

FINAL REPORT

A SURVEY OF BENTHIC MACROINVERTEBRATES OF
STREAMS OF COAL SURFACE MINING AREAS
OF THE CUMBERLAND PLATEAU IN
TENNESSEE

Dr. James A. Gore
James D. Hughes, Jr.
William A. Swartley

Tennessee Cooperative Fishery Research Unit
Tennessee Technological University
Cookeville, Tennessee
Dr. R. Don Estes, Unit Leader

Submitted to:

United States Geological Survey
1025 Elm Hill Pike
Nashville, Tennessee

OPEN-FILE REPORT 82-773

February, 1982

ACKNOWLEDGEMENTS

Space and facilities were provided by Tennessee Technological University and the Tennessee Cooperative Fishery Research Unit. The U.S. Geological Survey provided considerable support and interest in this project. We are particularly grateful to Marsha Robertson, Linda Johnson, Janet Nelson, Jane Cannon, and Lisa Ondrey for sorting of the samples and to Christopher O'Bara and Kenneth Phillips for help in the field. Our thanks go to Wendell Pennington, University of Tennessee, and to Phillip Summers and Christopher O'Bara, Tennessee Technological University, for identification and verification of chironomid samples. A special note of thanks goes to Ghada Farran and Janet Nelson for typing of the final report.

TABLE OF CONTENTS

INTRODUCTION	1
DESCRIPTION OF STUDY SITES	4
MATERIALS AND METHODS	14
RESULTS AND DISCUSSION	19
RECOMMENDATIONS	20
APPENDIX	26

INTRODUCTION

With increasing demands for energy by American consumers and the evident decline in petroleum based fuels, the mining of coal has become an increasingly important factor in our national economy. Inexpensive surface mining has replaced sub-surface mining in most regions of the country.

The U.S. Fish and Wildlife Service (1977) estimated that 1.3 million surface acres have been disturbed by mining. In the Appalachian region, approximately 10,500 miles of streams have been affected by surface mine impacts (ARC 1969).

Past and present surface mine impacts to running water systems have ranged from increased sedimentation and degradation of available substrate to permanent alteration of water quality by the alteration of pH and increases in additions of heavy metals to the food chains of aquatic organisms.

Mitigation of mining abuses and protection of streams from future mining activities can not be answered by a single criterion. Variations in geologic, hydrologic, and climatic conditions are sufficient to cause dramatic changes in the typical flora and fauna of any watershed or stream ecosystem. Thus, characterization of all streams in an impacted watershed must be accomplished prior to mining activities. When these data are compared with known impacted streams, a more efficient and workable management strategy can be derived.

Although a few studies on impacts of surface mining in the Cumberland Plateau of Tennessee have been performed, all workers agreed that their site specific examinations may not be applicable to the entire region (Starnes 1976; Tolbert 1978; Stair and Tolbert 1980).

This study was initiated to provide a wide range of baseline information on the benthic fauna of streams on or adjacent to the Cumberland Plateau of Tennessee. When compared to available water quality data on these streams, there exists the potential to describe a general model of impacts and potential mitigating strategies for future sites of impacts by coal surface mining.

INTRODUCTION REFERENCES

- Appalachian Regional Commission (ARC). 1969. Acid mine drainage in Appalachia. Appal. Reg. Comm., Washington, D.C. 126 pp.
- Stair, D.M. Jr., and V.R. Tolbert. 1980. Response of benthic insect species to changes in stream velocity resulting from stripmining disturbance. North American Benthol. Soc. Ann. Mtg., March, 1980, Workshop on Mining Effects on Benthos.
- Starnes, L.B. 1976. Comparison of fish and benthic faunal compositions in polluted and pristine forks of a mountain river. Tennessee Wildlife Resource Agency. TWRA Report No. 77-55, PCAN 0061.
- Tolbert, V.R. 1978. Effects of stripmining related disturbance on the benthic insect communities of selected streams in the New River Basin of East Tennessee. Ph.D. dissertation. University of Tennessee.
- U.S. Fish and Wildlife Service. 1977. Balancing national energy needs with ecological requirements. Eastern Energy and Land Use Task Force Report.

DESCRIPTION OF STUDY SITES

All sites are located on or adjacent to the Cumberland Plateau of Tennessee. Site locations are shown on Figure 1 and described in Table 1. Site locations and numbers were coordinated with the standard designations of the U.S. Geological Survey. Individual site descriptions are included with the data from that site.

Site Name

Names were taken from USGS topographic maps of the 1:24000 series. The site is designated as being at a community when it is within a mile of the center of the community or within the urbanized area of the community. The site is designated as being near a community when it is more than a mile from the center of the community and outside the urbanized area.

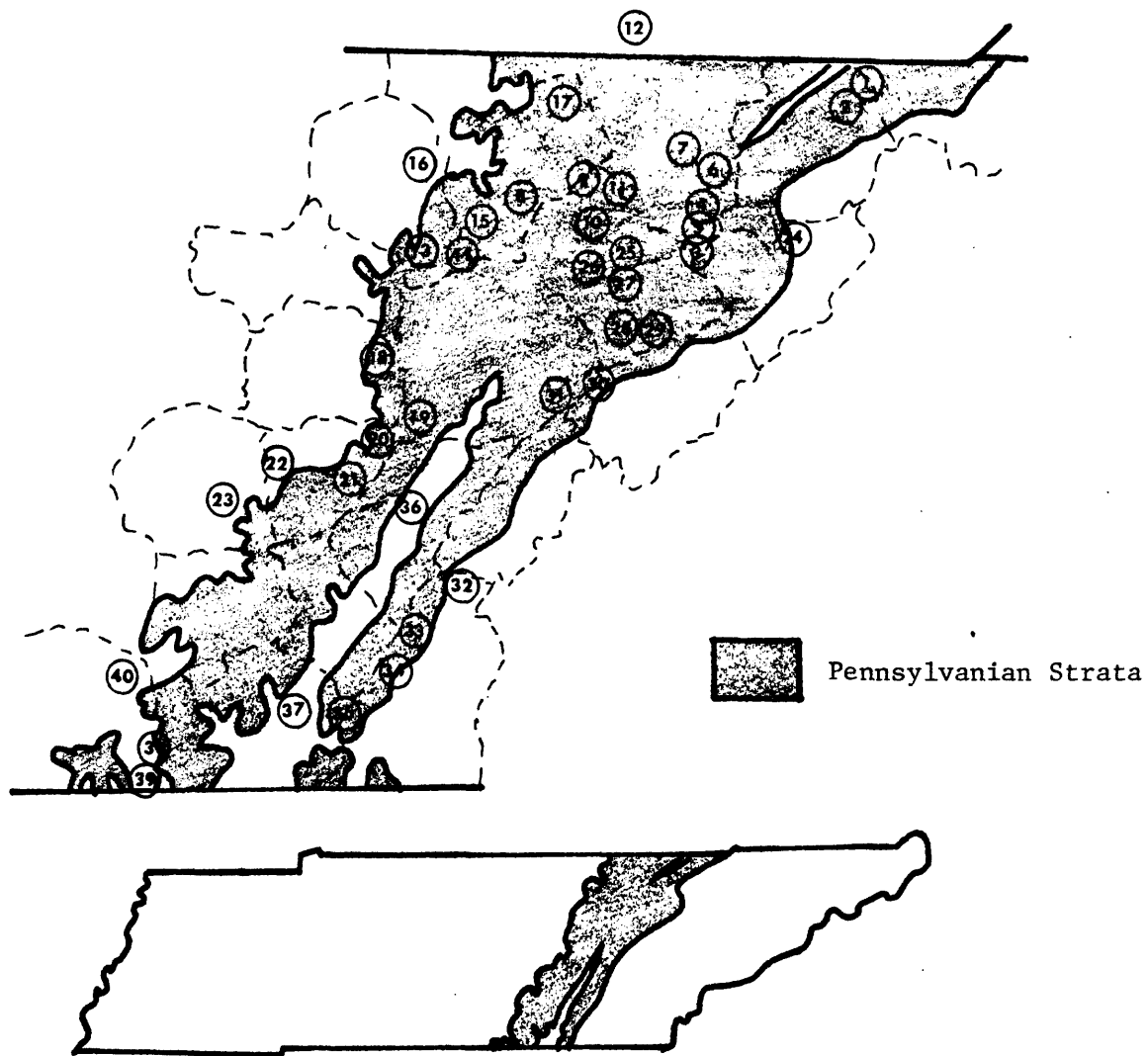


FIGURE 1. Location of sampling sites.

TABLE 1

Locations of Forty Stations Sampled For Benthic Macroinvertebrates

	Station	Location
(1)	03403697	Clear Fork at Anthras Lat 36°32'46", Long 84°59'36" Clear Fork at Highway 90 Bridge at Anthras, Cambell Co., TN
(2)	03403710	Tackett Creek near Anthras Lat 36°32'24", Long 84°00'21" Tackett Creek at Highway 90 Bridge, 0.8 mile southwest of Anthras, Campbell Co., TN
(3)	03407850	New River at Stainville Lat 36°12'34", Long 84°19'19" New River 400 feet below mouth of Ligas Fork, 0.6 mile northwest of Stainville, Anderson-Campbell Co., TN
(4)	03407877	Bowling Branch above Smoky Junction Lat 36°16'14", Long 84°24'17" Bowling Branch 400 yards upstream of bridge, 3.0 miles northwest of Hembree, Scott Co., TN
(5)	03407881	Anderson Branch near Montgomery Lat 36°18'34", Long 84°23'14" Anderson Branch 50 feet above jeep trail ford, 1.3 miles southwest of Montgomery, Scott Co., TN
(6)	03407920	Buffalo Creek near Winona Lat 36°23'16", Long 84°25'12" Buffalo Creek at Highway 63 Bridge, 1.9 miles northeast of Winona, Scott Co., TN

TABLE 1

Locations of Forty Stations Sampled For Benthic Macroinvertebrates
(continued)

	Station	Location
(7)	03407960	Paint Rock Creek near Huntsville Lat 36°24'14", Long 84°26'59" Paint Rock Creek at Highway 63 Bridge 2.4 miles southeast of Huntsville, Scott Co., TN
(8)	03408550	North Prong Clear Fork near Grimsley Lat 36°18'25", Long 84°54'35" N. Prong Clear Fork at county bridge, 4.8 miles northeast of Grimsley, Fentress Co., TN
(9)	03408700	Clear Fork at Gatewood Lat 36°17'13", Long 84°50'33" Clear Fork at county bridge, 4.9 miles southwest of Burrville, Morgan Co., TN
(10)	03409350	Bone Camp Creek near Burrville Lat 36°17'12", Long 84°42'15" Bone Camp Creek at county bridge, 2.5 miles southeast of Burrville, Morgan Co., TN
(11)	03409400	White Oak Creek at Rugby Lat 36°21'21", Long 84°41'27" White Oak Creek at Highway 52 Bridge near Rugby, Morgan Co., TN
(12)	03410500	Big South Fork Cumberland River near Stearns, KY Lat 36°37'37", Long 84°32'00" Big South Fork Cumberland River just downstream of mouth of Bear Creek, 5.5 southwest of Stearns, McCreary Co., KY

TABLE 1

Locations of Forty Stations Sampled For Benthic Macroinvertebrates
(continued)

	Station	Location
(13)	03414340	East Fork Obey River at Obey City Lat 36°11'02", Long 85°09'53" E. Fork Obey River at county bridge, 0.9 miles west of Cliff Springs, Overton Co., TN
(14)	03414346	Hurricane Creek at Camp Ground Lat 36°11'42", Long 85°04'06" Hurricane Creek at county bridge 3.2 miles from intersection of Highway 62 and U.S. 127-State Highway 28, Fentress Co., TN
(15)	03414430	East Fork Obey River near Wilder Lat 36°16'29", Long 85°02'40" E. Fork Obey River at Highway 85 Bridge, 3.5 miles east of Wilder, Fentress Co., TN
(16)	03415000	West Fork Obey River near Allred Lat 36°23'49", Long 85°10'28" W. Fork Obey River at Highway 52 Bridge, Overton Co., TN
(17)	03415960	Wolf River at Wolf River Lat 36°32'14", Long 84°57'09" Wolf River at county bridge, 200 ft. east of junction with Highway 28 - U.S. 127, 0.4 mile south of Pall Mall Post Office

TABLE 1

Locations of Forty Stations Sampled For Benthic Macroinvertebrates
(continued)

	Station	Location
(18)	03418520	Clifty Creek at Mobra Lat 35°53'10", Long 85°15'05" Clifty Creek at county road culvert, 0.5 miles northeast of Mobra, White Co., TN
(19)	03418935	Beaverdam Creek near Bellview Lat 35°44'07", Long 85°11'43" Beaverdam Creek at Lantana Road Bridge, 1.2 miles southwest of Bellview, Bledsoe Co., TN
(20)	03418995	Glade Creek near Lonewood Lat 35°45'35", Long 85°15'57" Glade Creek, 1.2 miles above confluence of Bee Creek and 2.3 miles east of Lonewood, Van Buren-Bledsoe County Line, TN
(21)	03419200	Cane Creek near Spencer Lat 35°44'36", Long 85°23'33" Cane Creek at Highway 30 Bridge, 4.7 miles east of Spencer, Van Buren Co., TN
(22)	03420116	Rocky River at Riverview Lat 35°42'04", Long 85°34'40" Rocky River at Rocky River Road Bridge, 3.0 miles south of Rocky River Road- Highway 30 intersection, Van Buren Co., TN

TABLE 1

Locations of Forty Stations Sampled For Benthic Macroinvertebrates
(continued)

	Station	Location
(23)	03420230	Scott Creek at Irving College Lat 35°34'17", Long 85°42'42" Scott Creek at Highway 56 Bridge, 1.0 mile south of Irving College and 0.6 mile above mouth, Warren Co., TN
(24)	03534000	Coal Creek at Lake City Lat 36°13'14", Long 84°09'27" Coal Creek at U.S. Highway 25W Bridge in Lake City, Anderson Co., TN
(25)	03538398	Rock Creek near Gobey Lat 36°08'02", Long 84°37'31" Rock Creek at Highway 62 bridge, 2.5 miles northwest of Wartburg, Morgan Co., TN
(26)	03539719	White Creek at Twin Bridges Lat 36°10'40", Long 84°48'01" White Creek at county bridge, 12.0 miles northwest of Lancing 6.8 miles above mouth, Morgan Co., TN
(27)	03539750	Clear Creek near Lancing Lat 36°07'18", Long 84°33'29" Clear Creek at county bridge 5.0 miles west of Lancing Morgan Co., TN

TABLE 1

Locations of Forty Stations Sampled For Benthic Macroinvertebrates
(continued)

	Station	Location
(28)	03540100	Crab Orchard Creek near Deermont Lat 36°00'40", Long 84°36'44" Crab Orchard Creek at county bridge, 1.9 miles southwest of Deermont, Morgan Co., TN
(29)	03540500	Emory River at Oakdale Lat 35°58'59", Long 84°33'29" Emory River at Oakdale Highway Bridge, Morgan Co., TN
(30)	03541487	Piney Creek near Westel Lat 35°51'14", Long 84°44'17" Piney Creek at Highway 70 Bridge, 3.5 miles southwest of Rockwood, Roane Co., TN
(31)	03541496	Fall Creek near Ozone Lat 35°50'16", Long 84°47'56" Fall Creek at county bridge, 2.9 miles south of Ozone, Cumberland Co., TN
(32)	03566292	Sale Creek near Sale Creek Lat 35°25'35", Long 85°05'24" Sale Creek at Coulterville Road Bridge, 0.3 mile southwest of Coulterville Rd- U.S. - 27 intersection, Hamilton Co., TN

TABLE 1

Locations of Forty Stations Sampled For Benthic Macroinvertebrates
(continued)

	Station	Location
(33)	03566400 Soddy Creek at Soddy	Lat 35°18'05", Long 85°09'56" Soddy Creek upstream of county road bridge, 0.8 mile north of Soddy and 1.2 miles upstream from Highway 27 bridge, Hamilton Co., TN
(34)	03566530 North Chickamauga Creek at Daisy	Lat 35°13'20", Long 85°13'16" N. Chickamauga Creek at U.S. - 27 bridge between mile Straight and Daisy, Hamilton Co., TN
(35)	03569245 Suck Creek near Chattanooga	Lat 35°07'28", Long 85°23'26" Suck Creek at Highway 27 crossing creek 1100 feet above mouth, Hamilton Co., TN
(36)	03570602 Sequatchie River near Pikeville	Lat 35°35'48", Long 85°11'27" Sequatchie River at Highway 30 Bridge at Pikeville (southern city limit), Bledsoe Co., TN
(37)	03571500 Little Sequatchie River at Sequatchie	Lat 35°07'47", Long 85°35'10" Little Sequatchie River at Highway 27 Bridge, Marion Co., TN

TABLE 1

Locations of Forty Stations Sampled For Benthic Macroinvertebrates
(continued)

	Station	Location
(38)	03571800	Battle Creek near Monteagle Lat 35 08'03", Long 85 46'15" Battle Creek at bridge on former Highways 41 and 64, 9.2 miles southeast of Monteagle, Marion Co., TN
(39)	03572092	Crow Creek near Anderson Lat 35 59'28", Long 85 54'07" Crow Creek at Highway 56 Bridge, Franklin Co., TN
(40)	03578190	Mud Creek near Alto Lat 35 16'28", Long 85 56'14" Mud Creek at Highway 50 Bridge, 1.0 mile northeast of Alto Franklin Co., TN

MATERIALS AND METHODS

Physical and Chemical Parameters

At each station, physical and chemical parameters were recorded. These included pH, dissolved oxygen, temperature ($^{\circ}\text{C}$), flow, width, depth, percent shading, and substrate character.

pH was measured with a Corning Model 610A pH meter. Dissolved oxygen was measured with a Yellow Springs Instruments dissolved oxygen probe and meter. Temperature was determined with the use of a standard laboratory mercuric thermometer.

Average width was determined by a 50 ft. measuring tape across a transect which included the majority of the sample sites and through which discharge measurements were taken. Depth was measured at 25 percent intervals across the transect using a top-setting wading rod. Average depths were determined by adding the readings taken across the stream at each location and dividing by one more than the number of readings. This technique allowed for zero depth measurements on the banks and the non-uniformity of the basin (Lagler 1973). Velocity was determined by floating a half-submerged float a timed distance of 50 ft. Approximate discharge was determined by:

$$R = \frac{W \times D \times a \times L}{T} \quad (\text{Lagler, 1973})$$

where R is the volume in cubic feet per second (cfs) (then converted to metric units), D is average depth, and a is a constant for bed roughness (0.8 for a rubble dominated riffle), L is the length of the measured section, and T is time travel of the float.

Benthic Macroinvertebrate Collection and Analysis

Benthic macroinvertebrate communities were sampled by methods described by Greeson et. al. (1977). Three quantitative Surber samples were taken at each station. The net mesh size for the Surber samples was 270 microns with a 0.0929 square meter sampling area. A kick sample, which included as many different visible habitats, was also taken. Samples were preserved in 10% formalin and transported to the laboratory. In the lab, the samples were sorted, counted, and identified. A separate listing of taxonomic references is included. After being sorted, the organisms were transferred to vials containing 70% ethanol for storage.

Identification of the organisms was done to the lowest practical taxonomic level.

Allen (1980) has elevated all subgeneric levels in the mayfly family Ephemerellidae to generic status. This new designation is used in this report. Thus, where the family formerly contained one genus, Ephemerella, the family Ephemerellidae now (1982) contains the following:

- | | |
|-----------------|-----------------|
| 1. Timpanoga | 5. Drunella |
| 2. Caudatella | 6. Serratella |
| 3. Attenuatella | 7. Eurylophella |
| 4. Danella | 8. Ephemerella |

Because of the large number of samples to be processed, only the kick samples were identified to the generic level for the Dipteran family, Chironomidae. This is an appropriate means of identification since subsequent mathematical tests require data from pooled samples or a reasonably comprehensive kick sample. It can be assumed that the same approximate proportions (less 20% of the rare species) existed in the quantitative Surber samples.

Shannon-Weaver diversity was calculated for each sample where:

$$H' = - p_i \log_2 p_i \quad (\text{Wilhm 1972})$$

where: p_i = the proportion of individuals of the i -th taxon for that particular sample

In a general application, Staub et. al. (1970) proposed that the Shannon-Weaver equation be used to indicate levels of pollution. Generally, this has been shown to be a moderate to poor indicator because the index is generally incapable of distinguishing tolerant and intolerant taxa. We suggest that this index be used as an indication of general richness and equitability of species in the benthic community as well as a relative index of the heterogeneity of the running water environment (i.e. niche breadth).

Since this study has as a general purpose the provision of baseline information to assess potential mine impacts, we felt that it was necessary to give an idea of presently existing organic pollution conditions. Hilsenhoff (1977) has produced a biotic index (BI) which incorporates components of diversity and taxonomic differences. This index grades the pollution tolerances of the most common genera of aquatic arthropods and provides an index:

$$BI = \frac{\sum n_i a_i}{N}$$

where n = number of individuals of taxon i in the sample

a = the pollution tolerance value for species i in the sample
(range, 0 to 5, intolerant to very tolerant)

and, N = total number of individuals in the sample.

Hilsenhoff (1977, personal communication) recommends that a kick sample

representing a variety of habitats will be most accurate in predictions.

Thus, BI values were calculated for the kick samples only.

Hilsenhoff (1977, 1981) has demonstrated that his biotic index may be more accurate in predicting water quality than a diversity value, alone.

In general, the BI values fall within the following ranges:

<u>BI Value</u>	<u>Water Quality</u>	<u>State of Stream</u>
0 - 1.75	Excellent	Clean
1.75 - 2.25	Good	Some Enrichment
2.25 - 3.00	Fair	Moderate Enrichment
3.00 - 3.75	Poor	Significant Enrichment
3.75+	Very Poor	Gross Enrichment

References

- Allen, R.K. 1980. Geographic distribution and reclassification of the subfamily Ephemerellinae (Ephemeroptera: Ephemerellidae). in: J.F. Flannagan and K.E. Marshall (eds). Advances in Ephemeroptera Biology. Plenum Press, New York. pp. 71-92
- Greeson, P.E., T.A. Ehlke, G.A. Irvin, B.W. Luim, and K.U. Slack. 1977. Techniques of water resources investigations of the United States Geological Survey, Chapter A 4, Methods for collection and analysis of aquatic biological and microbiological samples. U.S. Government Printing Office, Washington, D.C. 332 pp.
- Hilsenhoff, W.L. 1977. Use of arthropods to evaluate water quality of streams. Tech. Bull. No. 100, Dept. of Nat. Resources, Madison, Wisconsin.
- _____. 1981. The biotic index of arthropods - present problems and future potential. Presented paper. North American Benthol. Soc., 29th Ann. Mtg., Provo, Utah.
- Lagler, K.L. 1973. Freshwater Fishery Biology. Wm. C. Brown, Co., Dubuque, Iowa. 421 pp.
- Wilhm, J. 1972. Graphic and mathematical analyses of biotic communities in polluted streams. Ann. Rev. Ent. 7: 223-252.

Results and Discussion

All data used to satisfy the requirements of the contract are listed in the Appendix. Each station is identified by its location, number, chemical and physical parameters, and the type of sample taken.

Certain specimens were retained for verification and to establish a reference set for future research. Specimens retained are denoted in the table by an asterisk or set of asterisks: (*) JAG, (**) WAS, (***) JDH. All specimens will be available for inspection by the contractor and interested individuals.

In some cases, sample stations were not sampled during the first sampling period (April - June). An unusually high spring runoff prevented access to acceptable sampling areas. These stations were:

03571800	Battle Creek
03410500	South Fork Cumberland
03540500	Emory River (Fall sampling period)

Crooked Fork in Morgan County (03539860) and Sequatchie River in Sequatchie County (03570695) were not sampled. Sluggish flow regime and high water levels prohibited access to suitable sampling sites. Anderson Branch (03407881) and Bowling Branch (03407877) in Scott County were substituted for these stations.

Samples from some stations were destroyed due to seal failure of the sample bags while in storage. These samples were:

03403710	Tackett Creek	Kick (9-22-81)
03539719	White Creek	Surber 2 (5-22-81)

RECOMMENDATIONS

Data are of no use without some form of application. Without further analysis, these data will provide adequate baseline information for future comparisons should further surface mining activity take place in any of the watersheds examined. However, the strength of this data set is in its suitability for a variety of analyses which could yield predictive models of impact and/or various new rapid assessment techniques.

As mentioned in the Introduction, a number of researchers have found considerable impacts to aquatic macroinvertebrates. Being less mobile and, therefore, more indicative of prolonged and point source impacts, aquatic macroinvertebrates are often suggested as the primary biological indicators of pollution (Hart and Guller 1974). Indeed, many people have derived various biotic indices to assess pollution and water quality simultaneously (the most recent being Hilsenhoff 1977; and Winget and Mangum 1979). The benthic invertebrate data could be easily applied to these indices to obtain further information about water quality trends and community composition.

Sheldon (1972) and Green (1979) have suggested a variety of multivariate techniques could be used to assess multiple interactions between water quality parameters and the distribution of aquatic organisms. Since the mayflies (Ephemeroptera) and the stoneflies (Plecoptera) are reasonably easy to identify taxonomically, we suggest that fruitful results could be obtained in principal component analysis of total composition of benthic communities and mayfly densities and diversities versus various water quality parameters. This analysis

may lead to the verification of the concept of use of a group of invertebrates as pollution indicators and the development of a more rapid water quality assessment system.

References

- Green, R.H. 1979. Sampling Design and Statistical Methods for Environmental Biologists. John Wiley and Sons., New York. 251 pp.
- Hart, C.W. and S.L. Fuller. (eds.). 1974. Pollution Ecology of Freshwater Invertebrates. Academic Press, Inc., New York. 384 pp.
- Hilsenhoff, W.L. 1977. Use of arthropods to evaluate water quality of streams. Tech. Bull. No. 100, Wisconsin Dept. Nat. Res., Madison, Wisconsin.
- Sheldon, A.L. 1972. A quantitative approach to the classification of inland waters. in: J.V. Krutilla (ed.) Natural Environments. John Hopkins Univ. Press, Baltimore, MD., pp. 205-261
- Winget, R.N. and F.A. Mangum. 1979. Biotic condition index: integrated biological, physical, and chemical stream parameters for management. U.S. Forest Service, Intermountain Region, U.S. GPO: 1980-0-677-133/7.

REFERENCES FOR TAXONOMIC KEYS

- Allen, R.K. 1980. Geographic distribution and reclassification of the subfamily Ephemerellinae (Ephemeroptera: Ephemerellidae) in: J.F. Flannigan and K.E. Marshall (eds) *Advances in Ephemeroptera Biology*. Plenum Press, New York. pp. 71-92.
- _____ and G.F. Edmunds, Jr. 1962. A revision of the genus Ephemerella (Ephemeroptera: Ephemerellidae) IV. The subgenus Dannella. G. Kans. Ent. Soc. 35:333-338.
- _____ and G.F. Edmunds, Jr. 1962. A revision of the genus Ephemerella (Ephemeroptera, Ephemerellidae) V. The subgenus Drunella in North America. Misc. Publ. Ent. Soc. Amer. 3:147-179.
- _____ and G.F. Edmunds, Jr. 1963. A revision of the genus Ephemerella (Ephemeroptera: Ephemerellidae) VI. The subgenus Serratella in North America. Ann. Entomol. Soc. Amer. 56:583-600.
- _____ and G.F. Edmunds, Jr. 1963. A revision of the genus Ephemerella (Ephemeroptera: Ephemerellidae) VII. The subgenus Eurylophella. Can. Ent. 95:597-623.
- _____ and G.F. Edmunds, Jr. 1965. A revision of the genus Ephemerella (Ephemeroptera: Ephemerellidae) VIII. The subgenus Ephemerella in North America. Misc. Publ. Ent. Soc. Amer. 4:243-282.
- Beck, Jr., W.M. 1979. *Biology of Larval Chironomids*. State of Florida, Dept. of Env. Reg., Tech. Series, Vol. II, No. 1.
- Berner, L. 1955. The Southeastern species of Baetisca (Ephemeroptera: Baetiscidae). Quart. J. Florida Acad. Sci. 18:1-19.
- _____. 1975. The mayfly family Leptophlebiidae in the southeastern United States. Florida Ent. 58:137-156.
- Brown, H.P. 1976. *Aquatic dryopoid beetles (Coleoptera) of the United States*. United States Environ. Prot. Agency, Water Pollution Control Research Series, 18050 ELD 04/72.
- Buchanan, A.C. 1980. *Mussels (Naiades) of the Meramec River basin, Missouri*. Aquat. Series No. 17, Missouri Dept. of Conservation, Jefferson City, Missouri.
- Carle, F.L. 1980. A new Lanthus (Odonata: Gomphidae) from Eastern North America with adult and nymphal keys to American Octogomphines. Ann. Entomol. Soc. Amer. 73:172-179.
- Edmondson, W.T. (ed). 1959. *Ward and Whipple's Freshwater Biology*. John Wiley and Sons, Inc., New York.

- Edmunds, Jr., G.F., S.L. Jensen, and L. Berner. 1976. The Mayflies of North and Central America. University of Minnesota Press, Minneapolis.
- Edwards, S.W. 1966. An annotated list of the Trichoptera of middle and west Tennessee. J. Tenn. Acad. Sci. 41:116-128.
- Fiance, Sandy B. 1977. The genera of eastern North America Chloroperliidae (Plecoptera): key to larval stages. Psyche 83:308-316.
- Flowers, R.W. and W.L. Hilsenhoff. 1975. Heptageniidae (Ephemeroptera) of Wisconsin. Great Lakes Ent. 8:201-218.
- Fullington, Kate E. and K.W. Stewart. 1980. Nymphs of the stonefly genus Taeniopteryx (Plecoptera: Taeniopterygidae) of North America. J. Kans. Ent. Soc. 53:237-259.
- Hitchcock, S.W. 1974. Guide to the insects of Connecticut Part VII. The Plecoptera or stoneflies of Connecticut. State Geol. and Nat. Hist. Surv. of Conn., Dept. of Env. Prot., Bull. 107.
- Hobbs Jr., H.H. 1976. Crayfishes (Astacidae) of north and middle America. U.S. Env. Prot. Agency, Water Poll. Cont. Res. Series., 18050 ELD 05/72.
- Lewis, P.A. 1973. Description and ecology of three Stenonema mayfly nymphs. in W.L. Peters and J.G. Peters (eds.) Proceedings of the First International Conference on Ephemeroptera. E.J. Brill, Leiden. pp. 64-72.
- _____. 1974. Taxonomy and ecology of Stenonema mayflies (Heptageniidae: Ephemeroptera). EPA. 670/4-74-006.
- McCafferty, W.P. 1975. The burrowing mayflies of the United States (Ephemeroptera: Ephemeroidea). Trans. Amer. Ent. Soc. 101:447-504.
- Merritt, R.W. and K.W. Cummins (eds) 1978. An Introduction to the Aquatic Insects of North America. Kendall/Hunt Publ., Dubuque, Iowa.
- Merritt, R.W., D.H. Ross, and B.V. Peterson. 1978. Larval ecology of some lower Michigan black flies (Diptera: Simuliidae) with keys to the immature stages. Great Lakes Ent. 11:177-208.
- Morihara, D.K. and W.P. McCafferty. 1979. The Baetis larvae of North America (Ephemeroptera: Baetidae). Trans. Amer. Ent. Soc. 105:139-221.
- Neunzig, H.H. 1966. Larvae of the genus Nigronia Banks. Porc. Ent. Soc. Wash. 68:11-16.
- Parrish, F.K. (ed.) 1975. Keys to water quality indicative organisms of the southeastern United States. United States Env. Prot. Agency, Office of Res and Dev., Cincinnati, Ohio.
- Pennak, R.W. 1978. Fresh-water Invertebrates of the United States. 2nd Edition. Wiley-Interscience, New York.

- Ross, H.H. 1944. The caddis flies, or Trichoptera, of Illinois. Illinois Nat. Hist. Surv., Bull. 23:1-326.
- Schuster, G.A. and D.A. Etnier. 1978. A manual for the identification of the larvae of the caddisfly genera Hydropsyche Pictet and Symphitopsyche Ulmer in eastern and Central North America (Trichoptera: Hydropsychidae). U.S. Env. Prot. Agency, EPA-600/4-78-060.
- Simpson, K.W. and R.W. Bode. 1980. Common larvae of Chironomidae (Diptera) from New York State streams and rivers with particular reference to the fauna of artificial substrates. New York State Museum, Bull. No. 439, Albany.
- Stark, B.P. and K.W. Stewart. 1981. The nearctic genera of Peltoperlidae (Plecoptera). J. Kans. Ent. Soc. 54:285-311.
- Wiggins, G.B. 1977. Larvae of the North American Caddisfly Genera (Trichoptera). University of Toronto Press, Toronto, Ontario.
- Williams, W.D. 1976. Freshwater isopods (Asellidae) of North America. U.S. Env. Prot. Agency, Water Poll. Contr. Res. Series, 18050 ELD 04/72.

APPENDIX

● Surber Sample

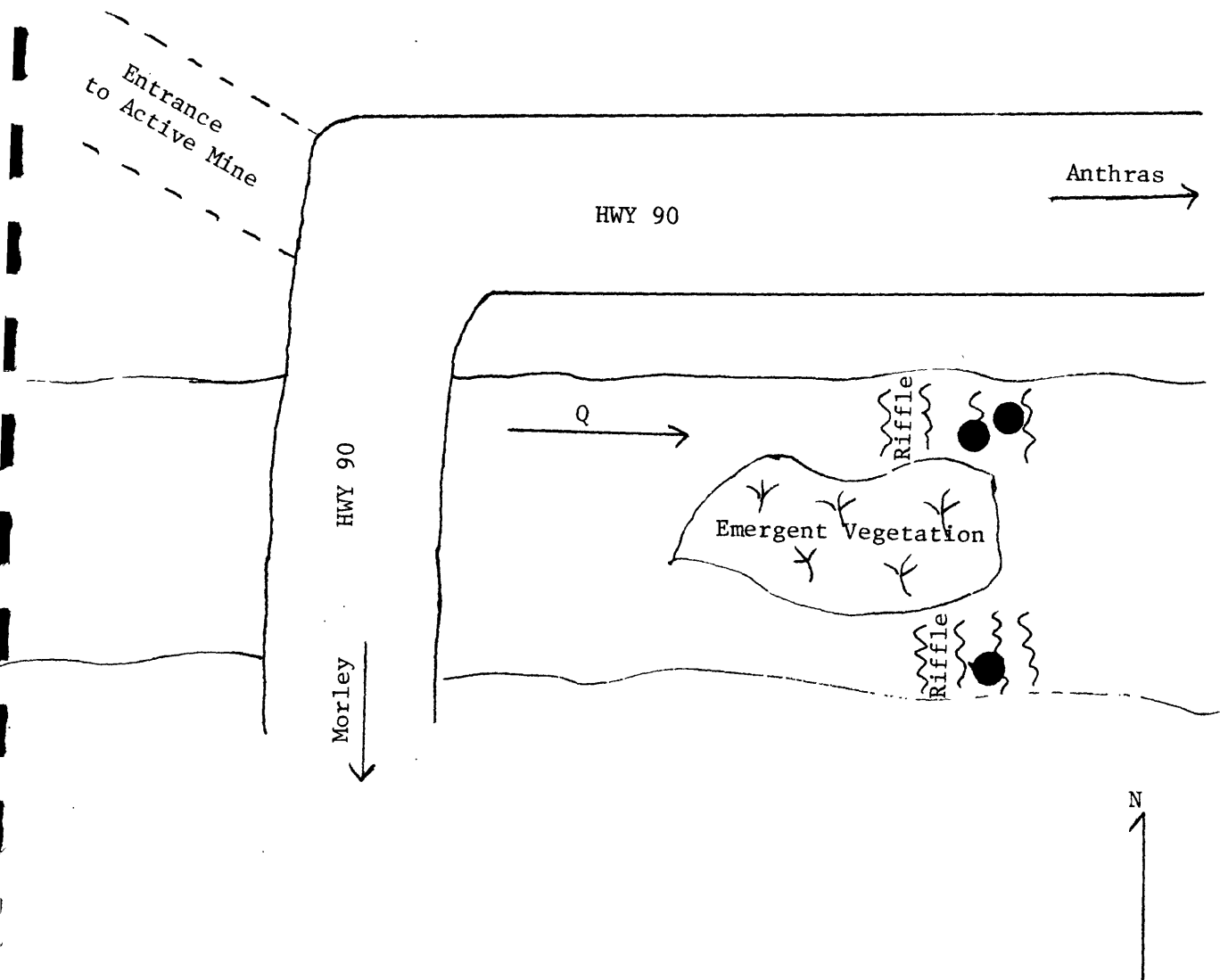


FIGURE 1-1. Station 1 - 03403697 - Clear Fork at HWY 90 near Anthras, TN

TABLE 1-1
Physical and Chemical Parameters at
Station 1 - 03403697
Clear Fork at Anthras, Campbell Co., TN

Parameter	Date	
	6-17-81	9-22-81
Water Temperature	12°C	18°C
Dissolved Oxygen	10.6 mg/L	10.1 mg/L
pH	7.2	7.2
Conductivity	440 umhos/cm	470 umhos/cm
Stream Width	18.3 m	11.0 m
Average Stream Depth	20.3 cm	19.8 cm
Average Stream Velocity	0.38 m/sec	0.30 m/sec
Discharge	1.12 m ³ /sec	0.52 m ³ /sec
Cover (% Shaded)	65%	70%
Substrate	Gravel and medium cobble	

TABLE 1-2

03403697 Clear Fork
Campbell Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
6/17/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	70	37.4	
	<u>Rheocricotopus sp.</u>	(12)		
	<u>Parametriocnemus sp.</u>	(2)		
	<u>Cricotopus sp.</u>	(1)		
	<u>Pentaneura sp.</u>	(2)		
	<u>Conchapelopia sp.</u>	(7)		
	<u>Polypedilum illinoense</u>	(2)		
	<u>Rheotanytarsus sp.</u>	(5)		
	Tipulidae			
	<u>Tipula sp.</u>	1	0.5	
	<u>Hexatoma sp.</u>	2	1.1	
	Athericidae			
	<u>Atherix variegata</u>	32	17.1	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche sp.</u>	8	4.3	
	EPHEMEROPTERA			
	Baetidae			
	<u>Baetis sp.</u>	42	22.5	
	<u>Pseudocloeon sp.</u>	3	1.6	
	Heptageniidae			
	<u>Heptagenia sp.</u>	1	0.5	
	<u>Stenonema femoratum</u>	1	0.5	

TABLE 1-2

03403697 Clear Fork
Cambell Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	PLECOPTERA			
	Chloroperlidae			
	<u>Hastaperla brevis</u>	1	0.5	
	Leuctridae			
	<u>Leuctra ferruginea</u>	2	1.1	
	Perlodidae			
	<u>Isogenus sp.</u>	2	1.1	
	HEMIPTERA			
	Hebridae			
	<u>Merragata sp.</u>	1	0.5	
	ODONATA			
	Aeshnidae			
	<u>Boyeria sp.</u>	1	0.5	
	COLEOPTERA			
	Psephenidae			
	<u>Psephenus herricki</u>	1	0.5	
	Elmidae			
	<u>Optioservus sp.</u>	3	1.6	
	MEGALOPTERA			
	Sialidae			
	<u>Sialis sp.</u>	3	1.6	
	Corydalidae			
	<u>Nigronia serricornis</u>	4	2.1	

TABLE 1-2

03403697 Clear Fork
Cambell Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	CRUSTACEA			
	ISOPODA			
	Asellidae			
	<u>Lirceus fontinalis</u>	2	1.1	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	7	3.7	
	TOTALS	187		

SHANNON-WEAVER DIVERSITY = 3.676

BIOTIC INDEX = 2.180, SOME ENRICHMENT

TABLE 1-3

03403697 Clear Fork
Campbell Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/17/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	5	53.8	29.4	
	Athericidae	2	21.5	11.8	
	<u>Atherix variegata</u>				
	Tabanidae	1	10.8	5.9	
	Tabanus sp.				
	TRICHOPTERA				
	Hydropsychidae	2	21.5	11.8	
	Cheumatopsyche sp.	1	10.8	5.9	
	<u>Hydropsyche betteni</u>				
	EPHEMEROPTERA				
	Baetidae	3	32.3	17.6	
	Baetis sp.				
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	3	32.3	17.6	
	Naididae				
	TOTALS	17	183.0		

SHANNON-WEAVER DIVERSITY = 2.610

TABLE 1-4

03403697 Clear Fork River
Campbell Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/17/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	5	53.8	16.1	
	Tipulidae				
	Hexatoma sp.	1	10.8	3.2	
	Athericidae				
	Atherix variegata	1	10.8	3.2	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	4	43.1	12.9	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	15	161.5	48.4	
	PLECOPTERA				
	Perlodidae				
	Isogenus georgiana	1	10.8	3.2	
	ODONATA				
	Gomphidae				
	Lanthus parvula	1	10.8	3.2	
	MEGALOPTERA				
	Corydalidae				
	Corydalus cornutus	1	10.8	3.2	
	Nigronia serricornis	1	10.8	3.2	

TOTALS

31 333.7

SHANNON-WEAVER DIVERSITY = 2.431

TABLE 1-5

03403697 Clear Fork River
Campbell Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/17/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	43	462.9	74.1	
	Athericidae				
	Atherix sp.	4	43.1	6.9	
	Empididae				
	Hemerodromia sp.	1	10.8	1.7	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	2	21.5	3.4	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	3	32.3	5.2	
	COLEOPTERA				
	Psephenidae				
	Psephenus herricki	1	10.8	1.7	
	MEGALOPTERA				
	Sialidae				
	Sialis sp.	1	10.8	1.7	
	Corydalidae				
	Nigronia serricornis	1	10.8	1.7	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	2	21.5	3.4	

TOTALS 58 624.3
SHANNON-WEAVER DIVERSITY = 1.546

TABLE 1-6

03403697 Clear Fork River
Campbell Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/22/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	420	61.6	
	<u>Rheocricotopus sp.</u>	(18)		
	<u>Cricotopus sp.</u>	(4)		
	<u>Parametriocnemus sp.</u>	(1)		
	<u>Conchapelopia sp.</u>	(1)		
	<u>Ablabesmyia mallochi</u>	(1)		
	<u>Polypedilum illinoense</u>	(3)		
	<u>Rheotanytarsus sp.</u>	(6)		
	<u>Tanytarsus sp.</u>	(4)		
	<u>Cryptochironomus fulvus</u>	(1)		
	Tipulidae			
	<u>Antocha sp.</u>	1	0.1	
	<u>Tipula sp.</u>	9	1.3	
	<u>Hexatoma sp.</u>	3	0.4	
	Empididae	7	1.0	
	Athericidae			
	<u>Atherix variegata</u>	1	0.1	
	TRICHOPTERA			
	Philopotamidae			
	<u>Chimarra obscura</u>	3	0.4	

TABLE 1-6

03403697 Clear Fork River
Campbell Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	46	6.7	
	<u>Hydropsyche</u> sp.	2	0.3	
	EPHEMEROPTERA			
	Oligoneuridae			
	<u>Isonychia</u> sp.	111	16.3	
	Heptageniidae			
	<u>Stenonema</u> sp.	31	4.5	
	Baetidae			
	<u>Baetis</u> sp.	9	1.3	
	<u>Pseudocloeon</u> sp.	4	0.6	
	Ephemeridae			
	<u>Ephemera varia</u>	1	0.1	
	Caenidae			
	<u>Caenis</u> sp.	1	0.1	
	Siphonuridae			
	<u>Siphonurus</u> sp.	14	2.1	
	PLECOPTERA			
	Perlodidae			
	<u>Isoperla</u> sp.	2	0.3	
	Leuctridae**	1	0.1	

TABLE 1-6

03403697 Clear Fork River
Campbell Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	ODONATA			
	Coenagrionidae			
	Argia sp.	1	0.1	
	COLEOPTERA			
	Psephenidae			
	Psephenus herricki	4	0.6	
	MEGALOPTERA			
	Corydalidae			
	Nigronia serricornis	1	0.1	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	10	1.5	
	TOTALS	682		

SHANNON-WEAVER DIVERSITY = 3.432

BIOTIC INDEX = 1.734, CLEAN

TABLE 1-7

03403697 Clear Fork River
Campbell Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/22/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	230	2475.8	55.3	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	1	10.8	0.2	
	Tipulidae				
	Hexatoma sp.	2	21.5	0.5	
	Tipula sp.	1	10.8	0.2	
	Athericidae				
	Atherix variegata	1	10.8	0.2	
	Empididae				
	TRICHOPTERA				
	Philopotomidae				
	Chimarra obscura	1	10.8	0.2	
	Hydropsychidae				
	Cheumatopsyche sp.	37	398.3	8.9	
	Hydropsyche sp.	3	32.3	0.7	
	Symphitopsyche sp.	1	10.8	0.2	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	117	1259.4	28.1	
	Baetidae				
	Baetis sp.	2	21.5	0.5	
	Heptageniidae				
	Stenonema tripunctatum	9	96.9	2.2	

TABLE 1-7

03403697 Clear Fork River
Campbell Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No. /m ²	%Comp.	Sample
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra ferruginea</u>	1	10.8	0.2	
	Perlodidae				
	<u>Isogenus sp.</u>	1	10.8	0.2	
	HEMIPTERA				
	Hebridae				
	<u>Hebrus sp.</u>	3	32.3	0.7	
	COLEOPTERA				
	Dryopidae				
	<u>Helichus basalis</u>	1	10.8	0.2	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	1	10.8	0.2	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	3	32.3	0.7	
	TOTALS	416	4477.9		

SHANNON-WEAVER DIVERSITY = 1.855

TABLE 1-8

03403697 Clear Fork River
Campbell Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/22/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	117	1259.4	70.1	
	Athericidae				
	<u>Atherix variegata</u>	1	10.8	0.6	
	Tipulidae				
	<u>Tipula sp.</u>	1	10.8	0.6	
	<u>Hexatoma sp.</u>	2	21.5	1.2	
	TRICHOPTERA				
	Hydropsychidae				
	<u>Cheumatopsyche sp.</u>	8	86.1	4.8	
	Philopotamidae				
	<u>Chimarra obscura</u>	1	10.8	1.2	
	EPHEMEROPTERA				
	Oligoneuridae				
	<u>Isonychia sp.</u>	16	172.2	9.6	
	Baetidae				
	<u>Baetis sp.</u>	1	10.8	0.6	
	Heptageniidae				
	<u>Stenonema sp.</u>	14	150.7	8.4	
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria georgiana</u>	1	10.8	0.6	
	HEMIPTERA				
	Hebridae				
	<u>Hebrus sp.</u>	2	21.5	1.2	

TABLE 1-8

03403697 Clear Fork River
Campbell Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	1	10.8	0.6	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	1	10.8	0.6	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	1	10.8	0.6	
	TOTALS	167	1797.6		

SHANNON-WEAVER DIVERSITY = 1.700

TABLE 1-9

03403697 Clear Fork River
Campbell Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/22/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	73	785.8	70.9	
	Simuliidae				
	Simulium sp.	1	10.8	1.0	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	8	86.1	7.8	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	10	107.6	9.7	
	Baetidae				
	Pseudocloeon sp.	2	21.5	1.9	
	Baetis sp.	2	21.5	1.9	
	Heptageniidae				
	Stenonema fuscum	4	43.1	3.9	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	3	32.3	2.9	
	TOTALS	103	1108.7		

SHANNON-WEAVER DIVERSITY = 1.581

● Surber Sample

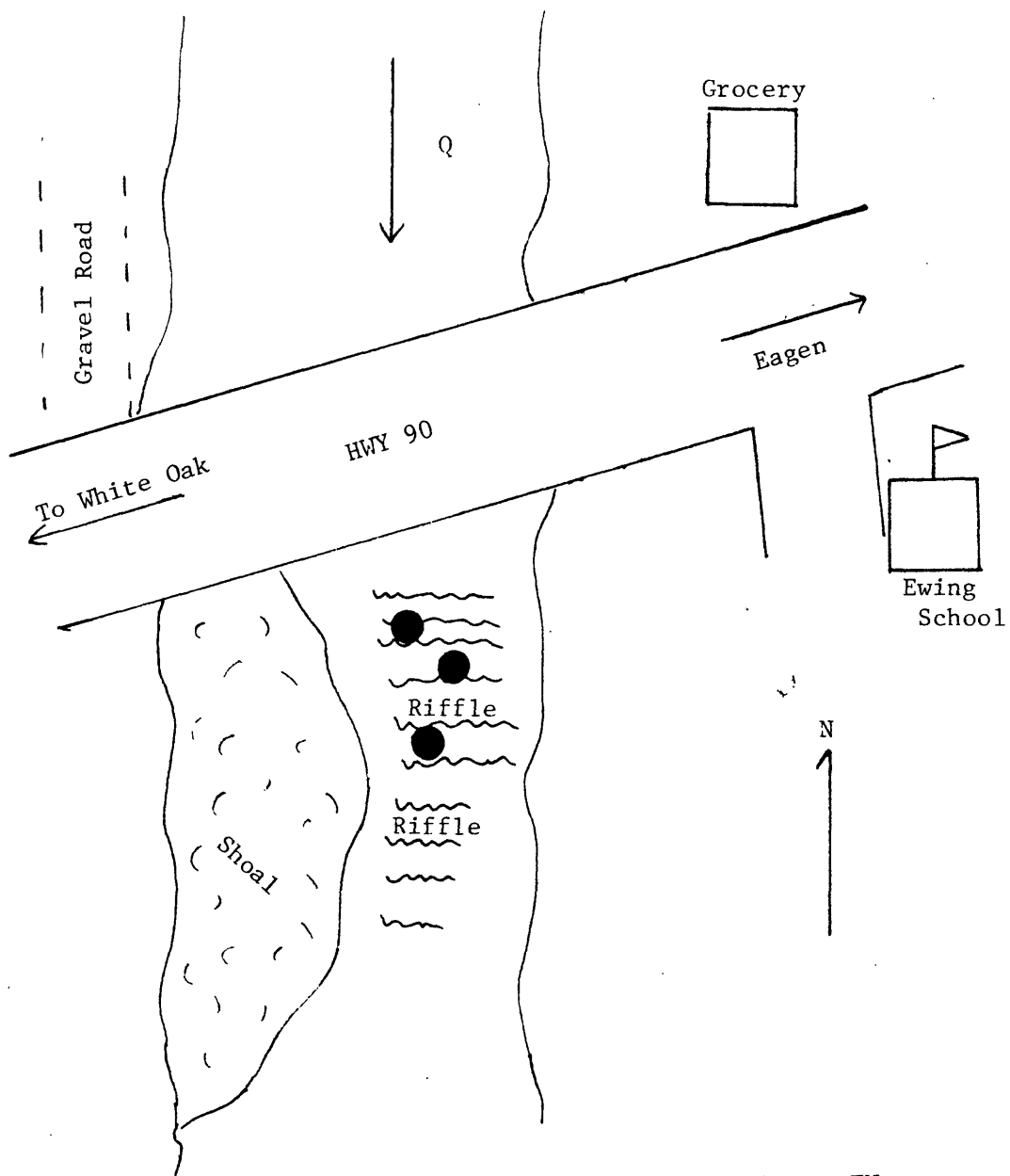


FIGURE 2-1. Station 2 - 03403710 - Tackett Creek near Anthras, TN

TABLE 2-1

Physical and Chemical Parameters at

Station 2 - 03403710

Tackett Creek near Anthras, Campbell Co., TN

Parameter	Date	
	6-17-81	9-22-81
Water Temperature	20°C	18°C
Dissolved Oxygen	8.7 mg/L	10.1 mg/L
pH	7.3	7.8
Conductivity	343 umhos/cm	400 umhos/cm
Stream Width	6.4 m	4.9 m
Average Stream Depth	19.4 cm	18.8 cm
Average Stream Velocity	0.69 m/sec	0.48 m/sec
Discharge	0.68 m ³ /sec	0.34 m ³ /sec
Cover (% Shaded)	70%	70%
Substrate	Sand, gravel, and medium cobble	

TABLE 2-2

03403710 Tackett Creek
Campbell Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
6/14/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	6	5.8	
	Athericidae			
	<u>Atherix variegata</u>	5	4.9	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	14	13.6	
	EPHEMEROPTERA			
	Oligoneuriidae			
	<u>Isonychia</u> sp.	16	15.5	
	Baetidae			
	<u>Pseudocloeon</u> sp.	2	1.9	
	<u>Baetis</u> sp.	11	10.7	
	Heptageniidae			
	<u>Heptagenia</u> sp.	8	7.8	
	<u>Stenonema vicarium</u>	5	4.9	
	<u>S. tripunctatum</u>	5	4.9	
	PLECOPTERA			
	Perlidae			
	<u>Paragnetina immarginata*</u>	2	1.9	
	HEMIPTERA			
	Veliidae			
	<u>Rhagovelia</u> sp.	2	1.9	

TABLE 2-2

03403710 Tackett Creek
Campbell Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	Nom	%Comp.	Sample
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	Cambarus sp.	1	0.1	
	MOLLUSCA			
	GASTROPODA			
	MESOGASTROPODA			
	Pleuroceridae			
	Pleurocera sp.	13	12.6	
	BASOMMATOPHORA			
	Physidae			
	Physa sp.	1	1.0	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	12	11.7	
	TOTALS	103		

SHANON-WEAVER DIVERSITY = 3.513

BIOTIC INDEX = 2.440, MODERATE ENRICHMENT

TABLE 2-3

03403710 Tackett Creek
Campbell Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No. /m ²	%Comp.	Sample
9/22/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	163	1754.6	23.1	
	Empididae	2	21.5	0.3	
	Athericidae				
	<u>Atherix variegata</u>	2	21.5	0.3	
	Tipulidae				
	<u>Tipula sp.</u>	1	10.8	0.1	
	Simuliidae				
	<u>Simulium sp.</u>	195	2099.0	27.7	
	TRICHOPTERA				
	Hydropsychidae				
	<u>Cheumatopsyche sp.</u>	148	1593.1	21.0	
	<u>Hydropsyche nr. simulans</u>	15	161.5	2.1	
	Hydroptilidae				
	<u>Alisotrichia sp. (tent.)***</u>	1	10.8	0.1	
	Philopotamidae				
	<u>Chimarra obscura</u>	1	10.8	0.1	
	EPHEMEROPTERA				
	Heptageniidae				
	<u>Stenonema sp.</u>	22	236.8	3.1	
	<u>Stenonema rubromaculatum</u>	5	53.8	0.7	
	Oligoneuridae				
	<u>Isonychia sp.</u>	39	419.8	5.5	
	Baetidae				
	<u>Baetis sp.</u>	21	226.1	3.0	
	<u>Pseudocloeon sp.</u>	71	764.3	10.1	

TABLE 2-3

03403710 Tackett Creek
Campbell Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria carolinensis</u>	3	32.3	0.4	
	<u>A. ruralis</u>	2	21.5	0.3	
	<u>Paragnetina immarginata***</u>	4	43.1	0.6	
	HEMIPTERA				
	Mesoveliidae				
	(early instars)	4	43.1	0.6	
	ODONATA				
	Coenagrionidae				
	<u>Argia sp.***</u>	1	10.8	0.1	
	COLEOPTERA				
	Elmidae				
	<u>Macronychus glabratus***</u>	1	10.8	0.1	
	LEPIDOPTERA				
	Pyralidae				
	<u>Cataclysta sp.</u>	1	10.8	0.1	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	3	32.3	0.4	
	TOTALS	705	7588.8		

SHANNON-WEAVER DIVERSITY = 2.819

TABLE 2-4

03403710 Tackett Creek
Campbell Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No. /m ²	%Comp.	Sample
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	1	10.8	0.2	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	1	10.8	0.2	
	TOTALS	444	4779.3		

SHANNON-WEAVER DIVERSITY = 2.656

TABLE 2-4

03403710 Tackett Creek
Campbell Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/22/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	172	1851.5	38.7	
	Simuliidae				
	Simulium sp.	60	645.9	13.5	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	70	753.5	15.8	
	Symphitopsyche sparna	3	32.3	0.7	
	Hydropsyche nr. hageni	5	53.8	1.1	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	46	495.2	10.4	
	Baetidae				
	Pseudocloeon sp.	42	452.1	9.5	
	Baetis sp.	20	215.3	4.5	
	Heptageniidae				
	Stenonema fuscum	5	53.8	1.1	
	Stenonema sp.	17	183.0	3.8	
	PLECOPTERA				
	Perlidae				
	Acroneuria sp.	1	10.8	0.2	
	COLEOPTERA				
	Elmidae				
	Optioservus sp.	1	10.8	0.2	

TABLE 2-5

03403710 Tackett Creek
Campbell Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	COLEOPTERA				
	Elmidae				
	Optioservus sp.	2	21.5	0.5	
	MEGALOPTERA				
	Corydalidae				
	Corydalus cornutus	1	10.8	0.2	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	2	21.5	0.5	
	TOTALS	402	4327.2		

SHANNON-WEAVER DIVERSITY = 2.619

TABLE 2-5

03403710 Tackett Creek
Campbell Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/22/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	164	1765.3	40.8	
	Athericidae				
	<u>Atherix nr. variegata</u>	1	10.8	0.2	
	Simuliidae				
	<u>Simulium sp.</u>	16	172.2	4.0	
	TRICHOPTERA				
	Philopotamidae				
	<u>Chimarra obscura</u>	2	21.5	0.5	
	Hydropsychidae				
	<u>Cheumatopsyche sp.</u>	88	947.3	21.9	
	<u>Hydropsyche nr. hageni</u>	9	96.9	2.2	
	EPHEMEROPTERA				
	Oligoneuridae				
	<u>Isonychia sp.</u>	38	409.0	9.5	
	Baetidae				
	<u>Pseudocloeon sp.</u>	24	258.3	6.0	
	<u>Baetis sp.</u>	30	322.9	7.5	
	Heptageniidae				
	<u>Stenonema sp.</u>	20	215.3	5.0	
	<u>Stenonema vicarium</u>	4	43.1	1.0	
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria carolinensis</u>	1	10.8	0.2	

TABLE 2-6

03403710 Tackett Creek
Campbell Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/17/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	10	107.6	4.4	
	Athericidae				
	<u>Atherix variegata</u>	4	43.1	1.8	
	Simuliidae				
	<u>Simulium</u> sp.	8	86.1	3.5	
	TRICHOPTERA				
	Hydropsychidae				
	<u>Cheumatopsyche</u> sp.	61	656.6	26.9	
	<u>Symphitopsyche sparna</u>	6	64.6	2.6	
	EPHEMEROPTERA				
	Oligoneuridae				
	<u>Isonychia</u> sp.	2	21.5	0.9	
	Baetidae				
	<u>Pseudocloeon</u> sp.	100	1076.4	44.1	
	<u>Baetis</u> sp.	27			
	Heptageniidae				
	<u>Stenonema</u> sp.	6	64.6	2.6	
	PLECOPTERA				
	Perlodidae				
	<u>Isoperla</u> sp.	1	10.8	0.4	

TABLE 2-6

03403710 Tackett Creek
Campbell Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	1	10.8	0.4	
	<u>Nigronia serricornis</u>	1	10.8	0.4	
	TOTALS	227	2443.5		

SHANNON-WEAVER DIVERSITY = 2.308

TABLE 2-7

03403710 Tackett Creek
Campbell Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/17/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Simuliidae				
	Simulium sp.	1	10.8	4.8	
	Rhagionidae				
	Atherix variegata	3	32.3	14.3	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	6	64.6	28.6	
	Pseudocloeon sp.	5	53.8	23.8	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	1	10.8	4.8	
	Symphitopsyche bifida grp.	4	43.1	19.1	
	MOLLUSCA				
	GASTROPODA				
	PROSOBRANCHIA				
	Pleuroceridae				
	Goniobasis sp. (<u>Mudalia</u>)	1	10.8	4.8	
	TOTALS	21	226.0		

SHANNON-WEAVER DIVERSITY = 2.4935

TABLE 2-8

03403710 Tackett Creek
Campbell Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/17/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	18	193.8	13.7	
	Simuliidae				
	Simulium sp.	5	53.8	3.8	
	Athericidae				
	Atherix variegata	5	53.8	3.8	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	17	183.0	13.0	
	Symphitopsyche sparna	4	43.1	3.1	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	2	21.5	1.5	
	Baetidae				
	Pseudocloeon sp.	74	796.6	56.5	
	Baetis sp.	5	53.8	3.8	
	Heptageniidae				
	Stenonema tripunctatum	7	75.4	5.3	
	PLECOPTERA				
	Leuctridae				
	Leuctra sp.	1	10.8	0.8	
	Perlidae				
	Acroneuria abnormis**	1	10.8	0.8	
	A. ruralis	2	21.5	1.5	

TABLE 2-8

03403710 Tackett Creek
Campbell Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	HEMIPTERA				
	Veliidae				
	Microvelia sp.	1	10.8	0.8	
	COLEOPTERA				
	Elmidae				
	Optioservus sp.	1	10.8	0.8	
	MEGALOPTERA				
	Corydalidae				
	Nigronia serricornis	1	10.8	0.8	
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	Goniobasis sp.	8	86.1	6.1	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	9	96.9	6.9	
	TOTALS	131	1410.1		

SHANNON-WEAVER DIVERSITY = 1.514

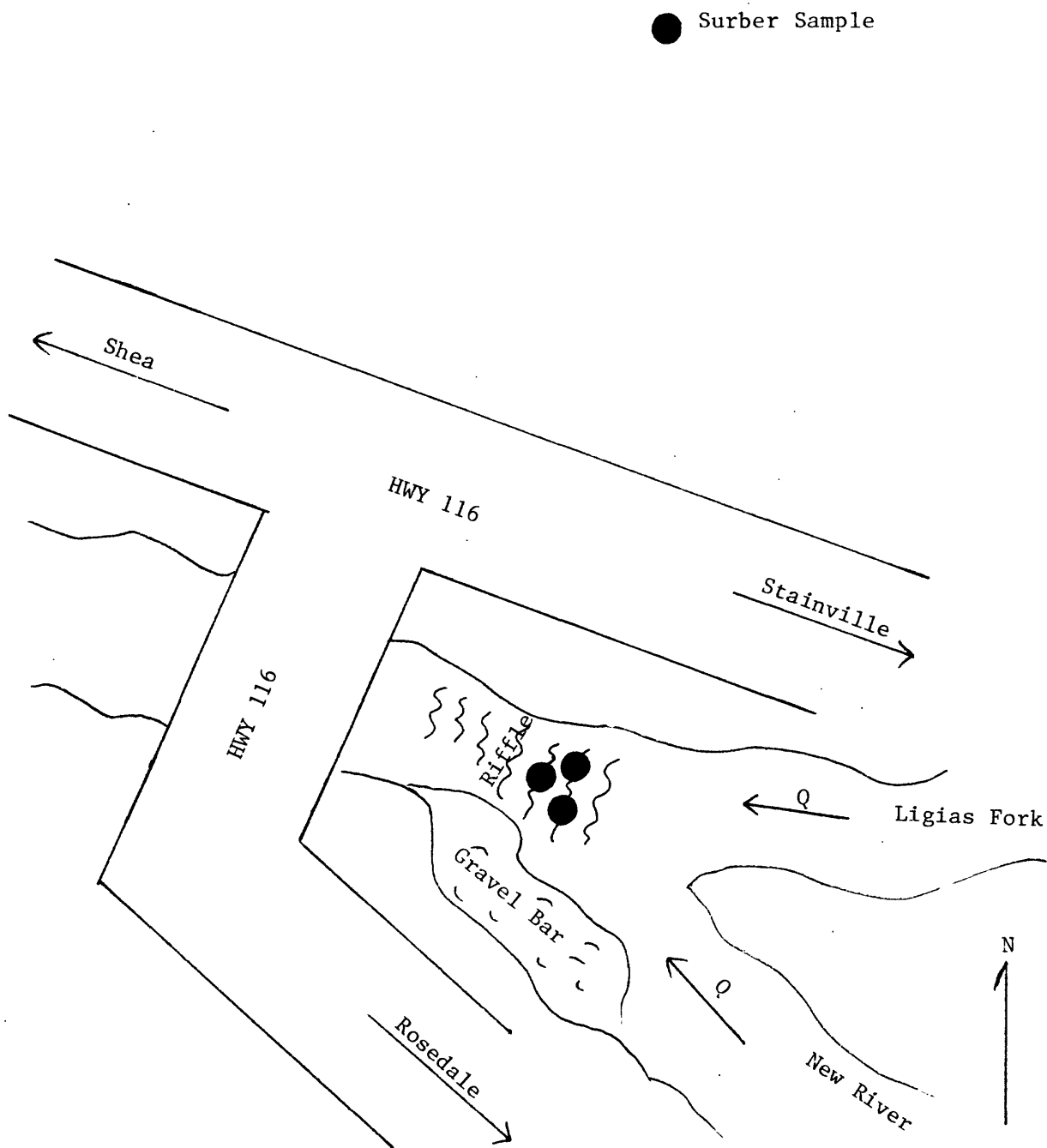


FIGURE 3-1. Station 3 - 03407850 - New River at Stainville, TN

TABLE 3-1

Physical and Chemical Parameters at

Station 3 - 03407850

New River at Stainville, Anderson - Campbell Co., TN

Parameter	Date	
	5-18-81	9-21-81
Water Temperature	16°C	22°C
Dissolved Oxygen	9.8 mg/L	9.3 mg/L
pH	5.6	7.0
Conductivity	500 umhos/cm	650 umhos/cm
Stream Width	8.8 m	7.6 m
Average Standard Depth	20.3 cm	11.7 cm
Average Standard Velocity	0.95 m/sec	0.34 m/sec
Discharge	1.35 m ³ /sec	0.24 m ³ /sec
Cover (% Shaded)	60%	10%
Substrate	Sand, gravel, and small cobble	

TABLE 3-2

03407850 New River
Anderson Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
5/18/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	267	66.6	
	<u>Cricotopus</u> sp.	(32)		
	<u>Parametriocnemus</u> sp.	(4)		
	<u>Thienemanniella</u> sp.	(10)		
	<u>Pentaneura</u> sp.	(1)		
	Simuliidae			
	<u>Simulium</u> sp.	55	13.7	
	Tipulidae			
	<u>Limnophora</u> sp.	2	0.5	
	TRICHOPTERA			
	Polycentropodidae			
	<u>Polycentropus</u> sp.	1	0.2	
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	3	0.7	
	EPHEMEROPTERA			
	Baetidae			
	<u>Pseudocloeon</u> sp.	24	6.0	
	<u>Baetis</u> sp.	31	7.7	
	Oligoneuridae			
	<u>Isonychia</u> sp.	1	0.2	

TABLE 3-2

03407850 New River
Anderson Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	PLECOPTERA			
	Taeniopterygidae			
	<u>Taeniopteryx</u> sp.	2	0.5	
	Nemouridae			
	<u>Amphinemura nigrutta</u>	6	1.5	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	9	2.2	
	TOTALS	401		

SHANNON-WEAVER DIVERSITY = 2.546

BIOTIC INDEX = 3.150, SIGNIFICANT ENRICHMENT

TABLE 3-3

03407850 New River
Anderson Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/18/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	33	355.2	75	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	4	43.1	9.1	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	2	21.5	4.5	
	PLECOPTERA				
	Nemouridae				
	<u>Amphinemura nigrutta</u>	3	32.3	6.8	
	Perlodidae				
	<u>Isogenus sp.</u>	2	21.5	4.5	
	TOTALS	44	473.6		

SHANNON-WEAVER DIVERSITY = 1.295

TABLE 3-4

03407850 New River
Anderson Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/18/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	95	1022.6	77.9	
	Simuliidae				
	Simulium sp.	10	107.6	8.2	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	9	96.9	7.4	
	Baetis sp.	4	43.1	3.3	
	PLECOPTERA				
	Nemouridae				
	<u>Amphinemura delosa</u>	4	43.1	3.3	
	TOTALS	122	1313.2		

SHANNON-WEAVER DIVERSITY = 1.178

TABLE 3-5

03407850 New River
Anderson Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/18/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	182	1959.1	76.8	
	Simuliidae				
	Simulium sp.	27	290.6	11.4	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	2	21.5	0.8	
	Polycentropodidae				
	Polycentropus sp.	1	10.8	0.4	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	16	172.2	6.8	
	Baetis sp.	3	32.3	1.2	
	Ephemerellidae				
	Ephemerella dorothea	1	10.8	0.4	
	PLECOPTERA				
	Nemouridae				
	Amphinemura nigrutta	1	10.8	0.4	
	Ostrocerca truncata	1	10.8	0.4	
	Perlodidae				
	Isogenus sp.	1	10.8	0.4	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	2	21.5	0.8	
	TOTALS	237	2551.1		

SHANNON-WEAVER DIVERSITY = 1.275

TABLE 3-6

03407350 New River
Anderson Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/21/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	140	57.6	
	Cricotopus sp.	(26)		
	Parametriocnemus sp.	(1)		
	Psectrocladius sp.	(1)		
	Tanytarsus sp.	(3)		
	Ceratopogonidae			
	Bezzia-Probezzia sp.	12		
	TRICHOPTERA			
	Hydropsychidae			
	Cheumatopsyche sp.	14	4.9	
	Symphitopsyche sparna**	2	0.8	
	Hydroptilidae			
	Agraylea multipunctata**	2	0.8	
	Hydroptila sp.	1	0.4	
	EPHEMEROPTERA			
	Baetidae			
	Baetis sp.	51	21.0	
	Pseudocloeon sp.	1	0.4	
	Caenidae			
	Caenis sp.	1	0.4	
	Oligoneuridae			
	Isonychia sp.	2	0.8	

TABLE 3-6

03407350 New River
Anderson Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Heptageniidae			
	Stenonema sp.	1	0.4	
	MEGALOPTERA			
	Corydalidae			
	Corydalis cornutus	1	0.4	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	15	6.2	
	TOTALS	243		

SHANNON-WEAVER DIVERSITY = 2.459

BIOTIC INDEX = 3.122, SIGNIFICANT ENRICHMENT

TABLE 3-7

03407850 New River
Anderson Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/21/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	133	1431.6	89.3	
	Empididae	1	10.8	0.7	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	1	10.8	0.7	
	EMPHEMEROPTERA				
	Baetidae				
	Baetis sp.	10	107.6	6.7	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	4	43.1	2.7	
	TOTALS	149	1603.9		

SHANNON-WEAVER DIVERSITY = 0.645

TABLE 3-8

03407850 New River
Anderson Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/21/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	203	2185.1	75.5	
	Ceratopogonidae				
	<u>Bezzia-Probezzia</u> sp.	8	86.1	3.0	
	TRICHOPTERA				
	Hydroptilidae				
	(early instar)	1	10.8	0.4	
	Hydropsychidae				
	Cheumatopsyche sp.	7	75.4	2.6	
	<u>Symphitopsyche sparna***</u>	1	10.8	0.4	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	11	118.4	4.1	
	<u>Baetis</u> sp.	35	376.7	13.0	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	1	10.8	0.4	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	2	21.5	0.7	
	TOTALS	269	2895.6		

SHANNON-WEAVER DIVERSITY = 1.308

TABLE 3-9

03407850 New River
Anderson Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/21/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	109	1173.3	72.2	
	TRICHOPTERA				
	Hydropsychidae				
	<u>Hydropsyche</u> sp.	2	21.5	1.3	
	EPHEMEROPTERA				
	Baetidae				
	<u>Baetis</u> sp.	39	419.8	25.8	
	Heptageniidae				
	<u>Epeorus vitrea</u>	1	10.8	0.7	
	TOTALS	151	1625.4		

SHANNON-WEAVER DIVERSITY = 0.974

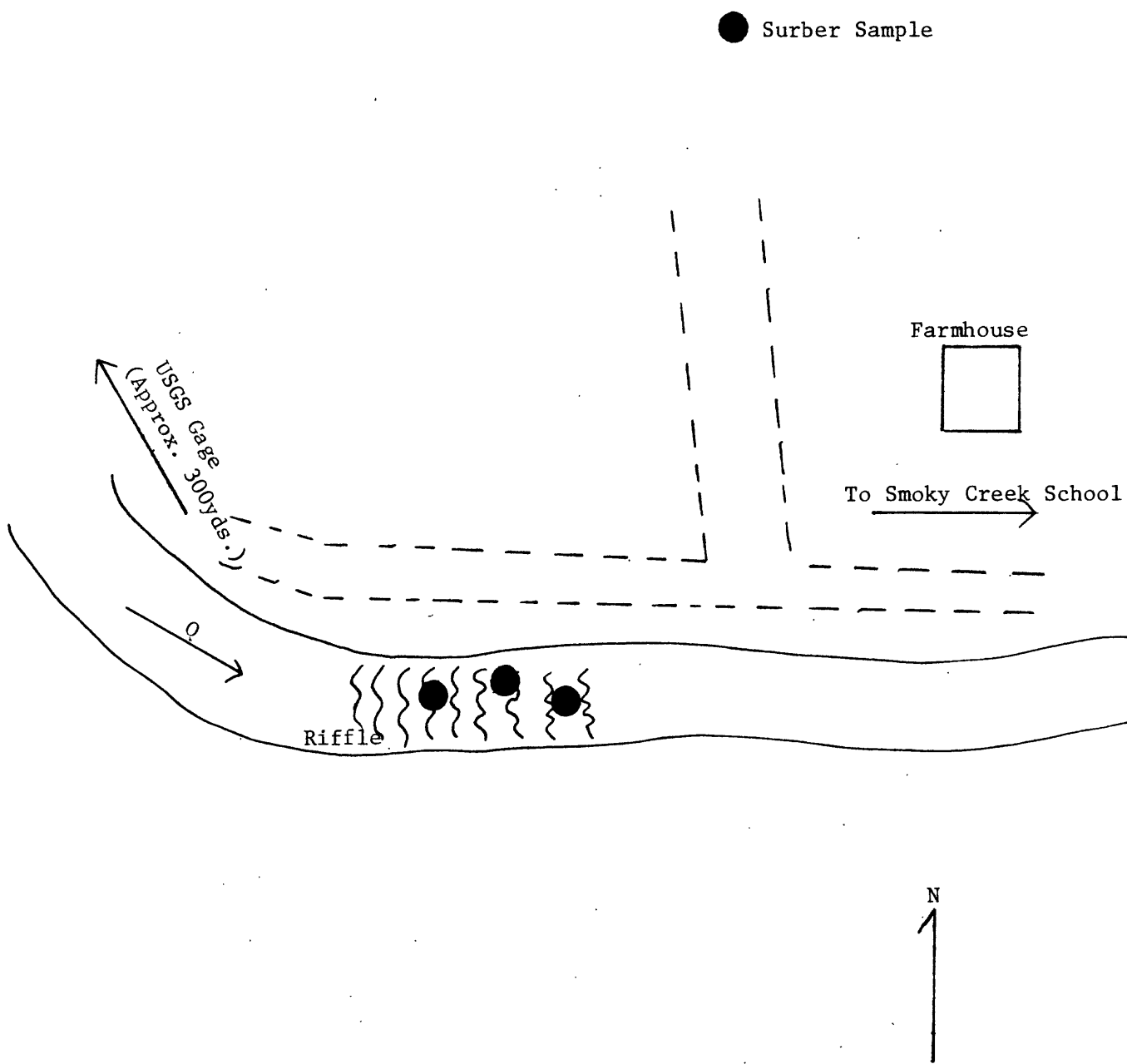


FIGURE 4-1. Station 4 - 03407877 - Bowling Branch near Norma, TN

TABLE 4-1

Physical and Chemical Parameters at

Station 4 - 03407877

Bowling Branch above Smoky Junction, Scott Co., TN

Parameter	Date
	6-30-81
Water Temperature	20°C
Dissolved Oxygen	8.2 mg/L
pH	5.8
Conductivity	130 umhos/cm
Stream Width	0.30 m
Average Stream Depth	39.6 cm
Average Stream Velocity	0.03 m/sec
Discharge	0.12 m ³ /sec
Cover (% Shaded)	80%
Substrate	Small to large cobble with moderate sedimentation

