HISTORY OF SUSPENDED-SEDIMENT DATA COLLECTION AND INVENTORY OF AVAILABLE DATA FOR THE TENNESSEE AND CUMBERLAND RIVER BASINS

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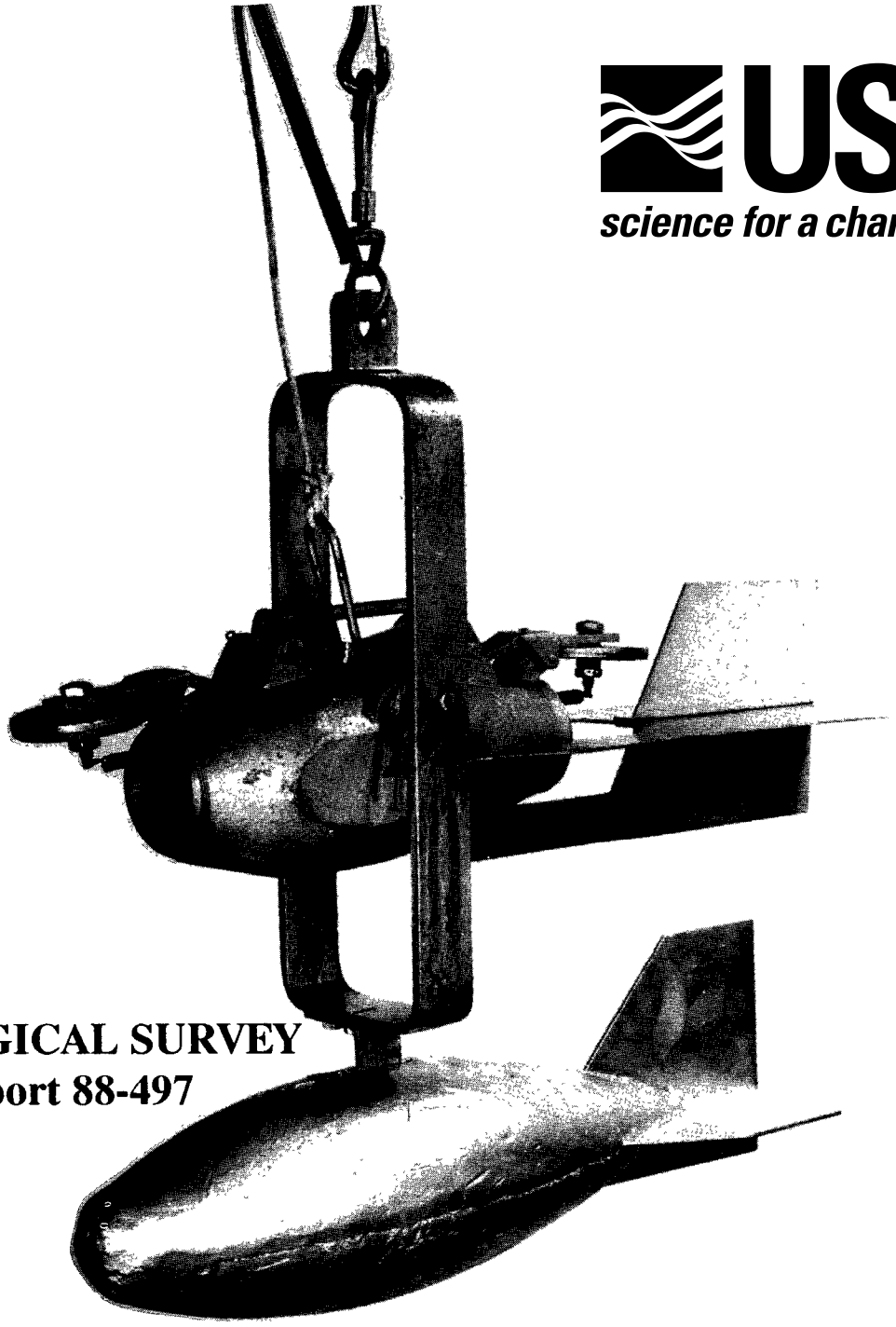

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By William P. Carey, Russell T. Brown, and Carrie G. Chatham

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1988

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CONVERSION FACTORS

For those readers who may prefer to use metric units rather than inch-pound units, conversion factors for the terms used in this report are listed below:

Multiply inch-pound units	By	To obtain metric units
acre-foot (acre-ft)	1,234	cubic meter (m^3)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
square mile (mi^2)	2.590	square kilometer (km^2)
pound (lb)	0.4536	kilogram (kg)
ton, short	0.9078	megagrams (Mg)
cubic foot per second (ft^3/s)	0.02832	cubic meter per second (m^3/s)

HISTORY OF SUSPENDED-SEDIMENT DATA COLLECTION AND INVENTORY OF AVAILABLE DATA FOR THE TENNESSEE AND CUMBERLAND RIVER BASINS

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ABSTRACT

Since the early 1930's, a considerable amount of suspended-sediment data has been collected in the Tennessee and Cumberland River basins, primarily by the Tennessee Valley Authority and the U.S. Geogical Survey. These data sets cover a wide range of drainage areas and sampling frequencies. The most valuable data sets are those where the frequency of sampling was sufficient to compute daily sediment records.

In 1934 and 1935, the Tennessee Valley Authority established 51 daily record suspended-sediment stations on the Tennessee River and its major tributaries. Most of these stations were operated for 3 to 4 years, but nine of the stations were operated for 8 years. From 1962 to 1965, the Tennessee Valley Authority again collected daily sediment record at 10 of the original 51 stations. In addition to the data sets collected on the major rivers, the Tennessee Valley Authority has conducted several intensive studies of small watersheds throughout the Tennessee River Basin.

In the Cumberland River basin, daily sediment records have been collected primarily by the Survey. Daily stations have been operated for various periods on 17 basins ranging in size from 0.67 to 1,977 square miles, with the earliest date of daily record being October 1953. All of these daily stations are located in the upper Cumberland River basin upstream of any major impoundments.

Periodic sediment data have been collected by the U.S. Geological Survey at 194 stations in the Tennessee River basin and at 106 stations in the Cumberland River basin, however, the number of samples per station is quite low. Eighty-six percent of the periodic stations in the Tennessee River basin and 91 percent of the periodic stations in the Cumberland River basin have 30 samples or less.

INTRODUCTION

Documented attempts to determine the concentration of suspended solids in water samples obtained from the Cumberland and Tennessee River basins date back to an investigation of water quality in the eastern United States by the U.S. Geological Survey in 1905 and 1906 (Dole, 1909). Since that time, a considerable amount of suspended-sediment data has been collected in these two basins primarily by the

Tennessee Valley Authority (TVA) and the Geological Survey. In a study of sediment yields in these basins, Trimble and Carey (1984) found that data collected since 1960 had not been inventoried and that a vast amount of data collected by TVA was not readily available in computer storage. In 1985, the Geological Survey, in cooperation with the Tennessee Technological University, began an effort to document the history of suspended-sediment data collection in these basins and to enter most of the TVA data into computer storage on the Geological Survey's National Water Data Storage and Retrieval System (WATSTORE).

The description of previous data-collection efforts not only provides necessary information for the proper use and interpretation of the data, but it also helps preserve valuable information pertaining to the history of hydrology in general and to sediment studies in particular. This report presents a descriptive history of suspended-sediment data collection in the Tennessee and Cumberland River basins, but is restricted to data which are considered to be representative of cross-section mean concentrations, and which are readily available in the WATSTORE system. In recent years, the number of federal, state, and local agencies, plus universities and private consultants that have been collecting data on suspended solids has been constantly increasing. This was particularly true in the late seventies and early eighties when many agencies, universities, consultants, and individual companies were collecting water-quality data including suspended solids in the coal-mining areas of the Tennessee and Cumberland River basins. To attempt an inventory of all of these data would be a monumental task of questionable merit, because a variety of samplers and sampling schemes were employed in collecting these data; the data are generally not available in machine-readable format; the number of observations is generally low; some lack corresponding water-discharge data; and some of the data are proprietary. Therefore, it was decided that this history and inventory would be limited to data that had been collected and analyzed by generally accepted procedures as described by Guy and Norman (1970), and that are readily available on the Geological Survey WATSTORE data base. These provisions essentially restricted consideration to the Geological Survey and TVA data sets.

HISTORY OF SUSPENDED-SEDIMENT DATA COLLECTION

TENNESSEE RIVER BASIN

TVA Data

In 1933, when the TVA was created and began planning the development of the Tennessee Valley (the Valley), there was very little information available on the sediment loads of rivers and streams in the Valley. The only data readily available were from single vertical dip samples at two stations published in 1909 by Dole, and from sedimentation surveys of four existing reservoirs. It was generally known that sediment loads in the Valley were relatively low, particularly when compared to some western streams. However, more comprehensive data were needed for TVA to estimate the useful lives of the reservoirs being planned for the Valley.

Realizing this need for information on sediment loads, TVA began an investigation to determine the amount of sediment transported by the Tennessee River and its major tributaries. During 1934 and 1935, 51 suspended-sediment sampling stations were established on rivers and

streams in the Tennessee Valley (fig. 1). These stations were located at or near the proposed sites of major reservoirs and on the larger tributaries above proposed reservoirs. Where possible, the stations were located at or near Geological Survey stream-gaging stations. Samples were collected primarily during runoff events, but a sufficient number of samples were collected between runoff events to allow TVA to compute daily sediment discharge. The periods of record for the sediment-sampling stations varied from 6 months at two stations to approximately 8 years at nine key stations. Most stations were operated for 3 to 4 years during the interval from 1934 to 1942. During the period from 1934 to 1938, some stations were moved, some were discontinued, and some had sampling start after 1935. Ultimately, different locations were sampled during this time period. The suspended-sediment sampling program was terminated in 1942, mainly because of curtailments in personnel and travel resulting from the United States' entry into World War II.

An unpublished manuscript found in the TVA archives states that there were 11 long-term stations within this group of 51 stations, but does not provide a list of these stations. Evidence of only nine long-term stations has been found in previous inventories or in the TVA archived data. Two of these long-term stations had to be moved during the period of data collection in order to escape backwater from newly completed reservoirs that were in the process of filling. Sampling was started at Clinch River near Tazewell, Tenn. (drainage area (DA) = 1,482 mi^2) in June 1934 and was moved to Clinch River above Tazewell, Tenn. (DA = 1,474 mi^2) in January 1937, where it continued until May 1942. At Hiwassee River at Murphy, N.C. (DA = 421 mi^2), regular sampling began in August 1934 (some samples were collected in February, March, and June 1934) and was moved to Hiwassee River above Murphy, N.C. (DA = 406 mi^2) in May 1940, where it continued until May 1942. The remaining seven long-term stations are Powell River near Arthur, Tenn., Valley River at Tomotla, N.C., Nottely River near Ranger, N.C., Tennessee River at Chattanooga, Tenn., Tennessee River at Hales Bar, Tenn., Tennessee River at Savannah, Tenn., and Tennessee River near Johnsonville, Tenn.

Several of these long-term stations were operated to study the sediment-trapping characteristics of the reservoirs. Clinch River above Tazewell and Powell River near Arthur provided a measure of sediment inflow to Norris Lake after it reached minimum pool elevation in March 1936. Hiwassee River above Murphy, Valley River at Tomotla, and Nottely River near Ranger provided a measure of sediment inflow to Hiwassee Lake after it reached minimum pool elevation in February 1940. Shorter term stations were established downstream from both of these reservoirs to measure sediment outflow. Clinch River below Norris Dam was sampled from December 1937 to April 1942, and Hiwassee River at Hiwassee Dam was sampled from September 1940 to December 1941. On the Tennessee River, the long-term stations at Chattanooga and at Hales Bar were used to measure the sediment-trapping characteristics of the Hales Bar Reservoir which had been in existence since 1913.

Three shorter term stations, Tennessee river at Decatur, Ala., Elk River near Rogersville, Ala., and Tennessee River at Florence, Ala., were used to study the sediment-trapping characteristics of Wilson Reservoir which had been in existence since 1924. Construction of a new dam, Wheeler Dam, upstream of Wilson reservoir but downstream of Decatur and the Elk

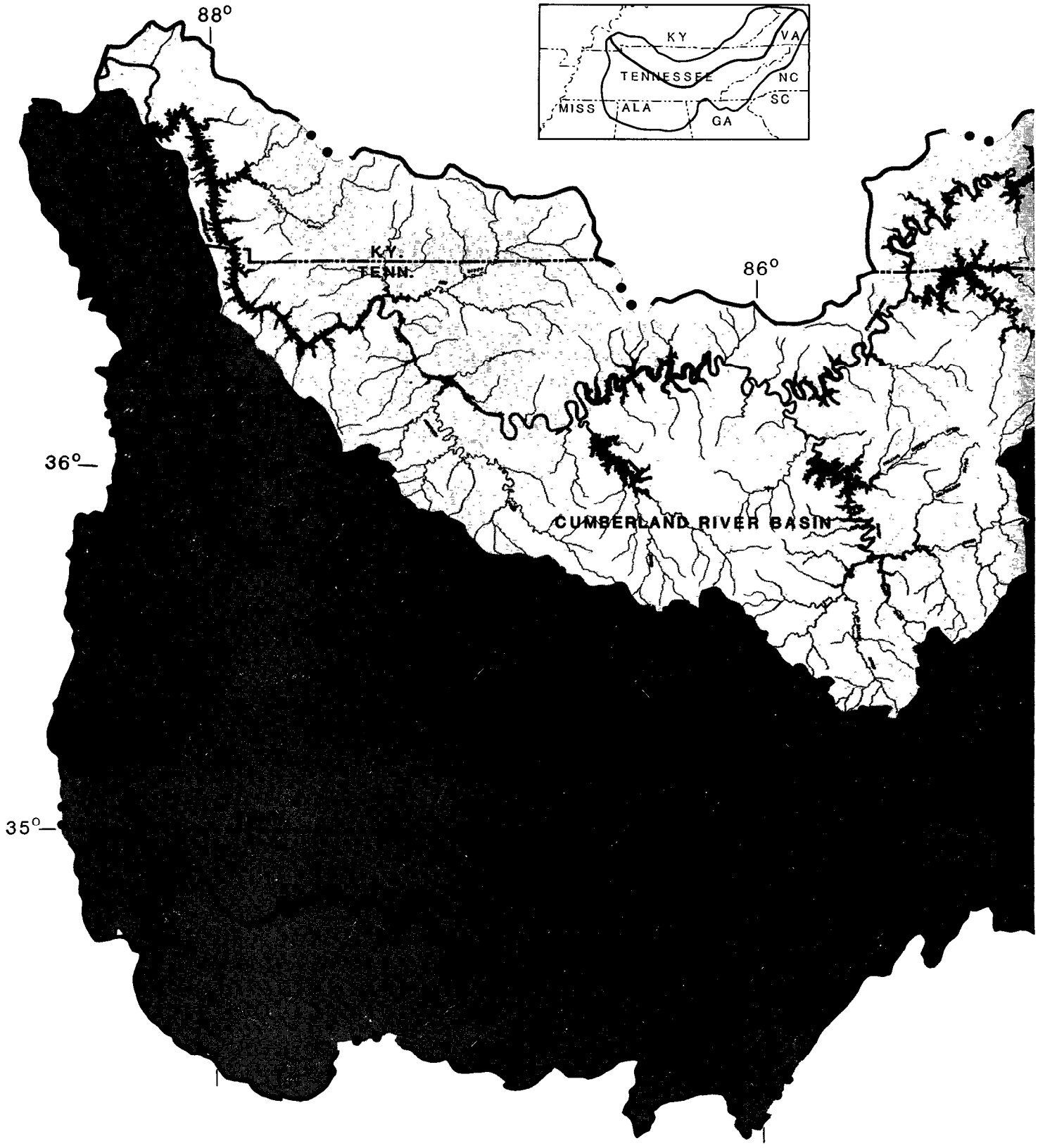
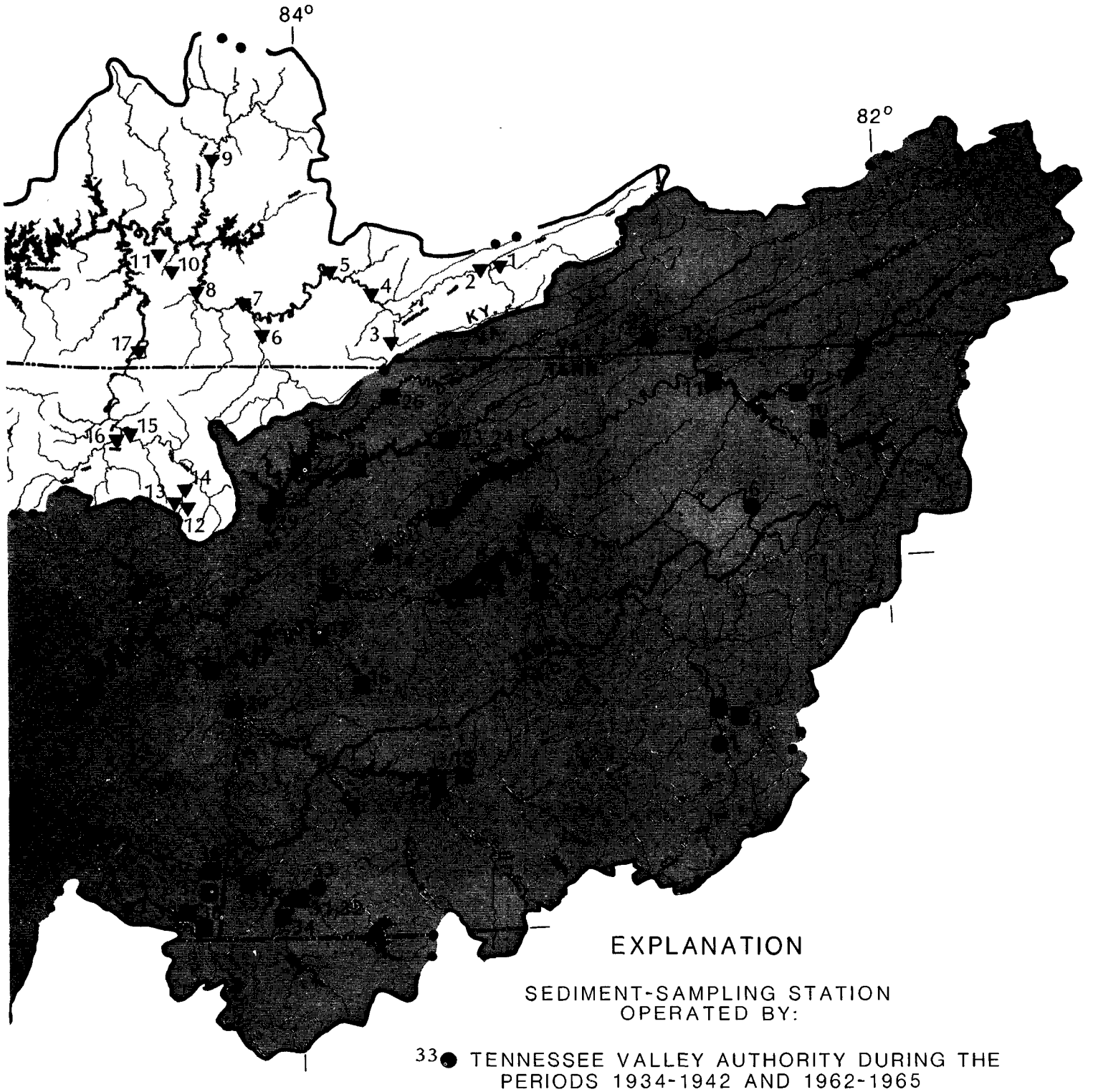


