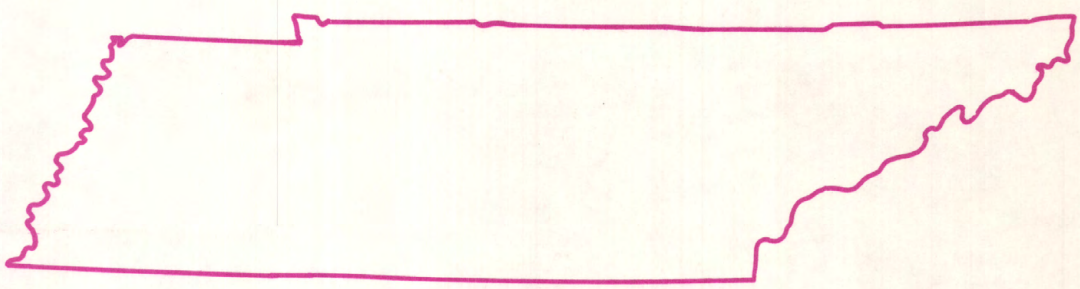
Water Resources Data
Tennessee
Water Year 1989



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TN-89-1
Prepared in cooperation with the State of Tennessee
and with other agencies

CALENDAR FOR WATER YEAR 1989

1988

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1989

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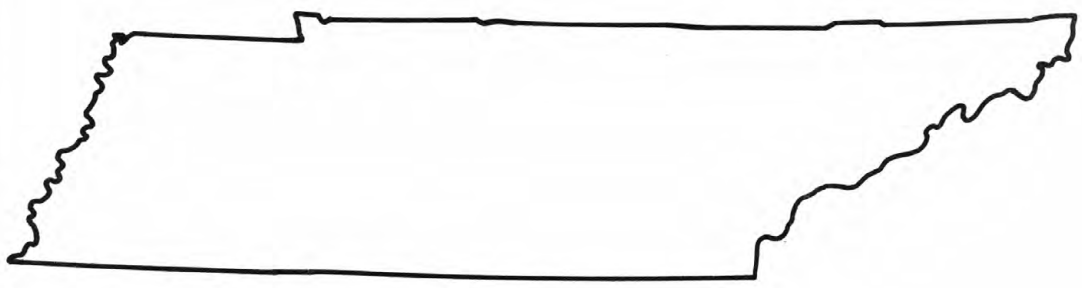
Water Resources Data
Tennessee
Water Year 1989

by J.F. Lowery, P.H. Counts, F.D. Edwards, and J.W. Garrett



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TN-89-1
Prepared in cooperation with the State of Tennessee
and with other agencies

DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., SECRETARY

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in Tennessee write to
District Chief, Water Resources Division
U.S. Geological Survey
A-413 Federal Building, U.S. Courthouse
Nashville, Tennessee 37203

1990

PREFACE

This volume of the annual hydrologic data report of Tennessee is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and water quality provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources.

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. The authors had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines. Most of the data were collected, computed, and processed from the subdistrict offices under the supervision of the following subdistrict chiefs:

Robert D. Livesay, Knoxville
W. Harry Doyle, Jr., Memphis
Delmer J. O'Connell, Nashville

The data were collected, computed, and processed by the following personnel:

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A.K. Brachmann
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B.N. Fraley
J.T. Hamilton
A.C. Hickey
B.S. Judkins
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J.G. Lewis
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T.W. Phillips
P. Powers
G.B. Smith
R.W. Stogner
L.B. Thomas

This report was prepared in cooperation with the State of Tennessee and with other agencies under the general supervision of C. R. Gamble, Data Management Section Chief; and Ferdinand Quinones, District Chief, Tennessee.

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15. Supplementary Notes

Prepared in cooperation with the Tennessee Department of Health and Environment, Office of Water Management; the Tennessee Valley Authority; and with other State, municipal, and Federal agencies.

16. Abstract (Limit: 200 words)

Water resources data for the 1989 water year for Tennessee consist of records of stage, discharge, and water quality of streams and springs; stage, contents, and water quality of lakes and reservoirs; water levels and water quality of wells; and quantity and quality of precipitation. This report contains discharge records for 94 gaging stations; stage only records for 6 gaging stations; elevation and contents for 28 lakes and reservoirs; water quality for 19 stations and 10 wells; water levels for 32 observation wells; and 1 precipitation station. Also included are 94 crest-stage partial-record stations. Additional water data were collected at various stream sites not involved in the systematic data collection program and are published as miscellaneous measurements and analyses. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in Tennessee.

17. Document Analysis a. Descriptors

*Tennessee, *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediment analyses, Water temperatures, Sampling sites, Water levels, Water analyses.

b. Identifiers/Open-Ended Terms

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[Letter after station name designates type of data: (d) discharge, (c) chemical, (b) biological, (t) water temperature, (s) sediment, (e) elevation of contents]

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PERIODIC MEASUREMENTS OF GROUND-WATER LEVELS

QUALITY OF GROUND WATER, 1989 WATER YEAR

WATER RESOURCES DATA - TENNESSEE, 1989

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State, local, and Federal agencies, obtains a large amount of data pertaining to the water resources of Tennessee each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data - Tennessee."

This report consists of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels and water quality of ground-water wells. This volume contains discharge records for 94 gaging stations; stage only at 6 gaging stations; stage and contents at 28 lakes and reservoirs; water quality for 19 stations, and 10 wells; and water levels at 32 observation wells. Also included are data for 94 crest-stage partial-record stations. Locations of these sites are shown on figures 5, 6, and 7. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements and miscellaneous analyses or as seepage investigations.

This series of annual reports for Tennessee began with the 1961 water year with a report that contained only data relating to the quantities of surface water. Water-quality records for water years 1964 through 1974 were similarly released either in separate reports or in conjunction with streamflow records. Beginning with the 1975 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels.

Prior to introduction of this series and for several years concurrent with it, water-resources data for Tennessee were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States." For the 1961 through 1970 years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from Distribution Branch, Text Products Section, U.S. Geological Survey, 604 South Pickett Street, Alexandria, VA 22304.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report TN-89-1." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of commerce, Springfield, VA 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (615) 736-5424.

COOPERATION

The U.S. Geological Survey and agencies of the State of Tennessee have had cooperative agreements for the systematic collection of streamflow records since 1918, for ground-water levels since 1946, and for water-quality records since 1960. Organizations that assisted in collecting data contained in this report through cooperative agreement with the Survey are:

Tennessee Department of Conservation, Elbert T. Gill, Jr., Commissioner.
Tennessee Department of Health and Environment, J. W. Luna, Commissioner, through James W. Haynes, Administrator of Water Programs.
Tennessee Department of Transportation, James Evans, Commissioner, through Lewis Evans, State Transportation Engineer and Ray Terrell, Executive Director Bureau of Planning and Development and Edward Wasserman, Engineer Director Structures Division.
Tennessee Wildlife Resources Agency, Gary Myers, Executive Director.
City of Alcoa,Donald Mull, Mayor.
City of Dickson, Tom Waychoff, Mayor.
City of Franklin, Jerry Sharber, Mayor.
City of Lawrenceburg, Ivan Johnston, Mayor.
City of Memphis, Richard C. Hackett, Mayor.
City of Murfreesboro, Joe B. Jackson, Mayor.
Town of Rogersville, Jim Sells, Mayor.
City of Sevierville, Charlie Johnson, Mayor.

City of Union City, Terry Hailey, Mayor.
Shelby County, William N. Morris, Jr., Mayor.
Metropolitan Government of Nashville and Davidson County, William Boner, Mayor,
through Department of Public Works, Peter Heidenreich, Director.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army, Nashville District, in collecting records for 23 gaging stations and 4 water-quality stations and by the Tennessee Valley Authority for 21 gaging stations. All data are published in this report.