TABLE 4-2

03407877 Bowling Branch
Scott Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
6/30/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	32	7.5	
	<u>Parametriocnemus</u> sp.	(17)		
	<u>Pseudorthocladius</u> sp.	(5)		
	<u>Cardiocladius</u> sp.	(1)		
	<u>Conchapelopia</u> sp.	(3)		
	Empididae	2	0.5	
	Athericidae			
	<u>Atherix variegata</u>	9	2.1	
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	2	0.5	
	<u>Atrichopogon</u> sp.	1	0.2	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	47	11.1	
	EPHEMEROPTERA			
	Baetidae			
	<u>Baetis</u> sp.	117	27.6	
	<u>Pseudocloeon</u> sp.	3	0.7	
	Heptageniidae			
	<u>Stenonema</u> sp.	50	11.8	
	<u>Stenonema annexum</u>	3	0.7	
	<u>Heptagenia</u> sp.	16	3.8	

TABLE 4-2

03407877 Bowling Branch
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	PLECOPTERA			
	Perlidae			
	<u>Acroneuria</u> sp.	8	1.9	
	Perlodidae			
	<u>Isoperla</u> sp.*	1	0.2	
	Chloroperlidae	3	0.7	
	Leuctridae			
	<u>Leuctra</u> sp.	109	25.7	
	Peltoperlidae			
	<u>Tallaperla</u> sp.**	1	0.2	
	ODONATA			
	Gomphidae			
	<u>Lanthus parvula</u>	1	0.2	
	COLEOPTERA			
	Psephenidae			
	<u>Psephenus herricki</u>	1	0.2	
	Elmidae			
	<u>Optioservus</u> sp.	3	0.7	
	<u>Stenelmis</u> sp.	2	0.5	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	1	0.2	
	COLLEMBOLA			
	Isotomidae			
	<u>Isotoma</u> sp.	1	0.2	

TABLE 4-2

03407877 Bowling Branch
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Cambarus b. bartonii</u>	3	0.7	
	ANNELIDA			
	CLITELLATA			
	OLIGOCALHETA			
	Naididae	8	1.9	
	TOTALS	424		

SHANNON-WEAVER DIVERSITY = 3.135

BIOTIC INDEX = 1.587, CLEAN

TABLE 4-3

03407877 Bowling Branch
Scott Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/30/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	16	172.2	4.8	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	1	10.8	0.3	
	Athericidae				
	Atherix variegata	3	32.3	0.9	
	Tipulidae				
	Tipula sp.	2	21.5	0.6	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	59	635.1	17.7	
	Symphitopsyche sparna	9	96.9	2.7	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	39	419.8	11.7	
	Heptageniidae				
	Stenonema sp.	20	215.3	6.0	
	PLECOPTERA				
	Leuctridae				
	Leuctra sp.	59	635.1	17.7	
	Perlodidae				
	Isoperla sp.	3	32.3	0.9	
	Perlidae				
	Acroneuria sp.	11	118.4	3.3	
	Chloroperlidae	22	236.8	6.6	

TABLE 4-3

03407877 Bowling Branch
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	COLEOPTERA				
	Elmidae				
	Stenelmis sp.	3	32.3	0.9	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	1	10.8	0.3	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	85	914.9	25.5	
	TOTALS	333	3584.5		

SHANNON-WEAVER DIVERSITY = 3.045

TABLE 4-4

03407877 Bowling Branch
Scott Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/30/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	26	279.9	12.4	
	Athericidae	7	75.4	3.3	
	Atherix sp.				
	Tipulidae	2	21.5	1.0	
	Tipula sp.				
	Ceratopogonidae				
	Bezzia-Probezzia sp.	1	10.8	0.5	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	50	538.2	23.9	
	Symphitopsyche sparna	7	75.4	3.3	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	42	452.1	20.1	
	Ephemerellidae				
	Eurylophella sp.	1	10.8	0.5	
	Heptageniidae				
	Heptagenia sp.	4	43.1	1.9	
	Stenonema sp.	16	172.2	7.7	
	PLECOPTERA				
	Perlidae				
	Acroneuria sp.	3	32.1	1.4	

TABLE 4-4

03407877 Bowling Branch
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Perlodidae				
	<u>Isoperla</u> sp.	2	21.5	1.0	
	Leuctridae				
	<u>Leuctra</u> sp.	30	322.9	14.4	
	Chloroperlidae	1	10.8	0.5	
	COLEOPTERA				
	Psephenidae				
	<u>Ectopria</u> nervosa	1	10.8	0.5	
	COLLEMBOLA				
	Isotomidae				
	<u>Isotoma</u> sp.	1	10.8	0.5	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	15	161.5	7.2	
	TOTALS	209	2249.7		

SHANNON-WEAVER DIVERSITY = 3.130

TABLE 4-5

03407877 Bowling Branch
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/30/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	5	53.8	15.6	
	Athericidae				
	<u>Atherix variegata</u>	1	10.8	3.1	
	TRICHOPTERA				
	Psychomyiidae				
	<u>Lyte diversa</u>	1	10.8	3.1	
	Hydropsychidae				
	<u>Cheumatopsyche</u> sp.	7	75.4	21.9	
	EPHEMEROPTERA				
	Baetidae				
	<u>Pseudocloeon</u> sp.	2	21.5	6.3	
	<u>Baetis</u> sp.	5	53.8	15.6	
	Heptageniidae				
	<u>Stenonema tripunctatum</u>	7	75.4	21.9	
	<u>S. nepotellum</u>	1	10.8	3.1	
	<u>Heptagenia</u> sp.*	1	10.8	3.1	
	HEMIPTERA				
	Veliidae				
	<u>Microvelia</u> sp.	1	10.8	3.1	
	COLEOPTERA				
	Elmidae				
	<u>Optioservus</u> sp.	1	10.8	3.1	
	TOTALS	32	344.5		

SHANNON-WEAVER DIVERSITY = 2.984

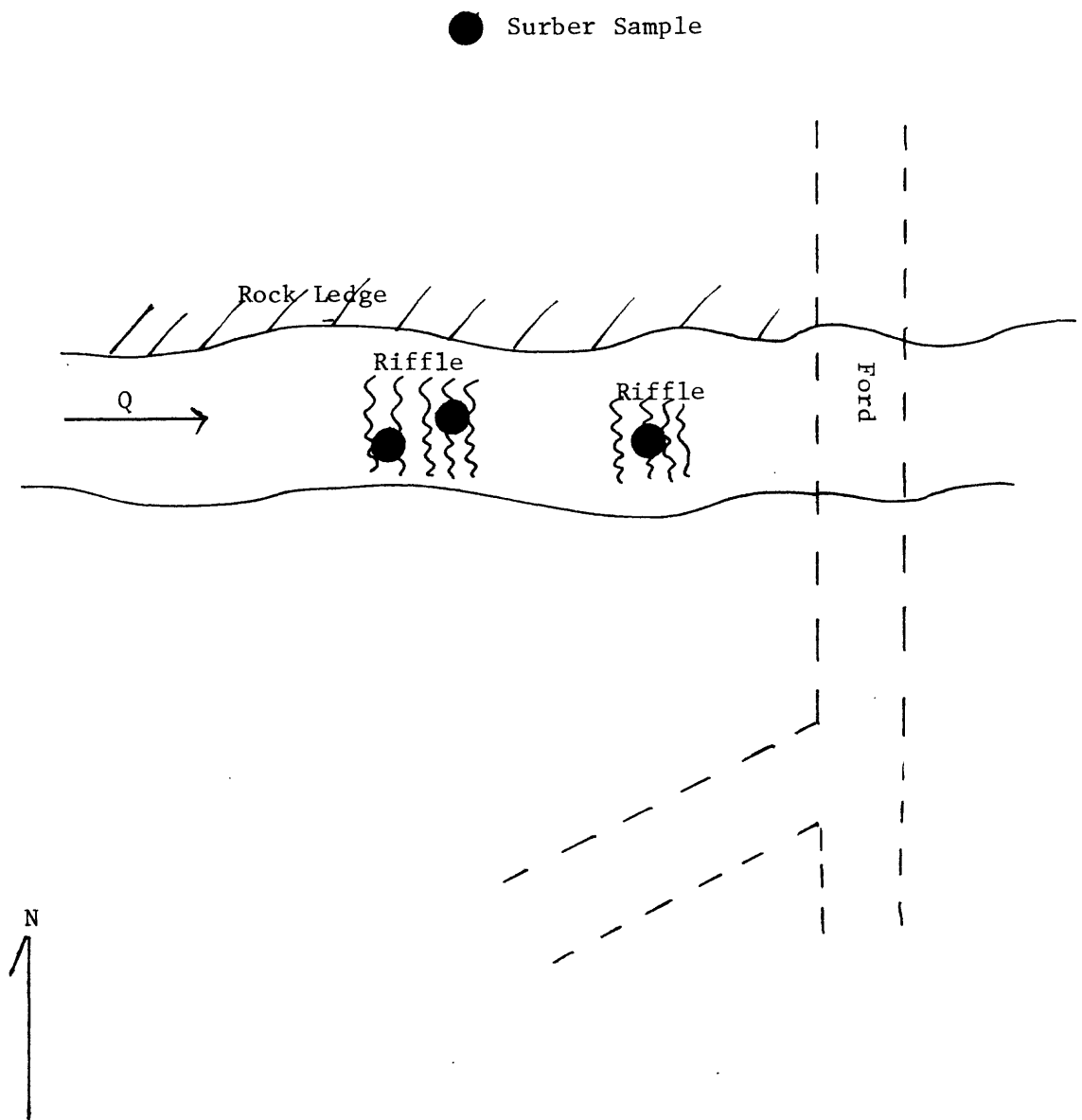


FIGURE 5-1. Station 5 - 03407881 - Anderson Branch near Norma, TN

TABLE 5-1

Physical and Chemical Parameters at

Station 5 - 03407881

Anderson Branch near Montgomery, Scott Co., TN

Parameter	Date
	7-1-81
Water Temperature	17.7°C
Dissolved Oxygen	7.5 mg/L
pH	5.8
Conductivity	50 umhos/cm
Stream Width	0.2 m
Average Stream Depth	4.6 cm
Average Stream Velocity	0.02 m/sec
Discharge	0.10 m ³ /sec
Cover (% Shaded)	90%
Substrate	Small to medium cobble

TABLE 5-2

03407881 Anderson Branch
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
7/1/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	792	45.2	
	<u>Parametriocnemus</u> sp.	(21)		
	<u>Corynoneuria</u> sp.	(2)		
	<u>Cryptochironomus fulvus</u>	(1)	0.1	
	Empididae	1		
	Dixidae			
	<u>Dixa</u> sp.	11	0.6	
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	3	0.2	
	Tipulidae			
	<u>Hexatoma</u> sp.	24	1.4	
	<u>Tipula</u> sp.	3	0.2	
	Simuliidae			
	<u>Simulium</u> sp.	1	0.1	
	TRICHOPTERA			
	Philopotamidae			
	<u>Chimarra obscura</u>	31	1.8	
	Rhyacophilidae			
	<u>Rhyacophila</u> sp.	1	0.1	
	Hydropsychidae			
	<u>Symphitopsycha sparna</u>	7	0.4	

TABLE 5-2

03407881 Anderson Branch
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	EPHEMEROPTERA			
	Baetidae			
	<u>Pseudocloeon sp.</u>	1	0.1	
	<u>Baetis sp.</u>	234	13.3	
	Leptophlebiidae			
	<u>Paraleptophlebia sp.</u>	20	1.1	
	Ephemerellidae			
	<u>Drunella cornuta</u>	20	1.1	
	<u>Eurylophella temporalis</u>	1	0.1	
	Heptageniidae			
	<u>Stenonema sp.</u>	278	15.9	
	<u>Heptagenia sp.</u>	11	0.6	
	<u>Stenonema rubromaculatum</u>	4	0.2	
	<u>S. annexum**</u>	1	0.1	
	<u>S. pulchellum</u>	1	0.1	
	PLECOPTERA			
	Perlidae			
	<u>Acroneuria abnormis**</u>	1	0.1	
	<u>Acroneuria sp.</u>	132	7.5	
	Perlodidae			
	<u>Isoperla sp.</u>	23	1.3	
	Peltoperlidae			
	<u>Tallaperla sp.**</u>	13	0.7	

TABLE 5-2

03407881 Anderson Branch
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	Leuctridae			
	<u>Leuctra sp.</u>	26	1.5	
	Chloroperlidae	11	0.6	
	COLEOPTERA			
	Psephenidae			
	<u>Psephenus herricki</u>	40	2.3	
	<u>Ectopria nervosa</u>	1	0.1	
	Dryopidae			
	<u>Helichus fastigiatus</u>	1	0.1	
	Elmidae			
	<u>Optioservus sp.</u>	4	0.2	
	COLLEMBOLA			
	Isotomidae			
	<u>Isotomuris palustris</u>	1	0.2	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	20	1.1	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Cambarus b. bartonii</u>	21	1.2	
	AMPHIPODA			
	Gammaridae			
	<u>Crangonyx sp.</u>	1	0.1	

TABLE 5-2

03407881 Anderson Branch
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	13	0.7	
	TOTALS	1753		

SHANNON-WEAVER DIVERSITY = 3.107

BIOTIC INDEX = 2.094, SOME ENRICHMENT

TABLE 5-3

03407881 Anderson Branch
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
7/1/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	64	688.9	36.8	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	4	43.1	2.3	
	Tipulidae				
	Hexatoma sp.	1	10.8	0.6	
	Tipula sp.	2	21.5	1.1	
	Empididae	1	10.8	0.6	
	EPHEMEROPTERA				
	Ephemerellidae				
	Drunella cornuta	5	53.8	2.9	
	Baetidae				
	Baetis sp.	9	96.9	5.2	
	Leptophlebiidae				
	Paraleptophlebia sp.	10	107.6	5.7	
	Heptageniidae				
	Stenonema tripunctatum	23	247.6	13.2	
	Stenacron gildersleevei	2	21.5	1.1	
	PLECOPTERA				
	Perlidae				
	Acroneuria ruralis	13	139.9	7.5	
	Chloroperlidae				
	Hastaperla brevis	10	107.6	5.7	

TABLE 5-3

03407881 Anderson Branch
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	11	118.4	6.3	
	Elmidae				
	<u>Stenelmis</u> sp.	2	21.5	1.1	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	1	10.8	0.5	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Cambarus b. bartonii</u>	2	21.5	1.1	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	14	150.7	8.0	
	TOTALS	174	1873.0		

SHANNON-WEAVER DIVERSITY = 3.132

TABLE 5-4

03407881 Anderson Branch
Scott Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
7/1/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	234	2518.8	50.4	
	Tipulidae				
	Hexatoma sp.	10	107.6	2.2	
	Ceratopogonidae				
	Atrichopogon sp.	1	10.8	0.2	
	Bezzia-Probezzia sp.	1	10.8	0.2	
	Dixidae				
	Dixa sp.	1	10.8	0.2	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	13	139.9	2.8	
	Philopotamidae				
	Wormaldia moesta	3	32.3	0.6	
	EPHEMEROPTERA				
	Leptophlebiidae				
	Paraleptophlebia sp.	26	279.9	5.6	
	Ephemerellidae				
	Drunella cornuta***	11	118.4	2.4	
	Heptageniidae				
	Stenonema sp.	24	258.3	5.2	
	Stenonema fuscum	11	118.4	2.4	
	S. annexum	1	10.8	0.2	

TABLE 5-4

03407881 Anderson Branch
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No. /m ²	%Comp.	Sample
	Baetidae				
	Baetis sp.	55	592.0	11.9	
	PLECOPTERA				
	Perlidae				
	Acroneuria ruralis	22	236.8	4.7	
	Chloroperlidae				
	Alloperla sp.	11	118.4	2.4	
	Leuctridae				
	Leuctra sp.	9	96.9	1.9	
	HEMIPTERA				
	Gerridae				
	Gerris sp.	2	21.5	0.4	
	ODONATA				
	Gomphidae				
	Lanthus parvula	1	10.8	0.2	
	COLEOPTERA				
	Psephenidae				
	Psephenus herricki	2	21.5	0.4	
	Elmidae				
	Optioservus sp.	3	32.3	0.6	
	Stenelmis sp.	2	21.5	0.4	
	MEGALOPTERA				
	Corydalidae				
	Nigronia serricornis	5	53.8	1.1	

TABLE 5-4

03407881 Anderson Branch
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	Cambarus sp.	1	10.8	0.2	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	14	150.7	3.0	
	HIRUDINEA				
	Glossiphoniidae	1	10.8	0.2	
	TOTALS	464	4994.6		

SHANNON-WEAVER DIVERSITY = 2.835

TABLE 5-5

03407881 Anderson Branch
Scott Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
7/1/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	56	602.8	23.0	
	Tipulidae	1	10.8	0.4	
	Tipula sp.	7	75.4	2.9	
	Hexatoma sp.				
	TRICHOPTERA				
	Philopotamidae				
	Wormaldia moesta***	30	322.9	12.3	
	Hydropsychidae				
	Hydropsyche sp.	9	96.9	3.7	
	EPHEMEROPTERA				
	Ephemerellidae				
	Drunella cornuta	2	21.5	0.8	
	Leptophlebiidae				
	Paraleptophlebia sp.	15	161.5	6.2	
	Baetidae				
	Baetis sp.	11	118.4	4.5	
	Pseudocloeon sp.	1	10.8	0.4	
	Heptageniidae				
	Stenonema fuscum	5	53.8	2.1	
	Stenonema sp.	13	139.9	5.3	
	Heptagenia sp.	1	10.8	0.4	
	Siphonuridae				
	Ameletus sp.	2	21.5	0.8	

TABLE 5-5

03407881 Anderson Branch
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	PLECOPTERA				
	Chloroperlidae				
	<u>Alloperla</u> sp.	26	279.9	10.7	
	Leuctridae				
	<u>Leuctra</u> sp.	10	106.7	4.1	
	Perlidae				
	<u>Acroneuria ruralis</u>	27	290.6	11.1	
	<u>Acroneuria</u> sp.	2	21.5	0.8	
	Perlodidae				
	<u>Isoperla</u> sp.**	4	43.1	1.6	
	HEMIPTERA				
	Gerridae				
	<u>Gerris</u> sp.	1	10.8	0.4	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	2	21.5	0.8	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	3	32.3	1.2	
	COLLEMBOLA				
	Isotomidae				
	<u>Isotoma</u> sp.	2	21.5	0.8	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Cambarus</u> sp.	1	10.8	0.4	

TABLE 5-5

03407881 Anderson Branch
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	3	32.3	1.2	
	HIRUDINEA				
	Glossiphoniidae	9	96.9	3.7	
	TOTALS	243	2615.7		

SHANNON-WEAVER DIVERSITY = 3.740

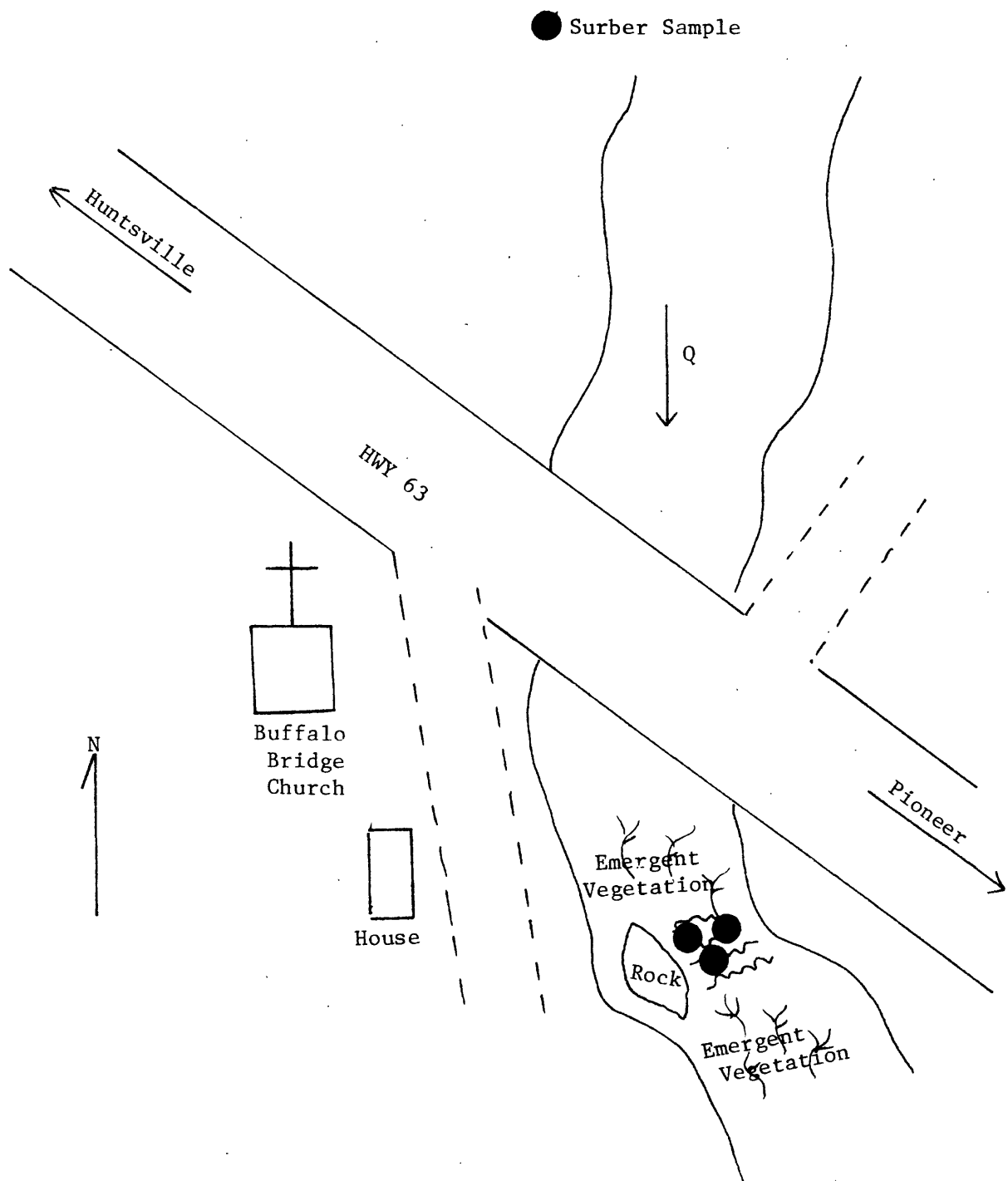


FIGURE 6-1. Station 6 - 03407920 - Buffalo Creek near Winona, TN

TABLE 6-1

Physical and Chemical Parameters at

Station 6 - 03407920

Buffalo Creek near Winona, Scott Co., TN

Parameter	Date	
	7-1-81	9-21-81
Water Temperature	21°C	19°C
Dissolved Oxygen	8.0 mg/L	9.3 mg/L
pH	6.2	7.1
Conductivity	155 umhos/cm	182 umhos/cm
Stream Width	9.1 m	4.6 m
Average Stream Depth	11.9 cm	24.8 cm
Average Stream Velocity	0.82 m/sec	0.19 m/sec
Discharge	3.44 m ³ /sec	0.17 m ³ /sec
Cover (% Shaded)	60%	90%
Substrate	Medium cobble to small boulder covered with algae	

Great abundance of aquatic emergent vegetation surrounding the sampled riffle.

TABLE 6-2

03407920 Buffalo Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
7/1/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	237	45.1	
	Rheocricotopus sp.	(14)		
	Cricotopus sp.	(2)		
	Corynoneura sp.	(1)		
	Polypedilum convictum	(2)		
	Polypedilum illinoense	(4)		
	Abalabesmyia mallochi	(3)		
	Labrundinia neopilosella	(1)		
	Conchapelopia sp.	(5)		
	Tanytarsus sp.	(6)		
	Simuliidae			
	Simulium sp.	7	1.3	
	Tipulidae			
	Tipula sp.	36	6.8	
	Hexatoma sp.	2	0.4	
	Empididae	2	0.4	
	Ceratopogonidae			
	Bezzia-Probezzia sp.	1	0.2	
	TRICHOPTERA			
	Phryganeidae			
	Ptilostomis sp.	1	0.2	
	Hydropsychidae			
	Cheumatopsyche sp.	19	3.6	

TABLE 6-2

03407920 Buffalo Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	EPHEMEROPTERA			
	Oligoneuridae			
	<u>Isonychia</u> sp.	118	22.4	
	Ephemeridae			
	<u>Ephemere varia</u>	7	1.3	
	Heptageniidae			
	<u>Stenonema vicarium</u>	14	2.7	
	<u>S. tripunctatum</u>	14	2.7	
	<u>S. nepotellum</u>	1	0.2	
	<u>Stenacron gildersleevei</u>	7	1.3	
	Leptophlebiidae			
	<u>Paraleptophlebia</u> sp.	2	0.4	
	Caenidae			
	<u>Caenis</u> sp.	1	0.2	
	PLECOPTERA			
	Leuctridae			
	<u>Leuctra ferruginea</u>	4	0.8	
	HEMIPTERA			
	Veliidae			
	<u>Rhagovelia</u> sp.	2	0.4	
	ODONATA			
	Coenagrionidae			
	<u>Argia</u> sp.	1	0.2	
	Gomphidae			
	<u>Lanthus parvula</u>	1	0.2	
	<u>Gomphus</u> sp.	2	0.4	

TABLE 6-2

03407920 Buffalo Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	COLEOPTERA			
	Dytiscidae			
	<u>Agabus</u> sp.	1	0.2	
	Elmidae			
	<u>Dubiraphia</u> sp. (larvae)	4	0.8	
	<u>Dubiraphia</u> bivittata	1	0.2	
	<u>Optioservus</u> sp.	4	0.8	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia</u> serricornis	2	0.4	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Cambarus</u> b. bartonii	2	0.4	
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	<u>Corbicula</u> manilensis	4	0.8	
	GASTROPODA			
	BASOMMATOPHORA			
	Planorbidae			
	<u>Gyraulus</u> sp.	2	0.4	

TABLE 6-2

03407920 Buffalo Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	27	5.1	
	TOTALS	526		

SHANNON-WEAVER DIVERSITY = 3.995

BIOTIC INDEX = 2.026, SOME ENRICHMENT

TABLE 6-3

03407920 Buffalo Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
7/1/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	104	1119.5	52	
	Simuliidae				
	Simulium sp.	5	53.8	2.5	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	44	473.6	22	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	17	182.9	8.5	
	Ephemeridae				
	Ephemera varia**	2	21.5	1	
	Leptophlebiidae				
	Paraleptophlebia sp.	1	10.8	0.5	
	Heptageniidae				
	Stenonema tripunctatum	4	43.1	2	
	S. vicarium	7	75.4	3.5	
	Stenacron gildersleevei	1	10.8	0.5	
	PLECOPTERA				
	Leuctridae				
	Leuctra ferruginea	8	86.1	4.0	
	Perlidae				
	Acroneturia ruralis	1	10.8	0.5	
	MEGALOPTERA				
	Corydalidae				
	Nigronia serricornis	1	10.8	0.5	

TABLE 6-3

03407920 Buffalo Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Sphaeriidae				
	<u>Sphaerium</u> sp.	1	10.8	0.5	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	4	43.1	2.0	
	TOTALS	200	2152.9		

SHANNON-WEAVER DIVERSITY = 2.245

TABLE 6-4

03407920 Buffalo Creek
Scott Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
7/1/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	86	925.7	41.7	
	Athericidae	1	10.8	0.5	
	<u>Atherix variegata</u>				
	Tipulidae				
	Hexatoma sp.	1	10.8	0.5	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	7	75.4	3.4	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	58	624.3	28.2	
	Ephemeridae				
	<u>Ephemera varia</u>	7	75.4	3.4	
	Caenidae				
	Caenis sp.	2	21.5	1.0	
	Leptophlebiidae				
	<u>Paraleptophlebia</u> sp.	2	21.5	1.0	
	Heptageniidae				
	<u>Stenonema vicarium</u>	1	10.8	0.5	
	<u>S. tripunctatum</u>	20	215.3	9.7	
	<u>S. integrum</u>	1	10.8	0.5	
	<u>S. pulchellum</u>	1	10.8	0.5	
	<u>Stenacron gildersleevei</u>	10	107.6	4.9	

TABLE 6-4

03407920 Buffalo Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	Cambarus sp.	1	10.8	0.5	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	Corbicula manilensis	1	10.8	0.5	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	6	64.6	2.9	
	TOTALS	206	2217.4		

SHANNON-WEAVER DIVERSITY = 2.488

TABLE 6-5

03407920 Buffalo Creek
Scott Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
7/1/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	78	839.6	47.3	
	TRICHOPTERA				
	Philopotamidae				
	<u>Chimarra obscura</u>	1	10.8	0.6	
	EPHEMEROPTERA				
	Oligoneuridae				
	<u>Isonychia</u> sp.	32	344.5	19.4	
	Ephemeridae				
	<u>Ephemera varia</u>	5	53.8	3.0	
	Baetidae				
	<u>Baetis</u> sp.	1	10.8	0.6	
	Heptageniidae				
	<u>Stenonema vicarium</u>	21	226.1	12.7	
	<u>Stenonema tripunctatum</u>	6	64.6	3.6	
	<u>Stenacron gildersleevei</u>	4	43.1	2.4	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	1	10.8	0.6	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	4	43.1	2.4	

TABLE 6-5

03407920 Buffalo Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	12	129.2	7.3	
	Niadidae				
	TOTALS	165	1776.1		

SHANNON-WEAVER DIVERSITY = 2.344

TABLE 6-6

03407920 Buffalo Creek
Scott Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/21/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	211	42.8	
	<u>Rheocricotopus</u> sp.	(7)		
	<u>Cricotopus</u> sp.	(8)		
	<u>Eukiefferiella</u> sp.	(1)		
	<u>Parametriocnemus</u> sp.	(3)		
	<u>Polypedilum convictum</u>	(7)		
	<u>Dicrotendipes</u> sp.	(7)		
	<u>Rheotanytarsus</u> sp.	(9)		
	<u>Tanytarsus</u> sp.	(4)		
	Simuliidae			
	<u>Simulium</u> sp.	59	12.0	
	Athericidae			
	<u>Atherix variegata</u>	4	0.8	
	TRICHOPTERA			
	Hydroptilidae			
	<u>Hydroptila</u> sp.	1	0.2	
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	93	18.9	
	EPHEMEROPTERA			
	Oligoneuridae			
	<u>Isonychia</u> sp.	48	9.7	
	Ephemeridae			
	<u>Ephemera varia</u>	5	1.0	

TABLE 6-6

03407920 Buffalo Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	Baetidae			
	<u>Pseudocloeon sp.</u>	1	0.2	
	Heptageniidae			
	<u>Stenonema femoratum</u>	5	1.0	
	<u>S. nepotellum</u>	2	0.4	
	<u>S. vicarium</u>	16	3.2	
	<u>Stenacron gildersleevei</u>	2	0.4	
	PLECOPTERA			
	Chloroperlidae			
	<u>Hastaperla brevis</u>	3	0.6	
	Leuctridae			
	<u>Leuctra ferruginea</u>	17	3.4	
	Perlidae			
	<u>Acroneuria ruralis</u>	2	0.4	
	ODONATA			
	Aeshnidae			
	<u>Boyeria sp.</u>	1	0.2	
	COLEOPTERA			
	Elmidae			
	<u>Macronychus glabratus</u>	1	0.2	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	3	0.6	

TABLE 6-6

03407920 Buffalo Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	Orconectes sp.	1	0.2	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	18	3.6	
	TOTALS	493		

SHANNON-WEAVER DIVERSITY = 3.850

BIOTIC INDEX = 2.174, SOME ENRICHMENT

TABLE 6-7

03407920 Buffalo Creek
Scott Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/21/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA	79	850.4	46.7	
	Chironomidae				
	Tipulidae				
	Tipula sp.	1	10.8	0.6	
	Hexatoma sp.	1	10.8	0.6	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	1	10.8	0.6	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	1	10.8	0.6	
	Siphonuridae				
	Siphonurus sp.***	1	10.8	0.6	
	Caenidae				
	Caenis sp.	2	21.5	1.2	
	Ephemeridae				
	Ephemera varia	9	96.9	5.3	
	Leptophlebiidae				
	Paraleptophlebia sp.	4	43.1	2.4	
	Heptageniidae				
	Stenacron gildersleevei***	41	441.3	24.3	
	Stenonema fuscum	15	161.5	8.9	
	ODONATA				
	Coenagrionidae				
	Argia sp.				

TABLE 6-7

03407920 Buffalo Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Gomphidae	2	21.5	1.2	
	<u>Arigomphus sp.**</u>	2	21.5	1.2	
	MEGALOPTERA				
	Sialidae				
	<u>Sialis sp.</u>	1	10.8	0.6	
	Corydalidae				
	<u>Nigronia serricornis</u>	1	10.8	0.6	
	CRUSTACEA				
	AMPHIPODA				
	Gammaridae				
	<u>Gammarus sp.</u>	1	10.8	0.6	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	3	32.3	1.8	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	4	43.1	2.4	
	TOTALS	169	1819.2		

SHANNON-WEAVER DIVERSITY = 2.480

TABLE 6-8

03402920 Buffalo Creek
Scott Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/21/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	93	1001.1	15.0	
	Simuliidae				
	Simulium sp.	9	96.9	1.5	
	Athericidae				
	Atherix sp.	1	10.8	0.2	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	304	3272.3	49.0	
	EPHEMEROPTERA				
	Ephemeridae				
	Ephemera varia	1	10.8	0.2	
	Oligoneuridae				
	Isonychia sp.	54	581.3	8.7	
	Baetidae				
	Baetis sp.	1	10.8	0.2	
	Heptageniidae				
	Stenonema tripunctatum	9	96.9	1.5	
	S. fuscum	16	172.2	2.6	
	S. pudicum	4	43.1	0.6	
	PLECOPTERA				
	Leuctridae				
	Leuctra ferruginea	89	958.0	14.4	
	Chloroperlidae				
	Hastaperla brevis	14	150.7	2.3	

TABLE 6-8

03402920 Buffalo Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organisms	No.	No./m ²	%Comp.	Sample
	Perlidae				
	<u>Acroneuria ruralis</u>	2	21.5	0.3	
	MEGALOPTERA				
	Sialidae				
	<u>Sialis sp.</u>	1	10.8	0.2	
	Corydalidae				
	<u>Nigronia serricornis</u>	3	32.3	0.5	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Cambarus sp.</u>	2	21.5	0.3	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	1	10.8	0.2	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	16	172.2	2.6	
	TOTALS	620	6673.8		

TABLE 6-9

03407920 Buffalo Creek
Scott Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/21/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	63	678.1	43.4	
	Simuliidae	17	182.9	11.7	
	Simulium sp.	1	10.8	0.7	
	Empididae	1	10.8	0.7	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	21	226.1	14.5	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	14	150.7	9.7	
	Heptageniidae				
	Stenonema tripunctatum	4	43.1	2.8	
	S. fuscum	4	43.1	2.8	
	S. vicarium	1	10.8	0.7	
	PLECOPTERA				
	Leuctridae				
	Leuctra ferruginea	9	96.9	6.2	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	Cambarus sp.	1	10.8	0.7	
	AMPHIPODA				
	Gammaridae				
	Gammarus sp.	1	10.8	0.7	

TABLE 6-9

03407920 Buffalo Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	1	10.8	0.7	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	8	86.1	5.5	
	TOTALS	145	1560.8		

SHANNON-WEAVER DIVERSITY = 2.627

● Surber Sample

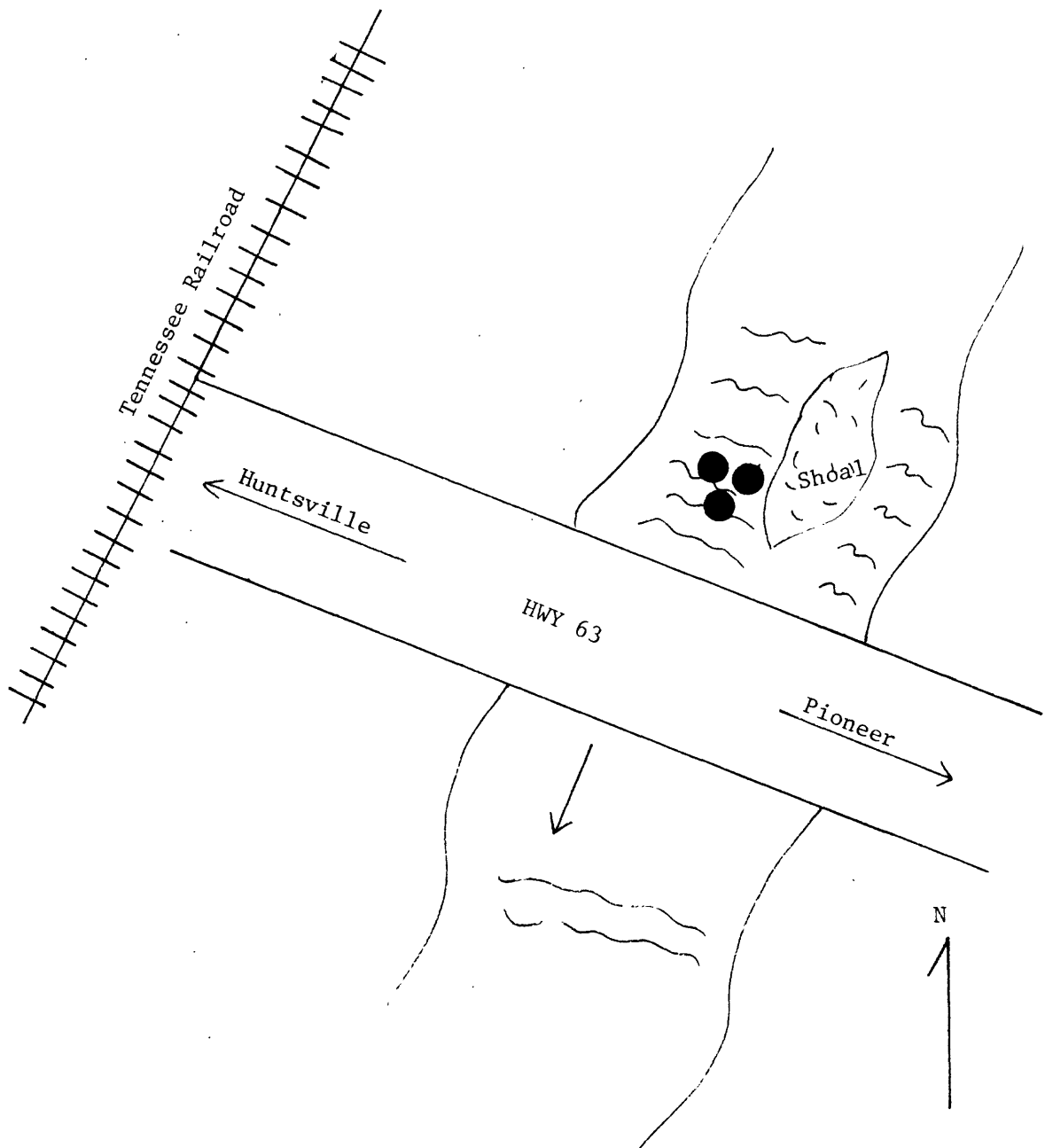


FIGURE 7-1. Station 7 - 03407960 - Paint Rock Creek near Huntsville, TN

TABLE 7-1

Physical and Chemical Parameters at

Station 7 - 03407960

Paint Rock Creek near Huntsville, Scott Co., TN

Parameter	Date	
	5-18-81	9-21-81
Water Temperature	17°C	16°C
Dissolved Oxygen	9.1 mg/L	10.2 mg/L
pH	6.2	6.6
Conductivity	180 umhos/cm	220 umhos/cm
Stream Width	4.9 m	3.0 m
Average Stream Depth	29.46 cm	9.31 cm
Average Stream Velocity	0.30 m/sec	0.51 m/sec
Discharge	0.35 m ³ /sec	0.11 m ³ /sec
Cover (% Shaded)	60%	90%
Substrate	Sand and small to medium cobble covered with sediment	

TABLE 7-2

03407960 Paint Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
5/18/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	477	58.5	
	<u>Parametriocnemus</u> sp.	(15)		
	<u>Cricotopus</u> sp.	(8)		
	<u>Eukiefferiella</u> sp.	(3)		
	<u>Thienemanniella</u> sp.	(3)		
	<u>Conchapelopia</u> sp.	(4)		
	<u>Ablabesmyia mallochi</u>	(1)		
	<u>Polypedilum convictum</u>	(1)		
	<u>Tanytarsus</u> sp.	(1)		
	Simuliidae			
	<u>Simulium</u> sp.	18	2.2	
	Empididae	1	0.1	
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	1	0.1	
	EPHEMEROPTERA			
	Oligoneuridae			
	<u>Isonychia</u> sp.***	32	3.9	
	Ephemerellidae			
	<u>Drunella cornutella</u> ***	1	0.2	
	<u>Ephemerella dorothea</u>	18	2.2	
	Heptageniidae			
	<u>Stenonema rubrum</u> ***	5	0.6	
	<u>Heptagenia</u> sp.	2	0.2	

TABLE 7-2

03407960 Paint Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Baetidae			
	Baetis sp.	2	0.2	
	Pseudocloeon sp.	141	17.3	
	Leptophlebiidae			
	Paraleptophlebia sp.	2	0.2	
	PLECOPTERA			
	Nemouridae			
	Amphinemura nigritta	7	0.9	
	Perlodidae			
	Isoperla nr. transmarina***	2	0.2	
	Isoperla sp.	5	0.6	
	Perlidae			
	Perlesta placida***	32	3.9	
	Taeniopterygidae			
	Taeniopteryx sp.	3	0.4	
	Leuctridae			
	Leuctra sp.	2	0.2	
	TRICHOPTERA			
	Hydropsychidae			
	Diplectrona modesta***	2	0.2	
	Hydroptilidae			
	Stactobiella sp.**	2	0.2	
	ODONATA			
	Gomphidae			
	Lanthus parvula	2	0.2	

TABLE 7-2

03407960 Paint Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	COLEOPTERA			
	Elmidae			
	Optioservus sp.	2	0.2	
	MEGALOPTERA			
	Corydalidae			
	Corydalis cornutus	1	0.1	
	<u>Nigronia serricornis</u>	2	0.2	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	Cambarus sp.	1	0.1	
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	<u>Corbicula manilensis</u>	7	0.9	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	45	5.5	
	TOTALS	815		

SHANNON-WEAVER DIVERSITY = 3.639

BIOTIC INDEX = 2.780, MODERATE ENRICHMENT

TABLE 7-3

03407960 Paint Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/18/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	292	3143.2	78.7	
	Simuliidae				
	Simulium sp.	2	21.5	0.5	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	4	43.1	1.1	
	Baetidae				
	Pseudocloeon sp.	38	409.0	10.2	
	Heptageniidae				
	Stenonema tripunctatum	2	21.5	0.5	
	S. integrum	1	10.8	0.3	
	Stenacron minnetonka	2	21.5	0.5	
	PLECOPTERA				
	Leuctridae				
	Leuctra ferruginea	1	10.8	0.3	
	Nemouridae				
	Amphinemura delosa	1	10.8	0.3	
	Perlodidae				
	Isogenus bilobatus	1	10.8	0.3	
	Perlidae				
	Acroneuria sp.	1	10.8	0.3	

TABLE 7-3

03407960 Paint Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	1	10.8	0.3	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	25	269.1	6.7	
	TOTALS	371	3993.5		

SHANNON-WEAVER DIVERSITY = 1.112

TABLE 7-4

03407960 Paint Rock Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/18/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	249	2680.3	66.8	
	Tipulidae				
	Tipula sp.	1	10.8	0.3	
	Simuliidae				
	Simulium sp.	6	64.6	1.6	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	2	21.5	0.5	
	Empididae	1	10.8	0.3	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	17	183.0	4.6	
	Baetidae				
	Baetis sp.	2	21.5	0.5	
	Pseudocloeon sp.	46	495.2	12.3	
	Ephemerellidae				
	Ephemerella dorothea	4	43.1	1.1	
	Heptageniidae				
	Stenonema annexum	1	10.8	0.3	
	S. vicarium	1	10.8	0.3	
	PLECOPTERA				
	Taeniopterygidae				
	Taeniopteryx sp.	2	21.5	0.5	

TABLE 7-4

03407960 Pain Rock Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Leuctridae				
	<u>Leuctra ferruginea</u>	1	10.8	0.3	
	Perlidae				
	<u>Perlesta placida</u>	4	43.1	1.1	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalis cornutus</u>	2	21.5	0.5	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	34	365.9	9.1	
	TOTALS	373	4015.1		

SHANNON-WEAVER DIVERSITY = 1.792

TABLE 7-5

03407960 Paint Rock Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/18/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	296	3186.2	73.3	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	1	10.8	0.2	
	Simuliidae				
	Prosimulium sp.	1	10.8	0.2	
	TRICHOPTERA				
	Hydroptilidae				
	Hydroptila sp.	1	10.8	0.2	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	14	150.7	3.5	
	Baetidae				
	Baetis sp.	1	10.8	0.2	
	Pseudocloeon sp.	38	409.0	9.4	
	Ephemerellidae				
	Ephemerella dorothea	2	21.5	0.5	
	Heptageniidae				
	Stenonema rubrum	1	10.8	0.2	
	PLECOPTERA				
	Perlodidae				
	Isoperla sp.	2	21.5	0.5	
	Perlidae				
	Acroneuria georgiana	3	32.3	0.7	

TABLE 7-5

03407960 Paint Rock Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ODONATA				
	Gomphidae				
	Octogomphus sp.	1	10.8	0.2	
	MEGALOPTERA				
	Corydalidae				
	Corydalus cornutus	1	10.8	0.2	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	Cambarus b. bartonii	1	10.8	0.2	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	Corbicula manilensis	3	32.3	0.7	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	38	409.0	9.4	
	TOTALS	404			

SHANNON-WEAVER DIVERSITY = 1.491

TABLE 7-6

03407960 Paint Rock Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/21/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	231	47.2	
	<u>Psectrocladius</u> sp.	(3)		
	<u>Rheocricotopus</u> sp.	(13)		
	<u>Cricotopus</u> sp.	(3)		
	<u>Parametriocnemus</u> sp.	(3)		
	<u>Polypedilum convictum</u>	(1)		
	<u>Conchapelopia</u> sp.	(4)		
	<u>Tanytarsus</u> sp.	(2)		
	<u>Rheotanytarsus</u> sp.	(2)		
	Simuliidae			
	<u>Simulium</u> sp.	8	1.6	
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	2	0.4	
	Empididae	4	0.8	
	Tipulidae			
	<u>Tipula</u> sp.	4	0.8	
	Athericidae			
	<u>Atherix variegata</u>	2	0.4	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	11	2.2	
	<u>Symphitopsyche sparna</u>	1	0.2	

TABLE 7-6

03407960 Paint Rock Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	EPHEMEROPTERA			
	Oligoneuridae	86	17.6	
	<u>Isonychia</u> sp.			
	Baetiscidae			
	<u>Baetisca</u> nr. <u>gibbera</u> **	1	0.2	
	Caenidae			
	<u>Caenis</u> sp.	10	2.0	
	Ephemeridae			
	<u>Ephemera</u> <u>varia</u>	2	0.4	
	Heptageniidae			
	<u>Stenonema</u> <u>tripunctatum</u>	11	2.2	
	<u>Stenonema</u> sp.	15	3.1	
	<u>Stenacron</u> <u>gildersleevei</u>	1	0.2	
	<u>Stenonema</u> <u>vicarium</u>	10	2.0	
	PLECOPTERA			
	Gomphidae			
	<u>Dromogomphus</u> sp.**	5	1.0	
	Coenagrionidae			
	<u>Amphiagrion</u> <u>hastatum</u>	1	0.2	
	COLEOPTERA			
	Elmidae			
	<u>Dubiraphia</u> sp.	2	0.4	
	Dryopidae			
	<u>Helichus</u> sp.	1	0.2	

TABLE 7-6

03407960 Paint Rock Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	Hydrophilidae			
	<u>Helophorus sp.</u>	1	0.2	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Cambarus sp.</u>	3	0.6	
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	<u>Corbicula manilensis</u>	1	0.2	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	75	15.3	
	TOTALS	489		

SHANNON-WEAVER DIVERSITY = 3.803

BIOTIC INDEX = 2.122, SOME ENRICHMENT

TABLE 7-7

03407960 Paint Rock Creek
Scott Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/21/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	229	2465.0	69.4	
	Ceratopogonidae				
	Atrichopogon nr. peregrinus**	1	10.8	0.3	
	Athericidae				
	Atherix variegata	3	32.3	0.9	
	Empididae	4	43.1	1.2	
	Tipulidae				
	Antocha sp.	1	10.8	0.3	
	Simuliidae				
	Simulium sp.	5	53.8	1.5	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	11	118.4	3.3	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	33	355.2	10.0	
	Ephemeridae				
	Ephemera varia	1	10.8	0.3	
	Caenidae				
	Caenis sp.	1	10.8	0.3	
	Heptageniidae				
	Stenonema sp.	23	247.6	7.0	

TABLE 7-7

03407960 Paint Rock Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria abnormis</u>	1	10.8	0.3	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	1	10.8	0.3	
	MOLLUSCA				
	PELECYPODA				
	HETEROPTERA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	1	10.8	0.3	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	15	161.5	4.5	
	TOTALS	330	3552.2		

SHANNON-WEAVER DIVERSITY = 1.740

TABLE 7-8

03407960 Paint Rock Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/21/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	142	1528.5	63.1	
	Simuliidae				
	Simulium sp.	4	43.1	1.8	
	Ceratopogonidae				
	Atrichopogon sp.	2	21.5	0.9	
	Athericidae				
	Atherix variegata	2	21.5	0.9	
	Tipulidae				
	Tipula sp.	1	10.8	0.4	
	Empididae	1	10.8	0.4	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	7	75.4	3.1	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	16	172.2	7.1	
	Caenidae				
	Caenis sp.	1	10.8	0.4	
	Baetidae				
	Baetis sp.	2	21.5	0.9	
	Pseudocloeon sp.	1	10.8	0.4	

TABLE 7-8

03407960 Paint Rock Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Heptageniidae				
	<u>Stenonema tripunctatum</u>	6	64.6	2.7	
	<u>S. vicarium</u>	2	21.5	0.9	
	<u>Stenacron gildersleevei</u>	3	32.3	1.3	
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra ferruginea</u>	1	10.8	0.4	
	HEMIPTERA				
	Mesoveliidae				
	<u>Mesovelia</u> sp.	2	21.5	0.9	
	ODONATA				
	Coenagrionidae				
	<u>Anomalagrion hastatum</u>	3	32.3	1.3	
	Gomphidae				
	<u>Lanthus parvula</u>	1	10.8	0.4	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	1	10.8	0.4	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	22	236.8	9.8	
	TOTALS	225	2421.9		

SHANNON-WEAVER DIVERSITY = 2.302

TABLE 7-9

03407960 Paint Rock Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/21/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	194	2088.3	75.8	
	Athericidae				
	Atherix sp.	1	10.8	0.4	
	Tipulidae				
	Tipula sp.	1	10.8	0.4	
	Antocha sp.	2	21.5	0.8	
	Empididae	4	43.1	1.6	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	1	10.8	0.4	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	31	333.7	12.1	
	Heptageniidae				
	Stenonema sp.	5	53.8	2.0	
	Stenonema vicarium	1	10.8	0.4	
	PLECOPTERA				
	Leuctridae				
	Leuctra ferruginea	1	10.8	0.4	
	COLEOPTERA				
	Elmidae				
	Optioservus sp.	2	21.5	0.8	

TABLE 7-9

03407960 Paint Rock Creek
 Scott Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	1	10.8	0.4	
	CRUSTACEA				
	DECAPODA				
	<u>Cambarus b. bartonii</u>	1	10.8	0.4	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	11	118.4	4.3	
	TOTALS	256	2755.7		

SHANNON-WEAVER DIVERSITY = 1.400

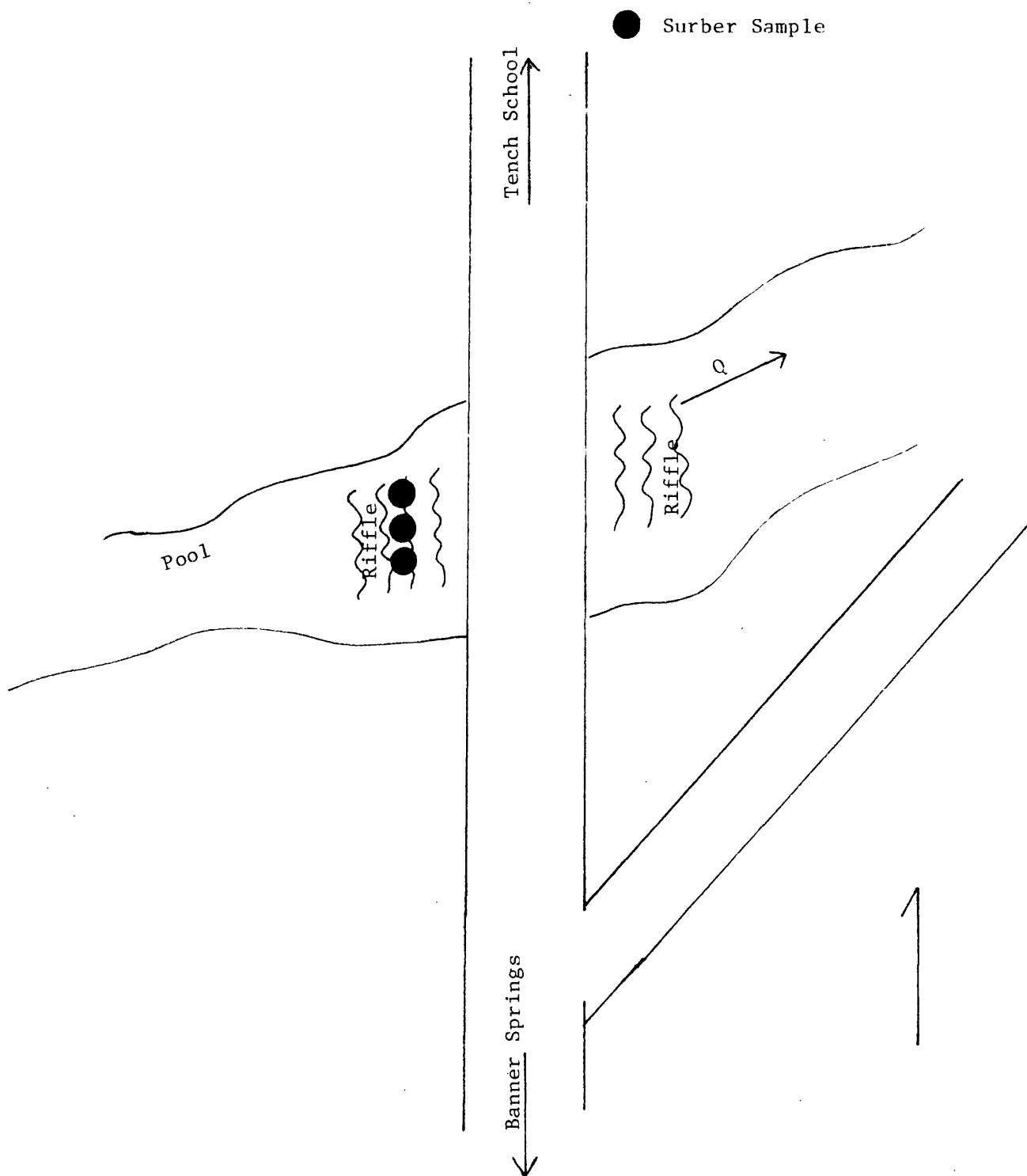


FIGURE 8-1. Station 8 - 03408550 - North Prong Clear Fork near Grimsley, TN

TABLE 8-1

Physical and Chemical Parameters at

Station 8 - 03408550

North Prong Clear Fork near Grimsley, Fentress Co., TN

Parameter	Date	
	4-12-81	8-28-81
Water Temperature	17°C	19°C
Dissolved Oxygen	7.5 mg/L	9.4 mg/L
pH	5.4	6.5
Conductivity	50 umhos/cm	58 umhos/cm
Stream Width	12.95 m	4.0 m
Average Stream Depth	38.1 cm	12.1 cm
Average Stream Velocity	1.29 m/sec	0.43 m/sec
Discharge	6.36 m /sec	0.16 m /sec
Cover (% Shaded)	40%	70%
Substrate	Small to large cobble	

TABLE 8-2

03408550 North Prong Clear Fork
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
4/14/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	267	23.8	
	Parametriocnemus sp.	(29)		
	Microtendipes sp.	(1)		
	Conchapelopia sp.	(1)		
	Micropectra sp.	(9)		
	Tanytarsus sp.	(2)		
	Simuliidae			
	Prosimulium sp.	388	34.6	
	Athericidae			
	Atherix variegata	2	0.2	
	Empididae	2	0.2	
	Tipulidae			
	Hexatoma sp.*	1	0.1	
	Ceratopogonidae			
	Bezzia-Probezzia sp.	1	0.1	
	TRICHOPTERA			
	Limnephilidae			
	Neophylax sp.	3	0.3	
	Philopotamidae			
	Chimarra obscura	4	0.4	
	Dolophilodes distinctus*	1	0.1	
	Hydropsychidae			
	Cheumatopsyche sp.	9	0.8	

TABLE 8-2

03408550 North Prong Clear Fork
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	EPHEMEROPTERA			
	Baetidae			
	<u>Pseudocloeon sp.</u>	219	19.5	
	<u>Baetis sp.</u>	5	0.5	
	Oligoneuriidae			
	<u>Isonychia sp.</u>	14	1.2	
	Heptageniidae			
	<u>Stenacron interpunctatum</u>	9	0.8	
	<u>Stenonema pulchellum</u>	11	1.0	
	<u>S. rubrum</u>	8	0.8	
	<u>S. vicarium</u>	34	3.0	
	<u>S. tripunctatum</u>	1	0.1	
	Ephemerellidae			
	<u>Ephemerella rotunda</u>	7	0.7	
	<u>E. dorothea</u>	24	2.1	
	<u>Serratella serratoides</u>	12	1.1	
	Siphonuridae			
	<u>Ameletus sp.</u>	5	0.5	
	Ephemeridae			
	<u>Ephemera varia</u>	2	0.2	
	PLECOPTERA			
	Nemouridae			
	<u>Amphinemura delosa</u>	51	4.5	
	Capniidae			
	<u>Allocapnia sp.</u>	2	0.2	

TABLE 8-2

03408550 North Prong Clear Fork
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Perlodidae			
	<u>Isoperla namata</u>	1	0.1	
	ODONATA			
	Gomphidae			
	<u>Octogomphus sp.</u>	1	0.1	
	COLEOPTERA			
	Dryopidae			
	<u>Helichus basalis</u>	4	0.4	
	Elmidae			
	<u>Promoresia tardella</u>	1	0.1	
	<u>Optioservus sp.</u>	5	0.5	
	<u>Stenelmis sp.</u>	3	0.3	
	<u>Anchytarsus bicolor*</u>	1	0.1	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	5	0.5	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Cambarus (D.) nr. halli</u>	1	0.1	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	17	1.5	

TOTALS

1121

SHANNON-WEAVER DIVERSITY = 3.055
BIOTIC INDEX = 1.198, CLEAN

TABLE 8-3

03408550 North Prong Clear Fork
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/14/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	30	322.9	41.1	
	Simuliidae				
	Simulium sp.	3	32.3	4.1	
	Rhagionidae				
	Atherix variegata	3	32.3	4.1	
	EPHEMEROPTERA				
	Ephemeroidea				
	Ephemera varia	9	96.9	12.3	
	Baetidae				
	Pseudocloeon sp.	8	86.1	11.0	
	Ephemerellidae				
	Ephemerella rotunda*	3	32.3	4.1	
	Ephemerella dorothea	1	10.8	1.4	
	Eurylophella bicolor	1	10.8	1.4	
	Drunella lata*	1	10.8	1.4	
	Heptageniidae				
	Stenonema vicarium*	3	32.3	4.1	
	Stenonema pulchellum	4	43.1	5.5	
	PLECOPTERA				
	Nemouridae				
	Amphinemura delosa	4	43.1	5.5	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.*	1	10.8	1.4	

TABLE 8-3

03408550 North Prong Clear Fork
 Fentress Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	2	21.6	2.7	
	TOTALS	73	785.8		

SHANNON-WEAVER DIVERSITY = 2.9466

TABLE 8-4

03408550 North Prong Clear Fork
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/14/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	52	559.7	26.1	
	Simuliidae				
	Prosimulium sp.	68	732.0	34.2	
	Tipulidae				
	Tipula sp.	1	10.8	0.5	
	Empididae				
	Hemerodromia sp.	1	10.8	0.5	
	Rhagionidae				
	Atherix variegata	1	10.8	0.5	
	Ceratopogonidae				
	Bezzia sp.	1	10.8	0.5	
	EPHEMEROPTERA				
	Siphonuridae				
	Ameletus sp.	1	10.8	0.5	
	Baetidae				
	Baetis sp.	3	32.3	1.5	
	Pseudocloeon sp.	36	387.5	18.1	
	Ephemeridae				
	Ephemera varia	2	21.5	1.0	
	Ephemerellidae				
	Ephemerella rotunda	1	10.8	0.5	
	Ephemerella needhami	2	21.5	1.0	

TABLE 8-4

03408550 North Prong Clear Fork
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Leptophlebiidae				
	<u>Paraleptophlebia nr. mollis</u>	1	10.8	0.5	
	Heptageniidae				
	<u>Stenonema smithae*</u>	4	43.1	2.0	
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra sp.</u>	2	21.5	1.0	
	Nemouridae				
	<u>Amphinemura delosa</u>	7	75.3	3.5	
	COLEOPTERA				
	Dryopidae				
	<u>Helichus basalis</u>	1	10.8	0.5	
	Elmidae				
	<u>Optioservus sp.</u>	1	10.8	0.5	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	5	53.8	2.5	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	9	96.9	4.5	
	TOTALS	199	2142.1		

SHANNON-WEAVER DIVERSITY = 1.9138

TABLE 8-5

03408550 North Prong Clear Fork
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/14/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	53	570.5	9.94	
	Simuliidae				
	Prosimulium sp.	364	3918.2	68.3	
	EPHEMEROPTERA				
	Oligoneuriidae	1	10.8	0.2	
	Isonychia sp.				
	Baetidae				
	Baetis sp.	2	21.5	0.4	
	Pseudocloeon sp.	87	936.5	16.3	
	Ephemerellidae				
	Ephemerella dorothea	7	75.3	1.3	
	Ephemerella rotunda	1	10.8	0.2	
	Siphonuridae				
	Parametetus sp.	1	10.8	0.2	
	Heptageniidae				
	Epeorus sp.	2	21.5	0.4	
	Stenonema tripunctatum	2	21.5	0.4	
	S. rubrum	2	21.5	0.4	
	S. pulchellum	1	10.8	0.2	
	S. bipunctatum	1	10.8	0.2	
	PLECOPTERA				
	Nemouridae				
	Amphinemura delosa	3	32.3	0.6	

TABLE 8-5

03408550 North Prong Clear Fork
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	TRICHOPTERA				
	Hydropsychidae				
	<u>Cheumatopsyche</u> sp.	3	32.3	0.6	
	ODONATA				
	Aeshnidae				
	<u>Boyeria</u> sp.	1	10.8	0.2	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	1	10.8	0.2	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Cambarus</u> sp.	1	10.8	0.2	
	TOTALS	583	5737.4		

SHANNON-WEAVER DIVERSITY = 1.5568

TABLE 8-6

03408550 North Prong Clear Fork River
 Pentress Co., TN
 BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
8/28/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	261	25.3	
	<u>Parametriocnemus</u> sp.	(10)		
	<u>Conchapelopia</u> sp.	(3)		
	<u>Cricotopus</u> sp.	(12)		
	<u>Tanytarsus</u> sp.	(16)		
	<u>Polypedilum convictum</u>	(1)		
	<u>Clinotanypus</u> sp.	(1)		
	<u>Ablabesmyia ornata</u>	(1)		
	<u>Rheocricotopus</u> sp.	(4)		
	<u>Cardiocladius</u> sp.	(2)		
	<u>Pseudochironomus</u> sp.	(2)		
	<u>Thienemanniella</u> sp.	(2)		
	<u>Tanypus clavatus</u>	(1)		
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	1	0.1	
	<u>Empididae</u>	5	0.5	
	Tabanidae			
	<u>Tabanus</u> sp.	1	0.1	
	Simuliidae			
	<u>Simulium</u> sp.	124	12.0	
	Dixidae			
	<u>Dixa</u> sp.	1	0.1	
	TRICHOPTERA			
	Philopotamidae			
	<u>Chimarra obscura</u>	123	11.9	

TABLE 8-6

03408550 North Prong Clear Fork River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Hydropsychidae			
	<u>Cheumatopsyche sp.</u>	237	23.0	
	<u>Hydropsyche betteni</u>	11	1.1	
	Rhacophilidae			
	<u>Rhyacophila ledra</u>	2	0.2	
	Glossomatidae			
	<u>Glossosoma sp.</u>	4	0.4	
	EPHEMEROPTERA			
	Oligoneuriidae			
	<u>Isonychia sp.</u>	48	4.7	
	Ephemeridae			
	<u>Ephemera varia</u>	5	0.5	
	Caenidae			
	<u>Caenis sp.</u>	1	0.1	
	Heptageniidae			
	<u>Stenonema vicarium</u>	65	6.3	
	<u>S. ithaca</u>	3	0.3	
	<u>S. fuscum</u>	1	0.1	
	<u>Stenonema sp.</u>	11	1.1	
	<u>Stenacron interpunctatum</u>	4	0.4	
	<u>Epeorus sp.**</u>	1	0.1	
	Baetidae			
	<u>Baetis sp.</u>	24	2.3	
	<u>Pseudocloeon sp.</u>	19	1.8	
	Leptophlebiidae			
	<u>Paraleptophlebia sp.</u>	2	0.2	

TABLE 8-6

03408550 North Prong Clear Fork River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	PLECOPTERA			
	Leuctridae			
	Leuctra sp.	4	0.4	
	ODONATA			
	Gomphidae			
	Lanthus parvula	2	0.2	
	Coleagrionidae			
	Argia sp.	2	0.2	
	COLEOPTERA			
	Elmidae			
	Optioservus sp.	21	2.0	
	Promoresia elegans	4	0.4	
	Optioservus ampliatus	1	0.1	
	Psephenidae			
	Psephenus herricki	1	0.1	
	MEGALOPTERA			
	Corydalidae			
	Nigronia serricornis	31	3.0	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	6	0.6	
	HIRUDINEA			
	Glossiphoniidae	6	0.6	

TOTALS

1032

SHANNON-WEAVER DIVERSITY = 4.005

BIOTIC INDEX = 1.989, SOME ENRICHMENT

TABLE 8-7

03408550 North Prong Clear Fork River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/28/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	405	4359.5	44.2	
	Ceratopogonidae				
	<u>Atrichopogon</u> sp.	10	107.6	1.1	
	<u>Bezzia-Probezzia</u> sp.	1	10.8	0.1	
	Athericidae				
	<u>Atherix variegata</u>	1	10.8	0.1	
	Tipulidae				
	<u>Antocha</u> sp.	1	10.8	0.1	
	Empididae				
	<u>Hemerodromia</u> sp.	10	107.6	1.1	
	Simuliidae				
	<u>Simulium</u> sp.	128	1377.8	14.0	
	TRICHOPTERA				
	Philopotamidae				
	<u>Chimarra obscura</u>	50	538.2	5.5	
	Hydropsychidae				
	<u>Cheumatopsyche</u> sp.	103	1108.7	11.2	
	<u>Hydropsyche</u> sp.	4	43.1	0.4	
	<u>Hydropsyche betteni</u>	6	64.6	0.7	
	<u>H. cuanis</u>	6	64.6	0.7	
	EPHEMEROPTERA				
	Oligoneuridae				
	<u>Isonychia</u> sp.	15	161.5	1.6	
	Ephemeridae				
	<u>Ephemera varia</u>	2	21.5	0.2	

TABLE 8-7

03408550 North Prong Clear Fork River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Caenidae				
	<u>Caenis</u> sp.	1	10.8	0.1	
	Baetidae				
	<u>Baetis</u> sp.	15	161.5	1.6	
	<u>Pseudocloeon</u> sp.	37	389.3	4.0	
	Leptophlebiidae				
	<u>Paraleptophlebia</u> sp.	2	21.5	0.2	
	Heptageniidae				
	<u>Stenonema</u> sp.	18	193.8	2.0	
	<u>Stenonema</u> <u>integrum</u>	40	430.6	4.4	
	<u>S. nr. ithaca</u>	3	32.3	0.3	
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra</u> sp.	1	10.8	0.1	
	ODONATA				
	Gomphidae				
	(small instars)	3	32.3	0.3	
	COLEOPTERA				
	Psephenidae				
	<u>Ectopria</u> <u>nervosa</u>	1	10.8	0.1	
	Elmidae				
	<u>Optioservus</u> sp.	33	355.2	3.6	
	<u>Dubiraphia</u> <u>bivittata</u>	1	10.8	0.1	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia</u> <u>serricornis</u>	18	193.8	2.0	

TABLE 8-7

03408550 North Prong Clear Fork River
 Fentress Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	Cambarus sp.	1	10.8	0.1	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	1	10.8	0.1	
	TOTALS	917	9870.8		

SHANNON-WEAVER DIVERSITY = 2.934

TABLE 8-8

03408550 N. Prong Clear Fork River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/28/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	87	936.5	37.5	
	Athericidae				
	<u>Atherix variegata</u>	3	32.3	1.3	
	Empididae	1	10.8	0.4	
	Simuliidae				
	Simulium sp.	9	96.9	3.9	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	33	355.2	14.2	
	<u>Symphitopsyche sparna</u>	1	10.8	0.4	
	Philopotamidae				
	Chimarra obscura	2	21.5	0.9	
	Polycentropodidae				
	Polycentropus sp.	4	43.1	1.7	
	Rhyacophilidae				
	<u>Rhyacophila</u> sp.	1	10.8	0.4	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	5	53.8	2.2	
	Ephemeridae				
	<u>Ephemera varia</u>	3	32.3	1.3	
	Caenidae				
	<u>Caenis</u> sp.	4	43.1	1.7	

TABLE 8-8

03408550 N. Prong Clear Fork River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Baetidae				
	<u>Baetis sp.</u>	2	21.5	0.9	
	<u>Pseudocloeon sp.</u>	1	10.8	0.4	
	Leptophlebiidae				
	<u>Paraleptophlebia sp.</u>	1	10.8	0.4	
	Heptageniidae				
	<u>Stenonema vicarium</u>	38	409.0	16.4	
	<u>S. integrum</u>	6	64.6	2.6	
	<u>Stenacron gildersleevei</u>	2	21.5	0.9	
	HEMIPTERA				
	Mesoveliidae				
	<u>Mesovelis sp.</u>	1	10.8	0.4	
	ODONATA				
	Gomphidae				
	<u>Gomphus sp.</u>	1	10.8	0.4	
	COLEOPTERA				
	Elmidae				
	<u>Optioservus sp.</u>	15	161.5	6.5	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	10	107.6	4.3	
	<u>Corydalus cornutus</u>	1	10.8	0.4	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Cambarus sp.</u>	1	10.8	0.4	
	TOTALS	232	2497.3		

SHANNON-WEAVER DIVERSITY = 3.093

TABLE 8-9

03408550 North Prong Clear Fork River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/28/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	384	4133.5	69.4	
	Simuliidae				
	Simulium sp.	16	172.2	2.9	
	Empididae	1	10.8	0.2	
	Ceratopogonidae				
	Atrichopogon sp.	1	10.8	0.2	
	Tipulidae				
	Antocha sp.	2	21.5	0.4	
	Limnophora sp.	1	10.8	0.2	
	Athericidae				
	Atherix variegata	4	43.1	0.7	
	TRICHOPTERA				
	Philopotomidae				
	Chimarra obscura	3	32.3	0.5	
	Hydropsychidae				
	Cheumatopsyche sp.	53	570.5	9.6	
	Hydropsyche simulans	8	86.1	1.4	
	Rhyacophilidae				
	Rhyacophila sp.	2	21.5	0.4	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	9	96.9	1.6	
	Baetidae				
	Pseudocloeon sp.	7	75.4	1.3	
	Baetis ephippiatus	5	51.8	0.9	

TABLE 8-9

03408550 North Prong Clear Fork River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Heptageniidae				
	<u>Stenonema exiguum</u>	2	21.5	0.4	
	<u>S. nepotellum</u>	8	86.1	1.4	
	<u>S. vicarium</u>	26	279.9	4.7	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	1	10.8	0.2	
	<u>Ectopria nervosa</u>	1	10.8	0.2	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	5	53.8	0.9	
	<u>Nigronia serricornis</u>	10	107.6	1.8	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	4	43.1	0.7	
	TOTALS	553	5952.6		

SHANNON-WEAVER DIVERSITY = 1.940

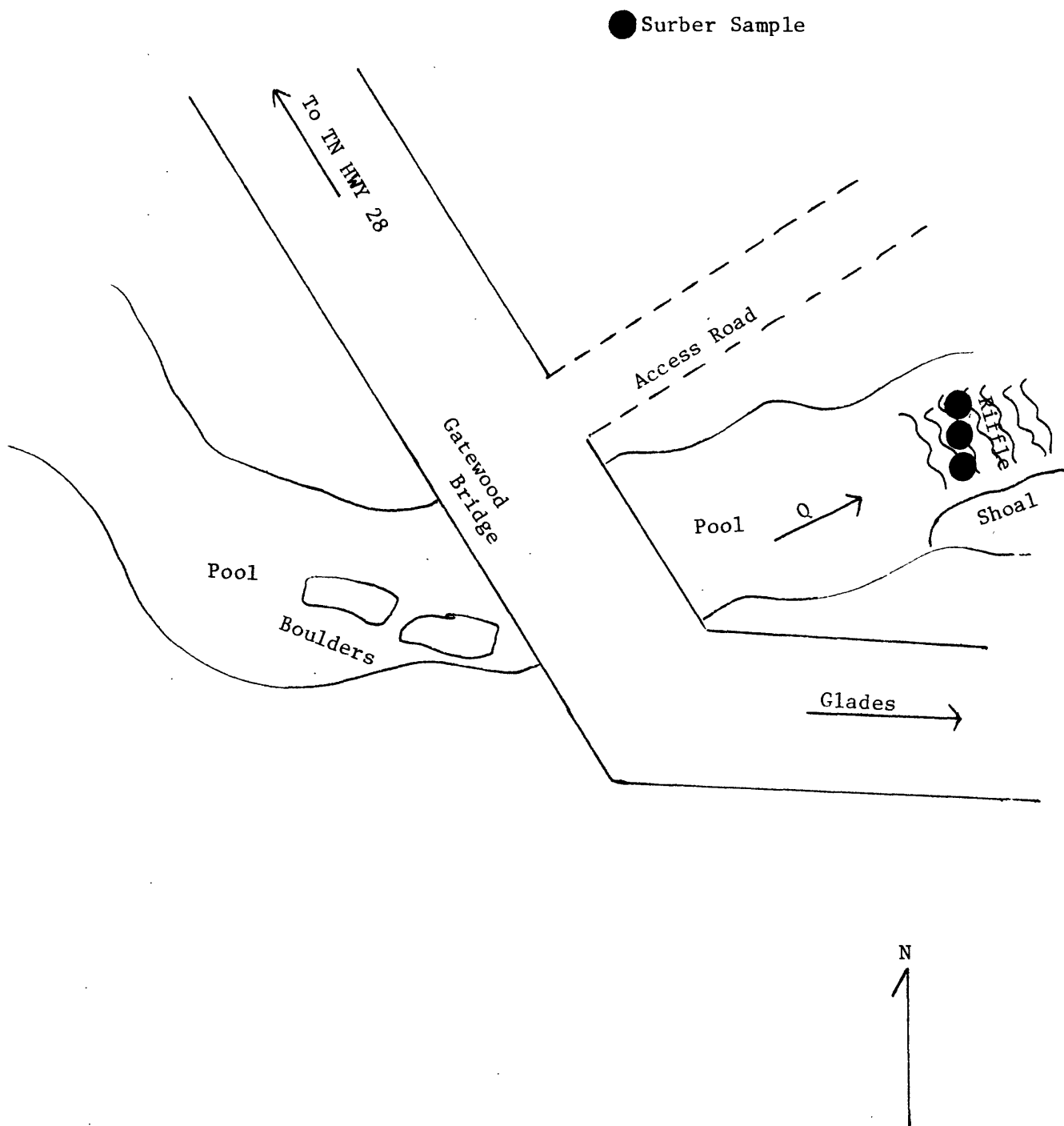


FIGURE 9-1. Station 9 - 03408700 - Clear Fork at Gatewood, TN

TABLE 9-1

Physical and Chemical Parameters at

Station 9 - 03408700

Clear Fork at Gatewood, Morgan Co., TN

Parameter	Date	
	6-17-81	8-28-81
Water Temperature	20°C	22°C
Dissolved Oxygen	9.1 mg/L	8.8 mg/L
pH	8.0	5.9
Conductivity	139 umhos/cm	70 umhos/cm
Stream Width	8.5 m	4.88 m
Average Stream Depth	40.2 cm	24.8 cm
Average Stream Velocity	1.27 m/sec	0.51 m/sec
Discharge	3.45 m ³ /sec	0.48 m ³ /sec
Cover (% Shaded)	60%	30%
Substrate	Sand and medium cobble	