Figure 1.--Location of daily sediment-sampling sta



Note: Number next to station symbol is number in parentheses found in section "Individual Station Comments."

t ons in the Tennessee and Cumberland River basins.

River, began during the period of sediment-data collection at Decatur, Rogersville, and Florence. There is no mention in the unpublished TVA manuscript of how sediment contributions from the construction site were being accounted for, but it does state that the Elk River had a high sediment load. Apparently sediment contributions from the construction site were considered negligible in comparison to the combined loads of the Elk and Tennessee Rivers.

The unpublished TVA manuscript states, "From the results of suspended sediment load determinations above and below Hales Bar, Wilson, Norris, and Hiwassee Reservoirs, the sedimentation efficiencies of these reservoirs for various discharges and pool levels were determined." While actual station names are not mentioned in the TVA manuscript, the periods of record and station locations make the stations given above the only choices for the sediment-load determinations above and below the reservoirs listed. The TVA manuscript goes on to state, "These data were all correlated into one relationship by the use of which it has been possible to estimate future rates of sedimentation of all Tennessee River and tributary reservoirs." This "relationship" is the same one published by Churchill (1948).

At the time sediment sampling began on the larger streams in the Tennessee Valley, the TVA also began a program of intensive data collection on small watersheds. The original purpose of the watershed research program was to study the effects of reclamation practices that TVA was implementing on badly eroded lands throughout the basin. These watershed research projects continued from 1934 through the mid-1970's, and during this time period, the purpose of these projects evolved from studying the effects of reclamation practices to studying the impacts of various basin management and resource development strategies. A summary of these projects was prepared by TVA in 1968, and more detailed descriptions of some projects are presented by Betson (1979), and in TVA publications (1961a, 1961b, 1962a, 1962b, 1963a, 1963b, 1964a, 1964b, 1965, 1970, and 1972).

In addition to the references cited above, information concerning sediment sampling at some of these watershed stations is given in Federal Inter-Agency River Basin Commission (1949 and 1952) and Harris (1962). The period of record for many stations listed in Harris (1962) as terminating in September 1960 actually continues beyond that date. The September 1960 date merely reflects the end of the period inventoried by Harris. The sediment data collected by TVA at the watershed research stations have not been entered into the WATSTORE system. Most of the data were collected at stations for which no water-discharge data have been stored, and some cannot be considered as being representative of the cross section mean concentration.

In December 1962, a 3-year sediment-sampling program was initiated at 10 of the stations sampled in the earlier program (fig. 1). These stations were selected partly because they were on unregulated streams. The purpose of this sampling effort was to provide a more current index to suspended-sediment transport in the Tennessee Valley, and to make a comparison with the results of the earlier study. As in the earlier study, samples were collected at a frequency that would allow for the computation of daily sediment loads. The 10 stations selected for this study were: French Broad River at Bent Creek, N.C., Nolichucky River at Embreeville, Tenn., North Fork Holston River near Gate City, Va., Clinch River at Speers Ferry, Va., Emory

River at Oakdale, Tenn., Valley River at Tomotla, N.C., Sequatchie River near Whitwell, Tenn., Elk River near Prospect, Tenn., Bear Creek at Bishop, Ala., and the Duck River above Hurricane Mills, Tenn. The actual sampling site on the Duck River was "near Hurricane Mills, Tenn." (DA = 2,571 mi^2), from November 1934 to January 1938. In 1951, this station was discontinued and moved to "above Hurricane Mills, Tenn." (DA = 2,557 mi^2). All other sampling sites were the same for both periods. Of these 10 stations, only Valley River at Tomotla, N.C., was one of the original long-term stations with 8 years of daily record from August 1934 to May 1942.

The selection of Elk River near Prospect (DA = 1,784 mi^2) for this comparison study is somewhat misleading because Woods Reservoir (DA = 263 mi^2) on the Elk River began impounding water in May 1952. Since the completion of the comparison study, additional reservoirs have been constructed in the Bear Creek, Elk River, and Duck River basins. If a third comparison study were initiated, only 7 of the 10 stations sampled in 1963-65 would be on unregulated streams. Several of the other original 51 stations are on unregulated streams. Resampling at these sites would provide a current assessment of suspended-sediment yields which could be compared to the original sampling period.

During the process of entering the daily data from the 1962-65 sampling effort into the WATSTORE files, it was noticed that many days were listed as having zero concentration. This problem was not encountered in the earlier data, and the treatment of these alleged zero concentration days was the cause of some concern. Obviously, conditions in these basins are not so pristine that in the absence of rainfall the suspended-sediment concentration falls to zero. Therefore, these zero values were considered as completely erroneous and were not stored in WATSTORE. It was beyond the scope of this project to undertake the analysis required to estimate values for these zero concentration days from the measured data. However, any valid comparison of sediment yields for the two periods will have to address this problem of zero value days.

Since 1965, suspended-sediment data collection by the TVA has been concentrated on research watershed studies and specific project needs. These data have not been included in this inventory for the reasons discussed above.

Geological Survey Data

The Survey has collected suspended-sediment data at 196 stations throughout the Tennessee River basin. The period of record for sediment at most of these stations begins in the mid-seventies with only two stations having data from the sixties and none with data earlier than 1960. All but 2 of the 196 stations have been sampled periodically, which means that samples have been collected infrequently and daily record cannot be computed. The two daily stations are special purpose stations designed to monitor suspended-sediment concentration for the Tennessee-Tombigbee Waterway and daily sediment discharge is not computed at these two stations. These two stations are not shown on figure 1.

The number of samples collected at each of the periodic stations is generally low. Sixty-four percent (124 stations) have 10 samples or less and 86 percent (167 stations) have 30 samples or less (fig. 2). Most of the stations with short

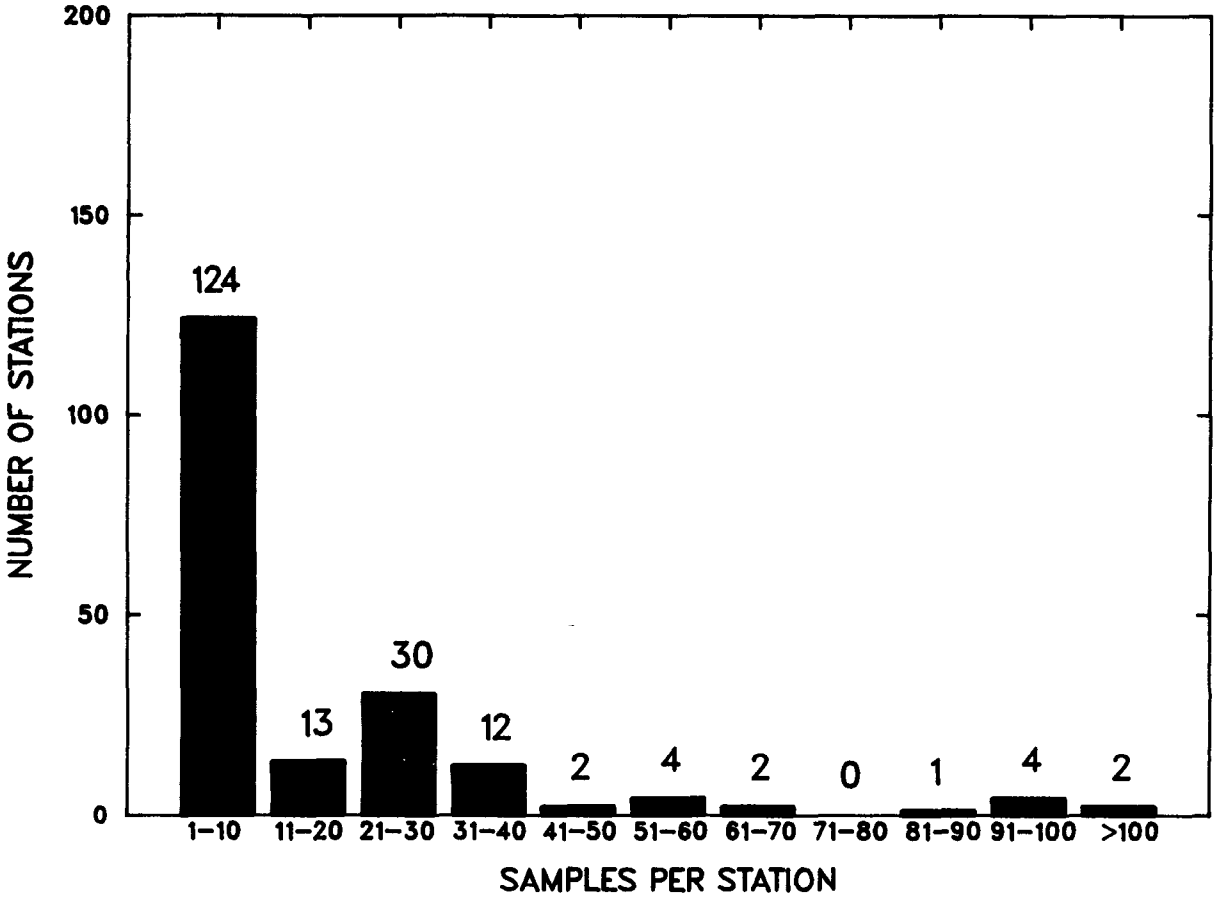


Figure 2.--Frequency distribution of the number of suspended-sediment samples collected at U.S. Geological Survey stations in the Tennessee River basin.

periods of record and low numbers of samples were operated during the U.S. Geological Survey Coal Hydrology Program from 1979 to 1981. As of 1985, only 10 of the 196 periodic stations were still being sampled. Eight of these 10 stations are part of the U.S. Geological Survey National Stream Quality Accounting Network (NASQAN), and 2 are part of the U.S. Geological Survey Benchmark Network.

CUMBERLAND RIVER BASIN

Suspended-sediment data in the Cumberland River basin have been collected primarily by the Survey. Several daily-record stations have been operated in the upper Cumberland River basin upstream of any major impoundments (fig. 1). Drainage areas for these daily stations range from 0.67 to 1,977 mi^2. Periods of daily record at these stations are variable and sometimes discontinuous due to the vagaries of funding. The earliest daily station began operating in October 1953. As of September 1985, four daily stations were operating on the main stem of the Cumberland River. Many of the stations have been operated to monitor suspended-sediment yields from coal-mining areas in the upper Cumberland and South Fork Cumberland River basins; however, no basin-wide sediment-sampling program, similar to the TVA effort, has occurred in the Cumberland River basin.

The Survey has collected periodic sediment data at 106 stations in the Cumberland River basin. Most of these stations were sampled in the late seventies and early eighties during the Coal Hydrology Project. The number of samples at these stations is generally low. Seventy-one percent (75 stations) have 10 samples or less, and 91 percent (97 stations) have 30 samples or less (fig. 3). As of September 1985, two of these stations were still being sampled as part of the NASQAN program.

SAMPLING METHODS AND SAMPLERS USED

Prior to 1943, no uniformity or standardization of suspended-sediment samplers or sampling methods existed. Agencies with a need for suspended-sediment data had to fabricate their own samplers and develop their own field procedures. At the beginning of the sediment study in 1933, TVA designed a horizontal-tube sampler that could collect an instantaneous sample from any point in the river cross section. The sampler consists of a horizontal cylinder with a flap valve hinged just above the opening at each end. The cylinder was suspended about a horizontal axis normal to the streamflow which permitted the cylinder to be aligned parallel with the flow regardless of downstream drift. The open sampler was lowered to the desired depth and then the cylinder was closed by triggering a spring-activated flap valve. Several models, all of the same basic type, were built and used at some time, but the model shown in figure 4 was used throughout most of the TVA sampling program. Although the sampler has sufficient weight for ordinary conditions in shallow rivers, additional weights were usually attached below the sampler as shown in figure 4. A lighter weight version of the sampler without the attached weight was particularly advantageous in shallow streams and for sampling near the streambed (Federal Inter-Agency River Basin Commission, 1940).