Organizations that supplied data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

Tennessee has an abundance of rivers, lakes, and streams. The largest of these, excluding the Mississippi River which forms the State's western boundary, are the highly regulated Tennessee and Cumerland Rivers. Natural run-off conditions are best represented in these basins, as well as in the rest of Tennessee, by data from stations on unregulated rivers and streams, such as Harpeth River near Kingston Springs (03434500) in the Cumberland Basin, and Emory River at Oakdale (03540500) and Buffalo River near Lobelville (03604500) in the Tennessee Basin. Comparisons of monthly average and yearly average discharge for the 1989 water year with the median discharge during the period 1951-80 are shown in figure 1 for these three gaging stations.

Localized flooding occurred in West and Middle Tennessee as a result of intense rains during the period February 13-20, 1989, with the most severe flooding occurring on February 14. Flooding was caused by nearly continuous rainfall that affected the western and middle parts of the State. Rainfall in East Tennessee was above normal during the period but did not result in any flooding. The most intense rainfall was recorded on February 14 with 24-hour precipitation totals in the area of flooding averaging nearly 3 inches. The maximum recorded 24-hour rainfall for the storm was 5.68 inches at the town of Antioch near Nashville, Tenn.

The most severe flooding occurred in the city of Lebanon, about 30 miles east of Nashville. Sinking Creek, which flows through Lebanon, flooded most of the downtown area. Severe flooding also occurred at Obion where the Obion River flooded significant areas of the town. The peak stage at the Obion River at Obion gaging station (station number 07026000) reached about 37.4 feet, or 3 feet less than the maximum stage of record in 1937, and had a peak discharge of about 42,000 cubic feet per second. Localized flooding occurred in several communities in Wilson, Cheatham, and Williamson Counties of Middle Tennessee and in several areas in West Tennessee. Minor flooding occurred along the main stem of the Cumberland River. Data for selected sites in Middle and West Tennessee are presented in table 1.

The 1989 water year brought relief from the extended drought of the previous 2 years. All stations across the State had higher mean annual discharges in 1989 water year than in the 1988 water year. Stations throughout the State recorded runoff at or above the long-term average. In the Cumberland River basin, runoff ranged from a low of 141 percent of the long- term average for Wolf River near Byrdstown (03416000) to a high of 182 percent of the long-term average for Clear Fork near Robbins (03409500). At stations in the Tennessee River basin, runoff ranged from 100 percent of the long-term average at French Broad River near Newport (03455000) to 169 percent at Sequatchie River near Whitwell (0357100). At stations in the lower Mississippi River basin (western Tennessee), runoff ranged from 152 percent of the long-term average at Hatchie River at Bolivar (07029500) to 206 percent at Loosahatchie River near Arlington (07030240).

Although runoff for the year was above normal, areas in Middle and East Tennessee were still in the grips of the prolonged drought the first part of the 1989 water year. All stations in the central and eastern part of the State recorded low streamflows for the year in October. Minimum flows at some stations were close to record lows, for example, Sinking Creek at Afton (03466228) recorded the second lowest flow for the period of record (1977 to present) of 1.1 ft^3/s. The record low flow of 0.9 ft^3/s at this site was recorded in the summer of 1988. In West Tennessee, the drought was not as severe and streamflows remained above record lows.

Table 1.--*Flood data for selected sites in Middle and West Tennessee*

Station No.	Station name	Peak of record			Peak of February 1989			Recurrence interval (years)
		Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)	
03425500	Spring Creek near Lebanon	9/13/79	12.45	13,500	2/14	10.07	7,880	8
03430118	McCrory Creek at Ironwood Drive at Donelson	5/06/84	9.87	2,850	2/14	9.71	2,810	10
03430400	Mill Creek at Nolensville	5/07/84	9.82	11,400	2/14	7.82	5,690	8
03431060	Mill Creek at Thompson Lane near Woodbine	5/04/79	20.63	26,200	2/14	16.88	16,000	8
03431062	Mill Creek tributary at Glenrose Avenue at Woodbine	5/06/84	9.12	833	2/14	6.69	559	5
03431120	West Fork Browns Creek at General Bates Drive at Nashville	3/29/75	7.00	2,110	2/14	6.50	1,710	5
03431490	Pages Branch at Avondale	12/03/78	6.20	--	2/14	4.88	990	8
03431700	Richland Creek at Charlotte Avenue at Nashville	9/13/79	15.13	9,470	2/14	11.84	5,740	7
03431800	Sycamore Creek near Ashland City	5/19/83	13.24	17,000	2/14	12.75	14,400	15
03434500	Harpeth River at Kingston Springs	1/07/46	32.20	60,000	2/14	28.84	40,900	10
03602500	Piney River at Vernon	12/21/26	16.5	32,500	2/14	17.79	21,200	9
07025500	North Fork Obion at Union City	6/16/70	18.44	12,500	2/16	20.89	15,000	4
07026000	Obion River at Obion	1/24/37	40.4	99,500	2/18	37.46	42,000	6
07029040	Lewis Creek at Dyersburg	3/ 9/64	19.31	5,450	2/15	18.62	3,710	5

Ground Water

Ground-water levels in observation wells in Tennessee returned to near or above normal levels in 1989. The recovery in ground-water levels was due to increased precipitation throughout the year. The fluctuations of ground-water levels throughout the State are shown by representative hydrographs in figure 2. The hydrographs for wells in Putnam and Hamilton Counties are indicative of conditions in Middle and East Tennessee. The hydrograph for the well in Lauderdale County represents hydrologic conditions in West Tennessee (fig. 2).

Ground-water levels were at or near record low levels throughout Tennessee at the start of the 1989 water year. Increased precipitation in November and December recharged the ground-water system and water levels returned to near normal levels by January 1989. The aquifers in Middle and East Tennessee responded quicker to recharge and water levels were at record high levels by the end of the year in wells Hm:O-15 and Pm:C-1 (fig. 2).

Hydrographs of the lowest daily water level for all the continuous-record wells are shown with the station description and water-level data in the body of this report. Water levels in wells located in central and eastern Tennessee generally respond quicker and have larger fluctuations than wells in the sand and gravel aquifers in western Tennessee. Water levels were at record low levels at the start of the year but, because of above normal rainfall, recovered to record high levels during the year in some wells in Middle and East Tennessee.

Ground-water levels in observation wells in Shelby County are strongly affected by the pumping of large volumes of water in Memphis and surrounding areas. Fluctuations throughout the year reflect changes in the rates of pumping and location of the principal pumping centers. As pumping rates increase and new pumping centers are developed to keep pace with growing water demands, water levels decline, as shown by the hydrograph for the Memphis index well (Sh:Q-1) (fig. 3). The occurrence of new record low levels in this well is not indicative of any long-term reduction in the available water supply. It is merely a reflection of the response of the aquifer system to the additional stress of increased pumpage and reduced recharge.

Water Quality

Water-quality data were collected at 17 surface-water sites during 1989. Six of these sites are part of the U.S. Geological Survey's National Stream Quality Accounting Network (NASQAN), where chemical, physical, and bacteriological determinations are made quarterly or bimonthly. These six stations are located on the Cumberland, Clinch, Tennessee, Obion, and Hatchie Rivers. Data were also collected at two additional stations that are a part of the

national Hydrologic Benchmark Network (HBM). Basins gaged as a part of this network are relatively undisturbed by mankind. The HBM sites are located on the Buffalo and Little Rivers. Other surface-water quality activities in the District included:

- Operation of four continuous monitors to measure temperature, dissolved oxygen, pH, and specific conductance in the Cumberland River Basin in support of the U.S. Army Corps of Engineers, Nashville District operations.