TABLE 9-2

03408700 Clear Fork
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
6/17/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	484	67.3	
	<u>Cricotopus sp.</u>	(23)		
	<u>Thienemanniella sp.</u>	(2)		
	<u>Parametriocnemus sp.</u>	(4)		
	<u>Eukiefferiella sp.</u>	(3)		
	<u>Polypedilum convictum</u>	(3)		
	<u>Conchapelopia sp.</u>	(5)		
	<u>Rheotanytarsus sp.</u>	(1)		
	Athericidae			
	<u>Atherix sp.</u>	2	0.3	
	Simuliidae			
	<u>Simulium sp.</u>	9	1.3	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche sp.</u>	52	7.2	
	Philopotamidae			
	<u>Chimarra obscura</u>	7	1.0	
	EPHEMEROPTERA			
	Oligoneuridae			
	<u>Isonychia sp.</u>	16	2.2	
	Ephemeridae			
	<u>Ephemera varia</u>	3	0.4	
	Ephemerellidae			
	<u>Ephemerella temporalis</u>	1	0.1	
	<u>Ephemerella sp.</u>	1	0.1	

TABLE 9-2

03408700 Clear Fork
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Caenidae			
	<u>Caenis</u> sp.	3	0.4	
	Heptageniidae			
	<u>Stenonema fuscum</u>	7	1.0	
	Baetidae			
	<u>Pseudocloeon</u> sp.	9	1.3	
	<u>Baetis</u> sp.	17	2.4	
	PLECOPTERA			
	Chloroperlidae	2	0.3	
	Perlodidae			
	<u>Isoperla</u> sp.	3	0.4	
	Leuctridae			
	<u>Leuctra</u> sp.	8	1.1	
	Peltoperlidae			
	<u>Peltoperla arcuata</u>	3	0.4	
	Nemouridae			
	<u>Amphinemura delosa</u>	2	0.3	
	Taeniopterygidae			
	<u>Taeniopteryx</u> sp.	1	0.1	
	ODONATA			
	Aeshnidae			
	<u>Boyeria</u> sp.**	1	0.1	
	Gomphidae			
	(early instars)	6	0.8	
	<u>Ophiogomphus</u> sp.**	1	0.1	

TABLE 9-2

03408700 Clear Fork
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	COLEOPTERA			
	Elmidae			
	Optioservus sp.	27	3.8	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	15	2.1	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	39	5.4	
	TOTALS	719		

SHANNON-WEAVER DIVERSITY = 3.505

BIOTIC INDEX = 3.206, SIGNIFICANT ENRICHMENT

TABLE 9-3

03408700 Clear Fork River
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/17/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	241	2594.2	91.3	
	Simuliidae				
	<u>Simulium</u> sp.	8	86.1	3.0	
	TRICHOPTERA				
	Hydropsychidae				
	<u>Cheumatopsyche</u> sp.	2	21.5	0.8	
	EPHEMEROPTERA				
	Baetidae				
	<u>Pseudocloeon</u> sp.	6	64.6	2.3	
	<u>Baetis</u> sp.	1	10.8	0.4	
	Heptageniidae				
	<u>Stenonema</u> sp.	1	10.8	0.4	
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra ferruginea</u>	1	10.8	0.4	
	Perlodidae				
	<u>Isogenus decicus</u>	1	10.8	0.4	
	ODONATA				
	Aeshnidae				
	<u>Boyeria</u> sp.	1	10.8	0.4	
	COLEOPTERA				
	Elmidae				
	<u>Optioservus</u> sp.	1	10.8	0.4	

TABLE 9-3

03408700 Clear Fork River
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Cambarus</u> sp.	1	10.8	0.4	
	TOTALS	264	2841.8		

SHANNON-WEAVER DIVERSITY = 0.664

TABLE 9-4

03408700 Clear Fork River
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/17/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	190	2045.2	69.1	
	Simuliidae				
	Simulium sp.	8	86.1	2.9	
	Tipulidae				
	Tipula sp.	1	10.8	0.4	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	15	161.5	5.5	
	Hydropsyche sp.	2	21.5	0.7	
	Symphitopsyche sp.	1	10.8	0.4	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.***	9	96.9	3.3	
	Baetidae				
	Baetis sp.	10	107.6	3.6	
	Pseudocloeon sp.	2	21.5	0.7	
	Ephemeridae				
	Ephemera varia	2	21.5	0.7	
	Ephemerellidae				
	Eurylophella temporalis	3	32.3	1.1	
	Heptageniidae				
	Stenonema sp.	1	10.8	0.4	
	Stenonema fuscum	2	21.5	0.7	

TABLE 9-4

03408700 Clear Fork River
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra</u> sp.	1	10.8	0.4	
	Perlodidae				
	<u>Isoperla</u> sp.	1	10.8	0.4	
	ODONATA				
	Gomphidae				
	<u>Octogomphus</u> sp.	3	32.3	1.1	
	COLEOPTERA				
	Dryopidae				
	<u>Helichus</u> <u>basalis</u>	1	10.8	0.4	
	Elmidae				
	<u>Optioservus</u> sp.	8	86.1	2.9	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia</u> <u>serricornis</u>	9	96.9	3.3	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	6	64.6	2.2	
	TOTALS	275	2960.2		

SHANNON-WEAVER DIVERSITY = 2.037

TABLE 9-5

03408700 Clear Fork River
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/17/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	437	4704	73.1	
	Simuliidae				
	Simulium sp.	7	75.4	1.2	
	Tipulidae				
	Antocha sp.	3	32.3	0.5	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	29	312.2	4.8	
	Philopotamidae				
	Dolophilodes distinctus	3	32.2	0.5	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	31	333.7	5.2	
	Baetidae				
	Pseudocloeon sp.	8	86.1	1.3	
	Baetidae sp.	6	64.6	1.0	
	Ephemerellidae				
	Eurylophella temporalis	1	10.8	0.2	
	Heptageniidae				
	Stenonema vicarium	2	21.5	0.3	
	PLECOPTERA				
	Leuctriade				
	Leuctra ferruginea	10	107.6	1.7	

TABLE 9-5

03408700 Clear Fork River
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	HEMIPTERA				
	Veliidae				
	<u>Rhagovelia sp.</u>	1	10.8	0.2	
	ODONATA				
	Gomphidae				
	<u>Lanthus parvula</u>	2	21.5	0.3	
	COLEOPTERA				
	Dryopidae				
	<u>Helichus basalis</u>	1	10.8	0.2	
	Elmidae				
	<u>Optioservus sp.</u>	3	32.3	0.5	
	MEGALOPTERA				
	Sialidae				
	<u>Sialis sp.</u>	1	10.8	0.2	
	Corydalidae				
	<u>Nigronia serricornis</u>	3	32.3	0.5	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Cambarus sp.</u>	1	10.8	0.2	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	49	527.5	8.2	
	TOTALS	598	5918		

SHANNON-WEAVER DIVERSITY = 1.669

TABLE 9-6

03408700 Clear Fork River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
8/28/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	208	50.5	
	<u>Rheocricotopus sp.</u>	(7)		
	<u>Cricotopus sp.</u>	(1)		
	<u>Synorthocladius sp.</u>	(1)		
	<u>Nilotanytus sp.</u>	(4)		
	<u>Ablabesmyia mallochi</u>	(2)		
	<u>Conchapelopia sp.</u>	(3)		
	<u>Polypedilum illinoense</u>	(2)		
	<u>Parachironomus pectinatellae</u>	(2)		
	<u>Cryptochironomus fulvus</u>	(1)		
	<u>Psectrocladius sp.</u>	(2)		
	<u>Tanytarsus sp.</u>	(2)		
	<u>Rheotanytarsus sp.</u>	(4)		
	<u>Micropsectra sp.</u>	(2)		
	Ceratopogonidae			
	<u>Bezzia-Probezzia sp.</u>	1	0.2	
	Empididae	3	0.7	
	Athericidae			
	<u>Atherix variegata</u>	4	1.0	
	TRICHOPTERA			
	Philopotamidae			
	<u>Chimarra obscura</u>	1	0.2	
	Hydropsychidae			
	<u>Cheumatopsyche sp.</u>	12	2.9	
	<u>Hydropsyche dicantha</u>	1	0.2	

TABLE 9-6

03408700 Clear Fork River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Phryganeidae			
	<u>Ptilostomis sp.</u>	1	0.2	
	EPHEMEROPTERA			
	Oligoneuridae			
	<u>Isonychia sp.</u>	27	6.6	
	Baetidae			
	<u>Pseudocloeon sp.</u>	2	0.5	
	<u>Baetis sp.</u>	10	2.4	
	Caenidae			
	<u>Caenis sp.</u>	3	0.7	
	Ephemeridae			
	<u>Hexagenia bilineata</u>	1	0.2	
	<u>Ephemera varia</u>	3	0.7	
	Heptageniidae			
	<u>Stenacron gildersleevei</u>	1	0.2	
	<u>Stenonema tripunctatum</u>	3	0.7	
	<u>S. rubrum</u>	1	0.2	
	<u>S. nepotellum</u>	2	0.5	
	<u>S. vicarium</u>	38	9.2	
	ODONATA			
	Coenagrionidae			
	<u>Anomalagrion hastatum</u>	1	0.2	
	Gomphidae			
	<u>Erpetogomphus designatus**</u>	1	0.2	
	<u>Lanthus parvula</u>	2	0.5	

TABLE 9-6

03408700 Clear Fork River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	COLEOPTERA			
	Elmidae			
	<u>Macronychus glabratus</u>	1	0.2	
	<u>Promoresia tardella</u>	1	0.2	
	<u>Optioservus</u> sp. (larvae)	36	8.7	
	<u>Optioservus ovalis</u>	7	1.7	
	<u>Stenelmis parva</u>	1	0.2	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	13	3.2	
	<u>Corydalus cornutus</u>	13	3.2	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Cambarus (J.) brachydactylus</u>	1	0.2	
	MOLLUSCA			
	PELECYPODA			
	EULAMELLIBRANCHIA			
	Unionidae			
	<u>Villosa iris**</u>	1	0.2	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	12	2.9	

TOTALS

412

SHANNON-WEAVER DIVERSITY = 4.646

BIOTIC INDEX = 1.764, SOME ENRICHMENT

TABLE 9-7

03408700 Clear Fork River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/28/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	492	5296.0	88.8	
	Empididae	2	21.5	0.4	
	Ceratopogonidae				
	Atrichopogon sp.	2	21.5	0.4	
	TRICHOPTERA				
	Helicopsychidae				
	Helicopsyche nr. borealis	1	10.8	0.2	
	Hydroptilidae				
	Hydroptila sp.	3	32.3	0.5	
	Rhyacophilidae				
	Rhyacophila sp.	1	10.8	0.2	
	Hydropsychidae				
	Cheumatopsyche sp.	10	107.6	1.8	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	2	21.5	0.4	
	Caenidae				
	Caenis sp.	1	10.8	0.2	
	Baetidae				
	Baetis sp.	1	10.8	0.2	
	Heptageniidae				
	Stenonema sp.	2	21.5	0.4	

TABLE 9-7

03408700 Clear Fork River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	HEMIPTERA				
	Gerridae				
	<u>Metrobates sp.</u>	1	10.8	0.2	
	LEPIDOPTERA				
	Pyralidae				
	<u>Paragyraetis sp.</u>	1	10.8	0.2	
	COLEOPTERA				
	Psephenidae				
	<u>Ectopria nervosa</u>	1	10.8	0.2	
	Elmidae				
	<u>Optioservus sp.</u>	25	269.1	4.5	
	<u>Stenelmis concinna</u>	1	10.8	0.2	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	6	64.6	1.1	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	2	21.5	0.4	
	TOTALS	554	5963.4		

SHANNON-WEAVER DIVERSITY = 0.848

TABLE 9-8

03408700 Clear Fork River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/28/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	255	2744.9	74.3	
	Ceratopogonidae				
	Atrichopogon sp.	1	10.8	0.3	
	Athericidae				
	Atherix variegata	1	10.8	0.3	
	Simuliidae				
	Simulium sp.	1	10.8	0.3	
	Empididae	2	21.5	0.6	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	7	75.4	2.0	
	Hydropsyche dicantha	3	32.3	0.9	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	32	344.5	9.3	
	Caenidae				
	Caenis sp.	2	21.5	0.6	
	Heptageniidae				
	Stenacron gildersleevei	1	10.8	0.3	
	Stenonema tripunctatum	2	21.5	0.6	
	S. nepotellum	5	53.8	1.5	
	ODONATA				
	Gomphidae				
	Lanthus parvula	1	10.8	0.3	

TABLE 9-8

03408700 Clear Fork River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	COLEOPTERA				
	Dryopidae				
	<u>Helichus basalis</u>	1	10.8	0.3	
	Elmidae				
	<u>Optioservus sp.</u>	12	129.2	3.5	
	<u>Optioservus ampliatus</u>	1	10.8	0.3	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	3	32.3	0.9	
	<u>Nigronia serricornis</u>	3	32.3	0.9	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Cambarus sp.</u>	1	10.8	0.3	
	MOLLUSCA				
	PELECYPODA				
	EULAMELLIBRANCHIA				
	Unionidae				
	<u>Pleurobema cordatum**</u>	1	10.8	0.3	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	8	86.1	2.4	
	TOTALS	343	3692.1		

SHANNON-WEAVER DIVERSITY = 1.667

TABLE 9-9

03408700 Clear Fork
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/28/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	682	7341.2	76.5	
	Simuliidae				
	Simulium sp.	7	75.4	0.8	
	Empididae	17	183.0	1.9	
	Ceratopogonidae				
	Atrichopogon sp.	6	63.6	0.7	
	Tipulidae				
	Antocha sp.	3	32.3	0.3	
	TRICHOPTERA				
	Hydropsychidae				
	Macronema zebratum	11	118.4	1.2	
	Cheumatopsyche sp.	83	893.4	9.3	
	Hydropsyche betteni	8	86.1	0.9	
	Hydroptilidae				
	Hydroptila sp.	1	10.8	0.1	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	1	10.8	0.1	
	Pseudocloeon sp.	1	10.8	0.1	
	Oligoneuridae				
	Isonychia sp.	18	193.8	2.0	
	Leptophlebiidae				
	Paraleptophlebia sp.	1	10.8	0.1	

TABLE 9-9

03408700 Clear Fork
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Caenidae				
	Caenis sp.	3	32.3	0.3	
	Ephemeridae				
	Ephemera varia	1	10.8	0.1	
	Heptageniidae				
	Stenonema vicarium	6	64.6	0.7	
	Stenonema sp.	4	43.1	0.4	
	ODONATA				
	Coenagrionidae				
	Argia sp.	1	10.8	0.1	
	Gomphidae				
	Lanthus parvula	1	10.8	0.1	
	COLEOPTERA				
	Elmidae				
	Optioservus sp.	12	129.2	1.3	
	Machronychus glabratus	1	10.8	0.1	
	Optioservus nr. ampliatus	1	10.8	0.1	
	MEGALOPTERA				
	Corydalidae				
	Nigronia serricornis	16	172.2	1.8	
	Corydalus cornutus	7	75.4	0.8	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	1	10.8	0.1	
	TOTALS	892	9601.7		

SHANNON-WEAVER DIVERSITY = 0.562

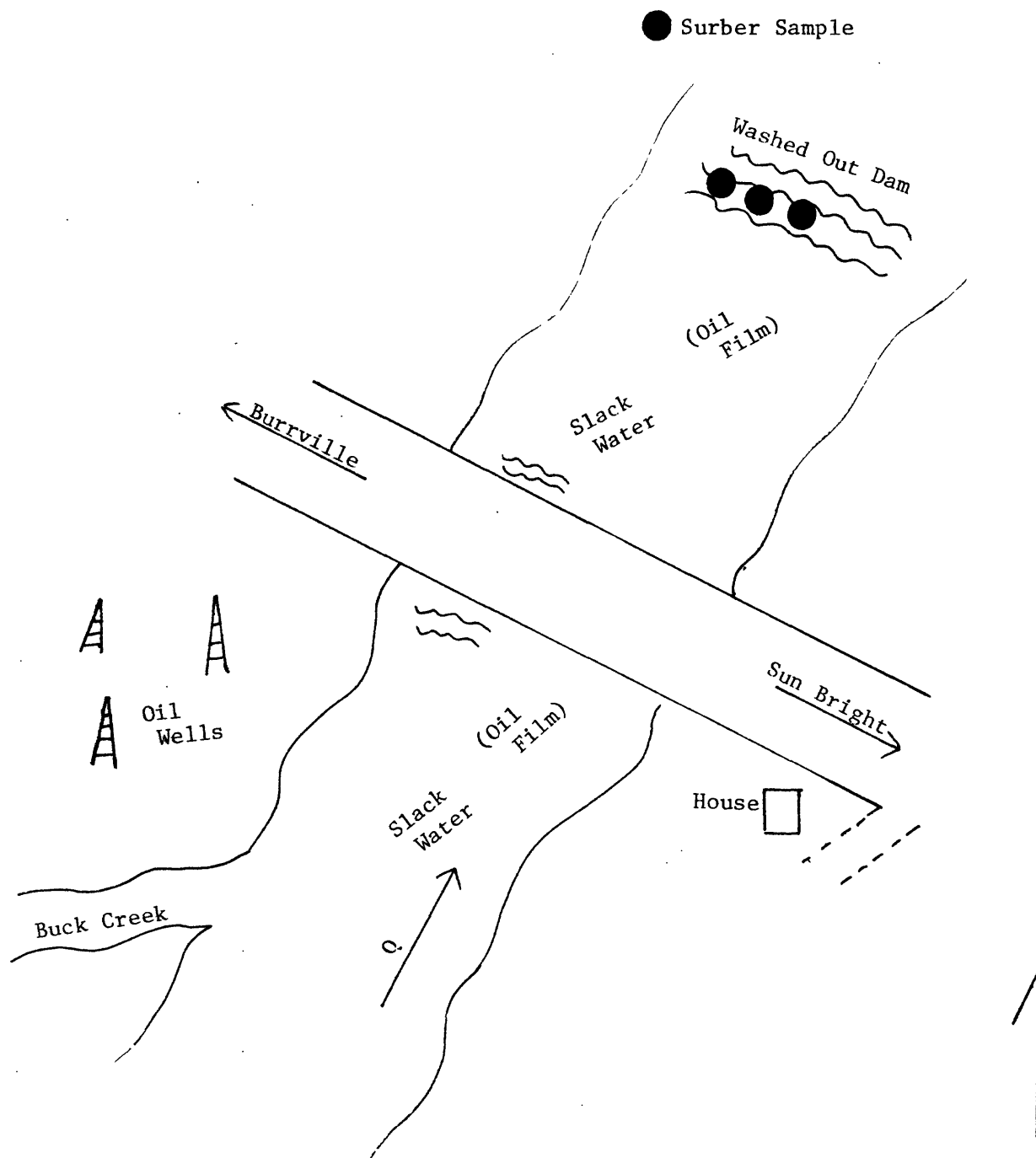


FIGURE 10-1. Station 10 - 03409350 - Bone Camp Creek near Burrville, TN

TABLE 10-1
Physical and Chemical Parameters at
Station 10 - 03409350
Bone Camp Creek near Burrville, Morgan Co., TN

Parameter	Date	
	4-15-81	9-18-81
Water Temperature	15°C	13°C
Dissolved Oxygen	10.8 mg/L	10.6 mg/L
pH	6.3	6.3
Conductivity	32 umhos/cm	150 umhos/cm
Stream Width	11.2 m	5.2 m
Average Stream Depth	45.7 cm	24.1 cm
Average Stream Velocity	0.24 m/sec	0.08 m/sec
Discharge	0.97 m ³ /sec	0.08 m ³ /sec
Cover (% Shaded)	75%	80%
Substrate	Medium cobble covered with sediment	

Oil film observed on water surface.

TABLE 10-2

03409350 Bone Camp Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
4/14/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	31	48.4	
	TRICHOPTERA			
	Hydropsychidae			
	Cheumatopsyche sp.	1	1.6	
	EPHEMEROPTERA			
	Ephemerellidae			
	Eurylophella bicolor	8	12.5	
	Baetiscidae			
	Baetisca rogersi*	2	3.1	
	Caenidae			
	Caenis amica*	6	9.4	
	Baetidae			
	Pseudocloeon sp.	4	6.3	
	Leptophlebiidae			
	Habrophlebia vibrans	1	1.6	
	PLECOPTERA			
	Perlodidae			
	Isoperla nr. signata*	5	7.8	
	Chloroperlidae			
	Alloperla sp.	1	1.6	
	COLEOPTERA			
	Psephenidae			
	Psephenus herricki	1	1.6	

TABLE 10-2

03409350 Bone Camp Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Elmidae			
	<u>Optioservus</u> sp.	2	3.1	
	MOLLUSCA			
	PELECYPODA			
	Unionidae			
	<u>Strophitus undulatus</u>	2	3.1	
	TOTALS	64		

SHANNON-WEAVER DIVERSITY = 2.583

BIOTIC INDEX = 2.109, SOME ENRICHMENT

TABLE 10-3

03409550 Bone Camp Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/15/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	7	75.3	17.1	
	Simuliidae				
	Simulium sp.	2	21.5	4.9	
	Prosimulium sp.	2	21.5	4.9	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	13	139.9	31.7	
	Ephemerellidae				
	Danella simplex	1	10.8	2.4	
	Ephemerella sp.	1	10.8	2.4	
	PLECOPTERA				
	Nemouridae				
	Amphinemura delosa	4	43.1	9.8	
	Perlodidae				
	Isoperla nr. frisoni	2	21.5	4.9	
	TRICHOPTERA				
	Rhyacophilidae				
	Rhyacophila ledra	2	21.5	4.9	
	Glossosomatidae				
	Agapetus sp.	3	32.3	7.3	
	MEGALOPTERA				
	Corydalidae				
	Nigronia serricornis	4	43.1	9.8	
	TOTALS	41	441.3		

SHANNON-WEAVER DIVERSITY = 3.0036

TABLE 10-4

03409350 Bone Camp Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/15/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	14	150.7	23.7	
	EPHEMEROPTERA				
	Baetidae				
	<u>Pseudocloeon</u> sp.	34	366.0	57.6	
	PLECOPTERA				
	Nemouridae				
	<u>Amphinemura delosa</u> *	1	10.8	1.7	
	Chloroperlidae				
	<u>Alloperla</u> sp.	1	10.8	1.7	
	TRICHOPTERA				
	Glossomatidae				
	<u>Glossosoma</u> sp.	9	96.9	15.3	
	TOTALS	59	635.1		

SHANNON-WEAVER DIVERSITY = 1.5639

TABLE 10-5

03409550 Bone Camp Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/15/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	4	43.1	25.0	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	4	43.1	25.0	
	Heptageniidae				
	Stenacron interpunctatum	1	10.8	6.3	
	COLEOPTERA				
	Dryopidae				
	Helichus sp.	4	43.1	25.0	
	MEGALOPTERA				
	Corydalidae				
	Nigronia serricornis	3	32.3	18.8	
	TOTALS	16	172.2		

SHANNON-WEAVER DIVERSITY = 2.2028

TABLE 10-6

03409350 Bone Camp Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/18/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	306	43.5	
	Polypedilum sp.	(13)		
	Procladius sp.	(3)		
	Conchapelopia sp.	(3)		
	Ablabesmyia mallochi	(2)		
	Psectrocladius vernalis	(1)		
	Ceratopogonidae			
	Bezzia-Probezzia sp.	12	1.7	
	Stilobezzia sp.	1	0.1	
	Tabanidae			
	Tabanus sp.	5	0.7	
	Tipulidae			
	Hexatoma sp.	1	0.1	
	Stratiomyidae			
	Stratiomys sp.	1	0.1	
	Culicidae			
	Culex sp.	1	0.1	
	TRICHOPTERA			
	Polycentropodidae			
	Anisocentropus pyraloides***	1	0.1	
	EPHEMEROPTERA			
	Caenidae			
	Caenis sp.	7	1.0	

TABLE 10-6

03409350 Bone Camp Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Baetidae			
	<u>Baetis sp.</u>	5	0.7	
	Ephemeridae			
	<u>Hexagenia atrocaudata</u>	1	0.1	
	<u>Ephemera varia</u>	3	0.4	
	Heptageniidae			
	<u>Stenonema integrum</u>	2	0.3	
	<u>Stenacron minnetonka</u>	5	0.7	
	ODONATA			
	Gomphidae			
	<u>Lanthus parvula</u>	2	0.3	
	COLEOPTERA			
	Psephenidae			
	<u>Ectopria nervosa</u>	4	0.6	
	Elmidae			
	<u>Dubiraphia sp. (larvae)</u>	3	0.4	
	<u>Optioservus sp. (larvae)</u>	3	0.4	
	Dryopidae			
	<u>Helichus sp.</u>	1	0.1	
	Dytiscidae			
	<u>Hydroporus sp.</u>	1	0.1	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	3	0.4	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Cambarus sp.</u>	1	0.1	

TABLE 10-6

03409350 Bone Camp Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	<u>Corbicula manilensis</u>	11	1.6	
	GASTROPODA			
	BASOMMATOPHORA			
	Planorbidae			
	<u>Gyraulus</u> sp.	3	0.4	
	Lymaeiidae			
	<u>Lymaea</u> sp.	2	0.3	
	ANNELIDA			
	CLITELLATA			
	OLIGOCALYPTA			
	Naididae	318	45.2	
	TOTALS	703		

SHANNON-WEAVER DIVERSITY = 2.584

BIOTIC INDEX = 2.998, MODERATE ENRICHMENT

TABLE 10-7

03409350 Bone Camp Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/18/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	222	2389.7	56.9	
	Ceratopogonidae				
	<u>Atrichopogon sp.</u>	15	161.5	3.8	
	<u>Bezzia-Probezzia sp.</u>	5	53.8	1.3	
	Tipulidae				
	<u>Tipula sp.</u>	1	10.8	0.3	
	Tabanidae				
	<u>Tabanus sp.</u>	1	10.8	0.3	
	Simuliidae				
	<u>Simulium sp.</u>	1	10.8	0.3	
	TRICHOPTERA				
	Phryganeidae				
	<u>Ptilostomis sp.</u>	3	32.3	0.8	
	EPHEMEROPTERA				
	Ephemeridae				
	<u>Ephemera varia</u>	6	64.6	1.5	
	Caenidae				
	<u>Caenis sp.</u>	9	96.9	2.3	
	Baetidae				
	<u>Baetis sp.</u>	4	43.1	1.0	
	Leptophlebiidae				
	<u>Paraleptophlebia sp.</u>	3	32.1	0.8	

TABLE 10-7

03409350 Bone Camp Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Ephemereleididae				
	<u>Euryllophella bicolor</u>	5	53.8	1.3	
	<u>E. temporalis</u>	9	96.9	2.3	
	Heptageniidae				
	<u>Stenonema tripunctatum</u>	2	21.5	0.5	
	<u>S. vicarium</u>	2	21.5	0.5	
	COLEOPTERA				
	Psephenidae				
	<u>Ectopria nervosa</u>	2	21.5	0.5	
	Elmidae				
	<u>Optioservus</u> sp.	4	43.1	1.0	
	MEGALOPTERA				
	Sialidae				
	<u>Sialis</u> sp.	1	10.8	0.3	
	Corydalidae				
	<u>Nigronia serricornis</u>	1	10.8	0.3	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Cambarus</u> sp.	2	21.5	0.5	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	7	75.4	1.8	

TABLE 10-7

03409350 Bone Camp Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	CASTROPODA				
	BASOMMATOPHORA				
	Planorbidae				
	Gyraulus sp.	1	10.8	0.3	
	Ancylidae				
	Ferrissia rivularis	2	21.5	0.5	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	82	882.7	21.0	
	TOTALS	390	4198.1		

SHANNON-WEAVER DIVERSITY = 2.296

TABLE 10-8

03409350 Bone Camp Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/18/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	97	1044.1	52.7	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	1	10.8	0.5	
	Palpomyia sp.	2	21.5	1.1	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	3	32.5	1.6	
	Phryganeidae				
	Ptilostomis sp.	1	10.8	0.5	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	5	53.8	2.7	
	Baetidae				
	Baetis sp.	2	21.5	1.1	
	Leptophlebiidae				
	Paraleptophlebia sp.	1	10.8	0.5	
	Ephemerellidae				
	Eurylophella bicolor	6	64.6	3.3	
	Heptageniidae				
	Stenonema vicarium	4	43.1	2.2	
	Stenacron gildersleevei	1	10.8	0.5	

TABLE 10-8

03409350 Bone Camp Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ODONATA				
	Gomphidae				
	<u>Lanthus parvula</u>	1	10.8	0.5	
	COLEOPTERA				
	Elmidae				
	<u>Dubiraphia sp.</u>	2	21.5	1.1	
	<u>Stenelmis sp.</u>	1	10.8	0.5	
	<u>Optioservus sp.</u>	5	53.8	2.7	
	<u>Optioservus ampliatus</u>	1	10.8	0.5	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	1	10.8	0.5	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Cambarus b. bartonii</u>	1	10.8	0.5	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	49	527.4	26.6	
	TOTALS	184	1980.6		

SHANNON-WEAVER DIVERSITY = 2.237

TABLE 10-9

03409350 Bone Camp Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/18/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	154	1657.7	63.1	
	Ceratopogonidae				
	<u>Bezzia-Probezzia</u> sp.	4	43.1	1.6	
	<u>Palpomyia</u> sp.	1	10.8	0.4	
	TRICHOPTERA				
	Hydropsychidae				
	<u>Cheumatopsyche</u> sp.	1	10.8	0.4	
	EPHEMEROPTERA				
	Ephemeridae				
	<u>Ephemera varia</u>	2	21.5	0.8	
	Tricorythidae				
	<u>Tricorythodes</u> sp.	5	53.8	2.0	
	Ephemerellidae				
	<u>Serratella frisoni</u>	4	43.1	1.6	
	Leptophlebiidae				
	<u>Paraleptophlebia</u> sp.	3	32.3	1.2	
	Heptageniidae				
	<u>Stenonema vicarium</u>	2	21.5	0.8	
	<u>Stenacron gildersleevei</u>	10	107.6	4.1	
	HEMIPTERA				
	Hebridae				
	<u>Merragata</u> sp.	1	10.8	0.4	

TABLE 10-9

03409350 Bone Camp Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	COLEOPTERA				
	Psephenidae				
	<u>Ectopria nervosa</u>	2	21.5	0.8	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Cambarus b. bartonii</u> **	1	10.8	0.4	
	MOLLUSCA				
	GASTROPODA				
	BASSOMATOPHORA				
	Ancylidae				
	<u>Laevapex</u> sp.	3	32.3	1.2	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	51	549.0	20.9	
	TOTALS	244	2626.5		

SHANNON-WEAVER DIVERSITY = 1.846

● Surber Sample

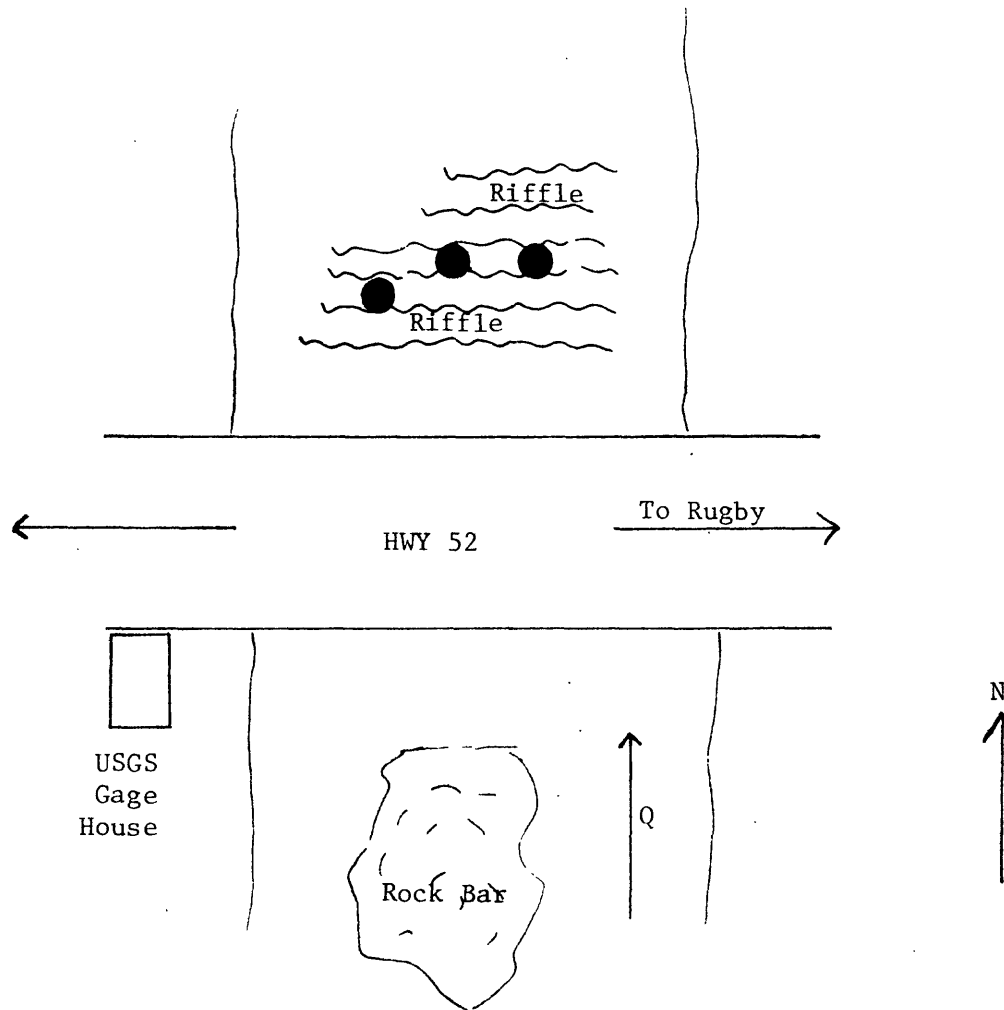


FIGURE 11-1. Station 11 - 03409400 - White Oak Creek at Rugby, TN

TABLE 11-1

Physical and Chemical Parameters at

Station 11 - 03409400

White Oak Creek near Rugby, Morgan Co., TN

Parameter	Date	
	4-15-81	9-18-81
Water Temperature	16°C	14°C
Dissolved Oxygen	10.4 mg/L	10.7 mg/L
pH	5.9	6.4
Conductivity	80 umhos/cm	165 umhos/cm
Stream Width	14.5 m	12.5 m
Average Stream Depth	45.7 cm	18.8 cm
Average Stream Velocity	1.27 m/sec	0.44 m/sec
Discharge	6.65 m ³ /sec	0.81 m ³ /sec
Cover (% Shaded)	60%	60%
Substrate	Medium to large cobble	

TABLE 11-2

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
4/15/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	129	25.7	
	Empididae	10	2.0	
	TRICHOPTERA			
	Brachycentridae			
	Micrasema sp.	1	0.2	
	EPHEMEROPTERA			
	Baetidae			
	Pseudocloeon sp.	278	55.4	
	Heptageniidae			
	Stenonema vicarium	1	0.2	
	Stenacron sp.	2	0.4	
	Epeorus sp.	2	0.4	
	Stenonema ares	1	0.2	
	Oligoneuridae			
	Isonychia sp.	2	0.4	
	Siphonuridae			
	Ameletus lineatus	4	0.8	
	Baetiscidae			
	Baetisca rogersi	1	0.2	
	Ephemerellidae			
	Ephemerella sp.	2	0.4	
	Ephemerella nr. needhami	2	0.4	
	Dannella lita	6	1.2	

TABLE 11-2

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	PLECOPTERA			
	Leuctridae			
	<u>Leuctra sp.</u>	3	0.6	
	Perlodidae			
	<u>Isoperla sp.</u>	6	1.2	
	<u>Isoperla nr. frisoni</u>	14	2.8	
	Nemouridae			
	<u>Amphinemura delosa</u>	3	0.6	
	ODONATA			
	Gomphidae			
	<u>Octogomphus sp.</u>	1	0.2	
	COLEOPTERA			
	Elmidae			
	<u>Dubiraphia bivittata</u>	2	0.4	
	<u>Optioservus sp.</u>	2	0.4	
	Dryopidae			
	<u>Helichus sp.</u>	1	0.2	
	COLLEMBOLA			
	Isotomidae			
	<u>Isotomurus palustris</u>	1	0.2	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Cambarus sp.</u>	1	0.2	

TABLE 11-2

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	Corbicula manilensis	2	0.4	
	GASTROPODA			
	BASOMMATOPHORA			
	Planorbidae			
	Gyraulus sp.	1	0.2	
	Physidae			
	Physa sp.	1	0.2	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	23	4.6	
	TOTALS	502		

SHANNON-WEAVER DIVERSITY = 2.166

BIOTIC INDEX = 2.243, SOME ENRICHMENT

TABLE 11-3

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/15/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	43	462.9	46.2	
	Rhagionidae				
	<u>Atherix variegata</u>	2	21.5	2.2	
	EPHEMEROPTERA				
	Baetidae				
	<u>Pseudocloeon</u> sp.	37	398.3	39.8	
	Ephemerellidae				
	<u>Ephemerella</u> sp.	1	10.8	1.1	
	Heptageniidae				
	<u>Stenacron interpunctatum</u>	1	10.8	1.1	
	PLECOPTERA				
	Nemouridae				
	<u>Amphinemura delosa</u>	2	21.5	2.2	7.5
	Perlodidae				
	<u>Isoperla</u> sp.	7	75.3		
	TOTALS	93	1001.1		

SHANNON-WEAVER DIVERSITY = 1.7033

TABLE 11-4

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/15/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	20	215.3	46.5	
	Tabanidae				
	Chrysops sp.	1	10.8	2.3	
	Simuliidae				
	Prosimulium sp.	1	10.8	2.3	
	Tipulidae (pupae)	1	10.8	2.3	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	15	161.5	34.9	
	Pseudocloeon sp.	1	10.8	2.3	
	Heptageniidae				
	Stenonema fuscum	1	10.8	2.3	
	PLECOPTERA				
	Leuctridae				
	Leuctra sp.	1	10.8	2.3	
	Perlodidae				
	Isoperla sp.	1	10.8	2.3	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	1	10.8	2.3	
TOTALS		43	462.9		

SHANNON-WEAVER DIVERSITY = 2.053

TABLE 11-5

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/15/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	26	279.9	28.9	
	Rhagionidae				
	<u>Atherix variegata</u>	2	21.5	2.2	
	EPHEMEROPTERA				
	Baetidae				
	<u>Pseudocloeon</u> sp.	51	548.9	56.7	
	Siphonuridae				
	<u>Parameletus</u> sp.*	1	10.8	1.1	
	Ephemerellidae				
	<u>Eurylophella bicolor</u>	1	10.8	1.1	
	Heptageniidae				
	<u>Stenonema nepotellum</u> *	1	10.8	1.1	
	PLECOPTERA				
	Perlodidae				
	<u>Isoperla</u> sp.	7	75.3	7.8	
	MOLLUSCA				
	GASTROPODA				
	PULMONATA				
	Physidae				
	<u>Physa</u> sp.	1	10.8	1.1	
	TOTALS	90	968.8		

SHANNON WEAVER DIVERSITY = 1.6790

TABLE 11-6

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/18/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	53	36.8	
	<u>Rheocricotopus</u> sp.	(1)		
	<u>Psectrocladius</u> sp.	(3)		
	<u>Labrundinia neopilosella</u>	(2)		
	<u>Abalabesmyia mallochii</u>	(2)		
	<u>Procladius</u> sp.	(1)		
	<u>Tanytarsus</u> sp.	(4)		
	<u>Rheotanytarsus</u> sp.	(4)		
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	3	2.1	
	Simuliidae			
	<u>Simulium</u> sp.	1	0.7	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	3	2.1	
	Polycentropodidae			
	<u>Neureclipsis crepuscularis</u>	4	2.8	
	EPHEMEROPTERA			
	Oligoneuridae			
	<u>Isonychia</u> sp.	25	17.4	
	Caenidae			
	<u>Caenis</u> sp.	5	3.5	
	Ephemerellidae			
	<u>Eurylophella bicolor</u>	2	1.4	

TABLE 11-6

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Baetidae			
	<u>Baetis sp.</u>	1	0.7	
	<u>Pseudocloeon sp.</u>	1	0.7	
	Heptageniidae			
	<u>Stenonema tripunctatum</u>	4	2.8	
	<u>S. nr. fuscum</u>	4	2.8	
	<u>Stenacron gildersleevei</u>	3	2.1	
	HEMIPTERA			
	Veliidae			
	<u>Microvelia sp.</u>	1	0.7	
	ODONATA			
	Ischnuridae			
	<u>Ischnura sp.</u>	5	3.5	
	Aeshnidae			
	<u>Boyeria vinosa</u>	2	1.4	
	Libellulidae			
	<u>Erythemis simplicicollis</u>	1	0.7	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	14	9.7	
	MOLLUSCA			
	GASTROPODA			
	BASOMMATOPHORA			
	Ancylidae			
	<u>Laevipea sp.</u>	2	1.4	

TABLE 11-6

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	10	6.9	
	TOTALS	144		

SHANNON-WEAVER DIVERSITY = 3.673

BIOTIC INDEX = 1.826, SOME ENRICHMENT

TABLE 11-7

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/18/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	158	1700.8	17.5	
	Empididae	2	21.5	0.2	
	Simuliidae				
	Simulium sp.	54	581.3	6.0	
	Tipulidae				
	Hexatoma sp.	5	51.8	0.6	
	Antocha sp.	1	10.8	0.1	
	Limnophora sp.	1	10.8	0.1	
	Tabanidae				
	Tabanus sp.	2	21.5	0.2	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	1	10.8	0.1	
	Atrichopogon sp.	1	10.8	0.1	
	TRICHOPTERA				
	Hypsopterygidae				
	Cheumatopsyche sp.	101	1087.2	11.2	
	Symphitopsyche slossonae	6	64.6	0.7	
	Hypsopterygidae venularis	3	32.3	0.3	
	Odontoceridae				
	Psilotreta sp.***	1	10.8	0.1	
	Hydroptilidae				
	Oxyethira sp.	1	10.8	0.1	
	Leptoceridae				
	Oecetis sp.	1	10.8	0.1	

TABLE 11-7

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Helicopsychidae				
	<u>Helicopsyche borealis***</u>	4	43.1	0.4	
	Philopotamidae				
	<u>Chimarra obscura</u>	1	10.8	0.1	
	EPHEMEROPTERA				
	Oligoneuridae				
	<u>Isonychia sp.</u>	225	2422.0	24.9	
	Baetidae				
	<u>Baetis sp.</u>	99	1065.7	10.9	
	<u>Pseudocloeon sp.</u>	31	333.7	3.4	
	Leptophlebiidae				
	<u>Paraleptophlebia sp.</u>	1	10.8	0.1	
	Caenidae				
	<u>Caenis sp.</u>	1	10.8	0.1	
	Ephemerellidae				
	<u>Eurylophella bicolor</u>	24	258.3	2.7	
	Ephemeridae				
	<u>Ephemera varia</u>	12	129.2	1.3	
	Heptageniidae				
	<u>Stenonema sp.</u>	7	75.4	0.8	
	<u>Stenonema pudicum</u>	9	96.9	1.0	
	<u>S. tripunctatum</u>	11	118.4	1.2	
	<u>Stenacron gildersleevei</u>	1	10.8	0.1	
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria abnormis</u>	7	75.4	0.8	
	ODONATA				
	Coenagrionidae				
	<u>Agrion sp.</u>	2	21.5	0.2	

TABLE 11-7

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Ischnuridae				
	<u>Ischnura</u> sp.	2	21.5	0.2	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	8	86.1	0.9	
	Elmidae				
	<u>Dubiraphia</u> sp.	1	10.8	0.1	
	<u>Stenelmis</u> sp. (larvae)	3	32.3	0.3	
	<u>Stenelmis crenata</u>	1	10.8	0.1	
	<u>Optioservus</u> sp. (larvae)	61	656.6	6.7	
	<u>Optioservus ampliatus</u>	14	150.7	1.5	
	Dryopidae				
	<u>Helichus</u> sp.	1	10.8	0.1	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	4	43.1	0.4	
	<u>Nigronia serricornis</u>	1	10.8	0.1	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Cambarus b. bartoni</u>	1	10.8	0.1	
	ISOPODA				
	Asellidae				
	<u>Asellus</u> sp.	1	10.8	0.1	
	MOLLUSCA				
	GASTROPODA				
	BASOMMATOPHORA				
	Ancylidae				
	<u>Laevipex</u> sp.	1	10.8	0.1	

TABLE 11-7

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MESOGASTROPODA				
	Pleuroceridae				
	<u>Goniobasis</u> (Mudalia) sp.	35	376.7	3.9	
	TOTALS	905	9741.7		

SHANNON-WEAVER DIVERSITY = 3.586

TABLE 11-8

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/18/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	13	139.9	20.3	
	Athericidae				
	<u>Atherix variegata</u>	1	10.8	1.6	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	3	32.3	4.7	
	Polycentropididae				
	<u>Neureclipsis crepuscularis</u>	1	10.8	1.6	
	EPHEMEROPTERA				
	Oligoneuridae				
	<u>Isonychia sp.</u>	20	215.3	31.3	
	Heptageniidae				
	<u>Stenonema femoratum</u>	2	21.5	3.1	
	<u>Stenacron gildersleevei</u>	1	10.8	1.6	
	ODONATA				
	Coenagrionidae				
	<u>Anomalagrion hastatum</u>	4	43.1	6.3	
	COLEOPTERA				
	Dryopidae				
	<u>Helichus sp.</u>	1	10.8	1.6	
	Elmidae				
	<u>Optioservus sp.</u>	3	32.3	4.7	

TABLE 11-8

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	1	10.8	1.6	
	<u>Nigronia serricornis</u>	5	53.8	7.8	
	MOLLUSCA				
	GASTROPODA				
	BASSOMATOPHORA				
	Planorbidae				
	<u>Gyraulus</u> sp.	1	10.8	1.6	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	8	86.1	12.5	
	TOTALS	64	688.9		

SHANNON-WEAVER DIVERSITY = 3.037

TABLE 11-9

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/18/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	20	215.3	31.7	
	Simuliidae				
	Simulium sp.	7	75.4	11.1	
	TRICHOPTERA				
	Hydropsychidae				
	Chematopsycha sp.	2	21.5	3.2	
	Symphitopsycha sparna	1	10.8	1.6	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	19	204.5	30.2	
	Heptageniidae				
	Stenonema sp.	4	43.1	6.3	
	Caenidae				
	Caenis sp.	1	10.8	1.6	
	COLEOPTERA				
	Elmidae				
	Optioservus sp.	3	32.3	4.8	
	MEGALOPTERA				
	Corydalidae				
	Corydalus cornutus	5	53.8	7.9	

TABLE 11-9

03409400 White Oak Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MOLLUSCA				
	GASTROPODA				
	BASOMMATOPHORA				
	Planorbidae				
	<u>Gyraulus</u> sp.	1	10.8	1.6	
	TOTALS	63	678.1		

SHANNON-WEAVER DIVERSITY = 2.594

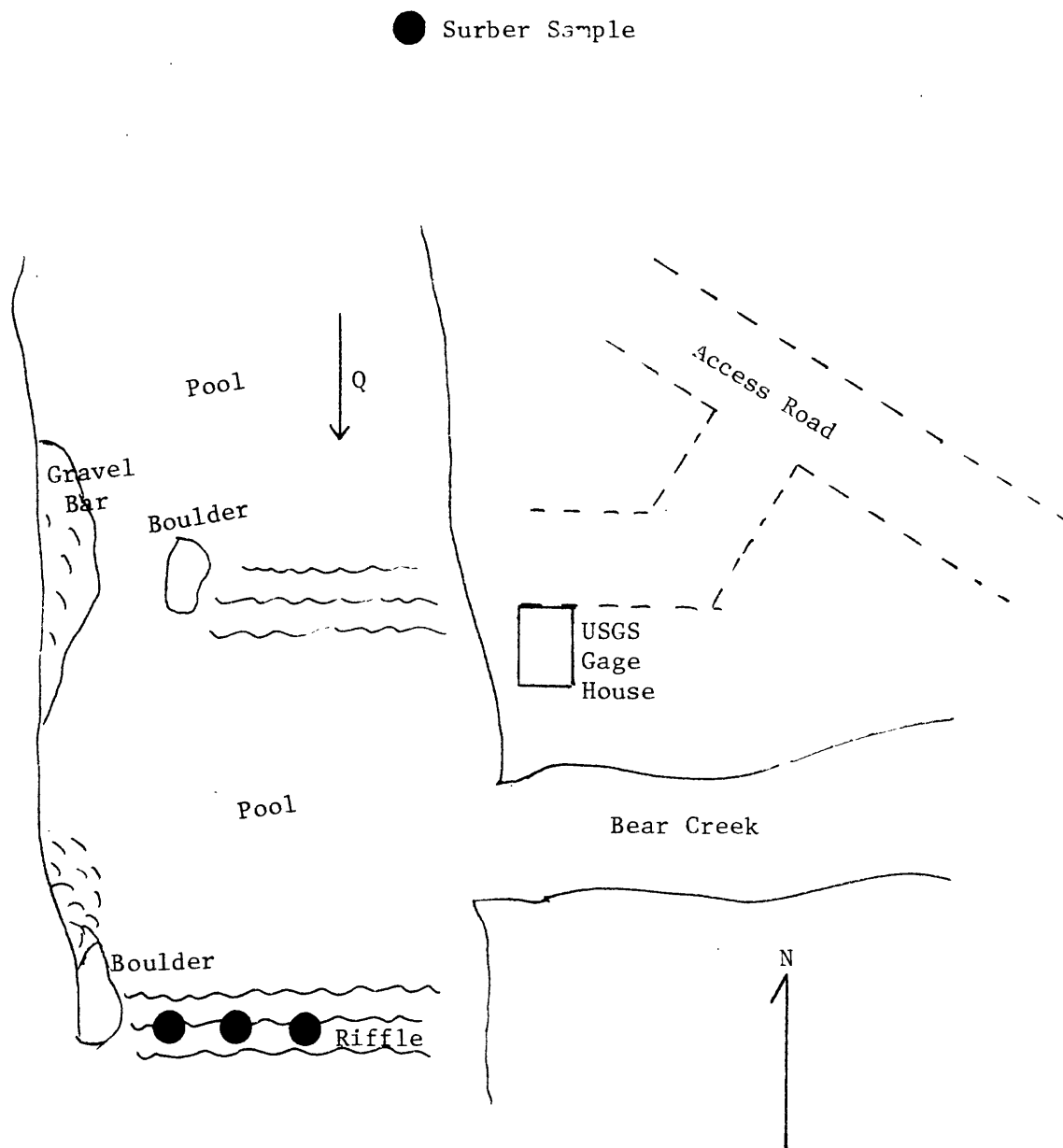


FIGURE 12-1. Station 12 - 03410500 - South Fork of Cumberland River near Stearns, KY

TABLE 12-1

Physical and Chemical Parameters at

Station 12 - 03410500

Big South Fork Cumberland River near Stearns, McCreary Co., KY

Parameter	Date
	10-14-81
Water Temperature	14.0°C
Dissolved Oxygen	9.7 mg/L
pH	6.9
Conductivity	200 umhos/cm
Stream Width	*
Average Stream Depth	*
Average Stream Velocity	*
Discharge	*
Cover (% Shaded)	20%
Substrate	Medium cobble with silt

* Parameter not determined due to high flow

High flow prevented spring sampling.

TABLE 12-2

03410500 Big South Fork Cumberland River
McCreary Co., KY
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
10/4/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	3	3.3	
	Cricotopus sp.	(1)		
	Cardiocladius sp.	(2)		
	Simuliidae			
	Simulium sp.	1	1.1	
	TRICHOPTERA			
	Hydropsychidae			
	Cheumatopsyche sp.	5	5.5	
	Hydropsyche dicantha	6	6.6	
	H. venularis	2	2.2	
	Glossosomatidae			
	Glossosoma sp.	1	1.1	
	EPHEMEROPTERA			
	Oligoneuridae			
	Isonychia sp.	24	26.4	
	Baetidae			
	Baetis brunneicolor	3	3.3	
	Tricorythidae			
	Tricorythodes sp.	1	1.1	
	Heptageniidae			
	Stenonema tripunctatum	6	6.6	
	S. bipunctatum	4	4.4	
	S. nepotellum	4	4.4	

TABLE 12-2

03410500 Big South Fork Cumberland River
 McCreary Co., KY
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	PLECOPTERA			
	Taeniopterygidae			
	<u>Taeniopteryx sp.</u>	8	8.8	
	Perlidae			
	<u>Acroneuria abnormis</u>	1	1.1	
	<u>Neoperla clymene</u>	2	2.2	
	HEMIPTERA			
	Notonectidae			
	<u>Notonecta sp.</u>	1	1.1	
	ODONATA			
	Gomphidae			
	<u>Dromogomphus spinosus</u>	2	2.2	
	COLEOPTERA			
	Elmidae			
	<u>Stenelmis sp. (larvae)</u>	1	1.1	
	<u>Stenelmis concinna</u>	2	2.2	
	<u>Optioservus sp.</u>	1	1.1	
	MEGALOPTERA			
	Corydalidae			
	<u>Corydalus cornutus</u>	3	3.3	
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	<u>Corbicula manilensis</u>	8	8.8	

TABLE 12-2

03410500 Big South Fork Cumberland River
 McCreary Co., KY
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	GASTROPODA			
	MESOGASTROPODA			
	Pleuroceridae			
	<u>Goniobasis (Mudalia) sp.</u>	2	2.2	
	TOTALS	91		

SHANNON-WEAVER DIVERSITY = 3.890

BIOTIC INDEX = 1.912, SOME ENRICHMENT

TABLE 12-3

03410500 Big South Fork Cumberland River
McCreary Co., KY
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
10/4/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	10	107.6	18.9	
	Simuliidae				
	Simulium sp.	2	21.5	3.8	
	Tipulidae				
	Antocha sp.	2	21.5	3.8	
	Empididae	1	10.8	1.9	
	TRICHOPTERA				
	Hypnopsychidae				
	Cheumatopsyche sp.	2	21.5	3.8	
	Hydropsyche dicantha	4	43.1	7.5	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	3	32.3	5.7	
	Baetidae				
	Baetis brunneicolor	3	32.3	5.7	
	Tricorythidae				
	Tricorythodes sp.**	1	10.8	1.9	
	Heptageniidae				
	Stenonema bipunctatum**	2	21.5	3.8	
	PLECOPTERA				
	Taeniopterygidae				
	Taeniopteryx sp.	3	32.3	5.7	

TABLE 12-3

03410500 Big South Fork Cumberland River
 McCreary Co., KY
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	COLEOPTERA				
	Elmidae				
	Stenelmis sp.	1	10.8	1.9	
	<u>Gonielmis dietrichi**</u>	1	10.8	1.9	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	14	150.7	26.4	
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	<u>Goniobasis sp.</u>	2	21.5	3.8	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	2	21.5	3.8	
	TOTALS	53	570.5		

SHANNON-WEAVER DIVERSITY = 3.449

TABLE 12-4

03410500 Big South Fork Cumberland River
McCreary Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
10/4/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	5	53.8	3.7	
	Simuliidae				
	Simulium sp.	4	43.1	3.0	
	Empididae	2	21.5	1.5	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	5	53.8	3.7	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	7	75.4	5.2	
	Baetidae				
	Baetis brunneicolor	6	64.6	4.4	
	Pseudocloeon sp.	3	32.3	2.2	
	Heptageniidae				
	Stenonema bipunctatum	2	21.5	1.5	
	PLECOPTERA				
	Taeniopterygidae				
	Taeniopteryx sp.	70	753.5	51.9	
	Leuctridae				
	Leuctra sp.	1	10.8	0.7	
	Nemouridae				
	Ostrocerca truncata	1	10.8	0.7	

TABLE 12-4

03410500 Big South Fork Cumberland River
 McCreary Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	HEMIPTERA				
	Hebridae				
	Hebrus sp.	1	10.8	0.7	
	COLEOPTERA				
	Elmidae				
	Stenelmis sp.	1	10.8	0.7	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	Corbicula manilensis	22	236.8	16.3	
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	Goniobasis sp.	4	43.1	3.0	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	1	10.8	0.7	
	TOTALS	135	1453.2		

SHANNON-WEAVER DIVERSITY = 2.556

TABLE 12-5

03410500 Big South Fork Cumberland River
McCreary Co., KY
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
10/4/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	4	43.1	5.8	
	Empididae	1	10.8	1.4	
	TRICHOPTERA				
	Philopotamidae				
	Chimarra obscura	1	10.8	1.4	
	Hydropsychidae				
	Cheumatopsyche sp.	4	43.1	5.8	
	<u>Symphitopsyche sparna</u>	2	21.5	2.9	
	Brachycentridae				
	Micrasema sp.	1	10.8	1.4	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	2	21.5	2.9	
	<u>Baetis brunneicolor</u>	5	53.8	7.2	
	PLECOPTERA				
	Taeniopterygidae				
	<u>Taeniopteryx sp.</u>	12	129.2	17.4	
	Leuctridae				
	<u>Leuctra ferruginea</u>	3	32.3	4.3	
	HEMIPTERA				
	Hebridae				
	<u>Hebrus sp.</u>	4	43.1	5.8	

TABLE 12-5

03410500 Big South Fork Cumberland River
 McCreary Co., KY
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ODONATA				
	Ischnuridae				
	Ischnura sp.	1	10.8	1.4	
	Gomphidae				
	Dromogomphus spinosus	1	10.8	1.4	
	COLEOPTERA				
	Elmidae				
	Stenelmis sp.	1	10.8	1.4	
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	Goniobasis sp.	4	43.1	5.8	
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	Corbicula manilensis	17	182.9	24.6	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	6	64.6	8.7	
	TOTALS	69	742.7		

SHANNON-WEAVER DIVERSITY = 3.494

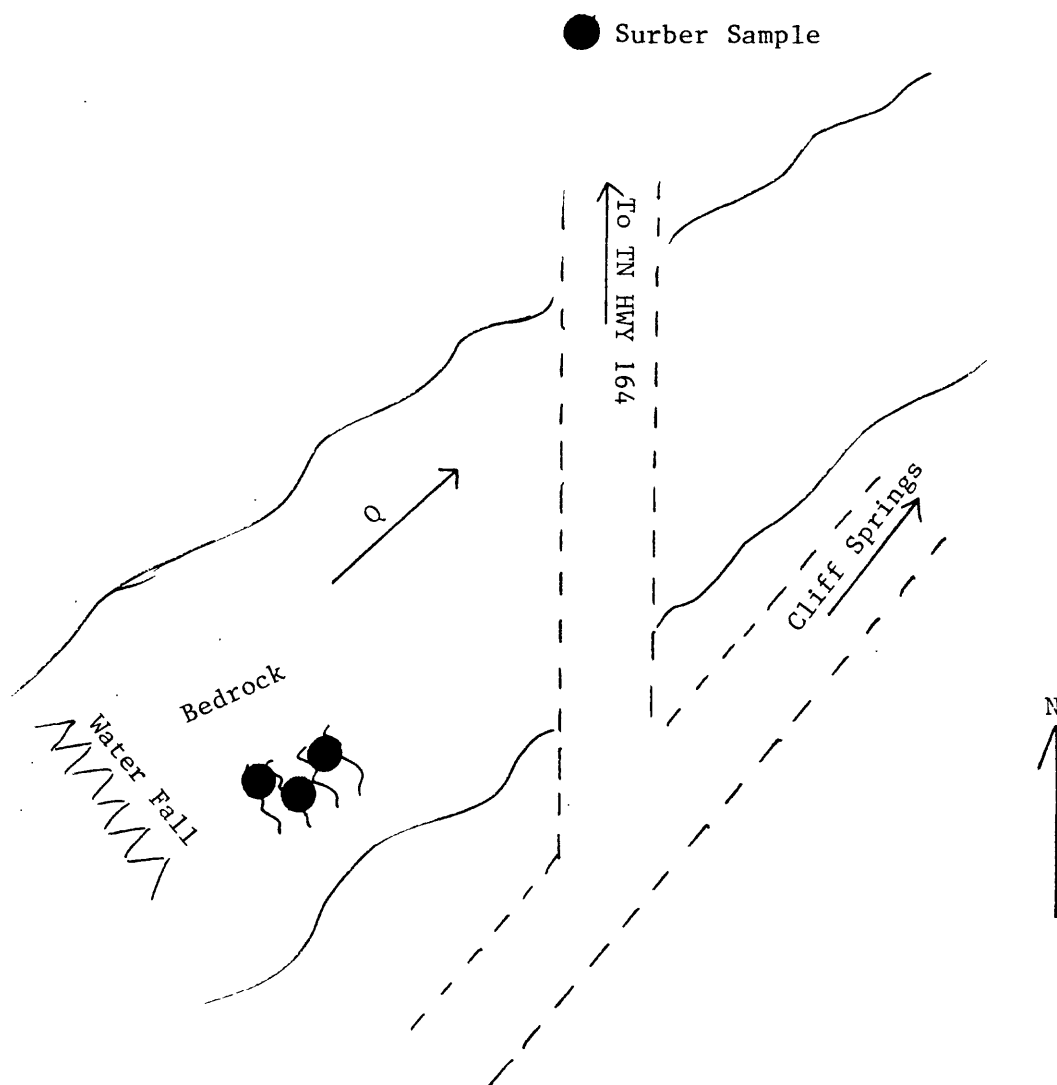


FIGURE 13-1. Station 13 - 03414340 - East Fork Obey River near Obey City, TN

TABLE 13-1

Physical and Chemical Parameters at

Station 13 - 03414340

East Fork Obey River at Obey City, Overton Co., TN

Parameter	Date	
	4-15-81	8-26-81
Water Temperature	14.5°C	23°C
Dissolved Oxygen	11.5 mg/L	8.7 mg/L
pH	4.3	3.1
Conductivity	100 umhos/cm	750 umhos/cm
Stream Width	18.9 m	15.2 m
Average Stream Depth	26.9 cm	6.4 cm
Average Stream Velocity	0.76 m/sec	0.17 m/sec
Discharge	3.07 m ³ /sec	0.13 m ³ /sec
Cover (% Shaded)	10%	20%
Substrate	Medium cobble on bedrock	

TABLE 13-2

03414340 East Fork Obey River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
4/15/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	5	83.3	
	Microspectra sp.	(1)		
	Heterotrissocladius sp.	(1)		
	Polypedilum sp.	(3)		
	Ceratopogonidae			
	Bezzia sp.	1	16.7	
	TOTALS	6		

SHANNON-WEAVER DIVERSITY = 1.7925

TABLE 13-3

03414340 East Fork Obey River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/15/81	ANNELIDA CLITELLATA OLIGOCHAETA Naididae	1	10.8	100	Surber 1
	TOTALS	1	10.8		

SHANNON-WEAVER DIVERSITY = 0.000

TABLE 13-4

03414340 East Fork Obey River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/15/81	ARTHROPODA				Surber 2
	INSECTA				
	PLECOPTERA				
	Nemouridae				
	<u>Amphinemura delosa</u> (acid burned gills)	1	10.8	5.0	
	COLLEMBOLA				
	Isotomuridae				
	<u>Isotomurus palustris</u>	1	10.8	5.0	
TOTALS		2	21.6		

SHANNON-WEAVER DIVERSITY = 1.00

TABLE 13-5

03414340 East Fork Obey River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/15/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	2	21.6	4.2	
	Simuliidae				
	<u>Prosimulium</u> sp.	1	10.8	2.1	
	Ceratopogonidae				
	<u>Bezzia</u> sp.	1	10.8	2.1	
	EPHEMEROPTERA				
	Baetidae				
	<u>Pseudocloeon</u> sp.	3	32.3	6.3	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	41	441.3	85.4	
	TOTALS	48	516.7		

SHANNON-WEAVER DIVERSITY = 0.8680

TABLE 13-6

03414340 East Fork Obey River
Overton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
8/26/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	418	82.3	
	<u>Polypedilum illinoense</u>	(7)		
	<u>Rheotanytarsus sp.</u>	(28)		
	<u>Tanytarsus sp.</u>	(1)		
	Ceratopogonidae			
	<u>Bezzia-Probezzia sp.</u>	74	14.6	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Hydropsyche betteni</u>	1	0.2	
	COLEOPTERA			
	Dryopidae			
	<u>Helichus sp.</u>	1	0.2	
	Dytiscidae			
	<u>Agabus sp.</u>	10	2.0	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	2	0.4	
	<u>Sialidae</u>			
	<u>Sialis sp.</u>	1	0.2	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	1	0.2	

TOTALS

508

SHANNON-WEAVER DIVERSITY = 1.578
BIOTIC INDEX = 0.992, CLEAN

TABLE 13-7

03414340 East Fork Obey River
Overton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/26/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	79	850.4	82.3	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	12	129.2	12.5	
	COLEOPTERA				
	Dytiscidae				
	Agabus sp.	4	43.1	4.2	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	1	10.8	1.0	
	TOTALS	96	1033.4		

SHANNON-WEAVER DIVERSITY = 0.866

TABLE 13-8

03414340 East Fork Obey River
Overton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/26/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	155	1668.5	81.6	
	Ceratopogonidae				
	<u>Bezzia-Probezzia</u> sp.	10	107.6	5.3	
	TRICHOPTERA				
	Hydropsychidae				
	<u>Symphitopsycha alhedra</u>	1	10.8	0.5	
	EPHEMEROPTERA				
	Oligoneuridae				
	<u>Isonychia</u> sp.	1	10.8	0.5	
	Baetidae				
	<u>Baetis</u> sp.	1	10.8	0.5	
	COLEOPTERA				
	Elmidae				
	<u>Promoresia elegans</u>	2	21.5	1.1	
	Dytiscidae				
	<u>Agabus</u> sp.	3	32.3	1.6	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	3	32.3	1.6	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	14	150.7	7.4	
TOTALS		190	2045.2		

SHANNON-WEAVER DIVERSITY = 1.118

TABLE 13-9

03414340 East Fork Obey River
Overton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/26/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	77	828.8	90.6	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	1	10.8	1.2	
	COLEOPTERA				
	Dytiscidae				
	Hydroporus sp.	5	53.8	5.9	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	2	21.5	23.5	
TOTALS		85	914.9		

SHANNON-WEAVER DIVERSITY = 0.572

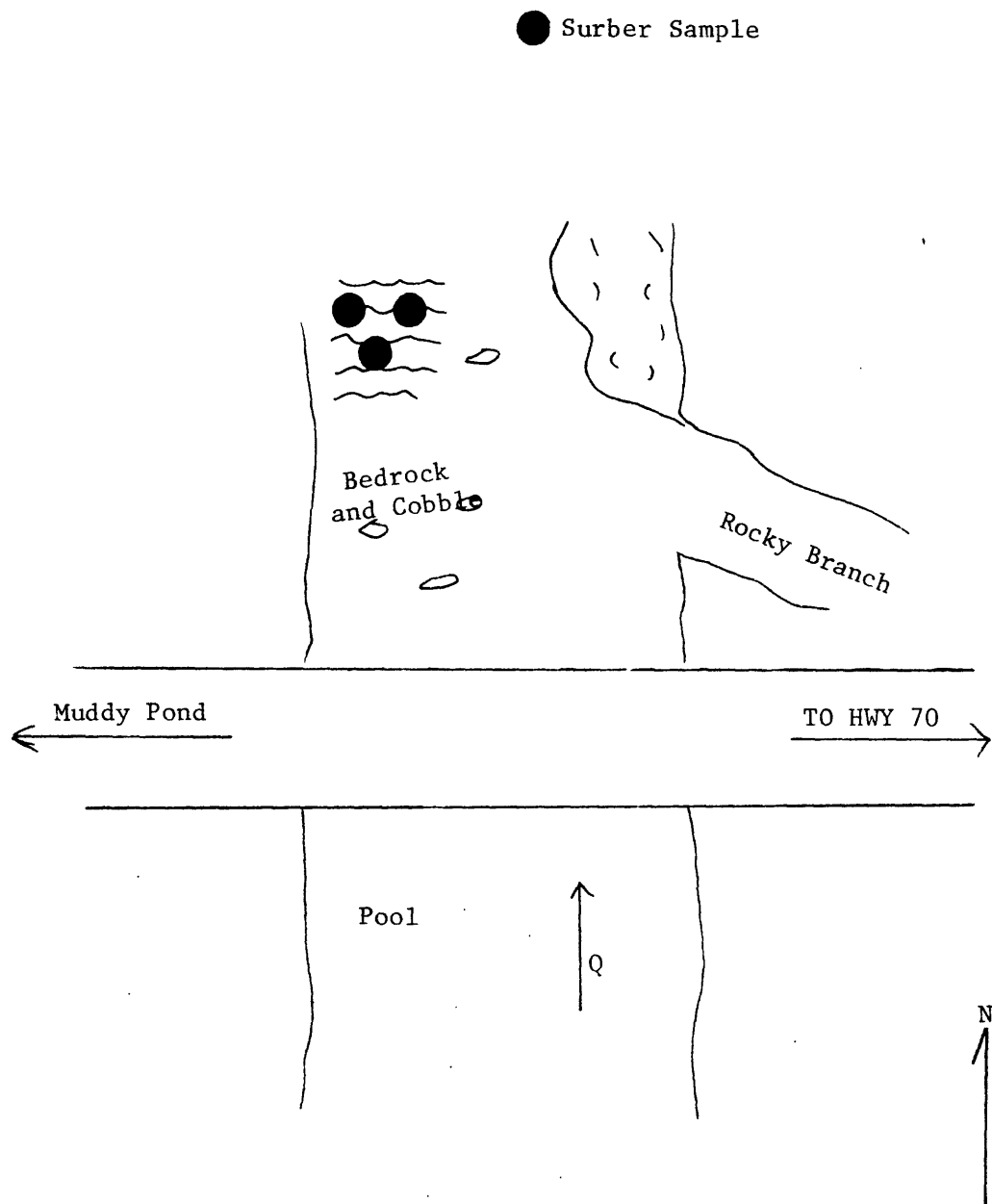


FIGURE 14-1. Station 14 - 03414346 - Hurricane Creek at Camp Ground, TN

TABLE 14-1

Physical and Chemical Parameters at

Station 14 - 03414346

Hurricane Creek at Camp Ground, Fentress Co., TN

Parameter	Date	
	4-14-81	8-26-81
Water Temperature	15 ^o C	21 ^o C
Dissolved Oxygen	10.1 mg/L	8.8 mg/L
pH	7.8	6.4
Conductivity	30 umhos/cm	75 umhos/cm
Stream Width	10.64 m	1.5 m
Average Stream Depth	19.8 cm	8.9 cm
Average Stream Velocity	.96 m/sec	0.57 m/sec
Discharge	2.02 m ³ /sec	0.06 m ³ /sec
Cover (% Shaded)	60%	40%
Substrate	Medium cobble	

TABLE 14-2

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
4/14/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	16	2.8	
	Microspectra sp.	(2)		
	Conchapelopia sp.	(2)		
	Cricotopus sp.	(2)		
	Parametriocnemus sp.	(4)		
	Eukeiferriella sp.	(2)		
	Cardiocladius sp.	(2)		
	Simuliidae			
	Prosimulium nr. fuscum*	104	17.9	
	Tipulidae			
	Tipula sp.	1	0.2	
	EPHEMEROPTERA			
	Siphonuridae			
	Ameletus lineatus*	22	3.8	
	Ephemeridae			
	Ephemera simulans	4	0.7	
	Baetidae			
	Pseudocloeon sp.*	374	64.3	
	Ephemerellidae			
	Ephemerella sp.	6	1.0	
	Heptageniidae			
	Epeorus sp.	4	0.7	
	Stenacron interpunctatum	1	0.2	
	Stenonema nr. fuscum	4	0.7	
	Stenonema pulchellum	6	1.0	

TABLE 14-2

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Leptophlebiidae			
	<u>Paraleptophlebia</u> sp.	1	0.2	
	PLECOPTERA			
	Nemouridae			
	<u>Amphinemura</u> <u>delosa</u> *	9	1.6	
	Chloroperlidae			
	<u>Chloroperla</u> sp.	4	0.7	
	TRICHOPTERA			
	Glossosomatidae			
	<u>Glossosoma</u> sp.	4	0.7	
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	3	0.5	
	Psychomyiidae			
	<u>Psychomyia</u> <u>nomada</u> *	1	0.2	
	Limnephilidae			
	<u>Neophylax</u> sp.*	4	0.7	
	ODONATA			
	Gomphidae			
	<u>Lanthus</u> <u>parvulus</u> *	1	0.2	
	COLEOPTERA			
	Dryopidae			
	<u>Helichus</u> sp.	1	0.2	
	Elmidae			
	<u>Stenelmis</u> <u>crenata</u>	9	1.6	

TABLE 14-2

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	CRUSTACEA			
	DECAPODA			
	ASTACIDAE			
	<u>Cambarus</u> (v.) <u>obeyensis</u>	3	0.5	
	TOTALS	582		

SHANNON-WEAVER DIVERSITY = 2.0456

TABLE 14-3

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No. /m ²	%Comp.	Sample
4/14/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	3	32.3	5.4	
	Simuliidae				
	<u>Prosimulium</u> sp.	10	107.6	17.9	
	TRICHOPTERA				
	Glossosomatidae				
	<u>Agapetus</u> sp.	2	21.5	3.6	
	EPHEMEROPTERA				
	Siphonuridae				
	<u>Ameletus</u> sp.	1	10.8	1.8	
	Baetidae				
	<u>Pseudocloeon</u> sp.	25	269.1	44.6	
	Heptageniidae				
	<u>Epeorus</u> <u>vitrea</u>	2	21.5	3.6	
	<u>Stenonema</u> sp.	1	10.8	1.8	
	<u>Stenonema</u> <u>tripunctatum</u>	2	21.5	3.6	
	PLECOPTERA				
	Nemouridae				
	<u>Ostrocerca</u> <u>truncata</u>	1	10.8	1.8	
	<u>Amphinemura</u> <u>nigritta</u>	2	21.5	3.6	
	Perlodidae				
	<u>Isogenus</u> sp.	2	21.5	3.6	

TABLE 14-3

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	5	53.8	8.9	
	TOTALS	56	602.8		

SHANNON-WEAVER DIVERSITY = 2.670

TABLE 14-4

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/14/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	4	43.1	3.6	
	Simuliidae				
	Simulium sp.	1	10.8	0.9	
	Prosimulium sp.	1	10.8	0.9	
	Ceratopogonidae				
	Bezzia sp.	1	10.8	0.9	
	EPHEMEROPTERA				
	Siphonuridae				
	Ameletus lineatus	5	53.8	4.5	
	Baetidae				
	Pseudocloeon sp.	58	624.3	52.3	
	Ephemerellidae				
	Ephemerella sp.	1	10.8	0.9	
	Heptageniidae				
	Epeorus sp.	6	64.6	5.4	
	Cinygmula subaequalis	2	21.5	1.8	
	PLECOPTERA				
	Nemouridae				
	Amphinemura delosa	5	53.8	4.5	
	Nemoura truncata*	1	10.8	0.9	
	Leuctridae				
	Leuctra sp.	3	32.3	2.7	
	Perlodidae				
	Isoperla sp.	2	21.5	1.8	

TABLE 14-4

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	TRICHOPTERA				
	Glossosomatidae				
	Agapetus sp.*	10	107.6	9.0	
	Limnephilidae				
	Neophylax sp.	4	43.1	3.6	
	COLEOPTERA				
	Elmidae				
	Optioservus sp.	2	21.5	1.8	
	Stenelmis sp.	2	21.5	1.8	
	Stenelmis bicarinata*	1	10.8	0.9	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	2	21.5	1.8	
	TOTALS	111	1194.8		