The method of sampling used by TVA was an approximation of the equal discharge increment method (Guy and Norman, 1970), with several points being sampled in each vertical to

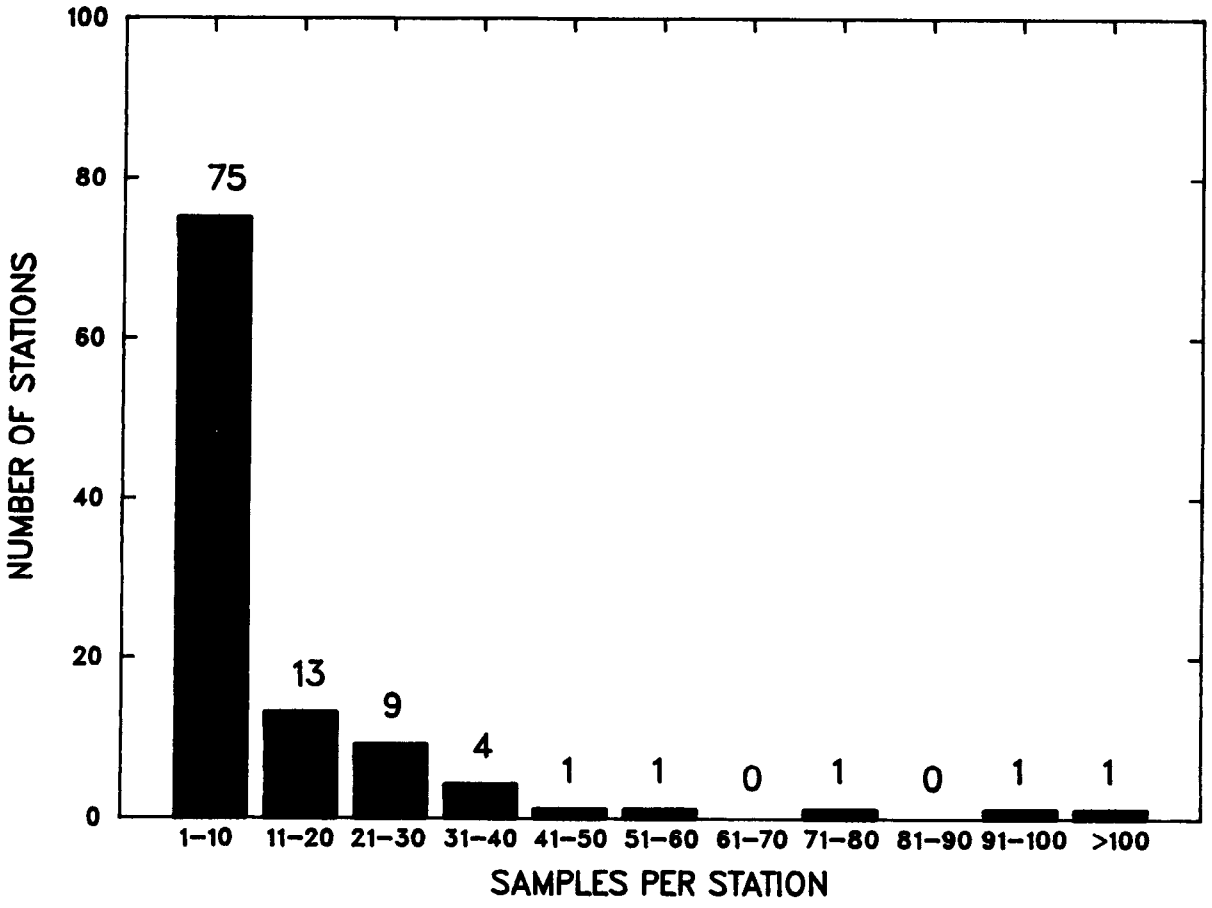


Figure 3.--Frequency distribution of the number of suspended-sediment samples collected at U.S. Geological Survey stations in the Cumberland River basin.

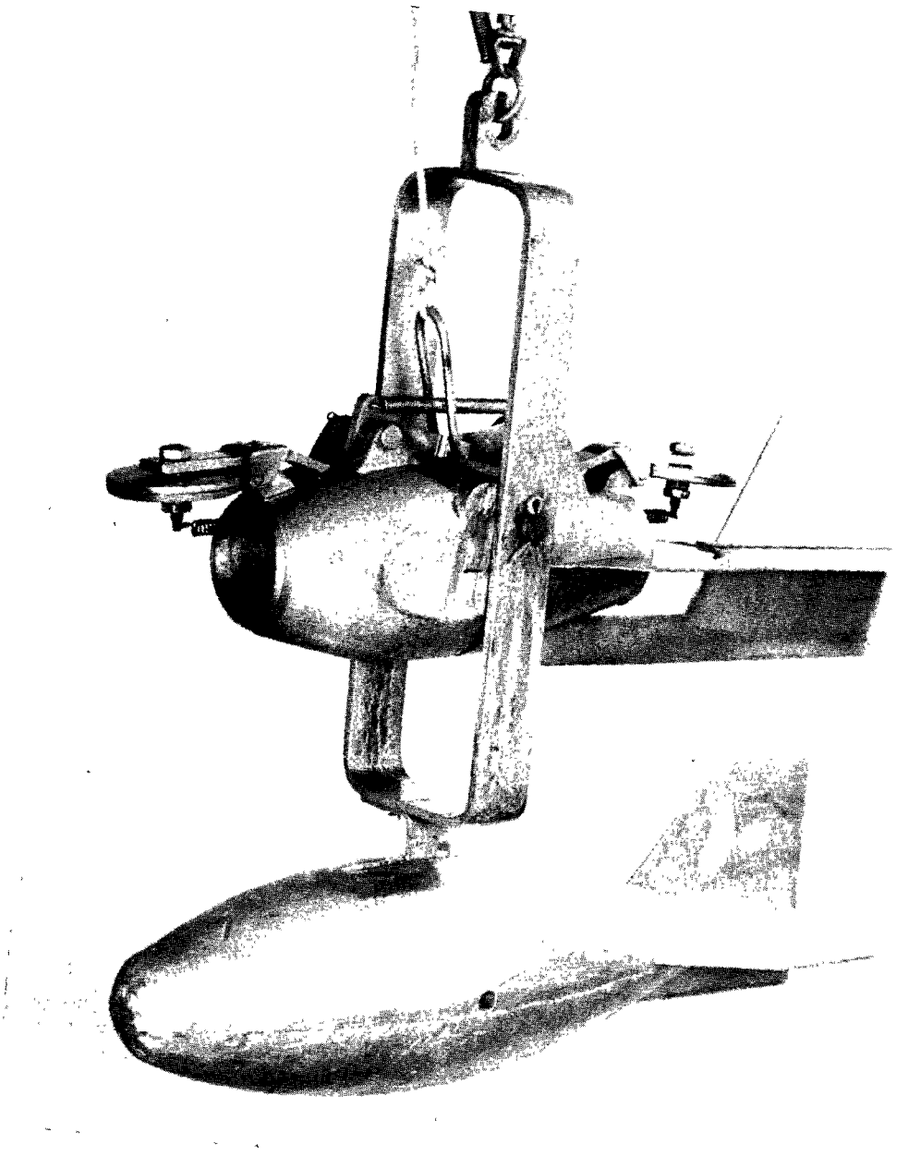


Figure 4.--Suspended-sediment sampler designed by the Tennessee Valley Authority, used prior to 1943.

approximate depth integration. Sampling was usually done from highway bridges at or near selected Survey or TVA stream-gaging stations. To account for the variation in sediment concentration that might exist between one side of the channel and the other, samples were ordinarily collected from three to five verticals. On small streams, sometimes less than three verticals were sampled and, on large streams, occasionally up to seven verticals were sampled. An attempt was made to locate the sampling verticals in the centers of equal increments of water discharge to obtain approximately equal weights for determining the cross-section mean concentration. In order to account for the variation in sediment concentration that might exist between the water surface and the streambed, one sample was collected from each of three points in each vertical. The first sample in a vertical was collected about 0.5 foot below the water surface, but may have varied between 0.3 and 1.0 foot depending upon depth, wave action, drift, and similar factors. The second sample was taken with the center of the cylinder about 0.5 foot above the stream bed, and the third sample was obtained from mid-depth. The results of each set of three samples were averaged, giving the middle sample double weight to obtain a mean concentration for the vertical (TVA, written commun., 1987). The practice of giving double weight to the mid-depth sample is based on the assumption that the average of the surface and mid-depth samples represents the upper half of the discharge in the vertical and the average of the bottom and mid-depth samples represents the lower half (Federal Inter-Agency River Basin Commission, 1940, p. 62).

The frequency of sampling at any one station varied, depending upon the size of the stream and flow conditions. During base-flow conditions, one set of samples per week was sufficient, but during runoff events, an attempt was made to collect two sets of samples during the rise of the hydrograph, one at the peak of the hydrograph (or close to the peak on smaller streams), and at least one other set about halfway down the receding limb of the hydrograph (TVA, written comm., 1987).

The major disadvantages of the TVA sampler and sampling method were that depth integration had to be approximated, and that the sample had to be transferred from the cylinder to another container. TVA personnel observed that transferring the sample seemed to be a problem only when sand was in suspension. These difficulties were solved in 1943 with the introduction of standardized depth-integrating samplers and sampling methods by the Federal Inter-Agency River Basin Committee (1952). TVA conducted comparison tests between the three-point sampling procedure and depth integration according to an unpublished summary of sediment investigations prepared by TVA. The results of this comparison indicated that sediment concentrations obtained by the three-point method were consistently lower, and averaged 10 percent lower than concentrations obtained by depth integration. Although the details of these comparison tests were not given, the use of different samplers and methods during the two TVA sampling programs is a factor that must be kept in mind when attempting to compare the results of the two sampling periods.

Descriptions of depth-integrating samplers and sampling techniques are not included here because they are widely available (for example, see Guy and Norman, 1970). All Survey data and the 1962-65 TVA data have been collected using these standardized samplers and techniques.

HISTORY OF RESERVOIR CONSTRUCTION

In order to properly interpret the available data, particularly the data from the Tennessee River basin, it is important to know the location of reservoirs that were in place and the ones that were being constructed during the period of data collection. Table 1 provides a list of reservoirs, in chronological order, by the date that storage began. In addition, the downstream order number for the reservoir is given so that the reservoir can be located with respect to the sampling stations inventoried in this report.

In 1934, when TVA began its initial sediment-sampling effort, there were 10 reservoirs already in the basin, 2 of which were on the Tennessee River. Hales Bar was little more than a run-of-river reservoir and, in fact, during a period of high flow in the first 4 months of 1936, more sediment was measured coming out of Hales Bar than going into it. Wilson, however, is a major impoundment with a storage capacity of 687,000 acre-feet as measured in 1928 (Dendy and Champion, 1978), and a total drainage area of 30,750 mi^2, which represents 75 percent of the total Tennessee River drainage area. Wilson Reservoir has a trap efficiency of between 60 and 75 percent (Trimble and Carey, 1984). Therefore, during the initial TVA sampling program, suspended-sediment data obtained at Tennessee River at Florence, Ala., at Savannah, Tenn., near Johnsonville, Tenn., and near Buchanan, Tenn., were influenced by the presence of Wilson Reservoir.

The Tennessee River at Savannah and near Johnsonville are two of the nine long-term stations. Other long-term stations affected by construction or closure of upstream reservoirs at some point during their data-collection period include Tennessee River at Chattanooga, and at Hales Bar, Nottely River near Ranger, and Hiwassee River above Murphy.

DATA INVENTORY

PREVIOUS INVENTORIES

A comprehensive inventory of published and unpublished sediment data in the United States up to 1960 is available (Federal Inter-Agency River Basin Committee, 1949; 1952; Harris, 1962). These references list all known data sources regardless of the sampler or sampling methodology used, or the availability of the data. Many of the data-collection efforts listed in these previous inventories consisted of little more than dipping a bottle into a stream at a single location in the stream cross section. This type of sampling does not account for vertical and horizontal variations in suspended-sediment concentration (Guy, 1970, and Guy and Norman, 1970) and the concentration data resulting from these samples cannot be interpreted as representing the cross-section mean concentration. References cited in these previous inventories indicate that many of the data sets are not readily available in machine readable format.

The following list of data for the Tennessee and Cumberland River basins is restricted to data that are assumed to be representative of cross-section mean values. Most of the data are available on the WATSTORE system, however some stations have peculiarities that restricted the use of some or all of their available data. These stations could not be easily identified in the inventory tables, therefore it is important that the comment section be consulted before attempting to retrieve or use the data.

Table 1.--*Chronological listing of reservoirs constructed in the Tennessee River basin*

Name of reservoir	Date began	River name	Downstream order number
Ocoee #1	1911	Ocoee	03564000
Wilbur	1912	Watauga	03483970
Nolichucky	1913	Nolichucky	03466400
Hales Bar	10/13/13	Tennessee	Demolished
Cheoah	12/08/18	Little Tennessee	03515152
Wilson	04/14/24	Tennessee	03589000
Santeetlah	12/07/27	Cheoah	03516500
Waterville	10/29	Pigeon	03460242
Calderwood	1930	Little Tennessee	03517900
Blue Ridge	12/06/30	Toccoa	03558500
Norris	03/04/36	Clinch	03532500
Wheeler	10/03/36	Tennessee	03586000
Pickwick	02/08/38	Tennessee	03593000
Guntersville	01/16/39	Tennessee	03574000
Hiwassee	04/13/39	Hiwassee	03554500
Chickamauga	02/06/40	Tennessee	03566500
Thorpe	02/12/41	W. Fork Tuckasegee	03507500
Cherokee	12/05/41	Holston	03493500
Watts Bar	12/12/41	Tennessee	03543000
Nantahala	01/30/42	Nantahala	03504500
Chatuge	02/12/42	Hiwassee	03546500
Ocoee #3	08/15/42	Ocoee	03562500
Nottely	12/24/42	Nottely	03553000
Appalachia	02/14/43	Hiwassee	03555500
Douglas	02/19/43	French Broad	03468500
Fort Loudoun	08/02/43	Tennessee	03499500
Kentucky	08/16/44	Tennessee	03609000
Fontana	11/07/44	Little Tennessee	03514500
Watauga	12/01/48	Watauga	03483500
South Holston	11/20/50	S. Fork Holston	03476000
Woods	05/01/52	Elk	03579000
Boone	12/16/52	S. Fork Holston	03486800
Fort Patrick Henry	12/16/52	S. Fork Holston	03487000
Chilhowee	06/09/57	Little Tennessee	03518200
Melton Hill	05/01/63	Clinch	03535900
Nickajack	12/14/67	Tennessee	03570520
Tims Ford	12/01/70	Elk	03580740
Normandy	12/05/76	Duck	03596460
Tellico	11/29/79	Little Tennessee	03519800

INVENTORY TABLES

Available suspended-sediment data for the Tennessee and Cumberland River basins are listed in tables 2 and 3, respectively. Each table is arranged by an eight-digit downstream order number shown in the first column. Drainage area is given in square miles, except for stations where the drainage area has not been determined (ND). No ending date under sediment period of record indicates that the station was still being sampled as of September 1985. Similarly, the number of samples in parentheses indicates the number of samples as of September 1985. A daily record station is indicated in the number of samples column by D and an event station is indicated by E. An event station is one where samples are collected only during runoff events and sufficient data are not available to compute daily record between events. The number of samples collected at each station during the first TVA sampling effort was obtained from the Federal Inter-Agency River Basin Committee 1949 inventory. The number of samples is listed because the information is available and because it increases the information content of the table. It should be noted that most of these stations have daily record available even though the station is not labelled with a D in table 2. The "Individual Station Comments" section should be consulted to determine the period of daily record for these stations. The number of samples collected at each station during the second TVA effort have not been tallied, so these stations are listed as daily stations. An indication of the type of sampler used only appears in table 2, because some data were collected using the sampler developed by TVA and some data were collected using the standardized depth-integrating sampler (USD). All data listed in table 3 were collected using the standardized sampler.

The type of water-discharge data available is indicated in the flow period of record column. Stations should be considered as continuous-record gaging stations for the dates shown unless otherwise noted. "Misc" indicates a miscellaneous station at which there is no continuous record and only miscellaneous measurements of water-discharge are available. Water-discharge data from TVA gaging stations are indicated by the letters TVA, otherwise all water discharge data are from the Survey. The letters CSPR indicates that the station is a crest-gage partial-record station, and LFPR indicates a low-flow partial-record station. Missing ending dates in this column indicate that as of September 1985, the station was still in operation. The period and type of water-discharge data pertains to the period of sediment-data collection, other periods and types of water-discharge data may be available for some of these stations. The phrase "GH only" indicates that only gage height data are available and water discharge has not been computed.