- Determination of water quality at Carter's Creek in Maury County in support of a water resources study in the area.

The data from these networks did not identify any significant problems. Sanitary conditions (bacteria concentrations) at the stations were generally within the maximum allowable standards for human contact and recreation. There were no indications of toxic organic or inorganic compounds.

Daily sediment stations were operated in the vicinity of North Reelfoot Creek in the northwestern part of the State in 1989. The sediment loads for 1989 at South Reelfoot Creek near Clayton was 138,100 tons, which is the highest annual sediment load measured for the period of record. This increased load is believed to be caused by the above-average rainfall in the basin and not associated with land-use changes.

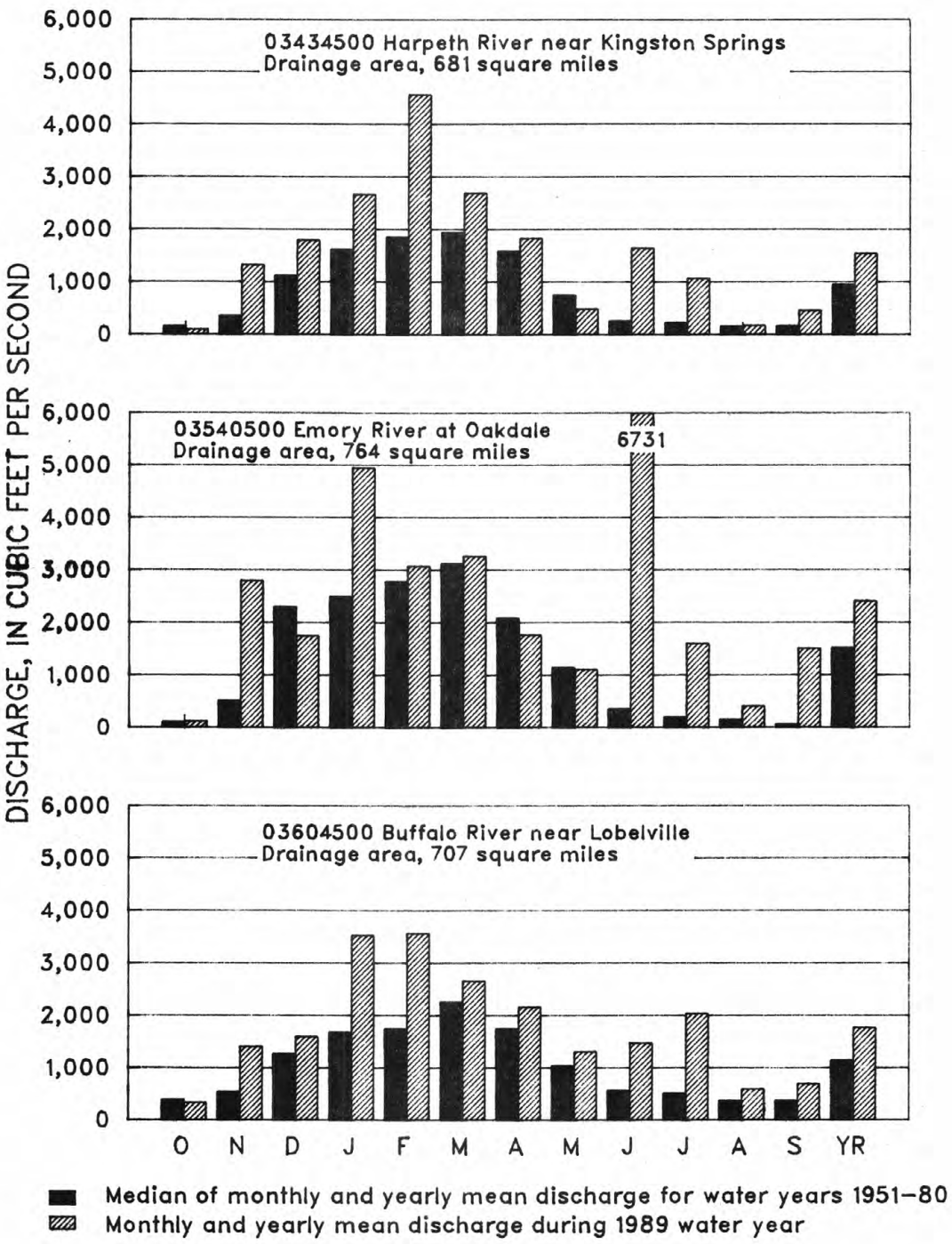


Figure 1.--Discharge for 1989 water year compared with median discharge for period 1951–80 at three representative gaging stations.

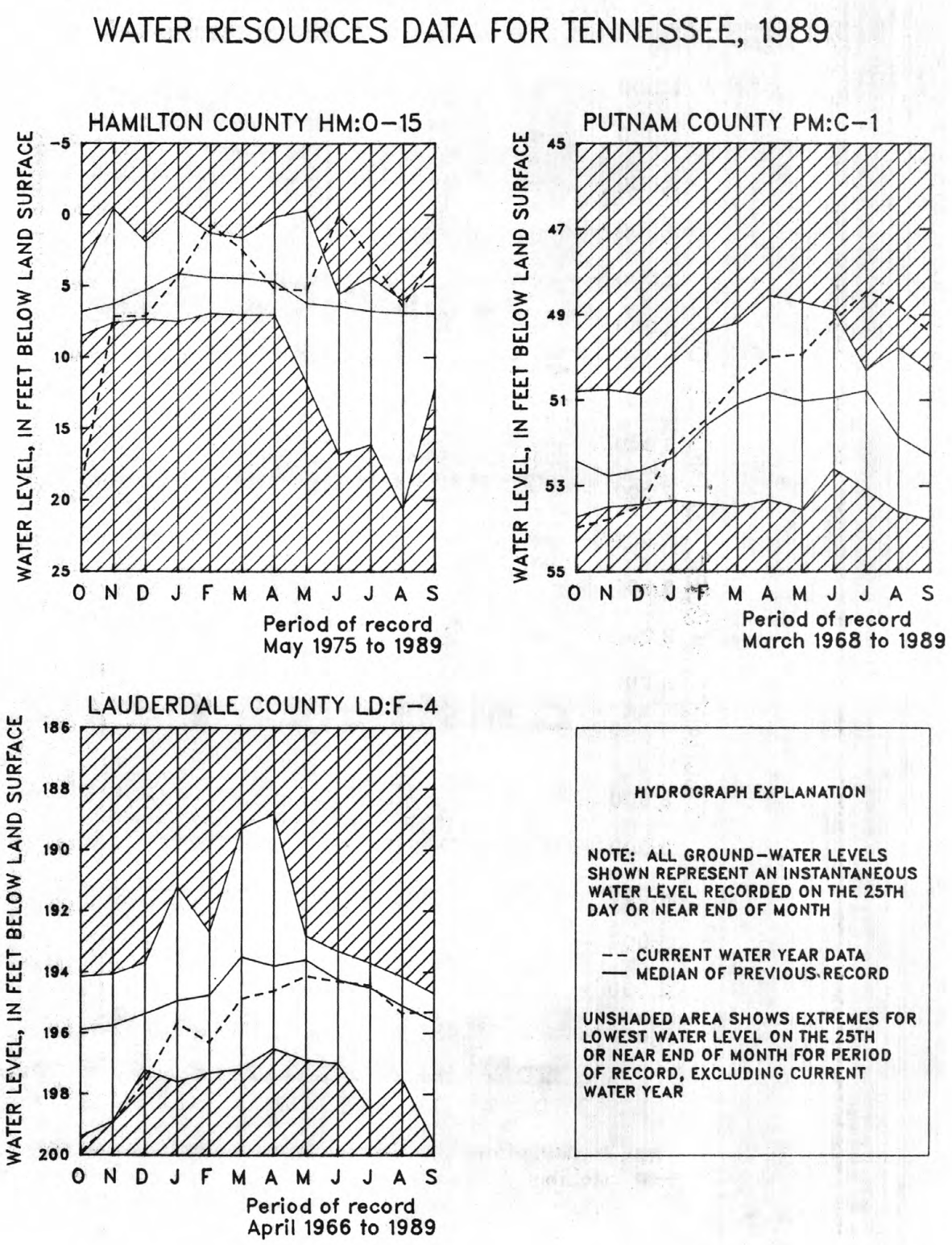


Figure 2.--Ground–water levels for the 1989 water year compared to the maximum, minimum, and median water levels for the period of record.