SHANNON-WEAVER DIVERSITY = 2.8082

TABLE 14-5

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/14/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	1	10.8	2.9	
	EPHEMEROPTERA				
	Siphonuridae				
	Ameletus sp.	1	10.8	2.9	
	Ephemeridae				
	Ephemera varia	1	10.8	2.9	
	Baetidae				
	Pseudocloeon sp.	14	150.7	41.2	
	Heptageniidae				
	Epeorus vitrea	2	21.6	5.9	
	Stenacron interpunctatum	3	32.3	8.8	
	PLECOPTERA				
	Nemouridae				
	Amphinemura delosa	1	10.8	2.9	
	Chloroperlidae				
	Chloroperla sp.	2	21.5	5.9	
	TRICHOPTERA				
	Glossosomatidea				
	Glossosoma sp.	6	64.6	17.7	
	Limnephilidae				
	Neophylax sp.*	1	10.8	2.9	

TABLE 14-5

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	COLEOPTERA				
	Elmidae				
	<u>Stenelmis</u> sp.	2	21.5	5.9	
	TOTALS	34	365.9		

SHANNON-WEAVER DIVERSITY = 2.7472

TABLE 14-6

03414296 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
8/26/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	153	31.0	
	<u>Rheocricotopus sp.</u>	(1)		
	<u>Procladius sp.</u>	(8)		
	<u>Conchapelopia sp.</u>	(8)		
	<u>Ablabesmyia mallochi</u>	(1)		
	<u>Chironomus sp.</u>	(1)		
	<u>Polypedilum convictum</u>	(2)		
	<u>Micropsectra sp.</u>	(4)		
	Ceratopogonidae			
	<u>Bezzia-Probezzia sp.</u>	1	0.2	
	<u>Atrichopogon sp.</u>	1	0.2	
	Simuliidae			
	<u>Simulium sp.</u>	11	2.2	
	Tabanidae			
	<u>Tabanus sp.</u>	2	0.4	
	Stratiomyidae			
	<u>Stratiomys sp.**</u>	2	0.4	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche sp.</u>	39	7.9	
	<u>Symphitopsyche sparna</u>	4	0.8	
	Polycentropodidae			
	<u>Neureclipsis crepuscularis</u>	3	0.6	

TABLE 14-6

03414296 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	EPHEMEROPTERA			
	Oligoneuridae			
	<u>Isonychia sp.</u>	8	1.6	
	Heptageniidae			
	<u>Stenonema nepotellum</u>	3	0.6	
	<u>S. tripunctatum</u>	2	0.4	
	<u>S. vicarium</u>	1	0.2	
	<u>Stenacron gildersleevei</u>	1	0.2	
	<u>Heptagenia flavescens**</u>	1	0.2	
	Baetidae			
	<u>Baetis brunneicolor</u>	144	29.2	
	<u>Pseudocloeon sp.</u>	5	1.0	
	Caenidae			
	<u>Caenis sp.</u>	1	0.2	
	Leptophlebiidae			
	<u>Paraleptophlebia sp.</u>	8	1.6	
	Ephemerellidae			
	<u>Eurylophella bicolor</u>	1	0.2	
	PLECOPTERA			
	Perlidae			
	<u>Acroneuria carolina</u>	2	0.4	
	<u>Acroneuria abnormis</u>	6	1.2	
	Chloroperlidae			
	<u>Sweltsa sp.</u>	1	0.2	

TABLE 14-6

03414296 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	HEMIPTERA			
	Veliidae			
	<u>Rhagovelia sp.</u>	1	0.2	
	Gerridae			
	<u>Rheumatobates sp.</u>	2	0.4	
	ODONATA			
	Coenagrionidae			
	<u>Amphiagrion hastatum</u>	1	0.2	
	COLEOPTERA			
	Elmidae			
	<u>Dubiraphia sp.</u>	12	2.4	
	<u>Stenelmis sp. (larvae)</u>	8	1.6	
	<u>Stenelmis vittipennis</u>	3	0.6	
	<u>Optioservus sp.</u>	4	0.8	
	Dytiscidae			
	<u>Laccophilus sp.</u>	1	0.2	
	MEGALOPTERA			
	Sialidae			
	<u>Sialis sp.</u>	3	0.6	
	Corydalidae			
	<u>Nigronia serricornis</u>	5	1.0	
	<u>Corydalus cornutus</u>	9	1.8	

TABLE 14-6

03414296 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	MOLLUSCA			
	GASTROPODA			
	BASOMMATOPHORA			
	Ancylidae			
	Laevipex sp.	1	0.2	
	Planorbidae			
	Gyraulus sp.	6	1.2	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	36	7.3	
	TOTALS	493		

SHANNON-WEAVER DIVERSITY = 3.948

BIOTIC INDEX = 2.458, MODERATE ENRICHMENT

TABLE 14-7

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/26/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	237	2551.1	33.5	
	Simuliidae				
	Simulium sp.	36	387.5	5.1	
	Ceratopogonidae				
	Atrichopogon sp.	6	64.6	0.8	
	Bezzia-Probezzia sp.	2	21.5	0.3	
	Empididae	5	51.8	0.7	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	167	1797.6	23.6	
	Hydropsyche betteni	5	51.8	0.7	
	Hydroptilidae				
	Hydroptila sp.	2	21.5	0.3	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	90	968.8	12.7	
	Leptophlebiidae				
	Paraleptophlebia sp.	51	549.0	7.2	
	Heptageniidae				
	Stenonema sp.	23	247.6	3.2	
	Stenonema nr. pudicum	3	32.3	0.4	
	S. nr. ithaca	1	10.8	0.1	
	S. luteum	5	51.8	0.7	
	Oligoneuriidae				
	Isonychia sp.	7	75.4	1.0	

TABLE 14-7

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Caenidae				
	Caenis sp.	1	10.8	0.1	
	PLECOPTERA				
	Perlidae				
	Acroneuria ruralis	15	161.5	2.1	
	A. abnormis	3	32.3	0.4	
	ODONATA				
	Gomphidae				
	Lanthus parvula	3	32.3	0.4	
	Coenagrionidae				
	Agria sp.	1	10.8	0.1	
	COLEOPTERA				
	Elmidae				
	Promoresia elegans	12	129.2	1.7	
	Stenelmis sp.	1	10.8	0.1	
	Optioservus sp.	2	21.5	0.3	
	Stenelmis nr. concinna	3	32.3	0.4	
	Psephenidae				
	Psephenus herricki	4	43.1	0.6	
	MEGALOPTERA				
	Corydalidae				
	Corydalus cornutus	14	150.7	2.0	
	Nigronia serricornis	2	21.5	0.3	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	Cambarus sp.	1	10.8	0.1	

TABLE 14-7

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	6	64.6	0.8	
	Naididae				
	TOTALS	708	7621.1		

SHANNON-WEAVER DIVERSITY = 3.053

TABLE 14-8

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/26/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	100	1076.4	15.9	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	1	10.8	0.2	
	Simuliidae				
	Simulium sp.	24	258.3	3.8	
	Athericidae				
	Atherix variegata	3	32.3	0.5	
	Empididae				
	Hemerodromia sp.	2	21.5	0.3	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	85	915.0	13.5	
	Hydropsyche sp. A	7	75.4	1.1	
	Hydropsyche sp. B	4	43.1	0.6	
	Hydropsyche sp. C	2	21.5	0.3	
	Symphitopsyche sparna	6	64.6	1.0	
	Hydroptilidae				
	Agraylea multipunctata	2	21.5	0.3	
	Mayatrichia ayama***	2	21.5	0.3	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	179	1926.8	28.5	
	Pseudocloeon sp.	3	32.3	0.5	

TABLE 14-8

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Ephemerelellidae				
	<u>Eurylophella temporalis</u>	1	10.8	0.2	
	Leptophlebiidae				
	<u>Paraleptophlebia sp.</u>	7	75.4	1.1	
	Heptageniidae				
	<u>Stenonema sp.</u>	25	269.1	4.0	
	<u>Stenonema rubromaculatum</u>	3	32.3	0.5	
	<u>Heptagenia sp.</u>	2	21.5	0.3	
	ODONATA				
	Gomphidae				
	(small instars)	4	43.1	0.6	
	COLEOPTERA				
	Psephenidae				
	<u>Ectopria nervosa</u>	2	21.5	0.3	
	<u>Psephenus herricki</u>	3	32.3	0.5	
	Elmidae				
	<u>Promoresia elegans</u>	145	1560.8	23.1	
	<u>Optioservus sp.</u>	7	75.4	1.1	
	<u>Stenelmis sp.</u>	4	43.1	0.6	
	<u>Stenelmis concinna</u>	2	21.5	0.3	
	<u>Stenelmis lateralis</u>	3	32.3	0.5	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalis cornutus</u>	1	10.8	0.2	
	TOTALS	629	6770.7		

SHANNON-WEAVER DIVERSITY = 3.014

TABLE 14-9

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/26/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	212	2282.0	21.6	
	Simuliidae	132	1420.9	13.5	
	<u>Simulium</u> sp.	9	96.9	0.9	
	Empididae				
	Ceratopogonidae	19	204.5	1.9	
	<u>Atrichopogon</u> sp.	3	32.3	0.3	
	<u>Bezzia-Probezzia</u> sp.				
	TRICHOPTERA				
	Hydropsychidae				
	<u>Hydropsyche betteni</u>	36	387.5	3.7	
	<u>Cheumatopsyche</u> sp.	65	699.7	6.6	
	Philopotamidae				
	<u>Chimarra obscura</u>	3	32.3	0.3	
	Rhyacophilidae				
	<u>Rhyacophila</u> sp.	1	10.8	0.1	
	Leptoceridae				
	<u>Ceraclea flava</u>	1	10.8	0.1	
	<u>Oecetis</u> sp.**	1	10.8	0.1	
	Hydroptilidae				
	<u>Hydroptila</u> sp.	1	10.8	0.1	
	<u>Agraylea</u> sp	6	64.6	0.6	
	EPHEMEROPTERA				
	Baetidae				
	<u>Baetis</u> sp.	218	20.3	22.2	
	<u>Pseudocloeon</u> sp.	32	344.5	3.3	

TABLE 14-9

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Oligoneuriidae				
	<u>Isonychia</u> sp.	1	10.8	0.1	
	Leptophlebiidae				
	<u>Paraleptophlebia</u> sp.	29	312.2	3.0	
	Heptageniidae				
	<u>Stenonema</u> nr. <u>ithaca</u> **	8	86.1	0.8	
	<u>Stenonema</u> sp.	20	215.3	20.4	
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria</u> <u>ruvalis</u>	11	118.4	1.1	
	Leuctridae				
	<u>Leuctra</u> sp.	1	10.8	0.1	
	ODONATA				
	Gomphidae				
	<u>Lanthus</u> <u>parvula</u>	2	21.5	0.2	
	COLEOPTERA				
	Elmidae				
	<u>Promoresia</u> <u>elegans</u>	30	322.9	3.1	
	<u>Stenelmis</u> sp. A	10	107.6	1.0	
	<u>Stenelmis</u> sp. B	2	21.5	0.2	
	<u>Optioservus</u> sp.	32	344.5	3.3	
	<u>Machronycus</u> sp.	13	139.9	1.3	
	<u>Stenelmis</u> nr. <u>crenata</u>	2	21.5	0.2	
	<u>Optioservus</u> nr. <u>ampliatus</u>	7	75.4	0.7	
	Psephenidae				
	<u>Psephenus</u> <u>herricki</u>	13	139.9	1.3	
	<u>Ectopria</u> <u>nervosa</u>	5	53.8	0.5	

TABLE 14-9

03414346 Hurricane Creek
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	10	107.6	1.0	
	ANNELIDA				
	CLITELLATA				
	OLIGOCALHETA				
	Naididae	45	484.4	4.6	
	TOTALS	980	10548.9		

SHANNON-WEAVER DIVERSITY = 3.633

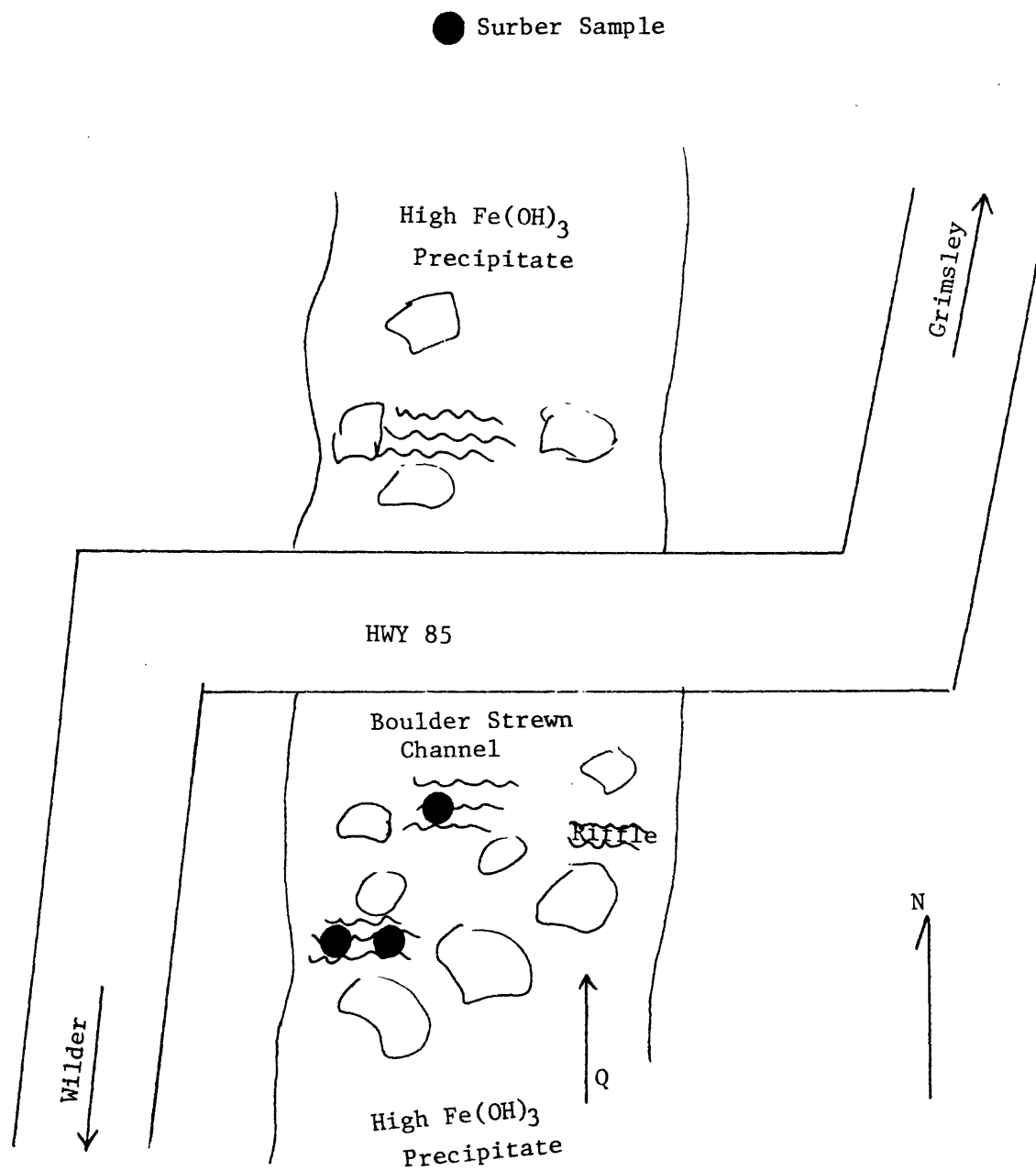


FIGURE 15-1. Station 15 - 03414430 - East Obey River near Wilder, TN

TABLE 15-1

Physical and Chemical Parameters at

Station 15 - 03414430

East Fork Obey River near Wilder, Fentress Co., TN

Parameter	Date	
	4-14-81	8-26-81
Water Temperature	19°C	23°C
Dissolved Oxygen	10.0 mg/L	8.9 mg/L
pH	2.4	2.9
Conductivity	850 umhos/cm	1450 umhos/cm
Stream Width	12.6 m	4.6 m
Average Stream Depth	24.9 cm	27.3 cm
Average Stream Velocity	0.31 m/sec	0.38 m/sec
Discharge	0.97 m /sec	0.38 m /sec
Cover (% Shaded)	0%	0%
Substrate	Large cobble and boulders	

TABLE 15-2

03414430 East Fork Obey River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
4/14/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae			
	Chironomus sp.	535	99.4	
	Ceratopogonidae			
	Bezzia-Probezzia sp.	3	0.6	
	TOTALS	538		

SHANNON-WEAVER DIVERSITY = 0.050

TABLE 15-3

03414430 East Fork Obey River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/14/81	NO	ORGANISMS	FOUND		Surber 1

TABLE 15-4

03414430 East Fork Obey River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/14/81	ARTHROPODA				Surber 2
	INSECTA				
	EPHEMEROPTERA				
	Baetidae	1	10.8	100	
	<u>Pseudocloeon</u> sp.				
	TOTALS	1	10.8		

SHANNON-WEAVER DIVERSITY = 0.000

TABLE 15-5

03414430 East Fork Obey River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/14/81	ARTHROPODA INSECTA DIPTERA Simuliidae <u>Prosimulium</u> sp.	1	10.8	100	Surber 3
TOTALS					
		1	10.8		

SHANNON-WEAVER DIVERSITY = 0.000

TABLE 15-6

03414430 East Fork Obey River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/26/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	43	100	
	<u>Ablabesmyia mallochi</u>	(1)		
	<u>Polypedilum illinoense</u>	(13)		
	<u>Chironomus</u> sp.	(29)		
TOTALS				
		43		

SHANNON-WEAVER DIVERSITY = 1.031

BIOTIC INDEX = 4.349, GROSS ENRICHMENT

TABLE 15-7

03414430 East Fork Obey River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/26/81	ARTHROPODA INSECTA DIPTERA Chironomidae	54	581.3	100	Surber 1
	TOTALS	54	581.3		

SHANNON-WEAVER DIVERSITY = 0.000

TABLE 15-8

03414430 East Fork Obey River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/26/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae				
	<u>Chironomus</u> sp.	114	1227.1	99.1	
	Ceratopogonidae				
	<u>Bezzia-Probezzia</u> sp.	1	10.8	0.9	
	TOTALS	115	1237.9		

SHANNON-WEAVER DIVERSITY = 0.072

TABLE 15-9

03414430 East Fork Obey River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/26/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	86	925.7	98.9	
	EPHEMEROPTERA				
	Baetidae				
	<u>Baetis</u> sp.	1	10.8	1.1	
TOTALS		87	936.5		

SHANNON-WEAVER DIVERSITY = 0.091

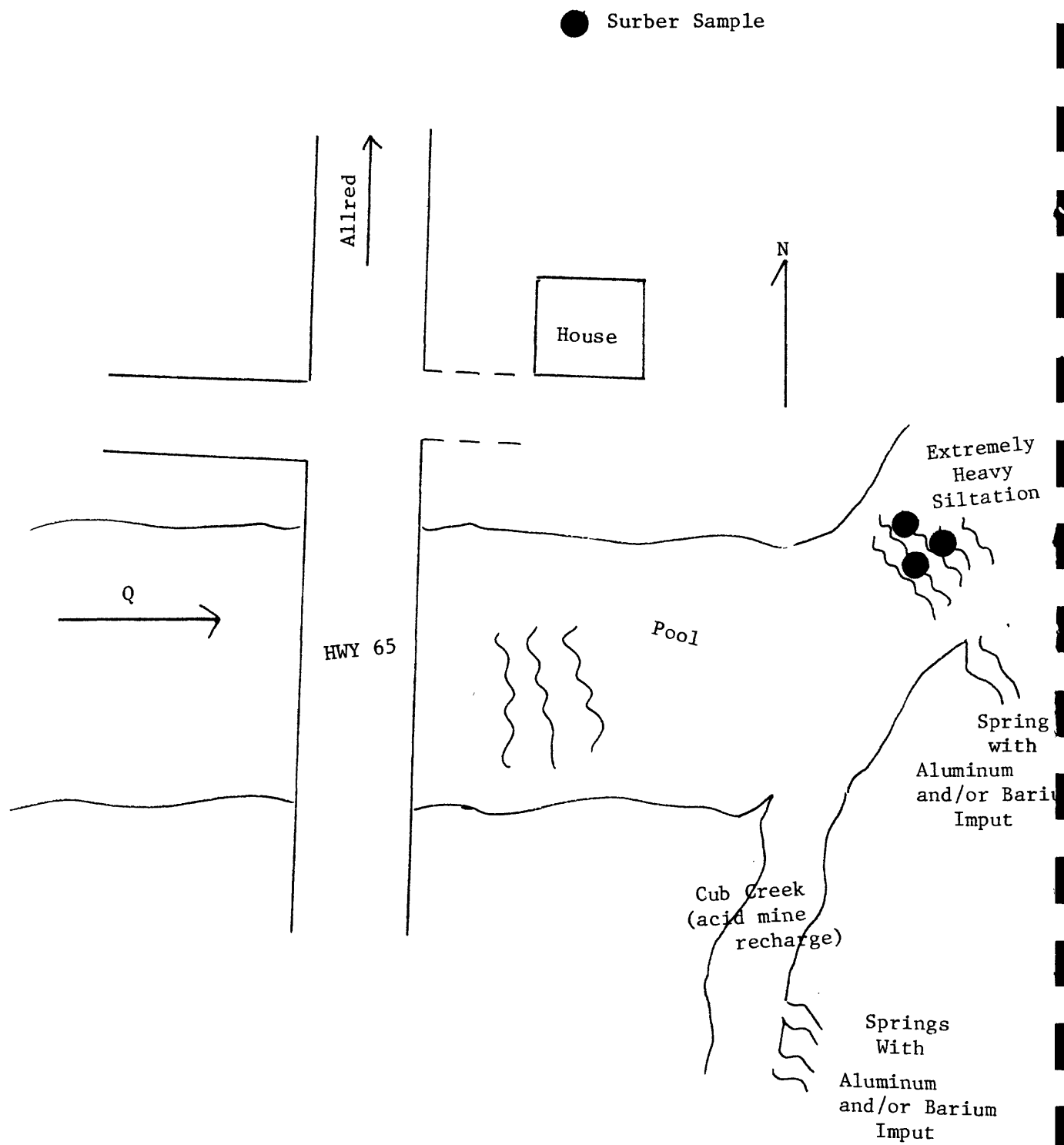


FIGURE 16-1. Station 16 - 03415000 - West Fork Obey River near Alpine, TN

TABLE 16-1

Physical and Chemical Parameters at

Station 16 - 03415000

West Fork Obey River near Alpine, Overton Co., TN

Parameters	Date	
	3-29-81	8-26-81
Water Temperature	9°C	22°C
Dissolved Oxygen	12.1 mg/L	9.4 mg/L
pH	4.6	7.0
Conductivity	245	300 umhos/cm
Stream Width	*	4.6 m
Average Stream Depth	*	24.8 cm
Average Stream Velocity	*	0.38 m/sec
Discharge	*	0.34 m ³ /sec
Cover (% Shaded)	40%	60%
Substrate	Medium cobble with heavy siltation	

* High flow prevented discharge measurements.

** No recharge from Cub Creek (Figure 16-1) during summer sampling period.

TABLE 16-2

03415000 West Fork Obey River near Allred
Overton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
3/29/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	6	22.2	
	Simuliidae			
	Prosimulium sp.	3	11.1	
	Simulium sp.	3	11.1	
	EPHEMEROPTERA			
	Baetiscidae			
	Baetisca gibbera***	1	3.7	
	Baetidae			
	Pseudocloeon sp.	3	11.1	
	Ephemerellidae			
	Eurylophella temporalis	3	11.1	
	Heptageniidae			
	Stenonema scitulum	1	3.7	
	Stenonema nepotellum	2	7.4	
	PLECOPTERA			
	Perlodidae			
	Isoperla frisoni	1	3.7	
	TRICHOPTERA			
	Philopotamidae			
	Chimarra obscura	1	3.7	
	ODONATA			
	Aeshnidae			
	Boyeria vinosa	1	3.7	

TABLE 16-2

03415000 West Fork Obey River near Allred
Overton Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	COLEOPTERA			
	Elmidae			
	<u>Stenelmis</u> sp.	1	3.7	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	1	3.7	
	TOTALS	27		

SHANNON-WEAVER DIVERSITY = 3.402

BIOTIC INDEX = 2.143, SOME ENRICHMENT

TABLE 16-3

03415000 West Fork Obey River
Overton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
3/29/81	NO	ORGANISMS	FOUND		Surber 1

TABLE 16-4

03415000 West Fork Obey River
Overton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
3/29/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	3	32.3	15.0	
	Simuliidae				
	Prosimulium sp.	3	32.3	15.0	
	Simulium sp.	3	32.3	15.0	
	TRICHOPTERA				
	Philopotamidae				
	Chimarra obscura	1	10.8	5.0	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	3	32.3	15.0	
	Ephemerellidae				
	Eurylophella temporalis	3	32.3	15.0	
	Heptageniidae				
	Stenonema nepotellum	2	21.5	20.0	
	PLECOPTERA				
	Perlodidae				
	Isoperla frisoni	1	10.8	5.0	
	ODONATA				
	Aeschnidae				
	Boyeria vinosa	1	10.8	5.0	
TOTALS		20	215.3		

SHANNON-WEAVER DIVERSITY = 1.833

TABLE 16-5

03415000 West Fork Obey River
Overton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
3/29/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	3	32.3	42.9	
	EPHEMEROPTERA				
	Baetiscidae				
	Baetisca nr. <u>gibbera***</u>	1	10.8	14.3	
	Heptageniidae				
	<u>Stenonema scitulum</u>	1	10.8	14.3	
	COLEOPTERA				
	Elmidae				
	Stenelmis sp.	1	10.8	14.3	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	1	10.8	14.3	
	TOTALS	7	75.4		

SHANNON-WEAVER DIVERSITY = 1.842

TABLE 16-6

03415000 West Fork Obey River
Overton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
8/26/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	75	62.0	
	<u>Cricotopus sp.</u>	(15)		
	<u>Polypedilum illinoense</u>	(1)		
	<u>Conchapelopia sp.</u>	(3)		
	Ceratopogonidae			
	<u>Bezzia-Probezzia sp.</u>	5	4.1	
	Athericidae			
	<u>Atherix variegata</u>	1	0.8	
	Simuliidae			
	<u>Simulium sp.</u>	8	6.6	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Symphitopsyche alhedra</u>	4	3.3	
	<u>Hydropsyche sp.</u>	3	2.5	
	EPHEMEROPTERA			
	Baetidae			
	<u>Baetis sp.</u>	13	10.7	
	PLECOPTERA			
	Leuctridae			
	<u>Leuctra ferruginea</u>	1	0.8	
	HEMIPTERA			
	Velidae			
	<u>Rhagovelia sp.</u>	3	2.5	

TABLE 16-6

03415000 West Fork Obey River
Overton Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	ODONATA			
	Aeshnidae			
	Boyeria sp.	1	0.8	
	COLEOPTERA			
	Elmidae			
	Optioservus sp.	2	1.7	
	Stenelmis nr. concinna	3	2.5	
	Dryopidae			
	Helichus basalis	1	0.8	
	MEGALOPTERA			
	Corydalidae			
	Corydalus cornutus	1	0.8	
	TOTALS	121		

SHANNON-WEAVER DIVERSITY = 2.732

BIOTIC INDEX = 3.289, SIGNIFICANT ENRICHMENT

TABLE 16-7

03415000 West Fork Obey River
Overton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/26/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	109	1173.3	64.9	
	Ceratopogonidae				
	<u>Bezzia-Probezzia</u> sp.	34	365.9	20.2	
	<u>Atrichopogon</u> sp.	1	10.8	0.6	
	TRICHOPTERA				
	Hydroptilidae				
	<u>Hydroptila</u> sp.	1	10.8	0.6	
	Hydropsychidae				
	<u>Cheumatopsyche</u> sp.	2	21.5	1.2	
	<u>Hydropsyche</u> sp.	1	10.8	0.6	
	EPHEMEROPTERA				
	Baetidae				
	<u>Baetis</u> sp.	1	10.8	0.6	
	<u>Pseudocloeon</u> sp.	2	21.5	1.2	
	Heptageniidae				
	<u>Stenonema bipunctatum</u>	5	53.8	3.0	
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra ferruginea</u>	1	10.8	0.6	
	COLEOPTERA				
	Elmidae				
	<u>Stenelmis</u> sp.	2	21.5	1.2	
	<u>Stenelmis crenata</u>	1	10.8	0.6	
	<u>Optioservus</u> sp.	1	10.8	0.6	
	<u>Optioservus ampliatus</u>	3	32.3	1.8	

TABLE 16-7

03415000 West Fork Obey River
Overton Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	3	32.3	1.8	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	1	10.8	0.6	
	TOTALS	168	1808.4		

SHANNON-WEAVER DIVERSITY = 1.810

TABLE 16-8

03415000 West Fork Obey River
Overton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/26/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	59	635.1	63.4	
	Empididae	1	10.8	1.1	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	11	118.4	11.8	
	TRICHOPTERA				
	Hydropsychidae				
	Symphitopsyche bifida	1	10.8	1.1	
	S. nr. alhedra	1	10.8	1.1	
	Hydropsyche cuanis	5	53.8	5.4	
	H. nr. simulans	2	21.5	2.2	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	6	64.6	6.5	
	Pseudocloeon sp.	2	21.5	2.2	
	COLEOPTERA				
	Elmidae				
	Stenelmis sp.	2	21.5	2.2	
	Stenelmis concinna	2	21.5	2.2	
	MEGALOPTERA				
	Corydalidae				
	Corydalis cornutus	1	10.8	1.1	
TOTALS					93
					1001.7

SHANNON-WEAVER DIVERSITY = 2.020

TABLE 16-9

03415000 West Fork Obey River
Overton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/26/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	82	882.7	84.5	
	Ceratopogonidae				
	Palpomyia sp.	1	10.8	1.0	
	TRICHOPTERA				
	Hydropsychidae				
	Hydropsyche sp.	1	10.8	1.0	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	8	86.1	8.2	
	Heptageniidae				
	Stenonema vicarium	2	21.5	2.1	
	COLEOPTERA				
	Elmidae				
	Stenelmis sinuata	1	10.8	1.0	
	MEGALOPTERA				
	Corydalidae				
	Corydalus cornutus	1	10.8	1.0	
	Nigronia serricornis	1	10.8	1.0	
TOTALS					97
			1044.3		

SHANNON-WEAVER DIVERSITY = 0.957

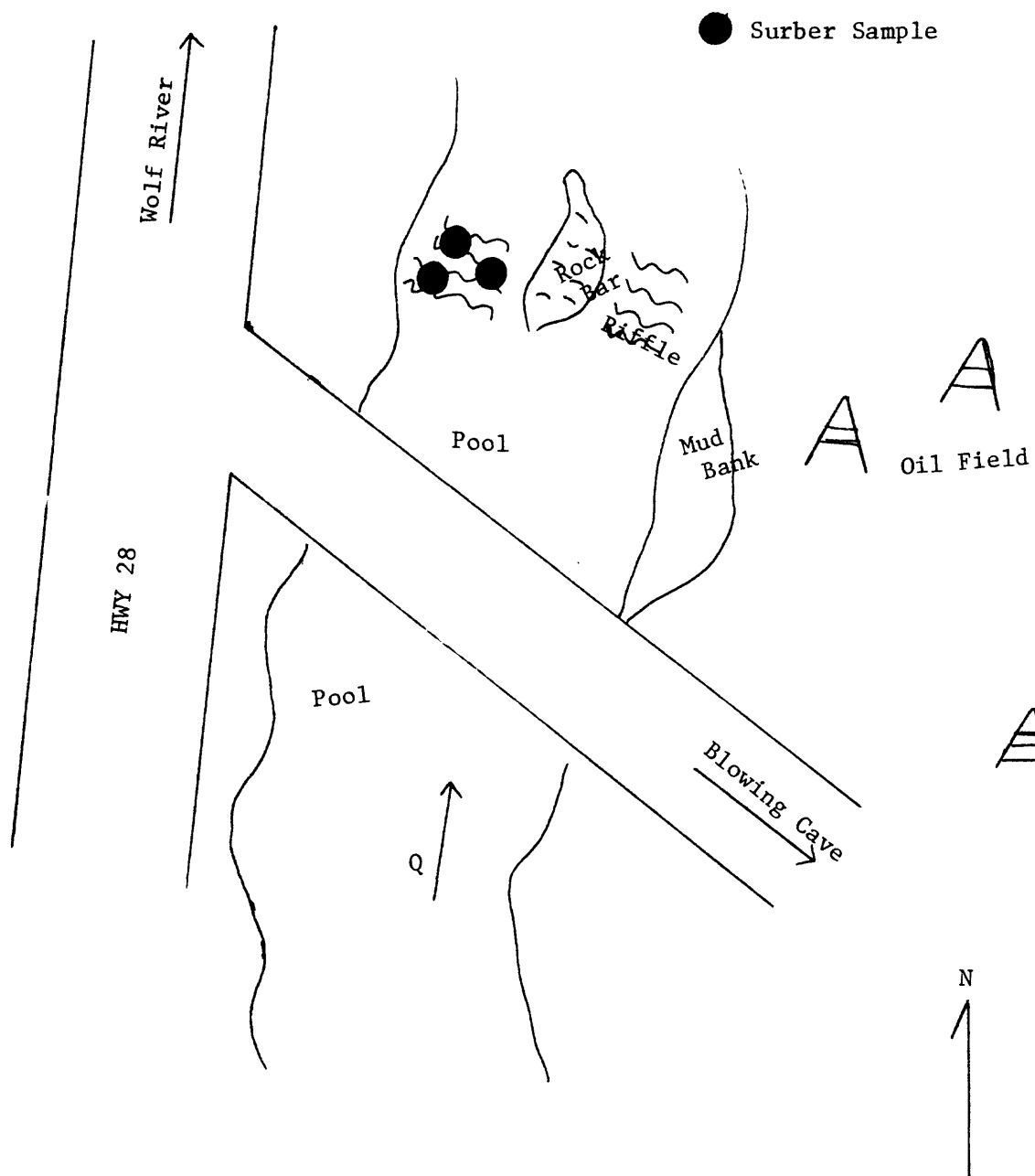


FIGURE 17-1. Station 17 - 03415960 - Wolf River at Wolf River, TN

TABLE 17-1
Physical and Chemical Parameters at
Station 17 - 03415960
Wolf River at Wolf River, Fentress Co., TN

Parameter	Date	
	9-15-81	9-18-81
Water Temperature	13.5°C	13°C
Dissolved Oxygen	12.0 mg/L	10.7 mg/L
pH	6.4	6.8
Conductivity	95 umhos/cm	110 umhos/cm
Stream Width	19.5 m	16.8 m
Average Stream Depth	31.2 cm	31.3 cm
Average Stream Velocity	0.35 m/sec	0.15 m/sec
Discharge	1.71 m ³ /sec	0.63 m ³ /sec
Cover (% Shaded)	50%	80%
Substrate	Small, medium, and large cobble	

TABLE 17-2

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
4/15/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	144	21.3	
	Simuliidae			
	Prosimulium sp.	11	1.6	
	Tipulidae			
	Tipula sp.	1	0.1	
	Hexatoma sp.	1	0.1	
	Blephariceridae			
	Blepharicera sp.*	2	0.3	
	TRICHOPTERA			
	Hydropsychidae			
	Hydropsyche sp.	8	1.2	
	Polycentropodidae			
	Polycentropus sp.	1	0.1	
	Rhyacophila			
	Rhyacophila sp.	4	0.6	
	Goeridae			
	Goera sp.	2	0.3	
	EPHEMEROPTERA			
	Ephemerellidae			
	Ephemerella dorothea*	27	4.0	
	E. subvaria*	2	0.3	
	Ephemerella sp.	146	21.6	
	Eurylophella bicolor	37	5.5	

TABLE 17-2

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Oligoneuridae			
	<u>Isonychia sp.</u>	9	1.3	
	Heptageniidae			
	<u>Rhithrogena sp.</u>	23	3.4	
	<u>Epeorus vitrea*</u>	1	0.1	
	<u>Stenonema scitulum</u>	1	0.1	
	<u>S. tripunctatum</u>	3	0.4	
	Baetidae			
	<u>Pseudocloeon sp.</u>	128	18.9	
	<u>Baetis sp.</u>	58	8.6	
	Ephemeridae			
	<u>Ephemera varia</u>	1	0.1	
	PLECOPTERA			
	Perlodidae			
	<u>Isoperla richardsoni*</u>	9	1.3	
	Nemouridae			
	<u>Amphinemura delosa</u>	19	2.8	
	COLEOPTERA			
	Psephenidae			
	<u>Psephenus herricki</u>	7	1.0	
	<u>Ectopria nervosa</u>	6	0.9	
	Elmidae			
	<u>Optioservus sp.</u>	4	0.6	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	2	0.3	

TABLE 17-2

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Orconectes putnami*</u>	2	0.3	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	16	2.4	
	TOTALS	676		

SHANNON-WEAVER DIVERSITY = 3.376

BIOTIC INDEX = 1.725, CLEAN

TABLE 17-3

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/15/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	8	86.1	4.0	
	Blephariceridae				
	<u>Blepharicera</u> sp.	1	10.8	0.5	
	EPHEMEROPTERA				
	Oligoneuridae				
	<u>Isonychia</u> sp.	1	10.8	0.5	
	Baetidae				
	Baetis sp.	16	172.2	8.1	
	Pseudocloeon sp.	73	785.8	36.9	
	Ephemerellidae				
	<u>Ephemerella dorothea</u>	2	21.5	1.0	
	<u>Ephemerella</u> sp.	12	129.2	6.1	
	Heptageniidae				
	<u>Rhithrogena</u> nr. <u>jejuna</u>	12	129.2	6.1	
	<u>Epeorus vitrea</u>	2	21.5	1.0	
	<u>Stenonema tripunctatum</u>	3	32.3	1.5	
	TRICHOPTERA				
	Helicopsychidae				
	<u>Helicopsyche borealis</u>	1	10.8	0.5	
	Glossosomatidae				
	<u>Glossosoma</u> sp.	5	53.8	2.5	
	Hydropsychidae				
	<u>Hydropsyche</u> sp.	6	64.6	3.0	

TABLE 17-3

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Limnephilidae				
	<u>Neophylax</u> sp.	2	21.5	1.0	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	2	21.5	1.0	
	MOLLUSCA				
	GASTROPODA				
	PULMONATA				
	Pleuroceridae				
	<u>Pleurocera</u> sp.	51	548.9	25.8	
	Ancylidae				
	<u>Ferrisia rivularis</u>	1	10.8	0.5	
	TOTALS	198	2131.3		

SHANNON-WEAVER DIVERSITY = 2.8159

TABLE 17-4

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/15/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	56	602.8	5.2	
	Simuliidae				
	Simulium sp.	11	118.4	2.2	
	Blephariceridae				
	Blepharicera sp.	6	64.6	1.2	
	Rhagionidae				
	Atherix variegata	1	10.8	0.2	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	10	107.6	2.0	
	Baetidae				
	Baetis sp.	15	161.4	3.0	
	Pseudocloeon sp.	210	2260.5	42.0	
	Ephemerellidae				
	Ephemerella subvaria	6	64.6	1.2	
	Ephemerella sp.	29	312.2	5.8	
	Heptageniidae				
	Epeorus sp.	3	32.3	0.6	
	Rhithrogena sp.	11	118.4	2.2	
	Stenonema bipunctatum	7	75.3	1.4	
	Cinygmula subaequalis	2	21.5	0.4	
	Leptophlebiidae				
	Paraleptophlebia sp.	2	21.5	0.4	

TABLE 17-4

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	PLECOPTERA				
	Peltoperlidae				
	<u>Tallaperla</u> sp.	3	32.3	0.6	
	Nemouridae				
	<u>Amphinemura delosa</u>	12	129.2	2.4	
	Perlodidae				
	<u>Isoperla namata</u>	2	21.5	0.4	
	TRICHOPTERA				
	Rhyacophilidae				
	<u>Rhyacophila ledra</u>	3	32.3	0.6	
	Glossosomatidae				
	<u>Glossosoma</u> sp.	23	247.6	4.6	
	Hydropsychidae				
	<u>Cheumatopsyche</u> sp.	39	419.8	7.8	
	<u>Hydropsyche cuanis</u>	2	21.5	0.4	
	<u>Hydropsyche</u> sp.	2	21.5	0.4	
	Helicopsychidae				
	<u>Helicopsyche borealis</u>	1	10.8	0.2	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	11	118.4	2.2	
	Elmidae				
	<u>Optioservus</u> sp.	3	32.3	0.6	
	Helodidae				
	<u>Cyphon</u> sp.	2	21.5	0.4	

TABLE 17-4

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	1	10.8	0.2	
	MOLLUSCA				
	GASTROPODA				
	PROSOBRANCHIA				
	Pleuroceridae	27	290.6	5.4	
	<u>Pleurocera</u> sp.				
	TOTALS	500	5382.1		

SHANNON-WEAVER DIVERSITY = 3.2551

TABLE 17-5

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/15/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	21	226.1	9.4	
	Blephariceridae				
	Blepharicera sp.	2	21.5	0.9	
	Simuliidae				
	Prosimulium sp.	2	21.5	0.9	
	Simulium sp.	1	10.8	0.4	
	TRICHOPTERA				
	Philopotamidae				
	Chimarra obscura	23	247.6	10.3	
	Rhyacophilidae				
	Rhyacophila ledra***	2	21.5	0.9	
	Glossosomatidae				
	Glossosoma sp.	8	86.1	3.6	
	Hydropsychidae				
	Cheumatopsyche sp.	55	592.0	24.7	
	Hydropsyche sp.	2	21.5	0.9	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	5	53.8	2.2	
	Baetidae				
	Pseudocloeon sp.	56	602.8	25.1	
	Baetis sp.	5	53.8	2.2	
	Ephemerellidae				
	Ephemerella subvaria***	1	10.8	0.4	
	E. rotunda	6	64.6	2.7	
	Eurylophella temporalis	3	32.3	1.3	

TABLE 17-5

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Heptageniidae				
	<u>Rhithrogena</u> sp.	20	215.3	9.0	
	<u>Stenonema nepotellum</u>	1	10.8	0.4	
	PLECOPTERA				
	Nemouridae				
	<u>Amphinemura nigrutta</u>	2	21.5	0.9	
	Perlodidae				
	<u>Isoperla</u> nr. <u>namata</u> ***	6	64.6	2.7	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	2	21.5	0.9	
	TOTALS	223	2400.4		

SHANNON-WEAVER DIVERSITY = 3.223

TABLE 17-6

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/18/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	1147	38.8	
	<u>Conchapelopia</u> sp.	(8)		
	<u>Parametriocnemus</u> sp.	(4)		
	<u>Polypedilum illinoense</u>	(2)		
	<u>Polypedilum convictum</u>	(16)		
	<u>Rheocricotopus</u> sp.	(1)		
	<u>Tanytarsus</u> sp.	(7)		
	<u>Paratendipes</u> sp.	(1)		
	<u>Tanytus</u> sp.	(1)		
	Tanytarsinae	(4)		
	Empididae	3	0.1	
	Simuliidae			
	<u>Simulium</u> sp.	63	2.1	
	Tipulidae			
	<u>Tipula</u> sp.	140	4.7	
	<u>Hexatoma</u> sp.	1	0.1	
	<u>Rhabdomastix</u> sp.	3	0.1	
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	4	0.1	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	181	6.1	
	<u>Hydropsyche</u> sp.	6	0.2	

TABLE 17-6

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Philopotamidae			
	<u>Chimarra obscura</u>	15	0.5	
	Helicopsychidae			
	<u>Helicopsyche borealis</u>	2	0.1	
	EPHEMEROPTERA			
	Oligoneuriidae			
	<u>Isonychia sp.</u>	914	30.9	
	Baetidae			
	<u>Pseudocloeon sp.</u>	22	0.7	
	<u>Baetis sp.</u>	213	7.2	
	Leptophlebiidae			
	<u>Paraleptophlebia sp.</u>	21	0.7	
	Ephemerellidae			
	<u>Serratella serratooides</u>	51	1.7	
	Caenidae			
	<u>Caenis sp.</u>	1	0.1	
	Heptageniidae			
	<u>Stenonema vicarium</u>	66	2.2	
	<u>S. scitulum</u>	1	0.1	
	<u>S. rubromaculatum</u>	3	0.1	
	<u>S. fuscum</u>	5	0.2	
	<u>Heptagenia sp.</u>	1	0.1	
	PLECOPTERA			
	Chloroperlidae			
	<u>Leuctridae</u>	1	0.1	
	<u>Leuctra ferruginea</u>	2	0.1	

TABLE 17-6

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Perlidae			
	<u>Acroneuria abnormis</u>	3	0.1	
	COLEOPTERA			
	Psephenidae			
	<u>Psephenus herricki</u>	30	1.0	
	Elmidae			
	<u>Optioservus sp.</u>	7	0.2	
	<u>Optioservus ampliatus</u>	1	0.1	
	MEGALOPTERA			
	Corydalidae			
	<u>Corydalis cornutus</u>	43	1.5	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Orconectes spinosus</u>	2	0.1	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	8	0.3	
	TOTALS	2960		

SHANNON-WEAVER DIVERSITY = 3.605

BIOTIC INDEX = 2.274, MODERATE ENRICHMENT

TABLE 17-7

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/18/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	1173	12626.5	49.4	
	Simuliidae				
	Simulium sp.	294	3164.7	12.0	
	Tipulidae				
	Tipula sp.	7	75.4	0.3	
	Empididae	1	10.8	0.1	
	TRICHOPTERA				
	Philopotamidae				
	Chimarra obscura	3	32.3	0.1	
	Glossosomatidae				
	Glossosoma sp.	2	21.5	0.1	
	Hydropsychidae				
	Cheumatopsyche sp.	73	785.8	3.1	
	Symphitopsyche slossonae	71	764.3	3.0	
	EPHEMEROPTERA				
	Oligoneuriidae				
	Isonychia sp.	462	4973.1	19.5	
	Baetidae				
	Pseudocloeon sp.	37	398.3	1.6	
	Baetis ephippiatus	71	764.3	3.0	
	Ephemerellidae				
	Attenuatella attenuata	36	387.5	1.5	
	Leptophlebiidae				
	Paraleptophlebia sp.	6	64.6	0.3	

TABLE 17-7

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Heptageniidae				
	<u>Stenonema nepotellum</u>	11	118.4	0.5	
	<u>S. pulchellum</u>	15	161.5	0.6	
	<u>S. tripunctatum</u>	3	32.3	0.1	
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria abnormis</u>	2	21.5	0.1	
	Perlodidae				
	<u>Isoperla lata</u>	1	10.8	0.1	
	COLEOPTERA				
	Elmidae				
	<u>Stenelmis concinna</u>	6	64.6	0.3	
	<u>Optioservus sp.</u>	5	53.8	0.2	
	<u>Optioservus immunis</u>	1	10.8	0.1	
	Psephenidae				
	<u>Psephenus herricki</u>	1	10.8	0.1	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	21	226.1	0.9	
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	<u>Goniobasis (Mudalia) sp.</u>	66	710.4	2.8	

TABLE 17-7

03415960 Wolf River
Fentress Co., TN
BENTHICA MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	5	53.8	0.2	
	Naididae				
	TOTALS	2373	25543.6		

SHANNON-WEAVER DIVERSITY = 2.431

TABLE 17-8

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/18/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	726	7814.9	29.1	
	Simuliidae				
	Simulium sp.	401	4316.5	16.0	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	1	10.8	0.1	
	Tipulidae				
	Tipula sp.	1	10.8	0.1	
	Empididae	1	10.8	0.1	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	442	4757.8	17.7	
	Symphitopsyche bifida	2	21.5	0.1	
	S. sparna	8	86.1	0.3	
	S. ventura	2	21.5	0.1	
	S. slossonae	3	32.3	0.1	
	Hydropsyche betteni	3	32.3	0.1	
	Glossosomatidae				
	Glossosoma sp.	4	43.1	0.2	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	410	4413.3	16.4	
	Heptageniidae				
	Stenonema sp.	43	462.9	1.7	
	S. nepotellum	3	32.3	0.1	
	S. pulchellum	5	51.8	0.1	

TABLE 17-8

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Caenidae				
	Caenis sp.	1	10.8	0.1	
	Leptophlebiidae				
	Paraleptophlebia sp.	1	10.8	0.1	
	Baetidae				
	Pseudocloeon sp.	160	1722.3	6.4	
	Baetis ephippiatus	117	1259.4	4.7	
	Ephemerellidae				
	Attenuatella attenuata	97	1044.1	3.9	
	PLECOPTERA				
	Perlodidae				
	Isogenus sp.	1	10.8	0.1	
	ODONATA				
	Gomphidae				
	Lanthus parvula	1	10.8	0.1	
	COLEOPTERA				
	Psephenidae				
	Psephenus herricki	2	21.5	0.1	
	Elmidae				
	Optioservus sp.	3	32.3	0.1	
	Stenelmis concinna	2	21.5	0.1	
	MEGALOPTERA				
	Corydalidae				
	Corydalus cornutus	30	322.9	1.2	

TABLE 17-8

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	Goniobasis (Mudalia) sp.	27	290.6	1.1	
	ANNELIDA				
	OLIGOCHAETA				
	Naididae	3	32.3	0.1	
	TOTALS	2499	26899.9		

SHANNON-WEAVER DIVERSITY = 2.880

TABLE 17-9

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/18/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	1142	12292.8	38.3	
	Simuliidae				
	Simulium sp.	271	2917.1	9.1	
	Athericidae				
	Atherix variegata	7	75.4	0.2	
	TRICHOPTERA				
	Philopotamidae				
	Chimarra obscura	9	96.9	0.3	
	Glossosomatidae				
	Glossosoma sp.	2	21.5	0.1	
	Hydropsychidae				
	Cheumatopsyche sp.	230	2475.8	7.7	
	Symphitopsyche slosonae	2	21.5	0.1	
	EPHEMEROPTERA				
	Oligoneuriidae				
	Isonychia sp.	854	9192.7	28.7	
	Ephemerellidae				
	Attenuatella attenuata	65	699.7	2.2	
	Baetidae				
	Pseudocloeon sp.	86	925.7	2.9	
	Baetis ephippiatus	149	1603.9	5.0	
	Caenidae				
	Caenis sp.	2	21.5	0.1	

TABLE 17-9

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Leptophlebiidae				
	<u>Paraleptophlebia</u> sp.	2	21.5	0.1	
	Heptageniidae				
	<u>Stenonema nepotellum</u>	10	107.6	0.3	
	<u>Stenonema</u> sp.	41	441.3	1.4	
	<u>Stenonema tripunctatum</u>	3	32.3	0.1	
	<u>Heptagenia</u> sp.	2	21.5	0.1	
	PLECOPTERA				
	Perlodidae				
	<u>Isogenus</u> sp.	1	10.8	0.1	
	Leuctridae				
	<u>Leuctra ferruginea</u>	1	10.8	0.1	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	2	21.5	0.1	
	Elmidae				
	<u>Optioservus</u> sp.	1	10.8	0.1	
	<u>Stenelmis concinna</u>	3	32.3	0.1	
	Dryopidae				
	<u>Helichus</u> sp.	1	10.8	0.1	
	MEGALOPTERA				
	Corydalidae				
	<u>Coryalis cornutus</u>	43	462.9	1.4	

TABLE 17-9

03415960 Wolf River
Fentress Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	Goniobasis (Mudalia) sp.	46	495.2	1.4	
	BASOMMATOPHORA				
	Ancylidae				
	Laevipea sp.	1	10.8	0.1	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	2	21.5	0.1	
	TOTALS	2978			

SHANNON-WEAVER DIVERSITY = 2.560

● Surber Sample

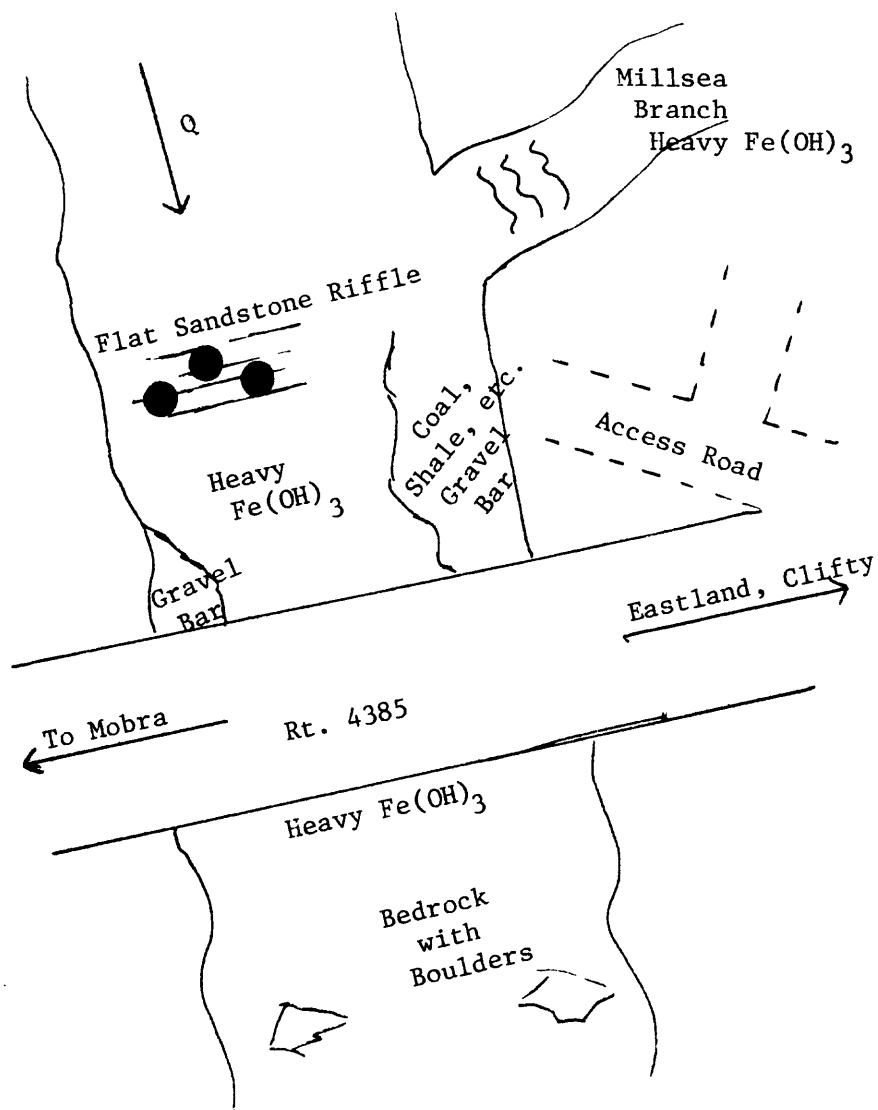


FIGURE 18-1. Station 18 - 03418520 - Clifty Creek near Eastland, TN

TABLE 18-1
Physical and Chemical Parameters at
Station 18 - 03418520
Clifty Creek at Mobra, White Co., TN

Parameter	Date	
	4-25-81	10-6-81
Water Temperature	13°C	16°C
Dissolved Oxygen	9.4 mg/L	9.2 mg/L
pH	3.0	3.2
Conductivity	305 umhos/cm	720 umhos/cm
Stream Width	2.9 m	3.1 m
Average Stream Depth	20.5 cm	11.8 cm
Average Stream Velocity	0.49 m/sec	0.36 m/sec
Discharge	0.23 m ³ /sec	0.13 m ³ /sec
Cover (% Shaded)	30%	50%
Substrate	Flat medium cobble	

TABLE 18-2

03418520 Clifty Creek near Mobra
White Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
4/25/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	58	95.1	
	<u>Smittia</u> sp.	(1)		
	<u>Polypedilum illinoense</u>	(11)		
	<u>Parametriocnemus</u> sp.	(12)		
	<u>Ortocladiinae</u>	(1)		
	<u>Paraorthocladius</u> sp.	(1)		
	<u>Corynoneura</u> sp.	(1)		
	EPHEMEROPTERA			
	Siphonuridae			
	<u>Ameletus lineatus</u>	2		
	PLECOPTERA			
	Leuctridae			
	<u>Leuctra ferruginea</u>	1		
	TOTALS	61		

SHANNON-WEAVER DIVERSITY = 1.994

BIOTIC INDEX = 3.097, SIGNIFICANT ENRICHMENT

TABLE 18-3

03418520 Clifty Creek
White Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/25/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	26	279.9	81.3	
	Tabanidae				
	Tabanus sp.	1	10.8	3.1	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	1	10.8	3.1	
	PLECOPTERA				
	Leuctridae				
	Leuctra sp.	1	10.8	3.1	
	COLEOPTERA				
	Psephenidae				
	Ectopria nervosa	1	10.8	3.1	
	MEGALOPTERA				
	Corydalidae				
	Nigronia serricornis	1	10.8	3.1	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	1	10.8	3.1	
	TOTALS	32			

SHANNON-WEAVER DIVERSITY = 1.181

TABLE 18-4

03418520 Clifty Creek
White Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/25/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	37	398.3	86.0	
	EPHEMEROPTERA				
	Baetidae				
	Cloeon sp.	2	21.5	4.7	
	PLECOPTERA				
	Leuctridae				
	Leuctra sp.	3	32.3	7.0	
	Nemouridae				
	<u>Ostrocerca truncata</u>	1	10.8	2.3	
	TOTALS	43	462.9		

SHANNON-WEAVER DIVERSITY = 0.787

TABLE 18-5

03418520 Clifty Creek
White Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/25/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	151	1625.4	93.2	
	Culicidae				
	<u>Culex</u> sp.	1	10.8	0.6	
	Ceratopogonidae				
	<u>Bezzia-Probezzia</u> sp.	4	43.1	2.5	
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra ferruginea</u>	5	53.8	3.1	
	Nemouridae				
	<u>Ostrocerca truncata</u>	1	10.8	0.6	
	TOTALS	162	1743.8		

SHANNON-WEAVER DIVERSITY = 0.472

TABLE 18-6

03418520 Clifty Creek
White Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
10/6/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	243	85.3	
	<u>Polypedilum convictum</u>	(2)		
	<u>Chironomus</u> sp.	(3)		
	<u>Tanytarsus</u> sp.	(25)		
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	27	9.5	
	TRICHOPTERA			
	Phryganeidae			
	<u>Ptilostomis</u> sp.***	2	0.7	
	HEMIPTERA			
	Notonectidae			
	<u>Notonecta</u> sp.	1	0.4	
	COLEOPTERA			
	Dytiscidae			
	<u>Hydroporus</u> sp.	2	0.7	
	MEGALOPTERA			
	Sialidae			
	<u>Sialis</u> sp.	10	3.5	
	TOTALS	285		

SHANNON-WEAVER DIVERSITY = 1.509

BIOTIC INDEX = 0.695, CLEAN

TABLE 18-7

03418520 Clifty Creek
White Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
10/6/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	155	1668.5	94.5	
	Ceratopogonidae				
	Bezzia sp.	4	43.1	2.4	
	Simuliidae				
	Simulium sp.	1	10.8	0.6	
	TRICHOPTERA				
	Phryganeidae				
	Ptilostomis sp.	2	21.5	1.2	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	2	21.5	1.2	
	TOTALS	164	1765.3		

SHANNON-WEAVER DIVERSITY = 0.408

TABLE 18-8

03418520 Clifty Creek
White Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
10/6/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	206	2217.4	96.3	
	Ceratopogonidae				
	Bezzia sp.	5	53.8	2.3	
	COLEOPTERA				
	Dytiscidae				
	Hydroporus sp.	1	10.8	0.5	
	Curculionidae				
	Listronotus sp.***	1	10.8	0.5	
	MEGALOPTERA				
	Sialidae				
	Sialis sp.	1	10.8	0.5	
	TOTALS	214	2303.6		

SHANNON-WEAVER DIVERSITY = 0.288

TABLE 18-9

03418520 Clifty Creek
White Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
10/6/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	256	2755.7	98.1	
	Ceratopogonidae				
	Bezzia sp.	1	10.8	0.4	
	HEMIPTERA				
	Hebridae				
	Merragata sp.	1	10.8	0.4	
	COLEOPTERA				
	Dytiscidae				
	Hydroporus sp.***	2	21.5	0.8	
	MEGALOPTERA				
	Sialidae				
	Sialis sp.	1	10.8	0.4	
	TOTALS	261	2809.5		

SHANNON-WEAVER DIVERSITY = 0.173

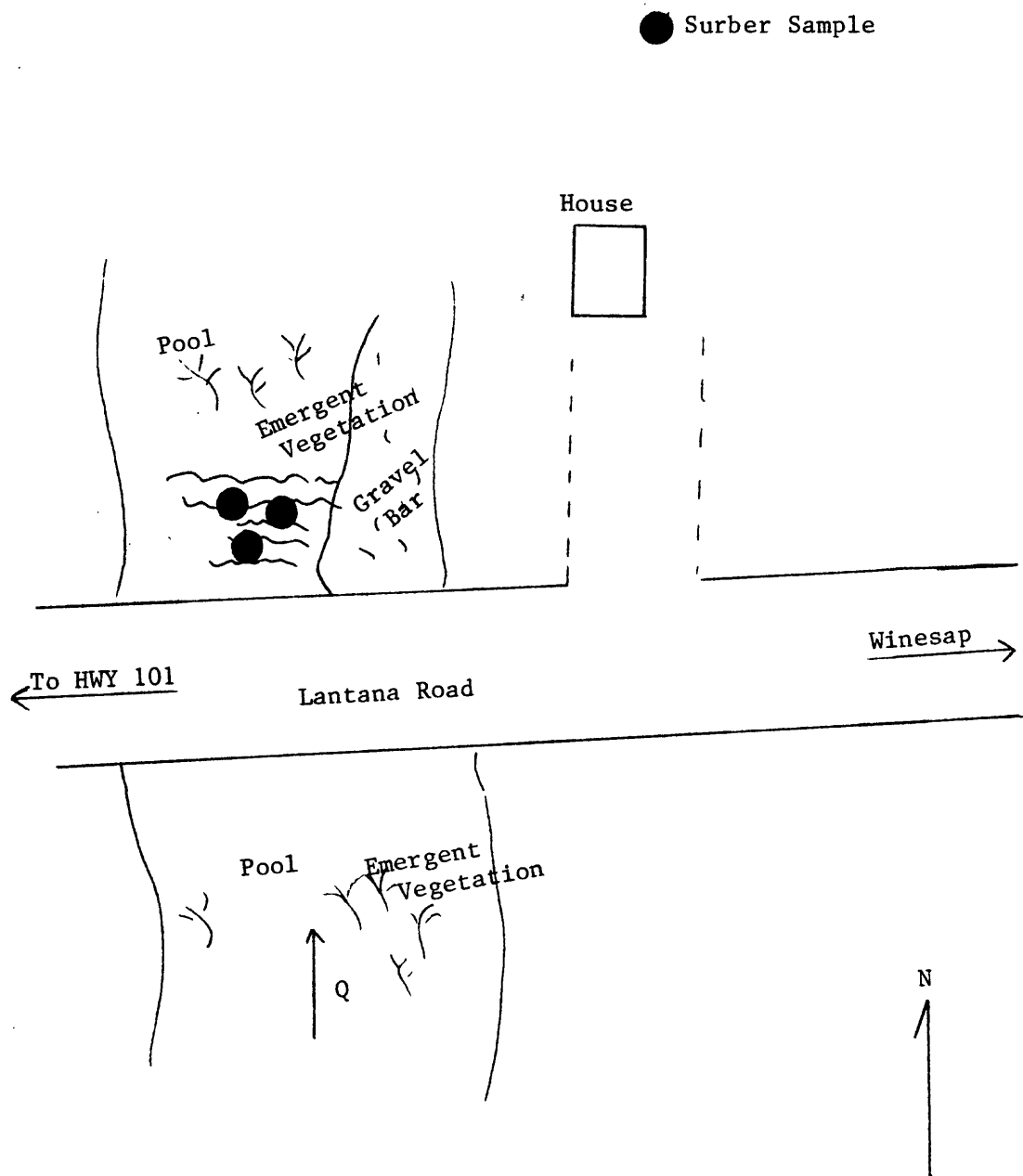


FIGURE 19-1. Station 19 - 03418935 - Beaverdam Creek at Lantana Road near Bellview, TN

TABLE 19-1

Physical and Chemical Parameters at

Station 19 - 03418935

Beaverdam Creek near Bellview, Bledsoe Co., TN

Parameter	Date	
	5-21-81	8-25-81
Water Temperature	12 ^o C	19 ^o C
Dissolved Oxygen	10.4 mg/L	8.5 mg/L
pH	6.6	6.3
Conductivity	35 umhos/cm	90 umhos/cm
Stream Width	10.1 m	0.9 m
Average Stream Depth	22.4 cm	8.9 cm
Average Stream Velocity	0.35 m/sec	0.46 m/sec
Discharge	0.63 m ³ /sec	0.03 m ³ /sec
Cover (% Shaded)	85%	80%
Substrate	Sand, gravel, and small cobble	

High organic loading from agricultural and/or domestic sources.

TABLE 19-2

03418953 Beaverdam Creek
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
5/21/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	12	16.2	
	Tipulidae			
	Antocha sp.	1	1.4	
	EPHEMEROPTERA			
	Oligoneuriidae			
	Isonychia sp.	6	8.1	
	Baetidae			
	Baetis sp.	16	21.6	
	Pseudocloeon sp.	3	4.1	
	Ephemerellidae			
	Dannella simplex*	1	1.4	
	Eurylophella bicolor	1	1.4	
	Heptageniidae			
	Epeorus sp.	1	1.4	
	PLECOPTERA			
	Perlidae			
	Perlesta placida	9	12.2	
	Nemouridae			
	Amphinemura sp.	3	4.1	
	COLEOPTERA			
	Dryopidae			
	Helichus sp.	2	2.7	

TABLE 19-2

03418953 Beaverdam Creek
 Bledsoe Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	Elmidae			
	<u>Stenelmis</u> sp.	8	10.8	
	ANNELEIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	11	14.9	
	TOTALS	74		

SHANNON-WEAVER DIVERSITY = 3.174

BIOTIC INDEX = 2.132, SOME ENRICHMENT

TABLE 19-3

03418935 Beaverdam Creek
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/21/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	2	21.5	11.1	
	Tipulidae	7	75.3	38.9	
	Antocha sp.	1	10.8	5.6	
	<u>Tipula</u> sp.				
	EPHEMEROPTERA				
	Baetidae	5	53.8	27.8	
	Baetis sp.				
	PLECOPTERA				
	Leuctridae				
	<u>Paraleuctra sara</u>	1	10.8	5.6	
	Perlidae				
	<u>Perlesta placida*</u>	2	21.5	11.1	
	TOTALS	18	193.8		

SHANNON-WEAVER DIVERSITY = 2.2110

TABLE 19-4

03418935 Beaverdam Creek
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/21/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	8	86.1	22.2	
	Tipulidae				
	Antocha sp.	2	21.5	5.6	
	Hexatoma sp.	1	10.8	2.8	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	3	32.3	8.3	
	Baetidae				
	Baetis sp.	5	53.8	13.9	
	Ephemerellidae				
	Ephemerella dorothea	1	10.8	2.8	
	Heptageniidae				
	Stenonema pulchellum	1	10.8	2.8	
	PLECOPTERA				
	Nemouridae				
	Amphinemura delosa	4	43.1	11.1	
	Leuctridae				
	Leuctra sp.	1	10.8	2.8	
	Perlodidae				
	Isogenus (Cultus) deciscus*	2	21.5	5.6	
	Perlidae				
	Perlesta placida	2	21.5	5.6	

TABLE 19-4

03418935 Beaverdam Creek
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	PLECOPTERA				
	Dryopidae				
	<u>Helichus sp.</u>	2	21.5	5.6	
	Elmidae				
	<u>Stenelmis sp.</u>	1	10.8	2.8	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	3	32.3	8.3	
	TOTALS	36	387.5		

SHANNON-WEAVER DIVERSITY = 1.9547

TABLE 19-5

03418935 Beaverdam Creek
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/21/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	20	215.5	46.5	
	Simuliidae	1	10.8	2.3	
	<u>Simulium</u> sp.				
	Tipulidae	4	43.1	9.3	
	Antocha sp.				
	EPHEMEROPTERA				
	Siphonuridae	3	32.3	7.0	
	<u>Parameletus</u> sp.				
	Baetidae	5	53.8	11.6	
	Baetis sp.				
	Leptophlebiidae	1	10.8	2.3	
	<u>Paraleptophlebia</u> sp.*				
	PLECOPTERA				
	Nemouridae	4	10.8	9.3	
	<u>Amphinemura delosa</u>				
	Leuctridae	1	10.8	2.3	
	<u>Paraleuctra sara</u>				
	Perlidae	1	10.8	2.3	
	<u>Perlesta placida</u>				
	COLEOPTERA				
	Dryopidae	2	21.5	4.6	
	<u>Helichus</u> sp.				