INDIVIDUAL STATION COMMENTS

Some stations listed in tables 2 and 3 require a more detailed explanation of their data-collection and data-storage history. This additional information is given below. The entire period of sampling is given for the TVA stations operated in the earlier sampling effort. This allows a comparison between the sampling period and the period of daily record. At some of these stations, the period of daily record is slightly longer than the sampling period, because the period of daily record was extended by estimating daily values from the sample data. For the Survey daily stations, no extrapolation beyond the period of daily data collection has been done. Numbers listed to the right of the station name correspond to the numbers on figure 1.

Table 2.--Summary of suspended-sediment data in the Tennessee River basin

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Sampler	Flow period of record
03439000	French Broad River at Rosman, N.C.	67.9	03/77-03/79	31	USD	05/07-06/09 10/35-
03441000	Davidson River near Brevard, N.C.	40.4	03/77-03/79	29	USD	10/20-
03441440	Little River above High Falls near Cedar Mountain, N.C.	26.8	07/77	1	USD	10/62-
03443000	French Broad River at Blantyre, N.C.	296	03/77-03/79	32	USD	10/20-
03445376	North Fork Mills River above Mills River, N.C.	18.6	03/77-08/78	3	USD	Misc. 1977-78
03446000	Mills River near Mills River, N.C.	66.7	03/77-03/79	27	USD	09/24-09/26 10/33-
03448000	French Broad River at Bent Creek, N.C.	676	03/35-12/37	442	TVA	10/33-
			12/62-12/65	D	USD	10/33-
			03/77-11/79	26	USD	10/33-
03448500	Hominy Creek at Candler, N.C.	79.8	04/77-10/77	6	USD	10/42-09/77
03448960	North Fork Swannanoa River below Burnett Reservoir near Black Mountain, N.C.	22.1	04/77-08/77	5		USD 05/76-09/77
03450000	Beetree Creek near Swannanoa, N.C.	5.0	03/77-03/81	51	USD	02/26-09/75 10/79-09/80
03451000	Swannanoa River at Biltmore, N.C.	130	12/34-12/37	414	TVA	10/20-09/26 05/34-
			03/77-11/79	32	USD	10/20-09/26 05/34-
03451500	French Broad River at Asheville, N.C.	945	10/34-03/35	50	TVA	10/1895-
			01/38-09/38	101	TVA	10/1895-
			03/77-10/78	26	USD	10/1895-
03453500	French Broad River at Marshall, N.C.	1,332	09/73-	(96)	USD	10/42-
03455000	French Broad River near Newport, Tenn.	1,858	07/34-07/38	571	TVA	10/20-
03455500	West Fork Pigeon River above Lake Logan near Hazelwood, N.C.	27.6	03/77-03/79	29	USD	02/54-
03456000	West Fork Pigeon River below Lake Logan near Waynesville, N.C.	55.3	03/77-09/79	31	USD	03/54-12/80
03456100	West Fork Pigeon River near Bethel, N.C.	58.4	05/84	1	USD	01/81-
03456500	East Fork Pigeon River near Canton, N.C.	51.5	03/77-05/84	34	USD	03/54-
03456991	Pigeon River near Canton, N.C.	130	03/77-05/84	31	USD	05/07-06/09 10/28-
03459500	Pigeon River near Hepco, N.C.	350	04/77-08/82	59	USD	07/27-
03460000	Cataloochie Creek near Cataloochie, N.C.	49.2	09/73-	(124)	USD	10/33-09/52 10/62-

Table 2.--Summary of suspended-sediment data in the Tennessee River basin--Continued

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Sampler	Flow period of record
03461500	Pigeon River at Newport, Tenn.	666	07/34-07/38	503	TVA	09/25-09/48
03461976	North Toe River near Ingalls, N.C.	74.1	01/78-04/79	12	USD	Misc 1976-82
03463021	North Toe River at Penland, N.C.	145	01/78-04/79	12	USD	Misc 1978-82
03463292	Locust Creek near Celo, N.C.	1.8	10/77-03/78	2	USD	Misc 1977-78
03463300	South Toe River near Celo, N.C.	43.3	03/77-01/82	44	USD	07/57-
03465500	Nolichucky River at Embreeville, Tenn.	805	10/34-12/37	234	TVA	09/00-05/01 10/19-
			12/62-12/65	D	USD	09/00-05/01 10/19-
			08/79-08/82	27	USD	09/00-05/01 10/19-
03467600	Nolichucky River near Morristown, Tenn.	1,686	07/34-06/38	566	TVA	11/20-09/42
03468200	French Broad River at Dandridge, Tenn.	4,446	07/34-10/38	596	TVA	10/18-09/42
03470000	Little Pigeon River at Sevierville, Tenn.	353	09/79-09/82	28	USD	10/20-02/82
03470500	French Broad River near Knoxville, Tenn.	5,101	11/74-	(96)	USD	10/45-
03477000	South Fork Holston River at Bluff City, Tenn.	813	12/34-06/35	47	TVA	07/00-05/53
03479000	Watauga River near Sugar Grove, N.C.	92.1	03/77-04/80	32	USD	10/39-
03485500	Doe River at Elizabethton, Tenn.	137	08/79-08/82	29	USD	10/11-09/16 10/20-03/82
03486000	Watauga River at Elizabethton, Tenn.	692	12/34-06/35	45	TVA	10/25-07/49 07/53-02/82
03487400	South Fork Holston River at Kingsport, Tenn.	1,932	12/34-07/38	408	TVA	09/25-09/53
03487550	Reedy Creek near Orebank, Tenn.	36.3	08/79-08/82	29	USD	10/63-
03490000	North Fork Holston River near Gate City, Va.	672	01/35-07/38	390	TVA	10/31-12/81
			12/62-12/65	D	USD	10/31-12/81
			05/74-02/76	4	USD	10/31-12/81
03494000	Holston River near Jefferson City, Tenn.	3,429	09/37-10/38	143	TVA	10/36-06/74
03494900	Holston River at Strawberry Plains, Tenn.	3,626	06/34-09/37	474	TVA	10/30-09/48
03495500	Holston River near Knoxville, Tenn.	3,747	01/78-	(59)	USD	10/30-06/76 01/78-
03497100	Tennessee River below Knoxville, Tenn.	8,963	10/38-04/42	193	TVA	See comments
03497300	Little River above Townsend, Tenn.	106	03/65-09/82	34	USD	10/63-
03498000	Little River near Walland, Tenn.	192	12/34-08/35	50	TVA	07/31-04/52

Table 2.--Summary of suspended-sediment data in the Tennessee River basin--Continued

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Sampler	Flow period of record
03498500	Little River near Maryville, Tenn.	269	08/79-06/82	21	USD	07/51-
03499110	Little River near Rockford, Tenn.	352	06/35-12/37	268	TVA	TVA 03/36-12/37
03500240	Cartoogechaye Creek near Franklin, N.C.	57.1	03/77-04/79	27	USD	06/61-
03503000	Little Tennessee River at Needmore, N.C.	436	03/77-03/80	63	USD	10/43-12/81 10/83-
03505500	Nantahala River at Nantahala, N.C.	144	04/77-06/80	23	USD	05/42-12/81
03507000	Little Tennessee River at Judson, N.C.	664	04/35-06/38	317	TVA	06/1896-01/45
03510500	Tuckasegee River at Dillsboro, N.C.	347	03/77-01/82	21	USD	06/28-12/81
03510815	Mingus Creek at Ravensford, N.C.	4.7	10/77-03/78	2	USD	Misc 1977-78
03512000	Oconaluftee River at Birdtown, N.C.	184	03/77-01/82	37	USD	07/45-09/46 07/48-
03513000	Tuckasegee River at Bryson City, N.C.	655	04/35-06/38	323	TVA	10/1897-12/81 10/83-
			03/77-01/82	30	USD	10/1897-12/81 10/83-
03518500	Tellico River at Tellico Plains, Tenn.	118	08/79-09/82	28	USD	07/25-02/82
03519500	Little Tennessee River at McGhee, Tenn.	2,443	12/34-12/37	329	TVA	10/04-09/69
03520000	Tennessee River at Loudon, Tenn.	12,200	12/34-10/38	404	TVA	10/22-09/55
03521500	Clinch River at Richlands, Va.	137	09/79-08/81	5	USD	10/45-
03521650	Town Hill Creek at Doran, Va.	5.91	07/81-08/81	2	USD	Misc 1979-81
03521700	Mudlick Creek at Doran, Va.	7.35	05/81-08/81	2	USD	11/79-09/80 Misc 1979-81
03522550	Flatrock Creek near Drill, Va.	1.94	07/81-08/81	2	USD	Misc 1979-81
03523000	Big Cedar Creek near Lebanon, Va.	51.5	06/79	1	USD	10/52-09/59 Misc 1979-80
03523700	Weaver Creek at Artrip, Va.	18.1	03/80	1	USD	Misc 1979-80
03524000	Clinch River at Cleveland, Va.	528	02/80-08/81	10	USD	10/20-
03524010	Dumps Creek near South Clinchfield, Va.	6.99	06/79-08/81	4	USD	Misc 1979-81
03524020	Hurricane Fork near South Clinchfield, Va.	11.3	03/80	1	USD	Misc 1979-80
03524030	Chaney Creek near South Clinchfield, Va.	6.05	03/80-08/81	4	USD	Misc 1979-81
03524050	Lick Creek at St. Paul, Va.	28.5	03/80-08/81	3	USD	Misc 1979-81
03524060	Russell Creek near St. Paul, Va.	8.02	03/80	1	USD	Misc 1979-80

Table 2.--Summary of suspended-sediment data in the Tennessee River basin--Continued

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Sampler	Flow period of record
03524340	Guest River at Norton, Va.	29.2	06/79	1	USD	Misc 1979-80
03524346	Bear Creek near Wise, Va.	7.45	06/79-08/81	3	USD	Misc 1979-81
03524348	Yellow Creek near Wise, Va.	4.95	06/79-08/81	3	USD	Misc 1979-81
03524500	Guest River at Coeburn, Va.	87.3	02/80-08/81	7	USD	09/49-09/59 10/78-09/81
03524700	Little Stony Creek near Dungannon, Va.	16.2	03/80	1	USD	Misc 1979-80
03524900	Stony Creek at Ka, Va.	30.9	04/79-08/81	20	USD	03/80-09/81
03525100	Cove Creek near Stanleytown, Va.	23.5	03/80	1	USD	Misc 1979-80
03525490	Stock Creek at Clinchport, Va.	31.2	03/80	1	USD	Misc 1979-80
03527000	Clinch River at Speers Ferry, Va.	1,126	12/34-07/38	414	TVA	10/20-09/76 10/78-09/81
			12/62-12/65	D	USD	10/20-09/76 10/78-09/81
			05/74-10/76	9	USD	10/20-09/76 10/78-09/81
			04/79-08/81	27	USD	10/20-09/76 10/78/09/81
03527480	North Fork Clinch River near Duffield, Va.	16.1	03/80	1	USD	Misc 1979-80
03527490	Dry Branch near Duffield, Va.	4.24	03/80	1	USD	Misc 1979-80
03528000	Clinch River above Tazewell, Tenn.	1,474	01/37-05/42	584	TVA	07/35-
03528020	Clinch River near Tazewell, Tenn.	,1482	06/34-12/36	452	TVA	08/27-12/36
03528410	Clinch River near Loyston, Tenn.	1,806	03/34-07/35	162	TVA	See comments
03529300	Powell River near Norton, Va.	27.5	06/79	1	USD	Misc 1978-80
03529310	Roaring Fork at Dunbar, Va.	8.70	03/80-08/81	3	USD	Misc 1979-81
03529315	Potcamp Fork at Dunbar, Va.	7.21	06/79-03/80	2	USD	Misc 1979-80
03529400	Callahan Creek near Stonega, Va.	9.59	06/79-03/80	2	USD	Misc 1979-80
03529410	Mud Lick Creek near Stonega, Va.	10.7	06/79-03/80	2	USD	Misc 1979-81
03529450	Looney Creek at Appalachia, Va.	5.97	06/79-08/81	4	USD	Misc 1979-81
03529475	Roaring Branch at Big Stone Gap, Va.	1.58	03/80	1	USD	Misc 1979-80
03529500	Powell River at Big Stone Gap, Va.	112	06/79-08/81	7	USD	10/44-09/59 10/78-09/81
03529800	South Fork Powell River at East Stone Gap, Va.	27.2	03/80	1	USD	Misc 1979-80
03529900	Butcher Fork at East Stone Gap, Va.	8.15	06/79-03/80	2	USD	Misc 1979-80

Table 2.--Summary of suspended-sediment data in the Tennessee River basin--Continued

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Sampler	Flow period of record
03530400	North Fork Powell River at Pocket, Va.	42.3	06/79	1	USD	Misc 1979-80
03530440	Straight Creek at St. Charles, Va.	6.84	06/79-08/81	3	USD	Misc 1979-80
03530460	Baileys Trace at St. Charles, Va.	4.23	06/79	1	USD	Misc 1979-80
03530470	Puckett Creek at Maness, Va.	2.95	03/80	1	USD	Misc 1979-80
03530485	Bergen Branch near Stone Creek, Va.	2.67	03/80	1	USD	Misc 1979-80
03530490	Ely Creek near Stone Creek, Va.	2.85	04/80	1	USD	Misc 1980
03530495	Stone Creek at Stone Creek, Va.	8.19	03/80	1	USD	Misc 1979-80
03530500	North Fork Powell River at Pennington Gap, Va.	71.4	09/79-08/81	6	USD	10/44-09/51 10/78-09/81
03531500	Powell River near Jonesville, Va.	319	04/79-08/81	24	USD	10/31-
03531530	Hardy Creek near Smiley, Va.	17.3	03/80	1	USD	Misc 1979-80
03532000	Powell River near Arthur, Tenn.	685	06/34-05/42 08/42-02/43 08/79-09/82	1036 16 26	TVA TVA USD	10/19-02/82 10/19-02/82 10/19-02/82
03532070	Old Town Creek near Red Hill, Tenn.	6.72	05/79-07/80	4	USD	Misc 1979-81
03532100	Davis Creek near Speedwell, Tenn.	31.2	05/79-07/80	4	USD	TVA 1935-37 Misc 1979-81
	Powell River near LaFollette (near Agee), Tenn.	9,933	03/34-07/35	160	TVA	See comments
03532202	Big Creek at Aspen Street at LaFollette, Tenn.	24.2	05/79-07/80	3	USD	Misc 1979-81
03532480	Cove Creek above Cove Lake near Caryville, Tenn.	23.8	05/79-05/81	7	USD	Misc 1979-81
03533000	Clinch River below Norris Dam, Tenn.	2,913	01/38-04/42	208	TVA	10/03-06/74
03533500	Clinch River near Lake City (Coal Creek), Tenn.	2,921	02/34-03/36	326	TVA	05/27-09/37
03534000	Coal Creek at Lake City, Tenn.	24.5	05/79-05/81	8	USD	06/32-04/34 CSPR 55-
03535912	Clinch River at Melton Hill Dam (Tailwater), Tenn.	3,343	04/79-	(49)	USD	09/36-09/64 10/67-10/68 10/78-
03538160	Poplar Creek at Batley Road near Oliver Springs, Tenn.	30.3	05/79-07/80	5	USD	Misc 1979-81
03538225	Poplar Creek near Oak Ridge, Tenn.	82.5	05/79-09/81	27	USD	08/60-
035382968	Emory River at Gobey, Tenn.	43.3	05/79-05/81	8	USD	Misc 1979-81
03538398	Rock Creek near Gobey, Tenn.	31.2	05/79-07/80	5	USD	Misc 1979-81

Table 2.--Summary of suspended-sediment data in the Tennessee River basin--Continued