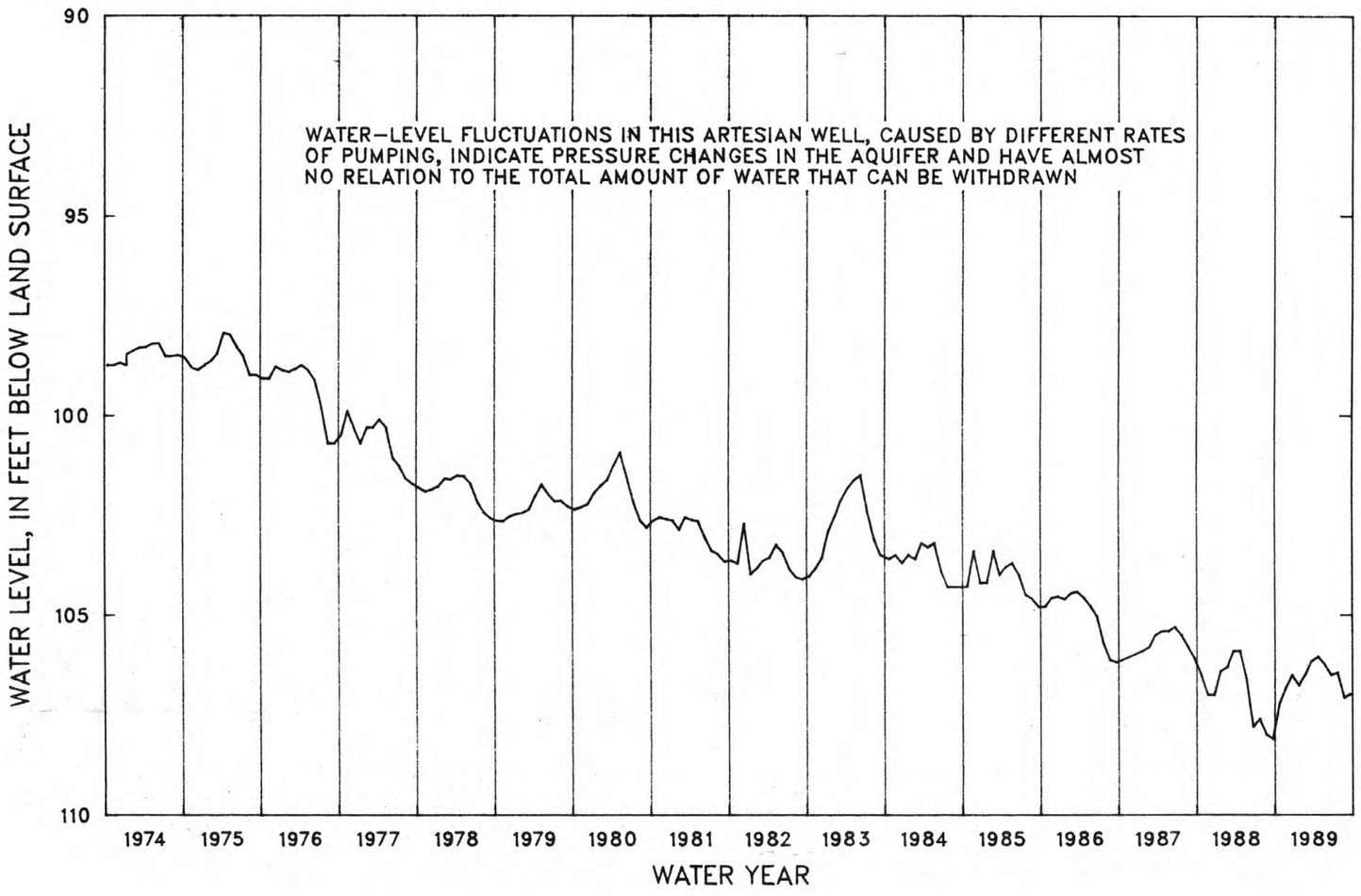


Figure 3.––Hydrograph of well SH:Q–1 in Shelby County showing long–term decline in the water level.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

National stream-quality accounting network (NASQAN) is a data collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

EXPLANATION OF RECORDS

The surface-water and ground-water records published in this report are for the 1989 water year that began October 1, 1988, and ended September 30, 1989. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The locations of the stations and wells where the data were collected are shown in figures 5, 6, and 7. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether streamsite or well, in this report is assigned a unique identification number. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for surface-water stations and the "latitude-longitude" system is used for wells.

Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indention in the "List of Stations" in the front of this report. Each indention represents one rank. This downstream order and system of indention show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

Each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete number for each station such as 03540500...., which appears just to the left of the station name, includes the 2-digit part number "03" plus the multi-digit downstream order number "540500...." This downstream numbering system is used in most cases; however, in some cases latitude and longitude numbers are assigned to hydrologic stations and partial-record stations as a means of identification (See Numbering System for Wells).

Numbering system for wells

Downstream order station numbers are not assigned to wells. The well numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells within a 1-second grid. See figure 4 on the next page.

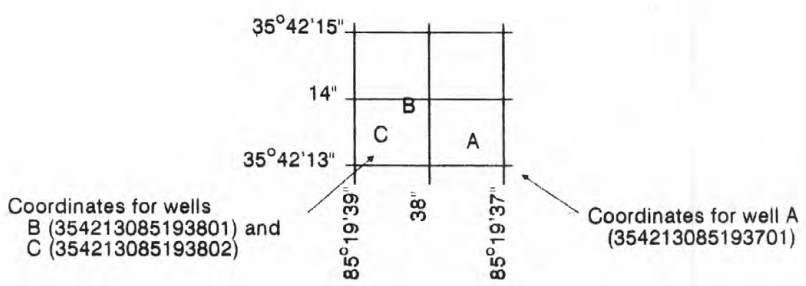


Figure 4.--System for numbering wells (latitude and longitude).

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relation between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relation between stage and lake content. These data are used with stage-area and stage- capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals. Measurements of discharge are made with current meters using methods adapted by the Geological Survey. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water Resources Investigations, Book 3, Chapter A6.

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow-over-dams or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed from gage heights and rating tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes of the personnel making the measurements are used in applying the gage heights to the rating tables. The shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and comparable records of discharge for other stations in the same or nearby basins.

At some stream-gaging stations, the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed. If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys, the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

The records published for each gaging station consist of two parts, the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, description information, such as station location; period of record; average discharge; historical extremes; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileage is that determined and used by the Geological Survey, Tennessee Valley Authority, or other agencies.

DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one whose location was such that records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see "Definition of terms"), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record will either be identified by date for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

AVERAGE DISCHARGE.--The discharge value is computed as the arithmetic mean of the water-year mean dis- charges. It is not computed for stations having fewer than 5 complete water years of record or for stations where diversions, storage, or other water-use practices cause the value to be meaningless.

EXTREMES FOR PERIOD OF RECORD.--Extremes may include maximum and minimum stages and maximum and minimum discharges or content. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage gage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the Geological Survey.

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:20 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

The daily table for stream-gaging stations given mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN."), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversions or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, the the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing a table footnote, "e Estimated," or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records depends primarily on: (1) The stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft^3/s; to the nearest tenth between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures to more than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease is evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Data Available

Records of discharge, not published by the Geological Survey, are collected in Tennessee at several sites by the U.S. Army Corps of Engineers and Tennessee Valley Authority. the National Water Data Exchange (NAWDEX), U.S. Geological Survey, Reston, VA 22092, maintains an index of these sites as well as an index of records of discharge collected by other agencies but not published by the Geological Survey. Information on records at specific sites can be obtained from that office upon request.

Information used in the preparation of the records in this publication, such as discharge-measurements notes, gage-height records, temperature measurements, and rating tables are on file in the Tennessee District office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the District office.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are collected at or near stream-gaging stations. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be once or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station, where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-Site Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situe water, carefully prescribe procedures need to be followed in collecting the samples, in treatinig the samples to prevent changes in quality pending analysis, and in shipping the samples to be laboratory. Proceedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. Also, detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey District Office.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (NASQAN) (see definitions) are obtained from at least several verticals.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and

ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the U.S. Geological Survey District Office whose address is given on the back of the title page of this report.

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, maximum, minimum, and mean temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the District office and are also published in this report.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of the quantities of suspended sediment, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the Geological Survey laboratories in Arvada, Colo. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratories are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor, temperature recorder, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Users of U.S. Geological Survey water-quality data should be aware of this update procedure because corrections are not documented in the State data-report series.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

The following remark codes may appear with the water-quality data in this report:

PRINTED OUTPUT	REMARK
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)
L	Biological organisms count less than 0.5 percent (organisms may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

Records of Ground-Water Levels

Only ground-water level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

Data Collection and Computation

Measurements of water levels are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Tables of water-level data are presented by counties arranged in alphabetical order. Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is provided for local needs.

Water-level records are obtained from direct measurements with a steel tape or from the graph or punched tape of a water-stage recorder. The water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (eom).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

Data Presentation

Each well record consists of two parts, the station description and the data table of water levels observed during the water year. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings.

LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds); the hydrologic-unit number; the distance and direction from a geographic point of reference; and the owner's name.

AQUIFER.--This entry designates by name (if a name exists) and geologic age the aquifer(s) open to the well.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

INSTRUMENTATION.--This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on weekly, monthly, or some other frequency of measurement.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) National Geodetic Vertical Datum of 1929 (NGVD of 1929).

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level. It should identify wells that are also water-quality observation wells, and may be used to acknowledge the assistance of local (non-Survey) observers.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels of the period of published record, with respect to land-surface datum, and the dates of their occurrence.

A table of water levels follows the station description for each well. Water levels are reported in feet below land-surface datum and all taped measurements of water level are listed. For wells equipped with recorders, only abbreviated tables are published; generally, only water-level lows are listed for every fifth day and at the end of the month (eom). The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the abbreviated table. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table.

Records of Ground-Water Quality

Records of ground-water quality in this report differ from other types of records in that for most sampling sites they consist of only one set of measurements for the water year. The quality of ground water ordinarily changes slowly; therefore, for most general purposes one annual sampling, or only a few samples taken at infrequent intervals during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem, such as monitoring for trends in nitrate concentration. In special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

Data Collection and Computation

The records of ground-water quality in this report were obtained mostly as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some counties but none are presented for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide. Such a view can be attained only by considering records for this year in context with similar records obtained for these and other counties in earlier years.

Most methods for collecting and analyzing water samples are described in the "U.S. Geological Survey Techniques of Water-Resources Investigations" manuals listed on a following page. The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. The wells sampled were pumped long enough to assure that the water collected came directly from the aquifer and had not stood in the well casing where it would have been exposed to the atmosphere and to the material comprising the casings.

Data Presentation

The records of ground-water quality are published in a section titled QUALITY OF GROUND WATER immediately following the ground-water-level records. Data for quality of ground water are listed alphabetically by County and are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. No descriptive statements are given for ground-water-quality records;

however, the well number, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water. The REMARK codes listed for surface-water- quality records are also applicable to ground-water-quality records.

EXPLANATION OF PRECIPITATION-QUALITY RECORDS

Collection of the Data

The precipitation-quality records in this report are for one site operated by the U.S. Geological Survey in the National Trends Network. Field measurements of pH and specific conductance of weekly composite precipitation samples and daily precipitation quantity are made. Other chemical analyses for all National Trends Network sites are performed by the Central Analytical Laboratory of the Illinois Water Survey. A numerical agency code (17003) has been assigned to the Illinois Water-Survey for data storage purposes.

ACCESS TO WATSTORE DATA

The National WATer Data STORage and REtrieval System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from each of the Water Resources Division's district offices (see address given on the back of the title page).

General inquiries about WATSTORE may be directed to:

Chief Hydrologist
U.S. Geological Survey
437 National Center
Reston, Virginia 22092

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System (SI) Units on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5 ^{o}C ± 0.2 ^{o}C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35 ^{o}C ± 1.0 ^{o}C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Bottom material in tables of data, refers to the chemical analysis of unconsolidated matter described as bed material and specifically includes anthropogenic matter in addition to natural solid material.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream.

Cubic feet per second per square mile [$(ft^3/s)/mi^2$] (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic foot per second-day [$(ft^3/s)/d$] is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,445 cubic meters.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved is that material in a representative water sample which passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium car bonate ($CaCO_3$).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each well.

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

Micrograms per gram (µg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent sorbed per unit mass (gram) of sediment.

Micrograms per liter (UG/L, µg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L and is based on the mass of dry sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

National Stream Quality Accounting Network is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located

at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of anlaysis
Clay	0.00024 - 0.004	Sedimentation
Silt	.004 - .062	Sedimentation
Sand	.062 - 2.0	Sedimentation or sieve
Gravel	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population in terms of types, numbers, mass, or volume.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotypes. The streams that are sampled represent major drainage basins in the conterminous United States.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion

procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Runoff in inches (IN, in) shows the depth to which the drainage area would be covered if all runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027.

Suspended-sediment load is the quantity of suspended sediment passing a section in a specified period.

Total sediment discharge (tons/day) is the total quantity of sediment (suspended-sediment and bed-load) as measured by dry weight or volume, that passes a section during a specified period.

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions with soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and the volume of water per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be requred of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the

expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Thermograph is an instrument that continuously records variations of water temperature on a chart. The more general term "temperature recorder" is the term used in the table headings and refers to any instrument that records water temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of substance in solution or suspension that passes a stream section during a 24-hour period.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended mixture and that the analytical method determined all of the constituent in the sample.

Total in bottom material is the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total load is the quantity of any individual constituent, as measured by dry mass or volume that passes through a section during a specified period. It is computed by multiplying the total stream discharge, times the mg/L of the constituent, times the factor 0.0027, times the number of days.

Total recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1980, is called the "1980 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of indivudual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WRD is used as an abbreviation for "Water-Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1975.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.

1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.

2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.

2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F. P. Haeni: USGS--TWRI Book 2, Chapter D2. 1988. 86 pages.

