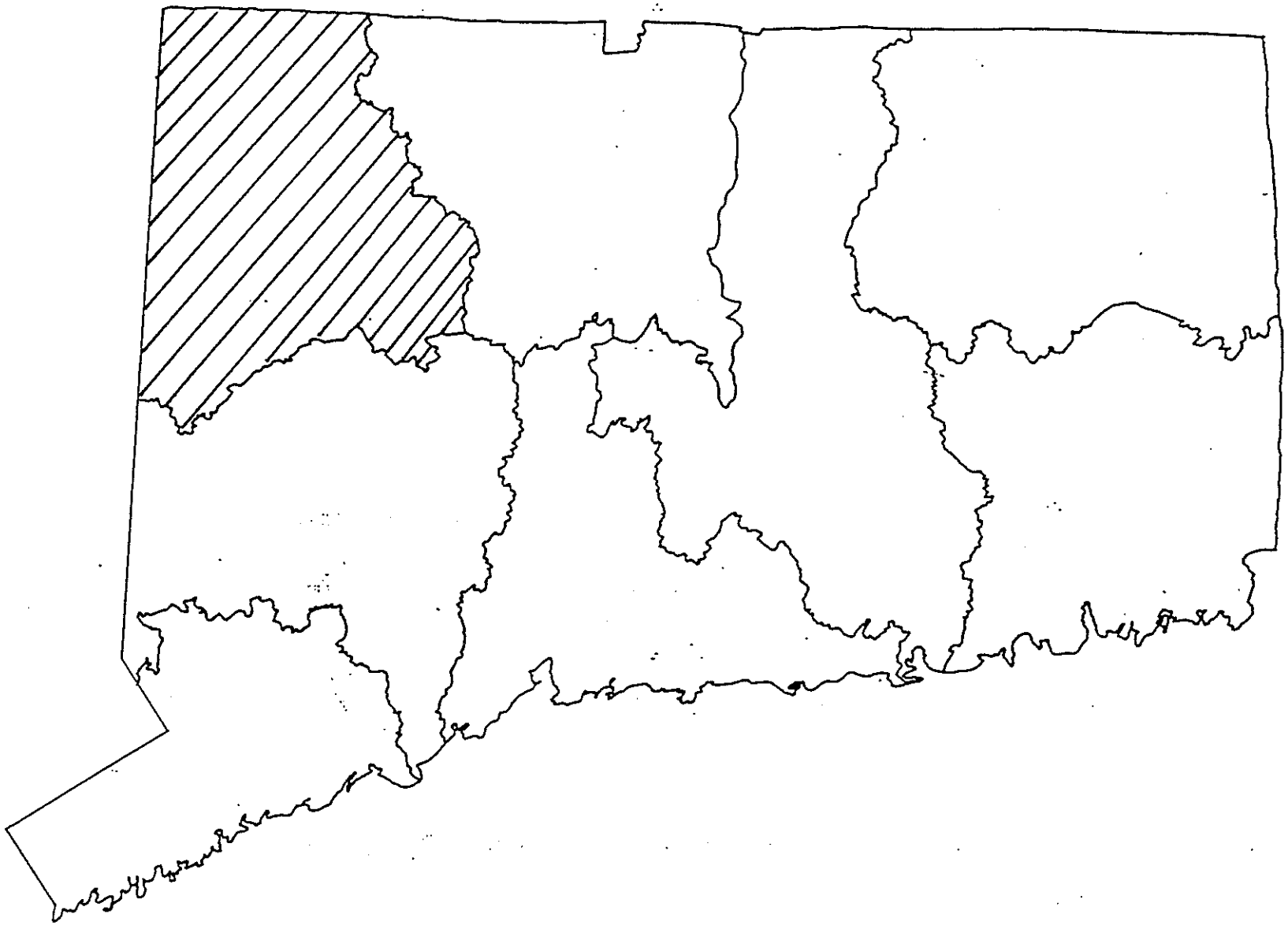

Figure 1. Drainage area sampled during 1992.

a fourth to fifth order stream and has a natural fall line at Falls Village. The river is impounded for hydroelectic bypass canals above Falls Village and Bulls Bridge.

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.

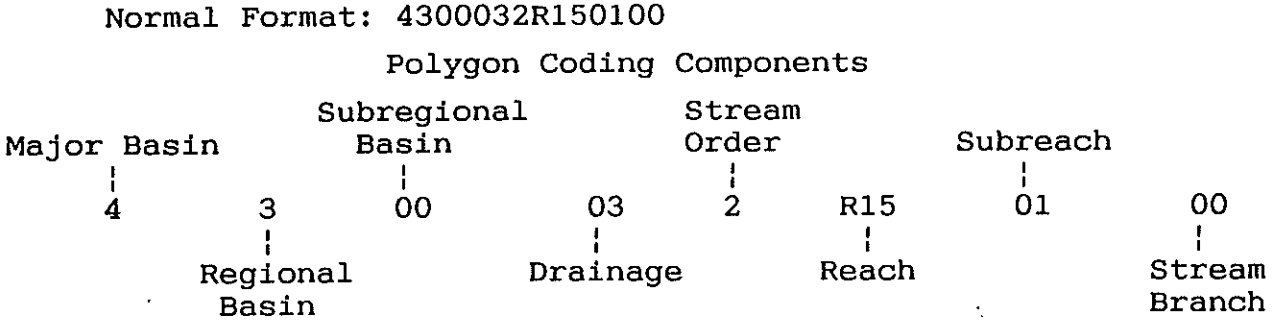

Figure 2. Polygon Coding System, an extension of DEP, Natural Resources Center's Stream Classification System.

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 sample 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. Consequently, quantified data were not collected from the lower Housatonic River (downstream of the Derby Dam). 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 and 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 15 of the next year.

2.3 Invertebrate Collections:

Aquatic invertebrates were collected between May 15 and June 9 (during this time insect biomass and diversity were 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 the best possible 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 to family, 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 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 was 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 an Orion 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. Filling solution in the pH probes was replaced on a monthly basis. The dissolved oxygen meter was calibrated daily at the 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 have to be within 30 cm of the water surface. Deep water habitat has to have a minimum depth of 45 cm, and turbulence must cause enough disturbance to hide a 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 well as 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 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. 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 centrachids below 5 cm and cyprinids below 4 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.

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, and 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 mussle/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 stored and 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 which had been rinsed with sample water. 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. 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):

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

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

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 was 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 will be 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 salt sample length was used as the estimate of the stream discharge volume.

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

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 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

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 (O.D.) 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 O.D. 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 determine angler effort expended during late summer 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.

For small streams stocked with yearling brook trout where large sample sizes were needed to reduce variance, a creel set included two creels on the same stream. This optimized manpower utilization when scheduling large and small streams that had different sample size requirements.

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 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.) 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.

Agents 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, are scheduled for the final year of the project. In addition, methods used to determine trout stocking rates elsewhere in the United States will be evaluated (Hagstrom et al. 1989).

3.0 Stream Survey Results:

The Housatonic River flows south out of Massachusetts and ends at Long Island Sound. The majority of this basin drains the western highlands. The Naugatuck River is the largest tributary. It flows south through a heavily developed area and receives industrial and municipal effluents. Areas of both the Naugatuck River and the Housatonic River have been dredged for gravel in the past. Several very deep sections were created in the Naugatuck River. The Housatonic River has a series of five hydropower dams, two of which form large impoundments (Lake Zoar and Lake Lillinonah).

The drainages of the upper Housatonic River are primarily underlain by granitic bedrock, with an area of marble along the main channel of the Housatonic River and several of its tributaries. Sections of 3 drainages are protected as public water supplies, with some having undergone impoundment, channelization, or stream diversion.

The air temperatures and rainfall during the 1992 sample season were very conducive to trout growth and survival. Maximum temperature data were not collected because no extended hot weather occurred during the summer sample period.

Data were collected from 156 sites on 131 streams (Figure 3). Salmonids were present at 129 sites on 110 streams. Evidence of brook trout *Salvelinus fontinalis* and/or brown trout *Salmo trutta* reproduction was found at 118 sites on 105 streams (Table 6).

Preliminary data analyses were carried out on all chemical, habitat, and population data. Because of the length of time required to identify, enumerate, and weigh inverbrates, 1992 sample processing has not been completed. In this report analyses of invertebrate data from 1991 sample sites are presented. More detailed analyses will be conducted during the final year of the study once more complete data sets have been compiled.

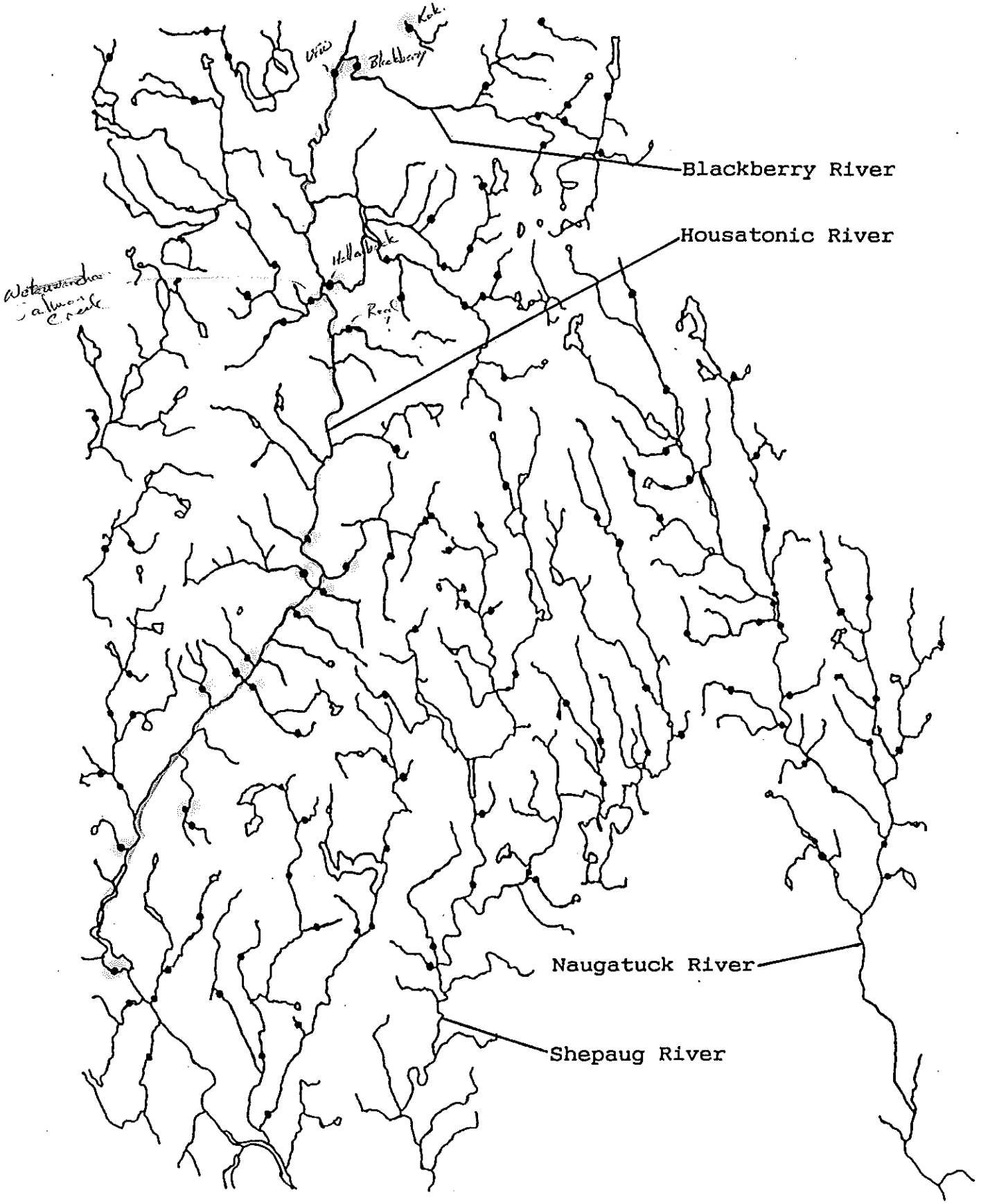

Figure 3. The 156 sites sampled during the 1992 season.

Table 6.-Percentage of streams with trout reproduction[1] by species and drainage for the 1992 sample season.

Drainage Name and Code	Number of Streams	Percentage of Streams with Trout Reproduction		
		Brown Tr.	Brook Tr.	Total
Housatonic River 60	46	52.2	63.0	76.1
Blackberry River 61	7	71.4	42.9	100.0
Hollenbeck River 62	9	22.2	66.7	66.7
Tenmile River 63	6	66.7	50.0	83.3
Aspetuck Drainage 65	10	30.0	80.0	100.0
Shepaug River 67	24	20.8	58.3	66.7
Naugatuck River 69	28	21.4	89.3	92.9
Totals 1992	131	37.4	67.2	80.2

1 One rainbow trout parr was found in one stream in the upper Housatonic River drainage (Guinea Brook), however the origin of this fish (hatchery or wild) could not be determined with certainty.

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.

Dissolved oxygen (D.O.) concentrations were not significantly different from previous years. Conductivity and pH

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

Parameter	All Streams 1992	Streams With Trout Present	Streams With Trout Reproduction
Dissolved Oxygen(mg/l)	9.7±1.0 (6.5-12.6)	9.8±0.9 (6.5-12.6)	9.8±0.9 (6.5-12.6)
pH	6.9±0.2 (3.9-8.3)	6.9±0.6 (5.2-8.3)	6.9±0.6 (5.2-8.3)
Conductivity [1]	137±83 (19-420)	130±77 (28-420)	127±78 (28-420)
Alkalinity [2]	56.8±46.7 (0.0-212.8)	53.2±44.4 (0.9-212.8)	52.1±44.9 (0.9-212.8)

1 umhos/cm.
2 mg/l $CaCO_3$ equivalant (eq).

values were all within expected ranges. Three sites had alkalinity values that were below 1.0 mg/l, indicating a susceptibility to acidification. At one site, a no-name Housatonic River tributary, alkalinity was not titratable, the pH was 3.9 and no fish were present. A second site, Monument Brook, located in the northwest corner of the state, was a granitic upland area with little buffering capabilities (0.06 mg/l). The pH was 4.7 and no fish were found at this site. The third site, Thayer's Brook, had a pH of 5.4, alkalinity of 0.9 mg/l and brook trout were present. This stream was located near the no-name Housatonic River tributary that had a pH of 3.9.

3.2 Physical:

Means, standard deviations, and ranges were calculated for several physical parameters (Table 8). Mean water velocity was above average (0.17 m/s) when compared to drainages sampled in previous years (0.11-0.22 m/s, Hagstrom et al. 1989, 1990, 1991, 1992). The large range of elevation values (330 m) in this area

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

Parameter	All Streams 1992	Streams With Trout Present	Streams With Trout Reproduction
Mean Water Velocity m/s	0.17±0.09 (0.00-0.42)	0.17±0.09 (0.00-0.42)	0.17±0.09 (0.00-0.42)
Discharge Volume m^3/s	0.29±0.91 (0.001-7.96)	0.32±0.98 (0.001-7.96)	0.26±0.83 (0.001-7.96)
Overhead Canopy (%)	55.6±38.5 (0-100)	55.2±39.8 (0-100)	54.0±38.9 (0-100)
Pool/Riffle Ratio	53.4±315.8 (0-2000)	64.7±349.5 (0-2000)	47.0±297.9 (0-2000)
Site elevation (meters above sea level)	226± 78 (33-548)	217± 78 (33-388)	217± 79 (33-388)
Substrate[1] Percent Embeddedness			
Type 3	39.5±24.5 (0.0-100)	37.2±22.9 (0.0-100)	36.2±22.8 (0.0-100)
Type 4	30.0±15.6 (0.0-95)	30.0±14.6 (1.0-95)	29.5±14.5 (1.0-95)

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

is reflected in steeper streams and a higher mean velocity when compared to the lower Housatonic River (250 m, 0.11 m/s). Mean discharge volume in streams with trout reproduction (0.32 m^3/s) was not significantly different from other drainages (0.11 m^3/s, 1991; 0.28 m^3/s, 1990; 0.20 m^3/s, 1989) although higher than previously encountered. The discharge volumes for 1992 in part may have been higher due to above average rainfall during the

summer. Mean overhead canopy values were approximately 20% lower than in previously sampled drainages but were not statistically significant due to the large range of values. Mean embeddedness of type 3 and type 4 substrates were generally comparable to values from other drainages. The mean pool-riffle ratio for streams with trout reproduction (47.0), was considerably higher than in other drainages (0.6-21.6) but this value was not significantly different due to the large standard deviations.

3.3 Biological:

3.3.1 Invertebrates:

During May and June 1991, 551 invertebrate samples were collected at low flow sample sites in the lower Housatonic River drainages. Invertebrate samples collected during 1991 were sorted and identified to family (Appendix A) by June 1992. 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 1991 averaged 17.3 (± 5.2) families when trout were present and 14.0 (± 5.9) families when trout were absent. The mean number of families with trout present was similar to the 1988-1990 means. The number of families with no trout present was comparable to 1989 and 1990 values and higher than 1988 values.

Table 9.-Summary of invertebrate data from 1991 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 reproduction. The same calculations were performed on a subset of invertebrates with mean individual weights greater than or equal to 1.0 mg. Ranges are included in parentheses.

Variable	No Trout	Trout Present	Trout Reproduction
All Invertebrates			
Sample Size (N)	23	87	79
Number of Families	14.0 ± 5.9 (3-23)	16.7 ± 5.6 (4-31)	17.3 ± 5.2 (4-31)
Individuals/m^2	790 ± 612 (64-2214)	740 ± 452 (67-2077)	755 ± 465 (67-2077)
Weight g/m^2	17.5 ± 15.3 (0.4-46.1)	14.5 ± 11.7 (0.2-59.6)	15.2 ± 11.8 (0.2-59.6)
Ind. Wt ≥1.0 mg			
Number of Families	7.0 ± 3.5 (1-13)	8.9 ± 3.3 (2-19)	9.0 ± 3.3 (2-19)
Individuals/m^2	603 ± 577	570 ± 399	611 ± 423
Weight g/m^2	17.0 ± 15.1	14.4 ± 11.6	15.1 ± 12.0

3.3.2 Fish populations:

In 1992 one new fish species not previously reported in Connecticut was collected from Konkapot River: longnose sucker, *Catostomus catostomus*. Several collections were made of bluntnose minnows, *Pimephales notatus*, from sites close to the Housatonic River or in the Housatonic River itself. Only a single specimen was collected the previous year. A small population of burbot, *Lota lota*, was found in the Hollenbeck

River and Brown Brook. Also of note were the absence of any green sunfish, *Lepomis cyanellus*, from our collections, the presence of fathead minnow, *Pimephales promelas*, populations scattered throughout the drainage, and the collection of two tiger trout (brown trout X brook trout) at Burton Brook.

The capture efficiency (p) of all species combined was over 30% for most sites sampled. The mean capture efficiencies for individual species (all sites combined) were usually above 30% (Table 10). In seven sites catch efficiencies were lower due to the presence of young cyprinids or negatively bouyant species. The negatively buoyant species, longnose dace *Rhinichthys cataractae* and tessellated darter *Etheostoma olmstedi*, had the lowest mean capture efficiencies. Capture efficiencies were high enough to prevent any significant error in the population estimates for the dominant species at each site. Capture efficiencies for individual species were nearly identical, or slightly higher than those from other drainages (Hagstrom et al. 1989, 1990, 1991).

Incidence of trout reproduction was very high, as wild fish were present in 80.2% of all streams sample. Brown trout reproduction was widespread and consistently present in every drainage (37% of all streams). Incidence of brook trout reproduction was as high as in any drainages sampled to date, (67% of all streams) with four of the seven subregional basins having at least 60% of the streams containing evidence of brook trout reproduction.

The number per hectare (Table 11) ranged from 5.0 to 10,813 fish/ha for brook trout (mean 1,506 fish/ha) and 1.2 to 4,304 fish/ha for brown trout (mean 399 fish/ha). The mean density of brown trout in stream from the upper Shepaug River drainage (130 fish/ha)was considerably lower than the mean density in tributary streams in the lower portion of this subregional basin sampled 1991; (2,224 fish/ha). These lower tributary streams were inhabitated by large numbers of juvenile brook trout and brown trout.

Table 10.-Efficiency of capture (p) during the 1992 sample season for selected species.

Species	Number of Sites	Number p>30%	Mean p	Maximum p	Minimum p
American eel *Anguilla rostrata*	23	21	63	100	25
Brown trout *Salmo trutta*	55	55	67	100	33
Brook trout *Salvelinus fontinalis*	94	94	74	100	50
Fallfish *Semotilus corporalis*	20	17	61	100	10
White sucker *Catostomus commersoni*	82	73	61	100	15
Blacknose dace *Rhinichthys atratulus*	120	108	63	100	16
Common shiner *Luxilus cornutus*	40	34	60	100	17
Longnose dace *Rhinichthys cataractae*	50	41	54	100	13
Tessellated darter *Etheostoma olmstedi*	51	38	44	100	1
All species combined	126*	118	61		

*This does not include sites with fewer than three sample passes.

The dams on the lower Housatonic River and Naugatuck River greatly limit the upstream movement of American eels, but do not eliminate it. Some individuals were found to pass the Derby Dam at Ansonia, and the Stevenson Dam (approx. 25 m high) on Lake Zoar and the Shepaug Dam on Lake Lillinonah. A single American eel was collected in the Bulls Bridge section of the Housatonic River. The waterfalls and rapids at Falls Village act as an additional upstream barrier to eel migration. It was also noted that no cutlips minnow, *Exoglossum maxillingua*, populations were found above this point in the Housatonic River.

White sucker populations were common with a wide range of densities. Fallfish distribution was generally restricted to the larger rivers and streams. Centrarchid populations were of approximately the same level, and ranges of densities as observed in drainages sampled in previous years.

Table 11.-Mean ± standard deviation of number per hectare of trout by drainage in the upper Housatonic River and Naugatuck River basin streams sampled in 1992.

Species/ Drainage	Number per Hectare: Streams with Trout	Number per Hectare: Streams with Reproduction
Brown trout		
Housatonic R.	713± 928	741± 938
Blackberry R.	438± 712	438± 712
Hollenbeck R.	76± 74	95± 76
Ten Mile R.	52± 30	52± 30
Aspetuck R.	449± 714	449± 714
Shepaug R.	82± 105	130± 118
Naugatuck R.	50± 44	55± 44
All drainages	399± 730	441± 758
Brook trout		
Housatonic R.	1300±1601	1300± 1601
Blackberry R.	388± 232	388± 232
Hollenbeck R.	1102± 985	1102± 985
Ten Mile R.	186± 154	186± 154
Aspetuck R.	1631±3033	1631± 3033
Shepaug R.	2139±2576	2461± 2622
Naugatuck R.	1700±2015	1700± 2015
All drainages	1506±2078	1537± 2089

There were six significant populations of smallmouth bass encountered this year, located primarily in the larger rivers (Ten Mile River, Housatonic River, Bantam River, West Aspetuck River, Blackberry River and Salmon Creek). These populations, with the exception of the Bantam Rvier, were typically found in areas close to the confluence of the tributary river with the Housatonic River. No smallmouth bass were encountered in the Naugatuck River upstream of Thomaston Flood Control Impoundment (FCI). Given the abundant forage base found in this river, we are not sure why smallmouth bass did not inhabit areas above the Thomaston FCI.

Mean lengths at age of brown trout for all 1992 streams combined (Table 12) were in the moderate growth range for all age classes (Newman 1985). The ranges of values were comparable to other Connecticut drainages except that: fish from three streams

Table 12.-Mean brown trout length and range at age for streams sampled through 1992, and selected comparison values.

Source	Age 1 (mm)	Age 2 (mm)	Age 3 (mm)
Connecticut River Drainages, Conn.	97.6 (73-131)	176.9 (146-207)	246 (197-280)
Farmington River	86 (74-92)	153 (133-181)	222.5 (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)	200.7 (145-242)	266 (183-292)
Upper Housatonic River	**94 (57-155)**	**193 (132-250)**	**259 (168-330)**
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).

(Rock Brook, Konkapot River and Blackberry River) had mean lengths at age 2 of approximately 250 mm and Konkapot River and Blackberry River both had mean lengths at age 3 of 330 mm. These values are higher than previously seen for these age classes. Values for Konkapot River and Rock Brook are based on single individuals and may not be indicative of the true population growth rates.

4.0 Angler Survey Results:

A total of twelve streams (Figure 4 and Table 13) were creeled during 1992. Two of the streams were yearling-brook-trout-stocked streams on which we increased the sampling effort to 45-50 samples. Two areas were non-stocked, but had wild trout populations, and two streams were fly-fishing-only areas (Bantam River and Moosup River). In addition three streams with wild trout populations present were stocked with marked fish to determine the occurrence of the wild trout in the creel. The resident trout populations were sampled prior to the start of the fishing season to estimate the abundance of harvestable individuals and again in midsummer to determine the numbers of stocked and wild fish not taken by anglers.

4.1 Angler Survey Site Descriptions:

The Bantam River Fly fishing area is a privately owned 2.6 km section of river in Morris. This hardwood bottoms area is accessible only by paths running the length of the sample section. It is impacted by the warming effects of a top water outflow from Bantam Lake located 6.8 km upstream on the river, and by water level fluctuation caused by a hydroelectic plant 3.7 km upstream. A sewage treatment releases treated effluent to the river 1.2 km above the fly-fishing-only area. The river averages 17.5 m wide and the substate is primarily small boulder and cobble.

The Blackberry River in Canaan, 7.5 m wide, is a meandering meadow stream running roughly parallel to Rte. 4 as it crosses through several large agricultural operations. The river has primarily a gravel substrate with one bedrock section just downstream of the single small impoundment on the stream. This pond is the site of an old furnace and has a state access area below the 2.5 m dam. Wild brown trout and brook trout are present in the system and angler access is good for most of the stream with almost all of the farm owners allowing anglers to cross their property.

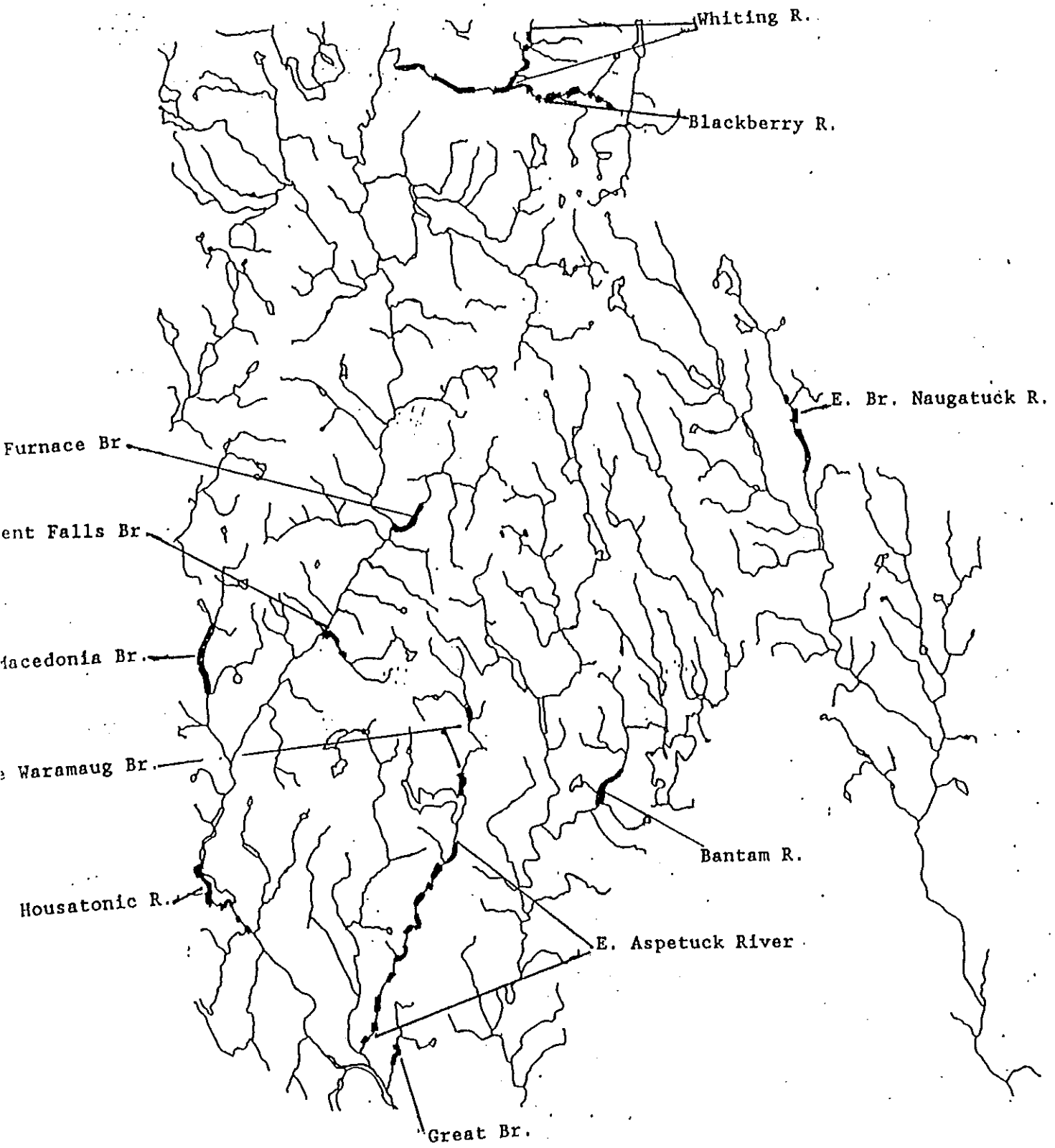

Figure 4.-Location of angler surveys in the upper Housatonic River drainages conducted during 1992.

Table 13.-Stocking information for streams on which angler surveys were conducted in 1992.

Stream	Species Stocked[1]	Total Number of Trout Stocked	Number Stocked per km	Number of In-season Stockings
Bantam R. (fly-only area)	BK, BN, RW	1,722	662	1
Blackberry R.	BK, BN, RW	2,630	202	1
E. Aspetuck R.	BK, BN, RW	4,140	305	2
East Branch Naugatuck R.	BK, BN, RW	2,360	576	1
Furnace Br.	BK, BN, RW	2,410	1,148	2
Great Br.	Not Stocked	---	---	0
Housatonic R. (Bulls Bridge)	Not Stocked	---	---	0
Kent Falls Br.	YBK	600	600	0
Lake Waramaug Br.	YBK	310	300	0
Macedonia Br.	BK, BN, RW	1,520	422	1
Moosup R.	BK, BN, RW	1,700	607	2
Whiting R.	BK, BN, RW	1,630	354	1

1 BK= brook trout *Salvelinus fontinalis* adults, BN= brown trout *Salmo trutta* adults, RW= rainbow trout *Oncorhynchus mykiss* adults, (20-30 cm TL), YBK= yearling brook trout *Salvelinus fontinalis* (14-20 cm TL).

The Whiting River averages 6.5 m wide, and has a sand and gravel dominated substrate. It flow south into Canaan from Massachussetts and is a tributary of the Blackberry River. A flood control dam is located just north or the state line. Access is mostly limited to stream crossings in the upper half of

the creeled section and by field roads in the lower section below an old viaduct. Wild brown trout were present in the stream in low numbers.

East Aspetuck River, which averages 8.8 m wide, is formed by the outflow of Lake Waramaug. The portion of the stream which flows parallel to Rte. 202 in Washington is a moderate gradient cobble stream with some bedrock areas. Along Paper Mill Road in New Milford the river gradually becomes more of a low gradient stream with shifting sand and deep pools. It is stocked at numerous locations along its 13.7 km length. Wild brown trout are present in low to moderate numbers throughout the stream. Access to the river was good for most of its length.

East Branch Naugatuck River, which averages 6.1 m wide, is located just north of Torrington. A portion of this stream is located in a public park just upstream of a flood control dam. In this section, the stream consists mainly of meadow habitat and has a substrate of cobble and gravel. Downstream of the dam there is a 1.7 km section of slightly higher gradient river. This area is parallel to a public road and is dominated by small boulder habitat. Wild brook trout are present in this section. Access to the river is good to excellent for this entire section.

Furnace Brook, in Cornwall, is a 7.9 m wide moderate to high gradient stream parallel to Rte. 4. The stream section creeled was from the confluence with the Housatonic River upstream 2.1 km. It has excellent accessibility at several picnic areas along the creeled section. A portion of the brook upstream of the area sampled is posted. The stream has wild brown and brook trout, primarily cobble and small boulder substrate, and is in a narrow hemlock-forested valley.

Great Brook is a small, 3.2 m wide, stream in New Milford that has a wild brown trout population. The section creeled was a 1.5 km non-stocked area in a cemetery with good public access. Maintenance personnel at the cemetery indicated that it was fished by local anglers. We creeled this area to try to quantify usage of a wild brown trout population.