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Sampler	Flow period of record
03539600	Daddys Creek near Hebbertsburg, Tenn.	139	05/79-07/80	11	USD	10/56-09/68 Misc 1979-81
03539719	White Creek at Twin Bridges, Tenn.	38.4	05/79-11/79	3	USD	Misc 1979-81
03539750	Clear Creek near Lancing, Tenn.	153	05/79-05/81	12	USD	08/66-09/68 Misc 1979-81
03539831	Island Creek near Catoosa, Tenn.	18.4	05/79-03/80	4	USD	Misc 1979-81
03539860	Crooked Fork near Wartburg, Tenn.	50.3	09/79-07/80	4	USD	08/66-09/68 Misc 1979-81
03540100	Crab Orchard Creek near Deermont, Tenn.	33.7	05/79-07/80	5	USD	08/66-09/68 Misc 1979-81
03540500	Emory River at Oakdale, Tenn.	764	12/34-12/37	281	TVA	06/27-
			12/62-12/65	D	USD	06/27-
			05/79-09/81	23	USD	06/27-
03541485	Whites Creek at Bakers Bridge near Glen Alice, Tenn.	33.8	05/79-05/81	8	USD	Misc 1979-81
03541487	Piney Creek near Westel, Tenn.	19.0	05/79-07/80	5	USD	Misc 1979-81
03541496	Fall Creek near Ozone, Tenn.	21.1	05/79-07/80	5	USD	Misc 1979-81
03542495	Piney River above Spring City, Tenn.	62.3	05/79-07/80	5	USD	Misc 1979-81
03542500	Piney River at Spring City, Tenn.	95.9	05/79-07/80	5	USD	06/27-05/31 Misc 1979-81
03543005	Tennessee River at Watts Bar Dam (Tailwater), Tenn.	17,310	11/74-	(92)	USD	02/34-02/40 10/74-
03544500	Richland Creek near Dayton, Tenn.	50.2	05/79-05/81	17	USD	06/27-09/31 06/34-09/55
			07/79-11/81			
03545000	Hiwassee River at Presley, Ga.	45.5	04/76	1	USD	10/41-03/82
03548500	Hiwassee River above Murphy, N.C.	406	05/40-05/42	139	TVA	10/39-
			04/77-03/80	21	USD	10/39-
03549000	Hiwassee River at Murphy, N.C.	421	02/34-03/34	34	TVA	10/18-04/40
			06/34	22	TVA	10/18-04/40
			08/34-04/40	942	TVA	10/18-04/40
03550000	Valley River at Tomotla, N.C.	104	06/34	22	TVA	
			08/34-05/42	965	TVA	06/04-12/09 01/14-04/17
			12/62-12/65	D	USD	10/18-
			05/77-01/82	26	USD	
03550500	Nottely River at Blairsville, Ga.	74.8	04/76	1	USD	01/42-03/82
03554000	Nottely River near Ranger, N.C.	272	06/34	22	TVA	03/01-12/06 02/14-04/17
			08/34-05/42	993	TVA	11/19-09/45

Table 2.--Summary of suspended-sediment data in the Tennessee River basin--Continued

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Sampler	Flow period of record
03555000	Hiwassee River at Hiwassee Dam, N.C.	968	01/37-10/38	112	TVA	09/34-09/43
			09/40-12/41	26	TVA	09/34-09/43
03555700	Hiwassee River at Apalachia, Tenn.	1,043	03/34	31	TVA	See comments
			06/34	14	TVA	See comments
			01/35-01/37	142	TVA	TVA 09/34-09/43
03556000	Turtletown Creek at Turtletown, Tenn.	26.9	06/34	15	TVA	10/33-09/71
			01/35-06/38	221	TVA	10/33-09/71
03558000	Toccoa River near Dial, Ga.	177	04/76-08/84	53	USD	10/12-
03561000	North Potato Creek near Ducktown, Tenn.	13.0	06/34	15	TVA	05/34-09/70
			01/35-06/38	220	TVA	05/34-09/70
03562000	Brush Creek near Ducktown, Tenn.	14.4	06/34	14	TVA	06/34-09/42
			01/35-06/38	225	TVA	06/34-09/42
03565500	Oostanaula Creek near Sanford, Tenn.	57.0	08/79-09/82	30	USD	10/54-
03566000	Hiwassee River at Charleston, Tenn.	2,298	02/34-03/34	75	TVA	11/1898-04/03
			01/35-09/38	468	TVA	10/19-01/40 01/63-01/77
03566292	Sale Creek near Sale Creek, Tenn.	57.2	05/79-02/81	13	USD	Misc 1979-81
03566400	Soddy Creek at Soddy, Tenn.	49.0	05/79-07/80	4	USD	Misc 1979-81
03566530	North Chickamauga Creek near Daisy, Tenn.	62.6	05/79-03/80	4	USD	Misc 1979-81
03566630	North Chickamauga Creek near Hixson, Tenn.	114	01/37-06/38	147	TVA	TVA 01/37-04/45
03566700	South Chickamauga Creek at Ringgold, Ga.	169	11/60-04/61	18	USD	LFPR
03567125	Mud River at Cedar Grove, Ga.	22.2	04/79-08/81	7	USD	Misc 1979-81
03567200	West Chickamauga Creek near Kensington, Ga.	73.0	04/79-09/81	24	USD	Misc 1979-81
03567600	South Chickamauga Creek near McCarty, Tenn.	458	02/37-06/38	174	TVA	TVA 01/37-05/45
03568000	Tennessee River at Chattanooga, Tenn.	21,400	11/34-12/42	505	TVA	04/1874-
			03/44-06/44	4	TVA	04/1874-
			10/44-05/45	8	TVA	04/1874-
			08/45-01/47	14	TVA	04/1874-
03568250	Chattanooga Creek at High Point, Ga.	5.5	04/79-09/81	8	USD	Misc 1979-81
03568300	Chattanooga Creek at State Route 341 near Flintstone, Ga.	18.99	04/79-09/81	8	USD	Misc 1979-81

Table 2.--Summary of suspended-sediment data in the Tennessee River basin--Continued

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Sampler	Flow period of record
03568310	Rock Creek near Hinkle, Ga.	7.4	04/79-10/81	9	USD	Misc 1979-81
03568320	Long Branch near Hinkle, Ga.	3.73	04/79-09/81	8	USD	Misc 1979-81
03568360	Rock Creek near Flintstone, Ga.	22.2	04/79-09/81	8	USD	Misc 1979-81
03568500	Chattanooga Creek near Flintstone, Ga.	50.6	04/79-09/81	23	USD	Misc 1979-81
03568745	Lookout Creek at Sulphur Springs, Ga.	16.3	05/79-09/81	7	USD	Misc 1979-81
03568785	Lookout Creek at Rising Fawn, Ga.	68.7	05/79-09/81	7	USD	Misc 1979-81
03568840	Daniel Creek near Trenton, Ga.	4.80	04/79-09/81	7	USD	Misc 1979-81
03568860	Bear Creek near Durham, Ga.	7.98	04/79-09/81	8	USD	Misc 1979-81
03568920	Squirrel Town Creek near New England, Ga.	3.80	05/79-04/81	5	USD	Misc 1979-81
03568933	Lookout Creek near New England, Ga.	149	04/79-10/81	40	USD	08/79-
03569245	Suck Creek near Chattanooga, Tenn.	22.6	05/79-07/80	5	USD	Misc 1979-81
03570000	Tennessee River at Hales Bar, Tenn.	21,800	01/35-07/42	459	TVA	07/30-07/66
03570504	Cole City Creek near South Pittsburg, Tenn.	26.9	04/79-04/81	4	USD	Misc 1979-81
03570602	Sequatchie River near Pikeville, Tenn.	106	05/79-07/80	5	USD	Misc 1979-81
03570695	Sequatchie River near Mt. Airy, Tenn.	202	05/79-02/81	19	USD	Misc 1979-81
03570800	Little Brush Creek near Dunlap, Tenn.	15.4	05/79-03/80	4	USD	Misc 1979-81
03570810	Big Brush Creek near Dunlap, Tenn.	66.1	05/79-03/80	4	USD	Misc 1979-81
03570855	Woodcock Creek Southwest of Dunlap, Tenn.	15.3	05/79-02/81	9	USD	Misc 1979-81
03570870	Hicks Creek at Cartwright, Tenn.	17.9	05/79-02/81	5	USD	Misc 1979-81
03571000	Sequatchie River near Whitwell, Tenn.	384	11/34-12/37	395	TVA	10/20-
			12/62-12/65	D	USD	10/20-
			05/79-05/81	19	USD	10/20-
03571500	Little Sequatchie River at Sequatchie, Tenn.	116	05/79-07/80	5	USD	06/32-03/34 Misc 1979-81
03571700	Pryor Cove Branch near Jasper, Tenn.	12.9	03/80	1	USD	Misc 1979-81
03571800	Battle Creek near Monteagle, Tenn.	50.4	05/79-07/80	5	USD	Misc 1979-81
03571827	Kelly Cove Creek at Smithtown, Tenn.	4.42	03/80	1	USD	Misc 1979-81

Table 2.--Summary of suspended-sediment data in the Tennessee River basin--Continued

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Sampler	Flow period of record
03571835	Sweden Creek near South Pittsburg, Tenn.	28.2	05/79-02/81	6	USD	Misc 1979-81
03571850	Tennessee River at South Pittsburg, Tenn.	22,640	11/74-	(96)	USD	07/30-
03572092	Crow Creek near Anderson, Tenn.	78.4	05/79-07/80	5	USD	Misc 1979-81
03572210	Flat Rock Creek at Flat Rock, Ala.	28.3	06/79-04/81	5	USD	Misc 1979-81
03572230	Dry Creek near Fabius, Ala.	10.0	06/79-07/80	4	USD	Misc 1979-80
03572400	Bryant Creek near Pisgah, Ala.	41.8	06/79-07/80	27	USD	Misc 1979-80
03572415	Little Bryant Creek at Pisgah, Ala.	6.50	04/80-04/81	2	USD	Misc 1979-80
03572500	Tennessee River near Scottsboro, Ala.	23,430	11/34-09/38	286	TVA	01/36-12/39
03572700	South Sauty Creek near Macedonia, Ala.	102	06/79-07/80	4	USD	Misc 1979-80
03572900	Town Creek near Geraldine, Ala.	141	07/80	1	USD	07/57-09/80
03573500	Tennessee River at Guntersville, Ala.	24,340	11/34-11/35 11/36-12/37	84 78	TVA TVA	06/30-09/38 06/30-09/38
03574500	Paint Rock River near Woodville, Ala.	320	01/35-12/37	473	TVA	12/35-
03574680	Tennessee River near Morgan City, Ala.	ND	06/71-09/71	2	USD	Misc 1971
03575000	Flint River near Chase, Ala.	342	06/71-09/71	3	USD	10/29-09/81 10/82-
03575020	Flint River near Cedar Gap, Ala.	ND	09/71	1	USD	Misc 1971
03575040	Flint River near Mount Carmel, Ala.	362	06/71-09/71	3	USD	Misc 06/71-09/71
03575100	Flint River at Brownsboro, Ala.	375	12/34-06/38	500	TVA	See comments
03575450	Tennessee River near Hobbs Island, Ala.	ND	06/71-09/71	2	USD	Misc 1971
03575500	Tennessee River at Whitesburg, Ala.	25,610	06/71-09/71	2	USD	10/24-
03575696	Aldridge Creek near Lily Flagg, Ala.	13.9	08/71-09/71	2	USD	Misc 1970-75
03575734	Aldridge Creek near Whitesburg, Ala.	21.0	06/71-09/71	3	USD	Misc 1971-73
03575736	Tennessee River at Farley, Ala.	ND	06/71-09/71	2	USD	Misc 1971
03575810	Indian Creek at U. S. Hwy 72 near Huntsville, Ala.	ND	08/71	1	USD	Misc 1970-75
03575830	Indian Creek near Madison, Ala.	49.0	08/71-09/71	2	USD	10/59-09/66 10/75-

Table 2.--Summary of suspended-sediment data in the Tennessee River basin--Continued

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Sampler	Flow period of record
03575851	Indian Creek 700 feet downstream from Martin Rd near Huntsville, Ala.	ND	06/71-08/71	2	USD	Misc 1971-75
03575960	Huntsville Spring Branch at Martin Road near Huntsville, Ala.	47.0	06/71-09/71	2	USD	02/72-09/80
03576000	Huntsville Spring Branch at Patton Road near Huntsville, Ala.	ND	06/71-09/71	2	USD	Misc 1971-78
03576148	Cotaco Creek at Florette, Ala.	136	06/79-04/81	3	USD	10/76-09/82
03576500	Flint Creek near Falkville, Ala.	86.3	06/79-04/81	4	USD	07/52-09/70
03577150	Tennessee River at Decatur, Ala.	26,900	11/34-01/37	199	TVA	10/24-
03577966	Elk River near Mt. View, Tenn.	25.7	05/79-03/81	21	USD	Misc 1979-81
03577985	Dry Creek near Mt. View, Tenn.	22.4	03/80-02/81	2	USD	Misc 1979-81
03578000	Elk River near Pelham, Tenn.	65.6	05/79-05/81	17	USD	10/51-
03578095	Betsy Willis Creek near Pelham, Tenn.	11.5	05/79-08/81	6	USD	Misc 1979-81
03578190	Mud Creek near Alto, Tenn.	18.4	05/79-07/80	5	USD	Misc 1979-81
03578290	Beans Creek at U.S. Hwy 41 near Hillsboro, Tenn.	14.8	05/79-08/81	5	USD	Misc 1979-81
03580110	Boiling Fork Creek near Decherd, Tenn.	37.7	05/79-07/80	5	USD	Misc 1979-81
03584500	Elk River near Prospect, Tenn.	1,784	03/36-09/38 12/62-12/65	286 D	TVA USD	07/04-02/08 01/19- 07/04-02/08 01/19-
03585500	Elk River near Rogersville, Ala.	2,239	11/34-05/36 09/81	174 1	TVA USD	10/27-12/35 10/27-12/35
03588500	Shoal Creek near Iron City, Tenn.	348	07/79-03/83	29	USD	07/25-
03589500	Tennessee River at Florence, Ala.	30,810	05/35-05/38	215	TVA	10/1894-
03591800	Bear Creek near Hackleburg, Ala.	143	06/79-04/81	9	USD	07/56-09/81
03591825	Bear Creek at Military Bridge near Hackleburg, Ala.	182	06/79-03/81	17	USD	Misc 1979-81
03592250	Little Bear Creek near Glasgow Corner, Ala.	34.4	04/81	1	USD	Misc 1981
03592500	Bear Creek at Bishop, Ala.	667	04/35-06/38 12/62-12/65	636 D	TVA USD	08/26-06/28 02/29-03/32 06/33-09/79
	Bear Creek near Iuka, Miss.	893	11/34-04/35	112	TVA	See comments

Table 2.--Summary of suspended-sediment data in the Tennessee River basin--Continued

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Sampler	Flow period of record
03592708	Little Yellow Creek near Holts Spur, Miss.	7.14	08/84	1	USD	Misc 1980-84
03592824	Tennessee-Tombigbee Waterway at Cross Roads, Miss.	ND	10/80-	D	USD	GH only 12/80-
03592825	Yellow Creek at Cross Roads, Miss.	165	4/78-5/79	D	USD	See comments
03593005	Tennessee River at Pickwick Landing Dam (Lower Lock), Tenn.	32,820	04/75-	(90)	USD	See comments
03593500	Tennessee River at Savannah, Tenn.	33,140	11/34-03/42	518	TVA	09/30-
03596000	Duck River below Manchester, Tenn.	107	07/79-03/83	30	USD	04/34-
03596500	Duck River at Normandy, Tenn.	208	09/79	1	USD	12/20-09/31 05/72-09/75
03603000	Duck River above Hurricane Mills, Tenn.	2,557	12/62-12/65	D	USD	10/51-
03603025	Duck River near Hurricane Mills, Tenn.	2,571	11/34-01/38	464	TVA	07/25-09/51
03604000	Buffalo River near Flat Woods, Tenn.	447	03/74-	(63)	USD	05/20-
03604500	Buffalo River near Lobelville, Tenn.	707	12/34-12/37	380	TVA	10/27-
03605000	Tennessee River near Johnsonville, Tenn.	38,520	02/35-04/42	478	TVA	10/1890-07/44
03605555	Trace Creek above Denver, Tenn.	31.9	08/79-04/83	29	USD	10/63-
03606500	Big Sandy River at Bruceton, Tenn.	205	08/79-04/83	28	USD	07/29-
03607000	Big Sandy River at Big Sandy, Tenn.	379	12/34-12/37	660	TVA	03/35-09/44
03607500	Tennessee River near Buchanan, Tenn.	39,730	12/34-01/35	11	TVA	08/30-11/42
03609750	Tennessee River at Highway 60 near Paducah, Ky.	40,330	11/73-	(109)	USD	See comments
03610200	Clarks Fork at Almo, Ky.	134	07/82-10/83	15	USD	10/82-
03610545	West Fork Clarks River near Brewers, Ky.	68.7	06/77-07/81	40	USD	10/68-09/83