TABLE 19-5

03418935 Beaverdam Creek
 Bledsoe Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Elmidae <u>Dubiraphia</u> sp.	1	10.8	2.3	
	TOTALS	43	462.9		

SHANNON-WEAVER DIVERSITY = 2.7564

TABLE 19-6

03418935 Beaverdam Creek
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/28/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	984	55.9	
	Rheotanytarsus	(17)		
	Tanytarsus sp.	(27)		
	Procladius sp.	(1)		
	Zavrelia sp.	(2)		
	Conchapelopia sp.	(19)		
	Tribelos fuscicornis	(1)		
	Microtendipes sp.	(4)		
	Larsia sp.	(9)		
	Parametriocnemus sp.	(2)		
	Ablabesmyia tarella	(3)		
	Polypedilum illinoense	(1)		
	Labrundinia sp.	(3)		
	Dicrotendipes sp.	(1)		
	Procladius sp.	(1)		
	Simuliidae			
	Simulium sp.	18	1.0	
	Ceratopogonidae			
	Atrichopogon sp.	1	0.1	
	Bezzia-Probezzia sp.	1	0.1	
	Empididae	5	0.3	
	Tipulidae			
	Hexatoma sp.	3	0.2	

TABLE 19-6

03418935 Beaverdam Creek
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Culicidae			
	<u>Culex sp.</u>	4	0.2	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche sp.</u>	175	9.9	
	<u>Hydropsyche betteni</u>	24	1.4	
	Rhyacophilidae			
	<u>Rhyacophila ledra</u>	1	0.1	
	<u>Rhyacophila sp.</u>	1	0.1	
	Philopotamidae			
	<u>Chimarra obscura</u>	1	0.1	
	EPHEMEROPTERA			
	Leptophlebiidae			
	<u>Paraleptophlebia sp.</u>	79	4.5	
	Heptageniidae			
	<u>Stenonema sp.</u>	23	1.3	
	<u>Stenacron sp.</u>	5	0.3	
	Baetidae			
	<u>Baetis sp.</u>	108	6.1	
	Ephemerellidae			
	<u>Eurylophella bicolor</u>	1	0.1	
	Ephemeridae			
	<u>Ephemera varia</u>	1	0.1	
	PLECOPTERA			
	Leuctridae			
	<u>Leuctra sp.</u>	6	0.3	

TABLE 19-6

03418935 Beaverdam Creek
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	HEMIPTERA			
	Veliidae			
	Microvelia sp.	3	0.3	
	ODONATA			
	Coenagrionidae			
	Agrion sp.**	113	6.4	
	Calopterygidae			
	Hetaerina americana	6	0.3	
	Corduliidae			
	Helocordulia uhleri**	3	0.2	
	Aeshnidae			
	Boyeria vinosa**	4	0.2	
	Basiaeschna janata	2	0.1	
	Cordulegastridae			
	Cordulegaster sp.	2	0.1	
	COLEOPTERA			
	Elmidae			
	Dubiraphia bivittata**(1)	14	0.8	
	Stenelmis sp.	10	0.6	
	Promoresia elegans	1	0.1	
	Dubiraphia bivittata**(a)	9	0.5	
	Stenelmis nr. concinna	9	0.5	
	Dryopidae			
	Helichus basalis	11	0.6	
	MEGALOPTERA			
	Sialidae			
	Sialis sp.	2	0.1	

TABLE 19-6

03418935 Beaverdam Creek
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Corydalidae			
	<u>Nigronia serricornis</u>	22	1.2	
	CRUSTACEA			
	ISOPODA			
	Asellidae			
	<u>Lirceus fontinalis</u>	1	0.1	
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	<u>Corbicula manilensis</u>	10	0.6	
	GASTROPODIDAE			
	BASOMMATOPHORA			
	Planorbidae			
	<u>Gyraulus</u> sp.	40	2.3	
	Physidae			
	<u>Physa</u> sp.	18	1.0	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	28	1.6	
	HIRUDINEA			
	Glossiphoniidae	12	0.7	
	TOTALS	1761		

SHANNON-WEAVER DIVERSITY = 4.312
BIOTIC INDEX = 2.324, MODERATE ENRICHMENT

TABLE 19-7

03418935 Beaverdam Creek
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/25/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	758	8159.3	59.4	
	Empididae	19	204.5	1.5	
	Ceratopogonidae				
	Atrichopogon sp.	18	193.8	1.4	
	Bezzia-Probezzia sp.	3	32.3	0.2	
	Simuliidae				
	Simulium sp.	5	51.8	0.4	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	307	3304.6	24.0	
	Hydropsyche betteni	57	613.6	4.5	
	Philopotamidae				
	Chimarra obscura	3	32.3	0.2	
	Hydroptilidae				
	Hydroptila sp.	5	53.8	0.4	
	EPHEMEROPTERA				
	Heptageniidae				
	Stenonema nr. modestum	17	183.0	1.3	
	Baetidae				
	Baetis sp.	51	549.0	4.0	
	Leptophlebiidae				
	Paraleptophlebia sp.	3	32.3	0.2	
	Oligoneuridae				
	Isonychia sp.	1	10.8	0.1	

TABLE 19-7

03418935 Beaverdam Creek
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	PLECOPTERA				
	Leuctridae				
	Leuctra sp.	5	53.8	0.4	
	HEMIPTERA				
	Veliidae				
	Rhagovelia sp.	3	32.3	0.2	
	COLEOPTERA				
	Elmidae				
	Stenelmis sp.	8	86.1	0.6	
	Psephenidae				
	Ectopria nervosa*	1	10.8	0.1	
	Dryopidae				
	Helichus basalis	1	10.8	0.1	
	MEGALOPTERA				
	Corydalidae				
	Nigronia serricornis	7	75.4	0.5	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	Corbicula manilensis	2	21.5	0.2	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	3	32.3	0.2	

SHANNON-WEAVER DIVERSITY = 1.909

TOTALS 1277 13746.0

TABLE 19-8

03418935 Beaverdam Creek
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/25/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	353	3799.8	59.1	
	Empididae				
	Hemerodromia sp.	7	75.4	1.2	
	Ceratopogonidae				
	Atrichopogon sp.	5	53.8	0.8	
	Tipulidae				
	Antocha sp.	3	32.3	0.5	
	TRICHOPTERA				
	Hydroptilidae				
	Hydroptila sp.	4	43.1	0.7	
	Philopotamidae				
	Chimarra obscura	2	21.5	0.3	
	Hydropsychidae				
	Cheumatopsyche sp.	73	785.8	12.2	
	Hydropsyche betteni	57	613.6	9.5	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	33	355.2	5.5	
	Pseudocloeon sp.	4	43.1	0.7	
	Heptageniidae				
	Stenonema pudicum	14	150.7	2.3	
	Heptagenia sp.	3	32.3	0.5	
	Stenacron pallidum	6	64.6	1.0	

TABLE 19-8

03418935 Beaverdam Creek
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Leptophlebiidae				
	<u>Paraleptophlebia sp.</u>	2	21.5	0.3	
	Ephemerellidae				
	<u>Eurylophella temporalis</u>	1	10.8	0.2	
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra sp.</u>	9	96.9	1.5	
	HEMIPTERA				
	Veliidae				
	<u>Microvelia sp.</u>	1	10.8	0.2	
	COLEOPTERA				
	Elmidae				
	<u>Stenelmis sp.</u>	5	53.8	0.8	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	9	96.9	1.5	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	1	10.8	0.2	

TABLE 19-8

03418935 Beaverdam Creek
 Bledsoe Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	5	53.8	0.8	
	Naididae				
	TOTALS	597	6426.3		

SHANNON-WEAVER DIVERSITY = 2.273

TABLE 19-9

03418935 Beaverdam Creek
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/25/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	113	1216.4	62.1	
	Tipulidae				
	Antocha sp.	4	43.1	2.2	
	Empididae	2	21.5	1.1	
	Ceratopogonidae				
	Atrichopogon sp.	1	10.8	0.5	
	TRICHOPTERA				
	Hydroptilidae				
	Hydroptila sp.	2	21.5	1.1	
	Philopotamidae				
	Chimarra obscura	1	10.8	0.5	
	Hydropsychidae				
	Cheumatopsyche sp.	11	118.4	6.0	
	Hydropsyche betteni	3	32.3	1.6	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	16	172.2	8.8	
	Pseudocloeon sp.	1	10.8	0.5	
	Heptageniidae				
	Stenacron interpunctatum	1	10.8	0.5	
	Stenonema sp.	4	43.1	2.2	
	Heptagenia sp.	1	10.8	0.5	

TABLE 19-9

03418935 Beaverdam Creek
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	PLECOPTERA				
	Leuctridae				
	Leuctra sp.	6	64.6	3.3	
	ODONATA				
	Aeshnidae				
	Boyeria sp.	1	10.8	0.5	
	COLEOPTERA				
	Psephenidae				
	Psephenus herricki	1	10.8	0.5	
	Elmidae				
	Optioservus sp.	1	10.8	0.5	
	Stenelmis nr. concinna	2	21.5	1.1	
	MEGALOPTERA				
	Sialidae				
	Sialis sp.	2	21.5	1.1	
	Corydalidae				
	Nigronia serricornis	7	75.4	3.8	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	Corbicula manilensis	2	21.5	1.1	
	TOTALS	182	1959.1		

SHANNON-WEAVER DIVERSITY = 2.350

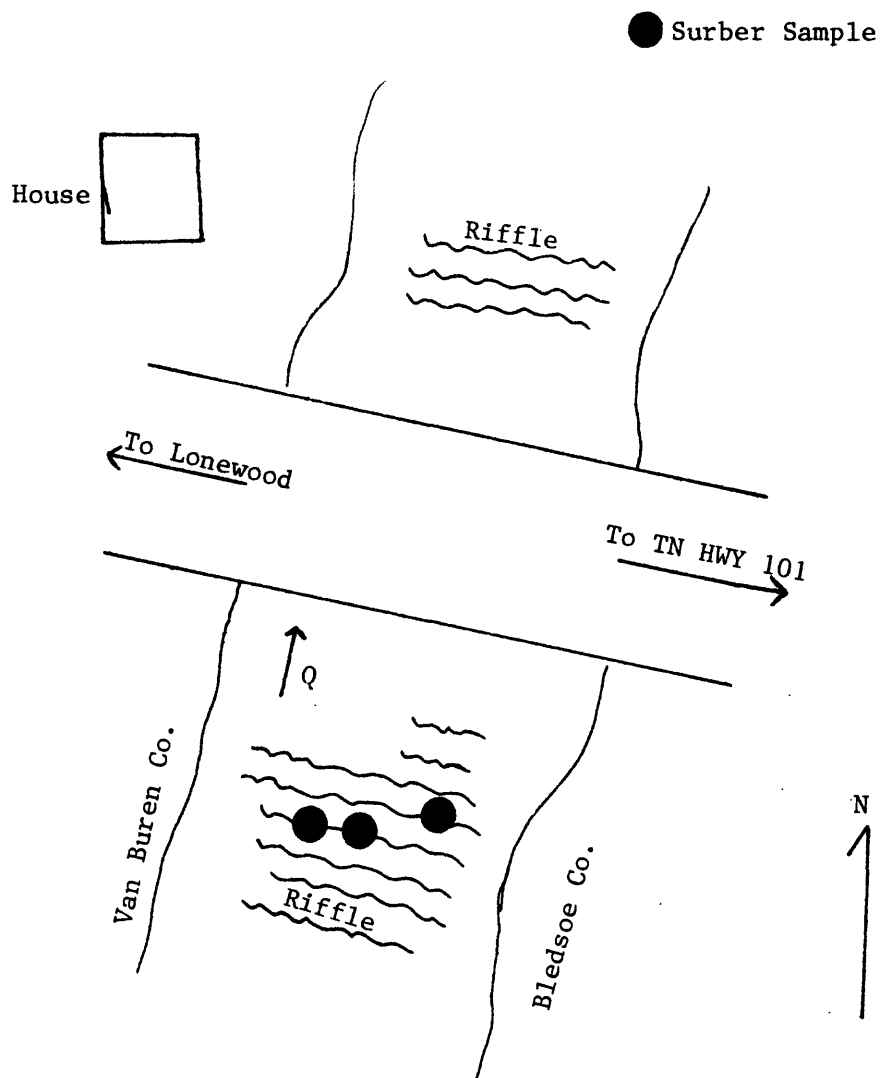


FIGURE 20-1. Station 20 - 03418995 - Glade Creek near Lonewood, TN

TABLE 20-1

Physical and Chemical Parameters at

Station 20 - 03418995

Glade Creek near Lonewood, Van Buren - Bledsoe Co., TN

Parameter	Date	
	5-1-81	10-6-81
Water temperature	14°C	13°C
Dissolved Oxygen	9.4 mg/L	9.1 mg/L
pH	5.5	6.2
Conductivity	45 umhos/cm	140 umhos/cm
Stream Width	5.4 m	4.5 m
Average Stream Depth	45.7 cm	30.48
Average Stream Velocity	0.24 m/sec	.18 m/sec
Discharge	0.59 m ³ /sec	0.26 m ³ /sec
Cover (% Shaded)	40%	60%
Substrate	Large, flat cobble	

TABLE 20-2

03418995 Glade Creek
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
5/1/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	120	24.9	
	<u>Pseudorthocladus sp.</u>	(4)		
	<u>Tribelos fuscicornis</u>	(2)		
	<u>Microtendipes sp.</u>	(9)		
	Athericidae			
	<u>Atherix variegata</u>	13	2.7	
	Tipulidae			
	<u>Hexatoma sp.</u>	1	0.2	
	<u>Tipula sp.</u>	1	0.2	
	Ceratopogonidae			
	<u>Bezzia-Probezzia sp.</u>	5	1.0	
	Culicidae			
	<u>Culex sp.</u>	1	0.2	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Hydropsyche dicantha</u>	9	1.9	
	Helicopsychidae			
	<u>Helicopsyche borealis</u>	5	1.0	
	Philopotamidae			
	<u>Chimarra obscura</u>	3	0.6	
	Hydroptilidae			
	<u>Hydroptila sp.</u>	1	0.2	
	Sericostomatidae			
	<u>Agarodes sp.***</u>	9	1.9	

TABLE 20-2

03418995 Glade Creek
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	Leptoceridae			
	<u>Mystacides sepulchralis***</u>	3	0.6	
	<u>Oecetis sp.</u>	1	0.2	
	Limnephilidae			
	<u>Onocosmoecus quadrinotatus (tent.)</u>	1	0.2	
	<u>Hydatophylax argus</u>	4	0.8	
	EPHEMEROPTERA			
	Oligoneuriidae			
	<u>Isonychia sp.</u>	29	6.0	
	Heptageniidae			
	<u>Stenonema sp.</u>	3	0.6	
	Baetidae			
	<u>Baetis sp.</u>	34	7.1	
	Leptophlebiidae			
	<u>Paraleptophlebia sp.</u>	10	2.1	
	Trycorythidae			
	<u>Tricorythodes sp.</u>	1	0.2	
	Caenidae			
	<u>Caenis sp.</u>	1	0.2	
	Ephemeridae			
	<u>Hexagenia atrocaudata</u>	5	1.0	
	PLECOPTERA			
	Perlidae			
	<u>Phasganophora capitata</u>	31	6.4	
	ODONATA			
	Aeshnidae			
	<u>Boyeria vinosa</u>	1	0.2	

TABLE 20-2

03418995 Glade Creek
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	Gomphidae			
	<u>Lanthus parvula</u>	8	1.7	
	Ischnuridae			
	<u>Ischnura</u> sp.	4	0.8	
	COLEOPTERA			
	Elmidae			
	<u>Dubiraphia</u> sp.	16	3.3	
	<u>Stenelmis</u> sp.	26	5.4	
	<u>Stenelmis humerosa</u>	5	1.0	
	<u>Optioservus</u> sp.	9	1.9	
	<u>Optioservus ovalis</u>	2	0.4	
	<u>Promoresia tardella</u>	12	2.5	
	Psephenidae			
	<u>Psephenus herricki</u>	20	4.2	
	MEGALOPTERA			
	Corydalidae			
	<u>Corydalus cornutus</u>	7	1.5	
	<u>Nigronia serricornis</u>	1	0.2	
	Sialidae			
	<u>Sialis</u> sp.	2	0.4	
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	<u>Corbicula manilensis</u>	30	6.2	
	GASTROPODA			
	BASSOMATOPHORA			
	Planorbidae			
	<u>Gyraulus</u> sp.	12	2.5	

TABLE 20-2

03418995 Glade Creek
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	Ancylidae			
	<u>Laevipex</u> sp.	1	0.2	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	34	7.1	
		481		

SHANNON-WEAVER DIVERSITY = 4.532

BIOTIC INDEX = 2.325, MODERATE ENRICHMENT

TABLE 20-3

03418995 Glade Creek
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/1/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	915	9849.3	75.5	
	Simuliidae	26	279.9	2.1	
	<u>Simulium</u> sp.				
	Ceratopogonidae	1	10.8	0.1	
	<u>Bezzia-Probezzia</u> sp.				
	Athericidae	1	10.8	0.1	
	<u>Atherix</u> sp.***				
	Tabanidae	1	10.8	0.1	
	<u>Tabanus</u> sp.***				
	TRICHOPTERA				
	Hydropsychidae	1	10.8	0.1	
	<u>Hydropsyche</u> sp.				
	Brachycentridae	4	43.1	0.3	
	<u>Micrasema</u> sp.				
	Polycentropodidae	2	21.5	0.2	
	<u>Polycentropus</u> sp.				
	EMPHEMEROPTERA				
	Oligoneuridae	1	10.8	0.1	
	<u>Isonychia</u> sp.				
	Baetidae	34	365.9	2.8	
	<u>Pseudocloeon</u> sp.				
	Ephemerellidae	2	21.5	0.2	
	<u>Ephemerella dorothea</u> ***				
	<u>E. rotunda</u>	3	32.3	0.2	
	<u>Drunella cornuta</u>	6	64.6	0.5	

TABLE 20-3

03418995 Glade Creek
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Heptageniidae				
	<u>Stenonema pudicum</u>	2	21.5	0.2	
	PLECOPTERA				
	Nemouridae				
	<u>Amphinemura delosa</u> ***	2	21.5	0.2	
	Taeniopterygidae				
	<u>Taeniopteryx</u> sp.	121	1302.5	10.2	
	Capniidae				
	<u>Allocapnia</u> sp.	8	86.1	0.7	
	Perlodidae				
	<u>Isoperla</u> sp.	8	86.1	0.7	
	Chloroperlidae				
	<u>Sweltsa</u> sp.	1	10.8	0.1	
	ODONATA				
	Gomphidae				
	<u>Lanthus parvula</u>	6	64.6	0.5	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u> ***	1	10.8	0.1	
	<u>Ectopria nervosa</u>	1	10.8	0.1	
	Elmidae				
	<u>Stenelmis</u> sp.	13	139.9	1.1	
	<u>Optioservus</u> sp.	3	32.3	0.2	
	<u>Promoresia elegans</u>	16	172.2	1.3	

TABLE 20-3

03418995 Glade Creek
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No. /m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	33	355.2	2.7	
	Naididae				
	TOTALS	1212	13046.3		

SHANNON-WEAVER DIVERSITY = 1.566

TABLE 20-4

03418995 Glade Creek
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/1/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	836	8998.9	79.2	
	Simuliidae				
	Simulium sp.	9	96.9	0.9	
	Empididae	1	10.8	0.1	
	Tipulidae				
	Pedicia sp.***	2	21.5	0.2	
	TRICHOPTERA				
	Hydroptilidae				
	Hydroptila sp.	1	10.8	0.1	
	Glossosomatidae				
	Agapetus sp.	2	21.5	0.2	
	Rhyacophilidae				
	Rhyacophila sp.	1	10.8	0.1	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	2	21.5	0.2	
	Baetidae				
	Pseudocloeon sp.				
	Leptophlebiidae	38	409.1	3.6	
	Paraleptophlebia sp.	1	10.8	0.1	
	Ephemerellidae				
	Ephemerella rotunda***	1	10.8	0.1	
	Drunella cornuta***	2	21.5	0.2	

TABLE 20-4

03418995 Glade Creek
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Heptageniidae				
	<u>Stenonema integrum**</u>	2	21.5	0.2	
	<u>Stenacron gildersleevei</u>	2	21.5	0.2	
	<u>Heptagenia</u> sp.	1	10.8	0.1	
	PLECOPTERA				
	Nemouridae				
	<u>Amphinemura delosa</u>	5	53.8	0.5	
	Leuctridae				
	<u>Leuctra ferruginea</u>	1	10.8	0.1	
	Taeniopterygidae				
	<u>Taeniopteryx</u> sp.	103	1108.7	9.8	
	COLEOPTERA				
	Elmidae				
	<u>Promoresia elegans</u>	15	161.5	1.4	
	<u>Stenelmis</u> sp.	2	21.5	0.2	
	<u>Dubiraphia</u> sp.	1	10.8	0.1	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	28	301.4	2.7	
	TOTALS	1056	11367.1		

SHANNON-WEAVER DIVERSITY = 1.284

TABLE 20-5

03418995 Glade Creek
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/1/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	357	3842.8	55	
	Simuliidae				
	Simulium sp.	10	107.6	1.5	
	TRICHOPTERA				
	Philopotamidae				
	Chimarra obscura	1	10.8	0.2	
	Brachycentridae				
	Micrasema sp.**	3	32.3	0.5	
	Psychomyiidae				
	Psychomyia flavida	1	10.8	0.2	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	223	2400.4	34.2	
	Ephemerellidae				
	Drunella cornuta	1	10.8	0.2	
	Ephemerella dorothea	2	21.5	0.3	
	Heptageniidae				
	Stenacron gildersleevei	1	10.8	0.1	
	PLECOPTERA				
	Nemouridae				
	Amphinemura delosa	4	43.1	0.6	
	Taeniopterygidae				
	Taeniopteryx sp.	17	183.0	2.6	

TABLE 20-5

03418995 Glade Creek
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Perlidae				
	<u>Perlesta placida</u> ***	2	21.5	0.3	
	Perlodidae				
	<u>Isogenus bilobatus</u>	2	21.5	0.3	
	Chloroperlidae				
	<u>Sweltsa</u> sp.	1	10.8	0.2	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	1	10.8	0.2	
	Elmidae				
	<u>Promoresia elegans</u>	4	43.1	0.6	
	<u>Stenelmis</u> sp.	3	32.3	0.5	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u> ***	1	10.8	0.2	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	19	204.5	2.9	
	TOTALS	653	7029.1		

SHANNON-WEAVER DIVERSITY = 1.722

TABLE 20-6

03418995 Glade Creek near Lonewood
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
10/6/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	312	46.9	
	<u>Cricotopus</u> sp.	(37)		
	<u>Polypedilum fallax</u>	(1)		
	<u>Microtendipes</u> sp.	(2)		
	<u>Conchapelopia</u> sp.	(1)		
	<u>Krenosmittia</u> sp.	(1)		
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	4	0.6	
	Culicidae			
	<u>Anopheles</u> sp.	1	0.2	
	<u>Culex</u> sp.	1	0.2	
	Rhagionidae			
	<u>Atherix variegata</u>	9	1.4	
	Tipulidae			
	<u>Hexatoma</u> sp.	1	0.2	
	<u>Tipula</u> sp.	1	0.2	
	TRICHOPTERA			
	Brachycentridae			
	<u>Micrasema</u> sp.	5	0.8	
	Helicopsychidae			
	<u>Helicopsyche borealis</u>	4	0.6	
	Hydropsychidae			
	<u>Hydropsyche dicantha</u>	12	1.8	
	Hydroptilidae			
	<u>Hyroptila</u> sp.	1	0.2	

TABLE 20-6

03418995 Glade Creek near Lonewood
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	Leptoceridae			
	<u>Mystacides sepulchralis</u>	3	0.5	
	<u>Oecetis</u> sp.	1	0.2	
	Limnephilidae			
	<u>Hydatophylax argus</u>	4	0.6	
	Philopotamidae			
	<u>Chimarra obscura</u>	2	0.3	
	Polycentropodidae			
	<u>Neureclipsis crepuscularis</u>	3	0.5	
	Sericostomatidae			
	<u>Agarodes</u> sp.	5	0.8	
	EPHEMEROPTERA			
	Baetidae			
	<u>Baetis</u> sp.	37	5.6	
	Caenidae			
	<u>Caenis</u> sp.	1	0.2	
	Ephemeridae			
	<u>Hexagenia atrocaudata</u>	5	0.8	
	Heptageniidae			
	<u>Stenonema integrum</u>	3	0.5	
	<u>Stenonema scitulum</u>	1	0.2	
	Leptophlebiidae			
	<u>Paraleptophlebia</u> sp.	10	1.5	
	Oligoneuridae			
	<u>Isonychia</u> sp.	34	5.1	
	Tricorythidae			
	<u>Tricorythodes</u> sp.	1	0.2	

TABLE 20-6

03418995 Glade Creek near Lonewood
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	PLECOPTERA			
	Leuctridae			
	<u>Leuctra</u> sp.	2	0.3	
	Perlidae			
	<u>Acroneuria abnormis</u>	1		
	<u>Phasganophora capitata</u>	33	5.0	
	HEMIPTERA			
	Veliidae			
	<u>Rhagovelia</u> sp.	1	0.2	
	ODONATA			
	Coenagrionidae			
	<u>Ischnura</u> sp.	5	0.8	
	Aeshnidae			
	<u>Boyeria vinosa</u>	1	0.2	
	Gomphidae			
	<u>Lanthus parvula</u>	6	9.0	
	COLEOPTERA			
	Elmidae			
	<u>Dubiraphia</u> sp.	16	2.4	1
	<u>Promoresia tardella</u>	12	1.8	
	<u>Optioservus</u> sp.	10	1.5	
	<u>Optioservus ovalis</u>	2	0.3	
	<u>Stenelmis</u> sp.	26	3.9	
	<u>Stenelmis humerusa</u>	5	0.8	
	Psephenidae			
	<u>Psephenus herricki</u>	19	2.9	

TABLE 20-6

03418995 Glade Creek near Lonewood
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	MEGALOPTERA			
	Corydalidae			
	<u>Corydalus cornutus</u>	7	1.1	
	<u>Nigronia serricornis</u>	1	0.2	
	Sialidae			
	<u>Sialis sp.</u>	2	0.5	
	CRUSTACEA			
	ARACHNOIDEA			
	HYDRACARINA	1	0.2	
	MOLLUSCA			
	GASTROPODA			
	Ancylidae			
	<u>Laevipex sp.</u>	1	0.2	
	Planorbidae			
	<u>Gyraulus sp.</u>	11	1.7	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA	43	6.5	
	TOTALS	665		

SHANNON-WEAVER DIVERSITY = 3.398

BIOTIC INDEX = 2.16, SOME ENRICHMENT

TABLE 20-7

03418995 Glade Creek
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
10/6/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	57	613.6	31.8	
	Athericidae	2	21.5	1.1	
	<u>Atherix variegata</u>				
	TRICHOPTERA				
	Hydroptilidae	5	53.8	2.8	
	Hydroptila sp.				
	Philopotamidae	1	10.8	0.6	
	Chimarra obscura				
	Polycentropodidae	2	21.5	1.1	
	Neureclipsis crepuscularis				
	Hydropsychidae	9	96.9	5.0	
	Cheumatopsyche sp.	2	21.5	1.1	
	<u>Hydropsyche dicantha</u>	4	43.1	2.2	
	<u>H. venularis</u>				
	Brachycentridae	3	32.3	1.7	
	Micrasema sp.				
	EPHEMEROPTERA				
	Oligoneuridae	5	53.8	2.8	
	Isonychia sp.				
	Siphonuridae	1	10.8	0.6	
	Ameletus sp.				
	Baetidae	22	236.8	12.3	
	<u>Baetis sp.</u>				

TABLE 20-7

03418995 Glade Creek
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No. /m ²	%Comp.	Sample
	Leptophlebiidae				
	<u>Paraleptophlebia</u> sp.	1	10.8	0.6	
	Heptageniidae				
	<u>Stenonema</u> sp.	4	43.1	2.2	
	<u>Stenonema fuscum</u>	2	21.5	1.1	
	PLECOPTERA				
	Taeniopterygidae				
	<u>Taeniopteryx</u> sp.	3	32.3	1.7	
	Leuctridae				
	<u>Leuctra ferruginea</u>	2	21.5	1.1	
	Perlidae				
	<u>Phasganophora capitata</u> **	5	53.8	2.8	
	<u>Acroneuria evoluta</u>	1	10.8	0.6	
	ODONATA				
	Gomphidae				
	<u>Lanthus parvula</u>	2	21.5	1.1	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	1	10.8	0.6	
	Elmidae				
	<u>Stenelmis</u> sp.	4	43.1	2.2	
	<u>Stenelmis crenata</u>	2	21.5	1.1	
	<u>Optioservus</u> sp.	3	32.3	1.7	
	<u>Optioservus ampliatus</u>	1	10.8	0.6	
	<u>Promoresia tardella</u>	15	161.5	8.4	

TABLE 20-7

03418995 Glade Creek
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MEGALOPTERA				
	Corydalidae	2	21.5	1.1	
	<u>Corydalus cornutus</u>				
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	18	193.8	10.1	
	Naididae				
	TOTALS	179	1926.8		

SHANNON-WEAVER DIVERSITY = 3.675

TABLE 20-8

03418995 Glade Creek
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
10/6/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	71	764.3	30.7	
	Tipulidae				
	Hexatoma sp.***	2	21.5	0.9	
	Athericidae				
	Atherix variegata	3	32.3	1.3	
	Tabanidae				
	Tabanus sp.***	1	10.8	0.4	
	TRICHOPTERA				
	Helicopsychidae				
	Helicopsyche borealis***	1	10.8	0.4	
	Philopotamidae				
	Chimarra obscura	9	96.9	3.9	
	Polycentropodidae				
	Neureclipsis crepuscularis	2	21.5	0.9	
	Hydropsychidae				
	Cheumatopsyche sp.	5	53.8	2.2	
	Hydropsyche venularis	6	64.6	2.6	
	H. dicantha	8	86.1	3.5	
	Brachycentridae				
	Micrasema sp.	2	21.5	0.9	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	4	43.1	1.7	

TABLE 20-8

03418995 Glade Creek
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Baetidae				
	<u>Baetis</u> sp.	15	161.5	6.5	
	Heptageniidae				
	<u>Stenonema tripunctatum</u>	2	21.5	0.9	
	PLECOPTERA				
	Taeniopterygidae				
	<u>Taeniopteryx</u> sp.	2	21.5	0.9	
	Leuctridae				
	<u>Leuctra</u> sp.	2	21.5	0.9	
	Perlodidae				
	<u>Isogenus bilobatus</u>	1	10.8	0.5	
	Perlidae				
	<u>Acroneuria abnormis</u>	2	21.5	0.9	
	<u>Phasganophora capitata</u>	4	43.1	1.7	
	HEMIPTERA				
	Veliidae				
	<u>Microvelia</u> sp.	1	10.8	0.4	
	ODONATA				
	Gomphidae				
	<u>Lanthus parvula</u>	4	43.1	1.7	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	2	21.5	0.9	
	Elmidae				
	<u>Promoresia tardella</u>	21	226.1	9.1	
	<u>Stenelmis</u> sp.	22	236.8	9.5	

TABLE 20-8

03418995 Glade Creek
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	<u>Stenelmis crenata</u>	5	53.8	2.2	
	<u>Optioservus sp.</u>	8	86.1	3.5	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	2	21.5	0.9	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	5	53.8	2.2	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	7	75.4	3.0	
	TOTALS	231	2486.5		

SHANNON-WEAVER DIVERSITY = 3.552

TABLE 20-9

03418995 Glade Creek
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
10/6/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	132	1420.9	46.6	
	Athericidae				
	Atherix variegata	5	53.8	1.8	
	Ceratopogonidae				
	Bezzia sp.	4	43.1	1.4	
	TRICHOPTERA				
	Hydroptilidae				
	Hydroptila sp.	1	10.8	0.4	
	Polycentropodidae				
	Neureclipsis crepuscularis	1	10.8	0.4	
	Philopotamidae				
	Chimarra obscura	3	32.3	1.1	
	Hydropsychidae				
	Hydropsyche venularis	3	32.3	1.1	
	H. dicantha	10	107.6	3.5	
	Brachycentridae				
	Micrasema sp.	3	32.3	1.1	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	4	43.1	1.4	
	Baetidae				
	Baetis sp.	31	333.7	11.0	
	Leptophlebiidae				
	Paraleptophlebia sp.	1	10.8	0.4	

TABLE 20-9

03418995 Glade Creek
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	PLECOPTERA				
	Taeniopterygidae				
	<u>Taeniopteryx</u> sp.	2	21.5	0.7	
	Perlidae				
	<u>Acroneuria abnormis</u>	2	21.5		
	<u>Phasganophora capitata</u>	7	75.4	2.5	
	Perlodidae				
	<u>Isogenus bilobatus</u>	2	21.5	0.7	
	Chloroperlidae				
	<u>Hastaperla brevis</u>	9	96.9	3.2	
	ODONATA				
	Gomphidae				
	<u>Lanthus parvula</u>	1	10.8	0.4	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	9	96.9	3.2	
	Elmidae				
	<u>Stenelmis crenata</u>	3	32.3	1.1	
	<u>Stenelmis</u> sp.	18	193.8	6.4	
	<u>Optioservus</u> sp.	10	107.6	3.5	
	<u>Promoesia tardella</u>	9	96.9	3.2	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	1	10.8	0.4	

TABLE 20-9

03418995 Glade Creek
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	12	129.2	4.2	
	TOTALS	283	3046.3		

SHANNON-WEAVER DIVERSITY = 3.106

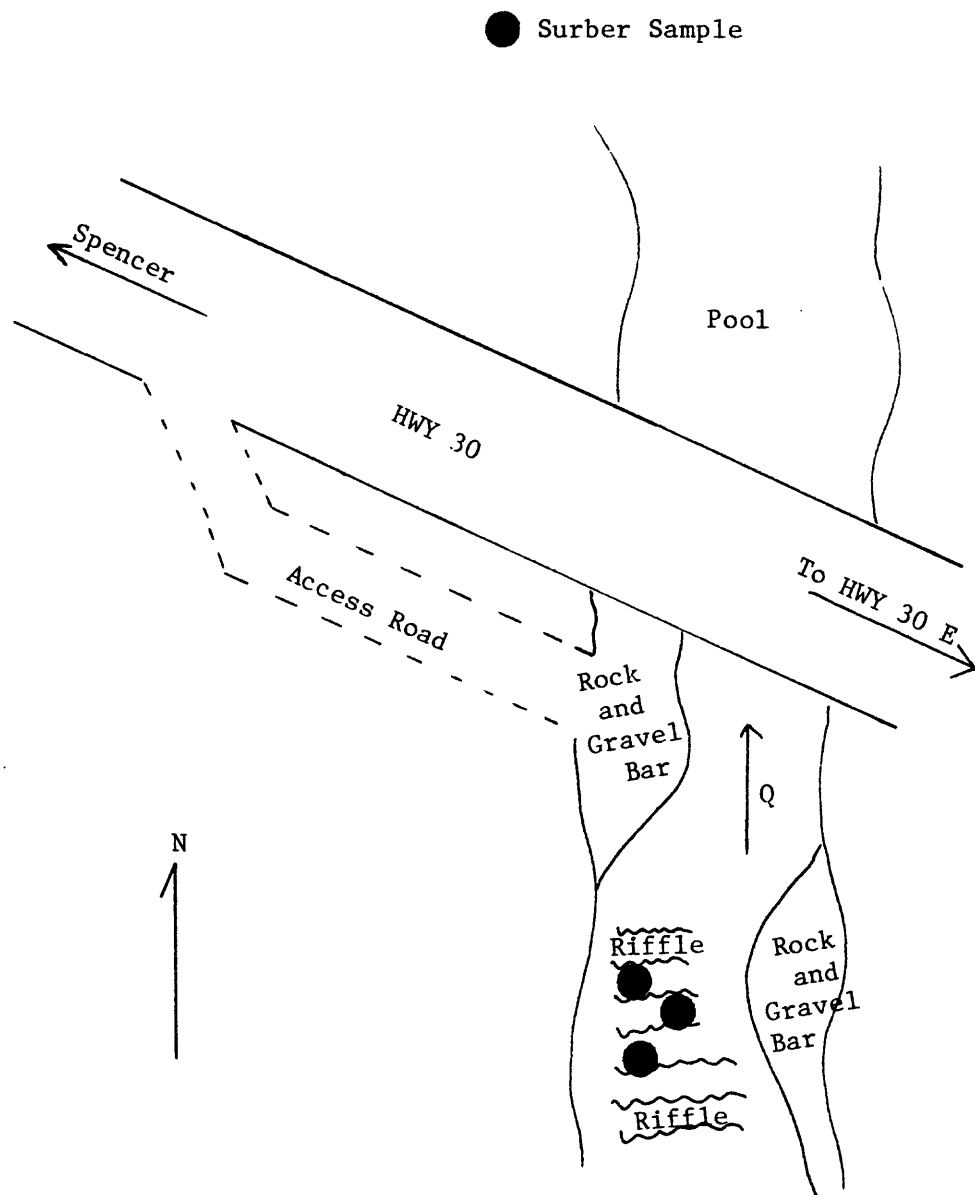


FIGURE 21-1. Station 21 - 03419200 - Cane Creek near Spencer, TN

TABLE 21-1
Physical and Chemical Parameters at
Station 21 - 03419200
Cane Creek near Spencer, Van Buren Co., TN

Parameter	Date	
	5-20-81	8-25-81
Water Temperature	13°C	d
Dissolved Oxygen	10.1 mg/L	
pH	5.0	
Conductivity	275 umhos/cm	
Stream Width	12.0 m	
Average Stream Depth	34.0 cm	
Average Stream Velocity	0.19 m/sec	
Discharge	0.61 m ³ /sec	
Cover (% Shaded)	60%	
Substrate	Small to medium cobble	

^d Dry station

TABLE 21-2

03419200 Cane Creek
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
5/20/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	41	23.8	
	<u>Parametrioctenus sp.</u>	(20)		
	<u>Cricotopus sp.</u>	(3)		
	<u>Polypedilum convictum</u>	(3)		
	<u>Abiabesmyia mallochi</u>	(1)		
	Simuliidae			
	<u>Simulium sp.</u>	7	4.1	
	Tipulidae			
	<u>Antocha sp.</u>	1	0.6	
	EPHEMEROPTERA			
	Leptophlebiidae			
	<u>Paraleptophlebia debilis*</u>	76	44.2	
	Heptageniidae			
	<u>Stenonema scitulum</u>	2	1.2	
	<u>S. vicarium</u>	1	0.6	
	Oligoneuridae			
	<u>Isonychia sp.</u>	1	0.6	
	Ephemerellidae			
	<u>Drunella cornuta</u>	5	2.9	
	<u>Eurylophella temporalis</u>	4	2.3	
	<u>Ephemerella needhami</u>	1	0.6	
	Baetidae			
	<u>Pseudocloeon sp.</u>	2	1.2	

TABLE 21-2

03419200 Cane Creek
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	PLECOPTERA			
	Perlidae			
	<u>Perlesta placida</u>	18	10.5	
	Nemouridae			
	<u>Amphinemura delosa</u>	4	2.3	
	ODONATA			
	Macromyiidae			
	<u>Macromia sp.*</u>	1	0.6	
	COLEOPTERA			
	Dryopidae			
	<u>Helichus sp.</u>	1	0.6	
	<u>Halipilidae</u>			
	<u>Oreodytes sp.</u>	6	3.5	
	CRUSTACEA			
	ISOPODA			
	Asellidae			
	<u>Asellus sp.</u>	1	0.6	
	TOTALS	172		

SHANNON-WEAVER DIVERSITY = 2.582

BIOTIC INDEX = 1.759, SOME ENRICHMENT

TABLE 21-3

03419200 Cane Creek
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/20/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	51	549.0	66.2	
	EPHEMEROPTERA				
	Oligoneuridae	1	10.8	1.3	
	Isonychia sp.				
	Leptophlebiidae	8	86.1	10.4	
	Paraleptophlebia sp.				
	Heptageniidae	2	21.5	2.6	
	Heptagenia sp.				
	Ephemerellidae	2	21.5	2.6	
	Drunella cornuta***	1	10.8	1.3	
	Ephemerella needhami***				
	PLECOPTERA				
	Leuctridae				
	Leuctra ferruginea	2	21.5	2.6	
	Perlidae				
	Acroneuria georgiana	7	75.4	9.1	
	ODONATA				
	Gomphidae				
	Octogomphus sp.	1	10.8	1.3	

TABLE 21-3

03419200 Cane Creek
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	2	21.5	2.6	
	Naididae				
	TOTALS	77	828.8		

SHANNON-WEAVER DIVERSITY = 1.839

TABLE 21-4

03419200 Cane Creek
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/20/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	66	710.4	54.1	
	Simuliidae				
	Simulium sp.	10	107.6	8.2	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	3	32.3	2.5	
	Baetidae				
	Pseudocloeon sp.	1	10.8	0.8	
	Ephemerellidae				
	Drunella cornuta	5	53.8	4.1	
	Leptophlebiidae				
	Paraleptophlebia sp.	21	266.0	17.2	
	PLECOPTERA				
	Leuctridae				
	Leuctra sp.	1	10.8	0.8	
	Nemouridae				
	Amphinemura delosa	3	32.3	2.5	
	Perlidae				
	Acroneuria georgiana	5	53.8	4.1	

TABLE 21-4

03419200 Cane Creek
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	TRICHOPTERA				
	Glossosomatidae				
	Glossosoma sp.	5	53.8	4.1	
	Agapetus sp.	1	10.8	0.8	
	Hydropsychidae				
	Cheumatopsyche sp.	1	10.8	0.8	
	TOTALS	122	1313.2		

SHANNON-WEAVER DIVERSITY = 2.2690

TABLE 21-5

03419200 Cane Creek
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/20/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	24	258.3	47.1	
	Simuliidae				
	Simulium sp.	1	10.8	2.0	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	1	10.8	2.0	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	1	10.8	2.0	
	Baetidae				
	Pseudocloeon sp.	4	43.1	7.8	
	Ephemerellidae				
	Drunella cornuta***	1	10.8	2.0	
	Leptophlebiidae				
	Paraleptophlebia sp.	7	75.4	13.7	
	PLECOPTERA				
	Leuctridae				
	Leuctra sp.	2	21.5	3.9	
	COLEOPTERA				
	Elmidae				
	Stenelmis sp.	1	10.8	2.0	
	Dytiscidae				
	Hygrotus sp.	1	10.8	2.0	

TABLE 21-5

03419200 Cane Creek
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	8	86.1	15.7	
	Naididae				
	TOTALS	51	549.0		

SHANNON-WEAVER DIVERSITY = 2.463

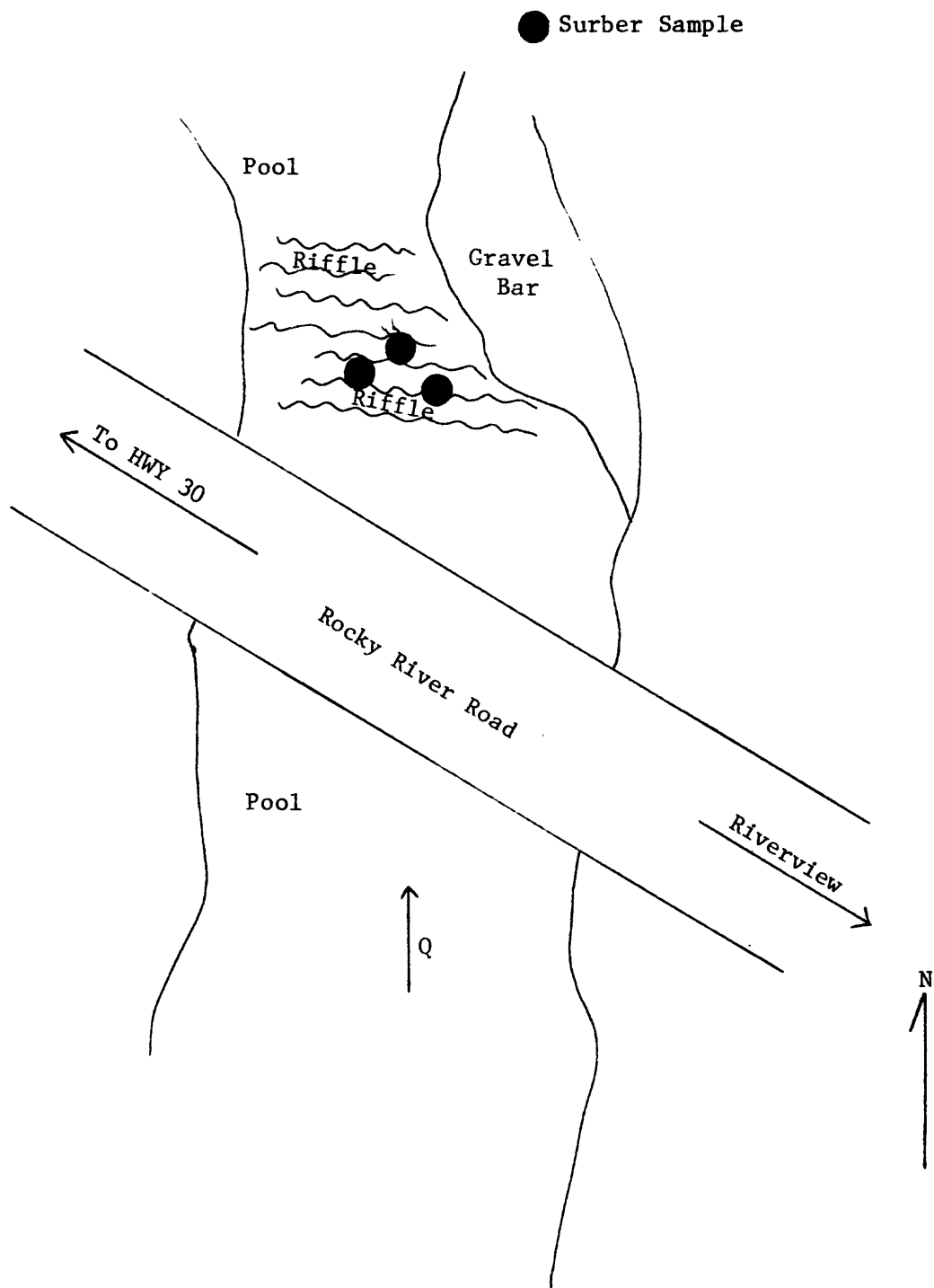


FIGURE 22-1. Station 22 - 03420116 - Rocky River at Rocky River Road at Riverview, TN

TABLE 22-1

Physical and Chemical Parameters at

Station 22 - 03420116

Rocky River at Riverview, Van Buren Co., TN

Parameter	Date	
	5-20-81	8-25-81
Water Temperature	12°C	18.5°C
Dissolved Oxygen	9.5 mg/L	8.7 mg/L
pH	7.4	7.2
Conductivity	110 umhos/cm	210 umhos/cm
Stream Width	11.6 m	4.6 m
Average Stream Depth	27.9 cm	13.0 cm
Average Stream Velocity	0.56 m/sec	0.51 m/sec
Discharge	1.45 m ³ /sec	0.24 m ³ /sec
Cover (% Shaded)	15%	20%
Substrate	Medium to large cobble	

TABLE 22-2

03420116 Rocky River
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
5/22/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	216		
	<u>Conchapelopia</u> sp.	(5)	42.1	
	<u>Parametriocnemus</u> sp.	(6)		
	<u>Rheocricotopus</u> sp.	(2)		
	<u>Cricotopus</u> sp.	(2)		
	<u>Thienemanniella</u> sp.	(25)		
	<u>Polypedilum illinoense</u>	(2)		
	<u>Corynoneura</u> sp.	(4)		
	<u>Eukiefferiella</u> sp.	(8)		
	Tipulidae			
	<u>Erioptera</u> sp.	1	0.2	
	Simuliidae			
	<u>Simulium</u> sp.	1	0.2	
	Psychodidae			
	<u>Psychoda</u> sp.	2	0.4	
	Empididae	1	0.2	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	1	0.2	
	<u>Symphitopsyche slossonae</u> ***	1	0.2	
	EPHEMEROPTERA			
	Heptageniidae			
	<u>Stenonema scitulum</u>	2	0.4	
	<u>S. nepotellum</u>	1	0.2	

TABLE 22-2

03420116 Rocky River
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Leptophlebiidae			
	<u>Paraleptophlebia</u> sp.	25	4.9	
	Baetidae			
	<u>Baetis</u> sp.	64	12.5	
	<u>Pseudocloeon</u> sp.	85	16.6	
	Siphonuridae			
	<u>Isonychia</u> sp.	13	2.5	
	Ephemerellidae			
	<u>Ephemerella</u> rotunda	11	2.1	
	<u>E. dorothea</u>	5	1.0	
	<u>E. catawba</u>	8	1.6	
	<u>Drunella</u> cornutella	9	1.8	
	<u>Eurylophella</u> temporalis	1	0.2	
	PLECOPTERA			
	Nemouridae			
	<u>Amphinemura</u> delosa	12	2.3	
	Leuctridae			
	<u>Leuctra</u> ferruginea	2	0.4	
	Perlidae			
	<u>Acroneuria</u> ruralis	11	2.1	
	HEMIPTERA			
	Hebridae			
	<u>Hebrus</u> sp.	1	0.2	
	COLEOPTERA			
	Psephenidae			
	<u>Ectopria</u> nervosa	2	0.4	
	<u>Psephenus</u> herricki	1	0.2	

TABLE 22-2

03420116 Rocky River
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	Elmidae			
	<u>Optioservus sp.</u>	11	2.1	
	<u>Promoresia tardella</u>	4	0.8	
	Dytiseidae			
	<u>Hydroporus sp.</u>	1	0.2	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Cambarus (J.) brachydactylus***</u>	1	0.2	
	<u>Cambarus sp.</u>	1	0.2	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	9	1.8	
	TOTALS	513		

SHANNON-WEAVER DIVERSITY = 4.099

BIOTIC INDEX = 1.595, CLEAN

TABLE 22-3

03420116 Rocky River
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/20/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	34	366.0	16.3	
	Tabanidae				
	Tabanus sp.	3	32.3	1.4	
	EPHEMEROPTERA				
	Oligoneuriidae	2	21.5	1.0	
	Isonychia sp.*				
	Baetidae				
	Pseudocloeon sp.	93	1001.1	44.5	
	Baetis sp.	17	183.0	8.1	
	Ephemerellidae				
	Drunella cornuta*	12	129.2	5.7	
	Ephemerella dorothea	6	64.6	2.9	
	Ephemerella rotunda	4	43.1	1.9	
	Ephemerella sp.	15	161.5	7.2	
	Heptageniidae				
	Stenacron interpunctatum	2	21.5	1.0	
	Leptophlebiidae				
	Paraleptophlebia sp.*	1	10.8	0.5	
	PLECOPTERA				
	Nemouridae				
	Amphinemura delosa	1	10.8	0.5	
	Chloroperlidae				
	Chloroperla sp.	1	10.8	0.5	

TABLE 22-3

03420116 Rocky River
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	TRICHOPTERA				
	Hydroptilidae				
	<u>Ochrotrichia</u> sp.	3	32.3	1.4	
	Hydropsychidae				
	<u>Hydropsyche</u> sp.	5	53.8	2.4	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	2	21.5	1.0	
	Elmidae				
	<u>Stenelmis</u> sp.	3	32.3	1.4	
	<u>Optioservus</u> sp.	2	21.5	1.0	
	CRUSTACEA				
	ISOPODA				
	Asellidae				
	<u>Asellus</u> sp.	3	32.3	1.4	
	TOTALS	209	2249.7		

SHANNON-WEAVER DIVERSITY = 2.8539

TABLE 22-4

03420116 Rocky River
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/20/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	5	53.8	6.1	
	Tipulidae				
	Hexatoma sp.	1	10.8	1.2	
	Limonia sp.	2	21.5	2.4	
	EPHEMEROPTERA				
	Oligoneuriidae				
	Isonychia sp.	1	10.8	1.2	
	Baetidae				
	Pseudocloeon sp.	14	150.7	17.1	
	Baetis hageni	1	10.8	1.2	
	Baetis brunneicolor	18	193.8	21.9	
	Ephemerellidae				
	Drunella cornuta	12	129.2	14.6	
	Ephemerella rotunda	6	64.6	7.3	
	Ephemerella dorothea	3	32.3	3.7	
	Ephemerella sp.	3	32.3	3.7	
	Heptageniidae				
	Stenonema bipunctatum	1	10.8	1.2	
	S. pulchellum	3	32.3	3.7	
	COLEOPTERA				
	Elmidae				
	Stenelmis sp.	3	32.3	3.7	

TABLE 22-4

03420116 Rocky River
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	Cambarus sp.	1	10.8	1.2	
	AMPHIPODA				
	Asellidae				
	Asellus sp.	1	10.8	1.2	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	7	75.3	8.5	
	TOTALS	82	882.7		

SHANNON-WEAVER DIVERSITY = 3.4408

TABLE 22-5

03420116 Rocky River
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/20/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	42	452.1	18.5	
	Tipulidae				
	Tipula sp.	1	10.8	0.4	
	Simuliidae				
	Simulium sp.	1	10.8	0.4	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	1	10.8	0.4	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	3	32.3	1.3	
	Baetidae				
	Pseudocloeon sp.	67	721.2	29.5	
	Baetis sp.	24	258.3	10.6	
	Ephemerellidae				
	Ephemerella dorothea	5	53.8	2.2	
	Drunella cornutella**	14	150.7	6.2	
	Serratella deficiens	26	279.9	11.5	
	Leptophlebiidae				
	Paraleptophlebia sp.	2	21.5	0.9	
	Heptageniidae				
	Stenonema carolina	1	10.8	0.4	
	S. tripunctatum	3	32.3	1.3	
	Stenacron gildersleevei	2	21.5	0.9	

TABLE 22-5

03420116 Rocky River
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria abnormis**</u>	2	21.5	0.9	
	<u>A. ruralis</u>	4	43.1	1.8	
	COLEOPTERA				
	Psephenidae				
	<u>psephenus herricki</u>	1	10.8	0.4	
	Elmidae				
	<u>Stenelmis sp.</u>	1	10.8	0.4	
	<u>Optioservus sp.</u>	22	236.8	9.7	
	CRUSTACEA				
	ISOPODA				
	Asellidae				
	<u>Lirceus fontinalis</u>	1	10.8	0.4	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	4	43.1	1.8	
	TOTALS	227	2443.5		

SHANNON-WEAVER DIVERSITY = 3.158

TABLE 22-6

03420116 Rocky River at Riverview
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
8/25/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	174	15.2	
	Ceratopogonidae			
	Bezzia-Probezzia sp.	2	0.2	
	Empididae			
	Hemerodromia sp.	3	0.3	
	Simuliidae			
	Simulium sp.	68	5.9	
	Tipulidae			
	Hexatoma sp.	13	1.1	
	Antocha sp.	5	0.4	
	Tabanidae			
	Tabanus sp.	1	0.1	
	EPHEMEROPTERA			
	Baetidae			
	Baetis brunneicolor	229	20.0	
	Pseudocloeon sp.	43	3.8	
	Ephemeridae			
	Ephemera varia	20	1.7	
	Ephemerellidae			
	Eurylophella sp.	21	1.8	
	Heptageniidae			
	Heptagenia sp.	3	0.3	
	Stenonema sp.	42	3.7	

TABLE 22-6

03420116 Rocky River at Riverview
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	Leptophlebiidae			
	<u>Paraleptophlebia</u> sp.	11	1.0	
	Oligoneuriidae			
	<u>Isonychia</u> sp.	265	23.2	
	PLECOPTERA			
	Perlidae			
	<u>Acroneuria ruralis</u>	9	7.9	
	TRICHOPTERA			
	Glossosomatidae			
	<u>Glossosoma</u> sp.	1	0.1	
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	114	10.0	
	<u>Hydropsyche dicantha</u>	21	1.8	
	<u>Symphitopsyche slossonae</u> **	5	0.4	
	Phlopotamidae			
	<u>Chimarra obscura</u>	4	0.3	
	Rhyacophilidae			
	<u>Rhyacophila</u> sp.	1	0.1	
	ODONATA			
	Agrionidae			
	<u>Hetaerina</u> sp.	2	0.2	
	Coenagrionidae			
	<u>Anomalagrion hastatum</u>	1	0.1	
	Gomphidae			
	<u>Lanthus parvula</u>	1	0.1	

TABLE 22-6

03420116 Rocky River at Riverview
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	COLEOPTERA			
	Dytiscidae			
	<u>Dytiscus sp.</u>	1	0.1	
	<u>Hydroporus sp.</u>	1	0.1	
	Elmidae			
	<u>Optioservus sp.</u>	42	3.7	
	<u>Optioservus ampliatus</u>	7	0.6	
	<u>Promoresia tardella</u>	3	0.3	
	Psephenidae			
	<u>Psephenus herricki</u>	7	0.6	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	4	0.3	
	<u>Corydalis cornutus</u>	7	0.6	
	Sialidae			
	<u>Sialis sp.</u>	1	0.1	
	CRUSTACEA			
	ISOPODA			
	Asellidae			
	<u>Lirceus fontinalis**</u>	9	0.8	
	MOLLUSCA			
	GASTROPODA			
	Pleuroceridae			
	<u>Goniobasis (Mudalia) sp.</u>	2	0.2	
	TOTALS	1144		

SHANNON-WEAVER DIVERSITY = 3.486

BIOTIC INDEX = 1.78, SOME ENRICHMENT

TABLE 22-7

03420116 Rocky River
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/28/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	115	1237.9	13.6	
	Simuliidae				
	<u>Simulium</u> sp.	81	871.9	9.6	
	Athericidae				
	<u>Atherix variegata</u>	2	21.5	0.2	
	Tipulidae				
	<u>Antocha</u> sp.	2	21.5	0.2	
	<u>Hexatoma</u> sp.	3	32.3	0.4	
	Empididae	1	10.8	0.1	
	TRICHOPTERA				
	Hydropsychidae				
	<u>Cheumatopsyche</u> sp.	186	2002.2	22.0	
	<u>Symphitopsyche slossonae</u>	26	279.9	3.1	
	Rhyacophilidae				
	<u>Rhyacophila</u> sp.	14	150.7	1.7	
	Glossosomatidae				
	<u>Glossosoma</u> sp.	1	10.8	0.1	
	EPHEMEROPTERA				
	Oligoneuriidae				
	<u>Isonychia</u> sp.	161	1733.0	19.0	
	Baetidae				
	<u>Baetis</u> sp.	67	721.2	7.9	
	<u>Pseudocloeon</u> sp.	98	1054.9	11.6	

TABLE 22-7

03420116 Rocky River
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Leptophlebiidae				
	<u>Paraleptophlebia</u> sp.	1	10.8	0.1	
	Heptageniidae				
	<u>Stenonema</u> sp.	5	51.8	0.6	
	Ephemerellidae				
	<u>Eurylophella bicolor</u>	20	215.3	2.4	
	Ephemeridae				
	<u>Ephemera varia</u>	2	21.5	0.2	
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria ruralis</u>	16	172.2	1.9	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	1	10.8	0.1	
	Elmidae				
	<u>Optioservus</u> sp.	25	269.1	3.0	
	<u>Promoresia tardella</u> **	1	10.8	0.1	
	<u>Optioservus nr. ampliatus</u>	4	43.1	0.5	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalis cornutus</u>	8	86.1	0.9	
	COLEOPTERA				
	Isotomidae				
	<u>Isotoma</u> sp.	1	10.8	0.1	

TABLE 22-7

03420116 Rocky River
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae	3	32.3	0.4	
	<u>Pleurocera</u> sp.				
	TOTALS	844	9030.8		

SHANNON-WEAVER DIVERSITY = 3.277

TABLE 22-8

03420116 Rocky River
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/25/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	76	818.1	15.7	
	Tipulida				
	Antocha sp.	13	139.9	2.7	
	TRICHOPTERA				
	Helicopsychidae				
	<u>Helicopsyche borealis***</u>	1	10.8	0.2	
	Rhyacophilidae				
	<u>Rhyacophila</u> sp.	7	75.4	1.4	
	Hydropsychidae				
	<u>Cheumatopsyche</u> sp.	58	624.3	12.0	
	<u>Symphitopsyche slossonae</u>	13	139.9	2.7	
	EPHEMEROPTERA				
	Oligoneuridae				
	<u>Isonychia</u> sp.	119	1280.9	24.5	
	Baetidae				
	<u>Baetis</u> sp.	98	1054.9	20.2	
	<u>Pseudocloeon</u> sp.	50	538.2	10.3	
	Ephemeridae				
	<u>Ephemera varia</u>				
	Ephemerellidae				
	<u>Eurylophella</u> sp.	25	269.1	5.2	
	Leptophlebiidae				
	<u>Paraleptophlebia</u> sp.	3	32.3	0.6	
	Heptageniidae				
	<u>Stenonema</u> sp.	2	21.5	0.4	

TABLE 22-8

03420116 Rocky River
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	1	10.8	0.1	
	HIRUDINEA				
	Glossiphoniidae	2	21.5	0.2	
	TOTALS	847	9117.3		

SHANNON-WEAVER DIVERSITY = 3.302

TABLE 22-9

03420116 Rocky River
Van Buren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/25/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	272	2927.9	16.4	
	Simuliidae				
	Simulium sp.	222	2389.7	13.4	
	Tipulidae				
	Antocha sp.	13	139.9	0.8	
	Hexatoma sp.	2	21.5	0.1	
	Empididae	4	43.1	0.2	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	1	10.8	0.1	
	TRICHOPTERA				
	Rhyacophilidae				
	Rhyacophila sp.	9	96.9	0.5	
	Hydropsychidae				
	Cheumatopsyche sp.	311	3347.7	18.7	
	Symphitopsyche slossonae	31	333.7	1.9	
	S. sparna	66	710.4	4.0	
	S. nr. alhedra	55	592.0	3.3	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	216	2325.1	13.0	
	Ephemeridae				
	Ephemera varia	1	10.8	0.1	
	Baetidae				
	Baetis sp.	140	1506.9	8.4	
	Pseudocloeon sp.	224	2411.2	13.5	

TABLE 22-9

03420116 Rocky River
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria ruralis</u>	5	53.8	1.0	
	COLEOPTERA				
	Psephenidae				
	<u>Ectopria nervosa</u>	1	10.8	0.2	
	Elmidae				
	<u>Optioservus sp.</u>	5	53.8	1.0	
	<u>Optioservus ampliatus</u>	2	21.5	0.4	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	2	21.5	0.4	
	ARACHNOIDEA				
	HYDRACARINA				
	Sperchonidae				
	<u>Sperchanopsis verrucosa</u>	1	10.8	0.2	
	MOLLUSCA				
	GASTROPODA				
	MASOGASTROPODA				
	Pleuroceridae				
	<u>Anculosa sp.</u>	2	21.5	0.4	
	TOTALS	485	5220.7		

SHANNON-WEAVER DIVERSITY = 3.070

TABLE 22-9

03420116 Rocky River
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Ephemerelellidae				
	<u>Eurylophella nr. bicolor</u>	26	279.9	1.6	
	<u>Ephemerella nr. rotunda</u>	1	10.8	0.1	
	Heptageniidae				
	<u>Stenonema sp.</u>	5	53.8	0.3	
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria ruralis</u>	9	96.9	0.5	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	3	32.3	0.2	
	Elmidae				
	<u>Promoresia sp.</u>	1	10.8	0.1	
	<u>Optioservus sp.</u>	21	226.1	1.3	
	<u>Optioservus nr. ampliatus</u>	6	64.6	0.4	
	<u>Stenelmis concinna</u>	2	21.5	0.1	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	13	139.9	0.8	
	<u>Nigronia serricornis</u>	2	21.5	0.1	
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	<u>Anculosa sp.</u>	1	10.8	0.1	

TABLE 22-9

03420116 Rocky River
 Van Buren Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	4	43.1	0.2	
	Naididae				
	TOTALS	1661	17879.4		

SHANNON-WEAVER DIVERSITY = 3.341

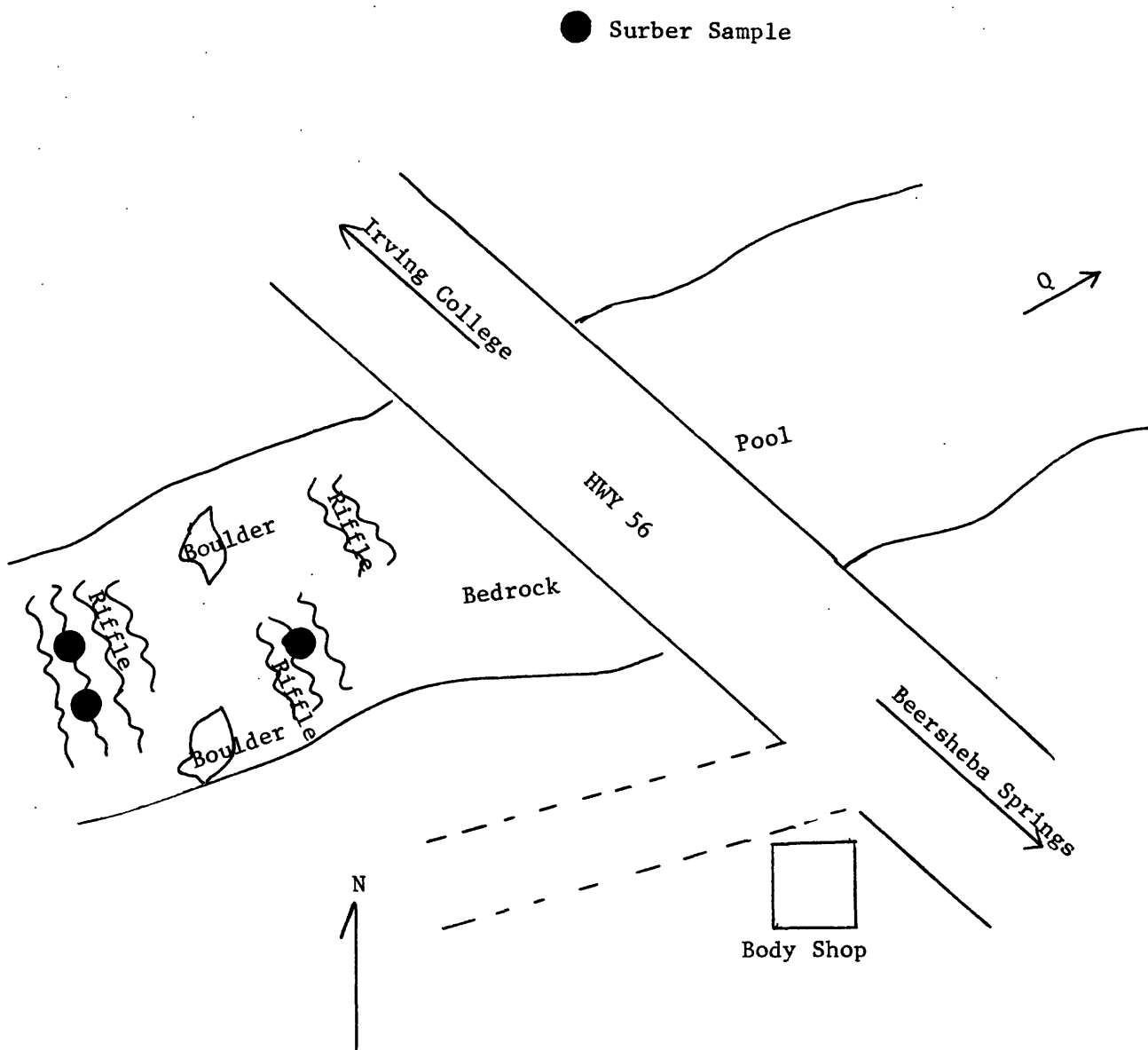


FIGURE 23-1. Station 23 - 03420230 - Scott Creek at Irving College, TN

TABLE 23-1

Physical and Chemical Parameters at

Station 23 - 03420230

Scott Creek at Irving College, Warren Co., TN

Parameter	Date	
	5-20-81	8-25-81
Water Temperature	14°C	22°C
Dissolved Oxygen	10.3 mg/L	*
pH	6.2	8.0
Conductivity	225 umhos/cm	310 umhos/cm
Stream Width	*	7.6 m
Average Stream Depth	22.9 cm	22.9 cm
Average Stream Velocity	*	0.17 m/sec
Discharge	*	0.23 m ³ /sec
Cover (% Shaded)	50%	95%
Substrate	Small to medium cobble on bedrock	

* Parameter not determined.

TABLE 23-2

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
5/20/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	1004	60.2	
	<u>Parametriocnemus</u> sp.	(18)		
	<u>Eukiefferiella</u> sp.	(5)		
	<u>Polypedilum convictum</u>	(5)		
	<u>Polypedilum illinoense</u>	(1)		
	<u>Conchapelopia</u> sp.	(4)		
	<u>Microtendipes</u> sp.	(4)		
	Simuliidae			
	<u>Simulium</u> sp.	23	1.4	
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	4	0.2	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	42	2.5	
	<u>Symphitopsyche sparna</u>	11	0.7	
	<u>Hydropsyche betteni</u>	3	0.2	
	Glossosomatidae			
	<u>Glossosoma</u> sp.	2	0.1	
	<u>Agapetus</u> sp.	7	0.4	
	Helicopsychidae			
	<u>Helicopsyche borealis**</u>	2	0.1	
	Philopotamidae			
	<u>Chimarra obscura</u>	37	2.2	

TABLE 23-2

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	EPHEMEROPTERA			
	<u>Ephemerellidae</u>			
	<u>Serratella deficiens</u>	7	0.4	
	<u>Ephemerella dorothea</u>	8	0.5	
	<u>Oligoneuridae</u>			
	<u>Isonychia sp.</u>	52	3.1	
	<u>Baetidae</u>			
	<u>Pseudocloeon sp.</u>	36	2.2	
	<u>Baetis sp.</u>	194	11.6	
	<u>Leptophlebiidae</u>			
	<u>Paraleptophlebia sp.</u>	1	0.1	
	<u>Heptageniidae</u>			
	<u>Stenonema tripunctatum</u>	1	0.1	
	<u>S. femoratum</u>	6	0.4	
	<u>S. nepotellum</u>	7	0.4	
	<u>S. rubrum</u>	15	0.9	
	PLECOPTERA			
	<u>Nemouridae</u>			
	<u>Amphinemura delosa</u>	4	0.2	
	<u>Taeniopterygidae</u>			
	<u>Taeniopteryx sp.</u>	2	0.1	
	<u>Leuctridae</u>			
	<u>Leuctra ferruginea</u>	1	0.1	
	<u>Perlidae</u>			
	<u>Acroneuria ruralis</u>	6	0.4	

TABLE 23-2

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	ODONATA			
	Gomphidae			
	<u>Lanthus parvula</u>	2	0.1	
	COLEOPTERA			
	Psephenidae			
	<u>Psephenus herricki</u>	32	1.9	
	<u>Ectopria nervosa</u>	2	0.1	
	Elmidae			
	<u>Optioservus sp.</u>	102	6.1	
	<u>Optioservus ampliatus</u>	3	0.2	
	<u>Stenelmis sp.</u>	2	0.1	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	4	0.2	
	Sialidae			
	<u>Sialis sp.</u>	1	0.1	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Cambarus sp.</u>	2	0.1	
	MOLLUSCA			
	GASTROPODA			
	MESOGASTROPODA			
	Pleuroceridae			
	<u>Goniobasis (Mudalia) sp.</u>	9	0.5	

TABLE 23-2

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Viviparidae			
	<u>Campeloma sp.</u>	10	0.6	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	25	1.5	
	TOTALS	1669		

SHANNON-WEAVER DIVERSITY = 3.731

BIOTIC INDEX = 2.596, MODERATE ENRICHMENT

TABLE 23-3

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/20/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	178	1916.0	26.2	
	Ceratopogonidae				
	<u>Atrichopogon sp.</u>	2	21.5	0.3	
	Simuliidae				
	<u>Simulium sp.</u>	5	53.8	0.7	
	Empididae				
	<u>Hemerodromia sp.</u>	1	10.8	0.1	
	TRICHOPTERA				
	Philopotamidae				
	<u>Chimarra obscura</u>	7	75.4	1.0	
	Hydropsychidae				
	<u>Cheumatopsyche sp.</u>	45	484.4	6.6	
	<u>Hydropsyche cuanis</u>	4	43.1	0.6	
	Glossosomatidae				
	<u>Glossosoma sp.</u>	15	161.5	2.2	
	Limnephilidae				
	<u>Neophylax sp.</u>	1	10.8	0.1	
	EPHEMEROPTERA				
	Baetidae				
	<u>Baetis sp.</u>	151	1625.4	22.2	
	<u>Pseudocloeon sp.</u>	122	1313.2	18.0	
	Ephemereillidae				
	<u>Ephemerella dorothea</u>	4	43.1	0.6	

TABLE 23-3

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No. /m ²	%Comp.	Sample
	Oligoneuridae				
	<u>Isonychia</u> sp.	41	441.3	6.0	
	Heptageniidae				
	<u>Stenonema</u> sp.	22	236.8	3.2	
	<u>Stenonema rubrum</u>	19	204.5	2.8	
	PLECOPTERA				
	Perlidae				
	<u>Acroneturia</u> sp.	3	32.3	0.4	
	ODONATA				
	Gomphidae				
	<u>Lanthus parvula</u>	4	43.1	0.6	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	11	118.4	1.6	
	Elmidae				
	<u>Optioservus</u> sp.	43	462.9	6.3	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	1	10.8	0.1	
	TOTALS	679	7309.1		

SHANNON-WEAVER DIVERSITY = 3.064

TABLE 23-4

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No. /m ²	%Comp.	Sample
5/20/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	555	5974.2	39.5	
	Simuliidae				
	Simulium sp.	17	182.9	1.2	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	2	21.5	0.1	
	Athericidae				
	Atherix sp.	1	10.8	0.1	
	Empididae	1	10.8	0.1	
	TRICHOPTERA				
	Philopotamidae				
	Chimarra obscura	94	1011.8	6.7	
	Hydropsychidae				
	Cheumatopsyche sp.	150	1614.6	10.7	
	Symphitopsyche sparna	68	732.0	4.8	
	Glossosomatidae				
	Glossosoma sp.	3	32.3	0.2	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	75	807.3	5.3	
	Baetidae				
	Baetis sp.	61	656.6	4.3	
	Pseudocloeon sp.	194	2088.3	13.8	
	Ephemerellidae				
	Ephemerella sp.	2	21.5	0.1	
	Ephemerella invaria	4	43.1	0.3	
	E. subvaria	1	10.8	0.1	
	E. dorothea	1	10.8	0.1	

TABLE 23-4

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m	%Comp.	Sample
	Heptageniidae				
	<u>Stenonema rubrum</u> ***	23	247.6	1.6	
	<u>S. fuscum</u>	35	376.7	2.5	
	Leptophlebiidae				
	<u>Paraleptophlebia</u> sp.	7	75.4	0.5	
	PLECOPTERA				
	Nemouridae				
	<u>Amphinemura delosa</u>	18	193.8	1.3	
	Leuctridae				
	<u>Leuctra ferruginea</u>	1	10.8	0.1	
	Perlodidae				
	<u>Isoperla</u> sp.	3	32.3	0.2	
	ODONATA				
	Gomphidae				
	<u>Octogomphus</u> sp.	1	10.8	0.1	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	25	269.1	1.8	
	Elmidae				
	<u>Stenelmis</u> sp.	40	430.6	2.8	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Cambarus b. bartoni</u>	1	10.8	0.1	

TABLE 23-4

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	9	96.9	0.6	
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Valvatidae				
	Valvata sp.	10	107.6	0.7	
	Bulimidae				
	Lyrogyrus sp.	4	43.1	0.3	
	TOTALS	1406	15134.6		

SHANNON-WEAVER DIVERSITY = 3.099

TABLE 23-5

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/20/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	101	1087.2	39.8	
	Simuliidae				
	Simulium sp.	3	32.3	1.2	
	EPHEMEROPTERA				
	Oligoneuriidae				
	Isonychia sp.*	6	64.6	2.4	
	Baetidae				
	Baetis sp.	27	290.6	10.6	
	Pseudocloeon sp.	19	204.5	7.5	
	Ephemerellidae				
	Ephemerella dorothea	2	21.5	0.8	
	Heptageniidae				
	Stenonema rubrum	19	204.5	7.5	
	Leptophlebiidae				
	Paraleptophlebia sp.	1	10.8	0.4	
	PLECOPTERA				
	Nemouridae				
	Amphinemura delosa	4	43.1	1.6	
	Perlidae				
	Acroneuria abnormis*	2	20.5	0.8	
	TRICHOPTERA				
	Glossosomatidae				
	Glossosoma sp.	2	20.5	0.8	

TABLE 23-5

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Philopotamidae				
	<u>Chimarra obscura</u>	18	193.8	7.1	
	Hydropsychidae				
	<u>Hydropsyche leonardi*</u>	11	118.4	4.4	
	<u>Hydropsyche sp.</u>	35	376.7	13.8	
	<u>Cheumatopsyche sp.</u>	2	20.5	0.8	
	COLEOPTERA				
	Elmidae				
	<u>Optioservus sp.</u>	1	10.8	0.4	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	1	10.8	0.4	
	TOTALS	254	2374.1		

SHANNON-WEAVER DIVERSITY = 2.9053

TABLE 23-6

03420250 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
8/25/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	202	34.4	
	<u>Rheocricotopus</u> sp.	(2)		
	<u>Cricotopus</u> sp.	(13)		
	<u>Thienemanniella</u> sp.	(2)		
	<u>Polypedilum illinoense</u>	(1)		
	<u>Polypedilum convictum</u>	(1)		
	<u>Cryptochironomus fulvus</u>	(1)		
	<u>Endochironomus nigricans</u>	(1)		
	<u>Tanytarsus</u> sp.	(2)		
	<u>Conchapelopia</u> sp.	(2)		
	<u>Nilotanypus</u> sp.	(1)		
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	4	0.7	
	Tipulidae			
	<u>Tipula</u> sp.	1	0.2	
	<u>Antocha</u> sp.	3	0.5	
	Athericidae			
	<u>Atherix variegata</u>	5	0.9	
	Tabanidae			
	<u>Tabanus</u> sp.	1	0.2	
	Simuliidae			
	<u>Simulium</u> sp.	45	7.7	

TABLE 23-6

03420250 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	51	8.7	
	<u>Hydropsyche betteni</u>	5	0.9	
	Philopotamidae			
	<u>Chimarra obscura</u>	13	2.2	
	Rhyacophilidae			
	<u>Rhyacophila</u> sp.	1	0.2	
	EPHEMEROPTERA			
	Oligoneuridae			
	<u>Isonychia</u> sp.	42	7.1	
	Tricorythidae			
	<u>Tricorythodes</u> sp.	1	0.2	
	Caenidae			
	<u>Caenis</u> sp.	7	1.2	
	Baetidae			
	<u>Pseudocloeon</u> sp.	2	0.3	
	<u>Baetis brunneicolor</u>	46	7.8	
	Heptageniidae			
	<u>Stenacron interpunctatum</u> ***	2	0.3	
	<u>Stenonema nepotellum</u>	16	2.7	
	<u>S. annexum</u>	13	2.2	
	<u>S. tripunctatum</u>	1	0.2	
	PLECOPTERA			
	Perlidae			
	<u>Acroneuria evoluta</u>	1	0.2	

TABLE 23-6

03420250 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	ODONATA			
	Gomphidae			
	<u>Gomphus vastus***</u>	1	0.2	
	<u>Lanthus parvula</u>	1	0.2	
	COLEOPTERA			
	Psephenidae			
	<u>Ectopria nervosa</u>	3	0.5	
	<u>Psephenus herricki</u>	42	7.1	
	Elmidae			
	<u>Stenelmis sp. (larvae)</u>	5	0.9	
	<u>Optioservus sp. (larvae)</u>	49	8.3	
	<u>Optioservus ovalis</u>	3	0.5	
	<u>Macronychus glabratus</u>	1	0.2	
	MEGALOPTERA			
	Corydalidae			
	<u>Coryadalus cornutus</u>	3	0.5	
	<u>Nigronia serricornis</u>	4	0.7	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Cambarus sp.</u>	1	0.2	
	AMPHIPODA			
	Gammaridae			
	<u>Gammarus minus</u>	1	0.2	

TABLE 23-6

03420250 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA	15	2.6	
	Naididae			
	TOTALS	588		

SHANNON-WEAVER DIVERSITY = 4.349

BIOTIC INDEX = 2.498, MODERATE ENRICHMENT

TABLE 23-7

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/25/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	50	538.2	11.8	
	Simuliidae	61	656.6	14.4	
	<u>Simulium</u> sp.				
	Empididae	1	10.8	0.2	
	<u>Hemerodromia</u> sp.				
	TRICHOPTERA				
	Philopotamidae	20	215.3	4.7	
	<u>Chimarra obscura</u>				
	Hydropsychidae	5	53.8	1.2	
	<u>Hydropsyche</u> sp.	48	516.7	11.3	
	<u>Cheumatopsyche</u> sp.				
	Helicopsychidae	2	21.5	0.5	
	<u>Helicopsyche borealis</u> ***				
	Rhyacophilidae	1	10.8	0.2	
	<u>Rhyacophila</u> sp.				
	EPHEMEROPTERA				
	Oligoneuridae	21	226.1	5.0	
	<u>Isonychia</u> sp.				
	Baetidae	48	516.7	11.3	
	<u>Baetis</u> sp.	5	53.8	1.2	
	<u>Pseudocloeon</u> sp.				
	Heptageniidae	12	129.2	2.8	
	<u>Stenonema pulchellum</u> ***				

TABLE 23-7

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	HEMIPTERA				
	Veliidae				
	<u>Microvelia</u> sp.	1	10.8	0.2	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	91	979.5	21.5	
	Elmidae				
	<u>Optioservus</u> sp.	57	613.6	13.4	
	<u>Optioservus ampliatus</u>	7	75.4	1.7	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	3	32.3	0.7	
	CRUSTAEA				
	DECAPODA				
	Astacidae				
	<u>Cambarus</u> sp.	1	10.8	0.2	
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	<u>Goniobasis (Mudalia)</u> sp.	4	43.1	0.9	
	<u>Pleurocera</u> sp.	4	43.1	0.9	
	Bulimidae				
	<u>Pyrgulopsis</u> sp.	5	53.8	1.2	

TABLE 23-7

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	2	21.8	0.5	
	Naididae				
	HIRUDINEA	5	53.8	1.2	
	Glossiphoniidae				
	TOTALS	424	4564.0		

SHANNON-WEAVER DIVERSITY = 3.027

TABLE 23-8

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/25/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	7	75.4	3.7	
	Simuliidae				
	Simulium sp.	59	635.1	31.6	
	Tipulidae				
	Antocha sp.	2	21.5	1.1	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	31	333.7	16.6	
	Hydropsyche cuanis	5	53.8	2.7	
	Rhyacophilidae				
	Rhyacophila nr. vibox	1	10.8	0.5	
	Philopotamidae				
	Chimarra obscura	4	43.1	2.1	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	8	86.1	4.3	
	Baetidae				
	Baetis sp.	5	53.8	2.7	
	Pseudocloeon sp.	15	161.5	8.0	
	Heptageniidae				
	Stenonema pulchellum	5	53.8	2.7	
	S. pudicum	2	21.5	1.1	