The creeled area of the Housatonic River consisted of intermittent sections from below Bulls Bridge down to below the Rte. 7 bridge in Gaylordsville. It is a very scenic area, averaging 83 m wide. Large portions are accessible through the Appalachian trail on the west bank, and Rte. 7 and a Northeast Utilities access road on the east bank. The area has large boulder and bedrock habitat and several deep pools. Part of the flow of the Housatonic River is diverted through a hydroelectric facility above the creeled area and returns to the river approximately half way down the 5.1 km section. Much of this area was dewatered prior to the establishment of minimum flow requirements in the 1970s. This is an area not stocked by the state of Connecticut, although some trout, wild and stocked, and a good smallmouth bass population, exist there. Some of the trout in the area may be the result of stockings in the Tenmile River. A section of the Tenmile River, that joins the Housatonic River partway through the sample area, is stocked by New York State Department of Environmental Conservation approximately 4.2 km upstream from the Housatonic River.

Kent Falls Brook, in Kent, avarages 6.4 m wide in Kent Falls State Park. Access is excellent to the areas above and below the falls. The stream, which has a substrate that varies from cobble to bedrock, stocked with yearling brook trout. Stocked and wild trout come into the stream from the Housatonic River, which is located about 100 m below the park. The number of trout entering the stream from the Housatonic River varies considerably depending on temperatures, flow conditions and time of year.

Two sections of 5.7-m-wide Lake Waramaug Brook were creeled. Both areas parallel state roads (Rte. 341 or Rte. 45) in Warren. These areas are readily accessible from the road. The stream has a boulder, cobble substrate and is shaded by hardwoods. The stream currently is stocked with yearling brook trout only in the upper section along Rte. 341.

The 3.6 km section of Macedonia Brook that was creeled flows through the Macedonia State Campground in Kent. The area is located approximately 2.5 km upstream of its confluence with the

Housatonic River. The 5.2-m-wide stream section has a gravel,cobble and boulder substrate with two small bedrock sections. The stream is shaded and accessible from the campground road that runs parallel to it through most of the park. There are wild brown trout and brook trout present in this stream.

The creeled section of Moosup River was a 2.8 km long low to moderate gradient stream situated between Rte. 14 in Plainfield and the Quinebaug River. It is located in part on Quinebaug Wildlife Management Area property near the Quinebaug State Hatchery. One section was managed under fly-fishing-only regulations whereas the rest was under normal regulations. This area will be changing to a catch and release only area during 1993 and will be creeled again to assess the impact of the regulation change. The substrate dominated by gravel with one section of small boulder habitat. A portion of the stream, located in the middle of this section is overgrown and braided into four subchannels which are difficult to access, 0.5 km from the nearest road.

4.2 Angler Survey Summaries:

During 1992 we continued to use the 5 stratum sample design that utilizes stocked and non-stocked time periods. We used additional samples to try to reduce variance of effort and catch estimates on small yearling brook trout streams.

4.2.1 Effort:

Angler effort results are presented in Table 14. The level of angler effort on all streams ranged from undetectable on Great Brook to over 760 h/km for the unrestricted section of the Moosup River. The adult-stocked streams had a wide range of total angler hours (460 to 3,398 h) when compared to previously creeled adult-stocked streams, and generally low levels of angler effort when expressed on an hours-per-kilometer basis (100 to 769 h/km). Angler effort on the Housatonic River, Bulls Bridge area, was primarliy targeted on trout (51%). Anglers targeting trout and/or smallmouth bass made up 27% of the anglers.

Table 14.-Effort in angler hours and catch-per-unit-of-effort (CPUE) in fish-per-hour for streams surveyed in 1992.

Stream	Angler Effort			Catch-per-unit-of-effort			
	Total Hours	Hours Per KM	±RSE	Brown Trout	Brook Trout	Rainbow Trout	All Fish[1]
Bantam R. Fly-only area	983	378	±19.1%	0.401	0.076	0.101	0.630
Blackberry R.	2,627	199	±12.3%	0.480	0.096	0.172	0.859
E. Aspetuck R.	3,398	248	±10.2%	0.568	0.044	0.050	0.673
East Branch Naugatuck R.	1,394	340	±17.2%	0.903	0.259	0.229	1.644
Furnace Br.	1,315	626	±19.4%	1.113	0.194	0.144	1.551
Great Br.	0	0	± 0.0%	---	---	---	---
Housatonic R. (Bulls Bridge)	1,377	270	±23.0%	0.216	0.072	0.038	1.340
Kent Falls Br.	226	226	±23.4%	0.002	0.880	0.0	0.978
Lake Waramaug Br.	83	42	±38.6%	0.0	2.475	0.0	2.475
Macedonia Br.	1,434	399	±12.0%	0.625	0.266	0.151	1.038
Moosup R. Fly-only area	563	512	±29.6%	0.663	0.140	0.423	1.23
Unrestricted area	1,307	769	±16.0%	0.440	0.231	0.262	0.930
Whiting River	461	100	±28.5%	0.279	0.131	0.109	0.596

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

The yearling-brook-trout-stocked (YBT) streams supported between 80 and 226 total angler hours. This was comparable to the range of values seen elsewhere in Connecticut for YBT streams. Angler effort per kilometer for YBT streams (42-226 hr/km) overlapped the range of effort in adult-stocked streams (100-769 hr/km) in other drainages. YBT streams were utilized for a longer period (42 and 49 days) than seen in previous years (about 25 days or less).

The relative standard error (RSE) of effort estimates for 1992 YBT streams ranged between 23.4 and 38.6%. Adult streams had RSE values for effort ranging from 10.2-29.6% which is within the range of precision expected for this design.

4.2.2 Catch per unit of effort (CPUE)

The majority of Catch-per-unit-of-effort (CPUE) values determined in 1992 were similiar to those measured on streams sampled in prior years (Table 14). Exceptionally high CPUE values were recorded in two streams however. The highest values yet recorded for both YBT and adult-stocked streams were measured on Lake Waramaug Brook (2.48 fish/h) and on the East Branch of the Naugatuck River (1.6 fish/h).

The CPUE values of individual species is roughly proportional to the stocking ratios, except in the case of the Moosup River fly-only area and the total CPUE of the Housatonic River (Table 14). The Moosup River fly-only area had considerable catch and release fishing (76.7%), resulting in higher CPUE values in the fly-fishing-only area than in the unrestricted portion of the Moosup River. The difference between total CPUE and the individual species CPUE for the Housatonic River was the result of a significant catch of smallmouth bass (1.02 fish/h). Some wild trout, and the immigration of stocked trout from upstream in the Housatonic River and Ten Mile River systems, produced a low level (0.33 fish/h) of CPUE for trout that was not previously documented in this area of the river (Barry 1986). The smallmouth bass catch in the Housatonic River is the only significant non-salmonid catch we encountered during spring creeling.

4.2.3 Total catch

Estimated total catches by stream and species are presented in Table 15. Trout catch averaged 438 trout/km for adult-stocked streams and 163 trout/km for YBT streams. The RSEs of the 1992 catch estimates were consistent for the adult-stocked streams (31.6 ± 9%). The mean of the RSE values for YBT streams (48.4 ± 19.7) and non-stocked streams (31.0 ± 31.0) varied from 0% because of no catch to a high of 62% at both Lake Waramaug Brook and the Housatonic River. Smallmouth bass dominated the estimated catch for the Housatonic River with approximately 1,200 of the 1,850 fish caught being smallmouth bass. Brown trout dominated catch in all adult-stocked streams.

Percent-return-to-the-creel was estimated by dividing the catch per kilometer (Table 15) by the total number of trout stocked per kilometer (Table 14). Percent-return-to-the-creel of trout (Table 16) averaged 66.0 ± 32% for adult streams and 52.0 ± 21% for YBT streams. These numbers are sometimes misleading because of the influence of catch-and-release fishing, wild trout supplementing the creel, and possible poaching problems. The return to the creel of the Bantam River Fly Area, seems unusually low when compared to other fly-only areas. The general trend is for high return rates due to the large number of catch-and-release fishermen using these areas. For the Whiting River the return rate is also very low. It is likely that outmigration of some trout to the Blackberry River contributed to this low percent-return-to-the-creel. It is also possible that a significant catch period or fishing location was inadvertently missed during the creel.

4.2.4 Wild trout in creel

Using marked fish, it was possible to determine the contribution of wild trout to the creel in three streams with wild populations of trout. The stocked fish were marked with adipose fin clips. All unmarked fish counted during the creel were assumed to be of wild origin. A representative population sample was collected from each stream prior to opening day to

Table 15.-Total catch and catch by species for streams surveyed in 1992.

Stream	Trout Catch Per KM	±RSE	Total Catch			
			Brown Trout	Brook Trout	Rainbow Trout	All Fish
Bantam R. Fly-only area	218	±30.2%	394	75	99	619
Blackberry R.	112	±32.1%	1,449	289	388	2,257
E. Aspetuck R.	167	±38.8%	1,951	101	114	2,288
East Branch Naugatuck R.	401	±27.9%	1,489	594	525	2,295
Furnace Br.	917	±41.0%	1,564	273	294	2,039
Great Br.	0	± 0.0%	---	---	---	---
Housatonic R. (Bulls Bridge)	78	±62.0%	264	88	46	1,851
Kent Falls Br.	221	±34.5%	16	205	---	221
Lake Waramaug Br.	103	±62.3%	---	206	---	206
Macedonia Br.	716	±12.0%	882	386	222	1,490
Moosup R. Fly-only area	636	±28.3%	378	80	241	699
Unrestricted area	716	±31.0%	548	309	323	1,217
Whiting River	63	±43.5%	157	73	61	290

estimate the number of potentially harvestable fish present in the population. For calculation purposes it was assumed that 175 mm was the minimum acceptable size of trout to the anglers.

The average percentage of unmarked trout found in the creel was 6.9 ± 2.4% (Table 17). In two of the streams this represented approximately 40% of the wild trout available for harvest. In one stream, Kent Falls Brook, only about 6% of the potentially

Table 16.-Return to the creel for trout in stream sections surveyed in 1992; all trout species combined.

Stream	# Caught per km	# Stocked per km	Percent return
Bantam R. Fly-only area	218	662	33%
Blackberry R.	112	202	55%
E. Aspetuck R.	167	305	55%
East Branch Naugatuck R.	401	576	70%
Furnace Br.	971	1,148	85%
Great Br.	----	---	---
Housatonic R. (Bulls Bridge)	78	---	---
Kent Falls Br.	221	600	37%
Lake Waramaug Br.	103	155	67%
Macedonia Br.	414	422	98%
Moosup R.	685	607	113%
Whiting R.	63	354	18%

Table 17 -Contribution of wild trout to the 1992 catch in three selected Connecticut streams.

Stream Name	Trout Stocked per/ha	Catchable Wild Trout per/ha Preseason	Percent Wild Trout Harvested	Percent Wild Trout In Creel
Macedonia Br.	796	182	41	9.5
Kent Falls Br.	932	362	6	6.4
Furnace Br.	1230	143	40	4.7

harvestable wild trout were caught. It is apparent that while wild trout may not make up a large percentage of the catch in stocked streams, the number of harvestable size individuals can be significantly impacted by fishing pressure.

5.0 Data Utilization:

One of our primary objectives in planning the Stream Survey was to provide data which could be used to comment on proposed construction and land acquisition. Data collected were made available for inquiry as soon as all calculations were complete (Table 18). Attempts have been made to make people aware of the data collected by the project through public speaking opportunities. Requests by federal, state and research groups

for data increased this year. Information was supplied to the USF&W for the Silvio Conte Refuge database and to the University of Connecticut for use in an evaluation of the potential of zebra mussel introduction.

6.0 **Expenditures:**

A total of $118,345.03 was expended for Job 2 and $31,470.03 for Job 3. Federal reimbursement under the Federal Aid in Sport Fish Restoration Act amounted to 75%, $88,759 and $23,602 respectively. State expenditures were $29,586 for Job 2 and $7,868 for Job 3.

Table 18.-Data/information requests: January 1992-January 1993.

Request Type	Information Needed	Number of Sites
1) Environmental Review	Physical, Chemical, Biological	20
2) U.S. Fish and Wildlife Service (Conte Refuge)	Physical, Chemical, Biological	450
3) Use by Other State Agencies	Physical, Chemical, Biological	144
4) Public Information	Physical, Chemical, Biological	77
5) Land Owner Requests	Physical, Chemical, Biological	42
6) Municipal Requests	Physical, Chemical, Biological	5
7) Univ. of Conn. Zebra Mussel Research	Chemical	450
8) Army Corps Of Engineers	Physical, Chemical, Biological	5

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Appendix A

Table A-1.-List of invertebrate families found in Connecticut streams during the 1988-90 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		Athericidiae
				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
			Helicopsycidae
			Hydropsychidae
			Hydroptilidae
			Lepidostomatidae
			Leptoceridae
			Limnephilidae
			Molannidae
			Odontoceridae
			Philopotamidae
			Phryganeidae
			Polycentropodidae
			Psychomyiidae
			Rhyacophilidae
			Sericostomatidae
		Neuroptera	Sisyridae
Mollusca	Gastropoda	Basomnatophora	"limpets"
			Ancylidae
			Lymnacidae
			Physidae
			Planorbidae
		Mesogastropoda	Viviparidae
	Pelecypoda		Spheridae
Arachnoidea		"Hydracarina"	

Appendix B

APPENDIX B. LIST OF SITES SAMPLED DURING 1992.

BALL BROOK	4092	117	GULF STREAM	4070	105
BANTAM RIVER	4042	87	GULF STREAM	4150	146
BANTAM RIVER	4043	88	GUNN BROOK	4103	123
BANTAM RIVER TRIB.	4079	111	HALL MEADOW BK	4044	89
BANTAM RIVER TRIB.	4137	140	HALL MEADOW BK TRIB	4065	103
BEAR SWAMP OUTFLOW	4064	102	HART BROOK	4045	90
BEE BROOK	4081	112	HEFFERS BROOK	4110	127
BEEBE BROOK	4095	119	HILL BROOK	4078	110
BIRDSEYE BROOK	4060	100	HOCKANUM RIVER	4220	154
BLACK SPRUCE BOG	4135	139	HOCKANUM RIVER	4221	155
BLACKBEERY RIVER	4006	62	HOLLENBECK R.	4012	66
BLACKBERRY RIVER	4007	62	HOLLENBECK R.	4013	67
BLACKBERRY RIVER	4180	151	HOLLENBECK R.	4109	127
BOG HOLLOW BROOK	4022	72	HOUSATONIC R.	4031	78
BONNEY BROOK	4102	122	HOUSATONIC R.	4032	79
BRADFROD BROOK	4088	115	HOUSATONIC R.	4149	146
BROWN BROOK	4014	68	HOUSATONIC R. TRIB	4124	134
BULL MOUNTAIN BK	4106	124	HUMISTON BROOK	4082	112
BURTON BROOK	4090	116	IVY MOUNTAIN BK	4057	98
BUTTERNUT BROOK	4041	86	JAKE'S BROOK	4066	103
BUTTERNUT BROOK	4152	147	JEFFERSON HILL BK	4063	102
CARSE BROOK	4017	69	KENT FALLS BK	4020	71
CARSE BROOK TRIB.	4117	131	KENT FALLS BK TRIB.	4094	118
CHILD POND OUTFLOW	4125	135	KONKAPOT RIVER	4004	60
COBBLE BROOK	4021	71	LAKE WARAMUAG BK	4058	99
COBBLE BROOK TRIB.	4096	119	LAKE WARAMUAG BK	4151	147
DEMMING BROOK	4145	144	L. WARAMUAG BK TRIB	4127	136
DENMAN BROOK	4128	136	LEADMINE BROOK	4052	95
DRAKE POND BROOK	4067	104	LEADMINE BROOK	4112	128
EAST ASPETUCK RIVER	4035	81	LEADMINE BROOK	4153	147
EAST ASPETUCK RIVER	4036	82	LEADMINE BROOK TRIB	4073	107
E. ASPETUCK R. TRIB	4129	137	MACEDONIA BROOK	4023	73
E. ASPETUCK R. TRIB	4130	137	MACEDONIA BROOK	4024	74
E. BR. LEADMINE BK	4062	101	MACEDONIA BK TRIB	4122	133
E. BR. NAUGATUCK R.	4048	92	MARSHEPAUG R.	4038	84
E. BR. NAUGATUCK R.	4049	93	MERRYALL BROOK	4034	81
E. BR. NAUGATUCK R.	4154	148	MILL BROOK	4016	69
E. BR. NAUGATUCK R.	4155	149	MILL BROOK	4028	76
E NAUGATUCK R. TRIB	4069	105	MILL RIVER	4223	155
E NAUGATUCK R. TRIB	4119	132	MILL RIVER	4171	150
E. BR. SHEPAUG R.	4135	139	MILL RIVER	4224	156
E. SHEPAUG R.TRIB.	4114	129	MINOR POND OUTFLOW	4074	107
E. SHEPAUG R.TRIB.	4139	141	MOHAWK POND OUTFLOW	4059	100
FACTORY BROOK	4008	63	MONUMENT BROOK	4091	117
FLAT BROOK	4089	116	MORRISSEY BROOK	4026	75
FOX BROOK	4068	104	MORRISSEY BK TRIB.	4126	135
FOX BROOK	4075	107	MUDDY RIVER	4226	157
FURNACE BROOK	4018	70	MUDGE POND OUTFLOW	4030	77
GARNET BROOK	4132	138	NAUGATUCK RIVER	4054	96
GINGER BROOK	4086	114	NAUGATUCK RIVER	4055	97
GUINEA BROOK	4019	70	NAUGATUCK RIVER	4160	149
GUINEA BROOK	4123	134	NAUGATUCK R. TRIB	4071	106

NICKLEMINE BROOK	4046	90
NICKLEMINE BK. TRIB	4115	130
N. BR. BROWN BK	4113	129
NORTH BROOK	4085	114
NORTH KENT BROOK	4101	122
NORTHFIELD BROOK	4053	95
OCAIN BROOK	4087	115
PEQUABUCK RIVER	4225	157
PICKETT BROOK	4142	143
POND BROOK	4174	151
POND MOUNTAIN BK	4097	120
QUINNIPIAC RIVER	4210	152
REED BROOK	4061	101
ROARING BROOK	4148	145
ROCK BROOK	4051	94
ROCK BROOK TRIB.	4141	142
SAGES RAVINE	4001	59
SALMON CREEK	4010	64
SALMON CREEK	4011	65
SALMON CREEK TRIB.	4098	120
SALMON CREEK TRIB.	4161	150
SANDERS HILL BROOK	4136	140
SCHEOB BROOK	4002	59
SHEPAUG RIVER	4037	83
SHEPAUG RIVER TRIB	4140	142
SPAULDING BROOK	4083	113
SPRING BROOK	4133	138
SPRUCE BROOK	4050	94
SPRUCE BROOK	4143	143
SPRUCE SWAMP BK	4009	63
STEWART HOLLOW BK	4100	121
STILL BROOK	4077	109
STILL RIVER	4212	153
STONY BROOK	4099	121
SUCKER BROOK	4080	111
TANNERY BROOK	4121	133
TEN MILE RIVER	4027	75
THAYER'S BROOK	4104	123
VALLEY BROOK	4093	118
W. BR. LEADMINE BK	4072	106
W. BR. LEADMINE BK	4118	131
WACHOCASTINOOK BK	4056	98
WANGUM LAKE BROOK	4015	68
WANGUM LAKE BROOK	4111	128
WANGUM LAKE BK TRIB	4116	130
WEBATUCK CREEK	4029	76
WEST ASPETUCK RIVER	4033	80
WEST ASPETUCK RIVER	4107	125
W. ASPETUCK R. TRIB	4120	132
W. ASPETUCK R. TRIB	4144	144
W. BR. BANTAM RIVER	4040	85
W. BR. BUTTERNUT BK	4076	108
W. BR. NAUGATUCK R.	4047	91
W. BR. SHEPAUG R.	4039	84
WHITE HOLLOW BROOK	4147	145
WHITING RIVER	4005	61
WHITTLESSEY BROOK	4138	141
WIMISINK BROOK	4105	124
WOMENSHENUCK BROOK	4025	74
WOMENSHENUCK BROOK	4108	126
WOOD CREEK	4084	113

STREAM NAME : SAGES RAVINE SITE #: 4001
SITE DESCRIPTION: DOWNSTREAM OF RTE 41, SALISBURY- 50M FROM BRIDGE, BELOW LARGE POOL.
SAMPLE LENGTH : 140. SAMPLE DATE: 06/15/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :	22.00 (C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . . :	13.00 (C)	pH . . . . . :	5.9	0.02
VELOCITY. . . . :	0.3260(m/s)	COND . . . . . (uS/cm3). . :	29.7	0.6
DISCHARGE . . . :	0.3230(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	5.6	0.84

	MEAN	STD			
WIDTH. . . . . :	4.71	1.33	(m)		
DEPTH. . . . . :	20.80	15.77	(cm)		
DOMINANT SUBSTRATE TYPE. . :	5		POOL/RIFFLE RATIO . .:	0.35	
TYPE THREE SUBSTRATE . . . :	0.05	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	15.00	(%)			
OVERHEAD CANOPY. . . . . :	99.00	(%)			
INSTREAM SHELTER . . . . . :	46.7	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	14.2	0.0
Salvelinus fontinalis	679.4	26.3
Cottus cognatus	3439.5	1127.2

STREAM NAME : SCHENOB BROOK SITE #: 4002
SITE DESCRIPTION: 82 M UPSTREAM TO OLD DAM, SAMPLED AT 280 BEAVER DAM RD., SALISBURY
SAMPLE LENGTH : 82. SAMPLE DATE: 07/27/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :	(C)	DISSOLVED OXYGEN (mg/l). . :	7.3	0.15
WATER TEMP. . . :	23.00 (C)	pH . . . . . :	7.8	0.09
VELOCITY. . . . :	0.0080(m/s)	COND . . . . . (uS/cm3). . :	311.3	10.0
DISCHARGE . . . :	0.0042(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	157.6	1.00

	MEAN	STD			
WIDTH. . . . . :	3.41	2.15	(m)		
DEPTH. . . . . :	11.39	9.08	(cm)		
DOMINANT SUBSTRATE TYPE. . :	3		POOL/RIFFLE RATIO . .:	3.61	
TYPE THREE SUBSTRATE . . . :	0.56	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	46.00	(%)			
OVERHEAD CANOPY. . . . . :	90.00	(%)			
INSTREAM SHELTER . . . . . :	7.9	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Notropis bifrenatus	58.6	0.0
Etheostoma olmstedi	205.2	0.0

STREAM NAME : KONKAPOT RIVER SITE #: 4004

SITE DESCRIPTION: 200 M ABOVE RTE. 124, NORTH CANAAN

SAMPLE LENGTH : 215. SAMPLE DATE: 07/07/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :23.00 (C)		DISSOLVED OXYGEN (mg/l). . :	9.6	0.06
WATER TEMP. . . :17.00 (C)		pH . . . . . :	7.7	0.08
VELOCITY. . . . : 0.2211(m/s)		COND . . . . . (uS/cm3). . :	198.7	2.5
DISCHARGE . . . : 1.2500(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	108.6	1.21

	MEAN	STD			
WIDTH. . . . . :	11.41	2.27	(m)		
DEPTH. . . . . :	64.22	52.69	(cm)		
DOMINANT SUBSTRATE TYPE. . :	1		POOL/RIFFLE RATIO . .:	2000.00	
TYPE THREE SUBSTRATE . . . :	0.24	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	91.14	(%)			
OVERHEAD CANOPY. . . . . :	36.00	(%)			
INSTREAM SHELTER . . . . . :	678.0	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	40.8	5.4
Lepomis macrochirus	61.1	26.9
Rhinichthys atratulus	236.4	126.5
Salmo trutta	53.0	0.0
Luxilus cornutus	216.0	110.8
Semotilus corporalis	134.5	30.1
Rhinichthys cataractae	53.0	0.0
Micropterus salmoides	4.1	0.0
Catostomus Catostomus	16.3	0.0
Lepomis gibbosus	69.3	33.5
Ambloplites rupestris	61.1	23.2
Catostomus commersoni	3778.8	1373.2

STREAM NAME : WHITING RIVER SITE #: 4005

SITE DESCRIPTION: AT END OF FIELD ROAD AT BEND IN BROWN'S LANE, NORTH CANAAN.

SAMPLE LENGTH : 150. SAMPLE DATE: 07/22/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :	18.00 (C)	DISSOLVED OXYGEN (mg/l). . :	10.4	0.21
WATER TEMP. . . :	17.00 (C)	pH . . . . . :		
VELOCITY. . . . :	0.2300(m/s)	COND . . . . . (uS/cm3). . :	132.7	0.6
DISCHARGE . . . :	0.2000(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	60.8	4.70

	MEAN	STD			
WIDTH. . . . . :	6.49	1.18	(m)		
DEPTH. . . . . :	19.58	13.21	(cm)		
DOMINANT SUBSTRATE TYPE. . :	3		POOL/RIFFLE RATIO . .:		0.42
TYPE THREE SUBSTRATE . . . :	0.43	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	38.08	(%)			
OVERHEAD CANOPY. . . . . :	78.00	(%)			
INSTREAM SHELTER . . . . . :	7.6	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	41.1	0.0
Rhinichthys atratulus	7806.9	218.3
Salmo trutta	205.4	0.0
Semotilus atromaculatus	678.0	11.6
Luxilus cornutus	431.4	0.0
Semotilus corporalis	503.3	0.0
Notemigonus crysoleucas	61.6	0.0
Rhinichthys cataractae	1931.2	353.4
Lepomis gibbosus	61.6	0.0
Ambloplites rupestris	41.1	0.0
Cottus cognatus	30.8	0.0
Etheostoma olmstedi	3646.6	1941.4
Catostomus commersoni	472.5	0.0

STREAM NAME : BLACKBERRY RIVER SITE #: 4006
SITE DESCRIPTION: UPSTREAM OF BICRON CO., OFF BARLOW ST., CANAAN.
SAMPLE LENGTH : 150. SAMPLE DATE: 07/22/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:22.00 (C)	DISSOLVED OXYGEN (mg/l). . :	6.7	1.70
WATER TEMP. . .	:19.00 (C)	pH . . . . . :	7.1	0.08
VELOCITY. . . .	: 0.2700(m/s)	COND . . . . . (uS/cm3). . :	190.0	5.0
DISCHARGE . . .	: 0.9610(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	80.6	2.17

	MEAN	STD			
WIDTH. . . . . :	11.23	1.76	(m)		
DEPTH. . . . . :	36.67	27.62	(cm)		
DOMINANT SUBSTRATE TYPE. . :	3		POOL/RIFFLE RATIO . .:		9.00
TYPE THREE SUBSTRATE . . . :	0.67	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	63.58	(%)			
OVERHEAD CANOPY. . . . . :	42.00	(%)			
INSTREAM SHELTER . . . . . :	337.3	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	5.9	0.0
Rhinichthys atratulus	2647.7	197.9
Pimephales notatus	5.9	0.0
Semotilus atromaculatus	148.4	0.0
Luxilus cornutus	17.8	0.0
juvenile cyprinid	112377.6	77156.7
Semotilus corporalis	53.4	0.0
Rhinichthys cataractae	279.0	53.4
Micropterus salmoides	11.9	0.0
Lepomis gibbosus	29.7	0.0
Ambloplites rupestris	148.4	0.0
Micropterus dolomieu	100.9	7.7
Etheostoma olmstedi	47.5	0.0
Catostomus commersoni	1133.9	82.8

STREAM NAME : BLACKBERRY RIVER SITE #: 4007
SITE DESCRIPTION: DOWNSTREAM 75 M FROM NORFOLK SEWAGE TREATMENT PLANT BRIDGE, RTE. 44, NORFOLK.
SAMPLE LENGTH : 150. SAMPLE DATE: 06/16/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:23.00 (C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . .	:19.00 (C)	pH . . . . . :	7.3	0.19
VELOCITY. . . .	: 0.3570(m/s)	COND . . . . . (uS/cm3). . :	149.0	0.0
DISCHARGE . . .	: 0.3150(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	60.1	1.76

	MEAN	STD			
WIDTH. . . . . :	5.72	0.87	(m)		
DEPTH. . . . . :	15.63	10.39	(cm)		
DOMINANT SUBSTRATE TYPE. . :	5		POOL/RIFFLE RATIO . .:		0.08
TYPE THREE SUBSTRATE . . . :	0.08	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	77.50	(%)			
OVERHEAD CANOPY. . . . . :	0.39	(%)			
INSTREAM SHELTER . . . . . :	95.2	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	1596.7	93.9
Salmo trutta	361.3	14.0
Semotilus atromaculatus	69.9	0.0
juvenile cyprinid	11.7	0.0
Rhinichthys cataractae	6386.9	1022.4
Micropterus salmoides	23.3	0.0
Lepomis gibbosus	81.6	0.0
Catostomus commersoni	163.2	0.0

STREAM NAME : FACTORY BROOK SITE #: 4008

SITE DESCRIPTION: DOWNSTREAM OF SALMON KILL RD., SALISBURY: SEWAGE T.P. UPSTREAM

SAMPLE LENGTH : 155. SAMPLE DATE: 07/27/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:23.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.6	0.20
WATER TEMP. . .	:18.00 (C)	pH	: 7.4	0.15
VELOCITY. . . .	: 0.1300(m/s)	COND . . . . . (uS/cm3). .	:233.3	2.9
DISCHARGE . . .	: 0.1040(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	:109.9	1.16

	MEAN	STD			
WIDTH.	5.60	1.61	(m)		
DEPTH.	22.98	22.55	(cm)		
DOMINANT SUBSTRATE TYPE. .	4		POOL/RIFFLE RATIO . .:		2.13
TYPE THREE SUBSTRATE . . .	0.20	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	53.00	(%)			
OVERHEAD CANOPY.	64.00	(%)			
INSTREAM SHELTER	89.4	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	149.8	45.9
Salvelinus fontinalis	11.5	0.0
Rhinichthys atratulus	2050.7	111.4
Salmo trutta	656.7	78.7
Semotilus atromaculatus	322.6	0.0
Notemigonus crysoleucas	34.6	0.0
Rhinichthys cataractae	449.3	46.1
Micropterus salmoides	126.7	58.0
Lepomis gibbosus	11.5	0.0
Etheostoma olmstedi	34.6	0.0
Catostomus commersoni	1866.4	106.2

STREAM NAME : SPRUCE SWAMP BROOK SITE #: 4009

SITE DESCRIPTION: BEHIND BHC PUMP BLDG. OFF INDIAN CAVE RD., SALISBURY

SAMPLE LENGTH : 150. SAMPLE DATE: 06/15/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:18.00 (C)	DISSOLVED OXYGEN (mg/l). .	:	
WATER TEMP. . .	:22.00 (C)	pH	: 7.2	0.06
VELOCITY. . . .	: 0.2180(m/s)	COND . . . . . (uS/cm3). .	:207.7	1.5
DISCHARGE . . .	: 0.1800(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	:117.7	3.30

	MEAN	STD			
WIDTH.	6.44	1.46	(m)		
DEPTH.	15.93	13.14	(cm)		
DOMINANT SUBSTRATE TYPE. .	3		POOL/RIFFLE RATIO . .:		0.60
TYPE THREE SUBSTRATE . . .	0.64	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	45.27	(%)			
OVERHEAD CANOPY.	18.00	(%)			
INSTREAM SHELTER	53.1	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	62.1	0.0
Rhinichthys atratulus	683.2	102.3
Salmo trutta	838.5	40.0
Semotilus atromaculatus	62.1	14.2
Etheostoma olmstedi	10.4	0.0
Catostomus commersoni	144.9	0.0

STREAM NAME : SALMON CREEK SITE #: 4010

SITE DESCRIPTION: UPSTREAM FROM BRIDGE AT "SALMON KILL FARM", SALISBURY

SAMPLE LENGTH : 150. SAMPLE DATE: 07/29/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:25.00 (C)	DISSOLVED OXYGEN (mg/l). . :	7.4	0.00
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	7.3	0.06
VELOCITY. . . .	: 0.1360(m/s)	COND . . . . . (uS/cm3). . :	224.7	13.6
DISCHARGE . . .	: 0.3060(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	125.9	0.06

	MEAN	STD			
WIDTH.	6.62	1.32	(m)		
DEPTH.	42.47	31.59	(cm)		
DOMINANT SUBSTRATE TYPE. .	3		POOL/RIFFLE RATIO . .:	74.00	
TYPE THREE SUBSTRATE . . .	0.36	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	44.09	(%)			
OVERHEAD CANOPY.		(%)			
INSTREAM SHELTER	483.6	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	4656.8	42.8
Salmo trutta	461.8	0.0
Semotilus atromaculatus	1029.5	66.1
juvenile cyprinid	500.3	17.5
Rhinichthys cataractae	153.9	0.0
Micropterus salmoides	67.4	0.0
Etheostoma olmstedi	288.6	0.0
Catostomus commersoni	5397.7	110.5

STREAM NAME : SALMON CREEK SITE #: 4011

SITE DESCRIPTION: 50 M UPSTREAM OF CONFLUENCE WITH HOUSATONIC RIVER, AT WHITE HOLLOW FARM, SALISBURY

SAMPLE LENGTH : 173. SAMPLE DATE: 07/27/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :	18.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.6	0.12
WATER TEMP. . . :	16.00 (C)	pH . . . . . :	7.7	0.02
VELOCITY. . . . :	0.2810(m/s)	COND . . . . . (uS/cm3). . :	251.0	5.3
DISCHARGE . . . :	0.6220(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	135.0	1.80

	MEAN	STD			
WIDTH. . . . . :	9.83	2.77	(m)		
DEPTH. . . . . :	15.98	13.78	(cm)		
DOMINANT SUBSTRATE TYPE. . :	3		POOL/RIFFLE RATIO . .:		1.06
TYPE THREE SUBSTRATE . . . :	0.93	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	39.68	(%)			
OVERHEAD CANOPY. . . . . :	8.00	(%)			
INSTREAM SHELTER . . . . . :	80.3	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	10.2	0.0
Rhinichthys atratulus	101.7	0.0
Pimephales notatus	1648.0	13.6
Salmo trutta	15.3	0.0
juvenile centrarchid	5.1	0.0
Semotilus atromaculatus	71.2	0.0
Luxilus cornutus	10.2	0.0
juvenile cyprinid	920.7	33.1
Semotilus corporalis	595.1	8.5
Notemigonus crysoleucas	30.5	0.0
Fundulus diaphanus	10.2	0.0
Rhinichthys cataractae	213.6	6.0
Lepomis gibbosus	25.4	0.0
Ambloplites rupestris	71.2	0.0
Lepomis auritus	10.2	0.0
Micropterus dolomieu	178.0	13.5
Notropis hudsonius	10.2	0.0
Etheostoma olmstedi	707.0	25.7
Catostomus commersoni	2182.1	43.0

STREAM NAME : HOLLENBECK RIVER SITE #: 4012

SITE DESCRIPTION: PARALLEL TO RTE. 126 ABOVE FIELD ACCESS BRIDGE. CANAAN.