Table 3.--Summary of suspended-sediment data in the Cumberland River basin

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Flow period of record
03400480	Looney Creek near Clutts, Ky.	ND	04/79-03/81	7	Misc. 1979-81
03400500	Poor Fork at Cumberland, Ky.	82.3	05/79-08/81	19	03/40-
03400800	Martins Fork near Smith, Ky.	55.8	06/79-03/81	6	03/71-
03400990	Clover Fork at Harlan, Ky.	222	01/80-	D	10/77-
03401000	Cumberland River near Harlan, Ky.	374	11/79-01/81	D	03/40-
03401250	Puckett Creek near Pathfork, Ky.	ND	06/79-03/81	7	Misc. 1979-81
03401290	Brownice Creek near Oaks, Ky.	ND	06/79-03/81	7	Misc. 1979-81
03402000	Yellow Creek near Middlesboro, Ky.	60.6	10/79-	D	08/40-
03402400	Clear Creek near Pineville, Ky.	ND	06/79-03/81	7	Misc. 1979-81
03402450	Little Clear Creek near Pineville, Ky.	ND	06/79-03/81	8	Misc. 1979-81
03402800	Straight Creek near Kettle Island, Ky.	ND	06/79-03/81	7	Misc. 1979-81
03402830	Left Fork Straight Creek near Cary, Ky.	ND	06/79-03/81	7	Misc. 1979-81
03403000	Cumberland River near Pineville, Ky.	809	10/79-	D	08/38-09/75 10/79-
03403100	Middle Fork Stinking Creek near Walker, Ky.	ND	06/79-03/81	7	Misc. 1979-81
03403150	Road Fork Creek near Barnyard, Ky.	ND	06/79-03/81	6	Misc. 1979-81
03403500	Cumberland River at Barbourville, Ky.	960	10/79-	D	10/22-09/31 04/48-
03403550	Little Indian Creek near Perman, Ky.	ND	06/79-03/81	7	Misc. 1979-81
03403590	Fourmile Branch near Bryants Store, Ky.	ND	06/79-03/81	7	Misc. 1979-81
03403697	Clear Fork at State Highway 90 at Anthras, Tenn.	49	05/79-07/80	4	Misc. 1979-81
03403710	Tackett Creek at Anthras, Tenn.	34.5	05/79-02/81	5	Misc. 1979-81
03403715	Stinking Creek near Newcomb, Tenn.	38.3	05/79-05/81	9	Misc. 1979-81
03403718	Crabapple Branch near LaFollette, Tenn.	1.07	10/81-03/84	E	10/81-03/84
03403720	Lick Creek at Habersham, Tenn.	20.7	05/79-02/81	5	Misc. 1979-81
03403740	Hickory Creek at Morley, Tenn.	117	05/79-02/81	5	Misc. 1979-81
03403770	Elk Creek at Newcomb, Tenn.	40.5	05/79-02/81	5	Misc. 1979-81

Table 3.--Summary of suspended-sediment data in the Cumberland River basin--Continued

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Flow period of record
03403910	Clear Fork at Saxton, Ky.	331	12/79-07/81	D	07/68-
03404000	Cumberland River at Williamsburg, Ky.	1,607	10/53-09/62 11/79-09/81 10/83-	D	10/50-pres
03404100	Watts Creek near Wofford, Ky.	ND	06/79-06/81	8	Misc. 1979-81
03404150	Jellico River at Ketchen, Tenn.	28.2	05/79-02/81	5	Misc. 1979-81
03404200	Jellico Creek near Williamsburg, Ky.	103	06/79-04/81	7	Misc. 1979-81
03404350	Marsh Creek near Duckrun, Ky.	ND	08/79-03/81	6	Misc. 1979-81
03404500	Cumberland River at Cumberland Falls, Ky.	1,977	04/81-	D	08/08-12/11 10/14-
03404650	Tributary to Laurel River near Lesbas, Ky.	ND	06/79-03/81	6	Misc. 1979-81
03404800	Tributary to Laurel River near Pine Grove, Ky.	ND	06/79-03/81	7	Misc. 1979-81
03405550	Craig Creek near Hightop, Ky.	ND	06/79-03/81	7	Misc. 1979-81
03405600	South Fork to Rockcastle River near Crawford, Ky.	ND	08/79-03/81	5	Misc. 1979-81
03405730	Pond Creek near Peoples, Ky.	ND	08/79-03/81	5	Misc. 1979-81
03405780	Laurel Fork near McKee, Ky.	ND	06/79-03/81	6	Misc. 1979-81
03405800	Indian Creek near Hurley, Ky.	ND	04/80-03/81	3	Misc. 1979-81
03406500	Rockcastle River at Billows, Ky.	604	11/79-08/81	D	07/36-pres
03407100	Cane Branch near Parkers Lake, Ky.	.67	02/56-09/62 10/63-09/66 10/73-09/74	D	02/56-09/66 05/73-09/84
03407200	West Fork Cane Branch near Parkers Lake, Ky.	.26	02/60-05/60	59	CSPR 1956-84
03407300	Helton Branch at Greenwood, Ky.	.85	08/65-09/66	D	01/56-09/74
03407500	Buck Creek near Shopville, Ky.	165	06/77-08/81	36	10/52-
03407790	New River at Fork Mountain, Tenn.	3.37	11/75-11/76	11	Misc. 1975-76
03407850	New River at Stainville, Tenn.	66	11/75-07/80	15	Misc. 1975-81
03407873	Beech Fork at Shea, Tenn.	27.9	05/79-07/80	4	Misc. 1975, 1979
034078737	Smoky Creek near Mahan Village, Tenn.	2.02	03/82-03/83	3	Misc. 1982-83

Table 3.--Summary of suspended-sediment data in the Cumberland River basin--Continued

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Flow period of record
034078738	Asher Fork near Hembree, Tenn.	3.19	03/82-03/83	3	Misc. 1982-83
034078739	Smoky Creek near Hembree, Tenn.	5.24	03/82-03/83	3	Misc. 1982-83
03407874	Green Branch near Hembree, Tenn.	1.38	11/75-11/82	3	12/75-03/77 Misc 1982
034078745	Smoky Creek above Hembree, Tenn.	8.07	10/82-09/83	E	06/82-09/83
03407875	Bills Branch near Hembree, Tenn.	.67	10/80-09/83	D	02/75-10/83
034078752	Bills Branch at mouth near Hembree, Tenn.	1.17	03/82-11/82	2	Misc. 1975-82
034078753	Lowe Branch at Hembree, Tenn.	.79	03/82-03/83	3	Misc. 1975-82
034078755	Shack Creek at Hembree, Tenn.	5.08	04/82-03/84	D	04/82-03/84
034078756	Shack Creek at mouth at Hembree, Tenn.	5.48	11/81-03/83	4	Misc. 1981-83
034078757	Smoky Creek below Hembree, Tenn.	16.7	03/82-03/83	3	Misc. 1982-83
034078759	Little Brimstone Creek at Hembree, Tenn.	2.04	03/82-03/83	3	Misc. 1982-83
03407876	Smoky Creek at Hembree, Tenn.	17.2	10/78-11/83	D	11/76-11/83
03407877	Bowling Branch above Smoky Junction, Tenn.	2.19	03/82-03/83	3	12/75-09/81
03407879	Smoky Creek at Smoky Junction, Tenn.	32.8	11/75-11/76	11	Misc. 1975-81
03407890	Montgomery Fork at Montgomery, Tenn.	22.1	05/79-07/80	4	Misc. 1975, 1979
03407908	New River at Cordell, Tenn.	198	11/75-10/81	41	05/77-
03407920	Buffalo Creek near Winona, Tenn.	42.5	05/79-08/81	5	Misc. 1979-81
03407940	Buffalo River at Winona, Tenn.	64.9	12/75	1	Misc. 1975
03407960	Paint Rock Creek near Huntsville, Tenn.	21.5	05/79-05/81	7	Misc. 1979-81
03408200	Brimstone Creek near Robbins, Tenn.	48.7	05/79-08/81	5	Misc. 1979-81
03408500	New River at New River, Tenn.	382	10/76-09/86	D	08/34-
03408550	North Prong Clear Fork near Grimsley, Tenn.	27.1	05/79-07/80	4	Misc. 1979-81
03408600	Long Branch near Grimsley, Tenn.	1.11	04/80-09/81	13	07/76-11/81
03408700	Clear Fork at Gatewood, Tenn.	70.2	05/79-08/81	6	Misc. 1979-81
03408815	Crooked Creek near Allardt, Tenn.	3.62	04/80-10/81	15	06/76-11/81

Table 3.--Summary of suspended-sediment data in the Cumberland River basin--Continued

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Flow period of record
03408860	Clear Fork near Burrville, Tenn.	120	05/79-08/81	6	Misc. 1979-81
03409350	Bone Camp Creek near Burrville, Tenn.	23	05/79-06/81	7	Misc. 1979-81
03409395	Black Wolf Creek near Glenmary, Tenn.	31.4	05/79-06/81	5	Misc. 1979-81
03409400	White Oak Creek at Rugby, Tenn.	98	05/79-10/81	23	01/80-11/81
03409500	Clear Fork near Robbins, Tenn.	272	03/76-06/82 10/83-	34 D	10/30-09/71 07/75-
03410210	South Fork Cumberland River at Leatherwood Ford, Tenn.	806	05/79-	(74)	10/83-
03410500	South Fork Cumberland River near Stearns, Ky.	954	05/80-	D	09/42-
03410530	Roaring Paunch Creek near Barthell, Ky.	ND	06/79-03/81	7	Misc. 1979-81
03410560	Rock Creek at White Oak Junction, Ky.	ND	08/79-06/81	7	Misc. 1979-81
03410700	Wolf Creek at Wolf Creek, Ky.	ND	06/79-06/81	6	Misc. 1979-81
03411100	Sinking Creek near Gregory, Ky.	ND	06/79-03/81	4	Misc. 1979-81
03414340	East Fork Obey River at Obey City, Tenn.	34.6	05/79-06/81	11	Misc. 1978-81
03414346	Hurricane Creek at Camp Ground near Salem, Tenn.	15.8	05/79-06/81	6	Misc. 1978-81
03414430	East Fork Obey River near Wilder, Tenn.	117	05/79-06/81	6	Misc. 1978-81
03414470	Buffalo Cove Creek near Boatland, Tenn.	23.4	05/79-06/81	4	Misc. 1978-81
03414500	East Fork Obey River near Jamestown, Tenn.	202	05/79-06/81	19	10/42-
03414680	West Fork Obey River near Allred, Tenn.	70.8	05/79-06/81	15	Misc. 1978-81
03415000	West Fork Obey River near Alpine, Tenn.	115	05/79-06/81	19	10/42-09/71 10/79-11/81
03415960	Wolf River at Wolf River, Tenn.	41	05/79-06/81	6	Misc. 1979-81
03415975	Rotten Fork Wolf River near Pall Mall, Tenn.	21.6	05/79-06/81	6	Misc. 1979-81
03416000	Wolf River near Birdstown, Tenn.	106	05/79-06/81	24	10/42-
03417500	Cumberland River at Celina, Tenn.	7,307	11/79	1	10/22-
03418070	Roaring River above Gainsboro, Tenn.	210	10/79-06/83	28	10/74-
03418500	Caney Fork River at Clifty, Tenn.	111	05/79-07/80	5	Misc.1979-81

Table 3.--Summary of suspended-sediment data in the Cumberland River basin--Continued

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Flow period of record
03418520	Clifty Creek at Mobra, Tenn.	14.8	05/79-11/79	3	Misc. 1979-81
03418925	Bee Creek at Lantana Road at Winesap, Tenn.	16.9	05/79-03/80	4	Misc. 1979-81
03418935	Beaverdam Creek at Lantana Road near Bellview, Tenn.	17	05/79-03/80	4	Misc. 1979-81
03418995	Glade Creek near Lonewood, Tenn.	39.1	05/79-02/81	6	Misc. 1979-81
03419200	Cane Creek near Spencer, Tenn.	134	05/79-03/80	4	Misc. 1979-81
03419270	Calfkiller River near Taylors, Tenn.	37.7	05/79-07/80	5	Misc. 1979-81
03420000	Calfkiller River below Sparta, Tenn.	175	05/79-07/80	5	Misc. 1979-81
03420116	Rocky River at Rocky River Road at Riverview, Tenn.	72	05/79-07/80	5	Misc. 1979-81
03420156	Collins River at Barkertown, Tenn.	22.9	05/79-03/81	15	Misc. 1979-81
03420200	Collins River near Tarlton, Tenn.	174	05/79-02/81	6	Misc. 1978-81
03420230	Scott Creek at Irving College, Tenn.	34.1	05/79-02/81	6	Misc. 1979-81
03420260	Hills Creek near Irving College, Tenn.	55.6	05/79-07/80	5	Misc. 1979-81
03420720	Hickory Creek near Viola, Tenn.	58.2	05/79-07/80	5	Misc. 1979-81
03421000	Collins River near McMinnville, Tenn.	640	05/79-08/81	18	10/24-
03422850	Falling Water River at St Hwy 42 near Cookeville, Tenn.	38	05/79-07/80	5	Misc. 1979-81
03425000	Cumberland River at Carthage, Tenn.	10,690	01/75-	(90)	10/22-
03427500	East Fork Stones River near Lascassas, Tenn.	262	08/79-05/83	29	10/50-11/58 05/63-
03428070	West Fork Stones River at Manson Pike at Murfreesboro, Tenn.	165	07/79-09/81	22	07/73-09/81
03428500	West Fork Stones River near Smyrna, Tenn.	237	07/79-05/83	26	10/65-
03431700	Richland Creek at Charlotte Avenue at Nashville, Tenn.	24.3	07/79-04/83	36	07/64-
03434500	Harpeth River near Kingston Springs, Tenn.	681	07/79-12/82	21	10/24-
03435770	Sulfur Fork Red River above Springfield, Tenn.	65.6	08/79-05/83	23	08/75-
03436000	Sulfur Fork Red River near Adams, Tenn.	186	08/79-04/83	28	10/38-
03436100	Red River at Port Royal, Tenn.	935	08/79-04/83	31	07/61-

Table 3.--Summary of suspended-sediment data in the Cumberland River basin--Continued

Station No.	Station name	Drainage area (mi^2)	Sediment period of record	Number of samples	Flow period of record
03436690	Yellow Creek at Ellis Mills, Tenn.	103	11/80-02/81	3	10/80-
03436700	Yellow Creek near Shiloh, Tenn.	124	08/79-11/80	12	10/57-09/80
03438000	Little River near Cadiz, Ky.	244	06/77-08/81	35	02/40-
03438220	Cumberland River near Grand Rivers, Ky.	17,598	11/73-	(115)	02/39-

Tennessee River Basin

03448000 French Broad River at Bent Creek, N.C. (#1)
Sampling period: 03/09/35-12/31/37
Daily record: 03/01/35-12/31/37; 12/05/62-12/31/65
TVA computed daily record for January and February 1935 for 03448000 French Broad River at Bent Creek (DA = 676 mi^2) by using sediment concentation from 0351500 French Broad River at Asheville, N.C. (DA = 945 mi^2). These January and February 1935 concentration data that were collected at 03451500 have been entered in WATSTORE under 03451500, not 03448000.

Records for this station have always been published as French Broad River at Bent Creek. TVA data sheets have used the names "near Bent Creek," "at Bent Creek," and "near Skyland, N.C." for this station. This station is listed in the Federal Inter-Agency River Basin Committee, 1949, inventory as French Broad River near Skyland, N.C.