TABLE 23-8

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	5	53.8	2.7	
	Elmidae				
	<u>Stenelmis sp.</u>	2	21.5	1.1	
	<u>Optioservus sp. (larvae)</u>	20	215.3	10.7	
	<u>Optioservus ampliatus</u>	2	21.5	1.1	
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Viviparidae				
	<u>Campeloma sp.</u>	4	43.1	2.1	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	10	107.6	5.3	
	TOTALS	187	2012.9		

SHANNON-WEAVER DIVERSITY = 3.306

TABLE 23-9

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/25/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	50	538.2	11.2	
	Simuliidae				
	Simulium sp.	2	21.5	0.4	
	Athericidae				
	Atherix variegata	1	10.8	0.2	
	Empididae	3	32.3	0.7	
	TRICHOPTERA				
	Philopotamidae				
	Chimarra obscura	7	75.4	1.6	
	Hydropsychidae				
	Cheumatopsyche sp.	45	484.4	10.0	
	Hydropsyche sp.	1	10.8	0.2	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	111	1194.8	24.8	
	Heptageniidae				
	Stenonema sp.	78	839.6	17.4	
	Heptagenia sp.**	4	43.1	0.9	
	Stenonema nr. mediopunctatum	8	86.1	1.8	
	Leptophlebiidae				
	Paraleptophlebia sp.	1	10.8	0.2	
	Baetidae				
	Baetis sp.	70	753.5	15.6	

TABLE 23-9

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria ruralis</u>	3	32.2	0.7	
	ODONATA				
	Gomphidae				
	<u>Lanthus parvula</u>	1	10.8	0.2	
	COLEOPTERA				
	Elmidae				
	<u>Optioservus sp.</u>	8	86.1	1.8	
	Psephenidae				
	<u>Psephenus herricki</u>	13	139.9	2.9	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	3	32.3	0.7	
	<u>Nigronia serricornis</u>	1	10.8	0.2	
	LEPIDOPTERA				
	Pyralidae				
	<u>Paragyractis sp.</u>	3	32.3	0.7	
	ARACHNIDA				
	Hydracarina				
	<u>Hygrobatas sp.</u>	2	21.5	0.4	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	1	10.8	0.2	

TABLE 23-9

03420230 Scott Creek
Warren Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	<u>Pyrgulopsis</u> sp.	24	258.3	5.4	
	<u>Pleurocera</u> sp.	7	75.4	1.6	
	ANNELIDA				
	HIRUDINEA				
	Glossiphoniidae	1	10.8	0.2	
	TOTALS	448			

SHANNON-WEAVER DIVERSITY = 3.273

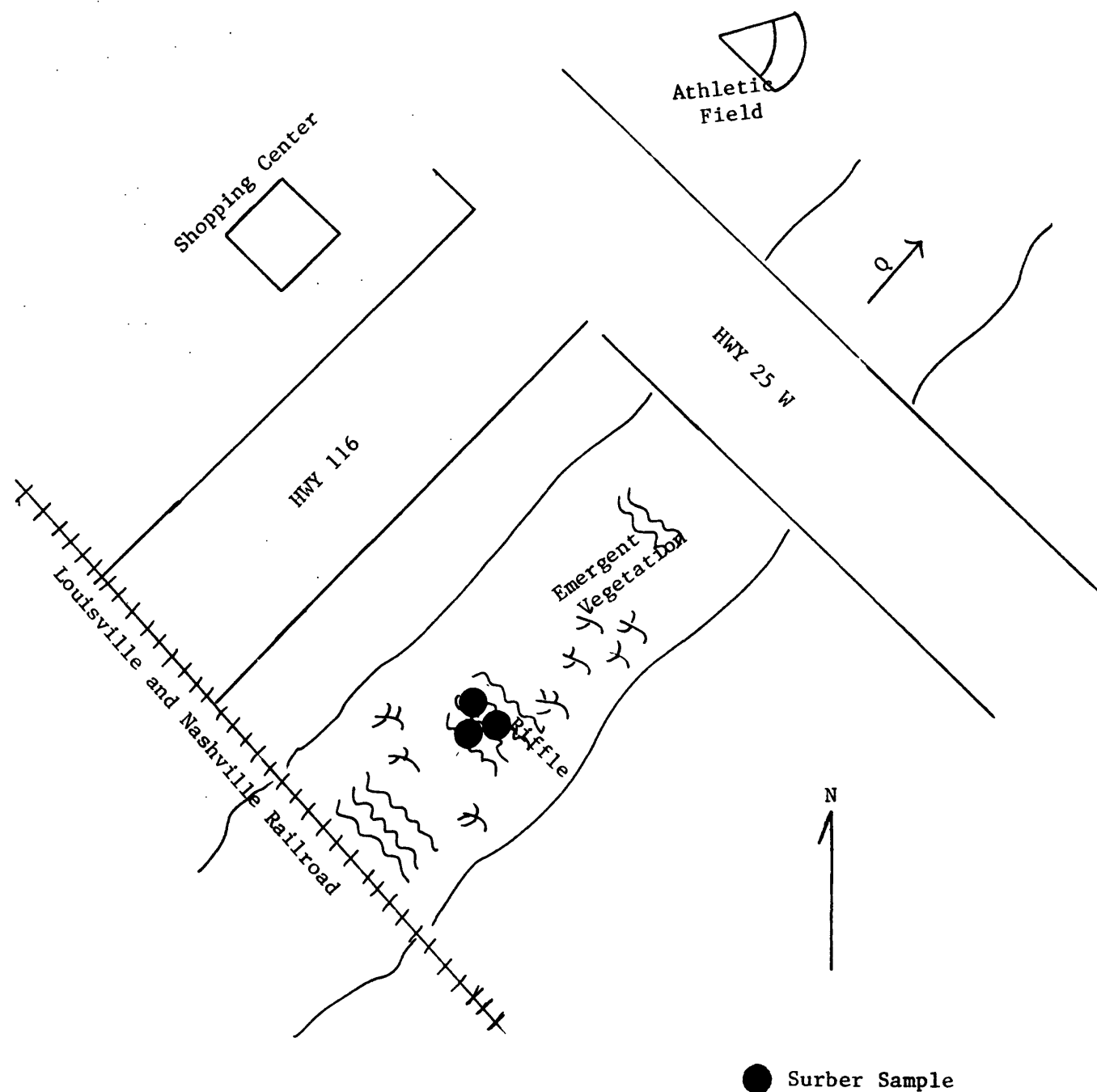


FIGURE 24-1. Station 24 - 03534000 - Coal Creek in Lake City, TN

TABLE 24-1

Physical and Chemical Parameters at

Station 24 - 03534000

Coal Creek at Lake City, Anderson Co., TN

Parameter	Date	
	5-18-81	9-21-81
Water Temperature	24°C	23°C
Dissolved Oxygen	6.1 mg/L	8.3 mg/L
pH	6.7	8.1
Conductivity	420 umhos/cm	350 umhos/cm
Stream Width	7.5 m	7.6 m
Average Stream Depth	49.3 cm	14.0 cm
Average Stream Velocity	0.40 m/sec	0.61 m/sec
Discharge	1.17 m ³ /sec	0.51 m ³ /sec
Cover (% Shaded)	<5%	<5%
Substrate	Small to medium cobble covered with sediment	

TABLE 24-2

03534000 Coal Creek
Anderson Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
5/18/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	1014	67.6	
	<u>Parametriocnemus</u> sp.	(6)		
	<u>Rheocricotopus</u> sp.	(1)		
	<u>Cricotopus</u> sp.	(8)		
	<u>Cardiocladius</u> sp.	(3)		
	<u>Phaenopsectra obediens</u>	(4)		
	<u>Conchapelopia</u> sp.	(1)		
	<u>Polypedilum illinoense</u>	(1)		
	Ceratopogonidae			
	<u>Atrichopogon</u> sp.	1	0.1	
	<u>Bezzia-Probezzia</u> sp.	1	0.1	
	Tipulidae			
	<u>Tipula</u> sp.	1	0.1	
	<u>Hexatoma</u> sp.	1	0.1	
	Tabanidae			
	<u>Tabanus</u> sp.	1	0.1	
	Empididae	1	0.1	
	Simuliidae			
	<u>Simulium</u> sp.	22	1.5	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	14	0.9	

TABLE 24-2

03534000 Coal Creek
Anderson Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Hydroptilidae			
	<u>Agraylea</u> sp.	2	0.1	
	<u>Hydroptila</u> sp.	4	0.3	
	EPHEMEROPTERA			
	Baetidae			
	<u>Baetis</u> sp.	63	4.2	
	<u>Pseudocloeon</u> sp.	7	0.5	
	Leptophlebiidae			
	<u>Paraleptophlebia</u> sp.	1	0.1	
	Caenidae			
	<u>Caenis</u> sp.	2	0.1	
	Oligoneuridae			
	<u>Isonychia</u> sp.	1	0.1	
	Heptageniidae			
	<u>Stenonema</u> sp.	2	0.1	
	<u>Stenonema scitulum</u>	1	0.1	
	<u>Stenacron interpunctatum</u>	2	0.1	
	<u>S. mediopunctatum</u>	10	0.7	
	ODONATA			
	Coenagrionidae			
	<u>Argia</u> sp.	3	0.2	
	COLEOPTERA			
	Elmidae			
	<u>Dubiraphia</u> sp.	3	0.2	

TABLE 24-2

03534000 Coal Creek
Anderson Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	<u>Corbicula manilensis</u>	5	0.3	
	GASTROPODA			
	MESOGASTROPODA			
	Pleuroceridae			
	<u>Pleurocera sp.</u>	4	0.3	
	<u>Goniobasis (Mudalia) sp.</u>	80	5.3	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	255	17.0	
	TOTALS	1501		

SHANNON-WEAVER DIVERSITY = 3.320

BIOTIC INDEX = 2.992, MODERATE ENRICHMENT

TABLE 24-3

03534000 Coal Creek at Lake City
Anderson Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/18/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	126	1355.8	92.0	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	4	43.0	2.9	
	Heptageniidae				
	Stenonema sp.	1	10.8	0.7	
	ANNELLIDA				
	CLITELLATA				
	OLIGOCHAETA	6	64.6	4.4	
	TOTALS	137	1474.2		

SHANNON-WEAVER DIVERSITY = 0.511

TABLE 24-4

03534000 Coal Creek
Anderson Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/18/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	1816	19547.9	86.2	
	Simuliidae				
	Prosimulium sp.	62	667.4	2.9	
	Simulium sp.	50	538.2	2.4	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	2	21.5	0.1	
	Baetidae				
	Pseudocloeon sp.	22	236.8	1.0	
	Baetis sp.	34	365.9	1.6	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	45	484.4	2.1	
	Symphitopsyche sparna	7	75.4	0.3	
	Hydroptilidae				
	Agraylea sp.	3	32.3	0.1	
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	Goniobasis sp.	21	226.1	1.0	

TABLE 24-4

03534000 Coal Creek
Anderson Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	44	473.6	2.1	
	Naididae				
	TOTALS	2106	22669.5		

SHANNON-WEAVER DIVERSITY - 0.979

TABLE 24-5

03534000 Coal Creek
Anderson Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/18/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	1243	13379.9	90.5	
	Simuliidae				
	Simulium sp.	30	322.9	2.2	
	Psychodidae				
	Pericoma sp.	1	10.8	0.1	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	29	312.2	2.1	
	Glossosomatidae				
	Glossosoma sp.	1	10.8	0.1	
	EPHEMEROPTERA				
	Leptophlebiidae				
	Paraleptophlebia sp.	1	10.8	0.1	
	Caenidae				
	Caenis sp.	1	10.8	0.1	
	Baetidae				
	Baetis sp.	19	204.5	1.4	
	Pseudocloeon sp.	27	290.6	2.0	
	Heptageniidae				
	Stenonema nr. <u>mediopunctatum</u>	2	21.5	0.1	

TABLE 24-5

03534000 Coal Creek
Anderson Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	20	215.3	1.5	
	Naididae				
	TOTALS	1374	14790.1		

SHANNON-WEAVER DIVERSITY = 0.698

TABLE 24-6

03534000 Coal Creek
Anderson Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/21/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	151	17.6	
	<u>Polypedilum illinoense</u>	(8)		
	<u>Chironomus</u> sp.	(6)		
	<u>Cricotopus</u> sp.	(3)		
	<u>Micropsectra</u> sp.	(1)		
	<u>Conchapelopia</u> sp.	(5)		
	<u>Ablabesmyia mallochii</u>	(1)		
	Empididae	1	0.1	
	Ceratopogonidae			
	<u>Atrichopogon</u> sp.	1	0.1	
	Simuliidae			
	<u>Simulium</u> sp.	1	0.1	
	Tipulidae			
	<u>Rhabdomastix</u> sp.	2	0.2	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	5	0.6	
	<u>Hydropsyche</u> sp.	3	0.3	
	EPTHEMEROPTERA			
	Baetidae			
	<u>Baetis</u> sp.	502	58.4	
	<u>Pseudocloeon</u> sp.	2	0.2	
	Tricorythidae			
	<u>Tricorythodes atratus</u>	1	0.1	

TABLE 24-6

03534000 Coal Creek
Anderson Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Heptageniidae			
	<u>Stenonema terminatum</u>	17	2.0	
	<u>Stenacron carolina</u>	4	0.5	
	PLECOPTERA			
	Leuctridae			
	<u>Leuctra</u> sp.	1	0.1	
	HEMIPTERA			
	Veliidae			
	<u>Microvelia</u> sp.	1	0.1	
	<u>Rhagovelia</u> sp.	1	0.1	
	ODONATA			
	Calopterygidae			
	<u>Hetaerina americana</u> **	1	0.1	
	Coenagrionidae			
	<u>Argia</u> sp.	1	0.1	
	Gomphidae			
	<u>Dromogomphus</u> sp.**	1	0.1	
	Aeschnidae			
	<u>Basiaeschna</u> sp.**	1	0.1	
	COLEOPTERA			
	Elmidae			
	<u>Dubiraphia bivittata</u>	2	0.2	
	MEGALOPTERA			
	Sialidae			
	<u>Sialis</u> sp.	1	0.1	
	Corydalidae			
	<u>Corydalus cornutus</u>	1	0.1	

TABLE 24-6

03534000 Coal Creek
Anderson Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	LEPIDOPTERA			
	Pyralidae			
	<u>Paragyraactus sp.</u>	1	0.1	
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	<u>Corbicula manilensis</u>	15	1.7	
	GASTROPODA			
	MESOGASTROPODA			
	Pleuroceridae			
	<u>Pleurocera sp.</u>	12	1.4	
	BASOMMATOPHORA			
	Physidae			
	<u>Physa sp.</u>	12	1.4	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	119	13.8	
	TOTALS	860		

SHANNON-WEAVER DIVERSITY = 2.398

BIOTIC INDEX = 2.797, MODERATE ENRICHMENT

TABLE 24-7

03534000 Coal Creek
Anderson Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/21/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	65	699.7	17.6	
	TRICHOPTERA				
	Hydropsychidae				
	Hydropsyche sp.	3	32.3	0.8	
	Cheumatopsyche sp.	6	64.6	1.6	
	Hydroptilidae				
	Hydroptila sp.	2	21.5	0.5	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	206	2217.4	55.7	
	Pseudocloeon sp.	1	10.8	0.3	
	Oligoneuridae				
	Isonychia sp.	1	10.8	0.3	
	Tricorythidae				
	Tricorythodes atratus	1	10.8	0.3	
	Heptageniidae				
	Stenonema sp.	33	355.2	8.9	
	Stenonema terminatum***	21	226.1	5.7	
	S. interpunctatum***	3	32.3	0.8	
	ODONATA				
	Coenagrionidae				
	Argia sp.	1	10.8	0.3	

TABLE 24-7

03534000 Coal Creek

Anderson Co., TN

BENTHIC MACROINVERTEBRATES

(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	COLEOPTERA				
	Elmidae				
	<u>Macronychus glabratus***</u>	1	10.8	0.3	
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	<u>Goniobasis (Mudalia) sp.</u>	12	129.2	3.2	
	<u>Pleurocera sp.</u>	2	21.5	0.5	
	BASOMMATOPHORA				
	Ancylidae				
	<u>Ferrisia sp.</u>	2	21.5	0.5	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	9	96.9	2.4	
	HIRUDINEA				
	Glossiphoniidae	1	10.8	0.3	
	TOTALS	370	3982.8		

SHANNON-WEAVER DIVERSITY = 2.217

TABLE 24-8

03534000 Coal Creek
Anderson Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/21/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	79	850.4	20.1	
	Empididae				
	Hemerodromia sp.	2	21.5	0.5	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	9	96.9	2.3	
	EPHEMEROPTERA				
	Heptageniidae				
	Stenonema mediopunctatum	11	118.4	2.8	
	Stenonema sp.	6	64.6	1.5	
	Baetidae				
	Baetis sp.	213	2292.8	54.2	
	ODONATA				
	Coenagrionidae				
	Argia sp.	7	75.4	1.8	
	COLEOPTERA				
	Elmidae				
	Optioservus sp.	2	21.5	0.5	
	MEGALOPTERA				
	Sialidae				
	Sialis sp.	1	10.8	0.3	

TABLE 24-8

03534000 Coal Creek
Anderson Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	5	53.8	1.3	
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	<u>Goniobasis (Mudalia) sp.</u>	26	279.9	6.6	
	BASOMMATOPHORA				
	Physidae				
	<u>Physa sp.***</u>	1	10.8	0.3	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	31	333.7	7.9	
	TOTALS	393	4230.4		

SHANNON-WEAVER DIVERSITY = 2.159

TABLE 24-9

03534000 Coal Creek
Anderson Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/21/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	110	1184.1	34.4	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	5	53.8	1.6	
	Hydropsyche sp.	4	43.1	1.3	
	Hydroptilidae				
	Hydroptila sp.	1	10.8	0.3	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	179	1926.8	55.9	
	Pseudocloeon sp.	2	21.5	0.6	
	Heptageniidae				
	Stenonema sp.	4	43.1	1.3	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	Corbicula manilensis	1	10.8	0.3	
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	Goniobasis (Mudalia) sp.	11	118.4	3.4	

TABLE 24-9

03534000 Coal Creek
Anderson Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	3	32.3	0.9	
	Naididae				
	TOTALS	320	3444.6		

SHANNON-WEAVER DIVERSITY = 1.578

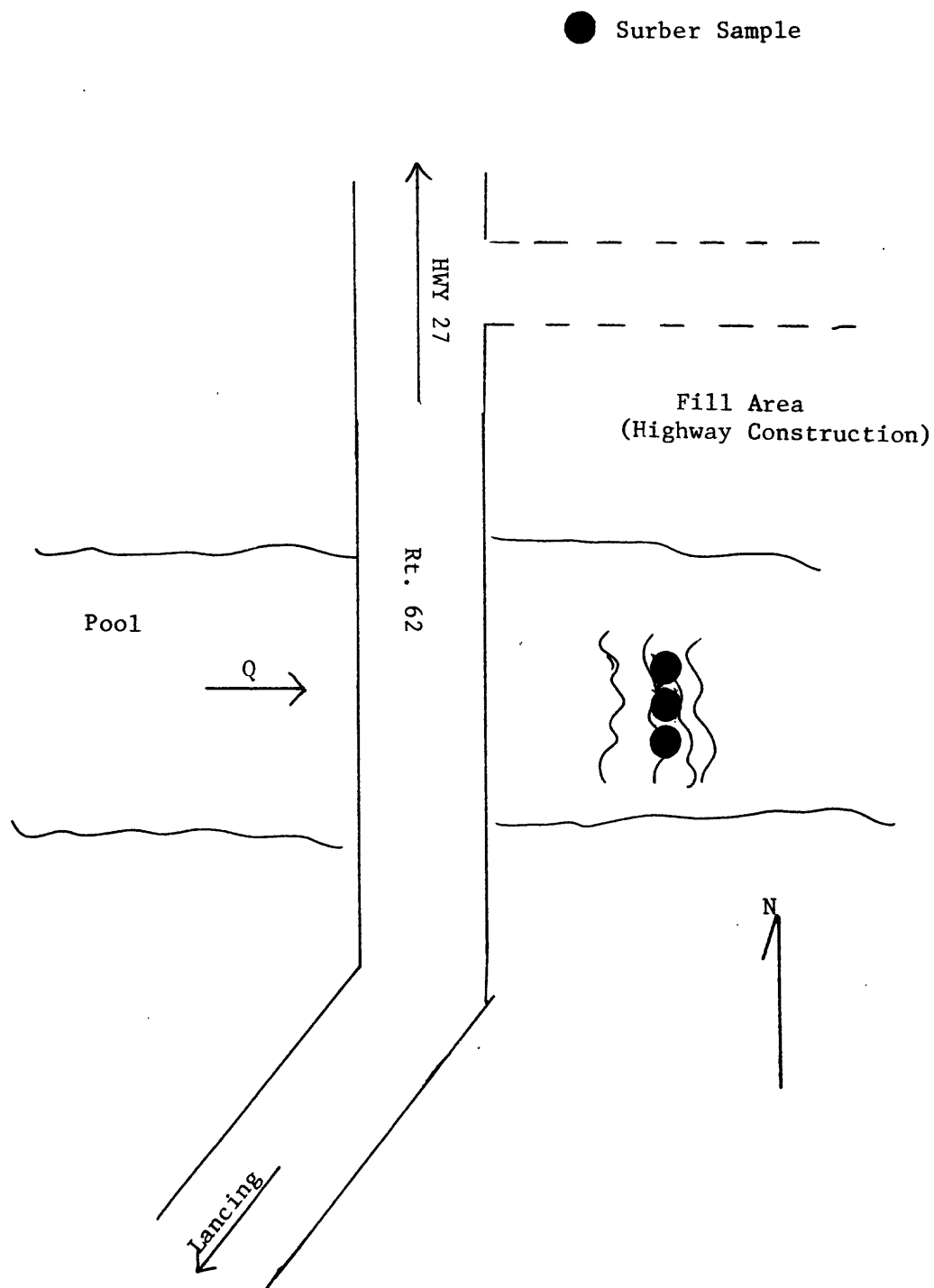


FIGURE 25-1. Station 25 - 03538398 - Rock Creek near Gobey, TN

TABLE 25-1
Physical and Chemical Parameters at
Station 25 - 03538398
Rock Creek near Gobey, Morgan Co., TN

Parameter	Date	
	5-22-81	8-27-81
Water Temperature	16°C	24°C
Dissolved Oxygen	9.4 mg/L	8.0 mg/L
pH	5.6	6.0
Conductivity	140 umhos/cm	125 umhos/cm
Stream Width	7.3 m	7.9 m
Average Stream Depth	28.4 cm	17.3 cm
Average Stream Velocity	0.04 m/sec	0.04 m/sec
Discharge	0.66 m ³ /sec	0.04 m ³ /sec
Cover (% Shaded)	50%	90%
Substrate	Gravel and small medium gravel covered by sediment	

High suspended load during spring sampling caused by highway construction.

TABLE 25-2

03538398 Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
5/22/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA	15	27.3	
	Chironomidae			
	EPHEMEROPTERA			
	Ephemereleididae			
	<u>Eurylophella temporalis*</u>	2	3.6	
	<u>Drunella wayah*</u>	1	1.8	
	Leptophlebiidae			
	<u>Paraleptophlebia</u> sp.	3	5.5	
	Baetidae			
	<u>Baetis</u> sp.	10	18.2	
	Heptageniidae			
	<u>Stenonema vicarium</u>	1	1.8	
	PLECOPTERA			
	Perlidae			
	<u>Perlesta placida</u>	3	5.5	
	ODONATA			
	Gomphidae			
	<u>Lanthus vernalis</u>	1	1.8	
	COLEOPTERA			
	Dryopidae			
	<u>Helichus basalis</u>	1	1.8	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	1	1.8	

TABLE 25-2

03538398 Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	ANNELIDA			
	CLITELLATA			
	OLIGOCALHETA			
	Naididae	17	30.9	
	TOTALS	55		

SHANNON-WEAVER DIVERSITY = 2.639

BIOTIC INDEX = 2.691, MODERATE ENRICHMENT

TABLE 25-3

03538398 Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/22/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	23	247.6	56.1	
	Tipulidae				
	Tipula sp.	1	10.8	2.4	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	6	64.6	14.6	
	Ephemerellidae				
	Ephemerella rotunda	2	21.5	4.9	
	PLECOPTERA				
	Nemouridae				
	Amphinemura delosa	1	10.8	2.4	
	TRICHOPTERA				
	Glossosomatidae				
	Glossosoma sp.	1	10.8	2.4	
	Hydropsychidae				
	Cheumatopsyche sp.	3	32.3	7.3	
	COLEOPTERA				
	Psephenidae				
	Ectopria nervosa				
	Elmidae				
	Stenelmis sp.	3	32.3	7.3	
	TOTALS	41	441.3		

SHANNON-WEAVER DIVERSITY = 2.1609

TABLE 25-4

03538398 Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/22/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	34	366.0	85.0	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	5	53.8	12.5	
	COLEOPTERA				
	Elmidae				
	<u>Stenelmis sp.*</u>	1	10.8	2.5	
	TOTALS	40	430.6		

SHANNON-WEAVER DIVERSITY = 0.6573

TABLE 25-5

03538398 Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No. /m ²	%Comp.	Sample
5/22/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	6	64.6	31.6	
	Simuliidae				
	Simulium sp.	2	21.5	10.5	
	Tipulidae				
	Hexatoma sp.	1	10.8	5.3	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.*	1	10.8	5.3	
	Pseudocloeon sp.	1	10.8	5.3	
	Oligoneuridae				
	Isonychia sp.	1	10.8	5.3	
	Ephemerellidae				
	Drunella cornuta	1	10.8	5.3	
	Heptageniidae				
	Cinygmula subaequalis	1	10.8	5.3	
	PLECOPTERA				
	Leuctridae				
	Leuctra sp.	1	10.8	5.3	
	TRICHOPTERA				
	Glossosomatidae				
	Glossosoma sp.	2	21.5	10.5	
	Hydropsychidae				
	Cheumatopsyche sp.	1	10.8	5.3	

TABLE 25-5

03538398 Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	1	10.8	5.3	
	TOTALS	19	204.5		

SHANNON-WEAVER DIVERSITY = 1.2183

TABLE 25-6

03538398 Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
8/27/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	102	65.0	
	<u>Conchapelopia</u> sp.	(9)		
	<u>Parametriocnemus</u> sp.	(1)		
	<u>Cricotopus</u> sp.	(4)		
	<u>Rheocricotopus</u> sp.	(7)		
	<u>Polypedilum illinoense</u>	(2)		
	<u>Tanytarsus</u> sp.	(3)		
	<u>Rheotanytarsus</u> sp.	(1)		
	Empididae	1	0.6	
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	5	3.2	
	Simuliidae			
	<u>Simulium</u> sp.	2	1.3	
	TRICHOPTERA			
	Philopotamidae			
	<u>Chimarra obscura</u>	6	3.8	
	<u>Rhyacophilidae</u>			
	<u>Rhyacophila</u> sp.	2	1.3	
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	1	0.6	

TABLE 25-6

03538398 Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	EPHEMEROPTERA			
	Baetidae			
	<u>Pseudocloeon sp.</u>	1	0.6	
	<u>Baetis sp.</u>	9	5.7	
	Caenidae			
	<u>Caenis sp.</u>	1	0.6	
	Oligoneuridae			
	<u>Isonychia sp.</u>	1	0.6	
	Heptageniidae			
	<u>Stenonema modestum</u>	1	0.6	
	<u>Stenonema vicarium</u>	6	3.8	
	COLEOPTERA			
	Elmidae			
	<u>Dubiraphia bivittata</u>	2	1.3	
	<u>Optioservus sp.</u>	2	1.3	
	<u>Stenelmis nr. hungerfordi</u>	1	0.6	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	8	5.1	
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	<u>Corbicula manilensis</u>	1	0.6	

TABLE 25-6

03538398 Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	GASTROPODA			
	MESOGASTROPODA			
	Pleuroceridae			
	<u>Pseudosuccinea sp.</u>	1	0.6	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	4	2.5	
	TOTALS	157		

SHANNON-WEAVER DIVERSITY = 3.826

BIOTIC INDEX = 2.405, MODERATE ENRICHMENT

TABLE 25-7

03538398 Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/27/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	39	419.8	42.9	
	TRICHOPTERA				
	Hydropsychidae				
	<u>Symphitopsycha sparna</u>	3	32.3	3.3	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	1	10.8	1.1	
	<u>Pseudocloeon sp.</u>	2	21.5	2.2	
	Oligoneuridae				
	<u>Isonychia sp.</u>	1	10.8	1.1	
	Caenidae				
	Caenis sp.	3	32.3	3.3	
	Leptophlebiidae				
	<u>Paraleptophlebia sp.</u>	8	86.1	8.8	
	Ephemereillidae				
	<u>Eurylophella sp.</u>	2	21.5	2.2	
	Heptageniidae				
	<u>Stenonema nr. carolina</u>	8	86.1	8.8	
	<u>S. scitulum</u>	1	10.8	1.1	
	<u>S. nr. integrum</u>	1	10.8	1.1	
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra sp.</u>	4	43.1	4.4	
	<u>Chloroperlidae</u>	1	10.8	1.1	

TABLE 25-7

03538398 Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	2	21.5	2.2	
	Dryopidae				
	<u>Helichus basalis</u>	1	10.8	1.1	
	Elmidae				
	<u>Optioservus sp.</u>	2	21.5	2.2	
	<u>Stenelmis crenata***</u>	1	10.8	1.1	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	1	10.8	1.1	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Cambarus b. bartonii</u>	1	10.8	1.1	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	9	96.9	9.9	
	TOTALS	91	979.5		

TABLE 25-8

03538398 Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/27/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	171	1840.7	85.9	
	Ceratopogonidae				
	<u>Atrichopogon sp.</u>	2	21.5	1.0	
	Simuliidae				
	<u>Simulium sp.</u>	2	21.5	1.0	
	TRICHOPTERA				
	Hydropsychidae				
	<u>Cheumatopsyche sp.</u>	4	43.1	2.0	
	Philopotamidae				
	<u>Chimarra obscura</u>	3	32.3	3.0	
	EPHEMEROPTERA				
	Oligoneuridae				
	<u>Isonychia sp.</u>	3	32.3	3.0	
	Heptageniidae				
	<u>Heptagenia sp.</u>	1	10.8	1.0	
	<u>Stenonema sp.</u>	2	21.5	2.0	
	<u>Stenonema vicarium</u>	1	10.8	1.0	
	HEMIPTERA				
	Veliidae				
	<u>Macrovelia sp.</u>	1	10.8	1.0	
	ODONATA				
	Calopterygidae				
	<u>Calopteryx sp.***</u>	1	10.8	1.0	

TABLE 25-8

03538398 Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Aeshnidae				
	Boyeria sp.***	1	10.8	1.0	
	MEGALOPTERA				
	Corydalidae				
	Nigronia serricornis	4	43.1	4.0	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	3	32.3	3.0	
	TOTALS	199	2142.1		

SHANNON-WEAVER DIVERSITY = 1.080

TABLE 25-9

03538398 Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/27/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	244	2626.5	88.4	
	Tipulidae				
	Tipula sp.	4	43.1	1.4	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	3	32.3	1.1	
	Philopotamidae				
	Chimarra obscura	1	10.8	0.4	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	1	10.8	0.4	
	Heptageniidae				
	Stenonema rubrum	1	10.8	0.4	
	S. vicarium	1	10.8	0.4	
	ODONATA				
	Aeshnidae				
	Boyeria vinosa	1	10.8	0.4	
	COLEOPTERA				
	Dryopidae				
	Helichus sp.	1	10.8	0.4	
	Elmidae				
	Optioservus sp.	1	10.8	0.4	

TABLE 25-9

03538398 Rock Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	6	64.6	2.2	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Cambarus sp.</u>	1	10.8	0.4	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	11	118.4	4.0	
	TOTALS	276	2970.9		

SHANNON-WEAVER DIVERSITY = 0.857

● Surber Sample

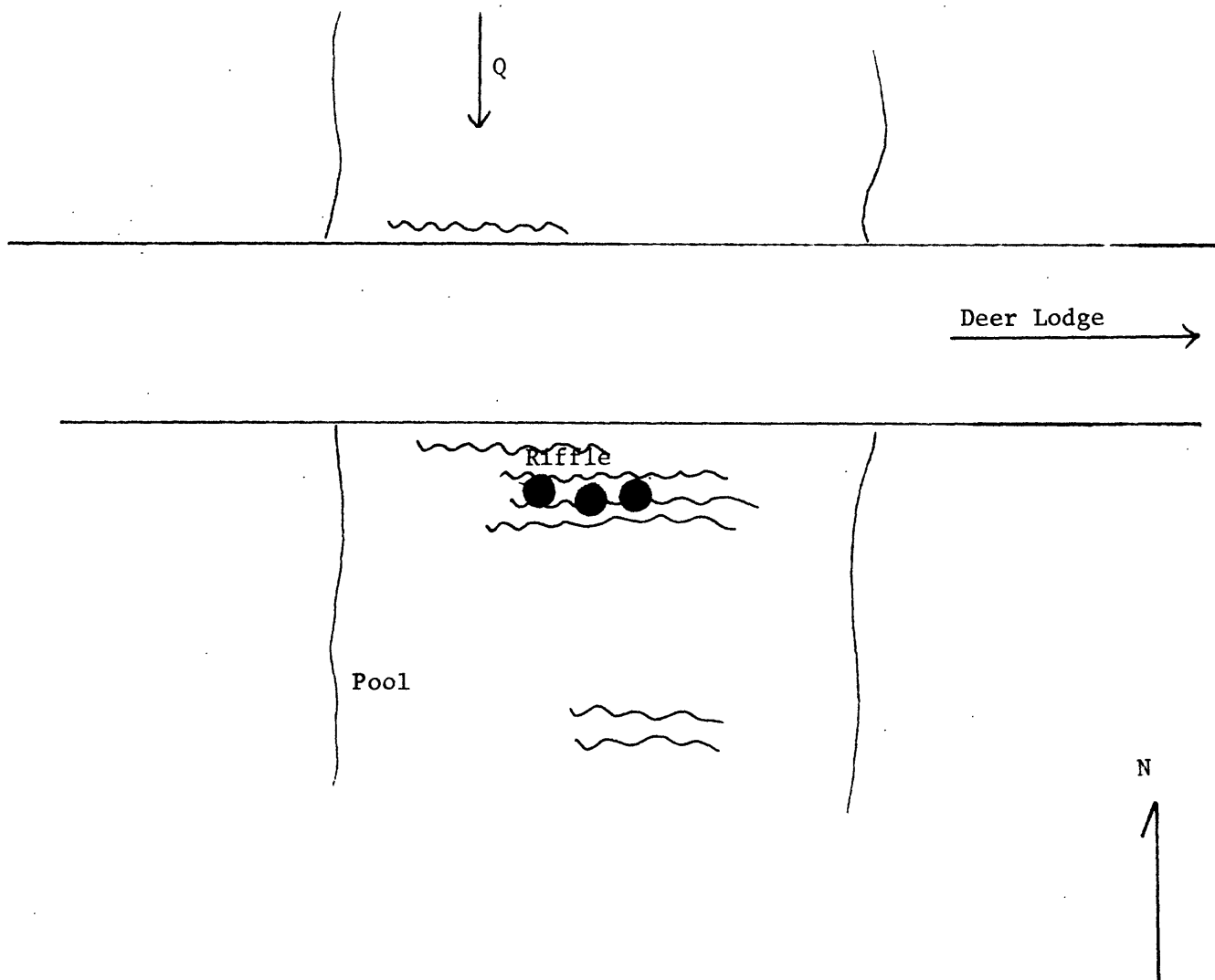


FIGURE 26-1. Station 26 - 03539719 - White Creek at Twin Bridges, TN

TABLE 26-1
Physical and Chemical Parameters at
Station 26 - 03539719
White Creek at Twin Bridges, Morgan Co., TN

Parameter	Date	
	5-22-81	8-26-81
Water Temperature	14°C	21°C
Dissolved Oxygen	11.6 mg/L	8.8 mg/L
pH	5.5	6.6
Conductivity	45 umhos/cm	68 umhos/cm
Stream Width	15.8 m	15.2 m
Average Stream Depth	56.9 cm	*
Average Stream Velocity	0.49 m/sec	*
Discharge	3.51 m ³ /sec	*
Cover (% Shaded)	50%	60%
Substrate	Small to medium cobble on bedrock	

* Parameter not determined. Negligible flow prevented discharge measurements at immediate vicinity of sampling site.

TABLE 26-2

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
5/22/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	3	4.3	
	Tipulidae			
	Hexatoma sp.	2	2.9	
	Antocha sp.	2	2.9	
	EPHEMEROPTERA			
	Ephemerellidae			
	Danella simplex	3	4.3	
	<u>Ephemerella needhami*</u>	1	1.4	
	Siphonuridae			
	Ameletus sp.	2	2.9	
	Oligoneuridae			
	Isonychia sp.	2	2.9	
	Baetidae			
	Pseudocloeon sp.	33	47.8	
	Baetis sp.	6	8.7	
	Ephemeridae			
	<u>Ephemera varia</u>	1	1.4	
	PLECOPTERA			
	Nemouridae			
	<u>Amphinemura delosa</u>	1	1.4	
	Perlodidae			
	<u>Isoperla richardsoni</u>	1	1.4	
	Chloroperlidae			
	<u>Alloperla sp.</u>	3	4.3	

TABLE 26-2

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	COLEOPTERA			
	Elmidae			
	Optioservus sp.	2	2.9	
	MEGALOPTERA			
	Corydalidae			
	Nigronia serricornis	2	2.9	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	5	7.2	
	TOTALS	69		

SHANNON-WEAVER DIVERSITY = 2.922

BIOTIC INDEX = 1.939, SOME ENRICHMENT

TABLE 26-3

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/22/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	6	64.6	5.7	
	Tipulidae				
	Antocha sp.	3	32.3	2.9	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	1	10.8	1.0	
	Baetidae				
	Baetis sp.	11	118.4	10.5	
	Pseudocloeon sp.	41	441.3	39.1	
	Ephemerellidae				
	Danella simplex	3	32.3	2.9	
	Eurylophella bicolor	1	10.8	1.0	
	PLECOPTERA				
	Nemouridae				
	Nemoura sp.	9	96.9	8.6	
	Chloroperlidae				
	Alloperla sp.	19	204.5	18.1	
	COLEOPTERA				
	Dryopidae				
	Helichus sp.	2	21.5	1.9	
	Elmidae				
	Promoresia tardella	1	10.8	1.0	
	Stenelmis sp.	6	64.6	5.7	

TABLE 26-3

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	TRICHOPTERA				
	Glossosomatidae				
	Glossosoma sp.	1	10.8	1.0	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	1	10.8	1.0	
	TOTALS	105	1130.2		

SHANNON-WEAVER DIVERSITY = 2.8144

TABLE 26-4

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
5/22/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	1	10.8	7.7	
	Tipulidae				
	Hexatoma sp.	1	10.8	7.7	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	1	10.8	7.7	
	Ephemerellidae				
	Danella simplex	1	10.8	7.7	
	Heptageniidae				
	Cinygmula subaequalis*	2	21.5	15.4	
	PLECOPTERA				
	Capniidae				
	Allocapnia sp.*	1	10.8	7.7	
	TRICHOPTERA				
	Hydropsychidae				
	Hydropsyche sp.*	1	10.8	7.7	
	COLEOPTERA				
	Dryopidae				
	Helichus sp.	1	10.8	7.7	
	Elmidae				
	Stenelmis sp.	1	10.8	7.7	

TABLE 26-4

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	3	32.3	23.1	
	Naididae				
	TOTALS	13	139.9		

SHANNON-WEAVER DIVERSITY = 3.1808

TABLE 26-5

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
8/26/81	ARTHROPODA			
	INSECTA			
	DIPTERA			
	Chironomidae	611	54.3	
	<u>Parametrioctenemus</u> sp.	(1)		
	<u>Conchapelopia</u> sp.	(4)		
	<u>Procladius</u> sp.	(10)		
	<u>Tanytarsus</u> sp.	(5)		
	<u>Rheotanytarsus</u> sp.	(5)		
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	7	0.6	
	<u>Atrichopogon</u> sp.	2	0.2	
	Simuliidae			
	<u>Simulium</u> sp.	1	0.2	
	Tipulidae			
	<u>Hexatoma</u> sp.	1	0.1	
	<u>Tipula</u> sp.	2	0.2	
	Empididae	2	0.2	
	Tabanidae			
	<u>Chrysops</u> sp.	1	0.1	
	<u>Tabanus</u> sp.	4	0.4	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	106	9.4	
	Pilopotamidae			
	<u>Chimarra obscura</u>	1	0.1	
				Kick

TABLE 26-5

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Psychomyidae			
	<u>Lype diversa</u> ***	1	0.1	
	Phryganeidae			
	<u>Ptilostomis</u> sp.	1	0.1	
	Polycentropodidae			
	<u>Anisocentropus pyraloides</u> ***	3	0.3	
	Leptoceridae			
	<u>Oecetis</u> sp.***	2	0.2	
	EPHEMEROPTERA			
	Caenidae			
	<u>Caenis</u> sp.	53	4.7	
	Oligoneuridae			
	<u>Isonychia</u> sp.	1	0.1	
	Baetidae			
	<u>Pseudocloeon</u> sp.	2	0.2	
	<u>Baetis brunneicolor</u>	92	8.2	
	Leptophlebiidae			
	<u>Paraleptophlebia</u> sp.	3	0.3	
	Ephemeridae			
	<u>Hexagenia limbata</u>	5	0.4	
	<u>Ephemera blanda</u> ***	1	0.1	
	Heptageniidae			
	<u>Stenonema tripunctatum</u>	1	0.1	
	<u>S. pudicum</u>	2	0.2	
	<u>S. integrum</u>	1	0.1	
	<u>Stenacron gildersleevei</u>	2	0.2	

TABLE 26-5

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	PLECOPTERA			
	Perlidae			
	<u>Acroneuria abnormis</u>	4	0.4	
	Leuctridae			
	<u>Leuctra ferruginea</u>	12	1.1	
	HEMIPTERA			
	Veliidae			
	<u>Microvelia americana***</u>	2	0.2	
	<u>Rhagovelia obesa</u>	2	0.2	
	Mesoveliidae			
	<u>Mesovelia mulsanti</u>	1	0.1	
	ODONATA			
	Aeshnidae			
	<u>Boyeria vinosa</u>	4	0.4	
	Macroniidae			
	<u>Macromia illinoensis</u>	2	0.2	
	Libellulidae			
	<u>Orthemis ferruginea</u>	1	0.1	
	<u>Cordulegasteridae</u>			
	<u>Cordulegaster obliquus</u>	1	0.1	
	Coenagrionidae			
	<u>Anomalagrion hastatum</u>	14	1.2	
	<u>Argia sp.</u>	17	1.5	
	COLEOPTERA			
	Gyrinidae			
	<u>Gyrinus sp.</u>	2	0.2	

TABLE 26-5

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Psephenidae			
	<u>Ectopria nervosa</u>	3	0.3	
	Hydrophilidae			
	<u>Berosus</u> sp.	3	0.3	
	Dryopidae			
	<u>Helichus</u> sp.	15	1.3	
	Elmidae			
	<u>Dubiraphia</u> sp. (larvae)	8	0.7	
	<u>Dubiraphia</u> <u>quadrinotata</u>	4	0.4	
	<u>Stenelmis</u> sp. (larvae)	3	0.3	
	<u>Stenelmis</u> <u>crenata</u>	20	1.8	
	<u>Optioservus</u> sp. (larvae)	17	1.5	
	<u>Optioservus</u> <u>ampliatus</u>	16	1.4	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia</u> <u>serricornis</u>	32	2.8	
	<u>Corydalis</u> <u>cornutus</u>	2	0.2	
	Sialidae			
	<u>Sialis</u> sp.	2	0.2	
	COLLEMBOLA			
	Isotomidae			
	<u>Isotomurus</u> <u>palustris</u>	1	0.1	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Cambarus</u> sp.	4	0.4	

TABLE 26-5

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	AMPHIPODA			
	Gammaridae			
	<u>Gammarus</u> sp.	6	0.6	
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	<u>Corbicula</u> <u>manilensis</u>	1	0.1	
	GASTROPODA			
	BASOMMATOPHORA			
	Planorbidae			
	<u>Gyraulus</u> sp.	6	0.7	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	13	1.2	
	TOTALS	1126		

SHANNON-WEAVER DIVERSITY = 4.064

BIOTIC INDEX = 2.465, MODERATE ENRICHMENT

TABLE 26-6

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/26/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	248	2669.5	56.2	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	6	63.6	1.4	
	Atrichopogon sp.	6	63.6	1.4	
	Tipulidae				
	Hexatoma sp.	1	10.8	0.2	
	Tipula sp.	1	10.8	0.2	
	Simuliidae				
	Simulium sp.	1	10.8	0.2	
	Empididae	1	10.8	0.2	
	TRICHOPTERA				
	Hydropsychidae				
	Hydropsyche sp.	4	43.1	0.9	
	Cheumatopsyche sp.	25	269.1	5.7	
	Philopotamidae				
	Chimarra obscura	5	53.8	1.1	
	EPHEMEROPTERA				
	Baetiscidae				
	Baetisca carolina	1	10.8	0.2	
	Baetidae				
	Baetis sp.	16	172.2	3.6	
	Pseudocloeon sp.	1	10.8	0.2	

TABLE 26-6

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Heptageniidae				
	<u>Stenonema</u> sp.	3	32.3	0.7	
	Oligoneuridae				
	<u>Isonychia</u> sp.	1	10.8	0.2	
	Caenidae				
	<u>Caenis</u> sp.	36	387.5	8.2	
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra</u> sp.	6	64.6	1.4	
	Perlidae				
	<u>Acroneuria ruralis</u>	4	43.1	0.9	
	HEMIPTERA				
	Veliidae				
	<u>Microvelia</u> sp.	1	10.8	0.2	
	ODONATA				
	Gomphidae				
	(early instars)	2	21.5	0.5	
	COLEOPTERA				
	Elmidae				
	<u>Optioservus</u> sp.	17	183.0	3.9	
	<u>Stenelmis</u> sp.	17	183.0	3.9	
	<u>Stenelmis</u> nr. <u>crenata</u>	1	10.8	0.2	
	Dryopidae				
	<u>Helichus basalis</u>	5	53.8	1.1	
	Dytiscidae				
	<u>Hydrovatus</u> sp.	1	10.8	0.2	

TABLE 26-6

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	1	10.8	0.2	
	<u>Nigronia serricornis</u>	15	161.5	3.4	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	15	161.5	3.4	
	TOTALS	441	4747.0		

SHANNON-WEAVER DIVERSITY = 2.848

TABLE 26-7

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/26/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	233	2508.1	45.0	
	Tipulidae				
	Hexatoma sp.	3	32.3	0.6	
	Empididae				
	Ceratopogonidae				
	Atrichopogon sp.	6	64.6	1.2	
	Bezzia-Probezzia sp.	11	118.4	2.1	
	Simuliidae				
	Simulium sp.	6	64.6	1.2	
	TRICHOPTERA				
	Rhyacophilidae				
	Rhyacophila ledra	1	10.8	0.2	
	Rhyacophila sp.	1	10.8	0.2	
	Hydropsychidae				
	Cheumatopsyche sp.	136	1463.9	26.3	
	Philopotamidae				
	Chimarra obscura	4	43.1	0.8	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	11	118.6	2.1	
	Pseudocloeon sp.	2	21.5	0.4	

TABLE 26-7

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Caenidae				
	<u>Caenis</u> sp.	22	236.8	4.2	
	Leptophlebiidae				
	<u>Habrophlebia vibrans</u>	1	10.8	0.2	
	Oligoneuridae				
	<u>Isonychia</u> sp.	2	21.5	0.4	
	Heptageniidae				
	<u>Stenonema</u> sp.	1	10.8	0.2	
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra</u> sp.	2	21.5	0.4	
	Perlidae				
	<u>Acroneuria ruralis</u>	2	21.5	0.4	
	HEMIPTERA				
	Veliidae				
	<u>Microvelia</u> sp. A	2	21.5	0.4	
	<u>Microvelia</u> sp. B	3	32.3	0.6	
	ODONATA				
	Gomphidae				
	<u>Lanthus parvula</u>	3	32.3	0.6	
	COLEOPTERA				
	Elmidae				
	<u>Promoresia elegans</u>	3	32.3	0.6	

TABLE 26-7

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	<u>Optioservus</u> sp.	29	312.2	5.6	
	<u>Stenelmis</u> sp. (larvae)	6	64.6	1.2	
	<u>Stenelmis</u> sp.	7	75.4	1.4	
	<u>Optioservus</u> nr. <u>ampliatus</u>	2	21.5	0.4	
	<u>Optioservus</u> nr. <u>ovalis</u>	2	21.5	0.4	
	<u>Psephenidae</u>				
	<u>Ectopria</u> <u>nervosa</u>	1	10.8	0.2	
	<u>Dryopidae</u>				
	<u>Helichus</u> <u>basalis</u>	1	10.8	0.2	
	<u>MEGALOPTERA</u>				
	<u>Corydalidae</u>				
	<u>Nigronia</u> <u>serricornis</u>	12	129.2	2.3	
	<u>ANNELIDA</u>				
	<u>CLITELLATA</u>				
	<u>OLIGOCHAETA</u>				
	<u>Naididae</u>	2	21.5	0.4	
	TOTALS	518	5575.9		

SHANNON-WEAVER DIVERSITY = 2.716

TABLE 26-8

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/26/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	146	1571.6	58.9	
	Ceratopogonidae				
	Atrichopogon sp.	1	10.8	0.4	
	Bezzia-Probezzia sp.	5	53.8	2.0	
	Empididae	2	21.5	0.8	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	16	172.2	6.5	
	EPHEMEROPTERA				
	Caenidae				
	Caenis sp.	30	322.9	12.1	
	Oligoneuridae				
	Isonychia sp.	1	10.8	0.4	
	Heptageniidae				
	Stenacron sp.	3	32.3	1.2	
	PLECOPTERA				
	Perlidae				
	Acroneuria ruralis	2	21.5	0.8	
	HEMIPTERA				
	Gerridae				
	Eobates sp.	1	10.8	0.4	
	COLEOPTERA				
	Psephenidae				
	Ectopria nervosa	5	53.8	2.0	

TABLE 26-8

03539719 White Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Elmidae				
	<u>Optioservus</u> sp.	14	150.7	5.6	
	<u>Stenelmis</u> nr. <u>concinna</u>	10	107.6	4.0	
	<u>Promoresia</u> <u>elegans</u>	2	21.5	0.8	
	<u>Optioservus</u> <u>ampliatus</u>	1	10.8	0.4	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia</u> <u>serricornis</u>	6	63.6	2.4	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	3	32.3	1.2	
	TOTALS	248	2669.5		

SHANNON-WEAVER DIVERSITY = 2.302

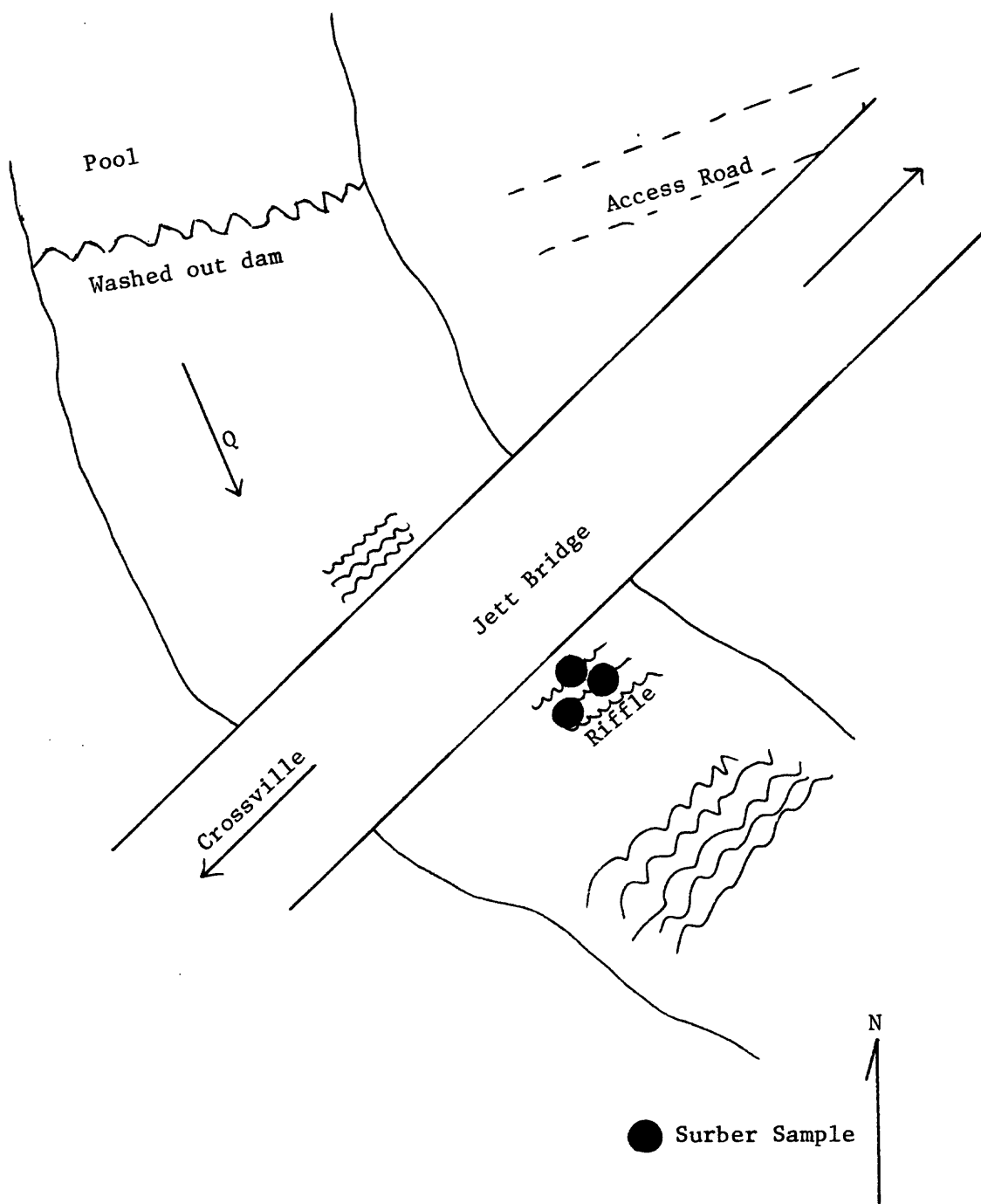


FIGURE 27-1. Station 27 - 03539750 - Clear Creek near Lansing, TN

TABLE 27-1

Physical and Chemical Parameters at

Station 27 - 03539750

Clear Creek near Lancing, Morgan Co., TN

Parameter	Date	
	4-15-81	8-28-81
Water Temperature	16°C	23°C
Dissolved Oxygen	10.5 mg/L	8.9 mg/L
pH	6.4	6.5
Conductivity	45 umhos/cm	70 umhos/cm
Stream Width	21.9 m	9.4 m
Average Stream Depth	65.2 cm	25.4 cm
Average Stream Velocity	0.42 m/sec	0.23 m/sec
Discharge	4.79 m ³ /sec	0.43 m ³ /sec
Cover (% Shaded)	25%	10%
Substrate	Medium to large cobble	

TABLE 27-2

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
4/15/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	72	72	
	<u>Cricotopus</u> sp.	(2)		
	<u>Psectrocladius</u> sp.	(5)		
	<u>Procladius</u> sp.	(2)		
	<u>Ablabesmyia mallochi</u>	(4)		
	<u>Tribelos jucundus</u>	(8)		
	<u>Zavrelia</u> sp.	(1)		
	<u>Microsectra</u> sp.	(2)		
	<u>Tanytarsus</u> sp.	(2)		
	Simuliidae			
	<u>Simulium</u> sp.	2	2	
	EPHEMEROPTERA			
	Ephemerelellidae			
	<u>Eurylophella temporalis</u>	4	4	
	<u>Serratella frisoni</u>	1	1	
	Heptageniidae			
	<u>Stenonema tripunctatum</u>	3	3	
	<u>Stenacron minnetonka</u>	1	1	
	PLECOPTERA			
	Perlodidae			
	<u>Isogenus</u> sp.	2	2	
	Nemouridae			
	<u>Ostrocerca truncata</u>	1	1	
	COLEOPTERA			
	Elmidae			
	<u>Stenelmis</u> sp.	1	1	

TABLE 27-2

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Hydrophilidae			
	Berosus sp.	3	3	
	CRUSTACEA			
	AMPHIPODA			
	Gammaridae			
	Gammarus sp.	1	1	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA	9	9	
	Naididae			
	TOTALS	100		

SHANNON-WEAVER DIVERSITY = 3.656

BIOTIC INDEX = 2.541, MODERATE ENRICHMENT

TABLE 27-3

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/15/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	17	182.9	43.6	
	Simuliidae				
	<u>Prosimulium sp.</u>	1	10.8	2.6	
	Empididae	1	10.8	2.6	
	EPHEMEROPTERA				
	Baetidae				
	<u>Pseudocloeon sp.</u>	2	21.5	5.1	
	Ephemerellidae				
	<u>Eurylophella temporalis</u>	1	10.8	2.6	
	Heptageniidae				
	<u>Stenonema sp.</u>	2	21.5	5.1	
	PLECOPTERA				
	Perlodidae				
	<u>Isoperla sp.</u>	2	21.5	5.1	
	ODONATA				
	Gomphidae				
	<u>Octogomphus sp.</u>	1	10.8	2.6	
	MOLLUSCA				
	GASTROPODA				
	PULMONATA				
	Lymnaeidae				
	<u>Pseudosuccinea sp.***</u>	1	10.8	2.6	

TABLE 27-3

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	11	118.4	28.2	
	Naididae				
	TOTALS	39	419.8		

SHANNON-WEAVER DIVERSITY = 2.374

TABLE 27-4

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/15/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	58	624.3	51.8	
	Stratiomyidae				
	<u>Euparyphus</u> sp.	1	10.8	0.9	
	EPHEMEROPTERA				
	Baetidae				
	<u>Pseudocloeon</u> sp.	3	32.3	2.7	
	Ephemereleididae				
	<u>Eurylophella bicolor</u>	1	10.8	0.9	
	PLECOPTERA				
	Chloroperlidae				
	<u>Alloperla</u> sp.	1	10.8	0.9	
	COLEOPTERA				
	Halipilidae				
	<u>Peltochytes</u> sp.	1	10.8	0.9	
	Elmidae				
	<u>Microcylloepus</u> sp.*	1	10.8	0.9	
	Psephenidae				
	<u>Ectopria nervosa</u>	3	32.3	2.7	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	43	462.9	38.4	
	TOTALS	112	1205.6		

SHANNON-WEAVER DIVERSITY = 1.6056

TABLE 27-5

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/15/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	11	118.4	55	
	Simuliidae				
	<u>Prosimulium</u> sp.	1	10.8	5	
	EPHEMEROPTERA				
	Baetidae				
	<u>Pseudocloeon</u> sp.	5	53.8	25	
	Ephemerellidae				
	<u>Eurylophella</u> <u>bicolor</u>	1	10.8	5	
	COLEOPTERA				
	Halipilidae				
	<u>Peltodytes</u> sp.	2	21.6	10	
	TOTALS	20	215.3		

SHANNON-WEAVER DIVERSITY = 1.7388

TABLE 27-6

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
8/28/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	326	40.6	
	<u>Cricotopus</u> sp.	(10)		
	<u>Psectrocladius</u> sp.	(4)		
	<u>Ablabesmyia mallochii</u>	(2)		
	<u>Conchapelopia</u> sp.	(1)		
	<u>Procladius</u> sp.	(1)		
	<u>Stenochironomus</u> sp.	(2)		
	<u>Tanytarsus</u> sp.	(2)		
	<u>Rheocricotopus</u> sp.	(1)		
	Simuliidae			
	<u>Simulium</u> sp.	2	0.2	
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	16	2.0	
	<u>Atrichopogon</u> sp.	1	0.1	
	Empididae	1	0.1	
	Culicidae			
	<u>Culex</u> sp.	1	0.1	
	Sciomyzidae			
	<u>Pherbellia</u> sp.***	1	0.2	
	Tipulidae			
	<u>Tipula</u> sp.	2	0.2	

TABLE 27-6

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	TRICHOPTERA			
	Philopotamidae			
	<u>Chimarra obscura</u>	1	0.1	
	Polycentropodidae			
	<u>Neureclipsis crepuscularis</u>	13	1.6	
	Hydropsychidae			
	<u>Hydropsyche dicantha</u>	1	0.1	
	Leptoceridae			
	Oecetis sp.	2	0.2	
	Hydroptilidae			
	<u>Oxyethira sp.***</u>	7	0.9	
	EPHEMEROPTERA			
	Caenidae			
	<u>Caenis sp.</u>	34	4.2	
	Oligoneuridae			
	<u>Isonychia sp.</u>	2	0.2	
	Baetidae			
	<u>Pseudocloeon sp.</u>	8	1.0	
	<u>Baetis ephippplatus</u>	15	1.9	
	<u>Baetis brunneicolor</u>	17	2.1	
	Tricorythidae			
	<u>Tricorythodes sp.</u>	28	3.5	

TABLE 27-6

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Heptageniidae			
	<u>Stenonema tripunctatum</u>	4	0.5	
	<u>S. nepotellum</u>	1	0.1	
	<u>S. pudicum</u>	3	0.4	
	<u>S. bipunctatum</u>	1	0.1	
	<u>Stenacron carolina</u>	1	0.1	
	HEMIPTERA			
	Mesoveliidae			
	<u>Mesovelia mulsanti</u>	2	0.2	
	Nepidae			
	<u>Ranatra nigran***</u>	1	0.1	
	ODONATA			
	Macromiidae			
	<u>Macromia illinoensis***</u>	2	0.2	
	Ischnuridae			
	<u>Ischnura sp.</u>	73	9.1	
	Aeshnidae			
	<u>Basiaeshna janata</u>	1	0.1	
	<u>Boyeria vinosa</u>	1	0.1	
	Libellulidae			
	<u>Erythemis simplicicollis</u>	1	0.1	
	Gomphidae			
	<u>Lanthus parvula</u>	2	0.2	
	<u>Dromogomphus spinosus</u>	3	0.4	

TABLE 27-6

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Corduliidae			
	<u>Neurocordulia obsoleta***</u>	4	0.5	
	COLEOPTERA			
	Hydrophilidae			
	<u>Berosus</u> sp.	118	14.7	
	Elmidae			
	<u>Dubiraphia</u> sp. (larvae)	9	1.1	
	<u>Dubiraphia quadrinotata</u>	9	1.1	
	<u>Stenelmis</u> sp. (larvae)	9	1.1	
	<u>Stenelmis humerosa</u>	2	0.2	
	<u>Optioservus</u> sp.	8	0.9	
	Psephenidae			
	<u>Ectopria nervosa</u>	2	0.2	
	Dytiscidae			
	<u>Laccophilus</u> sp.	7	0.8	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	8	1.0	
	Sialidae			
	<u>Sialis</u> sp.	1	0.1	
	CRUSTACEA			
	AMPHIPODA			
	Gammaridae			
	<u>Crangonyx</u> sp.	2	0.2	

TABLE 27-6

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	Corbicula manilensis	3	0.4	
	EULAMELLIBRANCHIA			
	Sphaeriidae			
	Sphaerium sp.	8	0.9	
	GASTROPODA			
	BASOMMATOPHORA			
	Physidae			
	Physa sp.	19	2.4	
	Planorbidae			
	Gyraulus sp.	13	1.6	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	14	1.7	
	TOTALS	802		

SHANNON-WEAVER DIVERSITY = 4.464

BIOTIC INDEX = 2.667, MODERATE ENRICHMENT

TABLE 27-7

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/28/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	106	1141.0	47.7	
	Ceratopogonidae				
	<u>Bezzia-Probezzia</u> sp.	25	269.1	11.3	
	<u>Atrichopogon</u> sp.**	12	129.2	5.4	
	Simuliidae				
	<u>Simulium</u> sp.	2	21.5	0.9	
	Empididae	1	10.8	0.5	
	TRICHOPTERA				
	Hydropsychidae				
	(early instars)	3	32.3	1.4	
	<u>Hydropsyche dicantha</u> **	1	10.8	0.5	
	<u>Macronema zebratum</u> **	5	53.8	2.3	
	Leptoceridae				
	<u>Ceraclea flavus</u> **	1	10.8	0.5	
	EPHEMEROPTERA				
	Oligoneuridae				
	<u>Isonychia</u> sp.	2	21.5	0.9	
	Tricorythidae				
	<u>Tricorythodes</u> sp.	5	53.8	2.3	
	Caenidae				
	<u>Caenis</u> sp.	13	139.9	5.9	
	Baetidae				
	<u>Baetis</u> sp.	8	86.1	3.6	
	<u>Pseudocloeon</u> sp.	1	10.8	0.5	

TABLE 27-7

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Heptageniidae				
	<u>Stenonema femoratum</u>	3	32.3	1.4	
	<u>S. vicarium</u>	2	21.5	0.9	
	ODONATA				
	Coenagrionidae				
	<u>Anomalagrion hastatum</u>	3	32.3	1.4	
	Gomphidae				
	<u>Lanthus parvula**</u>	1	10.8	0.5	
	COLEOPTERA				
	Elmidae				
	<u>Stenelmis</u> sp.	2	21.5	0.9	
	<u>Optioservus</u> sp.	1	10.8	0.5	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	1	10.8	0.5	
	<u>Nigronia serricornis</u>	1	10.8	0.5	
	LEPIDOPTERA				
	Pyralidae				
	<u>Paragyraactus</u> sp.	11	118.4	5.0	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	12	129.2	5.4	
	TOTALS	222	2389.7		

SHANNON-WEAVER DIVERSITY = 2.979

TABLE 27-8

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/28/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	315	3390.7	66.0	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	27	290.6	5.7	
	TRICHOPTERA				
	Rhyacophilidae	6	64.6	1.3	
	Rhyacophila ledra***				
	Philopotamidae	2	21.5	0.4	
	Chimarra obscura				
	Hydropsychidae				
	Macronema zebratum***	4	43.1	0.8	
	Symphitopsycha sp.	3	32.3	0.6	
	Cheumatopsycha sp.	5	53.8	1.0	
	Hydroptilidae				
	Oxyethira sp.	1	10.8	0.2	
	Leptoceridae				
	Ceraclea flavus***	2	21.5	0.4	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	9	96.9	1.9	
	Baetidae				
	Baetis sp.	19	204.5	4.0	
	Pseudocloeon sp.	8	86.1	1.7	

TABLE 27-8

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Caenidae				
	Caenis sp.	15	161.5	3.1	
	Tricorythidae				
	Tricorythodes sp.	2	21.5	0.4	
	Ephemerelellidae				
	Eurylophella temporalis	1	10.8	0.2	
	Heptageniidae				
	Heptagenia sp.	3	32.3	0.6	
	Stenonema fuscum	11	118.4	2.3	
	PLECOPTERA				
	Perlidae				
	Acroneuria ruralis***	2	21.5	0.4	
	HEMIPTERA				
	Mesoveliidae				
	Mesovelgia sp.	1	10.8	0.2	
	ODONATA				
	Coenagrionidae				
	Argia sp.	11	118.4	2.3	
	Gomphidae				
	(small instars)	1	10.8	0.2	
	COLEOPTERA				
	Psephenidae				
	Ectopria nervosa	1	10.8	0.2	
	Elmidae				
	Microcylloepus pusillus	19	204.5	4.0	

TABLE 27-8

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No. /m ²	%Comp.	Sample
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	3	32.3	0.6	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	6	64.6	1.3	
	TOTALS	477	5134.6		

SHANNON-WEAVER DIVERSITY = 2.264

TABLE 27-9

3539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No. /m ²	%Comp.	Sample
8/28/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	307	3304.6	63.4	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	17	183.0	3.5	
	TRICHOPTERA				
	Rhyacophilidae				
	Rhyacophila ledra	18	193.8	3.7	
	Hydropsychidae				
	Macronema zebratum	10	107.6	2.1	
	Leptoceridae				
	Ceraclea flavus***	3	32.3	0.6	
	Hydroptilidae				
	Oxyethira sp.	4	43.1	0.8	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	14	150.7	2.9	
	Baetidae				
	Baetis sp.	18	193.8	3.7	
	Pseudocloeon sp.	3	32.3	0.6	
	Caenidae				
	Caenis sp.	23	247.6	4.8	
	Tricorythidae				
	Tricorythodes atratus***	15	161.5	3.1	

TABLE 27-9

03539750 Clear Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Heptageniidae				
	<u>Stenonema</u> sp.	9	96.9	1.9	
	<u>Stenonema fuscum</u>	8	86.1	1.7	
	<u>S. rubromaculatum***</u>	1	10.8	0.2	
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria</u> nr. <u>ruralis</u>	1	10.8	0.2	
	ODONATA				
	Coenagrionidae				
	<u>Argia</u> sp.	10	107.6	2.1	
	COLEOPTERA				
	Elmidae				
	<u>Optioservus</u> sp.	4	43.1	0.8	
	<u>Stenelmis</u> sp.	1	10.8	0.2	
	<u>Stenelmis</u> <u>lateralis</u>	2	21.5	0.4	
	<u>Stenelmis</u> nr. <u>concinna</u>	2	21.5	0.4	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus</u> <u>cornutus</u>	3	32.3	0.6	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	11	118.4	2.3	
	TOTALS	484	5209.9		

SHANNON-WEAVER DIVERSITY = 2.383

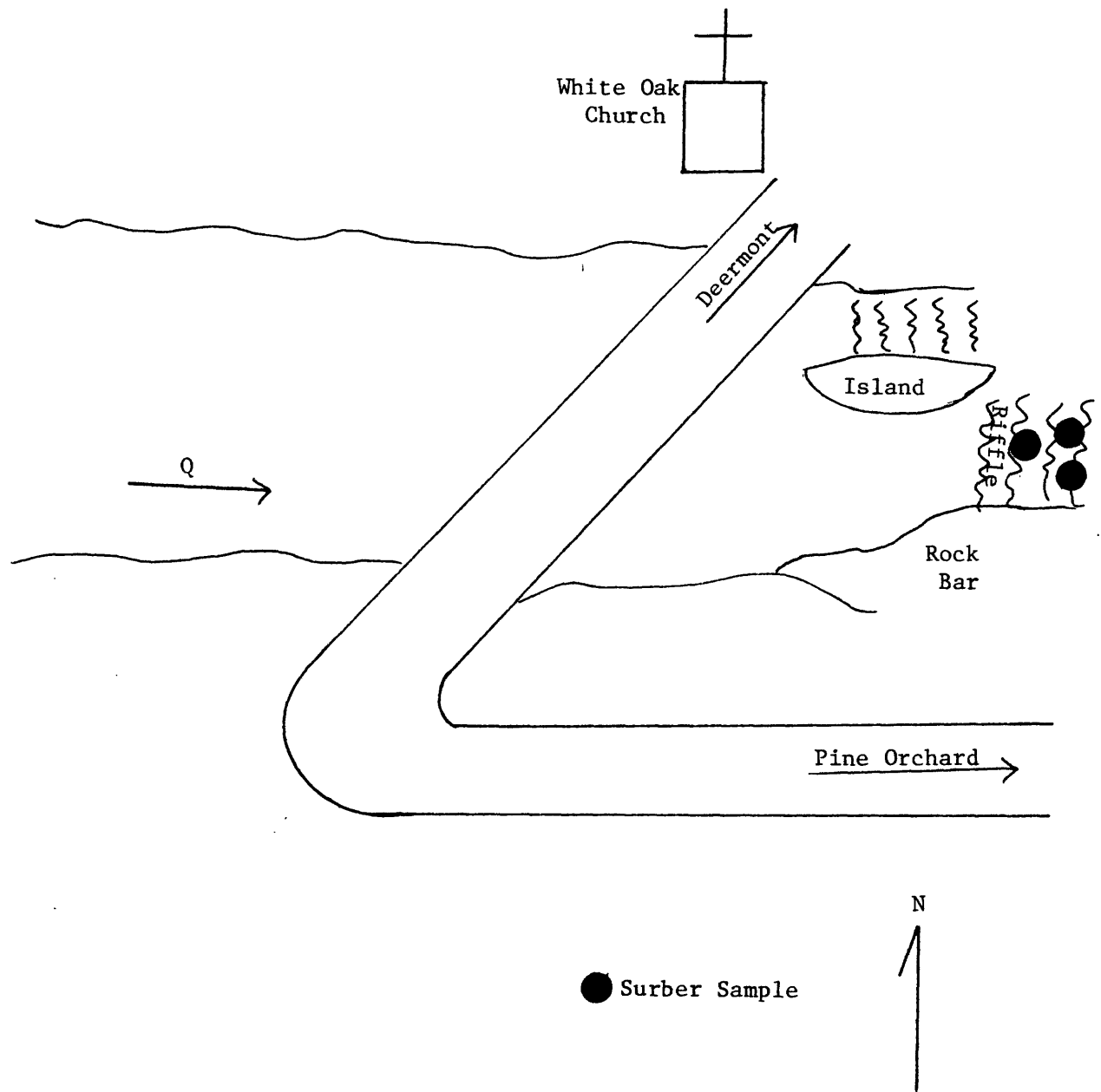


FIGURE 28-1. Station 28 - 03540100 - Crab Orchard Creek near Deermont, TN

TABLE 28-1

Physical and Chemical Parameters at

Station 28 - 03540100

Crab Orchard Creek near Deermont, Morgan Co., TN

Parameter	Date	
	4-16-81	9-21-81
Water Temperature	13°C	18°C
Dissolved Oxygen	9.5 mg/L	10.1 mg/L
pH	5.8	4.9
Conductivity	*	800 umhos/cm
Stream Width	18.9 m	4.6 m
Average Stream Depth	84.4 cm	15.9 cm
Average Stream Velocity	0.11 m/sec	0.23 m/sec
Discharge	1.4 m ³ /sec	0.13 m ³ /sec
Cover (% Shaded)	40%	40%
Substrate	Medium to large cobble covered with sediment	

Fe(OH)₃ precipitate covered substrate.