SAMPLE LENGTH : 150. SAMPLE DATE: 07/02/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:19.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.5	0.00
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	7.0	0.03
VELOCITY. . . .	: 0.3200(m/s)	COND . . . . . (uS/cm3). . :	159.7	0.6
DISCHARGE . . .	: 0.4430(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	79.6	1.56

	MEAN	STD			
WIDTH. . . . . :	7.02	0.89	(m)		
DEPTH. . . . . :	38.42	22.43	(cm)		
DOMINANT SUBSTRATE TYPE. . :	2		POOL/RIFFLE RATIO . .:		6.50
TYPE THREE SUBSTRATE . . . :	0.10	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	36.67	(%)			
OVERHEAD CANOPY. . . . . :	53.00	(%)			
INSTREAM SHELTER . . . . . :	348.0	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	161.4	20.5
Salmo trutta	19.0	0.0
Semotilus atromaculatus	199.4	0.0
Luxilus cornutus	104.5	0.0
Semotilus corporalis	341.9	11.5
Rhinichthys cataractae	28.5	0.0
Ambloplites rupestris	332.4	18.4
Micropterus dolomieu	28.5	0.0
Etheostoma olmstedi	114.0	30.4
Catostomus commersoni	47.5	0.0

STREAM NAME : HOLLENBECK RIVER SITE #: 4013

SITE DESCRIPTION: 25 M UPSTREAM OF BROWN BROOK CONFLUENCE. PARALLEL WITH RTE. 63, CORNWALL.

SAMPLE LENGTH : 150. SAMPLE DATE: 07/02/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:24.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.6	0.06
WATER TEMP. . .	:19.00 (C)	pH . . . . . :	7.2	0.03
VELOCITY. . . .	: 0.2400(m/s)	COND . . . . . (uS/cm3). . :	165.7	1.2
DISCHARGE . . .	: 0.2900(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	80.5	1.47

	MEAN	STD			
WIDTH. . . . . :	5.37	2.27	(m)		
DEPTH. . . . . :	24.10	21.37	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		0.90
TYPE THREE SUBSTRATE . . . :	0.14	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	45.00	(%)			
OVERHEAD CANOPY. . . . . :	66.00	(%)			
INSTREAM SHELTER . . . . . :	130.1	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	248.3	0.0
Rhinichthys atratulus	2818.1	100.8
Salmo trutta	74.5	0.0
Semotilus atromaculatus	111.7	0.0
Luxilus cornutus	49.7	0.0
juvenile cyprinid	12.4	0.0
Rhinichthys cataractae	2383.6	146.1
Lota lota	111.7	16.8
Lepomis gibbosus	99.3	0.0
Ambloplites rupestris	24.8	0.0
Oncorhynchus mykiss	12.4	0.0
Etheostoma olmstedi	49.7	0.0
Catostomus commersoni	37.2	0.0

STREAM NAME : BROWN BROOK SITE #: 4014
SITE DESCRIPTION: DOWNSTREAM OF RTE. 63 BRIDGE, CANAAN. HOLLENBECK CLUB PROPERTY
SAMPLE LENGTH : 140. SAMPLE DATE: 07/01/89

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:19.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.3	0.06
WATER TEMP. . .	:21.00 (C)	pH . . . . . :	6.3	0.10
VELOCITY. . . .	: 0.1930(m/s)	COND . . . . . (uS/cm3). . :	59.3	0.6
DISCHARGE . . .	: 0.2350(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	23.0	0.72

	MEAN	STD			
WIDTH. . . . . :	5.39	1.64	(m)		
DEPTH. . . . . :	21.35	20.00	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		2.74
TYPE THREE SUBSTRATE . . . :	0.21	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	13.00	(%)			
OVERHEAD CANOPY. . . . . :	70.00	(%)			
INSTREAM SHELTER . . . . . :	60.8	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	0.0	0.0
Salvelinus fontinalis	26.5	0.0
Rhinichthys atratulus	1219.2	103.4
Salmo trutta	13.3	0.0
Semotilus atromaculatus	39.8	0.0
Luxilus cornutus	53.0	0.0
Semotilus corporalis	26.5	0.0
Rhinichthys cataractae	212.0	17.0
Lota lota	212.0	0.0
Lepomis gibbosus	185.5	0.0
Ambloplites rupestris	13.3	0.0

STREAM NAME : WANGUM LAKE BROOK SITE #: 4015
SITE DESCRIPTION: DAMMED UP BEAVER AREA 100 M BELOW COBBLE RD. (BEAVERTIDE FARM). SOUTH CANAAN.
SAMPLE LENGTH : 110. SAMPLE DATE: 06/19/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:24.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.6	0.44
WATER TEMP. . .	:19.00 (C)	pH . . . . . :	7.0	0.15
VELOCITY. . . .	: 0.1850(m/s)	COND . . . . . (uS/cm3). . :	140.3	0.6
DISCHARGE . . .	: 0.1320(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	69.8	1.06

	MEAN	STD			
WIDTH. . . . . :	5.00	0.87	(m)		
DEPTH. . . . . :	88.42	35.79	(cm)		
DOMINANT SUBSTRATE TYPE. . :	1		POOL/RIFFLE RATIO . .:		2000.00
TYPE THREE SUBSTRATE . . . :	0.00	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	13.00	(%)			
OVERHEAD CANOPY. . . . . :	58.00	(%)			
INSTREAM SHELTER . . . . . :	948.8	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Notropis bifrenatus	40.0	0.0
Salvelinus fontinalis	13.3	0.0
Esox niger	53.3	0.0
Semotilus atromaculatus	13.3	0.0
Lepomis gibbosus	13.3	0.0
Etheostoma olmstedi	13.3	0.0
Catostomus commersoni	13.3	0.0
Perca flavescens	480.0	0.0

STREAM NAME : MILL BROOK CORNWALL SITE #: 4016
SITE DESCRIPTION: UPSTREAM OF CREAM HILL RD, CORNWALL.

SAMPLE LENGTH : 100. SAMPLE DATE: 07/13/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:23.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.8	0.15
WATER TEMP. . .	:19.00 (C)	pH . . . . . :	7.6	0.06
VELOCITY. . . .	: 0.1160(m/s)	COND . . . . . (uS/cm3). . :	173.7	0.6
DISCHARGE . . .	: 0.0570(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	86.8	0.76

	MEAN	STD		
WIDTH. . . . . :	3.99	1.27	(m)	
DEPTH. . . . . :	12.38	9.62	(cm)	
DOMINANT SUBSTRATE TYPE. . :	4	POOL/RIFFLE RATIO . .:		0.84
TYPE THREE SUBSTRATE . . . :	0.00 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	13.00 (%)			
OVERHEAD CANOPY. . . . . :	95.00 (%)			
INSTREAM SHELTER . . . . . :	8.3 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	25.1	0.0
Rhinichthys atratulus	2957.4	65.3
Salmo trutta	25.1	0.0
Semotilus atromaculatus	7819.5	227.1
Luxilus cornutus	200.5	0.0
Lepomis gibbosus	300.8	0.0
Catostomus commersoni	200.5	0.0

STREAM NAME : CARSE BROOK SITE #: 4017
SITE DESCRIPTION: UPSTREAM OF FOOTBRIDGE ABOVE MILES POND AUDUBON WILDLIFE SANCTUARY, SHARON

SAMPLE LENGTH : 100. SAMPLE DATE: 09/02/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:14.00 (C)	DISSOLVED OXYGEN (mg/l). . :	10.9	0.06
WATER TEMP. . .	:12.00 (C)	pH . . . . . :	8.1	0.06
VELOCITY. . . .	: 0.1070(m/s)	COND . . . . . (uS/cm3). . :	174.0	1.7
DISCHARGE . . .	: 0.0330(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	117.6	1.14

	MEAN	STD		
WIDTH. . . . . :	2.95	0.52	(m)	
DEPTH. . . . . :	10.13	7.04	(cm)	
DOMINANT SUBSTRATE TYPE. . :	4	POOL/RIFFLE RATIO . .:		0.53
TYPE THREE SUBSTRATE . . . :	0.09 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	20.00 (%)			
OVERHEAD CANOPY. . . . . :	69.00 (%)			
INSTREAM SHELTER . . . . . :	0.5 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	67.8	0.0
Rhinichthys atratulus	15389.8	162.0
Micropterus salmoides	2000.0	0.0
Lepomis gibbosus	169.5	0.0
Catostomus commersoni	33.9	0.0

STREAM NAME : FURNACE BROOK SITE #: 4018

SITE DESCRIPTION: AT SECOND PICNIC AREA EAST ALONG RTE. 4 FROM RTE. 7 JCT., CORNWALL

SAMPLE LENGTH : 150. SAMPLE DATE: 07/09/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:21.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.6	0.00
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	7.6	0.19
VELOCITY. . . .	: 0.1240(m/s)	COND . . . . . (uS/cm3). . :	196.0	5.6
DISCHARGE . . .	: 0.2570(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	67.2	1.31

	MEAN	STD			
WIDTH. . . . . :	7.91	1.99	(m)		
DEPTH. . . . . :	20.55	14.61	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		1.00
TYPE THREE SUBSTRATE . . . :	0.08	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	25.00	(%)			
OVERHEAD CANOPY. . . . . :	78.00	(%)			
INSTREAM SHELTER . . . . . :	36.5	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	0.0	0.0
Salvelinus fontinalis	0.0	0.0
Rhinichthys atratulus	2629.6	40.7
Salmo trutta	691.1	28.1
Semotilus atromaculatus	67.4	0.0
Rhinichthys cataractae	564.7	28.8
Catostomus commersoni	118.0	0.0

STREAM NAME : GUINEA BROOK SITE #: 4019

SITE DESCRIPTION: UPSTREAM OF RTE. 4 BRIDGE, SHARON (WALTON CLUB PROPERTY)

SAMPLE LENGTH : 145. SAMPLE DATE: 07/29/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:21.00 (C)	DISSOLVED OXYGEN (mg/l). . :	11.0	0.26
WATER TEMP. . .	:14.00 (C)	pH . . . . . :	7.7	0.03
VELOCITY. . . .	: 0.1230(m/s)	COND . . . . . (uS/cm3). . :	175.0	0.0
DISCHARGE . . .	: 0.0790(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	92.0	1.10

	MEAN	STD			
WIDTH. . . . . :	5.04	1.73	(m)		
DEPTH. . . . . :	12.52	11.55	(cm)		
DOMINANT SUBSTRATE TYPE. . :	5		POOL/RIFFLE RATIO . .:		0.44
TYPE THREE SUBSTRATE . . . :	0.15	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	46.43	(%)			
OVERHEAD CANOPY. . . . . :	91.00	(%)			
INSTREAM SHELTER . . . . . :	17.2	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	13.7	0.0
Salvelinus fontinalis	54.7	0.0
Rhinichthys atratulus	916.8	0.0
Salmo trutta	232.6	0.0
Semotilus atromaculatus	123.2	0.0
Notemigonus crysoleucas	13.7	0.0
Micropterus salmoides	13.7	0.0
Oncorhynchus mykiss	0.0	0.0

STREAM NAME : KENT FALLS BROOK SITE #: 4020
SITE DESCRIPTION: FROM RTE. 7 BRIDGE UPSTREAM IN KENT FALL S.P., KENT

SAMPLE LENGTH : 150. SAMPLE DATE: 06/17/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:20.00 (C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . .	:14.00 (C)	pH . . . . . :	6.5	0.12
VELOCITY. . . .	: 0.2160(m/s)	COND . . . . . (uS/cm3). . :	69.0	0.0
DISCHARGE . . .	: 0.1950(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	48.2	1.17

	MEAN	STD		
WIDTH. . . . . :	6.43	2.05	(m)	
DEPTH. . . . . :	14.70	11.82	(cm)	
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:	0.11
TYPE THREE SUBSTRATE . . . :	0.04	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE :	15.00	(%)		
OVERHEAD CANOPY. . . . . :	63.00	(%)		
INSTREAM SHELTER . . . . . :	13.0	(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	103.7	0.0
Lepomis macrochirus	10.4	0.0
Salvelinus fontinalis	165.9	0.0
Rhinichthys atratulus	2861.6	38.3
Salmo trutta	145.2	0.0
Semotilus atromaculatus	41.5	0.0
Notemigonus crysoleucas	176.3	0.0
Rhinichthys cataractae	2001.0	125.7
Lepomis gibbosus	20.7	0.0
Catostomus commersoni	20.7	0.0

STREAM NAME : COBBLE BROOK SITE #: 4021
SITE DESCRIPTION: UP FROM DRIVEWAY OF R.C. TIMPSON, 400 M. DOWNSTREAM OF RTE. 341, KENT

SAMPLE LENGTH : 100. SAMPLE DATE: 06/29/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:25.00 (C)	DISSOLVED OXYGEN (mg/l). . :	11.1	0.21
WATER TEMP. . .	:15.00 (C)	pH . . . . . :	7.3	0.00
VELOCITY. . . .	: 0.1740(m/s)	COND . . . . . (uS/cm3). . :	118.3	0.6
DISCHARGE . . .	: 0.0610(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	48.6	1.60

	MEAN	STD		
WIDTH. . . . . :	3.42	0.82	(m)	
DEPTH. . . . . :	10.68	6.79	(cm)	
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:	0.26
TYPE THREE SUBSTRATE . . . :	0.00	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE :	15.00	(%)		
OVERHEAD CANOPY. . . . . :	83.00	(%)		
INSTREAM SHELTER . . . . . :	12.3	(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	5146.2	203.4
Rhinichthys atratulus	1754.4	70.0
Salmo trutta	438.6	0.0
Semotilus atromaculatus	789.5	0.0
Notemigonus crysoleucas	29.2	0.0
Lepomis gibbosus	292.4	0.0
Catostomus commersoni	29.2	0.0

STREAM NAME : BOG HOLLOW BROOK SITE #: 4022

SITE DESCRIPTION: IMMEDIATELY UPSTREAM OF CONFLUENCE WITH MACEDONIA BROOK, KENT

SAMPLE LENGTH : 92. SAMPLE DATE: 07/02/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:19.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.9	0.10
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	6.8	0.00
VELOCITY. . . .	: 0.2170(m/s)	COND . . . . . (uS/cm3). . :	143.3	1.2
DISCHARGE . . .	: 0.0860(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	69.9	0.44

	MEAN	STD			
WIDTH.	:	3.66	0.95	(m)	
DEPTH.	:	11.30	8.44	(cm)	
DOMINANT SUBSTRATE TYPE. .	:	4	POOL/RIFFLE RATIO . .:		0.74
TYPE THREE SUBSTRATE . . .	:	0.13 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	:	65.00 (%)			
OVERHEAD CANOPY.	:	96.00 (%)			
INSTREAM SHELTER	:	2.3 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	267.3	0.0
Rhinichthys atratulus	801.9	0.0
Salmo trutta	1633.4	71.4
Semotilus atromaculatus	29.7	0.0
Notemigonus crysoleucas	118.8	0.0
Rhinichthys cataractae	594.0	86.8
Micropterus salmoides	0.0	0.0
Etheostoma olmstedi	29.7	0.0
Catostomus commersoni	59.4	0.0

STREAM NAME : MACEDONIA BROOK SITE #: 4023
SITE DESCRIPTION: OFF RTE. 341, 1 KM UPSTREAM OF ROAD CROSSING, KENT

SAMPLE LENGTH : 150. SAMPLE DATE: 06/18/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:22.00 (C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . .	:18.00 (C)	pH . . . . . :	6.8	0.08
VELOCITY. . . .	: 0.1600(m/s)	COND . . . . . (uS/cm3). . :	118.0	0.0
DISCHARGE . . .	: 0.2010(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	54.7	2.92

	MEAN	STD			
WIDTH. . . . . :	5.56	1.37	(m)		
DEPTH. . . . . :	23.60	17.17	(cm)		
DOMINANT SUBSTRATE TYPE. . :	3		POOL/RIFFLE RATIO . .:		1.54
TYPE THREE SUBSTRATE . . . :	0.71	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	55.29	(%)			
OVERHEAD CANOPY. . . . . :		(%)			
INSTREAM SHELTER . . . . . :	160.4	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	191.8	0.0
Salvelinus fontinalis	911.3	27.3
Rhinichthys atratulus	7386.1	336.6
Salmo trutta	2014.4	25.0
juvenile centrarchid	179.9	0.0
Semotilus atromaculatus	36.0	0.0
Luxilus cornutus	1906.5	77.2
juvenile cyprinid	443.6	0.0
Semotilus corporalis	647.5	0.0
Notemigonus crysoleucas	1043.2	63.3
Fundulus diaphanus	48.0	0.0
Rhinichthys cataractae	167.9	15.7
Micropterus salmoides	12.0	0.0
Lepomis gibbosus	107.9	38.5
Lepomis auritus	12.0	0.0
Etheostoma olmstedi	731.4	201.6
Catostomus commersoni	1031.2	45.5

STREAM NAME : MACEDONIA BROOK SITE #: 4024
SITE DESCRIPTION: UPSTREAM OF WOODEN BRIDGE AT UPPER HICKORY CAMPSITE IN MACEDONIA S.P., KENT

SAMPLE LENGTH : 150. SAMPLE DATE: 06/16/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :15.00 (C)		DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . . :13.00 (C)		pH . . . . . :	6.7	0.03
VELOCITY. . . . : 0.0980(m/s)		COND . . . . . (uS/cm3). . :	81.0	1.0
DISCHARGE . . . : 0.0620(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	38.6	0.72
	MEAN	STD		
WIDTH. . . . . :	5.23	1.37 (m)		
DEPTH. . . . . :	11.95	10.68 (cm)		
DOMINANT SUBSTRATE TYPE. . :	5	POOL/RIFFLE RATIO . .:	0.83	
TYPE THREE SUBSTRATE . . . :	0.02 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	0.00 (%)			
OVERHEAD CANOPY. . . . . :	98.00 (%)			
INSTREAM SHELTER . . . . . :	17.1 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	232.5	0.0
Rhinichthys atratulus	1175.7	0.0
Salmo trutta	258.4	0.0
Semotilus atromaculatus	38.8	0.0
Notemigonus crysoleucas	90.4	0.0

STREAM NAME : WOMENSHENUK BROOK SITE #: 4025
SITE DESCRIPTION: UPSTREAM OF WALLER RD., NEW MILFORD

SAMPLE LENGTH : 150. SAMPLE DATE: 08/10/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :23.00 (C)		DISSOLVED OXYGEN (mg/l). . :	10.1	0.32
WATER TEMP. . . :21.00 (C)		pH . . . . . :	7.7	0.04
VELOCITY. . . . : 0.3650(m/s)		COND . . . . . (uS/cm3). . :152.0		0.0
DISCHARGE . . . : 0.4600(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	72.3	1.21
	MEAN	STD		
WIDTH. . . . . :	4.80	1.11 (m)		
DEPTH. . . . . :	28.63	19.41 (cm)		
DOMINANT SUBSTRATE TYPE. . :	4	POOL/RIFFLE RATIO . .:	0.05	
TYPE THREE SUBSTRATE . . . :	0.29 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	13.33 (%)			
OVERHEAD CANOPY. . . . . :	92.00 (%)			
INSTREAM SHELTER . . . . . :	75.0 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	513.9	122.2
Rhinichthys atratulus	1708.3	111.1
Salmo trutta	1375.0	137.2
Semotilus atromaculatus	97.2	0.0
Rhinichthys cataractae	277.8	66.1
Lepomis auritus	13.9	0.0
Etheostoma olmstedi	222.2	17.9
Catostomus commersoni	152.8	0.0

STREAM NAME : MORRISSEY BROOK SITE #: 4026
SITE DESCRIPTION: ACROSS FROM GAYLORDSVILLE CEMETERY, PARALLEL TO MORRISSEY RD., NEW MILFORD
SAMPLE LENGTH : 150. SAMPLE DATE: 07/08/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:21.00 (C)	DISSOLVED OXYGEN (mg/l). . :	8.9	0.06
WATER TEMP. . .	:18.00 (C)	pH . . . . . :		
VELOCITY. . . .	: 0.2410(m/s)	COND . . . . . (uS/cm3). . :	291.7	2.9
DISCHARGE . . .	: 0.1660(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	107.1	2.66

	MEAN	STD	
WIDTH. . . . . :	4.39	0.93	(m)
DEPTH. . . . . :	20.88	17.55	(cm)
DOMINANT SUBSTRATE TYPE. . :	3	POOL/RIFFLE RATIO . .:	3.29
TYPE THREE SUBSTRATE . . . :	0.69 (%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE :	32.40 (%)		
OVERHEAD CANOPY. . . . . :	42.00 (%)		
INSTREAM SHELTER . . . . . :	79.8 (m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	60.7	0.0
Salvelinus fontinalis	531.5	0.0
Rhinichthys atratulus	3826.9	142.8
Salmo trutta	1002.3	44.7
Exoglossum maxillingua	896.0	17.2
Semotilus atromaculatus	1700.8	74.0
Luxilus cornutus	2095.7	32.1
Pimephales promelas	364.5	96.8
Notemigonus crysoleucas	30.4	0.0
Rhinichthys cataractae	820.0	138.6
Lepomis gibbosus	258.2	0.0
Etheostoma olmstedi	880.8	101.3
Catostomus commersoni	1306.0	34.3

STREAM NAME : TENMILE RIVER SITE #: 4027
SITE DESCRIPTION: 50 M UPSTREAM OF HOUSATONIC RIVER CONFLUENCE, KENT/SHERMAN LINE
SAMPLE LENGTH : 60. SAMPLE DATE: 08/27/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:25.00 (C)	DISSOLVED OXYGEN (mg/l). . :	10.0	0.15
WATER TEMP. . .	:22.00 (C)	pH . . . . . :	7.7	0.14
VELOCITY. . . .	: 0.4080(m/s)	COND . . . . . (uS/cm3). . :	344.3	2.1
DISCHARGE . . .	: 3.7700(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	165.8	2.76

	MEAN	STD	
WIDTH. . . . . :	26.45	5.64	(m)
DEPTH. . . . . :	32.72	21.72	(cm)
DOMINANT SUBSTRATE TYPE. . :	6	POOL/RIFFLE RATIO . .:	0.00
TYPE THREE SUBSTRATE . . . :	0.03 (%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE :	10.00 (%)		
OVERHEAD CANOPY. . . . . :	44.00 (%)		
INSTREAM SHELTER . . . . . :	191.3 (m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	5.7	0.0
Salmo trutta	34.0	0.0
Exoglossum maxillingua	156.9	17.8
Semotilus atromaculatus	3.8	0.0
Semotilus corporalis	37.8	0.0
Rhinichthys cataractae	355.3	68.3
Micropterus dolomieu	192.8	14.3
Etheostoma olmstedi	22.7	0.0
Catostomus commersoni	5.7	0.0

STREAM NAME : MILL BROOK SITE #: 4028
SITE DESCRIPTION: UPSTREAM OF WEST WOODS RD., SHARON

SAMPLE LENGTH : 150. SAMPLE DATE: 07/13/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:21.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.0	0.15
WATER TEMP. . .	:17.00 (C)	pH	: 8.0	0.01
VELOCITY. . . .	: 0.1900(m/s)	COND . . . . . (uS/cm3). .	:271.7	0.6
DISCHARGE . . .	: 0.0880(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	:148.3	1.21

	MEAN	STD			
WIDTH.	:	3.75	0.75	(m)	
DEPTH.	:	12.48	10.51	(cm)	
DOMINANT SUBSTRATE TYPE. .	:	5	POOL/RIFFLE RATIO . .	:	0.89
TYPE THREE SUBSTRATE . . .	:	0.24 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	:	27.14 (%)			
OVERHEAD CANOPY.	:	66.00 (%)			
INSTREAM SHELTER	:	3.8 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	142.2	0.0
Rhinichthys atratulus	12231.1	297.6
Salmo trutta	88.9	0.0
Semotilus atromaculatus	3520.0	151.2
Luxilus cornutus	373.3	0.0
Catostomus commersoni	1244.4	41.6

STREAM NAME : WEBATUCK CREEK SITE #: 4029
SITE DESCRIPTION: PARALLEL TO EAST MAIN ST., OPPOSITE LIME KILN RD., SHARON

SAMPLE LENGTH : 160. SAMPLE DATE: 07/09/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:28.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.0	0.81
WATER TEMP. . .	:23.00 (C)	pH	: 7.8	0.04
VELOCITY. . . .	: 0.3510(m/s)	COND . . . . . (uS/cm3). .	:362.0	0.0
DISCHARGE . . .	: 0.7160(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	:186.7	1.11

	MEAN	STD			
WIDTH.	:	11.16	3.96	(m)	
DEPTH.	:	31.40	29.05	(cm)	
DOMINANT SUBSTRATE TYPE. .	:	4	POOL/RIFFLE RATIO . .	:	0.70
TYPE THREE SUBSTRATE . . .	:	0.06 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	:	47.00 (%)			
OVERHEAD CANOPY.	:	70.00 (%)			
INSTREAM SHELTER	:	216.4 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	22.4	0.0
Rhinichthys atratulus	4351.5	191.2
Salmo trutta	72.8	12.7
Exoglossum maxillingua	1276.9	170.2
Semotilus atromaculatus	44.8	0.0
Luxilus cornutus	974.5	114.0
juvenile cyprinid	11.2	0.0
Semotilus corporalis	218.4	127.4
Rhinichthys cataractae	974.5	28.7
Etheostoma olmstedi	660.8	182.8
Catostomus commersoni	2469.8	1321.5

STREAM NAME : MUDGE POND BROOK SITE #: 4030
SITE DESCRIPTION: UPSTREAM OF SHARON VALLEY RD., SHARON

SAMPLE LENGTH : 165. SAMPLE DATE: 08/13/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:16.50 (C)	DISSOLVED OXYGEN (mg/l). . :	7.5	1.40
WATER TEMP. . .	:19.00 (C)	pH . . . . . :	7.5	0.29
VELOCITY. . . .	: 0.2510(m/s)	COND . . . . . (uS/cm3). . :	300.7	2.1
DISCHARGE . . .	: 0.3830(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	159.0	4.83

	MEAN	STD			
WIDTH. . . . . :	4.52	1.37	(m)		
DEPTH. . . . . :	41.58	24.40	(cm)		
DOMINANT SUBSTRATE TYPE. . :	1		POOL/RIFFLE RATIO . .:	2000.00	
TYPE THREE SUBSTRATE . . . :	0.33	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	63.85	(%)			
OVERHEAD CANOPY. . . . . :	47.00	(%)			
INSTREAM SHELTER . . . . . :	319.1	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	13.4	0.0
Rhinichthys atratulus	429.1	16.1
Salmo trutta	13.4	0.0
Exoglossum maxillingua	455.9	0.0
Semotilus atromaculatus	549.7	25.0
Luxilus cornutus	2909.6	42.4
Semotilus corporalis	214.5	0.0
Esox americanus	26.8	0.0
Notemigonus crysoleucas	174.3	0.0
Rhinichthys cataractae	375.4	70.5
Micropterus salmoides	134.1	0.0
Lepomis auritus	80.5	0.0
Etheostoma olmstedi	241.4	0.0
Catostomus commersoni	1153.1	23.0

STREAM NAME : HOUSATONIC RIVER SITE #: 4031

SITE DESCRIPTION: 1.7KM UPSTREAM OF RTE. 4 BRIDGE, SHARON-CORNWALL LINE
(LOWER END AT PULLOFF BY "SAND HOLE")

SAMPLE LENGTH : 425. SAMPLE DATE: 08/03/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :	(C)	DISSOLVED OXYGEN (mg/l). . :	5.3	1.76
WATER TEMP. . . :20.00	(C)	pH . . . . . :	7.8	0.15
VELOCITY. . . . : 0.2390	(m/s)	COND . . . . . (uS/cm3). . :	248.3	12.6
DISCHARGE . . . : 6.3900	(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	111.9	1.99

	MEAN	STD			
WIDTH. . . . . :	76.60	7.82	(m)		
DEPTH. . . . . :	25.30	17.64	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		0.19
TYPE THREE SUBSTRATE . . . :	0.13	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	22.31	(%)			
OVERHEAD CANOPY. . . . . :		(%)			
INSTREAM SHELTER . . . . . :	343.6	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salmo trutta	63.3	4.1
Semotilus corporalis	137.9	83.8
Rhinichthys cataractae	452.5	124.9
Lepomis gibbosus	0.6	0.0
Ambloplites rupestris	2.2	0.0
Oncorhynchus mykiss	21.2	0.9
Micropterus dolomieu	136.4	4.1
Catostomus commersoni	33.8	2.4

STREAM NAME : HOUSATONIC RIVER SITE #: 4032

SITE DESCRIPTION: 200 M UPSTREAM OF POWERLINE CROSSING AT GUNN'S EDDY.
SHERMAN-NEW MILFORD LINE

SAMPLE LENGTH : 90. SAMPLE DATE: 08/05/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :	(C)	DISSOLVED OXYGEN (mg/l). . :	8.9	0.10
WATER TEMP. . . :	(C)	pH . . . . . :	8.3	0.00
VELOCITY. . . . :	0.3260(m/s)	COND . . . . . (uS/cm3). . :	290.7	1.2
DISCHARGE . . . :	7.9640(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	122.8	0.36

	MEAN	STD			
WIDTH. . . . . :	82.60	11.01	(m)		
DEPTH. . . . . :	26.95	18.03	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		0.00
TYPE THREE SUBSTRATE . . . :	0.02	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	45.00	(%)			
OVERHEAD CANOPY. . . . . :	0.00	(%)			
INSTREAM SHELTER . . . . . :	206.3	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Anguilla rostrata	0.0	0.0
Lepomis macrochirus	0.0	0.0
Salmo trutta	1.2	0.0
Exoglossum maxillingua	52.5	0.0
Semotilus atromaculatus	0.0	0.0
Luxilus cornutus	0.4	0.0
juvenile cyprinid	0.4	0.0
Semotilus corporalis	6.1	0.0
Pimephales promelas	0.0	0.0
Rhinichthys cataractae	52.5	0.0
Micropterus salmoides	0.0	0.0
Lepomis gibbosus	0.0	0.0
Ambloplites rupestris	0.4	0.0
Lepomis auritus	1.2	0.0
Micropterus dolomieu	124.3	0.0
Notropis hudsonius	0.4	0.0
Etheostoma olmstedi	4.4	0.0
Catostomus commersoni	0.4	0.0

STREAM NAME : WEST ASPETUCK RIVER SITE #: 4033

SITE DESCRIPTION: AT ROAD CROSSING 500 M UPSTREAM OF CONFLUENCE WITH MERRYALL BK., NEW MILFORD

SAMPLE LENGTH : 75. SAMPLE DATE: 07/01/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:24.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.2	0.00
WATER TEMP. . .	:21.00 (C)	pH . . . . . :	7.4	0.00
VELOCITY. . . .	: 0.0000(m/s)	COND . . . . . (uS/cm3). . :	143.3	2.9
DISCHARGE . . .	: 0.0000(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	59.9	3.00