2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.

2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and Warren E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 pages.

3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.

3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.

3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.

3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.

3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.

3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.

3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3. Chapter A7. 1968. 28 pages.

3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.

3-A9. *Measurement of time of travel in streams by dye tracing*, by F. A. Kilpatrick and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1989. 27 pages.

3-A10. *Discharge ratings at gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.

3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.

3-A12. *Fluorometric procedures for dye tracing*, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 41 pages.

3-A13. *Computation of continuous records of streamflow*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.

3-A14. *Use of flumes in measuring discharge*, by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.

3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.

3-A16. *Measurement of discharge using tracers*, by F. A. Kilpatrick and E. D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.

3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 pages.

3-A18. *Determination of stream reaeration coefficients by use of tracers*, by F. A. Kilpatrick, R. E. Rathbun, N. Yotsukura, G. W. Parker, and L. L. DeLong: USGS--TWRI Book 3, Chapter A18. 1989. 52 pages.

3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.

3-B2. *Introduction to ground-water hydraulics, a programmed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.

3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.

3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems--An introduction*, by O. L. Franke, T. E. Reilly, and G. D. Bennett: USGS--TWRI Book 3, Chapter B5. 1987. 15 pages.

3-B6. *The principle of superposition and its application in ground-water hydraulics*, by T. E. Reilly, O. L. Franke, and G. D. Bennett: USGS--TWRI Book 3, Chapter B6. 1987. 28 pages.

3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.

3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.

3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.

4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.

4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.

4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.

4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.

4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS-TWRI Book 4, Chapter D1. 1970. 17 pages.

5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M. J. Fishman and L. C. Friedman: USGS--TWRI Book 5, Chapter A1. 1989. 545 pages.

5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.

5-A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R. L. Wershaw, M. J. Fishman, R. R. Grabbe, and L. E. Lowe: USGS--TWRI Book 5, Chapter A3. 1987. 80 pages.

5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L. J. Britton and P. E. Greeson, editors: USGS--TWRI Book 5, Chapter A4. 1989. 363 pages.

5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.

5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.

5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.

6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M. G. McDonald and A. W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 pages.

7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.

7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.

7-C3. *A model for simulation of flow in singular and interconnected channels*, by R. W. Schaffrannek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.

8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.

8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.

8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

WATER RESOURCES DATA FOR TENNESSEE, 1989

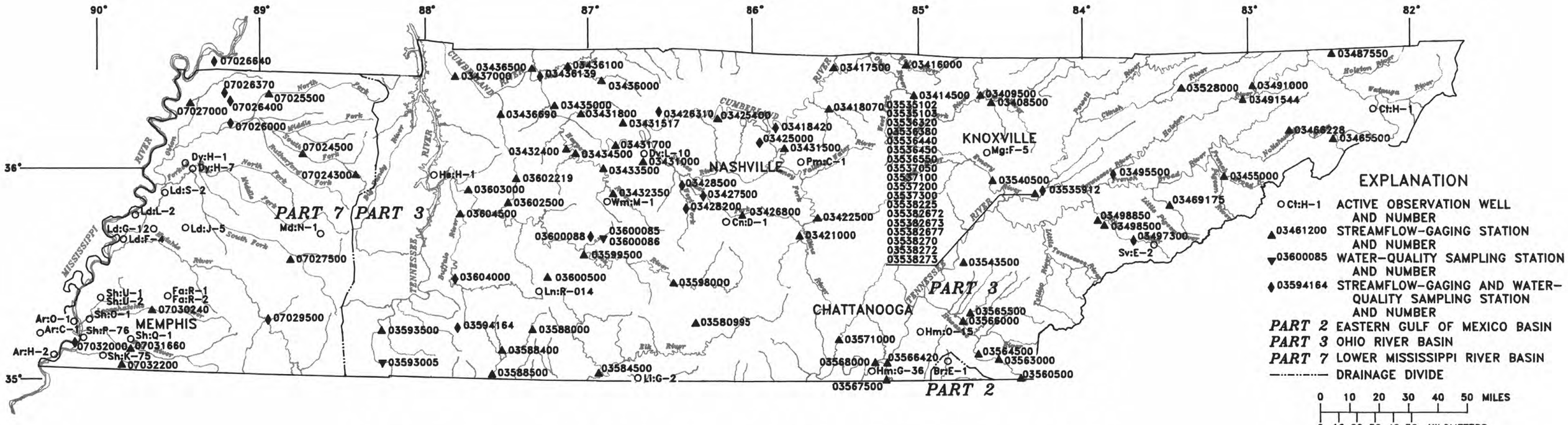


Figure 5.--Location of streamflow-gaging and water-quality sampling stations.

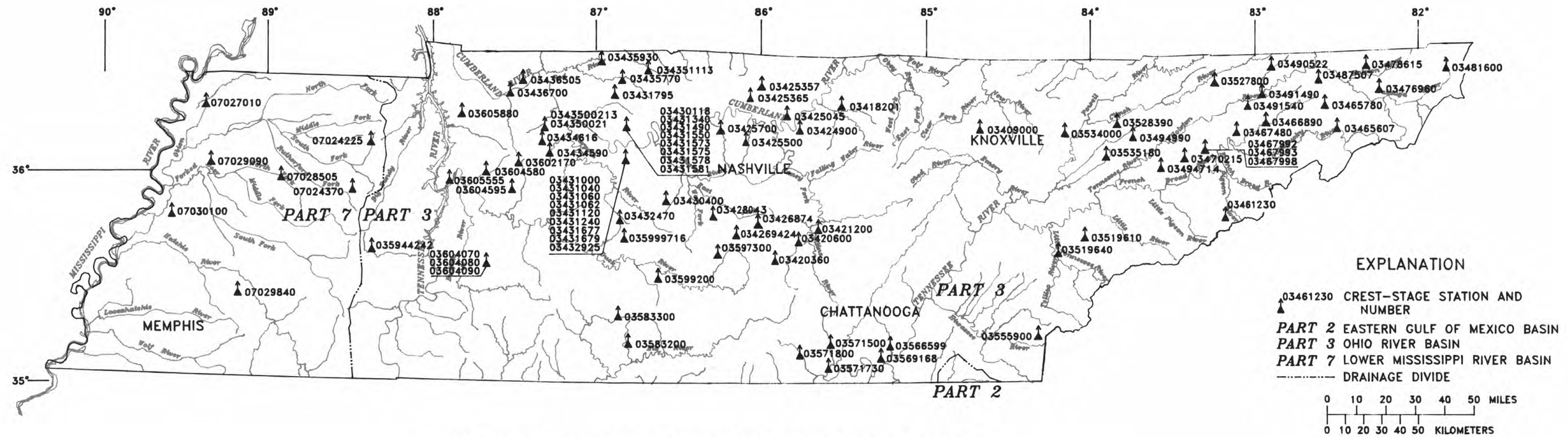


Figure 6.--Location of crest-stage partial record stations.

03408500 NEW RIVER AT NEW RIVER, TN

LOCATION.--Lat 36°23'08", long 84°33'17", Scott County, Hydrologic Unit 05130104, on left bank at town of New River, 700 ft downstream from Phillips Creek, 1,000 ft downstream from bridge on U.S. Highway 27, 1.7 mi downstream from Brimstone Creek, and at mile 8.6.

DRAINAGE AREA.--382 mi^2.

PERIOD OF RECORD.--August 1934 to current year. Gage-height records collected in this vicinity 1908-52 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 1436: Drainage area. WDR TN-73: 1939(M), 1951(M), 1970(M).