* Meter malfunction

TABLE 28-2

03540100 Crab Orchard Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
4/16/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	3	50	
	<u>Eukiefferiella</u> sp.	(2)		
	<u>Polypedilum illinoense</u>	(1)		
	PLECOPTERA			
	Leuctridae			
	<u>Leuctra</u> sp.	1	16.7	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	1	16.7	
	CRUSTACEA			
	AMPHIPODA			
	Gammaridae			
	<u>Crangonyx</u> sp.	1	16.7	
	TOTALS	6		

SHANNON-WEAVER DIVERSITY = 2.252

BIOTIC INDEX = 2.833, MODERATE ENRICHMENT

TABLE 28-3

03540100 Crab Orchard Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/16/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	6	64.6	85.7	
	PLECOPTERA				
	Taeniopterygidae				
	<u>Ostrocerca</u> nr. <u>truncata</u> *	1	10.8	14.3	
	TOTALS	7	75.3		

SHANNON-WEAVER DIVERSITY = 0.5917

TABLE 28-4

03540100 Crab Orchard Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No. /m ²	%Comp.	Sample
4/16/81	NO	ORGANISMS	FOUND		Surber 2

TABLE 28-5

03540100 Crab Orchard Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/16/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	38	409.0	88.4	
	Ceratopogonidae				
	Bezzia sp.	3	32.3	7.0	
	TRICHOPTERA				
	Hydropsychidae				
	<u>Cheumatopsyche</u> sp.	2	21.5	4.7	
	TOTALS	43	462.9		

SHANNON-WEAVER DIVERSITY = 0.6315

TABLE 28-6

03540100 Crab Orchard Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/21/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	13	59.1	
	<u>Cricotopus sp.</u>	(2)		
	<u>Parametriocnemus sp.</u>	(1)		
	<u>Pseudorthocladus sp.</u>	(2)		
	<u>Ablabesmyia mallochi</u>	(1)		
	<u>Polypedilum illinoense</u>	(2)		
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche sp.</u>	1	4.5	
	EPHEMEROPTERA			
	Baetidae			
	<u>Baetis sp.</u>	1	4.5	
	Heptageniidae			
	<u>Stenonema tripunctatum</u>	1	4.5	
	COLEOPTERA			
	Noteridae			
	<u>Pronoterus sp.</u>	1	4.5	
	MEGALOPTERA			
	Sialidae			
	<u>Sialis sp.</u>	1	4.5	
	Corydalidae			
	<u>Corydalus cornutus</u>	1	4.5	
	<u>Nigronia serricornis</u>	1	4.5	
	CRUSTACEA			
	ISOPODA			
	Asellidae			
	<u>Lirceus fontinalis</u>	1	4.5	

TABLE 28-6

03540100 Crab Orchard Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	1	4.5	
	TOTALS	22		

SHANNON-WEAVER DIVERSITY = 1.071

BIOTIC INDEX = 3.116, SIGNIFICANT ENRICHMENT

TABLE 28-7

03540100 Crab Orchard Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/21/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	8	86.1	80	
	Ceratopogonidae	1	10.8	10	
	<u>Bezzia-Probezzia</u> sp.				
	HEMIPTERA				
	Mesoveliidae	1	10.8	10	
	<u>Mesovellia</u> sp.				
	TOTALS	10	108.6		

SHANNON-WEAVER DIVERSITY = 0.922

TABLE 28-8

03540100 Crab Orchard Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m	%Comp.	Sample
9/21/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	5	53.8	71.4	
	MEGALOPTERA				
	Sialidae	2	21.5	28.6	
	<u>Sialis</u> sp.				
	TOTALS	7	75.3		

SHANNON-WEAVER DIVERSITY = 0.863

TABLE 28-9

03540100 Crab Orchard Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/21/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	7	75.3	58.3	
	Empididae	1	10.8	8.3	
	TRICHOPTERA				
	Polycentropodidae				
	Neureclipsis crepuscularis	1	10.8	8.3	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	1	10.8	8.3	
	HEMIPTERA				
	Saldidae				
	Salda sp.	1	10.8	8.3	
	COLEOPTERA				
	Elmidae				
	Stenelmis concinna**	1	10.8	8.3	
	TOTALS	12	129.3		

SHANNON-WEAVER DIVERSITY = 1.947

● Surber Sample

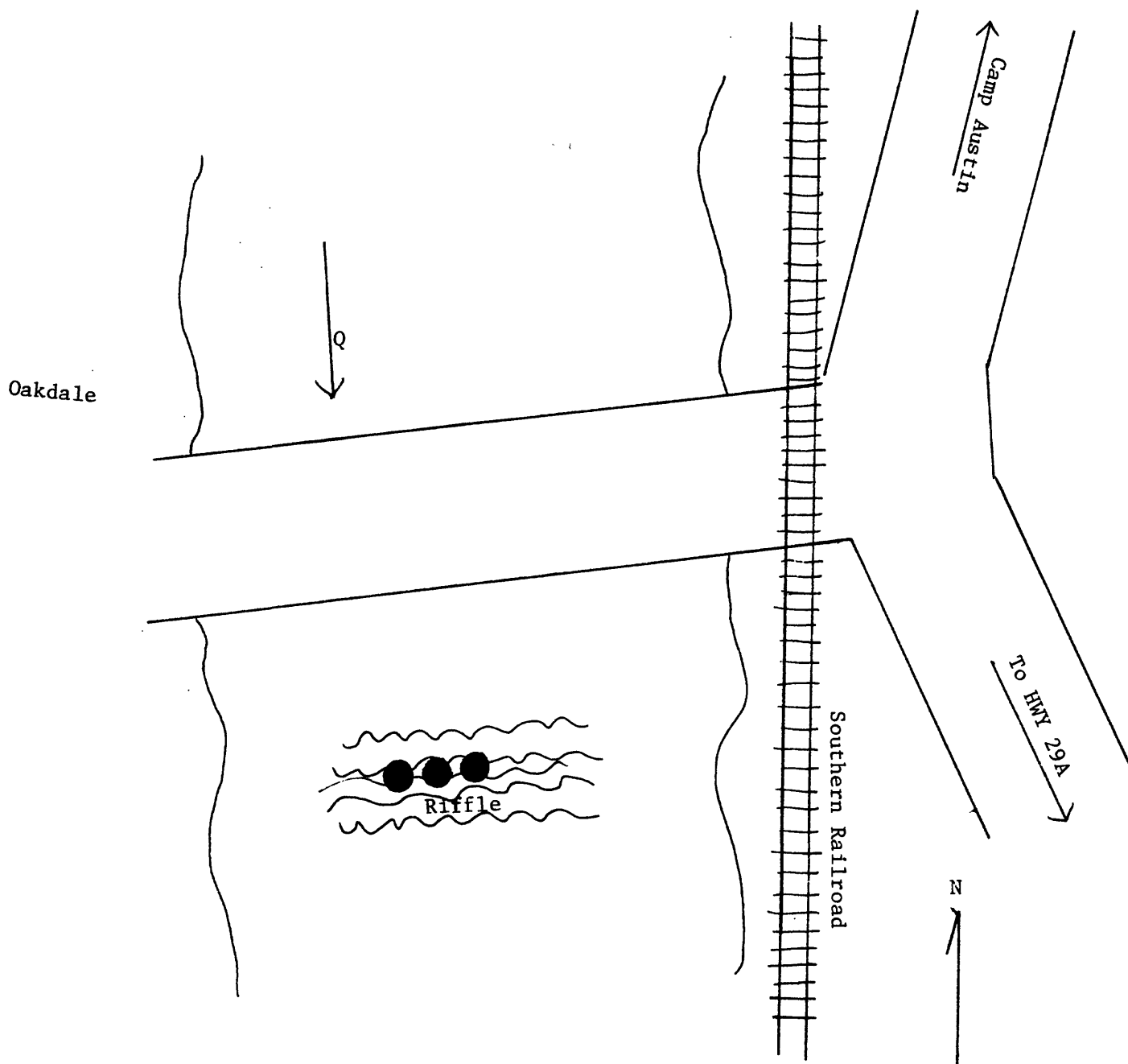


FIGURE 29-1. Station 29 - 03540500 - Emory River at Oakdale, TN

TABLE 29-1
Physical and Chemical Parameters at
Station 29 - 03540500
Emory River at Oakdale, Morgan Co., TN

Parameter	Date	
	4-16-81	8-27-82
Water Temperature	15°C	b
Dissolved Oxygen	9.9 mg/L	
pH	6.7	
Conductivity	950 umhos/cm	
Stream Width	*	
Average Stream Depth	*	
Average Stream Velocity	*	
Discharge	*	
Cover (% Shaded)	10%	
Substrate	Large cobble	

b Flow too great for conventional sampling devices.

* Parameter not determined, due to depth of main stream channel.

TABLE 29-2

03540500 Emory River
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
5/16/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	29	64.4	
	Empididae	1	2.2	
	EPHEMEROPTERA			
	Baetidae			
	Baetis sp.	1	2.2	
	Heptageniidae			
	Epeorus sp.	3	6.7	
	Ephemerellidae			
	Ephemerella nr. <u>simila</u>	1	2.2	
	<u>E. needhami</u>	1	2.2	
	COLEOPTERA			
	Elmidae			
	Stenelmis sp.	1	2.2	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	8	17.8	
	TOTALS	45		

SHANNON-WEAVER DIVERSITY = 1.722

BIOTIC INDEX = 2.851, MODERATE ENRICHMENT

TABLE 29-3

03540500 Emory River
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/16/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	102	1098.0	94.4	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	3	32.3	2.8	
	Heptageniidae				
	Stenacron interpunctatum	1	10.8	1.0	
	PLECOPTERA				
	Perlodidae				
	Isoperla richardsoni	1	10.8	1.0	
	TRICHOPTERA				
	Philopotamidae				
	Chimarra obscura	1	10.8	1.0	
	TOTALS	108	1162.5		

SHANNON-WEAVER DIVERSITY = 0.4091

TABLE 29-4

03540500 Emory River
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/16/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	34	365.0	97.1	
	PLECOPTERA				
	Nemouridae				
	<u>Amphinemura delosa</u>	1	10.8	2.9	
	TOTALS	35	376.7		

SHANNON-WEAVER DIVERSITY = 0.1872

TABLE 29-5

03540500 Emory River
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/16/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	32	344.5	91.5	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	2	21.5	5.7	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	1	10.8	2.9	
	TOTALS	35	376.7		

SHANNON-WEAVER DIVERSITY = 0.5007

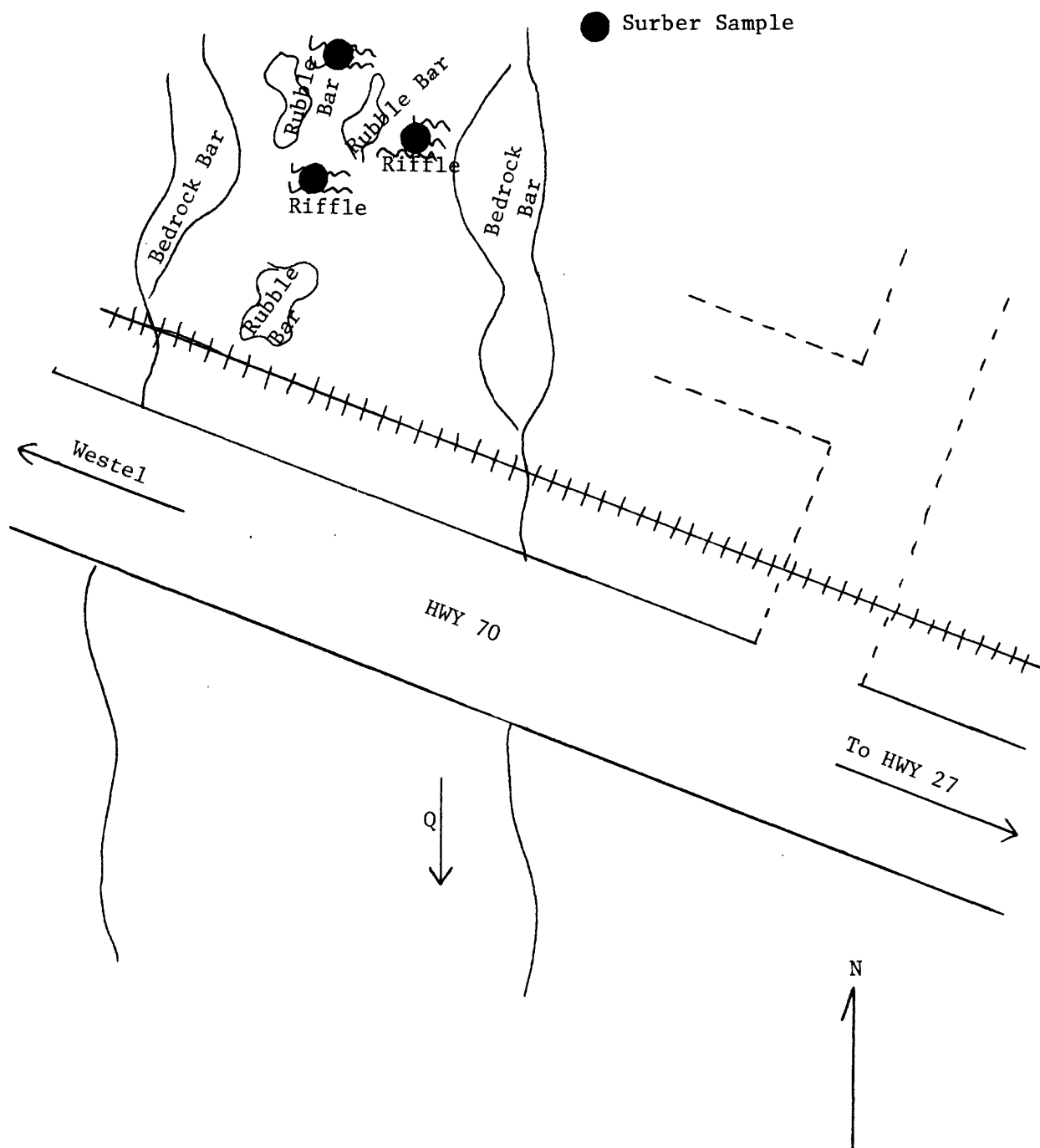


FIGURE 30-1. Station 30 - 03541487 - Piney Creek near Westel, TN

TABLE 30-1
Physical and Chemical Parameters at
Station 30 - 03541487
Piney Creek near Westel, Roane Co., TN

Parameter	Date	
	4-16-81	8-27-81
Water Temperature	12°C	19°C
Dissolved Oxygen	16 mg/L	9.5 mg/L
pH	6.2	6.5
Conductivity	1050 umhos/cm	120 umhos/cm
Stream Width	16.5 m	3.1 m
Average Stream Depth	18.7 cm	2.5 cm
Average Stream Velocity	0.19 m/sec	0.35 m/sec
Discharge	0.47 m ³ /sec	0.03 m ³ /sec
Cover (% Shaded)	20%	20%
Substrate	Large cobble on bedrock	

TABLE 30-2

03571437 Piney Creek
Roane Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
4/16/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	26	3.6	
	Blephariceridae			
	Blepharicera sp.	7	1.0	
	Simuliidae			
	Simulium sp.	51	7.1	
	Prosimulium sp.	37	5.1	
	Tipulidae			
	Tipula sp.	3	0.4	
	TRICHOPTERA			
	Philopotamidae			
	Chimarra obscura	2	0.3	
	Rhyacophilidae			
	Rhyacophila sp.	4	0.6	
	EPHEMEROPTERA			
	Baetidae			
	Pseudocloeon sp.	458	63.7	
	Ephemerellidae			
	Ephemerella dorothea	28	3.9	
	E. rotunda	2	0.3	
	Serratella serratooides	10	1.4	
	Heptageniidae			
	Cynigmula subaequalis	2	0.3	

TABLE 30-2

03571437 Piney Creek
Roane Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	PLECOPTERA			
	Nemouridae			
	<u>Amphinemoura delosa</u>	54	7.5	
	Perlodidae			
	<u>Isoperla richardsoni</u>	3	0.4	
	Chloroperlidae			
	<u>Alloperla</u>			
	Leuctridae			
	<u>Leuctra sp.</u>	2	0.3	
	COLEOPTERA			
	Elmidae			
	<u>Stenelmis sp.</u>	1	0.1	
	CRUSTACEA			
	ISOPODA			
	Asellidae			
	<u>Lirceus fontinalis</u>	1	0.1	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	22	3.1	
	TOTALS	719		

SHANNON-WEAVER DIVERSITY = 2.140

BIOTIC INDEX = 1.691, CLEAN

TABLE 30-3

03571487 Piney Creek
Roane Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/16/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Simuliidae				
	Simulium sp.	1	10.8	0.8	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	86	925.7	71.7	
	Ephemerellidae				
	Ephemerella dorothea	1	10.8	0.8	
	Heptageniidae				
	Stenonema sp.*	1	10.8	0.8	
	PLECOPTERA				
	Nemouridae				
	Amphinemura delosa	2	21.5	1.7	
	Chloroperlidae				
	Chloroperla sp.	29	312.2	24.2	
	TOTALS	120	1291.7		

SHANNON-WEAVER DIVERSITY = 1.1107

TABLE 30-4

03571487 Piney Creek
Roane Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/16/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	12	129.2	3.9	
	Simuliidae				
	Prosimulium sp.	37	398.3	12.1	
	Simulium sp.	24	258.3	7.8	
	Blephariceridae				
	Blepharicera sp.	2	21.5	0.7	
	EPHEMEROPTERA				
	Siphonuridae				
	Ameletus sp.	3	32.3	1.0	
	Baetidae				
	Pseudocloeon sp.	121	1302.5	39.4	
	Ephemerellidae				
	Ephemerella dorothea	6	64.6	2.0	
	Serratella serratoides	10	107.6	3.3	
	Heptageniidae				
	Heptagenia sp.	2	21.5	0.7	
	Leptophlebiidae				
	Paraleptophlebia sp.	1	10.8	0.3	
	PLECOPTERA				
	Leuctridae				
	Leuctra sp.	4	43.1	1.3	
	Nemouridae				
	Amphinemura delosa	72	775.0	23.5	

TABLE 30-4

03571487 Piney Creek
Roane Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Perlodidae				
	Isoperla dicala	4	43.1	1.3	
	TRICHOPTERA				
	Rhyacophilidae	4	43.1	1.3	
	Rhyacophila ledra				
	COLEOPTERA				
	Elmidae				
	Optioservus sp.	1	10.8	0.3	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	1	10.8	0.3	
	TOTALS	307	3304.6		

SHANNON-WEAVER DIVERSITY = 2.5656

TABLE 30-5
03571487 Piney Creek
Roane Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/16/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	4	43.1	4.8	
	Simuliidae				
	Simulium sp.	7	75.3	8.3	
	EPHEMEROPTERA				
	Siphonuridae				
	Ameletus sp.	3	32.3	3.6	
	Baetidae				
	Pseudocloeon sp.	33	355.2	39.3	
	Ephemerellidae				
	Ephemerella dorothea	5	53.8	6.0	
	Serratella serratooides*	1	10.8	1.2	
	PLECOPTERA				
	Nemouridae				
	Amphinemura delosa	27	290.6	32.1	
	Chloroperlidae				
	Chloroperla sp.	4	43.1	4.8	
TOTALS			904.2		

SHANNON-WEAVER DIVERSITY = 2.2630

TABLE 30-6

03571487 Piney Creek
Roane Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
8/27/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	25	37.3	
	<u>Tribelos fuscicornis</u>	(2)		
	<u>Tanytarsus</u> sp.	(3)		
	<u>Cricotopus</u> sp.	(2)		
	<u>Parametriocnemus</u> sp.	(2)		
	<u>Conchapelopia</u> sp.	(7)		
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	1	1.5	
	TRICHOPTERA			
	Rhyacophilidae			
	<u>Rhyacophila</u> sp.	1	1.5	
	Polycentropodidae			
	<u>Neureclipsis crepuscularis</u>	1	1.5	
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	9	13.4	
	Hydroptilidae	1	1.5	
	EPHEMEROPTERA			
	Neophemeridae			
	<u>Neophemera purpurea</u> ***	2	3.0	
	Oligoneuridae			
	<u>Isonychia</u> sp.	8	11.9	
	Baetidae			
	<u>Baetis brunneicolor</u>	8	11.9	

TABLE 30-6

03571487 Piney Creek
Roane Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	PLECOPTERA			
	Perlidae			
	<u>Acroneuria abnormis</u>	3	4.5	
	ODONATA			
	Aeshnidae			
	<u>Boyeria vinosa</u>	2	3.0	
	COLEOPTERA			
	Cryptidae			
	<u>Helichus sp.</u>	1	1.5	
	MEGALOPTERA			
	Corydalidae			
	<u>Corydalus cornutus</u>	1	1.5	
	MOLLUSCA			
	GASTROPODA			
	BASOMMATOPHORA			
	Physidae			
	<u>Physa sp.</u>	2	3.0	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	2	3.0	
	TOTALS	67		

SHANNON-WEAVER DIVERSITY = 3.780

BIOTIC INDEX = 2.753, MODERATE ENRICHMENT

TABLE 30-7

03541487 Piney Creek
Roane Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/27/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	24	258.3	38.1	
	TRICHOPTERA				
	Helicopsychidae				
	<u>Helicopsyche</u> sp.	1	10.8	1.6	
	Rhyacophilidae				
	<u>Rhyacophila</u> sp.	3	32.3	4.8	
	Hydropsychidae				
	<u>Hydropsyche</u> sp.	3	32.3	4.8	
	EPHEMEROPTERA				
	Siphonuridae				
	<u>Siphonurus</u> sp.	3	32.3	4.8	
	Baetidae				
	<u>Baetis</u> sp.	8	86.1	12.7	
	<u>Pseudocloeon</u> sp.	2	21.5	3.2	
	Caenidae				
	<u>Caenis</u> sp.	2	21.5	3.2	
	Heptageniidae				
	<u>Stenonema fuscum</u>	1	10.8	1.6	
	<u>Stenonema</u> sp.	9	96.9	1.6	
	PLECOPTERA				
	Pelidae				
	<u>Acroneuria mela***</u>	1	10.8	1.6	
	COLEOPTERA				
	Psephenidae				
	<u>Ectopria nervosa</u>	1	10.8	1.6	

TABLE 30-7

03541487 Piney Creek
Roane Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	CRUSTACEA				
	AMPHIPODA				
	Gammaridae				
	Gammarus sp.	2	21.5	3.2	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	3	32.3	4.8	
	TOTALS	63	678.1		

SHANNON-WEAVER DIVERSITY = 3.000

TABLE 30-8

03571487 Piney Creek
Roane Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No. /m ²	%Comp.	Sample
8/27/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	10	107.6	47.6	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	1	10.8	4.8	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	1	10.8	4.8	
	Baetidae				
	Baetis sp.	1	10.8	4.8	
	Pseudocloeon sp.	1	10.8	4.8	
	Heptageniidae				
	Stenonema sp.	1	10.8	4.8	
	PLECOPTERA				
	Perlidae				
	Acroneuria evoluta	1	10.8	4.8	
	HEMIPTERA				
	Veliidae				
	Rhagovelia sp.	1	10.8	4.8	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	4	43.1	19.0	

TOTALS
SHANNON-WEAVER DIVERSITY = 2.429

21 226.1

TABLE 30-9

03541487 Piney Creek
Roane Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m	%Comp.	Sample
8/27/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	16	172.2	17.4	
	TRICHOPTERA				
	Hydroptilidae	1	10.8	1.1	
	<u>Hydroptila</u> sp.				
	Rhyacophilidae	4	43.1	4.3	
	<u>Rhyacophila</u> sp.				
	Philopotamidae	12	129.2	13.0	
	<u>Chimarra obscura</u>				
	Hydropsychidae	18	193.8	19.6	
	<u>Cheumatopsyche</u> sp.				
	EPHEMEROPTERA				
	Oligoneuridae	13	139.9	14.1	
	<u>Isonychia</u> sp.				
	Siphonuridae	1	10.8	1.1	
	<u>Ameletus</u> sp.				
	Caenidae	1	10.8	1.1	
	<u>Caenis</u> sp.				
	Neophemeridae	2	21.5	2.2	
	<u>Neophemera</u> sp.***				
	Baetidae	6	64.6	6.5	
	<u>Baetis</u> sp.				
	<u>Pseudocloeon</u> sp.	4	43.1	4.3	
	Heptageniidae	6	64.6	6.5	
	<u>Stenonema</u> sp.				

TABLE 30-9

03541487 Piney Creek
Roane Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria ruralis</u>	2	21.5	2.2	
	HEMIPTERA				
	Veliidae				
	<u>Rhagovelia sp.***</u>	1	21.5	1.1	
	COLEOPTERA				
	Dryopidae				
	<u>Helichus basalis</u>	1	10.8	1.1	
	Elmidae				
	<u>Optioservus sp.</u>	1	10.8	1.1	
	<u>Stenelmis bicarinata</u>	1	10.8	1.1	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalis cornutus</u>	1	10.8	1.1	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	1	10.8	1.1	
	TOTALS	92	990.3		

SHANNON-WEAVER DIVERSITY = 3.467

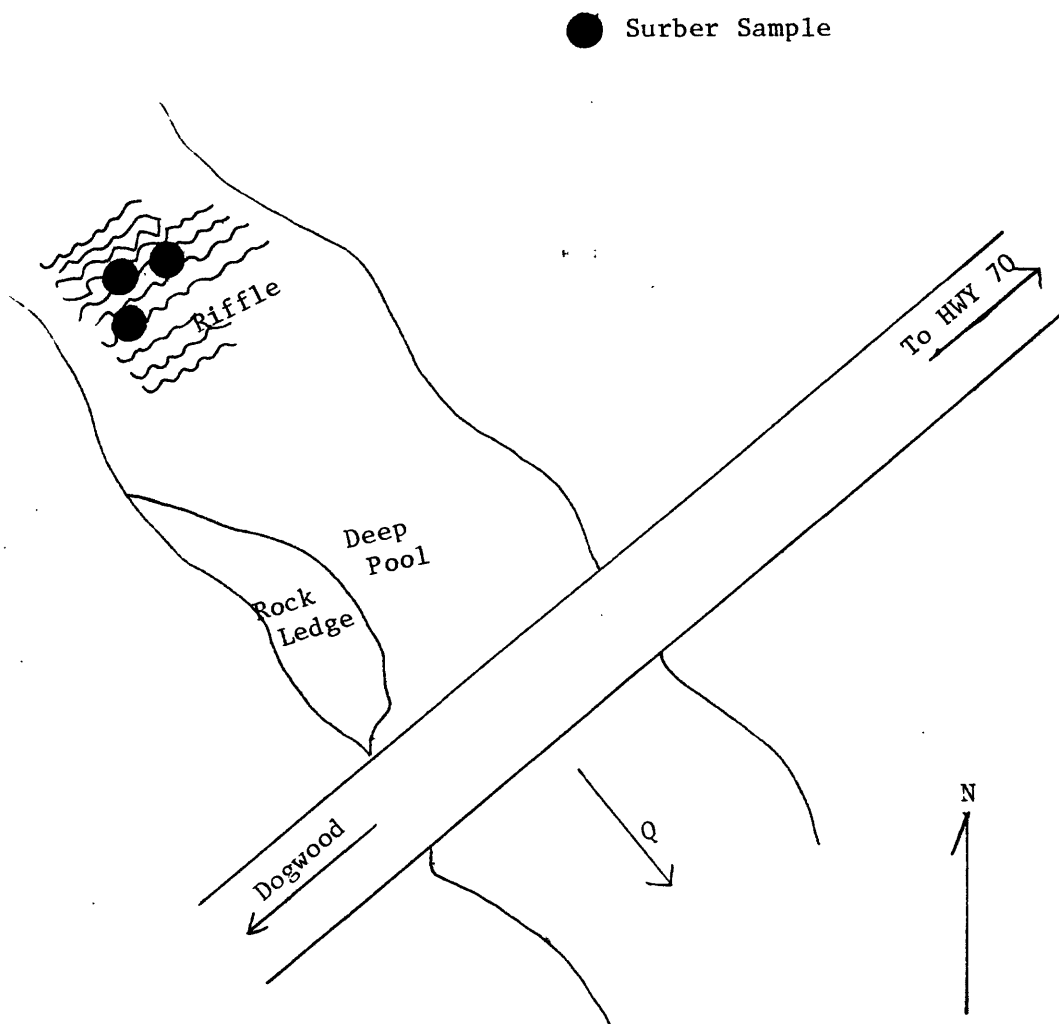


FIGURE 31-1. Station 31 - 03541496 - Fall Creek near Ozone, TN

TABLE 31-1
Physical and Chemical Parameters at
Station 31 - 03541496
Fall Creek near Ozone, Cumberland Co., TN

Parameter	Date	
	4-16-81	8-27-81
Water Temperature	14°C	22°C
Dissolved Oxygen	13.2 mg/L	8.8 mg/L
pH	6.8	7.5
Conductivity	50 umhos/cm	150 umhos/cm
Stream Width	8.8 m	1.8 m
Average Stream Depth	35.6 cm	17.8 cm
Average Stream Velocity	1.09 m/sec	0.30 m/sec
Discharge	2.71 m ³ /sec	0.08 m ³ /sec
Cover (% Shaded)	80%	25%
Substrate	Small to medium cobble	

TABLE 31-2

03541496 Fall Creek

Cumberland Co., TN

BENTHIC MACROINVERTEBRATES

Date	Organism	Small to medium cobbles	Cover (% Shaded)	Discharge	Average Stream Velocity	Average Stream Depth	Stream Width	Conductivity	pH	Dissolved Oxygen	Water Temperature	%Comp.	Sample
4/16/81	ARTHROPODA												
	INSECTA												
	DIPTERA												
	Chironomidae												
	Simuliidae												
	<u>Prosimulium sp.</u>												
	<u>Simulium sp.</u>												
	Blephariceridae												
	Blepharicera												
	TRICHOPTERA												
	Hydropsychidae												
	<u>Hydropsyche sp.</u>												
	EPHEMEROPTERA												
	Baetidae												
	<u>Pseudocloeon sp.</u>												
	Heptageniidae												
	<u>Stenacron interpunctatum</u>												
	Ephemerellidae												
	<u>Ephemerella sp.</u>												
	PLECOPTERA												
	Perlidae												
	<u>Acroneuria carolinensis</u>												
	Perlodidae												
	<u>Isoperla richardsoni</u>												
	Nemouridae												
	<u>Amphinemura delosa</u>												
	Taeniopterygidae												
	<u>Brachyptera sp.*</u>												

TABLE 31-1

Physical and Chemical Parameters at

Station 31 - 03541496

Fall Creek near Oxone, Cumberland Co., TN

Date

18-27-81

%Comp.

6.0

0.8

5.9

1.8

0.3

0.8

23.6

1.1

3.3

0.3

1.4

0.8

0.3

Date

6.0

0.8

5.9

1.8

0.3

0.8

23.6

1.1

3.3

0.3

1.4

0.8

0.3

TABLE 31-2

03541496 Fall Creek
Cumberland Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	ODONATA			
	Gomphidae			
	<u>Lanthus parvula*</u>	1	0.3	
	COLEOPTERA			
	Elmidae			
	<u>Optioservus sp.</u>	2	0.5	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Cambarus b. bartonii</u>	1	0.3	
	ISOPODA			
	Asellidae			
	<u>Asellus sp.</u>	43	11.8	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae			
	MOLLUSCA			
	PELECYPODA			
	Sphaeriidae			
	<u>Pisidium sp.</u>	1	0.3	
	TOTALS	364		

SHANNON-WEAVER DIVERSITY = 2.409

BIOTIC INDEX = 2.343, MODERATE ENRICHMENT

TABLE 31-3

03541496 Fall Creek
Cumberland Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/16/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	13	139.9	30.2	
	Simuliidae				
	Simulium sp.	7	75.4	16.3	
	Tipulidae				
	Antocha sp.	2	21.5	4.7	
	Athericidae				
	Atherix variegata	1	10.8	2.3	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	2	21.5	4.7	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	1	10.8	2.3	
	Baetidae				
	Baetis sp.	1	10.8	2.3	
	Pseudocloeon sp.	4	43.1	9.3	
	Ephemerellidae				
	Drunella lata	3	32.3	7.0	
	Serratella deficiens	4	43.1	9.3	
	PLECOPTERA				
	Leuctridae				
	Leuctra ferruginea	1	10.8	2.3	
	Perlodidae				
	Isogenus sp.	2	21.5	4.7	

TABLE 31-3

03541496 Fall Creek
 Cumberland Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	2	21.5	4.7	
	Naididae				
	TOTALS	43	462.9		

SHANNON-WEAVER DIVERSITY = 3.182

TABLE 31-4

03541496 Fall Creek
Cumberland Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/16/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	10	107.6	14.5	
	Simuliidae				
	Simulium sp.	2	21.5	2.9	
	TRICHOPTERA				
	Glossosomatidae				
	Glossosoma sp.	5	53.8	7.2	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	15	161.5	21.7	
	Ephemerellidae				
	Ephemerella lata	8	86.1	11.6	
	E. simplex	11	118.4	15.9	
	E. rotunda	7	75.4	10.1	
	PLECOPTERA				
	Nemouridae				
	Amphinemura delosa	1	10.8	1.4	
	Perlodidae				
	Isoperla sp.	2	21.5	2.9	
	COLEOPTERA				
	Elmidae				
	Optioservus sp.	2	21.5	2.9	

TABLE 31-4

03541496 Fall Creek
Cumberland Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	CRUSTACEA				
	ISOPODA				
	Asellidae				
	<u>Lirceus lineatus</u>	3	32.3	4.3	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	3	32.3	4.3	
	TOTALS	69	742.7		

SHANNON-WEAVER DIVERSITY = 3.201

TABLE 31-5

03541496 Fall Creek
Cumberland Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
4/16/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	22	236.8	19.3	
	Empididae				
	Hemerodromia sp.	1	10.8	0.9	
	Simuliidae				
	Simulium sp.	18	193.8	15.8	
	EPHEMEROPTERA				
	Siphonuridae				
	Ameletus lineatus	1	10.8	0.9	
	Parameletus sp.	1	10.8	0.9	
	Baetidae				
	Pseudocloeon sp.	47	505.9	41.3	
	Ephemerellidae				
	Drunella lata	2	21.5	1.8	
	Ephemerella sp.	4	43.1	3.5	
	Heptageniidae				
	Stenonema rubrum	2	21.5	1.8	
	PLECOPTERA				
	Leuctridae				
	Leuctra sp.	11	118.4	9.7	
	TRICHOPTERA				
	Glossosomatidae				
	Glossosoma sp.	1	10.8	0.9	
	Agapetus sp.	2	21.6	1.8	

TABLE 31-5

03541496 Fall Creek
 Cumberland Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	2	21.6	1.8	
	Naididae				
	TOTALS	114	1227.1		

SHANNON-WEAVER DIVERSITY = 2.5997

TABLE 31-6

03541496 Fall Creek
Cumberland Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
8/27/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	87	31.0	
	<u>Cricotopus</u> sp.	(3)		
	<u>Thienemanniella</u> sp.	(1)		
	<u>Rheocricotopus</u> sp.	(2)		
	<u>Psectrocladius</u> sp.	(1)		
	<u>Procladius</u> sp.	(2)		
	<u>Ablabesmyia mallochi</u>	(2)		
	<u>Conchapelopia</u> sp.	(10)		
	<u>Stictochironomus</u> sp.	(1)		
	<u>Polypedilum convictum</u>	(1)		
	<u>Chironomus</u> sp.	(1)		
	<u>Microtendipes</u> sp.	(4)		
	<u>Microsectra</u> sp.	(2)		
	<u>Rheotanytarsus</u> sp.	(3)		
	<u>Paratendipes "connectens"</u>	(1)		
	Athericidae			
	<u>Atherix variegata</u>	14	5.0	
	Simuliidae			
	<u>Simulium</u> sp.	1	0.4	
	Empididae	2	0.7	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	30	10.7	
	<u>Symphitopsyche sparna</u>	8	2.8	
	<u>Hydropsyche dicantha</u>	1	0.4	

TABLE 31-6

03541496 Fall Creek
Cumberland Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Philopotamidae			
	<u>Chimarra obscura</u>	11	3.9	
	Polycentropodidae			
	<u>Polycentropus sp.</u>	1	0.4	
	EPHEMEROPTERA			
	Oligoneuridae			
	<u>Isonychia sp.</u>	31	11.0	
	Neophemeridae			
	<u>Neophemera purpurea***</u>	4	1.4	
	Caenidae			
	<u>Caenis sp.</u>	11	3.9	
	Baetidae			
	<u>Pseudocloeon sp.</u>	8	2.8	
	<u>Baetis sp.</u>	9	3.2	
	Ephemeridae			
	<u>Hexagenia atrocaudata</u>	1	0.4	
	Heptageniidae			
	<u>Stenonema pudicum</u>	1	0.4	
	<u>S. integrum</u>	2	0.7	
	<u>S. annexum</u>	2	0.7	
	<u>S. tripunctatum</u>	8	2.8	
	PLECOPTERA			
	Perlidae			
	<u>Acroneuria abnormis</u>	3	1.1	
	<u>A. ruralis</u>	12	4.3	

TABLE 31-6

03541496 Fall Creek
Cumberland Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	HEMIPTERA			
	Veliidae			
	<u>Rhagovelia</u> sp.	1	0.4	
	Gerridae			
	<u>Rheumobates</u> sp.	1	0.4	
	ODONATA			
	Ischnuridae			
	<u>Ischnura</u> sp.			
	Coenagrionidae			
	<u>Argia</u> sp.	1	0.4	
	Gomphidae			
	<u>Lanthus parvula</u>	2	0.7	
	COLEOPTERA			
	Psephenidae			
	<u>Psephenus herricki</u>	1	0.4	
	Elmidae			
	<u>Stenelmis</u> sp. (larvae)	8	2.8	
	<u>Stenelmis concinna</u>	4	1.4	
	<u>Optioservus</u> sp. (larvae)	3	1.1	
	<u>Optioservus immunis</u>	1	0.4	
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	1	0.4	
	CRUSTACEA			
	ISOPODA			
	Asellidae			
	<u>Lirceus fontinalis</u>	7	2.5	

TABLE 31-6

03541496 Fall Creek
Cumberland Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA	3	1.1	
	Naididae			
	TOTALS	281		

SHANNON-WEAVER DIVERSITY = 4.847

BIOTIC INDEX = 2.091, SOME ENRICHMENT

TABLE 31-7

03541496 Fall Creek
Cumberland Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/27/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	54	581.3	18.1	
	Athericidae				
	<u>Atherix nr. variegata</u>	22	236.8	7.4	
	Simuliidae				
	<u>Simulium</u> sp.	1	10.8	0.3	
	TRICHOPTERA				
	Hydroptilidae				
	<u>Hydroptila</u> sp.	1	10.8	0.3	
	Rhyacophilidae				
	<u>Rhyacophila ledra</u>	1	10.8	0.3	
	Philopotamidae				
	<u>Chimarra obscura</u>	4	43.1	1.3	
	Hydropsychidae				
	<u>Cheumatopsyche</u> sp.	33	355.2	11.0	
	<u>Hydropsyche</u> sp.	2	21.5	0.7	
	Leptoceridae				
	<u>Ceraclea flavus***</u>	1	10.8	0.3	
	EPHEMEROPTERA				
	Oligoneuridae				
	<u>Isonychia</u> sp.	13	139.9	4.3	
	Caenidae				
	<u>Caenis</u> sp.	25	269.1	8.4	

TABLE 31-7

03541496 Fall Creek
Cumberland Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No. /m	%Comp.	Sample
	Neophemeridae				
	<u>Neophemera purpurea***</u>	1	10.8	0.3	
	Baetidae				
	<u>Baetis</u> sp.	6	64.6	2.0	
	<u>Pseudocloeon</u> sp.	4	43.1	1.3	
	Heptageniidae				
	<u>Stenonema</u> sp.	61	656.6	20.4	
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria ruralis</u>	9	96.9	3.0	
	HEMIPTERA				
	Gerridae				
	<u>Eobates</u> sp.	1	10.8	0.3	
	ODONATA				
	Gomphidae				
	<u>Lanthus parvula</u>	4	43.1	1.3	
	Aeshnidae				
	(early instar)	1	10.8	0.3	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	5	53.8	1.7	
	Elmidae				
	<u>Promoresia elegans</u>	1	10.8	0.3	
	<u>Optioservus</u> sp.	2	21.5	0.7	
	<u>Optioservus ampliatus</u>	1	10.8	0.3	
	<u>Stenelmis concinna</u>	2	21.5	0.7	
	<u>Microcylloepus pusillus</u>	11	118.4	3.7	
	<u>M. pusillus</u> (a.)	6	64.6	2.0	

TABLE 31-7

03541496 Fall Creek
Cumberland Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	1	10.8	0.3	
	CRUSTACEA				
	ISOPODA				
	Asellidae				
	<u>Lirceus fontinalis</u>	3	32.3	1.0	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	23	247.6	7.7	
	TOTALS	299	3218.5		

SHANNON-WEAVER DIVERSITY = 3.711

TABLE 31-8

03544960 Fall Creek
Cumberland Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/27/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	17	183.0	13.4	
	Athericidae				
	<u>Atherix variegata</u>	5	53.8	3.9	
	Simuliidae				
	<u>Simulium</u> sp.	4	43.1	3.1	
	TRICHOPTERA				
	Philopotamidae				
	<u>Chimarra obscura</u>	2	21.5	1.6	
	Hydropsychidae				
	<u>Cheumatopsyche</u> sp.	22	236.8	17.3	
	<u>Hydropsyche dicantha</u>	2	21.5	1.6	
	Hydroptilidae				
	<u>Hydroptila</u> sp.	1	10.8	0.8	
	EPHEMEROPTERA				
	Heptageniidae				
	<u>Stenonema</u> sp.	19	204.5	15.0	
	<u>S. tripunctatum</u>	3	32.3	2.4	
	<u>S. nepotellum</u>	1	10.8	0.8	
	<u>Stenacron gildersleevei</u>	3	32.3	2.4	
	Caenidae				
	<u>Caenis</u> sp.	6	64.6	4.7	
	Baetidae				
	<u>Pseudocloeon</u> sp.	2	21.5	1.6	
	<u>Baetis brunneicolor</u>	4	43.1	3.1	

TABLE 31-8

03544960 Fall Creek
Cumberland Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Oligoneuridae				
	<u>Isonychia</u> sp.	10	107.6	7.9	
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria abnormis</u>	2	21.5	1.6	
	ODONATA				
	Gomphidae				
	<u>Lanthus parvula</u>	1	10.8	0.8	
	Coenagrionidae				
	<u>Argia</u> sp.	2	21.5	1.6	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	1	10.8	0.8	
	Elmidae				
	<u>Stenelmis</u> sp.	3	32.3	2.4	
	<u>Optioservus</u> sp.	4	43.1	3.1	
	<u>Optioservus ovalis</u>	5	53.8	3.9	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	8	86.1	6.3	
	TOTALS	127	1367.1		

SHANNON-WEAVER DIVERSITY = 3.898

TABLE 31-9

03541496 Fall Creek
Cumberland Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/27/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	36	387.5	22.2	
	Ceratopogonidae				
	<u>Atrichopogon sp.</u>	2	21.5	1.2	
	Athericidae				
	<u>Atherix variegata</u>	8	86.1	4.9	
	TRICHOPTERA				
	Rhyacophilidae				
	<u>Rhyacophila sp.</u>	2	21.5	1.2	
	Hydropsychidae				
	<u>Cheumatopsyche sp.</u>	9	96.9	5.6	
	<u>Symphitopsyche sparna</u>	13	139.9	8.0	
	EPHEMEROPTERA				
	Oligoneuridae				
	<u>Isonychia sp.</u>	10	107.6	6.2	
	Caenidae				
	<u>Caenis sp.</u>	8	86.1	4.9	
	Neophemeridae				
	<u>Neophemera sp.***</u>	1	10.8	0.6	
	Baetidae				
	<u>Pseudocloeon sp.</u>	5	53.8	3.1	
	<u>Baetis sp.</u>	2	21.5	1.2	
	Heptageniidae				
	<u>Stenonema sp.</u>	20	215.3	12.3	
	<u>Stenonema rubromaculatum</u>	3	32.3	1.9	
	<u>S. nr. carolina</u>	2	21.5	1.2	

TABLE 31-9

03541496 Fall Creek
Cumberland Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria ruralis</u>	3	32.3	1.9	
	<u>A. abnormis***</u>	1	10.8	0.6	
	ODONATA				
	Gomphidae				
	<u>Lanthus parvula</u>	7	75.4	4.3	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	1	10.8	0.6	
	Elmidae				
	<u>Optioservus sp.</u>	3	32.3	1.9	
	<u>Stenelmis concinna</u>	2	21.5	1.6	
	CRUSTACEA				
	ISOPODA				
	Asellidae				
	<u>Lirceus fontinalis</u>	9	96.9	5.6	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	15	161.5	9.3	
	TOTALS	162	1743.8		
	SHANNON-WEAVER DIVERSITY = 3.802				

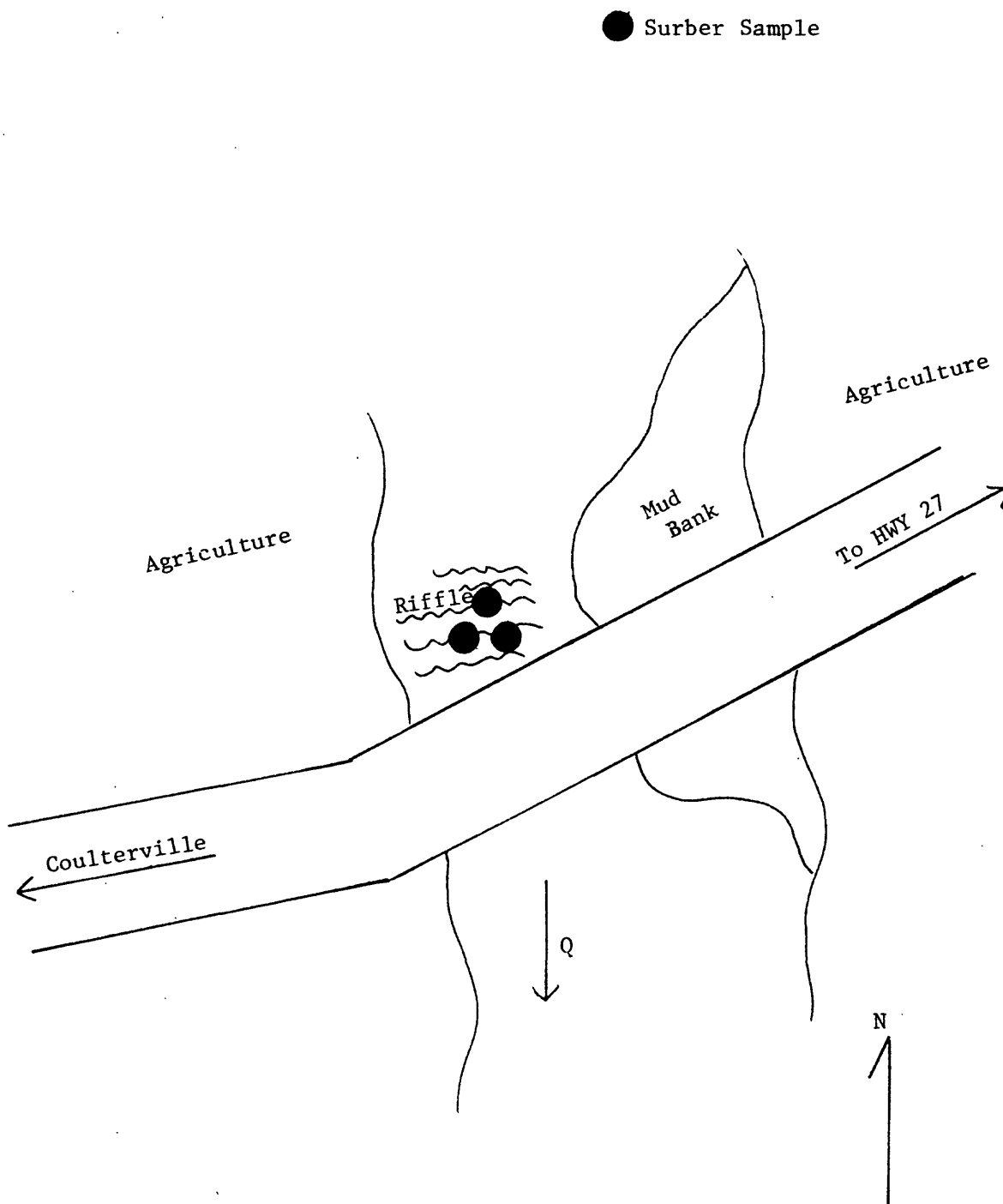


FIGURE 32-1. Station 32 - 03566292 - Sale Creek near Sale Creek, TN

TABLE 32-1
Physical and Chemical Parameters at
Station 32 - 03566292
Sale Creek near Sale Creek, Hamilton Co., TN

Parameter	Date	
	6-12-81	9-17-81
Water Temperature	19°C	d
Dissolved Oxygen	9.3 mg/L	
pH	5.8	
Conductivity	70 umhos/cm	
Stream Width	7.9 m	
Average Stream Depth	39.6 cm	
Average Stream Velocity	0.76 m/sec	
Discharge	1.89 m ³ /sec	
Cover (% Shaded)	80%	
Substrate	Gravel and medium cobble	

d Dry Station

TABLE 32-2

0356692 Sale Creek
Rhea Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
6/12/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	27	77.1	
	Brillia sp.	(1)		
	Psectrocladius sp.	(2)		
	Thienemanniella sp.	(1)		
	Paratendipes sp.	(1)		
	Microtendipes sp.	(3)		
	Phaenopsectra flavipes	(3)		
	Ablabesmyia mallochi	(1)		
	Pentaneura sp.	(1)		
	Chironomus sp.	(2)		
	Tanytarsus sp.	(3)		
	EPHEMEROPTERA			
	Baetidae			
	Pseudocloeon sp.	3	8.6	
	CRUSTACEA			
	AMPHIPODA			
	Gammaridae			
	Gammarus minus	1	2.9	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	4	11.4	

TOTALS

35

SHANNON-WEAVER DIVERSITY = 3.531

BIOTIC INDEX = 2.443, MODERATE ENRICHMENT

TABLE 32-3

03566292 Sale Creek
Hamilton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No. /m ²	%Comp.	Sample
6/12/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	49	527.4	89.1	
	Simuliidae				
	Simulium sp.	2	21.5	3.6	
	EPHEMEROPTERA				
	Baetidae				
	Pseucocloeon sp.	3	32.3	5.5	
	PLECOPTERA				
	Perlodidae				
	Isoperla sp.	1	10.8	1.8	
	TOTALS	55	592.0		

SHANNON-WEAVER DIVERSITY = 0.6563

TABLE 32-4

03566292 Sale Creek
Rhea Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No. /m ²	%Comp.	Sample
6/12/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	105	1130.2	64.0	
	Simuliidae	22	236.8	13.4	
	Simulium sp.				
	Tipulidae				
	Limnophora sp.	12	129.2	7.3	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	7	75.4	4.3	
	PLECOPTERA				
	Leuctridae				
	Leuctra ferruginea	5	53.8	3.0	
	COLEOPTERA				
	Dytiscidae				
	Hydrophorus sp.**	1	10.8	0.6	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	12	236.8	7.3	
	TOTALS	164	1765.3		

SHANNON-WEAVER DIVERSITY = 1.745

TABLE 32-5

03566292 Sale Creek
Rhea Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/12/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	123	1324.0	84.2	
	Ceratopogonidae				
	<u>Bezzia-Probezzia</u> sp.	1	10.8	0.7	
	Empididae	6	64.6	4.1	
	Simuliidae				
	<u>Simulium</u> sp.	2	21.5	1.4	
	EPHEMEROPTERA				
	Baetidae				
	<u>Pseudocloeon</u> sp.	5	53.8	3.4	
	PLECOPTERA				
	Nemouridae				
	<u>Amphinemura</u> <u>nigritta</u>	1	10.8	0.7	
	Chloroperlidae				
	<u>Hastaperla</u> <u>brevis</u>	1	10.8	0.7	
	COLEOPTERA				
	Dytiscidae				
	<u>Hydrophorus</u> sp.	1	10.8	0.7	
	Hydrophilidae				
	<u>Helophorus</u> sp.	1	10.8	0.7	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	15	161.5	10.3	
TOTALS		146	7571.8		

SHANNON-WEAVER DIVERSITY = 0.740

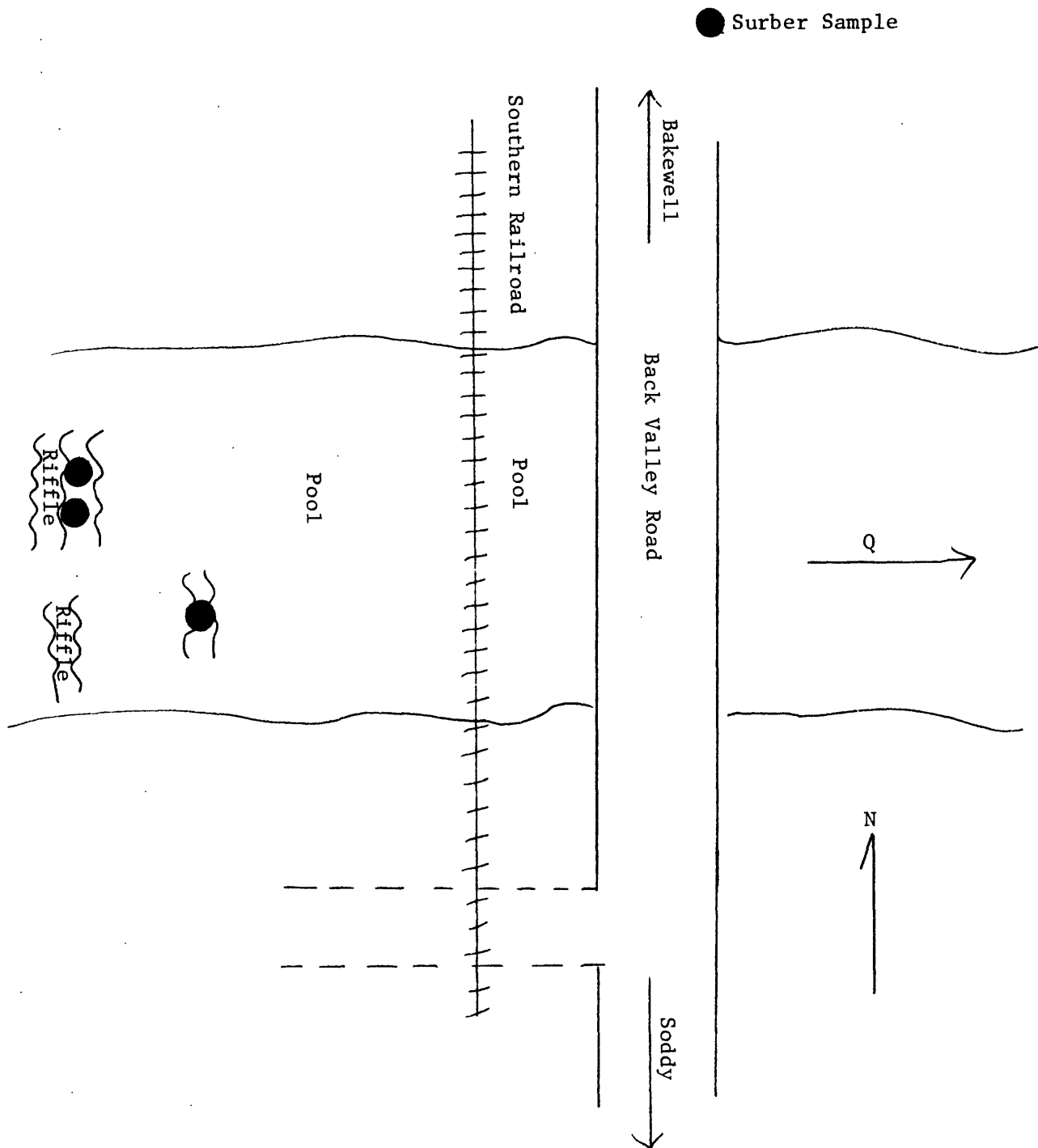


FIGURE 33-1. Station 33 - 03566400 - Soddy Creek near Soddy, TN

TABLE 33-1

Physical and Chemical Parameters at

Station 33 - 03566400

Soddy Creek at Soddy, Hamilton Co., TN

Parameter	Date	
	6-12-81	9-17-81
Water Temperature	21°C	21°C
Dissolved Oxygen	9.6 mg/L	9.4 mg/L
pH	5.6	6.0
Conductivity	45 umhos/cm	85 umhos/cm
Stream Width	5.5 m	1.8 m
Average Stream Depth	109.7 cm	9.3 cm
Average Stream Velocity	1.02 m/sec	0.51 m/sec
Discharge	4.84 m ³ /sec	0.07 m ³ /sec
Cover (% Shaded)	30%	10%
Substrate	Medium to large cobble and boulders	

Fe(OH)₃ precipitate around seepage springs; white precipitate also apparent on substrate.

TABLE 33-2

03566400 Soddy Creek
Hamilton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
6/12/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA	44	97.8	
	Chironomidae			
	MEGALOPTERA			
	Corydalidae			
	<u>Nigronia serricornis</u>	1	2.2	
	TOTALS	45		

SHANNON-WEAVER DIVERSITY = 0.154

BIOTIC INDEX = 2.978, MODERATE ENRICHMENT

TABLE 33-3

03566400 Soddy Creek
Hamilton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/12/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	31	333.7	96.9	
	MEGALOPTERA				
	Sialidae	1	10.8	3.10	
	<u>Sialis</u> sp.				
	TOTALS	32	344.5		

SHANNON-WEAVER DIVERSITY = 0.201

TABLE 33-4

03566400 Soddy Creek
Hamilton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/12/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	20	215.3	95.2	
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra</u> sp.	1	10.8	4.8	
	TOTALS	21	226.1		

SHANNON-WEAVER DIVERSITY = 0.276

TABLE 33-5

03566400 Soddy Creek
Hamilton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/12/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	6	64.6	50	
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra</u> sp.	6	64.6	50	
	TOTALS	12	129.2		

SHANNON-WEAVER DIVERSITY = 1.000

TABLE 33-6

03566400 Soddy Creek
Hamilton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/17/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	54	87.1	
	Tipulidae			
	Hexatoma sp.	1	1.6	
	HEMIPTERA			
	Veliidae			
	Rhagovelia sp.	1	1.6	
	Gerridae			
	Eobates sp.**	1	1.6	
	COLEOPTERA			
	Elmidae			
	Stenelmis concinna	1	1.6	
	MEGALOPTERA			
	Sialidae			
	Sialis sp.	1	1.6	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	3	4.8	
	TOTALS	62		

SHANNON-WEAVER DIVERSITY = 0.865

BIOTIC INDEX = 2.903, MODERATE ENRICHMENT

TABLE 33-7

03566400 Soddy Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	46	495.2	100	
	TOTALS	46	495.2		

SHANNON-WEAVER DIVERSITY = 0.000

TABLE 33-8

03566400 Soddy Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA INSECTA DIPTERA Chironomidae	10	107.6	100	Surber 2
	TOTALS	10	107.6		

SHANNON-WEAVER DIVERSITY = 0.000

TABLE 33-9

03566400 Soddy Creek
Morgan Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA INSECTA DIPTERA Chironomidae	26	279.9	100	Surber 3
	TOTALS	26	279.9		

SHANNON-WEAVER DIVERSITY = 0.000

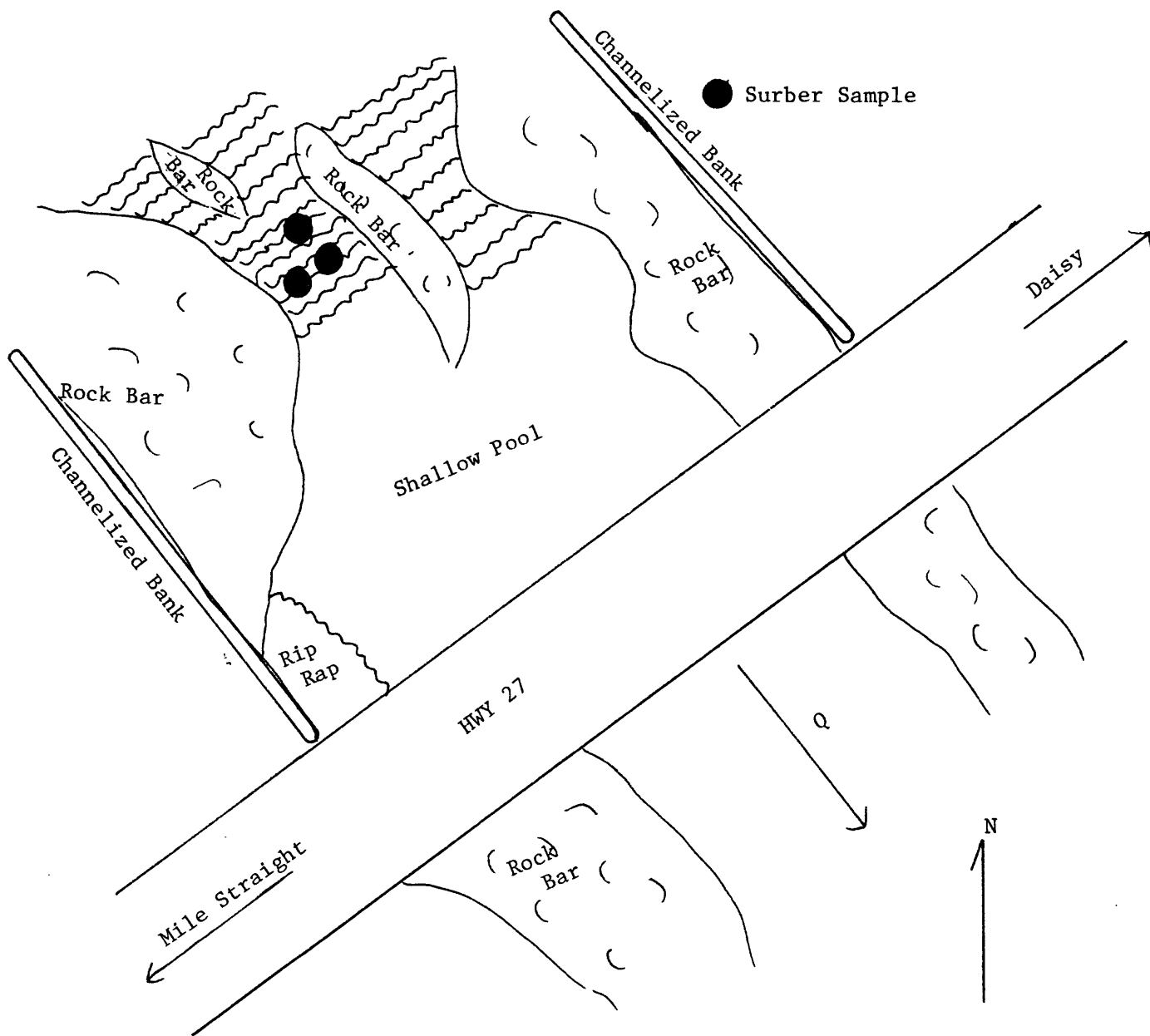


FIGURE 34-1. Station 34 - 03566530 - North Chickamauga Creek at Daisy, TN

TABLE 34-1

Physical and Chemical Parameters at

Station 34 - 03566530

North Chickamauga Creek near Daisy, Hamilton Co., TN

Parameter	Date	
	6-12-81	9-17-81
Water Temperature	21 ^o C	d
Dissolved Oxygen	9.7	
pH	4.7	
Conductivity	29 umhos/cm	
Stream Width	18.3	
Average Stream Depth	7.0 cm	
Average Stream Velocity	0.30 m/sec	
Discharge	0.31 m /sec	
Cover (% Shaded)	<5%	
Substrate	Medium to large rounded cobble	

Extensive channelization of stream bed.

d Dry station

TABLE 34-3

03566530 Chickamauga Creek
 Hamilton Co., TN
 BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/12/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	18	193.8	94.7	
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria xanthenes</u>	1	10.8	5.3	
	TOTALS	19	204.5		

SHANNON-WEAVER DIVERSITY = 0.2975

TABLE 34-4

03566530 Chickamauga Creek
Hamilton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/12/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	8	86.1	38.1	
	Simuliidae				
	<u>Simulium</u> sp.	1	10.8	4.8	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	1	10.8	4.8	
	Heptageniidae				
	<u>Stenonema interpunctatum</u>	1	10.8	4.8	
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra</u> sp.	3	32.3	14.3	
	CRUSTACEA				
	AMPHIPODA				
	Gammaridae				
	<u>Gammarus fasciatus</u>	1	10.8	4.8	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	6	64.6	28.6	
TOTALS		21	226.0		

SHANNON-WEAVER DIVERSITY = 1.7316

TABLE 34-5

03566530 Chickamauga Creek
Hamilton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/12/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	56	602.8	96.6	
	PLECOPTERA				
	Capniidae				
	<u>Allocapnia</u> sp.	2	21.5	3.5	
	TOTALS	58	624.3		

SHANNON-WEAVER DIVERSITY = 0.2164

● Surber Sample

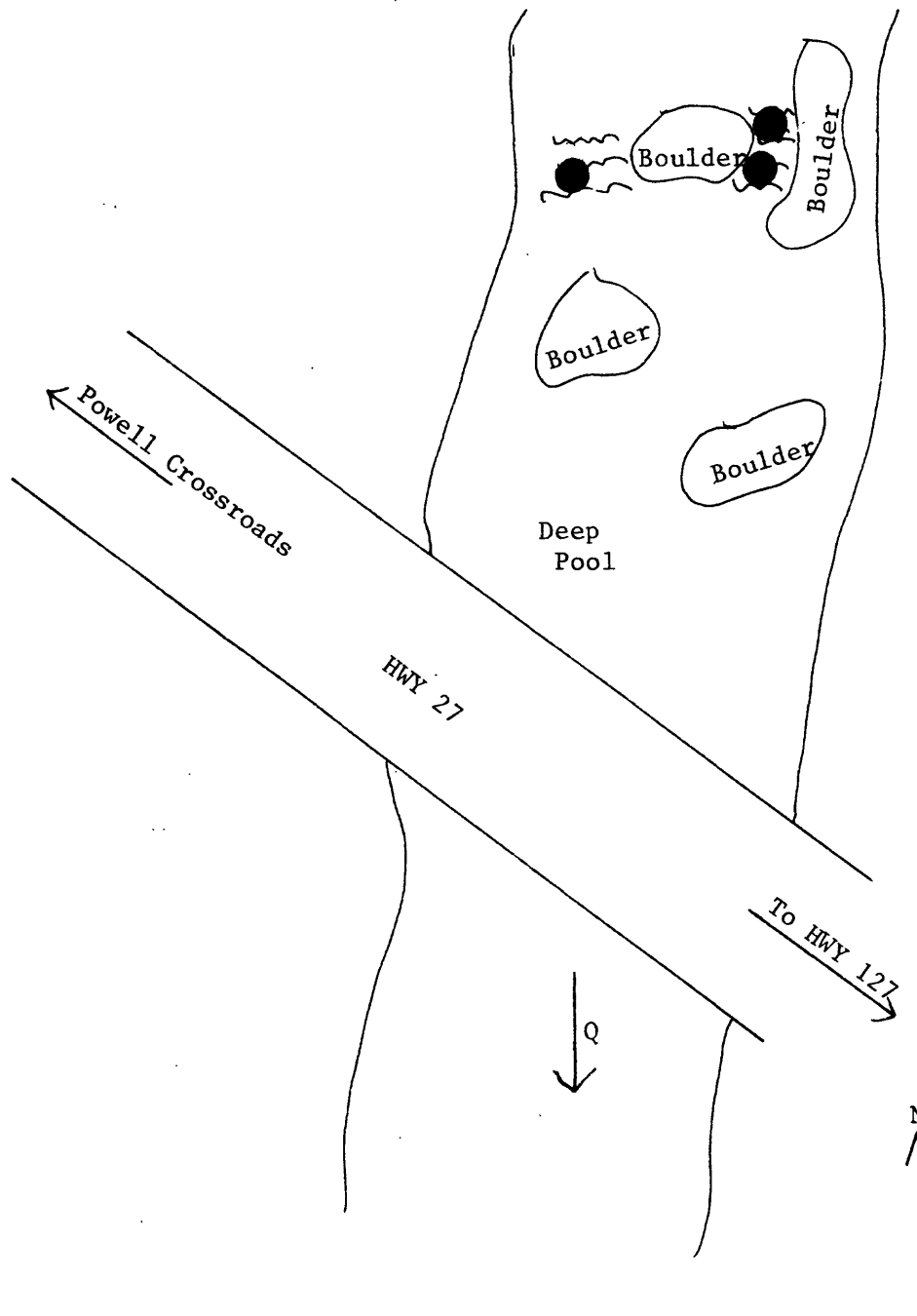


FIGURE 35-1. Station 35 - 03569245 - Suck Creek near Chattanooga, TN

TABLE 35-1

Physical and Chemical Parameters at

Station 35 - 03569245

Suck Creek near Chattanooga, Hamilton Co., TN

Parameter	Date	
	6-12-81	9-17-81
Water Temperature	18°C	20°C
Dissolved Oxygen	9.0 mg/L	8.8 mg/L
pH	4.2	4.5
Conductivity	65 umhos/cm	198 umhos/cm
Stream Width	13.7 m	*
Average Stream Depth	8.4 cm	*
Average Stream Velocity	0.25 m/sec	*
Discharge	0.23 m ³ /sec	*
Cover (% Shaded)	60%	80%
Substrate	Small to large cobble and boulders	

* Parameter not determined. Low discharge prevented accurate measurement.

TABLE 35-2

03569245 Suck Creek
Hamilton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
6/12/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	46	78.0	
	<u>Cricotopus</u> sp.	(1)		
	<u>Psectrocladius</u> sp.	(1)		
	<u>Thienemanniella</u> sp.	(2)		
	<u>Parametriocnemus</u> sp.	(5)		
	<u>Eukiefferiella</u> sp.	(8)		
	nr. <u>Oliverida</u> sp.	(2)		
	<u>Limnophyes</u> sp.	(1)		
	<u>Polypedilum illinoense</u>	(1)		
	<u>Tanytarsus</u> sp.	(5)		
	Geratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	1	1.7	
	Simuliidae			
	<u>Simulium</u> sp.	2	3.4	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	2	3.4	
	PLECOPTERA			
	Leuctridae			
	<u>Leuctra</u> sp.	2	3.4	

TABLE 35-2

03569245 Suck Creek
Hamilton Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	CRUSTACEA			
	ISOPODA			
	Asellidae			
	<u>Lirceus fontinalis</u>	6	10.2	
	TOTALS	59		

SHANNON-WEAVER DIVERSITY = 3.340

BIOTIC INDEX = 2.618, MODERATE ENRICHMENT

TABLE 35-3

03569245 Suck Creek
Hamilton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/12/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	153	1646.9	71.8	
	Tipulidae				
	(immature)	1	10.8	0.5	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	5	53.8	2.3	
	Hydropsyche betteni	1	10.8	0.5	
	PLECOPTERA				
	Leuctridae				
	Leuctra ferruginea	14	150.7	6.6	
	Nemouridae				
	Amphinemura delosa	1	10.8	0.5	
	CRUSTACEA				
	ISOPODA				
	Asellidae				
	Lirceus fontinalis	14	150.7	6.6	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	24	258.3	11.3	
TOTALS					2292.8

TABLE 35-4

03569245 Suck Creek
Hamilton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m	%Comp.	Sample
6/12/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	48	516.5	85.7	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	6	64.6	10.7	
	Hydropsyche betteni	1	10.8	1.8	
	PLECOPTERA				
	Nemouridae				
	<u>Amphinemura delosa</u>	1	10.8	1.8	
	TOTALS	56	602.6		

SHANNON-WEAVER DIVERSITY = 0.743

TABLE 35-5

03569245 Suck Creek
Hamilton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/12/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	84	903.8	90.4	
	Tipulidae				
	Antocha sp.	1	10.8	1.1	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	3	32.3	3.2	
	EPHEMEROPTERA				
	Baetidae				
	Pseudocloeon sp.	1	10.8	1.1	
	PLECOPTERA				
	Leuctridae				
	Leuctra ferruginea	3	32.3	3.2	
	CRUSTACEA				
	ISOPODA				
	Asellidae				
	Lirceus fontinalis	2	21.5	2.1	
	TOTALS	94	1011.4		

SHANNON-WEAVER DIVERSITY = 0.720

TABLE 35-6

03569245 Suck Creek
Marion Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/17/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	42	49.4	
	Pseudorthocladus sp.	(11)		
	Parametriocnemus sp.	(7)		
	Cricotopus sp.	(4)		
	Conchapelopia sp.			
	Tanytarsus sp.	(5)		
	TRICHOPTERA			
	Hydropsychidae			
	Diplectrona metaqui	5	5.9	
	Cheumatopsyche sp.	1	1.2	
	Rhyacophilidae			
	Rhyacophila sp.	6	7.1	
	EPHEMEROPTERA			
	Baetidae			
	Baetis sp.	4	4.7	
	Heptageniidae			
	Stenonema sp.	1	1.2	
	PLECOPTERA			
	Leuctridae			
	Leuctra ferruginea	10	11.8	
	MEGALOPTERA			
	Sialidae			
	Sialis sp.	1	1.2	

TABLE 35-6

03569245 Suck Creek
Marion Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	Cambarus sp.	1	1.2	
	AMPHIPODA			
	Gammaridae			
	Gammarus sp.	1	1.2	
	ISOPODA			
	Asellidae			
	Lirceus fontinalis	12	14.1	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	1	1.2	
	TOTALS	85		

SHANNON-WEAVER DIVERSITY = 3.484

BIOTIC INDEX = 2.367, MODERATE ENRICHMENT

TABLE 35-7

03569245 Suck Creek
Hamilton Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	20	215.3	43.5	
	TRICHOPTERA				
	Hydropsychidae				
	<u>Potamyia flava</u>	9	96.9	19.6	
	EPHEMEROPTERA				
	Baetidae				
	<u>Baetis sp.</u>	1	10.8	2.2	
	<u>Pseudocloeon sp.</u>	1	10.8	2.2	
	Heptageniidae				
	<u>Stenonema pudicum</u>	1	10.8	2.2	
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra ferruginea</u>	7	75.4	15.2	
	Chloroperlidae				
	<u>Hastaperla brevis</u>	1	10.8	2.2	
	COLEOPTERA				
	Elmidae				
	<u>Stenelmis sp.</u>	1	10.8	2.2	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	2	21.5	4.3	

TABLE 35-7

03569245 Suck Creek
Hamilton Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	CRUSTACEA				
	ISOPODA				
	Asellidae				
	<u>Lirceus fontinalis</u>	3	32.3	6.5	
	TOTALS	46	495.2		

SHANNON-WEAVER DIVERSITY = 2.450

TABLE 35-8

03569245 Suck Creek
Marion Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	67	721.2	63.8	
	Ceratopogonidae				
	Atrichopogon sp.	2	21.5	1.9	
	TRICHOPTERA				
	Hydropsychidae				
	Hydropsyche sp.	6	64.6	5.7	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	1	10.8	1.0	
	PLECOPTERA				
	Leuctridae				
	Leuctra ferruginea	6	64.6	5.7	
	CRUSTACEA				
	ISOPODA				
	Asellidae				
	Lirceus fontinalis	11	118.4	10.5	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	12	129.2	11.4	
	TOTALS	105	1130.2		

SHANNON-WEAVER DIVERSITY = 1.757

TABLE 35-9

03569245 Suck Creek
Marion Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m	%Comp.	Sample
9/17/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	13	139.9	44.8	
	TRICHOPTERA				
	Polycentropodidae				
	<u>Neureclipsis crepuscularis</u>	5	53.8	17.2	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	3	32.3	10.3	
	PLECOPTERA				
	Leuctridae				
	<u>Leuctra ferruginea</u>	2	21.5	6.9	
	MEGALOPTERA				
	Sialidae				
	Sialis sp.	1	10.8	3.4	
	Corydalidae				
	<u>Nigronia serricornis</u>	1	10.8	3.4	
	CRUSTACEA				
	ISOPODA				
	Asellidae				
	<u>Lirceus fontinalis</u>	3	32.3	10.3	
	DECAPODA				
	Astacidae				
	<u>Cambarus sp.</u>	1	10.8	3.4	
	TOTALS	29	312.2		

SHANNON-WEAVER DIVERSITY = 2.402

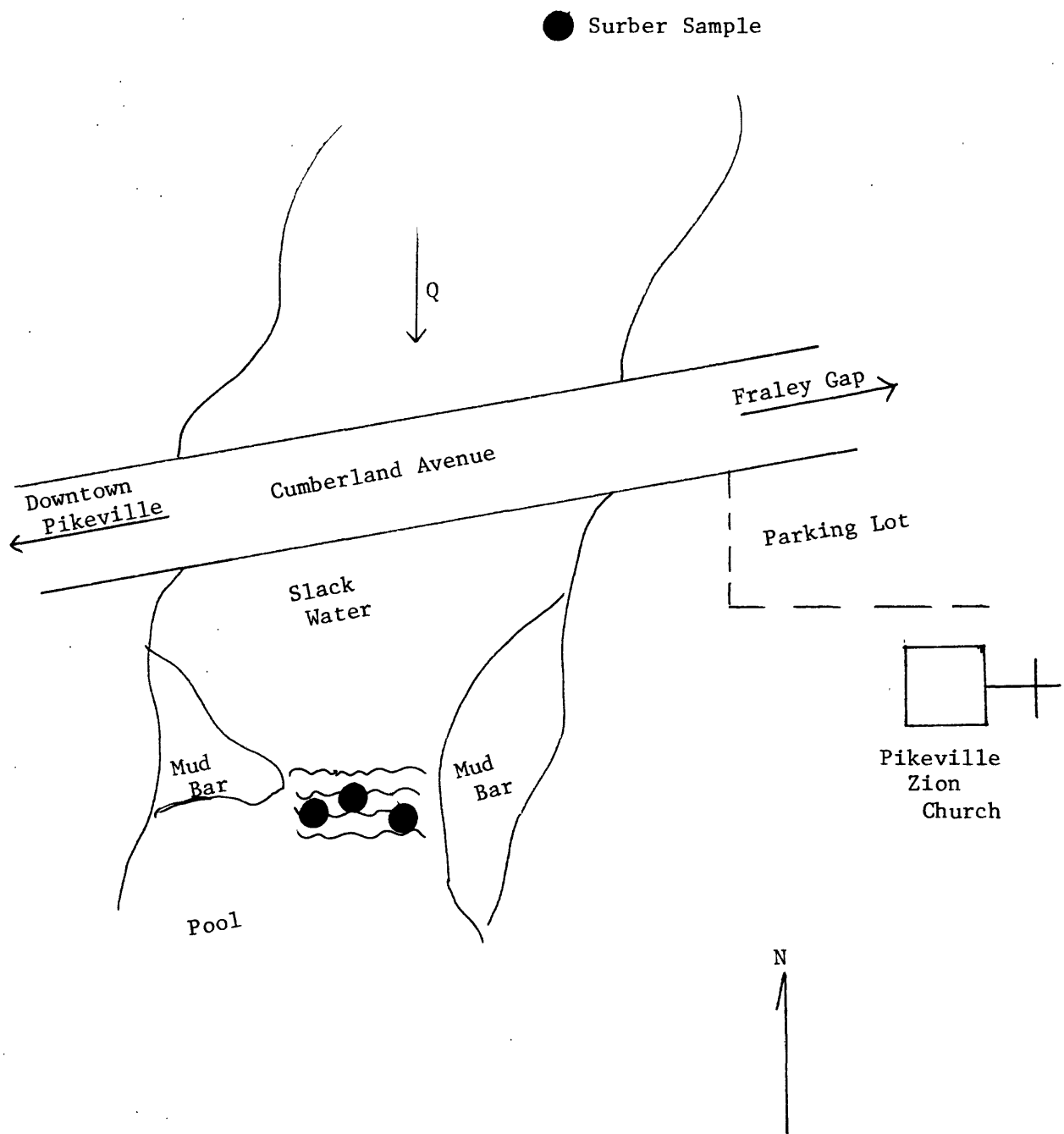


FIGURE 36-1. Station 36 - 03570602 - Sequatchie River near Pikeville, TN

TABLE 36-1

Physical and Chemical Parameters at

Station 36 - 03570602

Sequatchie River at Pikeville, Bledsoe Co., TN

Parameter	Date
	8-25-81
Water Temperature	22°C
Dissolved Oxygen	8.8 mg/L
pH	7.5
Conductivity	230 umhos/cm
Stream Width	8.8 m
Average Stream Depth	13.3 cm
Average Stream Velocity	0.81 m/sec
Discharge	0.76 m ³ /sec
Cover (% Shaded)	70%
Substrate	Gravel predominant

High flow prevented spring sampling.