	MEAN	STD		
WIDTH. . . . . :	8.33	2.41	(m)	
DEPTH. . . . . :	22.30	16.02	(cm)	
DOMINANT SUBSTRATE TYPE. . :	5		POOL/RIFFLE RATIO . .:	0.00
TYPE THREE SUBSTRATE . . . :	0.03	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE :	20.00	(%)		
OVERHEAD CANOPY. . . . . :	55.00	(%)		
INSTREAM SHELTER . . . . . :	110.8	(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	8.0	0.0
Lepomis macrochirus	8.0	0.0
Salvelinus fontinalis	16.0	0.0
Rhinichthys atratulus	192.1	58.0
Salmo trutta	64.0	0.0
Exoglossum maxillingua	304.1	0.0
Semotilus atromaculatus	8.0	0.0
Luxilus cornutus	160.1	23.4
Semotilus corporalis	1072.4	31.1
Notemigonus crysoleucas	32.0	0.0
Rhinichthys cataractae	1312.5	253.5
Lepomis gibbosus	16.0	0.0
Micropterus dolomieu	224.1	16.2
Catostomus commersoni	72.0	0.0

STREAM NAME : MERRYALL BROOK SITE #: 4034
SITE DESCRIPTION: UPSTREAM OF INDIAN TRAIL, NEW MILFORD

SAMPLE LENGTH : 100. SAMPLE DATE: 07/09/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:28.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.5	0.00
WATER TEMP. . .	:20.00 (C)	pH . . . . . :	7.2	0.01
VELOCITY. . . .	: 0.1430(m/s)	COND . . . . . (uS/cm3). . :	151.0	0.0
DISCHARGE . . .	: 0.1100(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	63.0	3.76

	MEAN	STD			
WIDTH. . . . . :	4.41	1.19	(m)		
DEPTH. . . . . :	17.55	15.65	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		1.44
TYPE THREE SUBSTRATE . . . :	0.05	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	30.00	(%)			
OVERHEAD CANOPY. . . . . :	89.00	(%)			
INSTREAM SHELTER . . . . . :	9.6	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	589.6	64.8
Rhinichthys atratulus	5668.9	1872.3
Exoglossum maxillingua	136.1	31.1
Semotilus atromaculatus	1360.5	658.8
Luxilus cornutus	816.3	384.8
juvenile cyprinid	45.4	0.0
Etheostoma olmstedi	68.0	0.0
Catostomus commersoni	2403.6	1369.9

STREAM NAME : EAST ASPETUCK RIVER SITE #: 4035
SITE DESCRIPTION: BETWEEN THE UPPER TWO BRIDGE CROSSINGS ON RTE. 202, WASHINGTON

SAMPLE LENGTH : 154. SAMPLE DATE: 07/20/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:25.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.7	0.00
WATER TEMP. . .	:22.00 (C)	pH . . . . . :	6.7	0.09
VELOCITY. . . .	: 0.4200(m/s)	COND . . . . . (uS/cm3). . :	96.7	1.5
DISCHARGE . . .	: 0.7550(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	19.9	1.18

	MEAN	STD			
WIDTH. . . . . :	7.87	1.40	(m)		
DEPTH. . . . . :	23.80	16.74	(cm)		
DOMINANT SUBSTRATE TYPE. . :	5		POOL/RIFFLE RATIO . .:		0.09
TYPE THREE SUBSTRATE . . . :	0.10	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	18.57	(%)			
OVERHEAD CANOPY. . . . . :	97.00	(%)			
INSTREAM SHELTER . . . . . :	70.2	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	8.3	0.0
Rhinichthys atratulus	305.3	0.0
Salmo trutta	132.0	0.0
Semotilus corporalis	264.0	0.0
Rhinichthys cataractae	717.8	120.3
Micropterus salmoides	8.3	0.0
Ambloplites rupestris	33.0	0.0
Catostomus commersoni	660.1	0.0

STREAM NAME : EAST ASPETUCK RIVER SITE #: 4036
SITE DESCRIPTION: UPSTREAM OF WELLS RD., NEW MILFORD

SAMPLE LENGTH : 147. SAMPLE DATE: 07/30/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:26.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.1	0.12
WATER TEMP. . .	:22.00 (C)	pH . . . . . :	7.3	0.02
VELOCITY. . . .	: 0.3370(m/s)	COND . . . . . (uS/cm3). . :	174.3	1.2
DISCHARGE . . .	: 0.5940(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	62.3	0.46

	MEAN	STD			
WIDTH.	9.56	3.27	(m)		
DEPTH.	25.27	21.37	(cm)		
DOMINANT SUBSTRATE TYPE. . :	3		POOL/RIFFLE RATIO . .:		0.38
TYPE THREE SUBSTRATE . . . :	0.49	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	61.83	(%)			
OVERHEAD CANOPY. . . . . :	73.00	(%)			
INSTREAM SHELTER . . . . . :	270.4	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	268.8	63.9
Rhinichthys atratulus	2273.7	243.9
Pimephales notatus	7.3	0.0
Salmo trutta	268.8	19.0
juvenile centrarchid	14.5	0.0
Exoglossum maxillingua	43.6	0.0
Luxilus cornutus	479.4	25.2
Semotilus corporalis	602.9	16.5
Rhinichthys cataractae	283.3	39.3
Lepomis gibbosus	7.3	0.0
Notropis hudsonius	14.5	0.0
Etheostoma olmstedi	305.1	28.7
Catostomus commersoni	1794.2	76.3

STREAM NAME : SHEPAUG RIVER SITE #: 4037

SITE DESCRIPTION: PARALLEL TO ROMFORD RD., 1.2 KM DOWNSTREAM OF ROAD CROSSING, WARREN

SAMPLE LENGTH : 150. SAMPLE DATE: 08/06/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:25.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.0	0.00
WATER TEMP. . .	:16.00 (C)	pH	: 6.8	0.06
VELOCITY. . . .	: 0.1530(m/s)	COND . . . . . (uS/cm3). .	: 68.3	0.6
DISCHARGE . . .	: 0.2320(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	: 25.0	0.26

	MEAN	STD			
WIDTH.	: 12.29	4.25	(m)		
DEPTH.	: 17.67	14.38	(cm)		
DOMINANT SUBSTRATE TYPE. .	: 4		POOL/RIFFLE RATIO . .	:	1.08
TYPE THREE SUBSTRATE . . .	: 0.19	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	: 69.41	(%)			
OVERHEAD CANOPY.	: 64.00	(%)			
INSTREAM SHELTER	: 26.9	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	10.8	0.0
Rhinichthys atratulus	4605.4	22.5
Salmo trutta	81.4	0.0
Semotilus atromaculatus	189.9	14.4
Luxilus cornutus	2983.5	115.2
juvenile cyprinid	16.3	0.0
Semotilus corporalis	282.1	23.6
Pimephales promelas	16.3	0.0
Notemigonus crysoleucas	211.6	6.5
Rhinichthys cataractae	732.3	46.2
Micropterus salmoides	135.6	15.4
Lepomis gibbosus	10.8	0.0
Etheostoma olmstedi	282.1	16.5
Catostomus commersoni	1508.0	46.2
Perca flavescens	43.4	0.0

STREAM NAME : MARSHEPAUG RIVER SITE #: 4038
SITE DESCRIPTION: UPSTREAM OF SHEARSHOP ROAD ,LITCHFIELD

SAMPLE LENGTH : 150. SAMPLE DATE: 07/21/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:27.00 (C)	DISSOLVED OXYGEN (mg/l). . :	8.9	0.06
WATER TEMP. . .	:21.00 (C)	pH . . . . . :	7.0	0.00
VELOCITY. . . .	: 0.2200(m/s)	COND . . . . . (uS/cm3). . :	115.0	0.0
DISCHARGE . . .	: 0.3510(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	43.0	1.74

	MEAN	STD			
WIDTH. . . . . :	7.06	1.40	(m)		
DEPTH. . . . . :	20.20	14.27	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		0.42
TYPE THREE SUBSTRATE . . . :	0.08	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	58.00	(%)			
OVERHEAD CANOPY. . . . . :		(%)			
INSTREAM SHELTER . . . . . :	38.9	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	56.7	0.0
Rhinichthys atratulus	4315.4	87.2
Salmo trutta	9.4	0.0
Semotilus atromaculatus	311.6	0.0
Luxilus cornutus	585.5	17.0
Rhinichthys cataractae	283.3	0.0
Lepomis gibbosus	9.4	0.0
Catostomus commersoni	264.4	0.0

STREAM NAME : WEST BRANCH SHEPAUG RIVER SITE #: 4039
SITE DESCRIPTION: UPSTREAM OF ACCESS RD. OFF FLATS ROCK RD., CORNWALL

SAMPLE LENGTH : 62. SAMPLE DATE: 07/21/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:24.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.4	0.06
WATER TEMP. . .	:18.00 (C)	pH . . . . . :	6.1	0.10
VELOCITY. . . .	: 0.0870(m/s)	COND . . . . . (uS/cm3). . :	46.3	1.2
DISCHARGE . . .	: 0.0140(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	12.1	0.68

	MEAN	STD			
WIDTH. . . . . :	2.16	0.62	(m)		
DEPTH. . . . . :	8.60	8.06	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		1.07
TYPE THREE SUBSTRATE . . . :	0.25	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	16.00	(%)			
OVERHEAD CANOPY. . . . . :		(%)			
INSTREAM SHELTER . . . . . :	1.9	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	5899.0	0.0
Rhinichthys atratulus	1269.4	0.0
Semotilus atromaculatus	149.3	0.0

STREAM NAME : WEST BRANCH BANTAM RIVER SITE #: 4040
SITE DESCRIPTION: DOWNSTREAM OF NORFOLK RD., LITCHFIELD

SAMPLE LENGTH : 150. SAMPLE DATE: 06/17/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:23.00 (C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . .	:20.00 (C)	pH . . . . . :	6.7	0.06
VELOCITY. . . .	: 0.2160(m/s)	COND . . . . . (uS/cm3). . :	140.7	10.1
DISCHARGE . . .	: 0.1350(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	65.4	1.84

	MEAN	STD			
WIDTH.	4.64	1.58	(m)		
DEPTH.	13.07	10.02	(cm)		
DOMINANT SUBSTRATE TYPE. . :	7		POOL/RIFFLE RATIO . .:		1.03
TYPE THREE SUBSTRATE . . . :	0.03	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	70.00	(%)			
OVERHEAD CANOPY. . . . . :	22.50	(%)			
INSTREAM SHELTER . . . . . :	6.7	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	43.1	0.0
Lepomis macrochirus	3376.4	39.8
Rhinichthys atratulus	172.4	19.2
Salmo trutta	28.7	0.0
Luxilus cornutus	747.1	0.0
Semotilus corporalis	2227.0	82.1
Notemigonus crysoleucas	129.3	0.0
Rhinichthys cataractae	186.8	0.0
Micropterus salmoides	14.4	0.0
Lepomis gibbosus	933.9	0.0
Ambloplites rupestris	43.1	0.0
Micropterus dolomieu	201.1	0.0
Etheostoma olmstedi	14.4	0.0
Catostomus commersoni	215.5	0.0
Perca flavescens	1824.7	112.9

STREAM NAME : BUTTERNUT BROOK SITE #: 4041
SITE DESCRIPTION: DOWNSTREAM OF RIPLEY RD., LITCHFIELD

SAMPLE LENGTH : 100. SAMPLE DATE: 07/21/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:23.00 (C)	DISSOLVED OXYGEN (mg/l). . .	8.8	0.00
WATER TEMP. . .	:22.00 (C)	pH	6.9	0.16
VELOCITY. . . .	: 0.0500(m/s)	COND . . . . . (uS/cm3). .	:169.7	0.6
DISCHARGE . . .	: 0.0392(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	66.9	0.78

	MEAN	STD			
WIDTH.	3.89	0.51	(m)		
DEPTH.	16.33	13.19	(cm)		
DOMINANT SUBSTRATE TYPE. .	4		POOL/RIFFLE RATIO . .:		3.63
TYPE THREE SUBSTRATE . . .	0.18	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	76.67	(%)			
OVERHEAD CANOPY.		(%)			
INSTREAM SHELTER	6.0	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	102.8	0.0
Salvelinus fontinalis	77.1	0.0
Rhinichthys atratulus	16169.7	139.0
Salmo trutta	102.8	0.0
Semotilus atromaculatus	2442.2	82.4
Luxilus cornutus	1388.2	61.7
Semotilus corporalis	0.0	0.0
Micropterus salmoides	77.1	0.0
Lepomis gibbosus	102.8	0.0
Etheostoma olmstedi	3367.6	212.4
Catostomus commersoni	2313.6	82.7

STREAM NAME : BANTAM RIVER SITE #: 4042

SITE DESCRIPTION: 800 M UPSTREAM OF SMOKEY HOLLOW RD., MORRIS

SAMPLE LENGTH : 150. SAMPLE DATE: 08/11/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:26.00 (C)	DISSOLVED OXYGEN (mg/l). . :	8.8	0.06
WATER TEMP. . .	:22.00 (C)	pH . . . . . :	6.9	0.11
VELOCITY. . . .	: 0.3620(m/s)	COND . . . . . (uS/cm3). . :	112.0	0.0
DISCHARGE . . .	: 1.4020(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	52.8	1.06

	MEAN	STD			
WIDTH. . . . . :	17.76	1.45	(m)		
DEPTH. . . . . :	22.00	11.05	(cm)		
DOMINANT SUBSTRATE TYPE. . :	3		POOL/RIFFLE RATIO . .:		0.00
TYPE THREE SUBSTRATE . . . :	0.51	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	64.12	(%)			
OVERHEAD CANOPY. . . . . :	11.00	(%)			
INSTREAM SHELTER . . . . . :	38.1	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	11.3	0.0
Rhinichthys atratulus	225.2	27.4
Salmo trutta	0.0	0.0
Semotilus atromaculatus	116.4	0.0
Luxilus cornutus	972.2	64.5
Semotilus corporalis	506.8	8.0
Pimephales promelas	3.8	0.0
Notemigonus crysoleucas	11.3	0.0
Rhinichthys cataractae	2402.4	691.9
Micropterus salmoides	116.4	25.0
Lepomis auritus	15.0	0.0
Notropis hudsonius	7.5	0.0
Etheostoma olmstedi	799.5	57.1
Catostomus commersoni	1126.1	19.2

STREAM NAME : BANTAM RIVER SITE #: 4043

SITE DESCRIPTION: 1.4 KM NORTH OF RTE. 63 BRIDGE, LITCHFIELD

SAMPLE LENGTH : 150. SAMPLE DATE: 08/11/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:25.00 (C)	DISSOLVED OXYGEN (mg/l). . :	8.5	0.15
WATER TEMP. . .	:22.50 (C)	pH . . . . . :	7.2	0.04
VELOCITY. . . .	: 0.1480(m/s)	COND . . . . . (uS/cm3). . :	130.0	0.0
DISCHARGE . . .	: 1.0660(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	38.3	0.60

	MEAN	STD	
WIDTH. . . . . :	13.20	2.29	(m)
DEPTH. . . . . :	38.97	26.50	(cm)
DOMINANT SUBSTRATE TYPE. . :	4	POOL/RIFFLE RATIO . .:	2.95
TYPE THREE SUBSTRATE . . . :	0.26 (%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE :	56.00 (%)		
OVERHEAD CANOPY. . . . . :	48.00 (%)		
INSTREAM SHELTER . . . . . :	580.2 (m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	5.1	0.0
Lepomis macrochirus	96.0	0.0
Salvelinus fontinalis	5.1	0.0
Rhinichthys atratulus	65.7	0.0
Salmo trutta	15.2	0.0
Semotilus atromaculatus	45.5	0.0
Luxilus cornutus	30.3	0.0
juvenile cyprinid	55.6	0.0
Semotilus corporalis	459.6	13.8
Rhinichthys cataractae	10.1	0.0
Micropterus salmoides	45.5	0.0
Lepomis gibbosus	20.2	0.0
Ambloplites rupestris	75.8	0.0
Micropterus dolomieu	136.4	14.0
Etheostoma olmstedi	20.2	0.0
Catostomus commersoni	227.3	0.0

STREAM NAME : HALL MEADOW BROOK SITE #: 4044

SITE DESCRIPTION: 200 M UPSTREAM OF ROAD CROSSING IN HALL MEADOW STATE PARK, TORRINGTON

SAMPLE LENGTH : 150. SAMPLE DATE: 07/14/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:18.50 (C)	DISSOLVED OXYGEN (mg/l). . :	9.7	0.06
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	6.1	0.06
VELOCITY. . . .	: 0.0420(m/s)	COND . . . . . (uS/cm3). . :	72.7	0.6
DISCHARGE . . .	: 0.1520(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	19.7	1.10

	MEAN	STD			
WIDTH.	9.22	1.21	(m)		
DEPTH.	51.42	35.94	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		28.41
TYPE THREE SUBSTRATE . . . :	0.06	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	40.00	(%)			
OVERHEAD CANOPY. . . . . :	28.00	(%)			
INSTREAM SHELTER . . . . . :	1014.7	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	7.2	0.0
Notropis bifrenatus	202.5	14.9
Salvelinus fontinalis	7.2	0.0
Rhinichthys atratulus	21.7	0.0
Salmo trutta	28.9	0.0
Esox niger	144.6	0.0
Luxilus cornutus	28.9	0.0
Notemigonus crysoleucas	43.4	0.0
Rhinichthys cataractae	43.4	0.0
Micropterus salmoides	7.2	0.0
Lepomis gibbosus	57.8	0.0
Oncorhynchus mykiss	7.2	0.0
Etheostoma olmstedi	28.9	0.0
Catostomus commersoni	282.0	14.6

STREAM NAME : HART BROOK SITE #: 4045

SITE DESCRIPTION: UPSTREAM OF CONFLUENCE WITH NO-NAME TRIB. BELOW EAST STREET, GOSHEN

SAMPLE LENGTH : 100. SAMPLE DATE: 07/21/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:22.00 (C)	DISSOLVED OXYGEN (mg/l). . :	10.2	0.72
WATER TEMP. . .	:18.00 (C)	pH . . . . . :	6.7	0.10
VELOCITY. . . .	: 0.1250(m/s)	COND . . . . . (uS/cm3). . :	72.3	1.5
DISCHARGE . . .	: 0.0430(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	20.8	1.43

	MEAN	STD			
WIDTH. . . . . :	3.28	0.74	(m)		
DEPTH. . . . . :	10.48	6.14	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		0.49
TYPE THREE SUBSTRATE . . . :	0.00	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	40.00	(%)			
OVERHEAD CANOPY. . . . . :	96.00	(%)			
INSTREAM SHELTER . . . . . :	2.1	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	243.9	0.0
Salvelinus fontinalis	304.9	0.0
Rhinichthys atratulus	4817.1	63.9
Esox niger	30.5	0.0
Esox americanus	30.5	0.0
Lepomis gibbosus	670.7	0.0

STREAM NAME : NICKELMINE BROOK SITE #: 4046

SITE DESCRIPTION: UPSTREAM OF POTHER RD., TORRINGTON. (TORRINGTON WATER CO. PROPERTY)

SAMPLE LENGTH : 100. SAMPLE DATE: 07/13/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:23.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.4	0.12
WATER TEMP. . .	:20.00 (C)	pH . . . . . :	7.5	0.06
VELOCITY. . . .	: 0.0540(m/s)	COND . . . . . (uS/cm3). . :	155.0	0.0
DISCHARGE . . .	: 0.0250(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	74.7	0.96

	MEAN	STD			
WIDTH. . . . . :	3.54	0.90	(m)		
DEPTH. . . . . :	14.02	12.34	(cm)		
DOMINANT SUBSTRATE TYPE. . :	7		POOL/RIFFLE RATIO . .:		3.55
TYPE THREE SUBSTRATE . . . :	0.03	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	80.00	(%)			
OVERHEAD CANOPY. . . . . :	0.91	(%)			
INSTREAM SHELTER . . . . . :	6.3	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	960.5	0.0
Rhinichthys atratulus	3785.3	30.9
Semotilus atromaculatus	3163.8	61.2

STREAM NAME : WEST BRANCH NAUGATUCK RIVER SITE #: 4047

SITE DESCRIPTION: BEHIND BRADLEES PLAZA, 500 M DOWNSTREAM OF MAIN ST., TORRINGTON

SAMPLE LENGTH : 157. SAMPLE DATE: 06/23/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:22.00 (C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . .	:18.00 (C)	pH . . . . . :	5.5	0.10
VELOCITY. . . .	: 0.1760(m/s)	COND . . . . . (uS/cm3). . :	80.0	0.0
DISCHARGE . . .	: 0.8070(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	15.7	2.01

	MEAN		STD	
WIDTH. . . . . :	20.48		2.66	(m)
DEPTH. . . . . :	20.15		13.37	(cm)
DOMINANT SUBSTRATE TYPE. . :	5		POOL/RIFFLE RATIO . .:	0.00
TYPE THREE SUBSTRATE . . . :	0.17	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE :	62.94	(%)		
OVERHEAD CANOPY. . . . . :	1.00	(%)		
INSTREAM SHELTER . . . . . :	27.9	(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	6.2	0.0
Lepomis macrochirus	199.0	5.4
Rhinichthys atratulus	3452.2	377.3
juvenile centrarchid	18.7	0.0
Exoglossum maxillingua	4534.5	877.4
Semotilus atromaculatus	140.0	46.2
Luxilus cornutus	28889.5	19091.8
Semotilus corporalis	220.8	62.4
Notemigonus crysoleucas	531.8	308.9
Fundulus diaphanus	59.1	0.0
Rhinichthys cataractae	2027.8	811.7
Micropterus salmoides	21.8	4.2
Lepomis gibbosus	242.6	25.1
Ambloplites rupestris	314.1	69.2
Etheostoma olmstedi	945.5	154.6
Catostomus commersoni	2027.8	162.2

STREAM NAME : EAST BRANCH NAUGATUCK RIVER SITE #: 4048

SITE DESCRIPTION: ALONG NEWFIELD SPRING RD.,500 M BELOW FLOOD CONTROL DAM, TORRINGTON

SAMPLE LENGTH : 150. SAMPLE DATE: 07/01/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:22.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.3	0.06
WATER TEMP. . .	:19.00 (C)	pH . . . . . :	6.6	0.04
VELOCITY. . . .	: 0.2040(m/s)	COND . . . . . (uS/cm3). . :	79.3	0.6
DISCHARGE . . .	: 0.3000(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	12.6	

	MEAN	STD	
WIDTH. . . . . :	6.11	1.14	(m)
DEPTH. . . . . :	24.20	18.81	(cm)
DOMINANT SUBSTRATE TYPE. . :	6	POOL/RIFFLE RATIO . .:	0.88
TYPE THREE SUBSTRATE . . . :	0.04 (%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE :	60.00 (%)		
OVERHEAD CANOPY. . . . . :	78.00 (%)		
INSTREAM SHELTER . . . . . :	58.8 (m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	10.9	0.0
Lepomis macrochirus	10.9	0.0
Salvelinus fontinalis	120.0	0.0
Rhinichthys atratulus	1767.6	145.4
Salmo trutta	98.2	0.0
juvenile centrarchid	21.8	0.0
Exoglossum maxillingua	261.9	0.0
Semotilus atromaculatus	1112.9	153.1
Luxilus cornutus	1549.4	342.2
Notemigonus crysoleucas	21.8	0.0
Rhinichthys cataractae	207.3	0.0
Lepomis gibbosus	10.9	0.0
Catostomus commersoni	1091.1	201.9

STREAM NAME : EAST BRANCH NAUGATUCK RIVER SITE #: 4049

SITE DESCRIPTION: BETWEEN EAST MAIN STREET AND WALL STREET, TORRINGTON

SAMPLE LENGTH : 75. SAMPLE DATE: 06/22/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:16.00 (C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . .	:15.00 (C)	pH . . . . . :	6.5	0.05
VELOCITY. . . .	: 0.2270(m/s)	COND . . . . . (uS/cm3). . :	90.0	0.0
DISCHARGE . . .	: 0.4810(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	16.7	0.64

	MEAN	STD			
WIDTH. . . . . :	8.01	1.73	(m)		
DEPTH. . . . . :	35.45	31.35	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		0.46
TYPE THREE SUBSTRATE . . . :	0.04	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	63.33	(%)			
OVERHEAD CANOPY. . . . . :	70.00	(%)			
INSTREAM SHELTER . . . . . :	90.2	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	857.3	391.3
Salvelinus fontinalis	8.3	0.0
Rhinichthys atratulus	2946.3	37.0
Salmo trutta	8.3	0.0
Exoglossum maxillingua	824.0	30.7
Semotilus atromaculatus	341.2	9.8
Luxilus cornutus	1797.8	26.5
Semotilus corporalis	283.0	0.0
Pimephales promelas	8.3	0.0
Notemigonus crysoleucas	1348.3	153.1
Rhinichthys cataractae	1248.4	65.1
Micropterus salmoides	8.3	0.0
Lepomis gibbosus	707.4	88.7
Ambloplites rupestris	8.3	0.0
Oncorhynchus mykiss	25.0	0.0
Etheostoma olmstedi	715.8	23.1
Catostomus commersoni	2788.2	32.4

STREAM NAME : SPRUCE BROOK SITE #: 4050

SITE DESCRIPTION: AT RAILROAD TRESTLE, 100 M UPSTREAM OF CONFLUENCE WITH NAUGATUCK RIVER., LITCHFIELD

SAMPLE LENGTH : 150. SAMPLE DATE: 07/08/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :19.00 (C)		DISSOLVED OXYGEN (mg/l). . :	10.2	0.00
WATER TEMP. . . :14.00 (C)		pH . . . . . :	6.7	0.07
VELOCITY. . . . : 0.1470(m/s)		COND . . . . . (uS/cm3). . :	62.3	0.6
DISCHARGE . . . : 0.1190(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	13.1	0.95
	MEAN	STD		
WIDTH. . . . . :	6.20	1.19 (m)		
DEPTH. . . . . :	13.40	10.17 (cm)		
DOMINANT SUBSTRATE TYPE. . :	6	POOL/RIFFLE RATIO . .:		0.07
TYPE THREE SUBSTRATE . . . :	0.09 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	7.00 (%)			
OVERHEAD CANOPY. . . . . :	95.00 (%)			
INSTREAM SHELTER . . . . . :	33.4 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	655.9	38.1
Rhinichthys atratulus	1010.8	0.0
Salmo trutta	10.8	0.0
Semotilus atromaculatus	32.3	0.0
Rhinichthys cataractae	2903.2	697.8

STREAM NAME : ROCK BROOK SITE #: 4051

SITE DESCRIPTION: UPSTREAM OF SOUTH RD., HARWINTON

SAMPLE LENGTH : 160. SAMPLE DATE: 07/20/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :25.00 (C)		DISSOLVED OXYGEN (mg/l). . :	9.6	0.10
WATER TEMP. . . :21.00 (C)		pH . . . . . :	6.8	0.10
VELOCITY. . . . : 0.2210(m/s)		COND . . . . . (uS/cm3). . :	60.7	1.2
DISCHARGE . . . : 0.1560(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	7.5	0.23
	MEAN	STD		
WIDTH. . . . . :	7.95	1.70 (m)		
DEPTH. . . . . :	23.35	13.50 (cm)		
DOMINANT SUBSTRATE TYPE. . :	6	POOL/RIFFLE RATIO . .:		1.54
TYPE THREE SUBSTRATE . . . :	0.07 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	34.00 (%)			
OVERHEAD CANOPY. . . . . :	83.00 (%)			
INSTREAM SHELTER . . . . . :	46.6 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	102.2	0.0
Rhinichthys atratulus	2217.0	78.5
Salmo trutta	47.2	0.0
Semotilus atromaculatus	62.9	0.0
Luxilus cornutus	149.4	10.0
juvenile cyprinid	7.9	0.0
Notemigonus crysoleucas	7.9	0.0
Rhinichthys cataractae	1438.7	417.2
Micropterus salmoides	7.9	0.0
Lepomis gibbosus	23.6	0.0
Etheostoma olmstedi	7.9	0.0
Catostomus commersoni	55.0	0.0
Perca flavescens	15.7	0.0

STREAM NAME : LEADMINE BROOK SITE #: 4052
SITE DESCRIPTION: 20 M UPSTREAM OF SWIMMING HOLE ROAD CROSSING.
HARWINTON
SAMPLE LENGTH : 150. SAMPLE DATE: 07/20/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:23.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.4	0.00
WATER TEMP. . .	:19.00 (C)	pH . . . . . :	6.6	0.06
VELOCITY. . . .	: 0.1500(m/s)	COND . . . . . (uS/cm3). . :	113.0	1.7
DISCHARGE . . .	: 0.1420(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	23.9	0.70

	MEAN	STD			
WIDTH. . . . . :	6.93	1.79	(m)		
DEPTH. . . . . :	17.00	10.15	(cm)		
DOMINANT SUBSTRATE TYPE. . :	5		POOL/RIFFLE RATIO . .:		0.88
TYPE THREE SUBSTRATE . . . :	0.03	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	35.00	(%)			
OVERHEAD CANOPY. . . . . :	84.00	(%)			
INSTREAM SHELTER . . . . . :	11.7	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	9.6	0.0
Salvelinus fontinalis	86.6	0.0
Rhinichthys atratulus	3088.0	88.8
Salmo trutta	86.6	0.0
Semotilus atromaculatus	125.1	0.0
Luxilus cornutus	519.5	66.0
Semotilus corporalis	9.6	0.0
Notemigonus crysoleucas	9.6	0.0
Rhinichthys cataractae	923.5	138.6
Micropterus salmoides	9.6	0.0
Lepomis gibbosus	9.6	0.0
Etheostoma olmstedi	9.6	0.0
Catostomus commersoni	317.5	18.5

STREAM NAME : NORTHFIELD BROOK SITE #: 4053
SITE DESCRIPTION: 200 M ABOVE NORTHFIELD FLOOD CONTROL IMPOUNDMENT,
THOMASTON
SAMPLE LENGTH : 150. SAMPLE DATE: 07/20/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:18.00 (C)	DISSOLVED OXYGEN (mg/l). . :	10.1	0.26
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	6.1	0.08
VELOCITY. . . .	: 0.1400(m/s)	COND . . . . . (uS/cm3). . :	73.7	0.6
DISCHARGE . . .	: 0.0700(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	7.7	0.58

	MEAN	STD			
WIDTH. . . . . :	4.31	0.79	(m)		
DEPTH. . . . . :	12.05	9.89	(cm)		
DOMINANT SUBSTRATE TYPE. . :	7		POOL/RIFFLE RATIO . .:		0.81
TYPE THREE SUBSTRATE . . . :	0.06	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	30.00	(%)			
OVERHEAD CANOPY. . . . . :	82.00	(%)			
INSTREAM SHELTER . . . . . :	20.0	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	123.7	0.0
Lepomis macrochirus	263.0	0.0
Salvelinus fontinalis	92.8	0.0
Rhinichthys atratulus	5027.1	30.4
Semotilus atromaculatus	1020.9	17.5
Rhinichthys cataractae	1949.0	86.6
Micropterus salmoides	2722.4	188.9
Etheostoma olmstedi	866.2	127.6
Catostomus commersoni	448.6	0.0

STREAM NAME : NAUGATUCK RIVER SITE #: 4054

SITE DESCRIPTION: 20 M BELOW THE CAMPVILLE BRIDGE, LITCHFIELD/HARWINTON TOWN LINE

SAMPLE LENGTH : 150. SAMPLE DATE: 07/23/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:19.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.0	0.06
WATER TEMP. . .	:18.00 (C)	pH . . . . . :	6.6	0.00
VELOCITY. . . .	: 0.2630(m/s)	COND . . . . . (uS/cm3). . :	210.0	8.7
DISCHARGE . . .	: 1.5720(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	29.4	0.81

	MEAN	STD			
WIDTH.	: 14.57	2.79	(m)		
DEPTH.	: 33.91	24.71	(cm)		
DOMINANT SUBSTRATE TYPE. .	: 4		POOL/RIFFLE RATIO . .:		3.69
TYPE THREE SUBSTRATE . . .	: 0.03	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	: 70.00	(%)			
OVERHEAD CANOPY.	: 15.00	(%)			
INSTREAM SHELTER	: 321.9	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	160.1	0.0
Salmo trutta	9.1	0.0
Exoglossum maxillingua	1715.3	245.7
Semotilus atromaculatus	128.1	43.5
Luxilus cornutus	187.5	24.3
juvenile cyprinid	45.7	15.0
Semotilus corporalis	32.0	0.0
Notemigonus crysoleucas	22.9	0.0
Rhinichthys cataractae	1482.0	218.3
Micropterus salmoides	9.1	0.0
Lepomis gibbosus	18.3	0.0
Ambloplites rupestris	4.6	0.0
Etheostoma olmstedi	539.7	149.3
Catostomus commersoni	4464.3	1913.5

STREAM NAME : NAUGATUCK RIVER SITE #: 4055

SITE DESCRIPTION: 125 M BELOW TO 75 M ABOVE BRIDGE OFF RIVER RD.. TORRINGTON

SAMPLE LENGTH : 200. SAMPLE DATE: 06/30/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:26.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.1	0.00
WATER TEMP. . .	:19.00 (C)	pH . . . . . :	6.5	0.11
VELOCITY. . . .	: 0.1960(m/s)	COND . . . . . (uS/cm3). . :	140.7	1.2
DISCHARGE . . .	: 1.1410(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	24.0	0.85