GAGE.--Water-stage recorder. Datum of gage is 1,092.67 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated discharges. Records good. Periodic observations of water temperatures and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--55 years, 736 ft^3/s, 26.16 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 63,700 ft^3/s, May 27, 1973, gage height, 37.91 ft, from high water mark in gage well, from rating curve extended above 27,000 ft^3/s on basis of slope-area and contracted-opening measurements of peak flow; no flow part of each day Aug. 12-15, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 23, 1929, reached a stage of 41.2 ft, discharge, 74,700 ft^3/s, estimated, based on field survey at old U.S. Weather Bureau gage, 1,200 ft upstream at datum 3.41 ft higher.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Nov. 20	1830	13,900	16.10	Mar. 6	1200	27,700	24.29
Dec. 25	0030	13,000	15.62	June 16	0600	*39,600	*29.41
Jan. 13	0100	22,900	21.16	Sept. 23	1330	12,700	16.02
Feb. 21	1400	17,900	18.40				

Minimum discharge, 14 ft^3/s, Oct. 15, 16, 17, 19; minimum gage height, 1.68 ft, Oct. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	67	734	3950	333	1030	1040	522	173	483	1680	229
2	45	56	556	2280	316	1030	895	901	163	432	4270	443
3	49	50	432	1490	341	1010	904	649	201	404	1290	337
4	64	45	365	1080	488	963	2350	496	206	824	731	225
5	52	1430	310	831	559	1830	4420	952	327	1060	475	168
6	41	1870	270	1280	1020	18300	2130	4610	2750	1020	353	138
7	33	873	248	1740	1360	4030	1480	2420	2890	4040	352	126
8	28	489	227	4130	1140	2010	1350	1430	1250	2070	261	108
9	24	326	213	3170	914	1380	1830	1100	3570	1160	200	96
10	22	311	203	1740	741	1080	1360	1160	3020	771	162	198
11	20	422	184	1340	687	892	1090	911	1370	726	137	708
12	20	348	169	11800	603	767	889	740	878	1500	122	831
13	18	292	155	12100	524	660	746	599	4160	2720	110	430
14	16	253	154	3540	1820	578	633	483	2250	1270	102	326
15	14	205	149	6270	2460	511	682	428	9820	783	95	948
16	14	214	142	3260	1600	431	624	384	26200	561	167	4260
17	14	587	130	1870	1880	371	519	308	3370	472	123	1470
18	15	622	119	1350	3640	382	463	264	1690	353	178	822
19	14	1350	114	1060	2480	579	429	233	1140	283	165	538
20	15	8990	114	859	2470	496	400	601	4760	288	114	382
21	22	3610	270	700	11900	2080	365	867	4330	388	98	294
22	33	1360	1240	585	4780	2120	340	523	2100	383	102	1050
23	63	867	2170	518	2220	1420	318	440	1920	291	104	8590
24	53	628	4570	461	1450	1220	303	390	2010	312	420	3390
25	42	473	6370	411	1130	996	286	308	1150	268	756	1590
26	40	380	1980	373	1000	862	259	258	793	188	468	3530
27	49	1120	1240	368	922	742	238	404	594	153	765	2170
28	54	1980	1090	334	896	643	259	509	595	136	407	1250
29	67	1410	1290	301	---	575	278	313	1150	155	265	927
30	102	986	1090	313	---	551	326	244	681	239	227	1470
31	82	---	1210	370	---	829	---	201	---	977	323	---
TOTAL	1173	31614	27508	69874	49674	50368	27206	23648	85511	24710	15022	37044
MEAN	37.8	1054	887	2254	1774	1625	907	763	2850	797	485	1235
MAX	102	8990	6370	12100	11900	18300	4420	4610	26200	4040	4270	8590
MIN	14	45	114	301	316	371	238	201	163	136	95	96
CFSM	.10	2.76	2.32	5.90	4.64	4.25	2.37	2.00	7.46	2.09	1.27	3.23
IN.	.11	3.08	2.68	6.80	4.84	4.90	2.65	2.30	8.33	2.41	1.46	3.61

CAL YR 1988 TOTAL 175907.6 MEAN 481 MAX 15700 MIN 2.2 CFSM 1.26 IN. 17.13
WTR YR 1989 TOTAL 443352 MEAN 1215 MAX 26200 MIN 14 CFSM 3.18 IN. 43.17

03409500 CLEAR FORK NEAR ROBBINS, TN

LOCATION.--Lat 36°23'18", long 84°37'49", Scott County, Hydrologic Unit 05130104, on right bank 300 ft downstream from Burnt Mill Bridge, 3.3 mi northwest of Robbins, and at mile 3.7.

DRAINAGE AREA.--272 mi^2.

PERIOD OF RECORD.--October 1930 to September 1971, July 1975 to current year. Published as Clear Fork River near Robbins, October 1951 to September 1954.

REVISED RECORDS.--WSP 1306: 1931(M), 1936-37(M), 1943-44(M). WSP 1436: Drainage area. WSP 1910: 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 1,081.46 ft, Sandy Hook datum. Prior to Aug. 10, 1940, nonrecording gage at site 300 ft upstream at datum 1.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--55 years (water years 1931-71, 1976-89), 475 ft^3/s, 23.71 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,000 ft^3/s Feb. 3, 1939, gage height, 18.5 ft from floodmarks, site and datum then in use, from rating curve extended above 14,000 ft^3/s on basis of slope-area measurement of peak flow; minimum observed, 0.2 ft^3/s Sept. 19-21, 1932; minimum gage height observed, 0.28 ft Oct. 1-3, 1936, site and datum then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 23, 1929 reached a stage of 22.1 ft, former site and datum, from information by local residents, and flood of May 27, 1973, reached a stage of 18.92 ft, present site and datum, from floodmark; discharge 35,700 ft^3/s, from rating curve extended above 14,000 ft^3/s on basis of slope-area measurement at gage height 18.5 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Nov. 20	1100	12,500	12.00	Mar. 6	0700	*16,600	*13.56
Jan. 12	1830	13,600	12.43	June 6	2300	6,740	9.05
Feb. 14	1930	8,430	10.04	June 16	0530	8,880	10.29
Feb. 21	1330	13,200	12.27				

Minimum discharge, 19 ft^3/s, Oct. 16, 17, 18, 19, 20, and Aug. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	55	611	2090	221	828	607	231	115	213	185	84
2	64	49	449	1650	204	819	463	295	98	220	376	379
3	62	45	358	1200	213	803	484	222	89	229	236	273
4	65	43	310	881	300	719	1650	177	108	230	158	163
5	56	479	263	648	327	2250	2890	348	253	500	105	103
6	46	1640	231	1270	478	13200	1610	1770	2930	452	75	73
7	39	984	211	1670	549	4010	1150	1470	3840	2340	74	60
8	33	532	194	1970	498	1820	1020	889	1410	1360	63	50
9	30	345	178	1930	420	1250	1120	618	2850	711	48	44
10	28	312	169	1320	325	931	878	598	2060	410	40	39
11	26	495	161	1100	362	727	695	442	1090	301	32	460
12	25	374	149	9020	319	578	548	359	645	631	27	684
13	23	307	140	7790	290	472	447	301	1690	1390	24	287
14	21	256	136	3020	3990	408	379	249	1600	863	22	404
15	20	211	135	3660	4210	353	424	225	2500	464	20	1410
16	19	205	127	2370	2230	293	458	220	7300	302	19	4780
17	19	712	114	1520	2320	251	362	174	2630	250	31	1800
18	20	671	107	1120	3500	243	317	147	1250	189	99	834
19	19	1720	101	846	2280	258	283	129	865	152	75	472
20	19	9940	104	653	2110	241	255	571	2980	165	46	314
21	22	3770	338	505	9490	1410	227	859	3410	155	34	231
22	25	1610	1470	416	4420	1590	204	437	2520	436	27	244
23	30	1010	2440	364	2020	1070	187	340	2900	249	33	2430
24	32	686	3490	325	1350	935	176	287	3520	208	166	2450
25	32	488	4080	289	1010	759	163	215	1390	160	327	1240
26	33	389	1770	266	852	610	147	166	723	115	168	2020
27	33	1110	1130	271	736	496	134	286	457	86	202	1550
28	43	1700	1000	247	679	416	130	500	357	69	121	912
29	65	1230	1260	221	---	360	126	269	385	67	129	632
30	85	864	988	224	---	338	119	197	286	65	98	1250
31	67	---	1030	246	---	466	---	149	---	104	80	---
TOTAL	1174	32232	23244	49102	45703	38904	17653	13140	52251	13086	3140	25672
MEAN	37.9	1074	750	1584	1632	1255	588	424	1742	422	101	856
MAX	85	9940	4080	9020	9490	13200	2890	1770	7300	2340	376	4780
MIN	19	43	101	221	204	241	119	129	89	65	19	39
CFSM	.14	3.95	2.76	5.82	6.00	4.61	2.16	1.56	6.40	1.55	.37	3.15
IN.	.16	4.41	3.18	6.72	6.25	5.32	2.41	1.80	7.15	1.79	.43	3.51