Sampling at Asheville started 10/10/34 and ended 03/08/35
Sampling at Bent Creek started 03/09/35 and ended 12/31/37
Sampling at Asheville started 01/03/38 and ended 09/21/38

03451000 Swannanoa River at Biltmore, N.C. (#2)
Sampling period: 12/01/34-12/31/37
Daily record: 12/01/34-12/31/37
No comments

03451500 French Broad River at Asheville, N.C. (#3)
Sampling period: 10/10/34-03/08/35, 01/03/38-09/21/38
Daily record: 10/01/34-02/28/35, 01/01/38-09/30/38
See comments for French Broad River at Bent Creek.

03455000 French Broad River near Newport, Tenn. (#4)
Sampling period: 07/02/34-07/01/38
Daily record: 07/01/34-07/01/38
No comments

03461500 Pigeon River at Newport, Tenn. (#5)
Sampling period: 07/02/34-07/01/38
Daily record: 07/01/34-06/30/38
Data not stored in WATSTORE for this station. No gaging station here during period of sediment data collection. TVA took flows from Pigeon River at Hartford 03461000 (DA = 547 mi^2) (03461500; DA = 666 mi^2) and applied a drainage area correction, except from 10/37-12/37 when a temporary Newport rating was used.

03465500 Nolichucky River at Embreeville, Tenn. (#6)
Sampling period: 10/12/34-12/31/37
Daily record: 10/01/34-12/31/37
88777 record 12/01/62-12/03/65
No comments

03467600 Nolichucky River near Morristown, Tenn. (#7)
Sampling period: 07/02/34-06/27/38
Daily record: 07/01/34-06/30/38
Records for 03467600 (DA = 1,686 mi^2) combined with and stored as 03467500 Nolichucky River near Morristown (DA = 1,679 mi^2)

03468200 French Broad River at Dandridge, Tenn. (#8)
Sampling period: 02/13/34-10/05/38 only three samples until 06/23/34
Daily record: 07/01/34-09/30/38
Records for 03468200 (DA = 4,446 mi^2) combined with and stored as 03469000 French Broad River below Douglas Dam, Tenn. (DA = 4,543 mi^2).

03477000 South Fork Holston River at Bluff City, Tenn. (#9)
Sampling period: 12/19/34-06/27/35
Daily record: 12/01/34-06/30/35
No comments

03486000 Watauga River at Elizabethton, Tenn. (#10)
Sampling period: 12/20/34-06/27/35
Daily record: 12/01/34-06/30/35
No comments

03487400 South Fork Holston River at Kingsport, Tenn. (#11)
Sampling period: 12/19/34-07/02/38
Daily record: 12/01/34-06/30/38
No comments

03490000 North Fork Holston River near Gate City, Va. (#12)
Sampling period: 02/13/35-07/02/38
Daily record: 01/01/35-06/30/38; 12/01/62-12/15/65
No comments

03494000 Holston River near Jefferson City, Tenn. (#13)
Sampling period: 09/11/37-10/05/38, three samples in 8/40
Daily record: 01/01/38-09/30/38
Sediment data collected from 09/11/37-12/31/37 at 03494000 (DA = 3,429 mi^2) were used with flows from Holston River at Strawberry Plains, Tenn. (DA = 3, 26 mi^2) to compute record for Strawberry Plains.

03494900 Holston River at Strawberry Plains, Tenn. (#14)
Sampling period: 02/13/34-09/10/37 only three samples until 06/23/34
Daily record: 07/01/34-12/31/37
See comments for Holston River near Jefferson City. Records for 03494900 (DA = 3,626 mi^2) combined with and stored as 03495500 Holston River near Knoxville, Tenn. (DA = 3,747 mi^2). TVA computed daily record for 03494900 from 09/11/37-12/31/37 based on samples collected at 03494000 Holston River near Jefferson City. Since the difference in DA between 03494900 and 03494000 is only 5 percent of the DA for 03494900, the 09/11/37-12/31/37 data have been stored.

03497100 Tennessee River below Knoxville, Tenn. (#15)
Sampling period: 10/05/38-04/09/42
Daily record: 10/01/38-03/31/42
Auxiliary gage for 03497000 Tennessee River at Knoxville (DA = 8,934 mi^2). Period of record for 03497100 is 1943-82. Sediment data collected at 03497100 (DA = 8,963 mi^2) stored as 03497000. Period of discharge record for 03497000 is 10/1899-01/82

03498000 Little River near Walland, Tenn. (#16)
Sampling period: 12/12/34-08/17/35
Daily record: 12/01/34-09/30/35
Even though the periods of record overlap slightly, sampling was discontinued near Walland and moved to Little River near Rockford, TN 03499110

03499110 Little River near Rockford, Tenn. (#17)
Sampling period: 06/24/35-12/28/37
Daily record: 07/01/35-12/31/37
This station was operated by TVA and discharges were never entered in the WATSTORE system; therefore the sediment data for this station were not put in WATSTORE. TVA daily sediment summary sheets have the following notes on them.
07/01/35-12/31/35 discharge estimated from gage height readings taken during sediment sampling and from comparison with Walland.
01/01/36-02/29/36 discharge = Walland discharge times drainage area factor.
03/01/36-12/31/37 discharge from Rockford rating.

03507000 Little Tennessee River at Judson, N.C. (#18)
Sampling period: 04/29/35-06/30/38
Daily record: 04/01/35-06/30/38
No comments

03513000 Tuckasegee River at Bryson City, N.C. (#19)
Sampling period: 04/29/35-06/30/38
Daily record: 04/01/35-06/30/38
No comments

03519500 Little Tennessee River at McGhee, Tenn. (#20)
Sampling period: 12/12/34-12/28/37, one sample in February 1934.
Daily record: 12/01/34-12/31/37
No comments

03520000 Tennessee River at Loudon, Tenn. (#21)
Sampling period: 12/12/34-10/05/38, one sample in February 1934.
Daily record: 12/01/34-09/30/38
No comments

03527000 Clinch River at Speers Ferry, Va. (#22)
Sampling period: 12/19/34-07/02/38, one sample January 1934.
Daily record: 12/01/34-06/30/38; 12/04/62-12/08/65
No comments

03528000 Clinch River above Tazewell, Tenn. (#23)
Sample period: 01/08/37-02/07/43
Daily record: 01/01/37-05/31/42
Records from 03528020 Clinch River near Tazewell (DA = 1,482 mi^2) were combined with and stored as 03528000 (DA = 1,474 mi^2)

03528020 Clinch River near Tazewell, Tenn. (#24)
Sampling period: 06/23/34-01/07/37
Daily record: 07/01/34-12/31/36
Records for 03528020 (DA = 1,482 mi^2) combined with and stored as 03528000 Clinch River above Tazewell (DA = 1,474 mi^2)

03528410 Clinch River near Loyston, Tenn. (#25)
Sampling period: 03/13/34-07/30/35
Daily record: 04/01/34-07/31/35
No gaging station ever existed at this location. The discharges used by TVA to compute daily sediment record were estimated from records at Tazewell, Arthur, Coal Creek, and stage at Loyston at time samples were collected. These data have not been stored in WATSTORE.

03532000 Powell River near Arthur, Tenn. (#26)
Sampling period: 06/26/34-05/23/42, 08/10-12/42, 12/29-31/42, 02/05-07/43
Daily record: 06/23/34-05/31/42
Samples taken in 08/42, 12/42, and 02/43 are not mentioned in the Federal Inter-Agency River Basin Committee, 1949 inventory.

-------- Powell River near LaFollette (near Agee), Tenn. (#27)
Sampling period: 01/20/34-07/30/35
Daily record: 04/01/34-06/30/35
No gaging station ever existed at this location. The discharges used by TVA to compute daily sediment record were estimated from records at Tazewell, Arthur, Coal Creek, and stage at LaFollette at time samples were collected. These data have not been stored in WATSTORE and no station number exists for this location.

03533000 Clinch River below Norris Dam, Tenn. (#28)
Sampling period: 12/16/37-04/16/42
Daily record: 01/01/38-12/31/41
All data were collected after closure of Norris Dam on 03/04/36. These data have not been stored in WATSTORE. Records from 03533500 Clinch River near Lake City (Coal Creek), Tenn. (DA = 2,921 mi^2) were combined with and stored as 03533000 (DA = 2,913 mi^2).

03533500 Clinch River near Lake City (Coal Creek), Tenn. (#29)
Sampling period: 02/05/34-03/10/36
Daily record: 2/01/34-3/04/36
Records for 03533500 (DA = 2,921 mi^2) combined with and stored as 03533000 Clinch River below Norris Dam (DA = 2,913 mi^2)

03540500 Emory River at Oakdale, Tenn. (#30)
Sampling period: data 12/12/34-12/28/37
Daily record: 12/01/34-12/31/37; 12/21/62-12/31/65
No comments

03548500 Hiwassee River above Murphy, N.C. (#31)
Sampling perid: 05/10/40-05/21/42
Daily record: 05/01/40-05/31/42
Prior to 05/10/40 samples were collected at 03549000 Hiwassee River at Murphy, N.C. (DA = 421 mi^2), although this distinction is not made in the Federal Inter-Agency River Basin Committee, 1949, inventory. Although the periods of flow record overlap for the first 7 months of WY 1940, the records from 03549000 have been combined with and stored as 03548500.

03549000 Hiwassee River at Murphy, N.C. (#32)
Sampling period: 02/22/34-03/30/34, 06/04/34-06/08/34, 08/14/34-04/26/40
Daily record: 08/01/34-04/30/40
Samples collected in 06/34 are not mentioned in the Federal Inter-Agency River Basin Committee, 1949, inventory. Although the periods of flow record overlap for the first 7 months of WY 1940, the records for 03549000 (DA = 421 mi^2) have been combined with and stored as 03548500 (DA = 406 mi^2).

03550000 Valley River at Tomotla, N.C. (#33)
Sampling period: 06/04/34-06/08/34, 08/14/34-05/20/42
Daily record: 08/01/34-05/31/42; 12/20/62-12/27/65
Samples collected in 06/34 are not mentioned in the Federal Inter-Agency River Basin Committee, 1949, inventory.

03554000 Nottely River near Ranger, N.C. (#34)
Sampling period: 06/04/34-06/08/34, 08/15/34-05/27/42
Daily record: 08/01/34-05/31/42
Samples collected in 06/34 are not mentioned in the Federal Inter-Agency River Basin Committee, 1949, inventory.

03555000 Hiwassee River at Hiwassee Dam, N.C. (#35)
Sampling period: 01/13/37-10/05/38, 09/21/40-11/27/40, 02/24/41-02/10/41
Daily record: 01/01/37-12/31/38, 10/01/40-12/31/41
Hiwassee Dam closed 02/08/40. All data collected after 02/08/40 have been stored but zero concentration days have been deleted. Prior to 1936, this station was called Hiwassee River near Vests, N.C. See comments on 03555700 Hiwassee River at Apalachia, Tenn.

03555700 Hiwassee River at Apalachia, Tenn. (#36)
Sampling period: 03/19/34-03/30/34, 06/04/34-06/08/34, 01/17/35-01/06/37
Daily record: 03/16/34-03/30/34, 06/03/34-06/09/34, 08/01/34-12/31/36
This station was operated by TVA, and discharges were never entered in the WATSTORE system. Samples collected in 03/34 and 06/34 are not mentioned in the Federal Inter-Agency River Basin Committee, 1949, inventory. TVA used sediment data from this sta-

tion (DA = 1,043 mi^2) and discharge data from 03555000 (DA = 968 mi^2) to compute daily sediment discharge for 03555000. The reason for this is unknown especially since there apparently was a TVA continuous-record gaging station operating at this location during the period of sediment data collection. Since there seems to be some confusion about the location of this station, and since the difference in DA between this station and 03555000 is only 8 percent, the sediment data for 03555700 have been stored as 03555000. TVA also computed daily sediment record for 03557000 for the period 08/01/34-12/31/34 using a weighted sediment concentration from Tomotla, Ranger, and Murphy. These weighted values have not been entered in WATSTORE.

03556000 Turtletown Creek at Turtletown, Tenn. (#37)
Sampling period: 06/04/34-06/08/34, 08/24/34, 09/04/34, 01/17/35-06/29/38
Daily record: 01/01/35-06/30/38
Samples collected in 06/34, 08/34, and 09/34 are not mentioned in the Federal Inter-Agency River Basin Committee, 1949, inventory.

03561000 North Potato Creek near Ducktown, Tenn. (#38)
Sampling period: 06/04/34-06/08/34, 08/24/34, 09/04/34, 01/18/35-06/29/38
Daily record: 01/01/35-06/30/38
Samples collected in 06/34, 08/34, and 09/34 are not mentioned in the Federal Inter-Agency River Basin Committee, 1949, inventory.

03562000 Brush Creek near Ducktown, Tenn. (#39)
Sampling period: 06/04/34-06/08/34, 08/24/34, 09/04/34, 01/18/35-06/29/38
Daily record: 01/01/35-06/30/38
Samples collected in 06/34, 08/34, and 09/34 are not mentioned in the Federal Inter-Agency River Basin Committee, 1949, inventory.

03566000 Hiwassee River at Charleston, Tenn. (#40)
Sampling period: 02/22/34-03/30/34, 02/07/35-09/28/38
Daily record: 01/01/35-09/30/38
No comments

03566630 North Chickamauga Creek near Hixson, Tenn. (#41)
Sampling period: 01/18/37-06/29/38
Daily record: 02/01/37-06/30/38
This station was operated by TVA and discharges were never entered in the WATSTORE system; therefore the sediment data for this station were not put in WATSTORE. Daily discharges are available in TVA report number 0-5794. TVA also estimated daily sediment record for 01/37.

03567600 South Chickamauga Creek near McCarty, Tenn. (#42)
Sampling period: 02/02/37-06/29/38
Daily record: 02/01/37-06/30/38
This station was operated by TVA and discharges were never entered in the WATSTORE system. Therefore the sediment data for this station were not put in WATSTORE. Daily discharges are available in TVA report number 0-5794. TVA also estimated daily sediment record for 01/37.

03568000 Tennessee River at Chattanooga, Tenn. (#43)
Sampling period: 11/20/34-12/31/42, 03/44-06/44, 10/44-05/45, 08/45-01/47
Daily record: 12/01/34-06/30/42
Daily record for 07/01/42-12/31/42 not computed, only one or two samples per month after 05/29/42. The Federal Inter-Agency River Basin Committee, 1949, inventory indicates that 4 samples were collected from 03/44-06/44, 8 samples were collected from 10/44-05/45, and 14 samples were collected from 08/45-01/47; however these data have not been found.

03570000 Tennessee River at Hales Bar, Tenn. (#44)
Sampling period: 01/29/35-07/14/42
Daily record: 01/01/35-06/30/42
Records for 03570000 (DA = 21,800 mi^2) combined with and stored as 03571850 Tennessee River at South Pittsburg, Tenn. (DA = 22,640 mi^2).

03571000 Sequatchie River near Whitwell, Tenn. (#45)
Sampling period: 02/23/34, 11/20/34-12/30/37
Daily record: 12/01/34-12/31/37; 12/01/62-12/31/65
No comments

03572500 Tennessee River near Scottsboro, Ala. (#46)
Sampling period: 11/20/34-09/06/38
Daily record: 12/01/34-08/31/38
There was a Survey gaging station at this location from 1/35-12/39, but the flow data were never stored in WATSTORE. There is a station header file in WATSTORE for this station but there are no flow data stored.

03573500 Tennessee River at Guntersville, Ala. (#47)
Sampling period: 11/23/34-11/26/35, 11/24/36-12/22/37
Daily record: 12/01/34-12/31/35, 11/24/36-12/31/37
Samples collected from 12/01/34-12/31/35 are not mentioned in the Federal Inter-Agency River Basin Committee, 1949, inventory.

03574500 Paint Rock Creek near Woodville, Ala. (#48)
Sampling period: 12/19/34-12/28/37
Daily record: 01/01/35-12/31/37
Flow record starts in 12/35, no gage in operation at this site during first year of sediment data collection. TVA estimated discharge for this time period from gage height readings taken during sample collection and by "comparison with hydrograph at Chase."