	MEAN		STD	
WIDTH.	24.47		2.89	(m)
DEPTH.	14.80		9.67	(cm)
DOMINANT SUBSTRATE TYPE. .	4		POOL/RIFFLE RATIO . .:	0.50
TYPE THREE SUBSTRATE . . .	0.00	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE	70.00	(%)		
OVERHEAD CANOPY.		(%)		
INSTREAM SHELTER	18.0	(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	4070.3	300.3
Exoglossum maxillingua	1342.5	40.1
Semotilus atromaculatus	81.7	2.4
Luxilus cornutus	962.4	27.5
juvenile cyprinid	4.1	0.0
Semotilus corporalis	49.0	0.0
Pimephales promelas	4.1	0.0
Notemigonus crysoleucas	6.1	0.0
Rhinichthys cataractae	2323.3	226.4
Lepomis gibbosus	4.1	0.0
Ambloplites rupestris	55.2	2.5
Oncorhynchus mykiss	2.0	0.0
Etheostoma olmstedi	704.9	145.6
Catostomus commersoni	128.7	0.0

STREAM NAME : WACHOCASTINOOK BROOK SITE #: 4056

SITE DESCRIPTION: APPROX. 1.1 KM UPSTREAM OF LOWER BRIDGE CROSSING ON MT. RIGA ROAD, SALISBURY

SAMPLE LENGTH : 150. SAMPLE DATE: 07/15/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :20.00 (C)		DISSOLVED OXYGEN (mg/l). . :	10.3	0.25
WATER TEMP. . . :15.00 (C)		pH . . . . . :	5.8	0.01
VELOCITY. . . . : 0.1500(m/s)		COND . . . . . (uS/cm3). . :	25.0	0.0
DISCHARGE . . . : 0.1390(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	3.9	0.85
	MEAN	STD		
WIDTH. . . . . :	4.73	1.26 (m)		
DEPTH. . . . . :	19.60	15.88 (cm)		
DOMINANT SUBSTRATE TYPE. . :	6	POOL/RIFFLE RATIO . .:	0.98	
TYPE THREE SUBSTRATE . . . :	0.15 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	31.67 (%)			
OVERHEAD CANOPY. . . . . :	0.99 (%)			
INSTREAM SHELTER . . . . . :	22.8 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	126.8	0.0
Salvelinus fontinalis	394.6	0.0
Salmo trutta	1085.3	47.2
Esox niger	42.3	0.0
Micropterus salmoides	14.1	0.0
Lepomis gibbosus	14.1	0.0

STREAM NAME : IVY MOUNTAIN BROOK SITE #: 4057

SITE DESCRIPTION: 100 M UPSTREAM OF PIE HILL RD., GOSHEN

SAMPLE LENGTH : 100. SAMPLE DATE: 07/21/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :22.00 (C)		DISSOLVED OXYGEN (mg/l). . :	9.4	0.00
WATER TEMP. . . :19.00 (C)		pH . . . . . :	7.0	0.05
VELOCITY. . . . : 0.1880(m/s)		COND . . . . . (uS/cm3). . :122.3		0.6
DISCHARGE . . . : 0.1170(m3/s)		ALKALINITY .(mg CaCO3 eq/l): 42.4		1.27
	MEAN	STD		
WIDTH. . . . . :	5.45	1.64 (m)		
DEPTH. . . . . :	12.40	9.99 (cm)		
DOMINANT SUBSTRATE TYPE. . :	6	POOL/RIFFLE RATIO . .:	1.08	
TYPE THREE SUBSTRATE . . . :	0.02 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	50.00 (%)			
OVERHEAD CANOPY. . . . . :	93.00 (%)			
INSTREAM SHELTER . . . . . :	6.7 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	55.0	0.0
Rhinichthys atratulus	3064.2	45.8
Semotilus atromaculatus	1871.6	102.3
Luxilus cornutus	2146.8	97.6
Pimephales promelas	18.3	0.0
Rhinichthys cataractae	128.4	0.0
Lepomis gibbosus	18.3	0.0
Catostomus commersoni	36.7	0.0

STREAM NAME : LAKE WARAMAUG BROOK SITE #: 4058

SITE DESCRIPTION: APPROX. 150 M UPSTREAM OF NORTH SHORE RD. CROSSING. WARREN

SAMPLE LENGTH : 150. SAMPLE DATE: 07/14/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:21.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.7	0.06
WATER TEMP. . .	:18.00 (C)	pH . . . . . :	7.2	0.02
VELOCITY. . . .	: 0.2860(m/s)	COND . . . . . (uS/cm3). . :	112.0	0.0
DISCHARGE . . .	: 0.3680(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	33.8	1.12

	MEAN	STD			
WIDTH. . . . . :	5.72	0.80	(m)		
DEPTH. . . . . :	22.13	19.47	(cm)		
DOMINANT SUBSTRATE TYPE. . :	5		POOL/RIFFLE RATIO . .:		0.16
TYPE THREE SUBSTRATE . . . :	0.08	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	20.00	(%)			
OVERHEAD CANOPY. . . . . :	85.00	(%)			
INSTREAM SHELTER . . . . . :	15.5	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	58.3	0.0
Salvelinus fontinalis	11.7	0.0
Rhinichthys atratulus	209.8	0.0
Salmo trutta	11.7	0.0
Exoglossum maxillingua	128.2	0.0
Luxilus cornutus	116.6	0.0
Rhinichthys cataractae	268.1	0.0
Micropterus salmoides	58.3	0.0
Lepomis gibbosus	116.6	0.0
Lepomis auritus	35.0	0.0
Micropterus dolomieu	11.7	0.0
Catostomus commersoni	606.1	0.0

STREAM NAME : MOHAWK POND OUTFLOW SITE #: 4059

SITE DESCRIPTION: 400 M UPSTREAM OF CONFLUENCE WITH EAST BRANCH SHEPAUG RIVER, AT FOREST RD. CROSSING, GOSHEN

SAMPLE LENGTH : 100. SAMPLE DATE: 06/25/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:20.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.6	0.06
WATER TEMP. . .	:17.00 (C)	pH . . . . . :	6.3	0.08
VELOCITY. . . .	: 0.2400(m/s)	COND . . . . . (uS/cm3). . :	43.3	1.2
DISCHARGE . . .	: 0.1000(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	12.2	0.21

	MEAN	STD			
WIDTH. . . . . :	3.23	1.45	(m)		
DEPTH. . . . . :	13.68	11.86	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		0.47
TYPE THREE SUBSTRATE . . . :	0.07	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	45.00	(%)			
OVERHEAD CANOPY. . . . . :	96.00	(%)			
INSTREAM SHELTER . . . . . :	10.9	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	154.8	0.0
Lepomis macrochirus	154.8	0.0
Salvelinus fontinalis	650.2	0.0
Rhinichthys atratulus	1826.6	73.9
juvenile centrarchid	278.6	0.0
Semotilus atromaculatus	6346.8	342.5
Luxilus cornutus	216.7	0.0
Notemigonus crysoleucas	123.8	0.0
Rhinichthys cataractae	31.0	0.0
Lepomis gibbosus	278.6	0.0
Catostomus commersoni	92.9	0.0

STREAM NAME : BIRDSEYE BROOK SITE #: 4060

SITE DESCRIPTION: UPSTREAM OF BRIDGE BELOW MOHAWK SKI LODGE, CORNWALL.

SAMPLE LENGTH : 50. SAMPLE DATE: 07/27/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:27.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.6	0.29
WATER TEMP. . .	:18.00 (C)	pH . . . . . :	7.5	0.06
VELOCITY. . . .	: 0.0840(m/s)	COND . . . . . (uS/cm3). . :284.7		0.6
DISCHARGE . . .	: 0.0285(m3/s)	ALKALINITY .(mg CaCO3 eq/l):100.0		2.04

	MEAN	STD			
WIDTH. . . . . :	2.00	0.42	(m)		
DEPTH. . . . . :	14.45	12.30	(cm)		
DOMINANT SUBSTRATE TYPE. . :	3		POOL/RIFFLE RATIO . .:		9.00
TYPE THREE SUBSTRATE . . . :	0.67	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	76.25	(%)			
OVERHEAD CANOPY. . . . . :	0.09	(%)			
INSTREAM SHELTER . . . . . :	4.6	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	200.5	0.0
Rhinichthys atratulus	2205.5	0.0
juvenile centrarchid	401.0	0.0
Semotilus atromaculatus	8922.3	429.9
Luxilus cornutus	5513.8	115.9
Notemigonus crysoleucas	100.3	0.0
Lepomis gibbosus	9924.8	319.7
Catostomus commersoni	6215.5	0.0

STREAM NAME : REED BROOK SITE #: 4061
SITE DESCRIPTION: UPSTREAM OF WICKWIRE RD. FORD,CORNWALL

SAMPLE LENGTH : 100. SAMPLE DATE: 06/24/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:16.00 (C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	6.4	0.18
VELOCITY. . . .	: 0.3770(m/s)	COND . . . . . (uS/cm3). . :	75.0	0.0
DISCHARGE . . .	: 0.3030(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	32.2	0.15

	MEAN	STD			
WIDTH. . . . . :	4.61	0.78	(m)		
DEPTH. . . . . :	17.55	11.92	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		0.31
TYPE THREE SUBSTRATE . . . :	0.13	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	56.00	(%)			
OVERHEAD CANOPY. . . . . :	0.94	(%)			
INSTREAM SHELTER . . . . . :	12.4	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	21.7	0.0
Rhinichthys atratulus	5748.4	358.3
Notemigonus crysoleucas	238.6	0.0

STREAM NAME : EAST BRANCH LEADMINE BROOK SITE #: 4062
SITE DESCRIPTION: 25 M ABOVE CROSSING OF WHITBECK RD., NEW HARTFORD.

SAMPLE LENGTH : 50. SAMPLE DATE: 07/13/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:22.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.7	0.00
WATER TEMP. . .	:14.00 (C)	pH . . . . . :	6.7	0.23
VELOCITY. . . .	: 0.0400(m/s)	COND . . . . . (uS/cm3). . :	90.3	1.5
DISCHARGE . . .	: 0.1040(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	21.2	0.15

	MEAN	STD			
WIDTH. . . . . :	2.46	1.04	(m)		
DEPTH. . . . . :	9.88	9.98	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		2.85
TYPE THREE SUBSTRATE . . . :	0.05	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	10.00	(%)			
OVERHEAD CANOPY. . . . . :	0.78	(%)			
INSTREAM SHELTER . . . . . :	0.9	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	81.3	0.0
Salvelinus fontinalis	3008.1	0.0
Rhinichthys atratulus	1382.1	0.0
Semotilus atromaculatus	243.9	0.0
Notemigonus crysoleucas	243.9	0.0
Lepomis gibbosus	569.1	0.0

STREAM NAME : JEFFERSON HILL BROOK SITE #: 4063
SITE DESCRIPTION: 20 M UPSTREAM OF CONFLUENCE WITH SPRUCE BROOK, LITCHFIELD
SAMPLE LENGTH : 100. SAMPLE DATE: 07/08/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:19.00 (C)	DISSOLVED OXYGEN (mg/l). . :	10.1	0.06
WATER TEMP. . .	:13.00 (C)	pH . . . . . :	6.4	0.15
VELOCITY. . . .	: 0.1460(m/s)	COND . . . . . (uS/cm3). . :	50.7	1.2
DISCHARGE . . .	: 0.0770(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	8.6	1.00

	MEAN	STD			
WIDTH.	4.42	1.24	(m)		
DEPTH.	11.85	9.13	(cm)		
DOMINANT SUBSTRATE TYPE. .	6		POOL/RIFFLE RATIO . .:		0.27
TYPE THREE SUBSTRATE . . .	0.15	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	11.67	(%)			
OVERHEAD CANOPY.	0.90	(%)			
INSTREAM SHELTER	10.8	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	995.5	0.0
Rhinichthys atratulus	316.7	0.0
Semotilus atromaculatus	22.6	0.0
Rhinichthys cataractae	271.5	50.5

STREAM NAME : BEAR SWAMP OUTFLOW SITE #: 4064
SITE DESCRIPTION: BELOW FORD ON BEAR SWAMP RD., IN MOHAWK STATE FOREST, GOSHEN
SAMPLE LENGTH : 145. SAMPLE DATE: 06/29/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:21.00 (C)	DISSOLVED OXYGEN (mg/l). . :	8.7	1.45
WATER TEMP. . .	:17.00 (C)	pH . . . . . :	5.7	0.17
VELOCITY. . . .	: 0.0840(m/s)	COND . . . . . (uS/cm3). . :	56.3	1.2
DISCHARGE . . .	: 0.0260(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	21.7	0.55

	MEAN	STD			
WIDTH.	2.73	0.68	(m)		
DEPTH.	10.85	14.67	(cm)		
DOMINANT SUBSTRATE TYPE. .	4		POOL/RIFFLE RATIO . .:		0.24
TYPE THREE SUBSTRATE . . .	0.14	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	76.67	(%)			
OVERHEAD CANOPY.	0.95	(%)			
INSTREAM SHELTER	6.1	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	1717.8	114.6
Salvelinus fontinalis	732.6	31.1
Rhinichthys atratulus	13388.9	284.9
Erimyzon oblongus	25.3	0.0
Semotilus atromaculatus	17809.8	387.4
Luxilus cornutus	353.7	0.0
juvenile cyprinid	25.3	0.0
Pimephales promelas	1111.5	387.0
Notemigonus crysoleucas	2324.1	70.0
Lepomis gibbosus	25.3	0.0
Catostomus commersoni	656.8	0.0

STREAM NAME : HALL MEADOW BROOK TRIB. SITE #: 4065
SITE DESCRIPTION: 100 M UPSTREAM OF PARKER HILL RD, NORFOLK

SAMPLE LENGTH : 100. SAMPLE DATE: 07/28/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:19.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 11.0	0.23
WATER TEMP. . .	:12.00 (C)	pH	: 6.6	
VELOCITY. . . .	: 0.1250(m/s)	COND . . . . . (uS/cm3). .	: 50.0	0.0
DISCHARGE . . .	: 0.0590(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	17.2	1.03

	MEAN		STD	
WIDTH.	5.08		1.21	(m)
DEPTH.	9.20		7.25	(cm)
DOMINANT SUBSTRATE TYPE. .	3		POOL/RIFFLE RATIO . .:	1.50
TYPE THREE SUBSTRATE . . .	0.32	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE	24.64	(%)		
OVERHEAD CANOPY.	0.90	(%)		
INSTREAM SHELTER	1.5	(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	4015.7	124.9
Rhinichthys atratulus	669.3	0.0
Semotilus atromaculatus	59.1	0.0
Lepomis gibbosus	59.1	0.0
Cottus cognatus	8267.7	985.3
Catostomus commersoni	19.7	0.0

STREAM NAME : JAKE'S BROOK SITE #: 4066
SITE DESCRIPTION: 200 M UPSTREAM OF RTE. 272, TORRINGTON

SAMPLE LENGTH : 150. SAMPLE DATE: 06/26/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:18.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.1	0.12
WATER TEMP. . .	:14.00 (C)	pH	: 6.7	0.17
VELOCITY. . . .	: 0.2100(m/s)	COND . . . . . (uS/cm3). .	: 64.7	2.5
DISCHARGE . . .	: 0.1560(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	33.0	0.66

	MEAN		STD	
WIDTH.	3.91		1.15	(m)
DEPTH.	18.52		15.03	(cm)
DOMINANT SUBSTRATE TYPE. .	6		POOL/RIFFLE RATIO . .:	0.34
TYPE THREE SUBSTRATE . . .	0.03	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE	10.00	(%)		
OVERHEAD CANOPY.	0.98	(%)		
INSTREAM SHELTER	61.8	(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	1875.5	91.6
Rhinichthys atratulus	2625.7	35.7
Notemigonus crysoleucas	51.2	0.0

STREAM NAME : DRAKE POND BROOK SITE #: 4067
SITE DESCRIPTION: AT DRIVEWAY OFF BRANDY HILL RD, TORRINGTON

SAMPLE LENGTH : 50. SAMPLE DATE: 07/01/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:24.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.3	0.31
WATER TEMP. . .	:18.00 (C)	pH . . . . . :	7.5	0.22
VELOCITY. . . .	: 0.0520(m/s)	COND . . . . . (uS/cm3). . :	130.3	4.0
DISCHARGE . . .	: 0.0090(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	41.0	1.79

	MEAN	STD			
WIDTH. . . . . :	1.91	0.72	(m)		
DEPTH. . . . . :	9.38	10.07	(cm)		
DOMINANT SUBSTRATE TYPE. . :	6		POOL/RIFFLE RATIO . .:		0.00
TYPE THREE SUBSTRATE . . . :	0.06	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	30.00	(%)			
OVERHEAD CANOPY. . . . . :	1.00	(%)			
INSTREAM SHELTER . . . . . :	5.8	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	628.3	0.0
Salvelinus fontinalis	5026.2	192.0
Rhinichthys atratulus	733.0	0.0

STREAM NAME : FOX BROOK SITE #: 4068
SITE DESCRIPTION: 100 M DOWNSTREAM OF NEWFIELD RD., WINCHESTER

SAMPLE LENGTH : 100. SAMPLE DATE: 08/17/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:16.00 (C)	DISSOLVED OXYGEN (mg/l). . :	10.7	0.46
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	6.6	0.02
VELOCITY. . . .	: 0.1730(m/s)	COND . . . . . (uS/cm3). . :	70.0	0.0
DISCHARGE . . .	: 0.0740(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	19.7	0.10

	MEAN	STD			
WIDTH. . . . . :	3.38	1.20	(m)		
DEPTH. . . . . :	12.67	9.30	(cm)		
DOMINANT SUBSTRATE TYPE. . :	6		POOL/RIFFLE RATIO . .:		0.51
TYPE THREE SUBSTRATE . . . :	0.04	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	50.00	(%)			
OVERHEAD CANOPY. . . . . :	1.00	(%)			
INSTREAM SHELTER . . . . . :	11.6	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	296.1	0.0
Rhinichthys atratulus	118.4	0.0
Semotilus atromaculatus	799.3	0.0
Pimephales promelas	29.6	0.0
Micropterus salmoides	118.4	0.0

STREAM NAME : EAST BRANCH NAUGATUCK RIVER TRIB. SITE #: 4069
SITE DESCRIPTION: 500 M UP FROM E. BR. NAUGATUCK RIVER, PARALLEL TO SAWMILL HILL RD., TORRINGTON

SAMPLE LENGTH : 100. SAMPLE DATE: 07/28/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:18.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.3	0.17
WATER TEMP. . .	:15.00 (C)	pH	: 7.2	
VELOCITY. . . .	: 0.0680(m/s)	COND . . . . . (uS/cm3). .	:121.7	0.6
DISCHARGE . . .	: 0.0330(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	: 25.7	0.66

	MEAN	STD			
WIDTH.	: 4.53	1.64	(m)		
DEPTH.	: 11.18	8.27	(cm)		
DOMINANT SUBSTRATE TYPE. .	: 6		POOL/RIFFLE RATIO . .:		1.08
TYPE THREE SUBSTRATE . . .	: 0.00	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	: 50.00	(%)			
OVERHEAD CANOPY.	: 1.00	(%)			
INSTREAM SHELTER	: 9.3	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	22.1	0.0
Salvelinus fontinalis	419.4	0.0
Rhinichthys atratulus	2626.9	24.4
Salmo trutta	22.1	0.0
Exoglossum maxillingua	220.8	0.0
Semotilus atromaculatus	2936.0	24.0
Rhinichthys cataractae	154.5	0.0
Lepomis gibbosus	66.2	0.0
Catostomus commersoni	485.7	0.0

STREAM NAME : GULF STREAM SITE #: 4070
SITE DESCRIPTION: UPSTREAM OF TOWN FARM RD., LITCHFIELD

SAMPLE LENGTH : 106. SAMPLE DATE: 07/13/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:22.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 9.6	0.10
WATER TEMP. . .	:20.00 (C)	pH	: 7.1	0.05
VELOCITY. . . .	: 0.0580(m/s)	COND . . . . . (uS/cm3). .	:162.3	3.8
DISCHARGE . . .	: 0.0090(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	: 40.2	0.55

	MEAN	STD			
WIDTH.	: 2.22	0.71	(m)		
DEPTH.	: 6.78	5.83	(cm)		
DOMINANT SUBSTRATE TYPE. .	: 4		POOL/RIFFLE RATIO . .:		0.42
TYPE THREE SUBSTRATE . . .	: 0.00	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	: 50.00	(%)			
OVERHEAD CANOPY.	: 0.98	(%)			
INSTREAM SHELTER	: 0.4	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	42.5	0.0
Lepomis macrochirus	42.5	0.0
Salvelinus fontinalis	764.9	0.0
Rhinichthys atratulus	637.4	0.0
juvenile centrarchid	127.5	0.0
Semotilus atromaculatus	509.9	0.0
Micropterus salmoides	849.9	0.0
Lepomis gibbosus	255.0	0.0

STREAM NAME : NAUGATUCK RIVER TRIB. SITE #: 4071
SITE DESCRIPTION: UPSTREAM OF OLD RAILROAD BED, 50 M FROM NAUGATUCK RIVER, LITCHFIELD. (ARMY CORPS OF ENGINEERS PROPERTY)
SAMPLE LENGTH : 72. SAMPLE DATE: 07/08/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:25.00 (C)	DISSOLVED OXYGEN (mg/l). . :	7.4	0.26
WATER TEMP. . .	:15.00 (C)	pH . . . . . :	6.8	0.06
VELOCITY. . . .	: 0.0640(m/s)	COND . . . . . (uS/cm3). . :	113.3	2.9
DISCHARGE . . .	: 0.0150(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	10.7	0.25

	MEAN	STD			
WIDTH. . . . . :	3.45	0.98	(m)		
DEPTH. . . . . :	7.56	8.82	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:	0.24	
TYPE THREE SUBSTRATE . . . :	0.00	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	50.00	(%)			
OVERHEAD CANOPY. . . . . :	1.00	(%)			
INSTREAM SHELTER . . . . . :	14.8	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	40.3	0.0
Salvelinus fontinalis	3744.0	130.1
Rhinichthys atratulus	3260.9	679.8
Semotilus atromaculatus	563.6	52.8
Rhinichthys cataractae	2012.9	377.1
Lepomis gibbosus	161.0	0.0
Catostomus commersoni	80.5	0.0

STREAM NAME : WEST BRANCH LEADMINE BROOK SITE #: 4072
SITE DESCRIPTION: PARALLEL TO RTE. 4, OPPOSITE LEADMINE BROOK RD., TORRINGTON
SAMPLE LENGTH : 50. SAMPLE DATE: 08/25/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:24.00 (C)	DISSOLVED OXYGEN (mg/l). . :	11.4	0.06
WATER TEMP. . .	:19.00 (C)	pH . . . . . :	6.9	0.01
VELOCITY. . . .	: 0.1540(m/s)	COND . . . . . (uS/cm3). . :	278.0	10.4
DISCHARGE . . .	: 0.0440(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	66.1	0.35

	MEAN	STD			
WIDTH. . . . . :	3.20	0.61	(m)		
DEPTH. . . . . :	9.15	7.52	(cm)		
DOMINANT SUBSTRATE TYPE. . :	3		POOL/RIFFLE RATIO . .:	0.72	
TYPE THREE SUBSTRATE . . . :	0.46	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	44.17	(%)			
OVERHEAD CANOPY. . . . . :	0.92	(%)			
INSTREAM SHELTER . . . . . :	0.1	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	687.5	0.0
Rhinichthys atratulus	12000.0	2011.5
Semotilus atromaculatus	3875.0	1936.3
Catostomus commersoni	187.5	0.0

STREAM NAME : LEADMINE BROOK TRIB. SITE #: 4073
SITE DESCRIPTION: UPSTREAM OF RORABACK WILDLIFE MANAGEMENT AREA ACCESS RD.
OFF RTE. 222, 2.5KM UPSTREAM FROM LEADMINE BK., HARWINTON

SAMPLE LENGTH : 100. SAMPLE DATE: 08/17/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:17.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.7	0.12
WATER TEMP. . .	:15.00 (C)	pH	: 6.1	0.00
VELOCITY. . . .	: 0.2620(m/s)	COND . . . . . (uS/cm3). .	: 70.0	0.0
DISCHARGE . . .	: 0.1060(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	10.7	0.38

	MEAN	STD		
WIDTH.	3.05	1.00	(m)	
DEPTH.	12.77	9.76	(cm)	
DOMINANT SUBSTRATE TYPE. .	5	POOL/RIFFLE RATIO . .:		0.35
TYPE THREE SUBSTRATE . . .	0.13 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	50.00 (%)			
OVERHEAD CANOPY.	1.00 (%)			
INSTREAM SHELTER	7.2 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	1016.4	0.0
Rhinichthys atratulus	623.0	0.0
Semotilus atromaculatus	163.9	0.0
Catostomus commersoni	65.6	0.0

STREAM NAME : MINOR POND OUTFLOW SITE #: 4074
SITE DESCRIPTION: UPSTREAM OF BRIDGE ON MINOR TOWN RD., PLYMOUTH

SAMPLE LENGTH : 50. SAMPLE DATE: 07/13/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:26.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 8.8	0.23
WATER TEMP. . .	:23.00 (C)	pH	: 6.8	0.06
VELOCITY. . . .	: 0.2540(m/s)	COND . . . . . (uS/cm3). .	: 77.3	2.1
DISCHARGE . . .	: 0.0470(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	9.8	0.72

	MEAN	STD		
WIDTH.	2.03	0.69	(m)	
DEPTH.	8.85	9.24	(cm)	
DOMINANT SUBSTRATE TYPE. .	4	POOL/RIFFLE RATIO . .:		0.11
TYPE THREE SUBSTRATE . . .	0.00 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	50.00 (%)			
OVERHEAD CANOPY.	1.00 (%)			
INSTREAM SHELTER	1.9 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	3546.8	263.0
Rhinichthys atratulus	394.1	0.0

STREAM NAME : FOX BROOK SITE #: 4075
SITE DESCRIPTION: UPSTREAM OF RTE. 4, GOSHEN

SAMPLE LENGTH : 50. SAMPLE DATE: 06/22/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :	(C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . . :	(C)	pH . . . . . :	5.9	0.10
VELOCITY. . . . :	0.0690(m/s)	COND . . . . . (uS/cm3). . :	118.0	0.0
DISCHARGE . . . :	0.0425(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	24.8	3.30

	MEAN	STD			
WIDTH. . . . . :	3.07	0.38	(m)		
DEPTH. . . . . :	21.17	7.57	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		15.67
TYPE THREE SUBSTRATE . . . :	0.04	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	75.00	(%)			
OVERHEAD CANOPY. . . . . :		(%)			
INSTREAM SHELTER . . . . . :	2.7	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	65.1	0.0
Rhinichthys atratulus	3648.2	119.4
Semotilus atromaculatus	14658.0	314.4
Luxilus cornutus	1954.4	178.4
Rhinichthys cataractae	65.1	0.0
Catostomus commersoni	65.1	0.0

STREAM NAME : WEST BRANCH BUTTERNUT BROOK SITE #: 4076
SITE DESCRIPTION: 75 M DOWNSTREAM OF MILTON RD., LITCHFIELD

SAMPLE LENGTH : 60. SAMPLE DATE: 08/06/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :	27.00 (C)	DISSOLVED OXYGEN (mg/l). . :	8.6	0.06
WATER TEMP. . . :	22.00 (C)	pH . . . . . :	6.5	0.06
VELOCITY. . . . :	0.0910(m/s)	COND . . . . . (uS/cm3). . :	101.0	0.0
DISCHARGE . . . :	0.0300(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	38.6	0.89

	MEAN	STD			
WIDTH. . . . . :	3.81	1.26	(m)		
DEPTH. . . . . :	8.91	8.30	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		4.00
TYPE THREE SUBSTRATE . . . :	0.26	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	61.43	(%)			
OVERHEAD CANOPY. . . . . :	1.00	(%)			
INSTREAM SHELTER . . . . . :	2.5	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	0.0	0.0
Rhinichthys atratulus	12677.6	487.3
Esox niger	0.0	0.0
Semotilus atromaculatus	5027.3	231.5
Micropterus salmoides	0.0	0.0
Lepomis gibbosus	0.0	0.0
Etheostoma olmstedi	43.7	0.0
Catostomus commersoni	612.0	0.0

STREAM NAME : STILL BROOK SITE #: 4077

SITE DESCRIPTION: DOWNSTREAM OF RTE. 202, LITCHFIELD

SAMPLE LENGTH : 100. SAMPLE DATE: 08/03/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:22.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.0	0.06
WATER TEMP. . .	:18.00 (C)	pH	: 6.6	0.07
VELOCITY. . . .	: 0.1720(m/s)	COND . . . . . (uS/cm3). .	: 75.7	0.6
DISCHARGE . . .	: 0.0710(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	: 22.4	0.17

	MEAN	STD			
WIDTH.	: 3.40	0.85	(m)		
DEPTH.	: 11.10	9.76	(cm)		
DOMINANT SUBSTRATE TYPE. .	: 4		POOL/RIFFLE RATIO . .:		0.18
TYPE THREE SUBSTRATE . . .	: 0.10	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	: 36.67	(%)			
OVERHEAD CANOPY.	: 0.80	(%)			
INSTREAM SHELTER	: 7.3	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	29.4	0.0
Salvelinus fontinalis	3941.2	48.1
Rhinichthys atratulus	4470.6	31.9
Erimyzon oblongus	88.2	0.0
Semotilus atromaculatus	705.9	0.0
Luxilus cornutus	58.8	0.0
Pimephales promelas	235.3	0.0
Notemigonus crysoleucas	588.2	0.0
Rhinichthys cataractae	1441.2	90.4
Micropterus salmoides	176.5	0.0
Lepomis gibbosus	117.6	0.0
Etheostoma olmstedi	58.8	0.0
Catostomus commersoni	294.1	0.0
Perca flavescens	147.1	0.0

STREAM NAME : HILL BROOK SITE #: 4078
SITE DESCRIPTION: UPSTREAM OF WEST MORRIS RD. CROSSING, LITCHFIELD

SAMPLE LENGTH : 110. SAMPLE DATE: 08/03/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:26.00 (C)	DISSOLVED OXYGEN (mg/l). . :	8.8	0.12
WATER TEMP. . .	:22.00 (C)	pH . . . . . :	6.8	0.07
VELOCITY. . . .	: 0.1360(m/s)	COND . . . . . (uS/cm3). . :	98.3	0.6
DISCHARGE . . .	: 0.0720(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	25.5	0.96

	MEAN	STD			
WIDTH.	4.24	1.54	(m)		
DEPTH.	14.02	12.35	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		0.92
TYPE THREE SUBSTRATE . . . :	0.03	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	0.00	(%)			
OVERHEAD CANOPY. . . . . :	0.98	(%)			
INSTREAM SHELTER . . . . . :	37.9	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	42.9	0.0
Lepomis macrochirus	1436.5	74.7
Salvelinus fontinalis	3644.9	176.5
Rhinichthys atratulus	1951.1	112.7
Erimyzon oblongus	21.4	0.0
Semotilus atromaculatus	1886.8	157.6
Luxilus cornutus	21.4	0.0
Pimephales promelas	578.9	77.9
Notemigonus crysoleucas	107.2	0.0
Rhinichthys cataractae	1114.9	65.2
Micropterus salmoides	407.4	65.1
Lepomis gibbosus	85.8	0.0
Etheostoma olmstedi	21.4	0.0
Catostomus commersoni	986.3	53.0
Perca flavescens	21.4	0.0

STREAM NAME : BANTAM RIVER TRIB. SITE #: 4079
SITE DESCRIPTION: 75 M UPSTREAM OF SMOKEY HOLLOW RD. CROSSING, MORRIS

SAMPLE LENGTH : 100. SAMPLE DATE: 08/06/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:21.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.0	0.06
WATER TEMP. . .	:17.00 (C)	pH	: 7.0	0.09
VELOCITY. . . .	: 0.1050(m/s)	COND . . . . . (uS/cm3). .	: 98.0	0.0
DISCHARGE . . .	: 0.0350(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	: 28.6	0.17

	MEAN	STD			
WIDTH.	: 2.63	0.62	(m)		
DEPTH.	: 12.00	11.50	(cm)		
DOMINANT SUBSTRATE TYPE. .	: 5		POOL/RIFFLE RATIO . .:		0.28
TYPE THREE SUBSTRATE . . .	: 0.10	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	: 30.00	(%)			
OVERHEAD CANOPY.	: 0.95	(%)			
INSTREAM SHELTER	: 7.2	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	38.0	0.0
Salvelinus fontinalis	342.2	0.0
Rhinichthys atratulus	5931.6	80.0
Esox niger	0.0	0.0
Semotilus atromaculatus	532.3	0.0
Luxilus cornutus	2053.2	0.0
Pimephales promelas	38.0	0.0
Rhinichthys cataractae	532.3	0.0
Catostomus commersoni	266.2	0.0