Sample was taken upstream of USGS Gage.

TABLE 36-2

03570602 Sequatchie River
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
8/25/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	86	58.9	
	<u>Microtendipes</u> sp.	(1)		
	<u>Stenochironomus</u> sp.	(3)		
	<u>Cryptochironomus fulvus</u>	(2)		
	<u>Parametriocnemus</u> sp.	(1)		
	<u>Gricotopus</u> sp.	(1)		
	<u>Conchapelopia</u> sp.	(8)		
	<u>Tanytarsus</u> sp.	(2)		
	Tipulidae			
	<u>Erioptera</u> sp.	1	0.7	
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	1	0.7	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	1	0.7	
	EPHEMEROPTERA			
	Ephemeridae			
	<u>Hexagenia atrocaudata</u>	3	2.1	
	Baetidae			
	<u>Baetis brunneicolor</u>	4	2.7	
	Caenidae			
	<u>Caenis</u> sp.	4	2.7	

TABLE 36-2

03570602 Sequatchie River
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	ODONATA			
	Ischnuridae			
	<u>Ischnura sp.</u>	1	0.7	
	COLEOPTERA			
	Dryopidae			
	<u>Helichus sp.</u>	2	1.4	
	Elmidae			
	<u>Optioservus sp.</u>	3	2.1	
	<u>Dubiraphia sp.</u>	1	0.7	
	<u>Stenelmis sp.</u>	7	4.8	
	Gyrinidae			
	<u>Dineutus sp.***</u>	3	2.1	
	MEGALOPTERA			
	Corydalidae			
	<u>Corydalus cornatus</u>	1	0.7	
	Sialidae			
	<u>Sialis sp.</u>	1	0.7	
	CRUSTACEA			
	ISOPODA			
	Asellidae			
	<u>Lirceus fontinalis</u>	1	0.7	
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	<u>Corbicula manilensis</u>	11	7.5	

TABLE 36-2

03570602 Sequatchie River
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	GASTROPODA			
	MESOGASTROPODA			
	Pleuroceridae			
	<u>Goniobasis (Mudalia) sp.</u>	2	1.4	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	13	8.9	
	TOTALS	146		

SHANNON-WEAVER DIVERSITY = 3.829

BIOTIC INDEX = 3.107, SIGNIFICANT ENRICHMENT

TABLE 36-3

03570602 Sequatchie River
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/25/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	44	473.6	17.0	
	Empididae	3	32.3	1.2	
	Tipulidae				
	Antocha sp.	1	10.8	0.4	
	Tabanidae				
	Tabanus sp.	1	10.8	0.4	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	4	43.1	1.5	
	Limnephilidae				
	Hydatophylax argus**	1	10.8	0.4	
	EPHEMEROPTERA				
	Caenidae				
	Caenis sp.	7	75.4	2.7	
	Oligoneuridae				
	Isonychia sp.	1	10.8	0.4	
	Baetidae				
	Baetis brunneicolor	3	32.3	1.2	
	Heptageniidae				
	Stenonema sp.	1	10.8	0.4	
	Stenonema annexum	1	10.8	0.4	
	COLEOPTERA				
	Psephenidae				
	Psephenus herricki	1	10.8	0.4	

TABLE 36-3

03570602 Sequatchie River
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Elmidae				
	Stenelmis sp.	9	96.9	3.5	
	<u>Stenelmis crenata</u>	1	10.8	0.4	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	18	193.8	6.9	
	GASTROPODA				
	BASOMMATOPHORA				
	Ancylidae				
	Laevipex sp.	72	775.0	27.8	
	MESOGASTROPODA				
	Pleuroceridae				
	Anculosa sp.	1	10.8	0.4	
	<u>Goniobasis (Mudalia) sp.</u>	90	968.8	34.7	
	TOTALS	259	2787.9		

SHANNON-WEAVER DIVERSITY = 2.575

TABLE 36-4

03570602 Sequatchie River
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/25/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	36	387.5	34.6	
	Empididae	4	43.1	3.8	
	EPHEMEROPTERA				
	Caenidae				
	<u>Caenis</u> sp.	12	129.2	11.5	
	Oligoneuridae				
	<u>Isonychia</u> sp.	1	10.8	1.0	
	Baetidae				
	<u>Baetis brunneicolor</u>	2	21.5	1.9	
	COLEOPTERA				
	Elmidae				
	<u>Stenelmis</u> sp.	23	247.6	22.1	
	<u>Stenelmis crenata</u>	4	43.1	3.8	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	1	10.8	1.0	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	4	43.1	3.8	

TABLE 36-4

03570602 Sequatchie River
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	<u>Goniobasis (Mudalia) sp.</u>	13	139.9	12.5	
	BASOMMATOPHORA				
	Ancylidae				
	<u>Laevipex sp.</u>	2	21.5	1.9	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	2	21.5	1.9	
	TOTALS	104	1119.6		

SHANNON-WEAVER DIVERSITY = 2.746

TABLE 36-5

03570602 Sequatchie River
Bledsoe Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
8/25/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	61	656.6	53.0	
	Empididae				
	<u>Hemerodromia sp.</u>	2	21.5	1.7	
	TRICHOPTERA				
	Hydropsychidae				
	<u>Cheumatopsyche sp.</u>	1	10.8	0.9	
	EPHEMEROPTERA				
	Caenidae				
	<u>Caenis sp.</u>	3	32.3	2.6	
	Oligoneuridae				
	<u>Isonychia sp.</u>	1	10.8	0.9	
	Baetidae				
	<u>Baetis sp.</u>	3	32.3	2.6	
	COLEOPTERA				
	Elmidae				
	<u>Stenelmis sp.</u>	24	258.3	20.9	
	<u>Stenelmis concinna</u>	1	10.8	0.9	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	16	172.2	13.9	

TABLE 36-5

03570602 Sequatchie River
 Bledsoe Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	<u>Mudalia</u> (Goniobasis) sp.	3	32.3	2.6	
	TOTALS	115	1237.9		

SHANNON-WEAVER DIVERSITY = 2.045

● Surber Sample

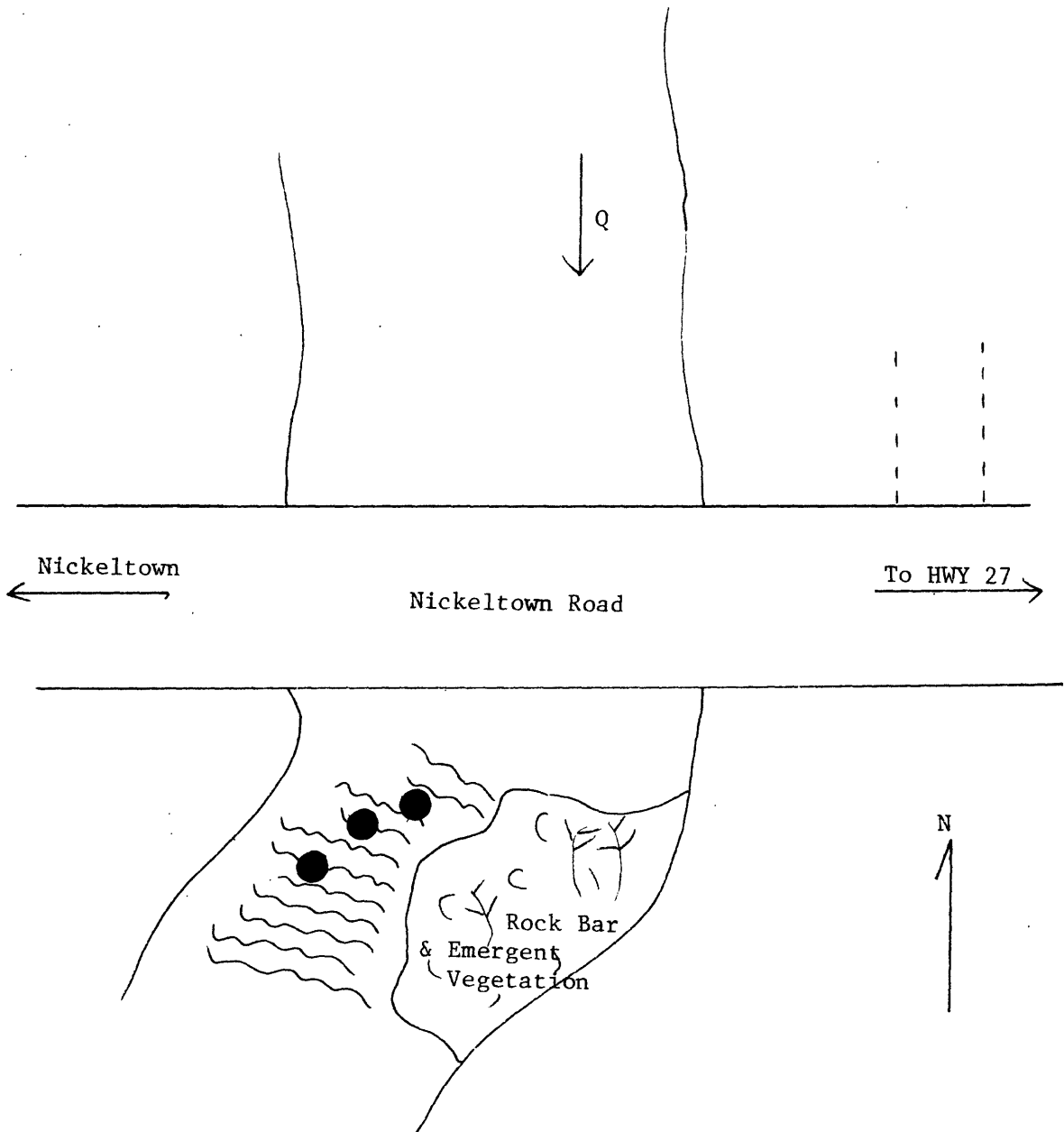


FIGURE 37-1. Station 37 - 03571500 - Little Sequatchie River near Jasper, TN

TABLE 37-1

Physical and Chemical Parameters at

Station 37 - 03571500

Little Sequatchie River at Sequatchie, Marion Co., TN

Parameter	Date	
	6-11-81	9-17-81
Water Temperature	15°C	22°C
Dissolved Oxygen	9.6 mg/L	9.5 mg/L
pH	6.4	7.1
Conductivity	90 umhos/cm	380 umhos/cm
Stream Width	25.9 m	10.7 m
Average Stream Depth	70.6 cm	14.0 cm
Average Stream Velocity	0.61 m/sec	0.61 m/sec
Discharge	8.82 m ³ /sec	0.72 m ³ /sec
Cover (% Shaded)	70%	70%
Substrate	Small to large rounded cobble	

TABLE 37-2

03571500 Little Sequatchie River
Marion Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
6/11/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	72	22.2	
	<u>Cricotopus</u> sp.	(6)		
	<u>Parametriocnemus</u> sp.	(3)		
	<u>Cardiocladius</u> sp.	(1)		
	<u>Eukiefferiella</u> sp.	(1)		
	<u>Polypedilum convictum</u>	(3)		
	<u>Conchapelopia</u> sp.	(3)		
	<u>Microtendipes</u> sp.	(12)		
	<u>Tanytarsus</u> sp.	(1)		
	Tabanidae			
	<u>Chrysops</u> sp.	1	0.3	
	Simuliidae			
	<u>Simulium</u> sp.	4	1.2	
	Athericidae			
	<u>Atherix variegata</u>	1	0.3	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	65	20.1	
	Philopotamidae			
	<u>Chimarra obscura</u>	6	1.9	
	Glossosomatidae			
	<u>Glossosoma</u> sp.	6	1.9	
	EPHEMEROPTERA			
	Oligoneuriidae			
	<u>Isonychia</u> sp.	33	10.2	

TABLE 37-2

03571500 Little Sequatchie River
Marion Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Heptageniidae			
	<u>Stenonema tripunctatum</u>	2	0.6	
	<u>S. nepotellum</u>	3	0.9	
	<u>S. pulchellum</u>	3	0.9	
	Baetidae			
	<u>Pseudocloeon sp.</u>	37	11.4	
	<u>Baetis sp.</u>	7	2.2	
	Caenidae			
	<u>Caenis sp.</u>	1	0.3	
	Ephemerellidae			
	<u>Danella lita</u>	2	0.6	
	<u>Ephemerella dorothea</u>	22	6.8	
	PLECOPTERA			
	Leuctridae			
	<u>Leuctra ferruginea</u>	2	0.6	
	Nemouridae			
	<u>Amphinemura delosa</u>	3	0.9	
	Perlidae			
	<u>Acroneuria ruralis</u>	2	0.6	
	HEMIPTERA			
	Veliidae			
	<u>Microvelia sp.***</u>	1	0.3	
	Saldidae	1	0.3	
	ODONATA			
	Aeshnidae			
	<u>Boyeria sp.</u>	1	0.3	

TABLE 37-2

03571500 Little Sequatchie River
Marion Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	COLEOPTERA			
	Elmidae			
	<u>Optioservus sp.</u>	15	4.6	
	<u>Optioservus ovalis</u>	1	0.3	
	Dryopidae			
	<u>Helichus sp.</u>	1	0.3	
	MEGALOPTERA			
	Corydalidae			
	<u>Corydalus cornutus</u>	1	0.3	
	<u>Nigronia serricornis</u>	3	0.9	
	CRUSTACEA			
	AMPHIPODA			
	Gammaridae			
	<u>Gammarus minus</u>	20	6.2	
	DECAPODA			
	Astacidae			
	<u>Cambarus sp.</u>	1	0.3	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	7	2.2	
	TOTALS	324		

SHANNON-WEAVER DIVERSITY = 4.127

BIOTIC INDEX = 2.398, MODERATE ENRICHMENT

TABLE 37-3

03571500 Little Sequatchie River
Marion Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/11/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	13	139.9	7.8	
	Tipulidae				
	Tipula sp.	2	21.5	1.2	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	2	21.5	1.2	
	Baetidae				
	Baetis sp.	2	21.5	1.2	
	Pseudocloeon sp.	11	118.4	6.6	
	Heptageniidae				
	Stenonema rubrum	2	21.5	1.2	
	Stenonema pulchellum	1	10.8	0.6	
	Stenonema interpunctatum	7	75.3	4.2	
	Ephemereillidae				
	Ephemerella rotunda	2	21.5	1.2	
	TRICHOPTERA				
	Glossosomatidea				
	Glossosoma sp.	1	10.8	0.6	
	Agapetus sp.	1	10.8	0.6	
	Philopotamidae				
	Chimarra obscura	15	161.5	9.0	
	Hydropsychidae				
	Cheumatopsyche sp.	88	947.3	52.7	

TABLE 37-3

03571500 Little Sequatchie River
Marion Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	HEMIPTERA				
	Mesovelidae				
	<u>Mesovelia sp.</u>	1	10.8	0.6	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	1	10.8	0.6	
	Elmidae				
	<u>Stenelmis bicarinata</u>	1	10.8	0.6	
	CRUSTACEA				
	AMPHIPODA				
	Gammaridae				
	<u>Gammarus fasciatus*</u>	8	86.1	4.8	
	MOLLUSCA				
	GASTROPODA				
	PULMONATA				
	Physidae				
	<u>Physa sp.</u>	1	10.8	0.6	
	PROSOBRANCHIA				
	Pleuroceridae				
	<u>Pleurocera sp.</u>	6	64.6	3.6	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	2	21.6	1.2	
	TOTALS	167	1797.6		

SHANNON-WEAVER DIVERSITY = 2.6870

TABLE 37-4

03571500 Little Sequatchie River
Marion Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/11/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	15	161.5	6.9	
	EPHEMEROPTERA				
	Oligoneuridae	5	53.8	2.3	
	Isonychia sp.				
	Baetis				
	Pseudocloeon sp.	101	1087.2	46.3	
	Ephemerellidae				
	Serratella deficiens*	12	129.2	5.5	
	PLECOPTERA				
	Chloroperlidae				
	Alloperla sp.	1	10.8	0.5	
	TRICHOPTERA				
	Philopotamidae				
	Chimarra obscura	2	21.5	0.9	
	Hydropsychidae				
	Cheumatopsyche sp.	74	796.6	33.9	
	COLEOPTERA				
6/11/81	Elmidae				Surber 2
	Optioservus sp.	2	21.5	0.9	
	CRUSTACEA				
	AMPHIPODA				
	Gammaridae				
	Gammarus minus	5	53.8	2.3	

TABLE 37-4

03571500 Little Sequatchie River
Marion Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MOLLUSCA				
	GASTROPODA				
	PROSOBRANCHIA				
	Viviparidae				
	<u>Viviparus sp.*</u>	1	10.8	0.5	
	TOTALS	218	2346.6		

SHANNON-WEAVER DIVERSITY = 1.9479

TABLE 37-5

03571500 Little Sequatchie River
Marion Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/11/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	29	312.2	15.4	
	TRICHOPTERA				
	Hydropsychidae				
	<u>Cheumatopsyche</u> sp.	81	871.9	43.1	
	EPHEMEROPTERA				
	Oligoneuridae				
	<u>Isonychia</u> sp.	4	43.1	2.1	
	Baetidae				
	<u>Pseudocloeon</u> sp.	53	570.5	28.2	
	<u>Baetis</u> sp.	3	32.3	1.6	
	Heptageniidae				
	<u>Stenonema</u> sp.	3	32.3	1.6	
	Ephemerellidae				
	<u>Ephemerella</u> <u>rotunda</u>	1	10.8	0.5	
	<u>Dannella</u> <u>simplex</u>	1	10.8	0.5	
	<u>E. crenula</u>	5	53.8	2.7	
	PLECOPTERA				
	Perlodidae				
	<u>Isoperla</u> sp.	1	10.8	0.5	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus</u> <u>herricki</u>	2	21.5	1.1	
	Elmidae				
	<u>Optioservus</u> sp.	3	32.3	1.6	

TABLE 37-5

03571500 Little Sequatchie River
 Marion Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	CRUSTACEA				
	AMPHIPODA				
	Gammaridae				
	<u>Crangonyx</u> sp.	2	21.5	1.1	
	TOTALS	188	2023.7		

SHANNON-WEAVER DIVERSITY = 2.257

TABLE 37-6

03571500 Little Sequatchie River
Sequatchie Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/17/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	126	14.3	
	<u>Ablabesmyia mallochii</u>	(1)		
	<u>Rheocricotopus sp.</u>	(1)		
	<u>Cricotopus sp.</u>	(2)		
	<u>Corynoneura sp.</u>	(1)		
	<u>Procladius sp.</u>	(2)		
	<u>Conchapelopia sp.</u>	(4)		
	<u>Polypedilum convictum</u>	(1)		
	<u>Polypedilum illinoense</u>	(4)		
	<u>Paratendipes sp.</u>	(1)		
	<u>Tanytarsus sp.</u>	(4)		
	<u>Microsectra sp.</u>	(1)		
	<u>Rheotanytarsus sp.</u>	(5)		
	<u>Thienemanniella sp.</u>	(1)		
	<u>Pentaneura sp.</u>	(1)		
	Simuliidae			
	<u>Simulium sp.</u>	37	4.2	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Symphitopsyche bifida***</u>	1	0.1	
	<u>Hydropsyche dicantha</u>	7	0.8	
	<u>Symphitopsyche sparna</u>	2	0.2	
	Philopotamidae			
	<u>Chimarra obscura</u>	10	1.1	
	Polycentropodidae			
	<u>Neureclipsis crepuscularis</u>	3	0.3	

TABLE 37-6

03571500 Little Sequatchie River
Sequatchie Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	EPHEMEROPTERA			
	Oligoneuridae			
	<u>Isonychia</u> sp.	38	4.3	
	Baetidae			
	<u>Pseudocloeon</u> sp.	22	2.5	
	<u>Baetis brunneicolor</u>	13	1.5	
	Caenidae			
	<u>Caenis</u> sp.	1	0.1	
	Tricorythidae			
	<u>Tricorythodes</u> sp.	1	0.1	
	Ephemerellidae			
	<u>Eurylophella temporalis</u>	1	0.1	
	Heptageniidae			
	<u>Stenonema tripunctatum</u>	14	1.6	
	<u>S. scitulum</u>	1	0.1	
	PLECOPTERA			
	Perlidae			
	<u>Acroneuria abnormis</u>	2	0.2	
	HEMIPTERA			
	Veliidae			
	<u>Rhagovelia</u> sp.	2	0.2	
	Hebridae			
	<u>Hebrus</u> sp.	10	1.1	
	ODONATA			
	Coenagrionidae			
	<u>Argia</u> sp.	1	0.1	
	<u>Anomalagrion hastatum</u>	2	0.2	

TABLE 37-6

03571500 Little Sequatchie River
Sequatchie Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	COLEOPTERA			
	Psephenidae			
	<u>Psephenus herricki</u>	11	1.2	
	Elmidae			
	<u>Dubiraphia</u> sp.	3	0.3	
	<u>Optioservus</u> sp. (larvae)	7	0.8	
	<u>Optioservus ampliatus</u>	1	0.1	
	MEGALOPTERA			
	Corydalidae			
	<u>Corydalus cornutus</u>	8	0.9	
	LEPIDOPTERA			
	Pyralidae			
	<u>Paragyraactus</u> sp.***	2	0.2	
	CRUSTACEA			
	AMPHIPODA			
	Gammaridae			
	<u>Gammarus minus</u>	1	0.1	
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	<u>Corbicula manilensis</u>	2	0.2	
	GASTROPODA			
	MESOGASTROPODA			
	Pleuroceridae			
	<u>Goniobasis</u> (Mudalia) sp.	2	0.2	
	Viviparidae			
	<u>Viviparus</u> sp.	21	2.4	

TABLE 37-6

03571500 Little Sequatchie River
 Sequatchie Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	%Comp.	Sample
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA	17	1.9	
	Naididae			
		884		

SHANNON-WEAVER DIVERSITY = 8.222

BIOTIC INDEX = 0.907, CLEAN

TABLE 37-7

03571500 Little Sequatchie River
Sequatchie Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	60	645.9	23.6	
	Tanyderidae				
	<u>Protoplasa fitchii**</u>	1	10.8	0.4	
	Empididae				
	<u>Hemerodromia sp.</u>	1	10.8	0.4	
	Simuliidae				
	<u>Simulium sp.</u>	5	53.8	2.0	
	TRICHOPTERA				
	Hydropsychidae				
	<u>Cheumatopsyche sp.</u>	10	107.6	3.9	
	<u>Hydropsyche simulans</u>	1	10.8	0.4	
	Philopotamidae				
	<u>Chimarra obscura</u>	1	10.8	0.4	
	Polycentropodidae				
	<u>Neureclipsis crepuscularis</u>	6	63.6	2.4	
	EPHEMEROPTERA				
	Oligoneuridae				
	<u>Isonychia sp.</u>	34	366.0	13.4	
	Baetidae				
	<u>Pseudocloeon sp.</u>	16	172.2	6.3	
	<u>Baetis nr. ephippiatus</u>	6	64.6	2.4	

TABLE 37-7

03571500 Little Sequatchie River
Sequatchie Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Heptageniidae				
	<u>Stenonema</u> sp.	41	441.3	16.1	
	<u>S. nepotellum</u>	2	21.5	0.8	
	<u>S. pudicum</u>	6	64.6	2.4	
	PLECOPTERA				
	Perlidae				
	<u>Acroneuria abnormis</u>	2	21.5	0.8	
	HEMIPTERA				
	Mesoveliidae				
	<u>Mesovelgia</u> sp.	8	86.1	3.1	
	ODONATA				
	Ischnuridae				
	<u>Ischnura</u> sp.	2	21.5	0.8	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	5	53.8	2.0	
	Elmidae				
	<u>Optioservus</u> sp.	3	32.3	1.2	
	<u>Stenelmis</u> sp.	7	75.4	2.8	
	<u>Stenelmis concinna</u>	2	21.5	0.8	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	2	21.5	0.8	

TABLE 37-7

03571500 Little Sequatchie River
Sequatchie Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae	8	86.1	3.1	
	<u>Corbicula manilensis</u>				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	<u>Goniobasis (Mudalia) sp.</u>	23	247.6	9.1	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	2	21.5	0.8	
	TOTALS	254	2734.1		

SHANNON-WEAVER DIVERSITY = 3.648

TABLE 37-8

03571500 Little Sequatchie River
Sequatchie Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	10	106.7	10.8	
	Ceratopogonidae				
	Atrichopogon sp.	1	10.8	1.1	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	2	21.5	2.2	
	Hydropsyche simulans	2	21.5	2.2	
	Leptoceridae				
	Ceraclea flavus	1	10.8	1.1	
	EPHEMEROPTERA				
	Heptageniidae				
	Stenonema sp.	22	236.8	23.7	
	Baetidae				
	Baetis sp.	8	86.1	8.6	
	Pseudocloeon sp.	5	53.8	5.4	
	Oligoneuridae				
	Isonychia sp.	12	129.2	12.9	
	HEMIPTERA				
	Veliidae				
	Rhagovelia sp.	1	10.8	1.1	
	COLEOPTERA				
	Elmidae				
	Optioservus sp.	3	32.3	3.2	
	Stenelmis sp.	1	10.8	1.1	
	Stenelmis concinna	1	10.8	1.1	

TABLE 37-8

03571500 Little Sequatchie River
Sequatchie Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No. /m ²	%Comp.	Sample
	Psephenidae				
	<u>Psephenus herricki</u>	2	21.5	2.2	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	3	32.3	3.2	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	1	10.8	1.1	
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	<u>Anculosa sp.</u>	17	183.0	18.3	
	TOTALS	93	1001.1		

SHANNON-WEAVER DIVERSITY = 3.368

TABLE 37-9

03571500 Little Sequatchie River
Sequatchie Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	21	226.1	7.9	
	Simuliidae				
	Simulium sp.	8	86.1	3.0	
	Culicidae				
	Culex sp.	1	10.8	0.4	
	TRICHOPTERA				
	Polycentropodidae				
	Neureclipsis crepuscularis	1	10.8	0.4	
	Hydropsychidae				
	Cheumatopsyche sp.	14	150.7	5.3	
	Symphitopsyche bifida	2	21.5	0.8	
	Hydropsyche simulans	1	10.8	0.4	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	9	96.9	3.4	
	Heptageniidae				
	Stenonema sp.	81	871.9	30.5	
	Leptophlebiidae				
	Paraleptophlebia sp.	1	10.8	0.4	
	Baetidae				
	Pseudocloeon sp.	14	150.7	5.3	
	Baetis brunneicolor	15	161.5	5.6	
	Baetis hageni	2	21.5	0.8	

TABLE 37-9

03571500 Little Sequatchie River
Sequatchie Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	PLECOPTERA				
	Perlidae				
	Acroneuria sp.	3	32.3	1.1	
	HEMIPTERA				
	Mesoveliidae				
	Mesovelia mulsanti	48	516.7	18.0	
	COLEOPTERA				
	Psephenidae				
	Psephenus herricki	2	21.5	0.8	
	Elmidae				
	Stenelmis sp.	3	32.3	1.1	
	Optioservus sp.	1	10.8	0.4	
	Hydrophilidae				
	Berosus sp.	1	10.8	0.4	
	MEGALOPTERA				
	Corydalidae				
	Corydalus cornutus	3	32.3	1.1	
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	Anculosa sp.	31	333.7	11.7	
	Goniobasis (Mudalia) sp.	3	32.3	1.1	

TABLE 37-9

03571500 Little Sequatchie River
 Sequatchie Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	1	10.8	0.4	
	Naididae				
	TOTALS	266	2863.3		

SHANNON-WEAVER DIVERSITY = 3.280

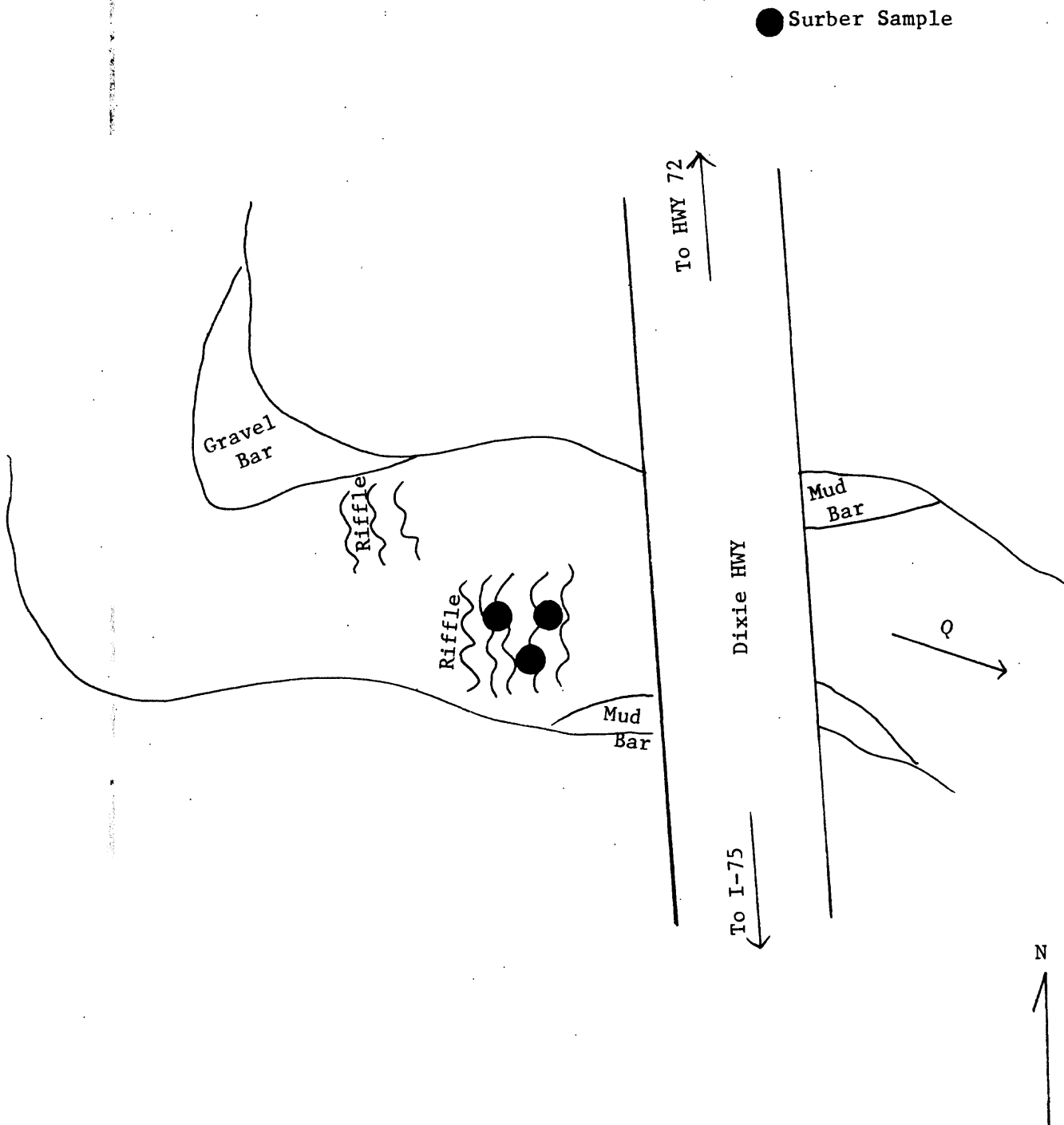


FIGURE 38-1. Station 38 - 03571800 - Battle Creek near Monteagle, TN

TABLE 38-1

Physical and Chemical Parameters at

Station 38 - 03571800

Battle Creek near Monteagle, Marion Co., TN

Parameter	Date
	9-17-81
Water Temperature	16°C
Dissolved Oxygen	10.0 mg/L
pH	7.2
Conductivity	180 umhos/cm
Stream Width	12.2 m
Average Stream Depth	17.4 cm
Average Stream Velocity	0.30 m/sec
Discharge	1.79 m ³ /sec
Cover (% Shaded)	95%
Substrate	Medium to large cobble

High flow prevented spring sampling.

TABLE 38-2

03571800 Battle Creek
Marion Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/17/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	168	34.7	
	<u>Corynoneura</u> sp.	(1)		
	<u>Cladotanytarsus</u> sp.	(2)		
	<u>Cricotopus</u> sp.	(3)		
	<u>Rheocricotopus</u> sp.	(2)		
	<u>Ablabesmyia mallochi</u>	(3)		
	<u>Polypedilum illinoense</u>	(2)		
	<u>Cryptochironomus fulvus</u>	(1)		
	<u>Polypedilum convictum</u>	(6)		
	<u>Procladius</u> sp.	(1)		
	<u>Rheotanytarsus</u> sp.	(2)		
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	6	1.2	
	<u>Atrichopogon</u> sp.	1	0.2	
	Empididae	1	0.2	
	Tipulidae			
	<u>Erioptera</u> sp.	1	0.2	
	<u>Antocha</u> sp.***	1	0.2	
	<u>Pseudolimnophila</u> sp.	4	0.8	
	<u>Limnophila</u> sp.	1	0.2	
	Simuliidae			
	<u>Simulium</u> sp.	1	0.2	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	10	2.1	
	<u>Symphitopsyche</u> sp.	3	0.6	

TABLE 38-2

03571800 Battle Creek
Marion Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Rhyacophilidae			
	<u>Rhyacophila</u> sp.	1	0.2	
	Leptoceridae			
	<u>Oecetis</u> sp.	1	0.2	
	EPHEMEROPTERA			
	Baetiscidae			
	<u>Baetisca</u> nr. <u>ginnera</u> ***	1	0.2	
	Oligoneuridae			
	<u>Isonychia</u> sp.	113	23.3	
	Baetidae			
	<u>Baetis</u> sp.	21	4.3	
	Leptophlebiidae			
	<u>Paraleptophlebia</u> sp.	8	1.7	
	Caenidae			
	<u>Caenis</u> sp.	1	0.2	
	Ephemerellidae			
	<u>Attenuatella</u> <u>delantala</u> ***	2	0.4	
	Heptageniidae			
	<u>Stenacron</u> <u>gildersleevei</u>	1	0.2	
	<u>Stenonema</u> <u>tripunctatum</u>	6	1.2	
	<u>S. scitulum</u>	4	0.8	
	<u>S. nepotellum</u>	27	5.6	
	PLECOPTERA			
	Perlidae			
	<u>Acroneuria</u> <u>evoluta</u> ***	4	0.8	
	<u>A. abnormis</u>	3	0.6	

TABLE 38-2

03571800 Battle Creek
Marion Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	HEMIPTERA			
	Veliidae			
	<u>Rhagovelia</u> sp.	1	0.2	
	ODONATA			
	Gomphidae			
	<u>Lanthus parvula</u>	3	0.6	
	Isehnuridae			
	<u>Ischnura</u> sp.	2	0.4	
	COLEOPTERA			
	Psephenidae			
	<u>Psephenus herricki</u>	24	5.0	
	<u>Ectopria nervosa</u>	6	1.2	
	Elmidae			
	<u>Optioservus</u> sp.	20	4.1	
	Dryopidae			
	<u>Helichus</u> sp.	1	0.2	
	MEGALOPTERA			
	Corydalidae			
	<u>Corydalis cornutus</u>	1	0.2	
	<u>Nigronia serricornis</u>	2	0.4	
	LEPIDOPTERA			
	Pyralidae			
	<u>Paragyrractus</u> sp.***	1	0.2	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Cambarus</u> sp.	1	0.2	

TABLE 38-2

03571800 Battle Creek
Marion Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	<u>Corbicula manileusis</u>	2	0.4	
	GASTROPODA			
	MESOGASTROPODA			
	Pleuroceridae			
	<u>Goniobasis (Mudalia) sp.</u>	6	1.2	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	24	5.0	
	TOTALS	484		

SHANNON-WEAVER DIVERSITY = 4.211

BIOTIC INDEX = 2.283, MODERATE ENRICHMENT

TABLE 38-3

03571802 Battle Creek
Marion Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA				
	INSECTA				
	DIPTERA				
	Chironomidae	49	527.4	25.3	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	3	32.3	1.5	
	Polycentropodidae				
	Phylocentropus sp.	2	21.5	1.0	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	19	204.5	9.8	
	Baetidae				
	Baetis brunneicolor	15	161.5	7.7	
	Heptageniidae				
	Stenacron interpunctatum	2	21.5	1.0	
	Stenonema nepotellum	28	301.4	14.4	
	S. exiguum	15	161.5	7.7	
	PLECOPTERA				
	Perlidae				
	Acroneuria abnormis	1	10.8	0.5	
	ODONATA				
	Ischnuridae				
	Ischnura sp.	3	32.3	1.5	
	Gomphidae				
	Lanthus parvula	1	10.8	0.5	

TABLE 38-3

03571802 Battle Creek
Marion Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	18	193.8	9.3	
	Elmidae				
	<u>Optioservus sp.</u>	25	269.1	12.9	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	4	43.1	2.1	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Orconectes putnami**</u>	1	10.8	0.5	
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	<u>Goniobasis (Mudalia) sp.</u>	8	86.1	4.1	
	TOTALS	194	2088.3		

SHANNON-WEAVER DIVERSITY = 3.248

TABLE 38-4

03571800 Battle Creek
Marion Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	17	183.0	22.4	
	TRICHOPTERA				
	Rhyacophilidae				
	Rhyacophila sp.	1	10.8	1.3	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	2	21.5	2.6	
	Baetidae				
	Baetis sp.	6	64.6	7.9	
	Heptageniidae				
	Stenonema sp.	18	193.8	23.7	
	Stenonema scitulum	1	10.8	1.3	
	S. nepotellum	4	43.1	5.3	
	S. vicarium	10	107.6	13.2	
	PLECOPTERA				
	Perlidae				
	Acroneuria abnormis	1	10.8	1.3	
	ODONATA				
	Coenagrionidae				
	Argia sp.	1	10.8	1.3	
	COLEOPTERA				
	Psephenidae				
	Psephenus herricki	8	86.1	10.5	

TABLE 38-4

03571800 Battle Creek
Marion Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Elmidae				
	<u>Optioservus sp.</u>	4	43.1	5.3	
	MEGALOPTERA				
	Corydalidae				
	<u>Corydalus cornutus</u>	1	10.8	1.3	
	<u>Nigronia serricornis</u>	2	21.5	2.6	
	TOTALS	76	818.1		

SHANNON-WEAVER DIVERSITY = 3.027

TABLE 38-5

03571800 Battle Creek
Marion Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	143	1539.3	35.0	
	Tipulidae				
	Antocha sp.**	1	10.8	0.2	
	TRICHOPTERA				
	Rhyacophilidae				
	Rhyacophila sp.	1	10.8	0.2	
	Hydropsychidae				
	Cheumatopsyche sp.	2	21.5	0.5	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	24	258.3	5.9	
	Baetidae				
	Pseudocloeon sp.	3	32.3	0.7	
	Baetis sp.	17	182.9	4.2	
	Leptophlebiidae				
	Paraleptophlebia sp.	1	10.8	0.2	
	Heptageniidae				
	Stenonema sp.	138	1485.5	33.7	
	Stenonema pulchellum	10	107.6	2.4	
	S. pudicum	15	161.5	3.7	
	PLECOPTERA				
	Leuctridae				
	Leuctra ferruginea	1	10.8	0.2	
	Perlidae				
	Acroneuria ruralis	1	10.8	0.2	

TABLE 38-5

03571800 Battle Creek
Marion Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ODONATA				
	Coenagrionidae				
	<u>Argia</u> sp.	1	10.8	0.2	
	Ischnuridae				
	<u>Ischnura</u> sp.	2	21.5	0.5	
	Gomphidae				
	<u>Lanthus parvula</u>	1	10.8	0.2	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	3	32.3	0.7	
	Elmidae				
	<u>Optioservus</u> sp.	6	64.6	1.5	
	Helodidae				
	<u>Prionocyphon</u> sp.**	9	96.9	2.2	
	LEPIDOPTERA				
	Pyralidae				
	<u>Paragyraactus</u> sp.	5	53.8	1.2	
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	<u>Goniobasis</u> sp.	19	204.5	4.6	

TABLE 38-5

03571800 Battle Creek
 Marion Co., TN
 BENTHIC MACROINVERTEBRATES
 (continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	6	64.6	1.5	
	TOTALS	409	4402.6		

SHANNON-WEAVER DIVERSITY = 2.706

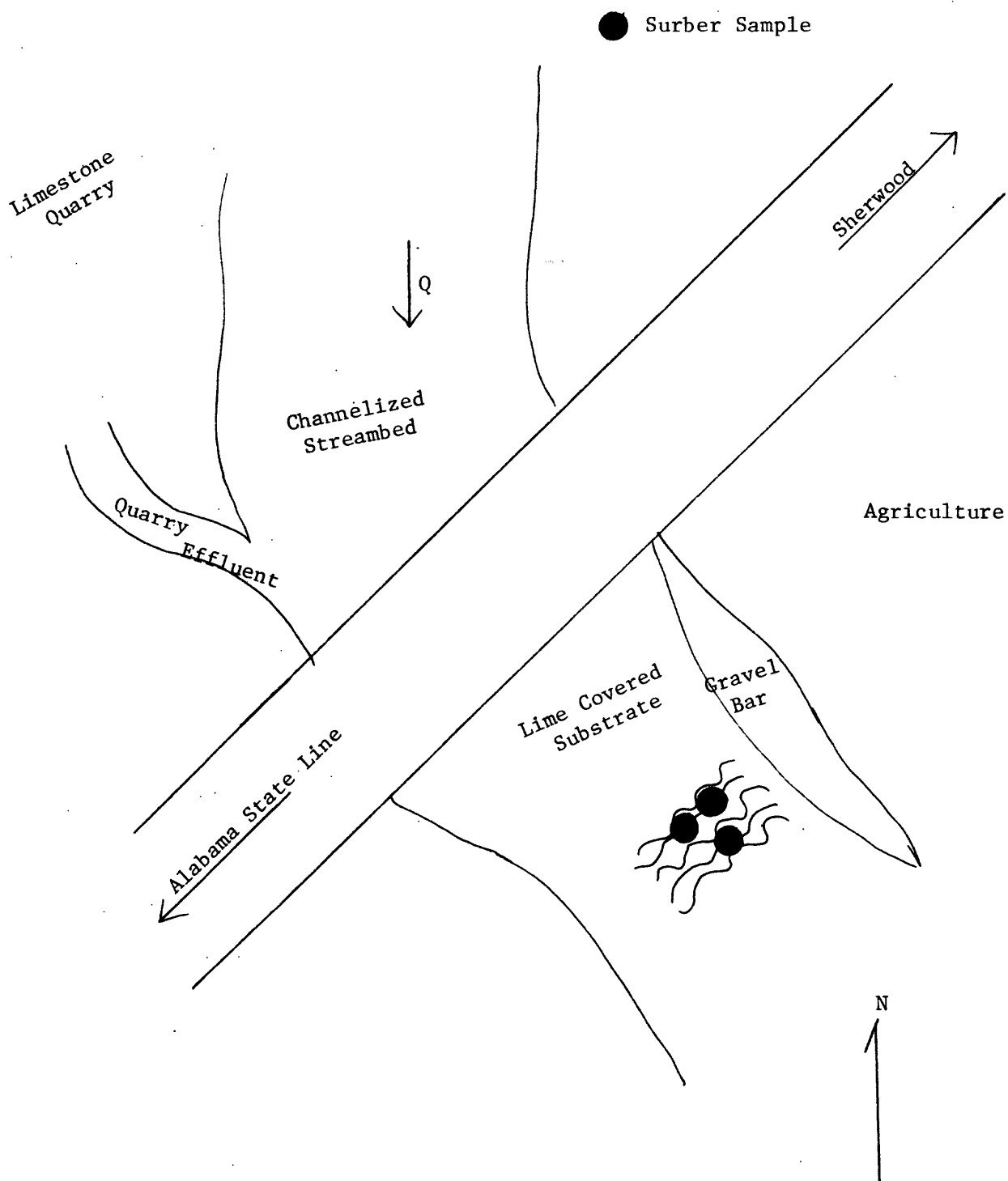


FIGURE 39-1. Station 39 - 03572092 - Crow Creek near Anderson, TN

TABLE 39-1

Physical and Chemical Parameters

Station 39 - 03572092

Crow Creek near Anderson, Franklin Co., TN

Parameter	Date	
	6-11-81	9-17-81
Water Temperature	16°C	22°C
Dissolved Oxygen	9.1 mg/L	8.4 mg/L
pH	6.7	7.2
Conductivity	178 umhos/cm	250 umhos/cm
Stream Width	10.7 m	9.1 m
Average Stream Depth	10.7 cm	65.0 cm
Average Stream Velocity	0.51 m/sec	0.28 m/sec
Discharge	0.46 m ³ /sec	1.30 m ³ /sec
Cover (% Shaded)	30%	40%
Substrate	Gravel and medium cobble	

Substrate was covered with limestone sediment emitted from adjacent quarry operation.

TABLE 39-2

03572092 Crow Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
6/11/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	295	48.4	
	<u>Cricotopus</u> sp.	(6)		
	<u>Thienemanniella</u> sp.	(1)		
	<u>Ablabesmyia mallochi</u>	(2)		
	<u>Phaenopsectra obediens</u>	(4)		
	<u>Cryptochironomus fulvus</u>	(1)		
	<u>Dicrotendipes</u> sp.	(7)		
	<u>Polypedilum illinoense</u>	(5)		
	<u>Tribelos fuscicornis</u>	(1)		
	<u>Rheotanytarsus</u> sp.	(3)		
	<u>Tanytarsus</u> sp.	(2)		
	<u>Parametriocnemus</u> sp.	(2)		
	<u>Polypedilum convictum</u>	(1)		
	<u>Ablabesmyia cinctipes</u>	(1)		
	<u>Chironomus</u> sp.	(1)		
	<u>Pentaneura</u> sp.	(1)		
	<u>Conchapelopia</u> sp.	(1)		
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	1	0.2	
	Simuliidae			
	<u>Simulium</u> sp.	1	0.3	
	Tipulidae			
	<u>Hexatoma</u> sp.	2	0.3	
	TRICHOPTERA			
	Leptoceridae			
	<u>Leptocerus americanus</u>	3	0.5	

TABLE 39-2

03572092 Crow Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	EPHEMEROPTERA			
	Baetidae			
	<u>Baetis</u> sp.	4	0.7	
	<u>Pseudocloeon</u> sp.	3	0.5	
	Caenidae			
	<u>Caenis</u> sp.	239	39.2	
	Oligoneuridae			
	<u>Isonychia</u> sp.	1	0.2	
	COLEOPTERA			
	Psephenidae			
	<u>Psephenus herricki</u>	1	0.2	
	Elmidae			
	<u>Dubiraphia</u> sp.	1	0.2	
	<u>Optioservus</u> sp.	1	0.2	
	<u>Stenelmis</u> sp.	1	0.2	
	Dytiscidae			
	<u>Agabus</u> sp.	1	0.2	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Cambarus</u> sp.	1	0.2	
	ISOPODA			
	Asellidae			
	<u>Lirceus fontinalis</u>	39	6.4	
	AMPHILOPODA			
	Gammaridae			
	<u>Crangonyx</u> sp.	2	2.3	

TABLE 39-2

03572092 Crow Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	14	2.3	
	TOTALS	610		

SHANNON-WEAVER DIVERSITY = 3.472

BIOTIC INDEX = 2.955, MODERATE ENRICHMENT

TABLE 39-3

03572092 Crow Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/11/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	205	2206.7	50.6	
	Ceratopogonidae				
	<u>Bezzia-Probezzia</u> sp.	1	10.8	0.2	
	EPHEMEROPTERA				
	Potomanthidae	1	10.8	0.2	
	<u>Potomanthus myops</u> *				
	Caenidae				
	<u>Caenis</u> sp.	132	1420.9	32.6	
	Tricorythidae				
	<u>Tricorythodes</u> sp.	16	172.2	4.0	
	Baetidae				
	<u>Pseudocloeon</u> sp.	11	118.4	2.7	
	<u>Baetis</u> sp.	1	10.8	0.2	
	Heptageniidae				
	<u>Heptagenia</u> sp.	3	32.3	0.7	
	<u>Stenonema scitulum</u>	1	10.8	0.2	
	<u>S. tripunctatum</u>	4	43.1	1.0	
	<u>Stenacron minnetonka</u>	1	10.8	0.2	
	COLEOPTERA				
	Dytiscidae				
	<u>Helophorus</u> sp.	2	21.5	0.5	
	MEGALOPTERA				
	Corydalidae				
	<u>Nigronia serricornis</u>	1	10.8	0.2	

TABLE 39-3

03572092 Crow Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MOLLUSCA				
	GASTROPODA				
	PULMONATA				
	Physidae				
	Physa sp.	1	10.8	0.2	
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	Corbicula manilensis	4	43.1	1.0	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	21	226.1	5.2	
	TOTALS	405	4359.5		

SHANNON-WEAVER DIVERSITY = 1.943

TABLE 39-4

03572082 Crow Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/11/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	653	7029.1	75.6	
	EPHEMEROPTERA				
	Baetidae				
	Baetis sp.	6	64.6	0.7	
	Pseudocloeon sp.	8	86.1	0.9	
	Heptageniidae				
	Stenonema nepotellum	5	53.8	0.6	
	Leptophlebiidae				
	Paraleptophlebia sp.	1	10.8	0.1	
	Caenidae				
	Caenis sp.*	161	1733.0	18.6	
	Tricorythidae				
	Trycorithodes allectus	19	204.5	2.2	
	COLEOPTERA				
	Psephenidae				
	Psephenus herricki	1	10.8	0.1	
	Elmidae				
	Promoresia elegans	2	21.5	0.2	
	Dytiscidae				
	Acilius sp.	1	10.8	0.1	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	7	75.3	0.8	
	TOTALS	869	9300.3		

SHANNON-WEAVER DIVERSITY = 1.1439

TABLE 39-5

03572092 Crow Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/11/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	595	6404.7	75.7	
	Simuliidae				
	Simulium sp.	2	21.5	0.3	
	TRICHOPTERA				
	Hydropsychidae				
	Symphitopsycha sparna	2	21.5	0.3	
	EPHEMEROPTERA				
	Caenidae				
	Caenis sp.	164	1765.3	20.9	
	Baetidae				
	Pseudocloeon sp.	3	32.3	0.4	
	Baetis sp.	4	43.1	0.5	
	Leptophlebiidae				
	Paraleptophlebia sp.	1	10.8	0.1	
	Heptageniidae				
	Stenonema nepotellum***	2	21.5	0.3	
	Stenonema sp.	2	21.5	0.3	
	PLECOPTERA				
	Perlidae				
	Acroneuria georgiana	1	10.8	0.1	
	COLEOPTERA				
	Psephenidae				
	Psephenus herricki	1	10.8	0.1	

TABLE 39-5

03572092 Crow Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Dryopidae				
	<u>Helichus lithophilus***</u>	1	10.8	0.1	
	Elmidae				
	<u>Optioservus sp.</u>	1	10.8	0.1	
	<u>Stenelmis sp.</u>	1	10.8	0.1	
	CRUSTACEA				
	ISOPODA				
	Asellidae				
	<u>Asellus brevicaudus</u>	1	10.8	0.1	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	5	53.8	0.6	
	TOTALS	786	8460.7		

SHANNON-WEAVER DIVERSITY = 1.065

TABLE 39-6

03572092 Crow Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/17/81	ARTHROPODA			
	INSECTA			
	DIPTERA			
	Chironomidae	243	34.9	
	<u>Polypedilum illinoense</u>	(1)		
	<u>Cricotopus</u> sp.	(12)		
	<u>Conchapelopia</u> sp.	(7)		
	EPEMEROPTERA			
	Potomanthidae			
	<u>Potomanthus myops</u> **	1	0.1	
	Caenidae			
	<u>Caenis</u> sp.	77	11.1	
	Tricorythidae			
	<u>Tricorythodes atratus</u>	6	0.9	
	Baetidae			
	<u>Baetis</u> sp.	66	9.5	
	Siphonuridae			
	<u>Ameletus</u> sp.	6	0.9	
	Oligoneuridae			
	<u>Isonychia</u> sp.	6	0.9	
	Leptophlebiidae			
	<u>Paraleptophlebia</u> sp.	3	0.4	
	Ephemeridae			
	<u>Emphemera varia</u>	1	0.1	
				Kick

TABLE 39-6

03572092 Crow Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Heptageniidae			
	<u>Stenonema</u> sp.	22	3.2	
	<u>Stenacron</u> sp.	11	1.6	
	ODONATA			
	Coenagrionidae			
	<u>Argia</u> sp.	8	1.1	
	Lebelligulidae			
	<u>Libellula</u> sp.**	1	0.1	
	COLEOPTERA			
	Hydrophilidae			
	<u>Berosus</u> sp.**	14	2.0	
	Dryopidae			
	<u>Helichus lithophilus</u>	3	0.4	
	Psephenidae			
	<u>Psephenus herricki</u>	2	0.3	
	Elmidae			
	<u>Stenelmis</u> sp.	2	0.3	
	<u>Optioservus</u> sp.	17	2.4	
	<u>Dubiraphia</u> sp.	1	0.1	
	<u>Macronychus glabratus</u>	1	0.1	
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	<u>Cambarus</u> sp.	1	0.1	

TABLE 39-6

03572092 Crow Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	GASTROPODA			
	MESOGASTROPODA			
	Pleuroceridae			
	Pseudosuccinea sp.	64	9.2	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	111	15.9	
	TOTALS	696		

SHANNON-WEAVER DIVERSITY = 3.494

BIOTIC INDEX = 3.244, SIGNIFICANT ENRICHMENT

TABLE 39-7

03572092 Crow Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	18	193.8	43.9	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	3	32.3	7.3	
	Tipulidae				
	Limonia sp.	3	32.3	7.3	
	Erioptera sp.	1	10.8	2.4	
	COLEOPTERA				
	Elmidae				
	Optioservus sp.	1	10.8	2.4	
	CRUSTACEA				
	AMPHIPODA				
	Talitridae				
	Hyalolela azteca	1	10.8	2.4	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	14	150.7	34.1	
TOTALS					441.3

SHANNON-WEAVER DIVERSITY = 1.995

TABLE 39-8

03572092 Crow Creek

Franklin Co., TN

BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	60	645.9	55.9	
	Dolichopodidae				
	Hydrophorus sp.**	3	32.3	2.8	
	Simuliidae				
	Simulium sp.	1	10.8	0.9	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	1	10.8	0.9	
	EPHEMEROPTERA				
	Caenidae				
	Caenis sp.	1	10.8	0.9	
	Tricorythidae				
	Tricorythodes sp.	2	21.5	1.8	
	Heptageniidae				
	Stenonema tripunctatum	2	21.5	1.8	
	S. nepotellum	1	10.8	0.9	
	Stenacron gildersleevei	3	32.3	2.8	
	Baetidae				
	Baetis brunneicolor	21	226.1	19.3	
	COLEOPTERA				
	Psephenidae				
	Psephenus herricki	2	21.5	1.8	
	Dryopidae				
	Helichus sp.	1	10.8	0.9	

TABLE 39-8

03572092 Crow Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Elmidae				
	<u>Optioservus</u> sp.	1	10.8	0.9	
	Hydrophilidae				
	<u>Berosus</u> sp.**	1	10.8	0.9	
	<u>Tropisternus</u> sp.	1	10.8	0.9	
	<u>Enochrus</u> sp.	2	21.5	1.8	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	<u>Corbicula manilensis</u>	2	21.5	1.8	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	4	43.1	3.7	
	TOTALS	109	1173.3		

SHANNON-WEAVER DIVERSITY = 2.418

TABLE 39-9

03572092 Crow Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	86	925.7	39.4	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	3	32.3	1.4	
	Palpomyia sp.	2	21.5	0.9	
	Tipulidae				
	Limonia sp.	1	10.8	0.5	
	Empididae	1	10.8	0.5	
	EPHEMEROPTERA				
	Ephemeridae				
	Ephemera varia	1	10.8	0.5	
	Oligoneuridae				
	Isonychia sp.	4	43.1	1.8	
	Caenidae				
	Caenis sp.	8	86.1	3.7	
	Tricorythidae				
	Tricorythodes sp.	13	139.9	6.0	
	Baetidae				
	Baetis sp.	42	452.1	19.3	
	Leptophlebiidae				
	Paraleptophlebia sp.	1	10.8	0.5	
	Heptageniidae				
	Stenacron carolina	2	21.5	0.9	
	Stenonema tripunctatum	5	53.8	2.3	
	S. nepotellum	1	10.8	0.5	

TABLE 39-9

03572092 Crow Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	COLEOPTERA				
	Psephenidae	2	21.5	0.9	
	<u>Psephenus herricki</u>				
	Dryopidae	1	10.8	0.5	
	<u>Helichus sp.</u>				
	Elmidae	1	10.8	0.5	
	<u>Optioservus ampliatus</u>				
	Hydrophilidae	2	21.5	0.9	
	<u>Berosus sp.</u>				
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae	3	32.3	1.4	
	<u>Corbicula manilensis</u>				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae	3	32.3	1.4	
	<u>Goniobasis sp.</u>				
	Lymnaeidae	5	53.8	2.3	
	<u>Pseudosuccinea sp.**</u>				
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA	31	333.7	14.2	
	Naididae				

TOTALS 218 2346.6
SHANNON-WEAVER DIVERSITY = 2.914

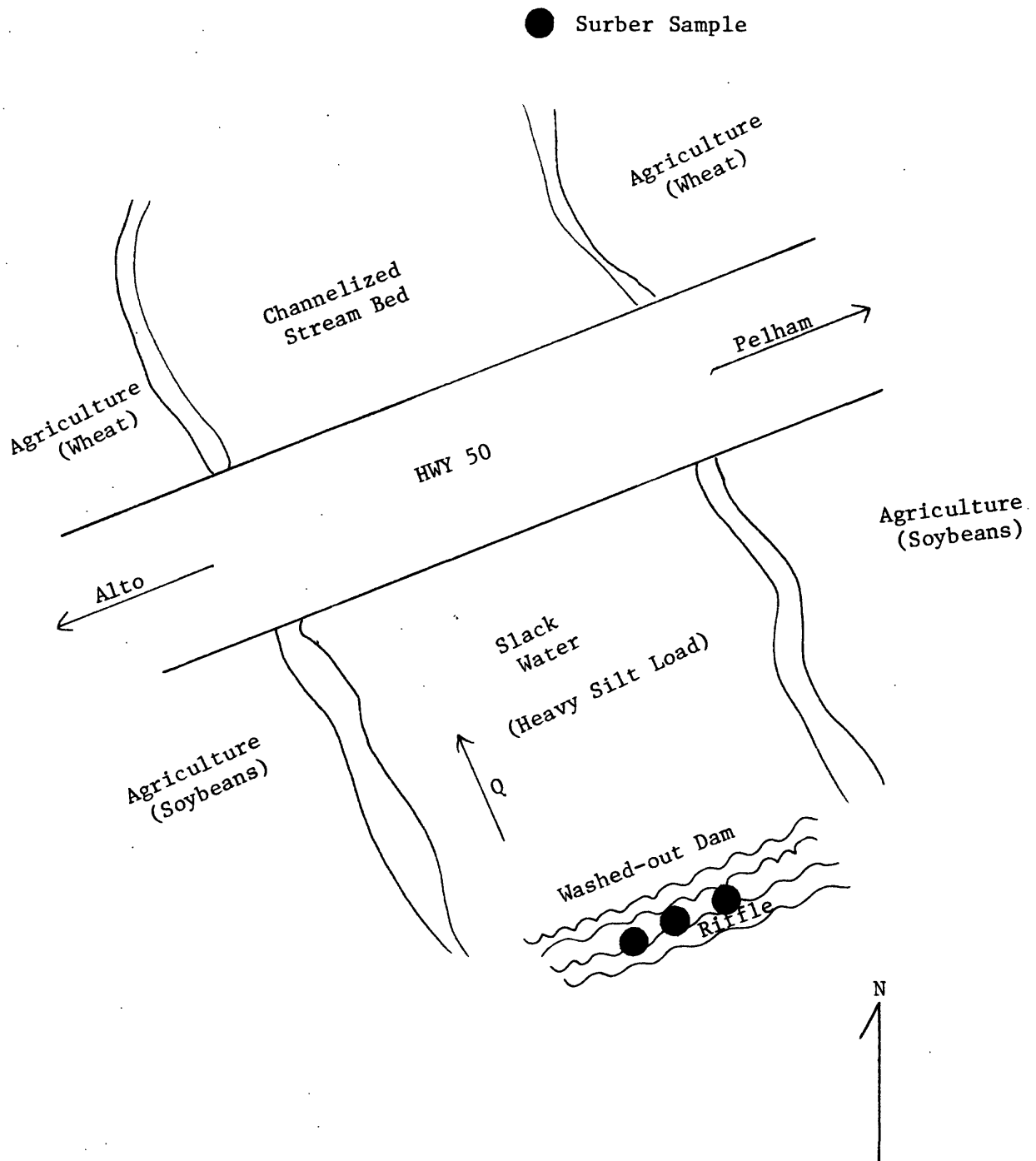


FIGURE 40-1. Station 40 - 03578190 - Mud Creek near Alto, TN

TABLE 40-1

Physical and Chemical Parameters at

Station 40 - 03578190

Mud Creek, Franklin Co., TN

Parameter	Date	
	6-12-81	9-17-81
Water Temperature	20°C	22°C
Dissolved Oxygen	8.1 mg/L	8.4 mg/L
pH	6.4	7.0
Conductivity	145 umhos/cm	207 umhos/cm
Stream Width	6.4 m	6.1 m
Average Stream Depth	13.0 cm	8 cm
Average Stream Velocity	0.51 m/sec	0.26 m/sec
Discharge	0.33 m ³ /sec	1.3 m ³ /sec
Cover (% Shaded)	<5%	<5%
Substrate	Medium cobble	

High organic loading from agricultural sources. Periphery of stream bed lined with algal mats.

TABLE 40-2

03578190 Mud Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
6/11/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	102	29.5	
	<u>Parametriocnemus</u> sp.	(7)		
	<u>Cricotopus</u> sp.	(1)		
	<u>Ablabesmyia mallochi</u>	(2)		
	<u>Conchapelopia</u> sp.	(13)		
	<u>Dicrotendipes</u> sp.	(1)		
	<u>Cryptochironomus fulvus</u>	(4)		
	<u>Tanytarsus</u> sp.	(1)		
	Tipulidae			
	<u>Hexatoma</u> sp.	2	0.6	
	Ceratopogonidae			
	<u>Bezzia-Probezzia</u> sp.	5	1.4	
	Empididae	1	0.3	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche</u> sp.	14	4.0	
	Hydroptilidae			
	<u>Hydroptila</u> sp.	14	4.0	
	EPHEMEROPTERA			
	Oligoneuridae			
	<u>Isonychia</u> sp.	3	0.6	
	Baetidae			
	<u>Baetis</u> sp.	116	33.5	

TABLE 40-2

03578190 Mud Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Caenidae			
	Caenis sp.	11	3.2	
	Leptophlebiidae			
	Choroterpes hubbelli***	3	0.9	
	Ephemeridae			
	Hexagenia atrocaudata	3	0.9	
	Heptageniidae			
	Stenonema tripunctatum	7	2.0	
	S. scitulum	1	0.3	
	PLECOPTERA			
	Perlidae			
	Perlesta placida	1	0.3	
	ODONATA			
	Coenagrionidae			
	Anomalagrion hastatum	1	0.3	
	COLEOPTERA			
	Halipidae			
	Peltodytes sp.***	1	0.3	
	Gyrinidae			
	Dineutus sp.***	1	0.3	
	Psephenidae			
	Psephenus herricki	2	0.6	
	Elmidae			
	Stenelmis sp.	34	9.8	
	Dubiraphia sp.	1	0.3	
	Optioservus sp.	1	0.3	

TABLE 40-2

03578190 Mud Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	CRUSTACEA			
	DECAPODA			
	Astacidae			
	Cambarus sp.	2	0.6	
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA			
	Naididae	20	5.8	
	TOTALS	346		

SHANNON-WEAVER DIVERSITY = 3.072

BIOTIC INDEX = 3.053, SIGNIFICANT ENRICHMENT

TABLE 40-3

03578190 Mud Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/11/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	148	1593.1	13.3	
	Tipulidae				
	Hexatoma sp.	1	10.8	0.1	
	Empididae	6	63.6	0.5	
	Ceratopogonidae				
	Bezzia-Probezzia sp.	2	21.5	0.2	
	Simuliidae				
	Simulium sp.	2	21.5	0.2	
	TRICHOPTERA				
	Hydropsychidae				
	Cheumatopsyche sp.	186	2002.2	16.8	
	Hydropsyche sp.	14	150.7	1.3	
	EPHEMEROPTERA				
	Heptageniidae				
	Stenonema nr. pulchellum	42	452.1	3.8	
	Baetidae				
	Baetis sp.	558	6006.5	50.3	
	Pseudocloeon sp.	2	21.5	0.2	
	Oligoneuridae				
	Isonychia sp.	15	161.5	1.4	
	ODONATA				
	Coenagrionidae				
	Argia sp.	3	32.3	0.3	

TABLE 40-3

03578190 Mud Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	34	365.9	3.1	
	Elmidae				
	<u>Optioservus sp.</u>	8	86.1	0.7	
	<u>Stenelmis sp.</u>	61	656.6	5.5	
	<u>Stenelmis concinna</u>	12	129.2	1.1	
	CRUSTACEA				
	DECAPODA				
	Astacidae				
	<u>Orconectes spinosus**</u>	1	10.8	0.1	
	ANNELIDA				
	HIRUDINEA				
	Glossiphoniidae	14	150.7	1.3	
	TOTALS	1109	11937.6		

TABLE 40-4

03578190 Mud Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/11/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	86	925.7	18.3	
	TRICHOPTERA				
	Rhyacophilidae				
	Rhyacophila sp.	1	10.8	0.2	
	Hydropsychidae				
	Cheumatopsyche sp.	74	796.6	15.8	
	EPHEMEROPTERA				
	Oligoneuridae				
	Isonychia sp.	3	32.2	0.6	
	Baetidae				
	Baetis sp.	239	2572.7	51.0	
	Pseudocloeon sp.	7	75.4	1.5	
	Heptageniidae				
	Stenonema sp.	38	409.0	8.1	
	COLEOPTERA				
	Psephenidae				
	Psephenus herricki	10	107.6	2.1	
	Elmidae				
	Stenelmis sp.	4	43.1	0.9	
	Stenelmis crenata	7	75.4	1.5	
	TOTALS	469	5048.4		

SHANNON-WEAVER DIVERSITY = 2.082

TABLE 40-5

03578190 Mud Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
6/11/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	128	1377.8	10.5	
	Musidae	5	53.8	0.4	
	<u>Limnophora</u> sp.				
	Simuliidae	1	10.8	0.1	
	<u>Simulium</u> sp.				
	Tipulidae	2	21.6	0.2	
	<u>Hexatoma</u> sp.				
	EPHEMEROPTERA				
	Oligoneuridae	19	204.5	1.6	
	<u>Isonychia</u> sp.				
	Baetidae	682	7341.2	56.0	
	Baetis sp.				
	Heptageniidae	70	753.5	5.7	
	<u>Stenonema pulchellum</u>				
	TRICHOPTERA				
	Hydropsychidae				
	<u>Symphitopsyche bifida</u> grp.	1	10.8	0.1	
	<u>Symphitopsyche</u> sp.	30	322.9	2.5	
	<u>Cheumatopsyche</u> sp.	156	1679.2	12.8	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	41	441.3	3.4	
	<u>Ectopria nervosa</u>	1	10.8	0.1	

TABLE 40-5
03578190 Mud Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	Elmidae				
	<u>Stenelmis</u> sp.	21	226.0	1.7	
	<u>Optioservus</u> sp.	1	10.8	0.1	
	COLLEMBOLA				
	Isotomuridae				
	<u>Isotomurus palustris</u>	1	10.8	0.1	
	MOLLUSCA				
	GASTROPODA				
	PROSOBRANCHIA				
	Pleuroceridae				
	<u>Goniobasis</u> sp.* (<u>Mudalia</u>)	47	505.9	3.9	
	PELECYPODA				
	BIVALVIA				
	Corbiculidae				
	<u>Corbicula manilensis</u> *	2	21.6	0.2	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	11	118.4	0.9	
	TOTALS	1219	13121.6		

SHANNON-WEAVER DIVERSITY = 2.2644

TABLE 40-6

03578190 Mud Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	%Comp.	Sample
9/17/81	ARTHROPODA			Kick
	INSECTA			
	DIPTERA			
	Chironomidae	3	0.7	
	<u>Conchapelopia sp.</u>	(1)		
	<u>Ablabesmyia mallochi</u>	(1)		
	<u>Psectrocladius sp.</u>	(1)		
	Tipulidae			
	<u>Hexatoma sp.</u>	1	0.2	
	Tabanidae			
	<u>Tabanus sp.</u>	1	0.2	
	TRICHOPTERA			
	Hydropsychidae			
	<u>Cheumatopsyche sp.</u>	1	0.2	
	EPHEMEROPTERA			
	Caenidae			
	<u>Caenis sp.</u>	35	8.0	
	Baetidae			
	<u>Baetis sp.</u>	8	1.8	
	Ephemeridae			
	<u>Hexagenia atrocaudata</u>	1	0.2	
	HEMIPTERA			
	Notonectidae			
	<u>Notonecta sp.</u>	1	0.2	
	ODONATA			
	Coenagrionidae			
	<u>Anomalagrion hastatum</u>	3	0.7	

TABLE 40-6

03578190 Mud Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	Ischnuridae			
	Ischnura sp.	1	0.2	
	Libellulidae			
	Nannothemis hellia**	1	0.2	
	COLEOPTERA			
	Psephenidae			
	Psephenus herricki	22	5.0	
	Elmidae			
	Stenelmis sp. (larvae)	25	5.7	
	Stenelmis musgravei	2	0.5	
	Halplidae			
	Peltodytes sp.**	5	1.1	
	MEGALOPTERA			
	Sialidae			
	Sialis sp.	1	0.2	
	MOLLUSCA			
	PELECYPODA			
	HETERODONTA			
	Corbiculidae			
	Corbicula manilensis	4	0.9	
	GASTROPODA			
	MESOGASTROPODA			
	Pleuroceridae			
	Goniobasis (Mudalia) sp.	277	63.1	

TABLE 40-6

03578190 Mud Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	%Comp.	Sample
	ANNELIDA			
	CLITELLATA			
	OLIGOCHAETA	47	10.7	
	Naididae			
	TOTALS	439		

SHANNON-WEAVER DIVERSITY = 2.052

BIOTIC INDEX = 2.664, MODERATE ENRICHMENT

TABLE 40-7

03578190 Mud Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA				Surber 1
	INSECTA				
	DIPTERA				
	Chironomidae	1	10.8	0.4	
	Tipulidae				
	Hexatoma sp.	1	10.8	0.4	
	EPHEMEROPTERA				
	Tricorythidae				
	Tricorythodes sp.	1	10.8	0.4	
	Caenidae				
	Caenis sp.	6	64.6	2.6	
	Baetidae				
	Baetis pygmaeus	9	98.9	3.8	
	COLEOPTERA				
	Psephenidae				
	Psephenus herricki	63	678.1	26.8	
	Elmidae				
	Stenelmis sp.	24	258.3	10.2	
	Optioservus sp.	1	10.8	0.4	
	MOLLUSCA				
	PELECYPODA				
	HETERODONTA				
	Corbiculidae				
	Corbicula manilensis	1	10.8	0.4	

TABLE 40-7

03578190 Mud Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	<u>Goniobasis (Mudalia) sp.</u>	106	1141.0	45.1	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	16	172.2	6.8	
	TOTALS	235	2529.6		

SHANNON-WEAVER DIVERSITY = 2.311

TABLE 40-8

03578190 Mud Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA				Surber 2
	INSECTA				
	DIPTERA				
	Chironomidae	2	21.5	1.1	
	Tipulidae				
	Hexatoma sp.	2	21.5	1.1	
	EPHEMEROPTERA				
	Caenidae				
	Caenis sp.	2	21.5	1.1	
	Baetidae				
	Baetis pygmaeus**	7	73.4	3.8	
	Leptophlebiidae				
	Paraleptophlebia sp.	2	21.5	1.1	
	COLEOPTERA				
	Psephenidae				
	Psephenus herricki	41	441.3	22.5	
	Elmidae				
	Stenelmis sp.	7	73.4	3.8	
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	Goniobasis sp.	119	1280.9	65.4	
	TOTALS	182	1959.1		

SHANNON-WEAVER DIVERSITY = 1.533

¹This genus is now known as Mudalia.

TABLE 40-9

03578190 Mud Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES
(continued)

Date	Organism	No.	No./m ²	%Comp.	Sample
	MOLLUSCA				
	GASTROPODA				
	MESOGASTROPODA				
	Pleuroceridae				
	Mudalia (Goniobasis) sp.	249	2680.3	50.7	
	Pleurocera sp.	20	215.3	4.1	
	ANNELIDA				
	CLITELLATA				
	OLIGOCHAETA				
	Naididae	4	43.1	0.8	
	TOTALS	491	5285.2		

SHANNON-WEAVER DIVERSITY = 2.094

TABLE 40-9

03578190 Mud Creek
Franklin Co., TN
BENTHIC MACROINVERTEBRATES

Date	Organism	No.	No./m ²	%Comp.	Sample
9/17/81	ARTHROPODA				Surber 3
	INSECTA				
	DIPTERA				
	Chironomidae	4	43.1	0.8	
	Ceratopogonidae				
	<u>Atrichopogon sp.</u>	1	10.8	0.2	
	Tipulidae				
	<u>Hexatoma sp.</u>	2	21.5	0.4	
	EPHEMEROPTERA				
	Baetidae				
	<u>Baetis sp.</u>	31	333.7	6.3	
	Heptageniidae				
	<u>Stenonema sp.</u>	1	10.8	0.2	
	Caenidae				
	<u>Caenis sp.</u>	4	43.1	0.8	
	ODONATA				
	Coenagrionidae				
	<u>Argia sp.</u>	4	43.1	0.8	
	COLEOPTERA				
	Psephenidae				
	<u>Psephenus herricki</u>	115	1237.9	23.4	
	Elmidae				
	<u>Stenelmis sp.</u>	55	592.0	11.2	
	<u>Stenelmis hungerfordi*</u>	1	10.8	0.2	