03575100 Flint River at Brownsboro, Ala. (#49)
Sampling period: 12/03/34-06/27/38
Daily record: 12/01/34-06/30/38
No gaging station ever existed at this location. TVA used discharges from 03575000 Flint River near Chase, Ala. (DA = 342 mi^2) and applied a drainage area correction, Brownsboro (DA = 375 mi^2). These sediment data have not been stored under either station.

03577150 Tennessee River at Decatur, Ala. (#50)
Sampling period: 11/22/34-01/15/37
Daily record: 12/01/34-12/31/36
Records for 03577150 (DA = 26,900 mi^2) combined with and stored as 03575500 Tennessee River at Whitesburg, Ala. (DA = 25,610 mi^2).

03584500 Elk River near Prospect, Tenn. (#51)
Sampling period: 03/30/36-09/13/38
Daily record: 04/01/36-09/30/38; 12/01/62-12/31/65
No comments

03585500 Elk River near Rogersville, Ala. (#52)
Sampling period: 11/22/34-05/04/36
Daily record: 12/01/34-03/31/36
Only 3 samples collected 04/-05/36.

03589500 Tennessee River at Florence, Ala. (#53)
Sampling period: 05/28/35-05/09/38
Daily record: 06/01/35-06/30/38
No comments

03592500 Bear Creek at Bishop, Ala. (#54)
Sampling period: 04/23/35-06/30/38
Daily record: 04/01/35-06/30/38; 12/22/62-12/31/65
No comments

-------- Bear Creek near Iuka, Miss. (#55)
Sampling period: 11/26/34-04/16/35
Daily record: 12/01/34-04/30/35
No gaging station ever existed at this location (DA = 893 mi^2). TVA computed daily sediment records by using discharges from 03592500 Bear Creek at Bishop (DA = 667 mi^2) and applied a drainage area correction.

03592825 Yellow Creek at Cross Roads, Miss.
Stage-discharge relation not determined due to backwater from Pickwick Lake.

03593005 Tennessee River at Pickwick Landing Dam (Lower Lock), Tenn.
Discharge for 03593005 (DA = 32,820 mi^2) is taken from 03593500 Tennessee River at Savannah, Tenn. (DA = 33,140 mi^2), period of record 09/30-88.

03593500 Tennessee River at Savannah, Tenn. (#56)
Sampling period: 11/30/34-03/06/42
Daily record: 12/01/34-02/28/42
No comments

03603025 Duck River near Hurricane Mills, Tenn. (#57)
Sampling period: 11/27/34-01/03/38
Daily record: 12/01/34-12/31/37; 12/01/62-12/31/65
Records for 03603025 (DA = 2,571 mi^2) combined with and stored as 03603000 Duck River above Hurricane Mills (DA = 2,557 mi^2).

03604500 Buffalo River near Lobelville, Tenn. (#58)
Sampling period: 11/27/34-12/30/37
Daily record: 12/01/34-12/31/37
No comments

03605000 Tennessee River near Johnsonville, Tenn. (#59)
Sampling period: 02/06/35-02/25/42
Daily record: 02/01/35-04/30/42
Prior to 1932 discharge data were collected "at Johnsonville" 03605100 (DA = 38,530 mi^2). Name was changed to "near New Johnsonville" after gage was discontinued because filling of Kentucky Lake caused relocation of Johnsonville. Records for 03605100 and 03605000 (DA = 38,520 mi^2) combined with and stored as 03609500 Tennessee River near Paducah, Ky. (DA = 40,200 mi^2).

03607000 Big Sandy River at Big Sandy, Tenn. (#60)

Sampling period: 12/17/34-12/31/37

Daily record: 03/01/35-12/31/37

TVA computed daily sediment record for 12/01/34-02/28/35 by using discharges from 03606500 Big Sandy River at Bruceton, Tenn. (DA = 205 mi^2) and applied a drainage area correction. Sediment data for 12/01/34-02/28/35 have not been stored in WATSTORE.

03607500 Tennessee River near Buchanan, Tenn. (#61)

Sampling period: 11/27/34-01/29/35

Daily record: 12/01/34-01/31/35

Discharge data collected "at Aurora Landing, Ky." 03608500 07/30-09/31 (DA = 40,010 mi^2), and "at Shannon Dam Site near Murray, Ky." 03608000 10/31-09/35 (DA = 39,780 mi^2); these data were all combined and stored as 03607500. Sediment data for these 2 months have not been stored in WATSTORE.

03609750 Tennessee River at Highway 60 near Paducah, Ky.

Discharge for 03609750 (DA = 40,330 mi^2) is taken from 03609500 Tennessee River near Paducah, Ky. (DA = 40,200 mi^2).

Cumberland River Basin

03400990 Clover Fork at Harlan, Ky. (#1)
Sampling period: 04/79-
Daily record: 01/80-
No comments

03401000 Cumberland River near Harlan, Ky. (#2)
Sampling period: 05/79-01/81
Daily record: 11/79-01/81
No comments

03402000 Yellow Creek near Middlesboro, Ky. (#3)
Sampling period: 06/77-
Daily record: 10/79-
No comments

03403000 Cumberland River near Pineville, Ky. (#4)
Sampling period: 10/79-
Daily record 10/79-
No comments

03403500 Cumberland River at Barbourville, Ky. (#5)
Sampling period: 06/79-
Daily record: 10/79-
No comments

03403910 Clear Fork at Saxton, Ky. (#6)
Sampling period: 05/79-07/81
Daily record: 12/79-07/81
No comments

03404000 Cumberland River at Williamsburg, Ky. (#7)
Sampling period: 10/53-09/62, 05/79-09/81, 10/83-
Daily record: 10/53-09/62, 11/79-09/81, 10/83-
No comments

03404500 Cumberland River at Cumberland Falls, Ky. (#8)
Sampling period: 04/80-
Daily record: 04/80-
No comments

03406500 Rockcastle River at Billows, Ky. (#9)
Sampling period: 05/79-08/81
Daily record: 11/79-08/81
No comments

03407100 Cane Branch near Parkers Lake, Ky. (#10)
Sampling period: 02/56-09/62, 10/63-09/66, 10/73-09/74
Daily record: 02/56-09/62, 10/63-09/66, 10/73-09/74
No comments

03407300 Helton Branch at Greenwood, Ky. (#11)
Sampling period: 08/65-09/66
Daily record: 08/65-09/66
Data stored by latitude-longitude number 361240084245800

034078745 Smoky Creek above Hembree, Tenn.
Sampling period: 03/82-09/83
Event record: 10/82-09/83
No comments

03407875 Bills Branch near Hembree, Tenn. (#12)
Sampling period: 10/80-09/83
Daily record: 10/80-09/83
No comments

034078755 Shack Creek at Hembree, Tenn. (#13)
Sampling period: 04/82-03/84
Daily record: 04/82-03/84
Data stored by latitude-longitude number 361341084253900

03407876 Smoky Creek at Hembree, Tenn. (#14)
Sampling period: 03/77-11/83
Daily record: 10/78-11/83
No comments

03408500 New River at New River, Tenn. (#15)
Sampling period: 11/75-09/86
Daily record: 10/76-09/86
No comments

03409500 Clear Fork near Robbins, Tenn. (#16)
Sampling period: 03/76-09/86
Daily record: 10/83-09/86
No comments

03410500 South Fork Cumberland River near Stearns, Ky. (#17)
Sampling period: 05/79-
Daily record: 05/80-
No comments

OTHER SOURCES OF SEDIMENT RELATED DATA

Reservoir-Accumulation Data

Large reservoirs make excellent sediment traps because quiescent waters allow nearly all of the stream's sediment load to settle out. When the reservoir is periodically resurveyed and the bulk density of the deposited sediment is determined, the volume and weight of accumulated sediment can be estimated. This number is corrected for the trap efficiency of the reservoir; the average sediment yield for the basin upstream of the reservoir is then calculated. A more detailed consideration of the use of reservoir accumulation data is given in Trimble and Carey (1984).

Sediment-accumulation data from reservoir surveys are available for several impoundments on the Cumberland and Tennessee Rivers. There are nine major reservoirs in the Cumberland River basin with design storage capacities greater than 75,000 acre-feet; however, as of 1984, only two of these had sufficient information for sediment-yield computations (Trimble and Carey, 1984). In the Tennessee River basin, as of 1984, there were 22 major impoundments that had sufficient data for sediment-yield computations. Trimble and Carey (1984) analyzed these reservoir data and computed sediment yields for the Tennessee River basin. The results of their analysis are shown in figure 5. Figure 5 is not a true histogram since it shows rectangles of equal width representing unequal class intervals.

Turbidity Data

Turbidity data are often used as a surrogate for suspended-sediment data, if a valid calibration can be obtained between turbidity and suspended-sediment concentration. The turbidometer response to suspended sediment will change with the size and shape of the sediment particles, so calibration is required at every site. The calibration is normally done using a regression between the logarithms of the turbidity and suspended-sediment data; however, there is additional information in the ratio of suspended-sediment concentration to turbidity. This ratio is sometimes called the coefficient of fineness. As the flow increases and transports more suspended sediment, the average size of the particles may also increase. The suspended-sediment concentration increases faster than the turbidity value, and the ratio of concentration to turbidity increases due to the larger particles. This may not be the case for every stream location, but points out the need for establishing a valid calibration at each site. The influence of other factors, such as seasonal organic material, must also be addressed before relating turbidity values and suspended-sediment concentration. This general strategy of using turbidity measurements in combination with periodic suspended-sediment samples has been suggested and demonstrated by Truhlar (1976).

In the Tennessee and Cumberland River basins, there has been limited use of turbidometers at gaging stations, usually as part of a water-quality monitor installation. But one particularly good example is New River at New River, Tenn., where a 10-year record of both turbidity and daily suspended sediment were obtained by the Survey between October 1976 and September 1986. Within the parts of these 2 basins that lie in Tennessee, there are approximately 50 water-treatment plant intakes located on relatively unimpounded streams where a daily analysis of turbidity is performed. In addition, there are several other water-treatment plants

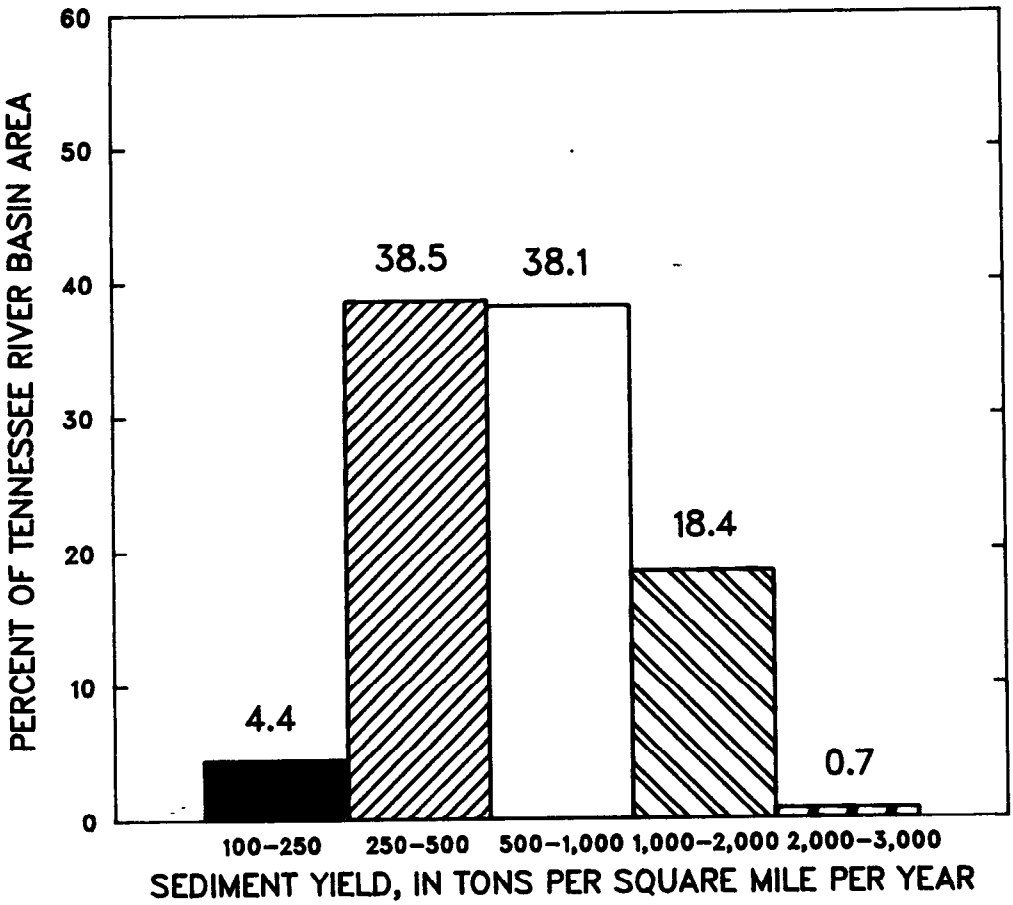


Figure 5.--Frequency distribution of sediment yields in the Tennessee River basin in terms of percent of total basin area.

located within the North Carolina, Georgia, Alabama, Kentucky, and Virginia parts of the Tennessee and Cumberland River basins. These data are generally not available in machine-readable format and may not be saved beyond 3 years.

SUMMARY

Since the early 1930's, the TVA and the Geological Survey have collected a considerable amount of suspended-sediment data in the Tennessee and Cumberland River basins. These data represent a valuable source of information about suspended-sediment transport patterns and yields in the two basins. These data sets cover a wide range of drainage areas and sampling frequencies, but the most important data sets are those where the sampling frequency was sufficient to compute daily sediment records.

In 1934 and 1935, the TVA established 51 daily record suspended-sediment stations on the Tennessee River and its major tributaries. The purpose of this sampling program was to provide information on the expected useful lives of reservoirs being planned for the Valley. The period of record at these stations varied from 6 months at two stations to 8 years at nine key stations. The majority of stations was operated for 3 to 4 years during the period from 1934 to 1942. During this period, some stations were moved, some were discontinued, and some had sampling start after 1935. Ultimately, 61 different locations were sampled during this period. In December 1962, a 3-year sediment-sampling program was initiated at 10 stations that had been sampled during the earlier period. These stations were selected partly because they were on unregulated streams. The purpose of this sampling effort was to provide a more current index to suspended-sediment transport in the Valley, and to make a comparison with the results of the earlier study.

At the same time that sediment sampling began on the larger streams, TVA also began a program of intensive data collection on small watersheds. These watershed research projects continued from 1934 through the mid-1970's. During this time period, the purpose of these projects evolved from studying the effects of reclamation practices to studying the impacts of various basin-management and resource-development strategies.

In the Cumberland River basin, daily sediment records have been collected primarily by the Geological Survey. Daily stations have been operated for various periods on 17 basins ranging in size from 0.67 to 1,977 mi^2, with the earliest date of daily record being October 1953. All of these daily record stations are located in the upper Cumberland River basin upstream of any impoundments. Many of these daily stations have been operated to monitor suspended-sediment yields from coal-mining areas in the upper Cumberland and South Fork Cumberland basins; however, no basin-wide sediment-sampling program, similar to the TVA effort, has occurred in the Cumberland River basin.

Periodic sediment data have been collected by the Geological Survey at 194 stations in the Tennessee River basin and at 106 stations in the Cumberland River basin, however, the number of samples per station is quite low. Eighty-seven percent of the periodic stations in the Tennessee River basin and 91 percent of the periodic stations in the Cumberland River basin have 30 samples or less. Most of these stations with low numbers of samples were operated during the Survey Coal Hydrology Program from 1979 to 1981.

Additional sediment related information can be obtained from reservoir accumulation data and turbidity data. Trimble and Carey (1984) produced a regional assessment of sediment yields in the Tennessee River basin using published reservoir accumulation data. The use of turbidity data is still controversial, however, when the appropriate cautions are observed, turbidity data can be quite useful as a surrogate for sediment data.

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OF AVAILABLE DATA FOR THE TENNESSEE AND CUMBERLAND RIVER BASINS

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