STREAM NAME : SUCKER BROOK SITE #: 4080
SITE DESCRIPTION: UPSTREAM OF SUCKER BROOK RD., GOSHEN

SAMPLE LENGTH : 100. SAMPLE DATE: 08/13/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:18.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 11.0	0.06
WATER TEMP. . .	:13.00 (C)	pH	: 7.1	0.20
VELOCITY. . . .	: 0.0320(m/s)	COND . . . . . (uS/cm3). .	:140.0	0.0
DISCHARGE . . .	: 0.0112(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	: 78.3	0.53

	MEAN	STD			
WIDTH.	: 2.61	0.55	(m)		
DEPTH.	: 13.52	12.44	(cm)		
DOMINANT SUBSTRATE TYPE. .	: 4		POOL/RIFFLE RATIO . .:		3.33
TYPE THREE SUBSTRATE . . .	: 0.23	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	: 56.00	(%)			
OVERHEAD CANOPY.	: 0.77	(%)			
INSTREAM SHELTER	: 5.5	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	306.5	0.0
Rhinichthys atratulus	6436.8	0.0
juvenile centrarchid	4137.9	84.6
Semotilus atromaculatus	9501.9	105.4
Notemigonus crysoleucas	76.6	0.0
Lepomis gibbosus	498.1	0.0
Etheostoma olmstedi	38.3	0.0
Catostomus commersoni	229.9	0.0

STREAM NAME : BEE BROOK SITE #: 4081

SITE DESCRIPTION: PARALLEL TO RTE. 57, 500 M ABOVE CONFLUENCE WITH SHEPAUG R., WASHINGTON

SAMPLE LENGTH : 150. SAMPLE DATE: 07/21/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:22.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.9	0.06
WATER TEMP. . .	:19.00 (C)	pH . . . . . :	7.7	0.01
VELOCITY. . . .	: 0.2380(m/s)	COND . . . . . (uS/cm3). . :	150.0	0.0
DISCHARGE . . .	: 0.1260(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	49.4	0.76

	MEAN	STD			
WIDTH. . . . . :	4.71	2.05	(m)		
DEPTH. . . . . :	11.65	9.18	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		0.38
TYPE THREE SUBSTRATE . . . :	0.14	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	16.67	(%)			
OVERHEAD CANOPY. . . . . :	0.92	(%)			
INSTREAM SHELTER . . . . . :	8.9	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	608.6	0.0
Rhinichthys atratulus	2094.8	42.1
Salmo trutta	325.5	0.0
Semotilus atromaculatus	509.6	0.0
Luxilus cornutus	283.1	67.3
Semotilus corporalis	169.9	18.9
Notemigonus crysoleucas	141.5	0.0
Rhinichthys cataractae	622.8	36.2
Lepomis gibbosus	14.2	0.0
Catostomus commersoni	537.9	0.0

STREAM NAME : HUMISTON BROOK SITE #: 4082

SITE DESCRIPTION: OPPOSITE MASON HILL RD., 200 M DOWNSTREAM OF KNIFE SHOP RD., HUMISTON STATE PARK, THOMASTON

SAMPLE LENGTH : 100. SAMPLE DATE: 07/08/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:21.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.0	0.06
WATER TEMP. . .	:20.00 (C)	pH . . . . . :	6.8	0.03
VELOCITY. . . .	: 0.0630(m/s)	COND . . . . . (uS/cm3). . :	66.0	1.7
DISCHARGE . . .	: 0.0210(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	6.5	0.50

	MEAN	STD			
WIDTH. . . . . :	3.38	1.31	(m)		
DEPTH. . . . . :	9.55	10.14	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		3.00
TYPE THREE SUBSTRATE . . . :	0.00	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	16.67	(%)			
OVERHEAD CANOPY. . . . . :	0.98	(%)			
INSTREAM SHELTER . . . . . :	8.2	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	118.3	0.0
Lepomis macrochirus	473.4	63.3
Salvelinus fontinalis	118.3	0.0
Rhinichthys atratulus	1479.3	0.0
Esox niger	59.2	0.0
Semotilus atromaculatus	828.4	0.0
Notemigonus crysoleucas	88.8	0.0
Rhinichthys cataractae	798.8	36.2
Micropterus salmoides	29.6	0.0
Lepomis gibbosus	29.6	0.0
Catostomus commersoni	976.3	0.0

STREAM NAME : SPAULDING BROOK SITE #: 4083
SITE DESCRIPTION: UPSTREAM OF MOUNTAIN RD. CROSSING, NORFOLK

SAMPLE LENGTH : 100. SAMPLE DATE: 08/24/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:25.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.1	0.44
WATER TEMP. . .	:20.50 (C)	pH	: 7.1	0.00
VELOCITY. . . .	: 0.3170(m/s)	COND . . . . . (uS/cm3). .	:108.3	2.9
DISCHARGE . . .	: 0.1520(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	50.8	4.52

	MEAN		STD	
WIDTH.	3.65		0.60	(m)
DEPTH.	13.23		8.67	(cm)
DOMINANT SUBSTRATE TYPE. .	3		POOL/RIFFLE RATIO . .:	1.44
TYPE THREE SUBSTRATE . . .	0.88	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE	31.79	(%)		
OVERHEAD CANOPY.	0.56	(%)		
INSTREAM SHELTER	4.1	(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	301.4	0.0
Rhinichthys atratulus	6602.7	254.4
Semotilus atromaculatus	1068.5	0.0
Luxilus cornutus	328.8	36.7
Rhinichthys cataractae	82.2	0.0
Catostomus commersoni	1287.7	0.0

STREAM NAME : WOOD CREEK SITE #: 4084
SITE DESCRIPTION: UPSTREAM OF PRIVATE RD. AT WOOD CREEK FARM OFF ASHPOHTAG RD., NORFOLK

SAMPLE LENGTH : 100. SAMPLE DATE: 07/07/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:16.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 8.9	0.10
WATER TEMP. . .	:19.00 (C)	pH	: 6.3	0.08
VELOCITY. . . .	: 0.1610(m/s)	COND . . . . . (uS/cm3). .	: 53.7	0.6
DISCHARGE . . .	: 0.0740(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	13.2	1.25

	MEAN		STD	
WIDTH.	3.83		1.61	(m)
DEPTH.	14.20		12.95	(cm)
DOMINANT SUBSTRATE TYPE. .	4		POOL/RIFFLE RATIO . .:	0.52
TYPE THREE SUBSTRATE . . .	0.18	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE	5.00	(%)		
OVERHEAD CANOPY.	0.96	(%)		
INSTREAM SHELTER	8.5	(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	156.7	0.0
Rhinichthys atratulus	6527.4	148.1
Esox niger	26.1	0.0
Lepomis gibbosus	26.1	0.0

STREAM NAME : NORTH BROOK SITE #: 4085
SITE DESCRIPTION: PARALLEL TO ASHPOHTAG RD., 500 M UPSTREAM OF RTE. 44., NORFOLK
SAMPLE LENGTH : 100. SAMPLE DATE: 07/07/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:18.00 (C)	DISSOLVED OXYGEN (mg/l). . :	10.0	0.06
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	7.6	0.01
VELOCITY. . . .	: 0.1590(m/s)	COND . . . . . (uS/cm3). . :	201.3	0.6
DISCHARGE . . .	: 0.0700(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	65.5	0.40

	MEAN	STD			
WIDTH. . . . . :	3.26	1.28	(m)		
DEPTH. . . . . :	13.50	9.44	(cm)		
DOMINANT SUBSTRATE TYPE. . :	6		POOL/RIFFLE RATIO . .:		1.83
TYPE THREE SUBSTRATE . . . :	0.20	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	22.00	(%)			
OVERHEAD CANOPY. . . . . :	0.92	(%)			
INSTREAM SHELTER . . . . . :	11.6	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	705.5	0.0
Rhinichthys atratulus	1779.1	35.3
Salmo trutta	30.7	0.0
Semotilus atromaculatus	521.5	0.0

STREAM NAME : GINGER BROOK SITE #: 4086
SITE DESCRIPTION: DOWNSTREAM OF SPAULDING RD. IN CAMPBELL FALLS STATE PARK, NORFOLK
SAMPLE LENGTH : 100. SAMPLE DATE: 07/07/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:27.00 (C)	DISSOLVED OXYGEN (mg/l). . :	8.8	0.15
WATER TEMP. . .	:21.00 (C)	pH . . . . . :	6.8	0.06
VELOCITY. . . .	: 0.1200(m/s)	COND . . . . . (uS/cm3). . :	108.0	0.0
DISCHARGE . . .	: 0.0580(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	34.5	1.33

	MEAN	STD			
WIDTH. . . . . :	4.03	1.33	(m)		
DEPTH. . . . . :	12.48	9.28	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		1.04
TYPE THREE SUBSTRATE . . . :	0.14	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	38.00	(%)			
OVERHEAD CANOPY. . . . . :	0.46	(%)			
INSTREAM SHELTER . . . . . :	3.6	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	11116.6	213.9
Salmo trutta	24.8	0.0
Semotilus atromaculatus	5260.5	113.0

STREAM NAME : OCAIN BROOK SITE #: 4087
SITE DESCRIPTION: IN COW FIELD AT POWERLINE CROSSING 600 M UPSTREAM OF RTE. 63, GOSHEN
SAMPLE LENGTH : 100. SAMPLE DATE: 06/25/92

PHYSICAL			CHEMICAL	MEAN	STD
AIR TEMP. . . .	16.00	(C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . .	14.00	(C)	pH . . . . . :	6.4	0.15
VELOCITY. . . .		(m/s)	COND . . . . . (uS/cm3). . :	60.0	0.0
DISCHARGE . . .		(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	20.3	0.53

	MEAN	STD			
WIDTH.	3.03	1.19	(m)		
DEPTH.	30.88	18.38	(cm)		
DOMINANT SUBSTRATE TYPE. . :	2		POOL/RIFFLE RATIO . .:		0.43
TYPE THREE SUBSTRATE . . . :	0.33	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	47.50	(%)			
OVERHEAD CANOPY. . . . . :	0.05	(%)			
INSTREAM SHELTER . . . . . :	47.5	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	2805.3	109.2
Rhinichthys atratulus	1386.1	0.0
Notemigonus crysoleucas	66.0	0.0
Perca flavescens	66.0	0.0

STREAM NAME : BRADFORD BROOK SITE #: 4088
SITE DESCRIPTION: PARALLEL TO BRADFORD RD. APPROXIMATELY 1 KM UPSTREAM OF RTE. 43, CORNWALL
SAMPLE LENGTH : 105. SAMPLE DATE: 06/29/92

PHYSICAL			CHEMICAL	MEAN	STD
AIR TEMP. . . .	20.00	(C)	DISSOLVED OXYGEN (mg/l). . :	9.7	0.17
WATER TEMP. . .	17.00	(C)	pH . . . . . :	7.3	0.06
VELOCITY. . . .	0.0810	(m/s)	COND . . . . . (uS/cm3). . :	135.7	3.2
DISCHARGE . . .	0.0350	(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	75.0	3.29

	MEAN	STD			
WIDTH.	2.71	0.82	(m)		
DEPTH.	15.57	13.20	(cm)		
DOMINANT SUBSTRATE TYPE. . :	6		POOL/RIFFLE RATIO . .:		0.46
TYPE THREE SUBSTRATE . . . :	0.10	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	45.00	(%)			
OVERHEAD CANOPY. . . . . :	0.96	(%)			
INSTREAM SHELTER . . . . . :	30.7	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	2249.2	39.8
Notemigonus crysoleucas	35.1	0.0

STREAM NAME : FLAT BROOK SITE #: 4089

SITE DESCRIPTION: PARALLEL TO LOWER BARRACK RD., 500 M ABOVE BRIDGE CROSSING, CANAAN

SAMPLE LENGTH : 100. SAMPLE DATE: 07/01/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:18.00 (C)	DISSOLVED OXYGEN (mg/l). . :	10.1	0.06
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	6.5	0.04
VELOCITY. . . .	: 0.1280(m/s)	COND . . . . . (uS/cm3). . :	161.7	2.9
DISCHARGE . . .	: 0.0520(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	91.7	2.93

	MEAN	STD			
WIDTH. . . . . :	4.08	1.40	(m)		
DEPTH. . . . . :	10.07	9.12	(cm)		
DOMINANT SUBSTRATE TYPE. . :	5		POOL/RIFFLE RATIO . .:		0.73
TYPE THREE SUBSTRATE . . . :	0.09	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	50.00	(%)			
OVERHEAD CANOPY. . . . . :	0.98	(%)			
INSTREAM SHELTER . . . . . :	11.0	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	1250.0	0.0
Rhinichthys atratulus	98.0	0.0
Salmo trutta	196.1	0.0
Semotilus atromaculatus	24.5	0.0
Notemigonus crysoleucas	1838.2	0.0
Lepomis gibbosus	931.4	0.0

STREAM NAME : BURTON BROOK SITE #: 4090

SITE DESCRIPTION: AT END OF COVERED BRIDGE RD., SALISBURY

SAMPLE LENGTH : 100. SAMPLE DATE: 06/15/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:22.00 (C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	6.8	0.07
VELOCITY. . . .	: 0.1250(m/s)	COND . . . . . (uS/cm3). . :	91.0	0.0
DISCHARGE . . .	: 0.0000(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	43.8	1.06

	MEAN	STD			
WIDTH. . . . . :			(m)		
DEPTH. . . . . :			(cm)		
DOMINANT SUBSTRATE TYPE. . :			POOL/RIFFLE RATIO . .:		0.45
TYPE THREE SUBSTRATE . . . :		(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :		(%)			
OVERHEAD CANOPY. . . . . :	93.00	(%)			
INSTREAM SHELTER . . . . . :	8.3	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus		
Salvelinus fontinalis		
Rhinichthys atratulus		
Salmo trutta		
Lepomis gibbosus		
Lepomis auritus		
Cottus cognatus		
Salvelinus.fontinalis X Salmo trutta		

STREAM NAME : MONUMENT BROOK SITE #: 4091
SITE DESCRIPTION: IMMEDIATELY DOWNSTREAM OF CONFLUENCE WITH NO-NAME TRIB., 1.4 KM UPSTREAM OF RIGA LAKE, SALISBURY

SAMPLE LENGTH : 100. SAMPLE DATE: 07/15/92.

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	15.00 (C)	DISSOLVED OXYGEN (mg/l). .	10.5	0.40
WATER TEMP. . .	14.00 (C)	pH	4.8	0.16
VELOCITY. . . .	0.1040(m/s)	COND . . . . . (uS/cm3). .	19.0	0.0
DISCHARGE . . .	0.0270(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	0.07	0.06

	MEAN	STD			
WIDTH.	2.34	1.21	(m)		
DEPTH.	10.90	10.49	(cm)		
DOMINANT SUBSTRATE TYPE. .	3		POOL/RIFFLE RATIO . .:		1.22
TYPE THREE SUBSTRATE . . .	0.58	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	13.64	(%)			
OVERHEAD CANOPY.	93.00	(%)			
INSTREAM SHELTER	15.8	(m2)			

BIOLOGICAL

NO FISH

STREAM NAME : BALL BROOK SITE #: 4092
SITE DESCRIPTION: UPSTREAM OF RTE 41, SALISBURY

SAMPLE LENGTH : 100. SAMPLE DATE: 06/15/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	18.00 (C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . .	15.00 (C)	pH	5.2	0.03
VELOCITY. . . .	0.2170(m/s)	COND . . . . . (uS/cm3). . :	27.7	2.5
DISCHARGE . . .	0.0470(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	3.7	0.29

	MEAN	STD			
WIDTH.	2.28	0.56	(m)		
DEPTH.	9.60	10.51	(cm)		
DOMINANT SUBSTRATE TYPE. .	4		POOL/RIFFLE RATIO . .:		0.14
TYPE THREE SUBSTRATE . . .	0.38	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	46.67	(%)			
OVERHEAD CANOPY.	98.00	(%)			
INSTREAM SHELTER	5.7	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	438.6	0.0
Salmo trutta	43.9	0.0
Semotilus atromaculatus	0.0	0.0

STREAM NAME : VALLEY BROOK SITE #: 4093

SITE DESCRIPTION: APPROXIMATELY 1.2 KM UPSTREAM FROM BIRDSEYE BROOK, IN FARM FIELD OFF VALLEY RD., CORNWALL

SAMPLE LENGTH : 50. SAMPLE DATE: 07/29/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:26.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.0	0.06
WATER TEMP. . .	:22.00 (C)	pH . . . . . :	6.5	0.00
VELOCITY. . . .	: 0.1350(m/s)	COND . . . . . (uS/cm3). . :	85.7	1.5
DISCHARGE . . .	: 0.0500(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	23.6	1.01

	MEAN	STD			
WIDTH. . . . . :	2.54	0.84	(m)		
DEPTH. . . . . :	14.88	9.30	(cm)		
DOMINANT SUBSTRATE TYPE. . :	3		POOL/RIFFLE RATIO . .:		1.17
TYPE THREE SUBSTRATE . . . :	0.44	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	41.25	(%)			
OVERHEAD CANOPY. . . . . :	35.00	(%)			
INSTREAM SHELTER . . . . . :	7.1	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	629.9	0.0
Salvelinus fontinalis	5905.5	487.6
Rhinichthys atratulus	7401.6	291.9
Salmo trutta	1102.4	172.0
Semotilus atromaculatus	2204.7	0.0
Luxilus cornutus	4173.2	288.7
Lepomis gibbosus	315.0	0.0
Catostomus commersoni	157.5	0.0

STREAM NAME : KENT FALLS BROOK TRIB. SITE #: 4094

SITE DESCRIPTION: 25 M DOWNSTREAM OF WILSON RD., WARREN

SAMPLE LENGTH : 150. SAMPLE DATE: 07/28/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:26.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.0	0.00
WATER TEMP. . .	:21.00 (C)	pH . . . . . :	7.3	0.02
VELOCITY. . . .	: 0.1170(m/s)	COND . . . . . (uS/cm3). . :	90.7	2.1
DISCHARGE . . .	: 0.0470(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	33.9	0.53

	MEAN	STD			
WIDTH. . . . . :	3.58	1.18	(m)		
DEPTH. . . . . :	12.93	10.86	(cm)		
DOMINANT SUBSTRATE TYPE. . :	5		POOL/RIFFLE RATIO . .:		0.58
TYPE THREE SUBSTRATE . . . :	0.16	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	52.00	(%)			
OVERHEAD CANOPY. . . . . :	96.00	(%)			
INSTREAM SHELTER . . . . . :	12.6	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	521.4	255.5
Salvelinus fontinalis	2495.3	143.7
Rhinichthys atratulus	521.4	173.9

STREAM NAME : BEEBE BROOK SITE #: 4095

SITE DESCRIPTION: APPROXIMATELY. 500 M DOWNSTREAM OF EASTMANS POND, PARALLEL TO WESTWOODS RD.#1, SHARON

SAMPLE LENGTH : 100. SAMPLE DATE: 07/28/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:27.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.1	0.21
WATER TEMP. . .	:23.00 (C)	pH . . . . . :	7.0	0.06
VELOCITY. . . .	: 0.1270(m/s)	COND . . . . . (uS/cm3). . :	102.3	2.5
DISCHARGE . . .	: 0.0440(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	44.0	0.95

	MEAN	STD			
WIDTH. . . . . :	3.31	1.38	(m)		
DEPTH. . . . . :	8.30	6.73	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		0.33
TYPE THREE SUBSTRATE . . . :	0.27	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	48.75	(%)			
OVERHEAD CANOPY. . . . . :		(%)			
INSTREAM SHELTER . . . . . :	3.2	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	151.1	0.0
Salvelinus fontinalis	392.7	0.0
Rhinichthys atratulus	423.0	0.0
Semotilus atromaculatus	936.6	36.2
Micropterus salmoides	634.4	0.0

STREAM NAME : COBBLE BROOK TRIB. SITE #: 4096

SITE DESCRIPTION: PARALLEL TO RTE. 341, APPROXIMATELY 500 M DOWNSTREAM OF BRIDGE CROSSING, KENT

SAMPLE LENGTH : 100. SAMPLE DATE: 07/30/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:19.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.9	0.21
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	7.2	0.02
VELOCITY. . . .	: 0.1110(m/s)	COND . . . . . (uS/cm3). . :	101.7	0.6
DISCHARGE . . .	: 0.0540(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	36.5	1.37

	MEAN	STD			
WIDTH. . . . . :	3.26	1.45	(m)		
DEPTH. . . . . :	11.75	9.17	(cm)		
DOMINANT SUBSTRATE TYPE. . :	5		POOL/RIFFLE RATIO . .:		1.08
TYPE THREE SUBSTRATE . . . :	0.07	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	0.00	(%)			
OVERHEAD CANOPY. . . . . :	100.00	(%)			
INSTREAM SHELTER . . . . . :	16.7	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	1135.0	0.0
Rhinichthys atratulus	1595.1	35.7
Semotilus atromaculatus	1227.0	0.0
Lepomis gibbosus	337.4	0.0

STREAM NAME : POND MOUNTAIN BROOK SITE #: 4097
SITE DESCRIPTION: DOWNSTREAM OF POND MOUNTAIN RD., KENT

SAMPLE LENGTH : 110. SAMPLE DATE: 07/30/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:19.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.4	0.40
WATER TEMP. . .	:16.00 (C)	pH	: 7.4	0.01
VELOCITY. . . .	: 0.1550(m/s)	COND . . . . . (uS/cm3). .	:160.0	0.0
DISCHARGE . . .	: 0.0530(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	: 79.6	1.47

	MEAN	STD			
WIDTH.	4.90	2.00	(m)		
DEPTH.	7.80	7.40	(cm)		
DOMINANT SUBSTRATE TYPE. .	4		POOL/RIFFLE RATIO . .:		0.33
TYPE THREE SUBSTRATE . . .	0.17	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	34.29	(%)			
OVERHEAD CANOPY.		(%)			
INSTREAM SHELTER	9.1	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	519.5	0.0
Rhinichthys atratulus	3042.7	48.4
Salmo trutta	18.6	0.0

STREAM NAME : SALMON CREEK TRIB. SITE #: 4098
SITE DESCRIPTION: PARALLEL TO RTE. 112, 800 M UPSTREAM OF CONFLUENCE WITH SALMON CREEK, SHARON

SAMPLE LENGTH : 100. SAMPLE DATE: 07/09/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:24.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 9.1	0.06
WATER TEMP. . .	:22.00 (C)	pH	: 8.1	0.06
VELOCITY. . . .	: 0.1870(m/s)	COND . . . . . (uS/cm3). .	:420.0	0.0
DISCHARGE . . .	: 0.0510(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	:212.8	2.72

	MEAN	STD			
WIDTH.	2.74	0.86	(m)		
DEPTH.	9.38	7.47	(cm)		
DOMINANT SUBSTRATE TYPE. .	4		POOL/RIFFLE RATIO . .:		0.52
TYPE THREE SUBSTRATE . . .	0.00	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	34.29	(%)			
OVERHEAD CANOPY.	96.00	(%)			
INSTREAM SHELTER	3.6	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	1642.3	43.0
Salmo trutta	365.0	0.0
Semotilus atromaculatus	109.5	0.0
Micropterus salmoides	36.5	0.0

STREAM NAME : STONY BROOK SITE #: 4099
SITE DESCRIPTION: 25 M UPSTREAM OF HOUSATONIC RIVER CONFLUENCE, KENT

SAMPLE LENGTH : 105. SAMPLE DATE: 07/28/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:22.00 (C)	DISSOLVED OXYGEN (mg/l). . :	8.2	0.06
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	7.1	0.06
VELOCITY. . . .	: 0.1660(m/s)	COND . . . . . (uS/cm3). . :	96.3	0.6
DISCHARGE . . .	: 0.0620(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	42.6	1.51

	MEAN	STD			
WIDTH. . . . . :	3.14	0.85	(m)		
DEPTH. . . . . :	11.27	11.54	(cm)		
DOMINANT SUBSTRATE TYPE. . :	6		POOL/RIFFLE RATIO . .:		0.43
TYPE THREE SUBSTRATE . . . :	0.14	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	30.00	(%)			
OVERHEAD CANOPY. . . . . :	100.00	(%)			
INSTREAM SHELTER . . . . . :	4.1	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	1789.5	0.0
Salmo trutta	91.0	0.0
Rhinichthys cataractae	121.3	0.0

STREAM NAME : STEWART HOLLOW BROOK SITE #: 4100
SITE DESCRIPTION: 25 M UPSTREAM OF HOUSATONIC RIVER CONFLUENCE, KENT

SAMPLE LENGTH : 50. SAMPLE DATE: 07/27/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:22.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.7	0.12
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	7.5	0.04
VELOCITY. . . .	: 0.1230(m/s)	COND . . . . . (uS/cm3). . :	104.0	1.7
DISCHARGE . . .	: 0.0100(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	49.5	0.87

	MEAN	STD			
WIDTH. . . . . :	2.15	0.42	(m)		
DEPTH. . . . . :	3.65	3.56	(cm)		
DOMINANT SUBSTRATE TYPE. . :	3		POOL/RIFFLE RATIO . .:		0.15
TYPE THREE SUBSTRATE . . . :	0.44	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	65.71	(%)			
OVERHEAD CANOPY. . . . . :	1.00	(%)			
INSTREAM SHELTER . . . . . :	0.0	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	1860.5	0.0

STREAM NAME : NORTH KENT BROOK SITE #: 4101
SITE DESCRIPTION: 75 M BELOW CONFLUENCE WITH MAJOR TRIBUTARY, PARALLEL TO DIRT RD. OFF RIVER RD., KENT

SAMPLE LENGTH : 100. SAMPLE DATE: 06/26/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:15.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 11.4	0.25
WATER TEMP. . .	:11.00 (C)	pH	: 7.7	0.05
VELOCITY. . . .	: 0.1230(m/s)	COND . . . . . (uS/cm3). .	:140.0	0.0
DISCHARGE . . .	: 0.0340(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	84.6	0.40

	MEAN	STD			
WIDTH.	2.82	1.30	(m)		
DEPTH.	10.30	7.35	(cm)		
DOMINANT SUBSTRATE TYPE. .	6		POOL/RIFFLE RATIO . .:		0.27
TYPE THREE SUBSTRATE . . .	0.14	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	76.67	(%)			
OVERHEAD CANOPY.	99.00	(%)			
INSTREAM SHELTER	14.3	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	1312.1	0.0

STREAM NAME : BONNEY BROOK SITE #: 4102
SITE DESCRIPTION: ABOVE RTE. 7 BRIDGE , CORNWALL

SAMPLE LENGTH : 100. SAMPLE DATE: 06/26/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:17.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 11.4	0.23
WATER TEMP. . .	:12.00 (C)	pH	: 6.2	0.00
VELOCITY. . . .	: 0.1190(m/s)	COND . . . . . (uS/cm3). .	: 30.0	0.0
DISCHARGE . . .	: 0.0400(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	7.4	0.42

	MEAN	STD			
WIDTH.	3.41	1.32	(m)		
DEPTH.	11.15	9.21	(cm)		
DOMINANT SUBSTRATE TYPE. .	6		POOL/RIFFLE RATIO . .:		0.72
TYPE THREE SUBSTRATE . . .	0.04	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	0.00	(%)			
OVERHEAD CANOPY.	99.00	(%)			
INSTREAM SHELTER	3.8	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	1524.9	71.1

STREAM NAME : GUNN BROOK SITE #: 4103
SITE DESCRIPTION: DOWNSTREAM OF SWIFTS BRIDGE RD. BRIDGE, CORNWALL.

SAMPLE LENGTH : 100. SAMPLE DATE: 06/17/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :20.00 (C)		DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . . :12.00 (C)		pH . . . . . :	7.0	0.22
VELOCITY. . . . : 0.1600(m/s)		COND . . . . . (uS/cm3). . :	111.0	2.6
DISCHARGE . . . : 0.0820(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	26.5	1.62
	MEAN	STD		
WIDTH. . . . . :	3.87	0.99 (m)		
DEPTH. . . . . :	13.25	13.27 (cm)		
DOMINANT SUBSTRATE TYPE. . :	4	POOL/RIFFLE RATIO . .:		0.85
TYPE THREE SUBSTRATE . . . :	0.06 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	0.00 (%)			
OVERHEAD CANOPY. . . . . :	96.00 (%)			
INSTREAM SHELTER . . . . . :	21.7 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	51.7	0.0
Salvelinus fontinalis	1472.9	0.0
Salmo trutta	155.0	0.0
Rhinichthys cataractae	51.7	0.0

STREAM NAME : THAYER BROOK SITE #: 4104
SITE DESCRIPTION: 100 M UPSTREAM FROM SCHAGTICOKE RD., KENT

SAMPLE LENGTH : 95. SAMPLE DATE: 06/16/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :20.00 (C)		DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . . :14.00 (C)		pH . . . . . :	5.4	0.11
VELOCITY. . . . : 0.0840(m/s)		COND . . . . . (uS/cm3). . :	28.3	0.6
DISCHARGE . . . : 0.0370(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	0.9	0.32
	MEAN	STD		
WIDTH. . . . . :	3.91	1.93 (m)		
DEPTH. . . . . :	12.58	10.39 (cm)		
DOMINANT SUBSTRATE TYPE. . :	6	POOL/RIFFLE RATIO . .:		1.22
TYPE THREE SUBSTRATE . . . :	0.07 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	0.00 (%)			
OVERHEAD CANOPY. . . . . :	96.00 (%)			
INSTREAM SHELTER . . . . . :	11.0 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	672.8	0.0
Semotilus atromaculatus	26.9	0.0

STREAM NAME : WIMISINK BROOK SITE #: 4105

SITE DESCRIPTION: 400 M DOWNSTREAM OF RTE. 39 BRIDGE CROSSING, NEW MILFORD-SHERMAN TOWN LINE

SAMPLE LENGTH : 150. SAMPLE DATE: 08/05/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :26.00 (C)		DISSOLVED OXYGEN (mg/l). . :	9.1	0.12
WATER TEMP. . . :22.00 (C)		pH . . . . . :	8.0	0.00
VELOCITY. . . . : 0.1130(m/s)		COND . . . . . (uS/cm3). . :	275.0	0.0
DISCHARGE . . . : 0.0310(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	131.7	4.11
	MEAN	STD		
WIDTH. . . . . :	3.13	1.29 (m)		
DEPTH. . . . . :	10.15	8.28 (cm)		
DOMINANT SUBSTRATE TYPE. . :	5	POOL/RIFFLE RATIO . .:	0.36	
TYPE THREE SUBSTRATE . . . :	0.12 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	50.00 (%)			
OVERHEAD CANOPY. . . . . :	84.00 (%)			
INSTREAM SHELTER . . . . . :	18.7 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	21.3	0.0
Lepomis macrochirus	21.3	0.0
Rhinichthys atratulus	3876.5	107.6
Semotilus atromaculatus	2832.8	109.0
juvenile cyprinid	1128.9	0.0
Pimephales promelas	1320.6	74.3
Notemigonus crysoleucas	21.3	0.0
Micropterus salmoides	21.3	0.0
Lepomis gibbosus	42.6	0.0
Lepomis auritus	915.9	98.7
Catostomus commersoni	127.8	0.0

STREAM NAME : BULL MOUNTAIN BROOK SITE #: 4106

SITE DESCRIPTION: UPSTREAM OF MOST SOUTHERLY GEER MOUNTAIN RD. CROSSING, KENT

SAMPLE LENGTH : 50. SAMPLE DATE: 07/08/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :19.00 (C)		DISSOLVED OXYGEN (mg/l). . :	11.0	0.06
WATER TEMP. . . :16.00 (C)		pH . . . . . :		
VELOCITY. . . . : 0.1690(m/s)		COND . . . . . (uS/cm3). . :	152.0	0.0
DISCHARGE . . . : 0.0330(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	61.4	2.75
	MEAN	STD		
WIDTH. . . . . :	2.65	0.45 (m)		
DEPTH. . . . . :	8.25	9.41 (cm)		
DOMINANT SUBSTRATE TYPE. . :	3	POOL/RIFFLE RATIO . .:	0.52	
TYPE THREE SUBSTRATE . . . :	0.55 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	11.36 (%)			
OVERHEAD CANOPY. . . . . :	100.00 (%)			
INSTREAM SHELTER . . . . . :	3.8 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	1358.5	0.0
Rhinichthys atratulus	7471.7	85.7
Semotilus atromaculatus	528.3	0.0
Lepomis gibbosus	75.5	0.0
Catostomus commersoni	150.9	0.0

STREAM NAME : WEST ASPETUCK RIVER SITE #: 4107
SITE DESCRIPTION: UPSTREAM OF KENT HOLLOW RD., KENT

SAMPLE LENGTH : 150. SAMPLE DATE: 08/10/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:23.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.4	0.12
WATER TEMP. . .	:16.00 (C)	pH	: 7.0	0.02
VELOCITY. . . .	: 0.1060(m/s)	COND . . . . . (uS/cm3). .	: 90.0	0.0
DISCHARGE . . .	: 0.3410(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	: 36.3	0.40

	MEAN	STD			
WIDTH.	: 5.33	1.03	(m)		
DEPTH.	: 68.57	38.10	(cm)		
DOMINANT SUBSTRATE TYPE. .	: 1		POOL/RIFFLE RATIO . .:		24.00
TYPE THREE SUBSTRATE . . .	: 0.00	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	: 11.36	(%)			
OVERHEAD CANOPY.	: 31.00	(%)			
INSTREAM SHELTER	: 482.4	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	37.5	0.0
Lepomis macrochirus	12.5	0.0
Salvelinus fontinalis	450.3	33.4
Semotilus atromaculatus	37.5	0.0
Luxilus cornutus	400.3	33.6
juvenile cyprinid	612.9	341.5
Esox americanus	150.1	40.0
Notemigonus crysoleucas	1438.4	148.3
Micropterus salmoides	62.5	0.0
Lepomis gibbosus	725.5	111.1
Etheostoma olmstedi	200.1	0.0
Catostomus commersoni	100.1	0.0

STREAM NAME : WOMENSHENUK BROOK SITE #: 4108
SITE DESCRIPTION: UPSTREAM OF STATION RD., NEW MILFORD

SAMPLE LENGTH : 150. SAMPLE DATE: 07/08/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:21.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.7	0.00
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	6.7	
VELOCITY. . . .	: 0.1440(m/s)	COND . . . . . (uS/cm3). . :	172.0	0.0
DISCHARGE . . .	: 0.1290(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	77.9	2.20

	MEAN	STD			
WIDTH.	5.39	0.97	(m)		
DEPTH.	20.02	14.57	(cm)		
DOMINANT SUBSTRATE TYPE. . :	3		POOL/RIFFLE RATIO . .:		1.14
TYPE THREE SUBSTRATE . . . :	0.42	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	41.00	(%)			
OVERHEAD CANOPY. . . . . :	80.00	(%)			
INSTREAM SHELTER . . . . . :	33.6	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	259.7	0.0
Pomoxis nigromaculatus	24.7	0.0
Lepomis macrochirus	470.0	14.6
Salvelinus fontinalis	123.7	0.0
Rhinichthys atratulus	902.9	35.4
Salmo trutta	4304.3	305.0
Exoglossum maxillingua	24.7	0.0
Semotilus atromaculatus	12.4	0.0
Pimephales promelas	12.4	0.0
Esox americanus	24.7	0.0
Notemigonus crysoleucas	37.1	0.0
Rhinichthys cataractae	581.3	111.3
Micropterus salmoides	111.3	0.0
Lepomis gibbosus	61.8	0.0
Lepomis auritus	49.5	0.0
Etheostoma olmstedi	185.5	0.0
Catostomus commersoni	395.8	15.1

STREAM NAME : HOLLENBECK RIVER SITE #: 4109
SITE DESCRIPTION: DOWNSTREAM OF UPPER RTE. 43 CROSSING (AT STATE PICNIC AREA), CORNWALL

SAMPLE LENGTH : 150. SAMPLE DATE: 08/12/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:17.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.7	0.00
WATER TEMP. . .	:17.00 (C)	pH . . . . . :	8.0	0.04
VELOCITY. . . .	: 0.2110(m/s)	COND . . . . . (uS/cm3). . :	160.0	0.0
DISCHARGE . . .	: 0.1960(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	86.5	1.76

	MEAN	STD			
WIDTH. . . . . :	6.49	1.37	(m)		
DEPTH. . . . . :	14.60	10.34	(cm)		
DOMINANT SUBSTRATE TYPE. . :	5		POOL/RIFFLE RATIO . .:		1.42
TYPE THREE SUBSTRATE . . . :	0.02	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	0.00	(%)			
OVERHEAD CANOPY. . . . . :	90.00	(%)			
INSTREAM SHELTER . . . . . :	32.4	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	780.7	23.7
Rhinichthys atratulus	2311.2	116.3
Semotilus atromaculatus	308.2	35.4
Luxilus cornutus	1047.8	105.0
Notemigonus crysoleucas	71.9	0.0
Rhinichthys cataractae	1499.7	465.2
Lepomis gibbosus	51.4	0.0
Cottus cognatus	20.5	0.0
Catostomus commersoni	205.4	0.0

STREAM NAME : HEFFERS BROOK SITE #: 4110
SITE DESCRIPTION: UPSTREAM OF UPPER RTE. 128 CROSSING, CORNWALL

SAMPLE LENGTH : 55. SAMPLE DATE: 06/16/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:21.00 (C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	6.7	0.31
VELOCITY. . . .	: 0.0700(m/s)	COND . . . . . (uS/cm3). . :	137.7	8.1
DISCHARGE . . .	: 0.0110(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	67.5	1.53

	MEAN	STD			
WIDTH. . . . . :	1.66	0.59	(m)		
DEPTH. . . . . :	9.45	7.85	(cm)		
DOMINANT SUBSTRATE TYPE. . :	3		POOL/RIFFLE RATIO . .:		2.88
TYPE THREE SUBSTRATE . . . :	0.64	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	7.14	(%)			
OVERHEAD CANOPY. . . . . :	91.00	(%)			
INSTREAM SHELTER . . . . . :	3.8	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	6243.2	0.0
Rhinichthys atratulus	109.5	0.0

STREAM NAME : WANGUM LAKE BROOK SITE #: 4111
SITE DESCRIPTION: UPSTREAM OF WANGUM LAKE BROOK ROAD, CANAAN

SAMPLE LENGTH : 152. SAMPLE DATE: 07/27/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :19.00 (C)		DISSOLVED OXYGEN (mg/l). . :	11.0	0.36
WATER TEMP. . . :16.00 (C)		pH . . . . . :	7.2	0.06
VELOCITY. . . . : 0.1900(m/s)		COND . . . . . (uS/cm3). . :	122.0	0.0
DISCHARGE . . . : 0.2050(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	59.5	0.93
	MEAN	STD		
WIDTH. . . . . :	5.98	2.91 (m)		
DEPTH. . . . . :	19.60	18.37 (cm)		
DOMINANT SUBSTRATE TYPE. . :	6	POOL/RIFFLE RATIO . .:	0.79	
TYPE THREE SUBSTRATE . . . :	0.17 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	26.67 (%)			
OVERHEAD CANOPY. . . . . :	(%)			
INSTREAM SHELTER . . . . . :	45.8 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	33.0	0.0
Salvelinus fontinalis	352.1	0.0
Rhinichthys atratulus	1672.2	85.5
Semotilus atromaculatus	187.0	0.0
Perca flavescens	715.1	38.8

STREAM NAME : LEADMINE BROOK SITE #: 4112
SITE DESCRIPTION: 800 M ABOVE RT 222 BRIDGE, HARWINTON (STATE PROPERTY)

SAMPLE LENGTH : 150. SAMPLE DATE: 08/25/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :25.00 (C)		DISSOLVED OXYGEN (mg/l). . :	10.6	0.12
WATER TEMP. . . :20.00 (C)		pH . . . . . :	7.6	0.02
VELOCITY. . . . : 0.1260(m/s)		COND . . . . . (uS/cm3). . :	70.0	2.0
DISCHARGE . . . : 0.5060(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	13.7	1.00
	MEAN	STD		
WIDTH. . . . . :	11.27	1.83 (m)		
DEPTH. . . . . :	22.42	16.65 (cm)		
DOMINANT SUBSTRATE TYPE. . :	4	POOL/RIFFLE RATIO . .:	2.85	
TYPE THREE SUBSTRATE . . . :	0.10 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	14.50 (%)			
OVERHEAD CANOPY. . . . . :	66.00 (%)			
INSTREAM SHELTER . . . . . :	142.5 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	0.0	0.0
Rhinichthys atratulus	1467.0	54.2
Salmo trutta	136.1	17.1
Semotilus atromaculatus	201.1	7.1
Luxilus cornutus	1313.2	336.1
Rhinichthys cataractae	2165.0	777.8
Micropterus salmoides	0.0	0.0
Etheostoma olmstedi	82.8	0.0
Catostomus commersoni	408.2	14.0
Perca flavescens	0.0	0.0

STREAM NAME : NORTH BRANCH BROWN BROOK SITE #: 4113
SITE DESCRIPTION: 1 KM UPSTREAM OF CONFLUENCE WITH BROWN BROOK, CANAAN.

SAMPLE LENGTH : 100. SAMPLE DATE: 08/12/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:18.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.0	0.00
WATER TEMP. . .	:17.00 (C)	pH . . . . . :	7.0	0.01
VELOCITY. . . .	: 0.3640(m/s)	COND . . . . . (uS/cm3). . :	29.0	0.0
DISCHARGE . . .	: 0.2460(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	7.3	.0.21

	MEAN	STD			
WIDTH. . . . . :	2.72	0.45	(m)		
DEPTH. . . . . :	24.77	17.61	(cm)		
DOMINANT SUBSTRATE TYPE. . :	7		POOL/RIFFLE RATIO . .:		3.00
TYPE THREE SUBSTRATE . . . :	0.13	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	30.00	(%)			
OVERHEAD CANOPY. . . . . :	96.00	(%)			
INSTREAM SHELTER . . . . . :	32.4	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	2683.8	665.0
Semotilus atromaculatus	1286.8	129.3

STREAM NAME : EAST BRANCH SHEPAUG RIVER TRIB. SITE #: 4114
SITE DESCRIPTION: DOWNSTREAM OF WADHAMS RD, IN MOHAWK STATE FOREST, CORNWALL

SAMPLE LENGTH : 50. SAMPLE DATE: 06/25/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:18.00 (C)	DISSOLVED OXYGEN (mg/l). . :	10.4	0.12
WATER TEMP. . .	:11.00 (C)	pH . . . . . :	6.1	0.06
VELOCITY. . . .	: 0.1090(m/s)	COND . . . . . (uS/cm3). . :	77.7	2.5
DISCHARGE . . .	: 0.0140(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	25.7	3.68

	MEAN	STD			
WIDTH. . . . . :	1.84	0.43	(m)		
DEPTH. . . . . :	7.35	6.12	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		0.43
TYPE THREE SUBSTRATE . . . :	0.27	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	65.00	(%)			
OVERHEAD CANOPY. . . . . :	95.00	(%)			
INSTREAM SHELTER . . . . . :	1.0	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	4891.3	131.2

STREAM NAME : NICKELMINE BROOK TRIB. SITE #: 4115
SITE DESCRIPTION: UPSTREAM OF WHILST POND RD. TORRINGTON (TORRINGTON WATER CO. PROPERTY)

SAMPLE LENGTH : 50. SAMPLE DATE: 06/22/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:14.00 (C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . .	:13.00 (C)	pH . . . . . :	6.2	0.06
VELOCITY. . . .	: 0.0250(m/s)	COND . . . . . (uS/cm3). . :	80.0	0.0
DISCHARGE . . .	: 0.0036(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	47.0	0.60

	MEAN	STD			
WIDTH.	2.15	0.82	(m)		
DEPTH.	6.82	5.26	(cm)		
DOMINANT SUBSTRATE TYPE. . :	6		POOL/RIFFLE RATIO . .:		1.00
TYPE THREE SUBSTRATE . . . :	0.05	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	0.00	(%)			
OVERHEAD CANOPY. . . . . :	98.00	(%)			
INSTREAM SHELTER . . . . . :	2.2	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	372.1	0.0
Rhinichthys atratulus	1116.3	0.0
Semotilus atromaculatus	372.1	0.0
Lepomis gibbosus	1488.4	0.0

STREAM NAME : WANGUM LAKE BROOK TRIB. SITE #: 4116
SITE DESCRIPTION: UPSTREAM OF WANGUM LAKE BROOK RD., CANAAN

SAMPLE LENGTH : 50. SAMPLE DATE: 06/16/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:18.00 (C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . .	:16.00 (C)	pH . . . . . :	6.6	0.06
VELOCITY. . . .	: 0.2000(m/s)	COND . . . . . (uS/cm3). . :125.0		0.0
DISCHARGE . . .	: 0.0260(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	64.6	0.71

	MEAN	STD			
WIDTH.	1.66	0.89	(m)		
DEPTH.	8.40	4.74	(cm)		
DOMINANT SUBSTRATE TYPE. . :	1		POOL/RIFFLE RATIO . .:		1.38
TYPE THREE SUBSTRATE . . . :	0.08	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	95.00	(%)			
OVERHEAD CANOPY. . . . . :	78.00	(%)			
INSTREAM SHELTER . . . . . :	0.4	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	13012.0	1076.7
Semotilus atromaculatus	16024.1	762.9
Notemigonus crysoleucas	120.5	0.0

STREAM NAME : CARSE BROOK TRIB. SITE #: 4117
SITE DESCRIPTION: UPSTREAM OF CONFLUENCE WITH CARSE BROOK, SHARON

SAMPLE LENGTH : 50. SAMPLE DATE: 09/02/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:18.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 11.4	0.21
WATER TEMP. . .	:14.00 (C)	pH	: 7.8	0.01
VELOCITY. . . .	: 0.0590(m/s)	COND . . . . . (uS/cm3). .	:160.0	0.0
DISCHARGE . . .	: 0.0019(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	: 99.8	3.18

	MEAN	STD			
WIDTH.	: 0.98	0.30	(m)		
DEPTH.	: 3.22	2.52	(cm)		
DOMINANT SUBSTRATE TYPE. .	: 3		POOL/RIFFLE RATIO . .:		0.00
TYPE THREE SUBSTRATE . . .	: 0.50	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	: 14.00	(%)			
OVERHEAD CANOPY.	: 63.00	(%)			
INSTREAM SHELTER	: 0.3	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	24489.8	350.8
Semotilus atromaculatus	29591.8	550.7
Catostomus commersoni	408.2	0.0

STREAM NAME : WEST BRANCH LEADMINE BROOK SITE #: 4118
SITE DESCRIPTION: UPSTREAM OF RTE. 183, TORRINGTON

SAMPLE LENGTH : 50. SAMPLE DATE: 08/24/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:24.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.4	0.12
WATER TEMP. . .	:19.00 (C)	pH	: 8.1	0.02
VELOCITY. . . .	: 0.0710(m/s)	COND . . . . . (uS/cm3). .	:380.0	0.0
DISCHARGE . . .	: 0.0140(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	:103.2	5.16

	MEAN	STD			
WIDTH.	: 2.02	0.47	(m)		
DEPTH.	: 10.07	8.30	(cm)		
DOMINANT SUBSTRATE TYPE. .	: 4		POOL/RIFFLE RATIO . .:		0.59
TYPE THREE SUBSTRATE . . .	: 0.07	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	: 0.00	(%)			
OVERHEAD CANOPY.	: 79.00	(%)			
INSTREAM SHELTER	: 1.9	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	18514.8	159.4
Semotilus atromaculatus	12079.2	108.8
Notemigonus crysoleucas	297.0	0.0
Lepomis gibbosus	396.0	0.0
Catostomus commersoni	3465.3	0.0

STREAM NAME : EAST BRANCH NAUGATUCK RIVER TRIB. SITE #: 4119
SITE DESCRIPTION: 50 M UPSTREAM OF CARDINAL CIRCLE, TORRINGTON

SAMPLE LENGTH : 50. SAMPLE DATE: 07/28/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :18.00 (C)		DISSOLVED OXYGEN (mg/l). . :	11.0	0.45
WATER TEMP. . . :13.00 (C)		pH . . . . . :	6.6	0.18
VELOCITY. . . . : 0.0520(m/s)		COND . . . . . (uS/cm3). . :	75.0	0.0
DISCHARGE . . . : 0.0120(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	22.6	0.58
	MEAN	STD		
WIDTH. . . . . :	1.88	0.93 (m)		
DEPTH. . . . . :	10.27	11.75 (cm)		
DOMINANT SUBSTRATE TYPE. . :	4	POOL/RIFFLE RATIO . .:	1.38	
TYPE THREE SUBSTRATE . . . :	0.06 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	100.00 (%)			
OVERHEAD CANOPY. . . . . :	96.00 (%)			
INSTREAM SHELTER . . . . . :	0.7 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	7659.6	537.9
Rhinichthys atratulus	4361.7	0.0
Semotilus atromaculatus	851.1	0.0

STREAM NAME : WEST ASPETUCK RIVER TRIB. SITE #: 4120
SITE DESCRIPTION: 400 M UPSTREAM FROM CONFLUENCE WITH W. ASPETUCK RIVER., KENT

SAMPLE LENGTH : 100. SAMPLE DATE: 07/16/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :18.00 (C)		DISSOLVED OXYGEN (mg/l). . :	10.5	0.06
WATER TEMP. . . :15.00 (C)		pH . . . . . :	6.0	0.12
VELOCITY. . . . : 0.1470(m/s)		COND . . . . . (uS/cm3). . :	30.0	0.0
DISCHARGE . . . : 0.0310(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	4.8	0.10
	MEAN	STD		
WIDTH. . . . . :	2.09	0.75 (m)		
DEPTH. . . . . :	10.43	6.21 (cm)		
DOMINANT SUBSTRATE TYPE. . :	3	POOL/RIFFLE RATIO . .:	0.20	
TYPE THREE SUBSTRATE . . . :	0.41 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	24.29 (%)			
OVERHEAD CANOPY. . . . . :	100.00 (%)			
INSTREAM SHELTER . . . . . :	4.1 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	10813.4	232.3

STREAM NAME : TANNERY BROOK SITE #: 4121
SITE DESCRIPTION: 300 M UPSTREAM OF LITTLE POND, LITCHFIELD

SAMPLE LENGTH : 45. SAMPLE DATE: 08/13/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	18.00 (C)	DISSOLVED OXYGEN (mg/l). .	9.4	0.12
WATER TEMP. . .	16.00 (C)	pH	7.3	0.01
VELOCITY. . . .	0.0810(m/s)	COND . . . . . (uS/cm3). .	282.7	2.1
DISCHARGE . . .	0.0167(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	101.2	0.55

	MEAN	STD			
WIDTH.	1.82	0.69	(m)		
DEPTH.	17.80	12.83	(cm)		
DOMINANT SUBSTRATE TYPE. .	2		POOL/RIFFLE RATIO . .		44.00
TYPE THREE SUBSTRATE . . .	0.00	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	24.29	(%)			
OVERHEAD CANOPY.	39.00	(%)			
INSTREAM SHELTER	17.8	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Semotilus atromaculatus	1098.9	0.0
Micropterus salmoides	732.6	0.0
Catostomus commersoni	1709.4	163.6

STREAM NAME : MACEDONIA BROOK TRIB. SITE #: 4122
SITE DESCRIPTION: IMMEDIATELY UPSTREAM OF CONFLUENCE WITH MACEDONIA BROOK, IN MACEDONIA BROOK STATE PARK, KENT

SAMPLE LENGTH : 50. SAMPLE DATE: 06/16/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	16.00 (C)	DISSOLVED OXYGEN (mg/l). .		
WATER TEMP. . .	13.00 (C)	pH	6.4	0.04
VELOCITY. . . .	0.1250(m/s)	COND . . . . . (uS/cm3). .	59.3	1.2
DISCHARGE . . .	0.0060(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	20.4	1.27

	MEAN	STD			
WIDTH.	1.14	0.35	(m)		
DEPTH.	4.80	3.32	(cm)		
DOMINANT SUBSTRATE TYPE. .	4		POOL/RIFFLE RATIO . .		0.18
TYPE THREE SUBSTRATE . . .	0.00	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	24.29	(%)			
OVERHEAD CANOPY.	100.00	(%)			
INSTREAM SHELTER	0.2	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	3684.2	0.0
Etheostoma olmstedi	175.4	0.0

STREAM NAME : GUINEA BROOK SITE #: 4123
SITE DESCRIPTION: UPSTREAM OF WESTWOOD RD #2. SHARON.

SAMPLE LENGTH : 50. SAMPLE DATE: 07/29/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :23.00 (C)		DISSOLVED OXYGEN (mg/l). . :	9.9	0.26
WATER TEMP. . . :18.00 (C)		pH . . . . . :	6.3	0.11
VELOCITY. . . . : 0.0400(m/s)		COND . . . . . (uS/cm3). . :	45.0	8.7
DISCHARGE . . . : 0.0110(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	21.2	1.04
	MEAN	STD		
WIDTH. . . . . :	3.27	1.07 (m)		
DEPTH. . . . . :	9.73	7.33 (cm)		
DOMINANT SUBSTRATE TYPE. . :	1	POOL/RIFFLE RATIO . .:	1.78	
TYPE THREE SUBSTRATE . . . :	0.03 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	90.00 (%)			
OVERHEAD CANOPY. . . . . :	96.00 (%)			
INSTREAM SHELTER . . . . . :	3.0 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	17308.9	592.7
Semotilus atromaculatus	8318.0	390.0

STREAM NAME : HOUSATONIC RIVER TRIB. SITE #: 4124
SITE DESCRIPTION: UPSTREAM OF SCHAGTICOKE RD., KENT

SAMPLE LENGTH : 45. SAMPLE DATE: 06/16/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :22.00 (C)		DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . . :14.00 (C)		pH . . . . . :	4.0	0.07
VELOCITY. . . . : 0.0790(m/s)		COND . . . . . (uS/cm3). . :	21.3	1.2
DISCHARGE . . . : 0.0130(m3/s)		ALKALINITY .(mg CaCO3 eq/l):		
	MEAN	STD		
WIDTH. . . . . :	2.55	1.03 (m)		
DEPTH. . . . . :	6.22	4.39 (cm)		
DOMINANT SUBSTRATE TYPE. . :	4	POOL/RIFFLE RATIO . .:	0.18	
TYPE THREE SUBSTRATE . . . :	0.00 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	90.00 (%)			
OVERHEAD CANOPY. . . . . :	99.00 (%)			
INSTREAM SHELTER . . . . . :	0.4 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
NO FISH		

STREAM NAME : CHILDS POND OUTFLOW SITE #: 4125
SITE DESCRIPTION: DOWNSTREAM OF HOUSATONIC REGIONAL HIGH SCHOOL ACCESS RD., CANAAN
SAMPLE LENGTH : 50. SAMPLE DATE: 06/25/92

PHYSICAL		CHEMICAL		MEAN	STD
AIR TEMP. . . .	:16.00 (C)	DISSOLVED OXYGEN (mg/l). . :			
WATER TEMP. . .	:16.00 (C)	pH . . . . . :		7.3	0.08
VELOCITY. . . .	: 0.3700(m/s)	COND . . . . . (uS/cm3). . :		241.7	0.6
DISCHARGE . . .	: 0.0760(m3/s)	ALKALINITY .(mg CaCO3 eq/l):		130.8	1.76
		MEAN	STD		
WIDTH.	:	2.07	0.51 (m)		
DEPTH.	:	10.13	6.36 (cm)		
DOMINANT SUBSTRATE TYPE. .	:	3	POOL/RIFFLE RATIO . .:		0.43
TYPE THREE SUBSTRATE . . .	:	0.42 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	:	65.00 (%)			
OVERHEAD CANOPY.	:	98.00 (%)			
INSTREAM SHELTER	:	0.08 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	0.0	0.0
Semotilus atromaculatus	96.6	0.0
Lepomis gibbosus	96.6	0.0
Catostomus commersoni	0.0	0.0

STREAM NAME : MORRISSEY BROOK TRIB. SITE #: 4126
SITE DESCRIPTION: 150 M UPSTREAM OF CONFLUENCE WITH MORRISSEY BROOK, SHERMAN
SAMPLE LENGTH : 50. SAMPLE DATE: 08/05/92

PHYSICAL		CHEMICAL		MEAN	STD
AIR TEMP. . . .	:20.00 (C)	DISSOLVED OXYGEN (mg/l). . :		10.7	0.06
WATER TEMP. . .	:16.00 (C)	pH . . . . . :		8.0	0.27
VELOCITY. . . .	: 0.2420(m/s)	COND . . . . . (uS/cm3). . :		370.0	1.7
DISCHARGE . . .	: 0.0510(m3/s)	ALKALINITY .(mg CaCO3 eq/l):		203.2	2.97
		MEAN	STD		
WIDTH.	:	2.28	0.68 (m)		
DEPTH.	:	8.95	8.77 (cm)		
DOMINANT SUBSTRATE TYPE. .	:	4	POOL/RIFFLE RATIO . .:		0.32
TYPE THREE SUBSTRATE . . .	:	0.00 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	:	65.00 (%)			
OVERHEAD CANOPY.	:	94.00 (%)			
INSTREAM SHELTER	:	3.6 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	4824.6	0.0
Rhinichthys atratulus	6228.1	0.0
Salmo trutta	87.7	0.0
Semotilus atromaculatus	1929.8	0.0
Luxilus cornutus	175.4	0.0
Rhinichthys cataractae	175.4	0.0
Micropterus salmoides	175.4	0.0
Lepomis gibbosus	789.5	0.0

STREAM NAME : LAKE WARAMAUG BROOK TRIB. SITE #: 4127
SITE DESCRIPTION: PARALLEL TO TOWN HILL RD., APPROX. 250 M UPSTREAM FROM LAKE WARAMAUG BROOK, WARREN

SAMPLE LENGTH : 56. SAMPLE DATE: 08/12/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :20.00 (C)		DISSOLVED OXYGEN (mg/l). . :	6.5	0.17
WATER TEMP. . . :16.00 (C)		pH . . . . . :	7.5	0.03
VELOCITY. . . . : 0.0724(m/s)		COND . . . . . (uS/cm3). . :	90.0	0.0
DISCHARGE . . . : 0.0090(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	40.0	0.10
	MEAN	STD		
WIDTH. . . . . :	1.99	0.23 (m)		
DEPTH. . . . . :	6.55	5.44 (cm)		
DOMINANT SUBSTRATE TYPE. . :	4	POOL/RIFFLE RATIO . .:	0.81	
TYPE THREE SUBSTRATE . . . :	0.13 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	25.00 (%)			
OVERHEAD CANOPY. . . . . :	96.00 (%)			
INSTREAM SHELTER . . . . . :	0.8 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	2871.5	0.0
Rhinichthys atratulus	717.9	0.0
Semotilus atromaculatus	538.4	0.0
Catostomus commersoni	89.7	0.0

STREAM NAME : DENMAN BROOK SITE #: 4128
SITE DESCRIPTION: DOWNSTREAM OF BARKER RD., NEW MILFORD

SAMPLE LENGTH : 100. SAMPLE DATE: 07/20/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :23.00 (C)		DISSOLVED OXYGEN (mg/l). . :	10.8	0.06
WATER TEMP. . . :21.00 (C)		pH . . . . . :	7.2	0.02
VELOCITY. . . . : 0.1750(m/s)		COND . . . . . (uS/cm3). . :125.0		0.0
DISCHARGE . . . : 0.0450(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	39.9	1.36
	MEAN	STD		
WIDTH. . . . . :	3.27	1.10 (m)		
DEPTH. . . . . :	7.88	5.82 (cm)		
DOMINANT SUBSTRATE TYPE. . :	6	POOL/RIFFLE RATIO . .:	0.39	
TYPE THREE SUBSTRATE . . . :	0.03 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	50.00 (%)			
OVERHEAD CANOPY. . . . . :	93.00 (%)			
INSTREAM SHELTER . . . . . :	3.8 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Lepomis macrochirus	214.1	0.0
Salvelinus fontinalis	917.4	0.0
Rhinichthys atratulus	6024.5	62.8
Semotilus atromaculatus	1345.6	0.0
Lepomis gibbosus	61.2	0.0

STREAM NAME : EAST ASPETUCK RIVER TRIB. SITE #: 4129
SITE DESCRIPTION: 15 M ABOVE CONFLUENCE WITH EAST ASPETUCK RIVER, WASHINGTON
SAMPLE LENGTH : 100. SAMPLE DATE: 07/16/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:17.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.7	0.06
WATER TEMP. . .	:15.00 (C)	pH	: 7.4	0.12
VELOCITY. . . .	: 0.2520(m/s)	COND . . . . . (uS/cm3). .	:114.0	1.7
DISCHARGE . . .	: 0.0730(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	35.8	0.35

	MEAN		STD	
WIDTH.	2.20		0.54	(m)
DEPTH.	12.50		10.04	(cm)
DOMINANT SUBSTRATE TYPE. .	7		POOL/RIFFLE RATIO . .:	0.10
TYPE THREE SUBSTRATE . . .	0.17	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE	50.00	(%)		
OVERHEAD CANOPY.	99.00	(%)		
INSTREAM SHELTER	10.1	(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	272.7	0.0
Rhinichthys atratulus	590.9	107.5
Salmo trutta	181.8	0.0

STREAM NAME : EAST ASPETUCK RIVER TRIB. SITE #: 4130
SITE DESCRIPTION: UPSTREAM OF CONFLUENCE WITH EAST ASPETUCK RIVER NEW MILFORD
SAMPLE LENGTH : 40. SAMPLE DATE: 08/05/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:21.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 11.1	0.40
WATER TEMP. . .	:17.00 (C)	pH	: 7.8	
VELOCITY. . . .	: 0.0560(m/s)	COND . . . . . (uS/cm3). .	:200.0	0.0
DISCHARGE . . .	: 0.0020(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	90.8	0.15

	MEAN		STD	
WIDTH.	1.18		0.40	(m)
DEPTH.	2.85		2.32	(cm)
DOMINANT SUBSTRATE TYPE. .	3		POOL/RIFFLE RATIO . .:	0.72
TYPE THREE SUBSTRATE . . .	0.60	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE	10.00	(%)		
OVERHEAD CANOPY.	99.00	(%)		
INSTREAM SHELTER	0.5	(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salmo trutta	2033.9	0.0

STREAM NAME : GARNETT BROOK SITE #: 4132
SITE DESCRIPTION: DOWNSTREAM OF RTE. 44 CROSSING, SALISBURY

SAMPLE LENGTH : 50. SAMPLE DATE: 06/25/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:16.00 (C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . .	:13.00 (C)	pH . . . . . :	7.2	0.06
VELOCITY. . . .	: 0.2000(m/s)	COND . . . . . (uS/cm3). . :	288.3	7.6
DISCHARGE . . .	: 0.0080(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	176.4	0.67

	MEAN	STD			
WIDTH.	2.45	0.45	(m)		
DEPTH.	15.65	11.60	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:	0.52	
TYPE THREE SUBSTRATE . . . :	0.40	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	68.75	(%)			
OVERHEAD CANOPY. . . . . :	88.00	(%)			
INSTREAM SHELTER . . . . . :	4.5	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	163.3	0.0

STREAM NAME : SPRING BROOK SITE #: 4133
SITE DESCRIPTION: ABOVE POND IN FIELD PARALLEL TO INDIAN MOUNTAIN RD., SHARON

SAMPLE LENGTH : 50. SAMPLE DATE: 06/15/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:25.00 (C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . .	:21.00 (C)	pH . . . . . :	7.1	0.10
VELOCITY. . . .	: 0.1450(m/s)	COND . . . . . (uS/cm3). . :	295.3	4.6
DISCHARGE . . .	: 0.0230(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	155.0	3.22

	MEAN	STD			
WIDTH.	1.05	0.26	(m)		
DEPTH.	14.55	9.56	(cm)		
DOMINANT SUBSTRATE TYPE. . :	3		POOL/RIFFLE RATIO . .:	0.00	
TYPE THREE SUBSTRATE . . . :	0.70	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	32.86	(%)			
OVERHEAD CANOPY. . . . . :	8.00	(%)			
INSTREAM SHELTER . . . . . :	3.4	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	17523.8	0.0
Semotilus atromaculatus	18476.2	612.4
Lepomis auritus	1142.9	0.0

STREAM NAME : BLACK SPRUCE BOG OUTFLOW SITE #: 4134
SITE DESCRIPTION: UPSTREAM OF POND AT MOHAWK SKI AREA, CORNWALL

SAMPLE LENGTH : 40. SAMPLE DATE: 07/29/92

PHYSICAL			CHEMICAL	MEAN	STD
AIR TEMP. . . .	23.00	(C)	DISSOLVED OXYGEN (mg/l). . :	8.1	0.25
WATER TEMP. . .	15.00	(C)	pH . . . . . :	6.3	0.02
VELOCITY. . . .		(m/s)	COND . . . . . (uS/cm3). . :	147.0	32.0
DISCHARGE . . .		(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	68.6	

	MEAN		STD	
WIDTH.	0.57		0.21	(m)
DEPTH.	9.69		6.23	(cm)
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:	0.00
TYPE THREE SUBSTRATE . . . :	0.25	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE :	85.00	(%)		
OVERHEAD CANOPY. . . . . :	100.00	(%)		
INSTREAM SHELTER . . . . . :		(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	17142.9	0.0
Semotilus atromaculatus	7912.1	0.0
Lepomis gibbosus	2637.4	0.0

STREAM NAME : EAST BRANCH SHEPAUG RIVER SITE #: 4135
SITE DESCRIPTION: 10 M UPSTREAM OF ALLYN RD., GOSHEN

SAMPLE LENGTH : 50. SAMPLE DATE: 06/25/92

PHYSICAL			CHEMICAL	MEAN	STD
AIR TEMP. . . .	21.00	(C)	DISSOLVED OXYGEN (mg/l). . :	11.3	1.15
WATER TEMP. . .	13.00	(C)	pH . . . . . :	6.2	0.03
VELOCITY. . . .	0.1060	(m/s)	COND . . . . . (uS/cm3). . :	114.0	1.7
DISCHARGE . . .	0.0210	(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	32.9	1.17

	MEAN		STD	
WIDTH.	1.81		0.37	(m)
DEPTH.	11.02		7.96	(cm)
DOMINANT SUBSTRATE TYPE. . :	1		POOL/RIFFLE RATIO . .:	49.00
TYPE THREE SUBSTRATE . . . :	0.07	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE :	95.00	(%)		
OVERHEAD CANOPY. . . . . :	99.00	(%)		
INSTREAM SHELTER . . . . . :	4.0	(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	2651.9	144.2
Rhinichthys atratulus	110.5	0.0
Semotilus atromaculatus	552.5	0.0

STREAM NAME : SANDERS HILL BROOK SITE #: 4136
SITE DESCRIPTION: 20 M UPSTREAM OF RTE. 45 CROSSING, WARREN

SAMPLE LENGTH : 50. SAMPLE DATE: 08/20/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :16.00 (C)		DISSOLVED OXYGEN (mg/l). . :	9.4	0.06
WATER TEMP. . . :12.00 (C)		pH . . . . . :	6.5	0.06
VELOCITY. . . . : 0.2390(m/s)		COND . . . . . (uS/cm3). . :	89.3	1.2
DISCHARGE . . . : 0.0470(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	40.4	0.87
	MEAN	STD		
WIDTH. . . . . :	1.44	0.31 (m)		
DEPTH. . . . . :	13.70	6.73 (cm)		
DOMINANT SUBSTRATE TYPE. . :	4	POOL/RIFFLE RATIO . .:		0.09
TYPE THREE SUBSTRATE . . . :	0.08 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	5.00 (%)			
OVERHEAD CANOPY. . . . . :	48.00 (%)			
INSTREAM SHELTER . . . . . :	3.0 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	4027.8	0.0
Semotilus atromaculatus	9305.6	403.6

STREAM NAME : BANTAM RIVER (INLET) TRIB. SITE #: 4137
SITE DESCRIPTION: DOWNSTREAM OF EAST LITCHFIELD RD., LITCHFIELD.

SAMPLE LENGTH : 50. SAMPLE DATE: 06/25/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :23.00 (C)		DISSOLVED OXYGEN (mg/l). . :	9.3	0.00
WATER TEMP. . . :18.00 (C)		pH . . . . . :	6.0	0.06
VELOCITY. . . . : 0.0910(m/s)		COND . . . . . (uS/cm3). . :120.0		0.0
DISCHARGE . . . : 0.0050(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	22.3	2.15
	MEAN	STD		
WIDTH. . . . . :	1.11	0.51 (m)		
DEPTH. . . . . :	5.55	4.25 (cm)		
DOMINANT SUBSTRATE TYPE. . :	4	POOL/RIFFLE RATIO . .:		0.19
TYPE THREE SUBSTRATE . . . :	0.10 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	95.00 (%)			
OVERHEAD CANOPY. . . . . :	(%)			
INSTREAM SHELTER . . . . . :	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)

STREAM NAME : WHITTLESEY BROOK SITE #: 4138
SITE DESCRIPTION: 20 M UPSTREAM FROM NORTH COVE RD., MORRIS

SAMPLE LENGTH : 100. SAMPLE DATE: 08/06/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :25.00 (C)		DISSOLVED OXYGEN (mg/l). . :	10.3	0.46
WATER TEMP. . . :18.00 (C)		pH . . . . . :	6.5	0.29
VELOCITY. . . . : 0.0250(m/s)		COND . . . . . (uS/cm3). . :	95.3	4.6
DISCHARGE . . . : 0.0070(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	23.3	0.83
	MEAN	STD		
WIDTH. . . . . :	2.31	0.73 (m)		
DEPTH. . . . . :	11.32	9.37 (cm)		
DOMINANT SUBSTRATE TYPE. . :	2	POOL/RIFFLE RATIO . .:		8.09
TYPE THREE SUBSTRATE . . . :	0.10 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	50.00 (%)			
OVERHEAD CANOPY. . . . . :	97.00 (%)			
INSTREAM SHELTER . . . . . :	11.3 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	43.3	0.0
Lepomis macrochirus	43.3	0.0
Salvelinus fontinalis	86.6	0.0
Rhinichthys atratulus	0.0	0.0
Esox niger	43.3	0.0
Semotilus atromaculatus	389.6	0.0
Notemigonus crysoleucas	259.7	0.0
Micropterus salmoides	86.6	0.0
Lepomis gibbosus	2121.2	296.9
Catostomus commersoni	43.3	0.0

STREAM NAME : EAST BRANCH SHEPAUG RIVER TRIB. SITE #: 4139
SITE DESCRIPTION: 50 M UPSTREAM OF CONFLUENCE WITH SHEPAUG RIVER, LITCHFIELD

SAMPLE LENGTH : 50. SAMPLE DATE: 08/06/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :26.00 (C)		DISSOLVED OXYGEN (mg/l). . :	9.2	0.06
WATER TEMP. . . :16.00 (C)		pH . . . . . :	6.6	0.21
VELOCITY. . . . : 0.0600(m/s)		COND . . . . . (uS/cm3). . :	45.0	0.0
DISCHARGE . . . : 0.0060(m3/s)		ALKALINITY .(mg CaCO3 eq/l):	13.7	0.17
	MEAN	STD		
WIDTH. . . . . :	1.69	0.82 (m)		
DEPTH. . . . . :	5.93	6.09 (cm)		
DOMINANT SUBSTRATE TYPE. . :	4	POOL/RIFFLE RATIO . .:		0.04
TYPE THREE SUBSTRATE . . . :	0.07 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	10.00 (%)			
OVERHEAD CANOPY. . . . . :	1.00 (%)			
INSTREAM SHELTER . . . . . :	0.2 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	118.3	0.0
Rhinichthys atratulus	118.3	0.0

STREAM NAME : SHEPAUG RIVER TRIB. SITE #: 4140

SITE DESCRIPTION: IMMEDIATELY UPSTREAM OF CONFLUENCE WITH SHEPAUG RIVER. WASHINGTON

SAMPLE LENGTH : 50. SAMPLE DATE: 07/01/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:20.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.6	0.66
WATER TEMP. . .	:16.00 (C)	pH	: 6.2	0.03
VELOCITY. . . .	: 0.1030(m/s)	COND . . . . . (uS/cm3). .	:138.0	1.0
DISCHARGE . . .	: 0.0110(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	56.4	0.35

	MEAN	STD			
WIDTH.	: 1.79	0.41	(m)		
DEPTH.	: 5.97	4.75	(cm)		
DOMINANT SUBSTRATE TYPE. .	: 7		POOL/RIFFLE RATIO . .:	0.56	
TYPE THREE SUBSTRATE . . .	: 0.23	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	: 23.33	(%)			
OVERHEAD CANOPY.	: 93.00	(%)			
INSTREAM SHELTER	: 2.3	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	8491.6	0.0
Rhinichthys atratulus	223.5	0.0
Rhinichthys cataractae	111.7	0.0

STREAM NAME : ROCK BROOK TRIB. SITE #: 4141

SITE DESCRIPTION: 30 M UPSTREAM OF RTE. 118 BRIDGE, HARWINTON

SAMPLE LENGTH : 50. SAMPLE DATE: 08/20/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:17.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.4	0.00
WATER TEMP. . .	:15.00 (C)	pH	: 6.7	0.02
VELOCITY. . . .	: 0.0330(m/s)	COND . . . . . (uS/cm3). .	: 30.0	1.0
DISCHARGE . . .	: 0.0403(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	6.1	1.10

	MEAN	STD			
WIDTH.	: 3.24	0.36	(m)		
DEPTH.	: 35.90	18.78	(cm)		
DOMINANT SUBSTRATE TYPE. .	: 4		POOL/RIFFLE RATIO . .:	9.00	
TYPE THREE SUBSTRATE . . .	: 0.04	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	: 20.00	(%)			
OVERHEAD CANOPY.	: 79.00	(%)			
INSTREAM SHELTER	: 54.2	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	61.7	0.0
Salvelinus fontinalis	1790.1	0.0
Rhinichthys atratulus	3765.4	218.9
Semotilus atromaculatus	4691.4	172.8
Luxilus cornutus	308.6	0.0
Notemigonus crysoleucas	679.0	0.0
Lepomis gibbosus	123.5	0.0
Catostomus commersoni	185.2	0.0

STREAM NAME : PICKETT BROOK SITE #: 4142
SITE DESCRIPTION: 100 M UPSTREAM OF RTE. 8 CROSSING. HARWINTON

SAMPLE LENGTH : 50. SAMPLE DATE: 08/17/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:17.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.7	0.12
WATER TEMP. . .	:15.00 (C)	pH	: 5.5	0.34
VELOCITY. . . .	: 0.1640(m/s)	COND . . . . . (uS/cm3). .	: 63.0	0.0
DISCHARGE . . .	: 0.0550(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	: 10.8	0.76

	MEAN	STD			
WIDTH.	: 2.61	0.50	(m)		
DEPTH.	: 12.88	11.95	(cm)		
DOMINANT SUBSTRATE TYPE. .	: 3		POOL/RIFFLE RATIO . .:		1.94
TYPE THREE SUBSTRATE . . .	: 0.41	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	: 34.44	(%)			
OVERHEAD CANOPY.	: 33.00	(%)			
INSTREAM SHELTER	: 11.7	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	5900.4	3101.1
Rhinichthys atratulus	14406.1	1774.8
Semotilus atromaculatus	22605.4	3620.9
Notemigonus crysoleucas	536.4	0.0
Rhinichthys cataractae	153.3	0.0
Catostomus commersoni	1762.5	0.0

STREAM NAME : SPRUCE BROOK SITE #: 4143
SITE DESCRIPTION: IMMEDIATELY UPSTREAM OF NO NAME TRIB. ABOVE SPRUCE BROOK NURSERY. LITCHFIELD

SAMPLE LENGTH : 100. SAMPLE DATE: 01/01/89

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:20.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.0	0.06
WATER TEMP. . .	:15.00 (C)	pH	: 7.1	0.04
VELOCITY. . . .	: 0.1360(m/s)	COND . . . . . (uS/cm3). .	: 94.0	1.7
DISCHARGE . . .	: 0.3220(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	: 18.3	0.36

	MEAN	STD			
WIDTH.	: 2.52	0.75	(m)		
DEPTH.	: 9.68	6.58	(cm)		
DOMINANT SUBSTRATE TYPE. .	: 4		POOL/RIFFLE RATIO . .:		0.54
TYPE THREE SUBSTRATE . . .	: 0.05	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	: 10.00	(%)			
OVERHEAD CANOPY.	: 85.00	(%)			
INSTREAM SHELTER	: 18.8	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	119.0	0.0
Salvelinus fontinalis	2341.3	0.0
Rhinichthys atratulus	2976.2	177.8
Semotilus atromaculatus	79.4	0.0

STREAM NAME : WEST BRANCH ASPETUCK RIVER TRIB. SITE #: 4144
SITE DESCRIPTION: DOWNSTREAM OF KENT HOLLOW RD., NEW MILFORD

SAMPLE LENGTH : 50. SAMPLE DATE: 07/14/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:27.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.6	0.15
WATER TEMP. . .	:19.00 (C)	pH . . . . . :	7.0	0.10
VELOCITY. . . .	: 0.1270(m/s)	COND . . . . . (uS/cm3). . :	143.7	1.2
DISCHARGE . . .	: 0.0050(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	54.8	1.38

	MEAN	STD			
WIDTH. . . . . :	0.93	0.24	(m)		
DEPTH. . . . . :	3.90	3.76	(cm)		
DOMINANT SUBSTRATE TYPE. . :	3		POOL/RIFFLE RATIO . .:		0.00
TYPE THREE SUBSTRATE . . . :	0.40	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	42.50	(%)			
OVERHEAD CANOPY. . . . . :	96.00	(%)			
INSTREAM SHELTER . . . . . :	0.3	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	1945.9	0.0

STREAM NAME : DEMMING BROOK SITE #: 4145
SITE DESCRIPTION: UPSTREAM OF UNDER MOUNTAIN RD., CANAAN

SAMPLE LENGTH : 50. SAMPLE DATE: 06/16/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:23.00 (C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . .	:15.00 (C)	pH . . . . . :	7.3	0.03
VELOCITY. . . .	: 0.1240(m/s)	COND . . . . . (uS/cm3). . :	129.0	1.7
DISCHARGE . . .	: 0.0240(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	70.8	1.20

	MEAN	STD			
WIDTH. . . . . :	1.71	0.86	(m)		
DEPTH. . . . . :	9.25	9.82	(cm)		
DOMINANT SUBSTRATE TYPE. . :	7		POOL/RIFFLE RATIO . .:		0.35
TYPE THREE SUBSTRATE . . . :	0.00	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	42.50	(%)			
OVERHEAD CANOPY. . . . . :	84.00	(%)			
INSTREAM SHELTER . . . . . :	1.8	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
NO FISH		

STREAM NAME : WHITE HOLLOW BROOK SITE #: 4147
SITE DESCRIPTION: PARALLEL TO WHITE HOLLOW RD. DOWN BANK FROM ROSENHEIM ESTATE TENNIS COURT, SHARON

SAMPLE LENGTH : 100. SAMPLE DATE: 08/24/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:18.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.5	0.23
WATER TEMP. . .	:16.00 (C)	pH	: 8.2	0.01
VELOCITY. . . .	: 0.1520(m/s)	COND . . . . . (uS/cm3). .	:175.0	0.0
DISCHARGE . . .	: 0.0450(m3/s)	ALKALINITY .(mg CaCO3 eq/l)	:105.9	2.14

	MEAN	STD		
WIDTH.	3.16	0.74	(m)	
DEPTH.	9.73	8.56	(cm)	
DOMINANT SUBSTRATE TYPE. .	3	POOL/RIFFLE RATIO . .:		0.82
TYPE THREE SUBSTRATE . . .	0.48 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	24.17 (%)			
OVERHEAD CANOPY.	98.00 (%)			
INSTREAM SHELTER	13.9 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	126.6	0.0
Rhinichthys atratulus	6677.2	154.7
Semotilus atromaculatus	6740.5	64.0
Luxilus cornutus	443.0	0.0
juvenile cyprinid	189.9	0.0
Catostomus commersoni	158.2	0.0

STREAM NAME : ROARING BROOK SITE #: 4148
SITE DESCRIPTION: 10 M BELOW POND AT #462 MOUNTAIN RD., NORFOLK.

SAMPLE LENGTH : 100. SAMPLE DATE: 08/20/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:17.00 (C)	DISSOLVED OXYGEN (mg/l). .	: 10.5	0.15
WATER TEMP. . .	:18.00 (C)	pH	: 6.9	0.05
VELOCITY. . . .	: 0.4170(m/s)	COND . . . . . (uS/cm3). .	: 35.0	0.0
DISCHARGE . . .	: 0.2370(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	7.4	0.55

	MEAN	STD		
WIDTH.	4.67	1.64	(m)	
DEPTH.	14.55	11.04	(cm)	
DOMINANT SUBSTRATE TYPE. .	4	POOL/RIFFLE RATIO . .:		1.08
TYPE THREE SUBSTRATE . . .	0.00 (%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE	24.17 (%)			
OVERHEAD CANOPY.	96.00 (%)			
INSTREAM SHELTER	5.8 (m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	4282.7	197.9
Salmo trutta	0.0	0.0
Notemigonus crysoleucas	0.0	0.0

STREAM NAME : HOUSATONIC RIVER SITE #: 4149
SITE DESCRIPTION: SHORT RIFFLE ABOVE VFW HALL ON RTE 7, CANAAN.

SAMPLE LENGTH : 100. SAMPLE DATE: 07/22/92

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 atratulus		
Pimephales notatus		
Semotilus atromaculatus		
Ambloplites rupestris		
Micropterus dolomieu		
Etheostoma olmstedi		
Catostomus commersoni		
Perca flavescens		

STREAM NAME : GULF STREAM SITE #: 4150
SITE DESCRIPTION: 100 M UPSTREAM OF LOWER CROSSING OF RTE 202(BEHIND BODY SHOP), TORRINGTON
SAMPLE LENGTH : 150. SAMPLE DATE: 06/17/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :20.00	(C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . . :18.00	(C)	pH . . . . . :	6.8	0.08
VELOCITY. . . . : 0.1640	(m/s)	COND . . . . . (uS/cm3). . :122.3		2.5
DISCHARGE . . . : 0.1050	(m3/s)	ALKALINITY .(mg CaCO3 eq/l): 34.6		2.27

	MEAN	STD		
WIDTH. . . . . :	4.97	1.02	(m)	
DEPTH. . . . . :	13.30	9.69	(cm)	
DOMINANT SUBSTRATE TYPE. . :	5		POOL/RIFFLE RATIO . .:	0.33
TYPE THREE SUBSTRATE . . . :	0.09	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE :	47.50	(%)		
OVERHEAD CANOPY. . . . . :	96.00	(%)		
INSTREAM SHELTER . . . . . :	13.2	(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	4144.9	44.9
juvenile centrarchid	40.2	0.0
Semotilus atromaculatus	979.2	15.2
Luxilus cornutus	161.0	0.0
Rhinichthys cataractae	1046.3	38.2
Lepomis gibbosus	40.2	0.0
Catostomus commersoni	670.7	0.0

STREAM NAME : LAKE WARAMAUG BROOK SITE #: 4151
SITE DESCRIPTION: UPSTREAM FROM TOWN HILL RD., WARREN

SAMPLE LENGTH : 100. SAMPLE DATE: 07/14/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:27.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.5	0.06
WATER TEMP. . .	:21.00 (C)	pH . . . . . :	6.8	0.02
VELOCITY. . . .	: 0.1850(m/s)	COND . . . . . (uS/cm3). . :	107.3	1.2
DISCHARGE . . .	: 0.0740(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	21.0	0.10

	MEAN	STD			
WIDTH. . . . . :	4.54	1.42	(m)		
DEPTH. . . . . :	8.95	5.64	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		0.27
TYPE THREE SUBSTRATE . . . :	0.02	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	20.00	(%)			
OVERHEAD CANOPY. . . . . :	96.00	(%)			
INSTREAM SHELTER . . . . . :	1.7	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis	44.1	0.0
Rhinichthys atratulus	3942.7	35.3
Semotilus atromaculatus	1013.2	0.0
Lepomis gibbosus	88.1	0.0
Catostomus commersoni	132.2	0.0

STREAM NAME : BUTTERNUT BROOK SITE #: 4152
SITE DESCRIPTION: DOWNSTREAM OF RTE. 202 CROSSING, LITCHFIELD

SAMPLE LENGTH : 100. SAMPLE DATE: 06/29/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:23.00 (C)	DISSOLVED OXYGEN (mg/l). . :	8.7	0.06
WATER TEMP. . .	:19.00 (C)	pH . . . . . :	7.0	0.02
VELOCITY. . . .	: 0.0950(m/s)	COND . . . . . (uS/cm3). . :	113.3	1.5
DISCHARGE . . .	: 0.1110(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	53.9	2.43

	MEAN	STD			
WIDTH. . . . . :	7.58	3.03	(m)		
DEPTH. . . . . :	21.13	21.79	(cm)		
DOMINANT SUBSTRATE TYPE. . :	1		POOL/RIFFLE RATIO . .:		1.63
TYPE THREE SUBSTRATE . . . :	0.01	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	70.00	(%)			
OVERHEAD CANOPY. . . . . :	33.00	(%)			
INSTREAM SHELTER . . . . . :	93.5	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Ameiurus nebulosus	26.4	0.0
Pomoxis nigromaculatus	13.2	0.0
Rhinichthys atratulus	145.1	0.0
Salmo trutta	13.2	0.0
Esox niger	13.2	0.0
Luxilus cornutus	0.0	0.0
Notemigonus crysoleucas	831.1	38.6
Micropterus salmoides	79.2	0.0
Lepomis gibbosus	184.7	0.0
Lepomis auritus	1068.6	152.8
Etheostoma olmstedi	1715.0	103.2
Catostomus commersoni	2664.9	14.1
Perca flavescens	184.7	0.0

STREAM NAME : LEADMINE BROOK SITE #: 4153
SITE DESCRIPTION: 1 KM UPSTREAM OF RTE. 222 BRIDGE, HARWINTON (400 M SECTION ABOVE SITE 4112, FINGERLING BROWN TROUT STOCKING EVALUATION)
SAMPLE LENGTH : 400. SAMPLE DATE: 08/25/92

PHYSICAL			CHEMICAL	MEAN	STD
AIR TEMP. . . . :	25.00	(C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . . :	20.00	(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:	
EMBEDDEDNESS OF TYPE THREE :		(%)		
OVERHEAD CANOPY. . . . . :		(%)		
INSTREAM SHELTER . . . . . :		(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Salvelinus fontinalis		
Salmo trutta		

STREAM NAME : EAST BRANCH NAUGATUCK RIVER SITE #: 4154
SITE DESCRIPTION: AREA DOWNSTREAM OF TORRINGTON CO. OUTLET PIPE, TORRINGTON
SAMPLE LENGTH : SAMPLE DATE: 06/22/92

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		
Rhinichthys atratulus		
Salmo trutta		
Exoglossum maxillingua		
Semotilus atromaculatus		
Luxilus cornutus		
Semotilus corporalis		
Pimephales promelas		
Notemigonus crysoleucas		
Rhinichthys cataractae		
Lepomis gibbosus		
Etheostoma olmstedi		
Catostomus commersoni		
Perca flavescens		

STREAM NAME : EAST BRANCH NAUGATUCK RIVER SITE #: 4155
SITE DESCRIPTION: AREA ABOVE TORRINGTON COMPANY OUTLET PIPE, TORRINGTON
SAMPLE LENGTH : SAMPLE DATE: 06/22/92

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		
Rhinichthys atratulus		
Salmo trutta		
Exoglossum maxillingua		
Semotilus atromaculatus		
Luxilus cornutus		
Semotilus corporalis		
Notemigonus crysoleucas		
Rhinichthys cataractae		
Catostomus commersoni		

STREAM NAME : NAUGATUCK RIVER SITE #: 4160
SITE DESCRIPTION: UPSTREAM OF BOGUE RD. BRIDGE, HARWINTON.

SAMPLE LENGTH : 200. SAMPLE DATE: 06/30/92

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 atratulus		
Exoglossum maxillingua		
Semotilus atromaculatus		
Luxilus cornutus		
Semotilus corporalis		
Notemigonus crysoleucas		
Rhinichthys cataractae		
Lepomis gibbosus		
Ambloplites rupestris		
Oncorhynchus mykiss		
Etheostoma olmstedi		
Catostomus commersoni		

STREAM NAME : SALMON CREEK TRIB. SITE #: 4161
SITE DESCRIPTION: DOWNSTREAM AND UNDER RTE. 112, SALISBURY

SAMPLE LENGTH : 50. SAMPLE DATE: 07/09/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . .	:27.00 (C)	DISSOLVED OXYGEN (mg/l). . :	9.3	0.06
WATER TEMP. . .	:21.00 (C)	pH . . . . . :	8.4	0.06
VELOCITY. . . .	: 0.0840(m/s)	COND . . . . . (uS/cm3). . :	369.3	0.6
DISCHARGE . . .	: 0.0050(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	205.2	4.07

	MEAN	STD		
WIDTH. . . . . :	0.94	0.53	(m)	
DEPTH. . . . . :	5.78	5.01	(cm)	
DOMINANT SUBSTRATE TYPE. . :	7		POOL/RIFFLE RATIO . .:	0.13
TYPE THREE SUBSTRATE . . . :	0.15	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE :	25.00	(%)		
OVERHEAD CANOPY. . . . . :	94.00	(%)		
INSTREAM SHELTER . . . . . :		(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	14680.8	0.0

STREAM NAME : MILL RIVER SITE #: 4171
SITE DESCRIPTION: DOWNSTREAM OF MERRIT PARKWAY, FAIRFIELD (PARK AREA, PROPOSED TMA AREA, BROWN TROUT FINGERLING EVALUATION)

SAMPLE LENGTH : 506. SAMPLE DATE: 08/31/92

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 atratulus		
Salmo trutta		
Semotilus atromaculatus		
Luxilus cornutus		
Rhinichthys cataractae		
Micropterus salmoides		
Lepomis gibbosus		
Lepomis auritus		
Catostomus commersoni		

STREAM NAME : POND BROOK SITE #: 4174
SITE DESCRIPTION: PARALLEL TO POND BROOK RD, NEWTOWN (FINGERLING BROWN TROUT EVALUATION)
SAMPLE LENGTH : 451. SAMPLE DATE: 08/31/92

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		
Rhinichthys atratulus		
Salmo trutta		
Exoglossum maxillingua		
Rhinichthys cataractae		
Micropterus dolomieu		
Ictalurus natalis		

STREAM NAME : BLACKBERRY RIVER SITE #: 4180
SITE DESCRIPTION: 50 M UPSTREAM OF CORN FIELD ACCESS RD, ACROSS FROM BLACKBERRY RIVER INN, CANAAN
SAMPLE LENGTH : 200. SAMPLE DATE: 10/06/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :14.00	(C)	DISSOLVED OXYGEN (mg/l). . :	12.6	0.15
WATER TEMP. . . : 7.00	(C)	pH . . . . . :	8.3	
VELOCITY. . . . : 0.2760	(m/s)	COND . . . . . (uS/cm3). . :	162.3	2.5
DISCHARGE . . . : 0.2230	(m3/s)	ALKALINITY .(mg CaCO3 eq/l):	97.6	3.18

	MEAN	STD		
WIDTH. . . . . :	5.44	1.14	(m)	
DEPTH. . . . . :	14.93	10.33	(cm)	
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:	1.11
TYPE THREE SUBSTRATE . . . :	0.22	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE :	27.27	(%)		
OVERHEAD CANOPY. . . . . :		(%)		
INSTREAM SHELTER . . . . . :	53.5	(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Rhinichthys atratulus	4632.4	314.4
Salmo trutta	2003.7	29.0
Semotilus atromaculatus	27.6	0.0
Rhinichthys cataractae	7720.6	3320.8
Lepomis gibbosus	55.1	12.6
Cottus cognatus	349.3	97.5
Etheostoma olmstedi	18.4	0.0
Catostomus commersoni	229.8	48.3
Perca flavescens	27.6	0.0

STREAM NAME : QUINNIPIAC RIVER SITE #: 4210

SITE DESCRIPTION: QUINNIPIAC RIVER GORGE AREA PARALLEL TO RTE. 70, MERIDEN

SAMPLE LENGTH : 350. SAMPLE DATE:

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		
Lepomis macrochirus		
Salvelinus fontinalis		
Rhinichthys atratulus		
Salmo trutta		
Cyprinus carpio		
Semotilus corporalis		
Esox americanus		
Rhinichthys cataractae		
Micropterus salmoides		
Lepomis gibbosus		
Etheostoma olmstedi		
Catostomus commersoni		
Perca flavescens		

STREAM NAME : STILL RIVER SITE #: 4212

SITE DESCRIPTION: UPSTREAM OF DANFORTH THREAD FACTORY, 300 M DOWNSTREAM OF RTE. 20, WINSTED

SAMPLE LENGTH : 150. SAMPLE DATE: 09/01/92

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		
Rhinichthys atratulus		
Salmo trutta		
Luxilus cornutus		
Semotilus corporalis		
Rhinichthys cataractae		
Lepomis gibbosus		
Ambloplites rupestris		
Etheostoma olmstedi		
Catostomus commersoni		

STREAM NAME : HOCKANUM RIVER SITE #: 4220

SITE DESCRIPTION: RELOCATED SECTION OF RIVER BETWEEN RTE. 30, RTE.83 AND RTE. 84, MANCHESTER

SAMPLE LENGTH : 485. SAMPLE DATE: 09/30/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :	(C)	DISSOLVED OXYGEN (mg/l). . :	8.3	0.15
WATER TEMP. . . :	(C)	pH . . . . . :		
VELOCITY. . . . :	(m/s)	COND . . . . . (uS/cm3). . :	249.3	1.2
DISCHARGE . . . :	(m3/s)	ALKALINITY .(mg CaCO3 eq/l):		

	MEAN	STD			
WIDTH. . . . . :	8.61	3.69	(m)		
DEPTH. . . . . :	27.80	20.40	(cm)		
DOMINANT SUBSTRATE TYPE. . :	4		POOL/RIFFLE RATIO . .:		2.24
TYPE THREE SUBSTRATE . . . :	0.29	(%)	AIR/WATER TEMP. RATIO:		
EMBEDDEDNESS OF TYPE THREE :	44.52	(%)			
OVERHEAD CANOPY. . . . . :		(%)			
INSTREAM SHELTER . . . . . :	129.0	(m2)			

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Anguilla rostrata	24.9	0.0
Lepomis macrochirus	4.1	0.0
Salvelinus fontinalis	8.3	0.0
Rhinichthys atratulus	398.2	0.0
Salmo trutta	4.1	0.0
Salmo trutta	20.7	0.0
juvenile centrarchid	8.3	0.0
Luxilus cornutus	2372.7	0.0
Semotilus corporalis	522.6	0.0
Esox americanus	8.3	0.0
Notemigonus crysoleucas	4.1	0.0
Rhinichthys cataractae	460.4	0.0
Micropterus salmoides	12.4	0.0
Lepomis gibbosus	20.7	0.0
Etheostoma olmstedi	112.0	0.0
Catostomus commersoni	692.7	0.0
Perca flavescens	8.3	0.0

STREAM NAME : HOCKANUM RIVER SITE #: 4221
SITE DESCRIPTION: 300 M DOWNSTREAM OF LOWER BUTCHER RD., ELLINGTON

SAMPLE LENGTH : 540. SAMPLE DATE: 09/30/92

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		
Salmo trutta		
Oncorhynchus mykiss		

STREAM NAME : MILL RIVER SITE #: 4223
SITE DESCRIPTION: 400 M DOWNSTREAM OF CLARK'S POND, HAMDEN

SAMPLE LENGTH : 270. SAMPLE DATE: 09/29/92

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		
Ameiurus nebulosus		
Lepomis macrochirus		
Semotilus corporalis		
Esox americanus		
Notemigonus crysoleucas		
Micropterus salmoides		
Lepomis gibbosus		
Lepomis aurítus		
Etheostoma olmstedi		
Catostomus commersoni		
Perca flavescens		

STREAM NAME : MILL RIVER SITE #: 4224

SITE DESCRIPTION: DOWNSTREAM OF TUTTLE RD., HAMDEN

SAMPLE LENGTH : 150. SAMPLE DATE: 09/28/92

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		
Lepomis macrochirus		
Salvelinus fontinalis		
Rhinichthys atratulus		
Salmo trutta		
Luxilus cornutus		
Semotilus corporalis		
Apeltes quadracus		
Esox americanus		
Fundulus diaphanus		
Rhinichthys cataractae		
Micropterus salmoides		
Lepomis auritus		
Etheostoma olmstedi		
Catostomus commersoni		

STREAM NAME : PEQUABUCK RIVER SITE #: 4225
SITE DESCRIPTION: UPSTREAM OF NORTHEAST ST., FARMINGTON.

SAMPLE LENGTH : 150. SAMPLE DATE: 09/29/92

PHYSICAL		CHEMICAL	MEAN	STD
AIR TEMP. . . . :	(C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . . :	(C)	pH . . . . . :		
VELOCITY. . . . :	(m/s)	COND . . . . . (uS/cm3). . :	230.0	
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		
Salmo trutta		
Luxilus cornutus		
Semotilus corporalis		
Esox americanus		
Micropterus salmoides		
Lepomis gibbosus		
Notropis hudsonius		
Etheostoma olmstedi		
Catostomus commersoni		
Perca flavescens		

STREAM NAME : MUDDY RIVER SITE #: 4226
SITE DESCRIPTION: 400 M BELOW DAM ON MCKENZIE RESERVIOR, WALLINGFORD

SAMPLE LENGTH : 100. SAMPLE DATE: 09/22/92

PHYSICAL			CHEMICAL	MEAN	STD
AIR TEMP. . . . :	24.00	(C)	DISSOLVED OXYGEN (mg/l). . :		
WATER TEMP. . . :	21.00	(C)	pH . . . . . :	7.6	0.12
VELOCITY. . . . :		(m/s)	COND . . . . . (uS/cm3). . :	220.0	0.0
DISCHARGE . . . :		(m3/s)	ALKALINITY .(mg CaCO3 eq/l):		

	MEAN	STD		
WIDTH. . . . . :	5.83	1.02	(m)	
DEPTH. . . . . :	18.92	11.44	(cm)	
DOMINANT SUBSTRATE TYPE. . :	3		POOL/RIFFLE RATIO . .:	1.70
TYPE THREE SUBSTRATE . . . :	0.55	(%)	AIR/WATER TEMP. RATIO:	
EMBEDDEDNESS OF TYPE THREE :	55.96	(%)		
OVERHEAD CANOPY. . . . . :		(%)		
INSTREAM SHELTER . . . . . :	37.9	(m2)		

BIOLOGICAL

SPECIES	POPULATION SIZE (Number/ha)	STANDARD ERROR (Number/ha)
Anguilla rostrata	1131.4	40.3
Rhinichthys atratulus	1560.0	366.1
Luxilus cornutus	4937.1	2793.2
Rhinichthys cataractae	51.4	0.0
Etheostoma olmstedi	548.6	223.1