CAL YR 1988 TOTAL 137047.7 MEAN 374 MAX 11700 MIN 2.1 CFSM 1.38 IN. 18.74
WTR YR 1989 TOTAL 315301 MEAN 864 MAX 13200 MIN 19 CFSM 3.18 IN. 43.12

03414500 EAST FORK OBEY RIVER NEAR JAMESTOWN, TN

LOCATION.--Lat 36°24'58", Long 85°01'35", Fentress County, Hydrologic Unit 05130105, on right bank 200 ft upstream from bridge on State Highway 52, 0.5 mi upstream from Poplar Cove Creek, 5.3 mi west of Jamestown, and at mile 12.7.

DRAINAGE AREA.--202 mi^2, includes 6.0 mi^2 without surface drainage.

PERIOD OF RECORD.--October 1942 to current year. Prior to February 1943 monthly discharge only, published in WSP 1306.

REVISED RECORDS.--WSP 1276: 1944, 1946(M). WSP 1506: Drainage area.

GAGE.--Water-stage encoder. Datum of gage is 680.30 ft, Sandy Hook Datum. Feb. 24 to Apr. 7, 1943, nonrecording gage 200 ft upstream at same datum.

REMARKS.--Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--47 years, 415 ft^3/s, 27.90 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,800 ft^3/s, May 27, 1973, gage height, 30.46 ft, from rating curve extended above 32,000 ft^3/s, on basis of slope-area measurement of peak flow; minimum, 3.6 ft^3/s, Sept. 26-28, 1948; minimum gage height, 0.55 ft, Sept. 12-17, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1929 reached a stage of about 30.7 ft, from flood profile by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft^3/s, and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Nov. 20	1000	8,160	13.00	Feb. 21	0830	11,000	15.36
Jan. 12	1830	*14,500	*17.82	Mar. 6	0030	14,100	17.57
Feb. 14	1430	11,000	15.37				

Minimum discharge, 12 ft^3/s, Oct. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	30	405	1580	247	657	595	168	160	168	35	51
2	33	28	328	1150	231	671	522	205	128	166	114	190
3	32	26	269	858	259	672	592	173	121	175	97	113
4	29	26	233	649	345	609	2700	150	123	1210	64	67
5	26	217	199	510	362	4410	2290	227	121	1160	48	49
6	22	726	175	922	435	7770	1290	1250	1140	654	43	39
7	20	430	160	1060	455	2230	962	1030	1550	623	49	35
8	18	254	145	1600	420	1260	840	661	831	517	43	31
9	17	168	135	1340	368	901	813	516	865	370	34	28
10	15	177	129	945	319	695	659	510	635	263	29	25
11	15	246	121	905	306	570	546	424	445	192	26	24
12	14	185	112	9070	282	480	470	362	417	168	23	54
13	14	145	106	6290	266	419	409	301	2190	188	21	37
14	14	122	108	5790	5640	373	356	250	1390	158	19	46
15	13	106	107	3620	2660	328	375	222	1630	127	19	210
16	13	111	103	1640	1600	281	398	195	2250	104	21	920
17	13	464	97	1110	1840	246	352	164	1240	94	24	406
18	13	437	91	838	2560	233	316	142	783	88	24	224
19	13	970	87	656	1600	230	292	126	537	79	34	137
20	13	6320	86	530	1770	245	266	331	448	89	27	101
21	14	3520	420	440	7180	1810	242	295	417	83	22	81
22	17	841	1170	378	2560	1250	219	224	382	69	19	82
23	25	542	2540	332	1400	876	203	278	371	61	19	1590
24	21	408	2970	298	966	721	191	261	514	59	108	940
25	19	323	2380	265	765	588	176	201	367	55	102	536
26	19	261	1140	242	686	497	158	162	262	47	83	650
27	20	646	769	243	621	433	145	1080	322	41	54	570
28	26	991	943	229	584	e379	135	727	331	38	41	372
29	35	697	1150	210	---	e337	127	424	283	34	38	306
30	39	517	854	220	---	319	117	301	206	32	37	1580
31	33	---	853	258	---	492	---	213	---	32	41	---
TOTAL	653	19934	18385	44178	36727	30982	16756	11573	20459	7144	1358	9494
MEAN	21.1	664	593	1425	1312	999	559	373	682	230	43.8	316
MAX	39	6320	2970	9070	7180	7770	2700	1250	2250	1210	114	1590
MIN	13	26	86	210	231	230	117	126	121	32	19	24
CFSM	.10	3.29	2.94	7.05	6.49	4.95	2.77	1.85	3.38	1.14	.22	1.57
IN.	.12	3.67	3.39	8.14	6.76	5.71	3.09	2.13	3.77	1.32	.25	1.75

CAL YR 1988 TOTAL 109251.9 MEAN 299 MAX 8820 MIN 5.7 CFSM 1.48 IN. 20.12
WTR YR 1989 TOTAL 217643 MEAN 596 MAX 9070 MIN 13 CFSM 2.95 IN. 40.08

e Estimated

03416000 WOLF RIVER NEAR BYRDSTOWN, TN

LOCATION.--Lat 36°33'37", long 85°04'23", Pickett County, Hydrologic Unit 05130105, on right bank 0.3 mi upstream from bridge on county road, 0.5 mi upstream from Widow Creek, 3.2 mi east of Byrdstown, 5.4 mi upstream from Lick Creek, and at mile 26.2.

DRAINAGE AREA.--106 mi^2.

PERIOD OF RECORD.--October 1942 to current year. Prior to June 1943 monthly discharge only, published in WSP 1306.

REVISED RECORD.--WSP 1276: 1943. WSP 1910: Drainage area. WDR TN-82: 1944-81(M).

GAGE.--Water-stage encoder. Datum of gage is 707.54 ft, Sandy Hook datum.

REMARKS.--Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--47 years, 187 ft^3/s, 23.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,500 ft^3/s, Sept. 2, 1982, gage height, 17.14 ft, from rating curve extended above 7,300 ft^3/s on basis of slope-area measurement at gage height 10.09 ft and 17.14 ft; minimum, 2.0 ft^3/s, Sept. 17, 1954, gage height, 0.50 ft result of construction at mill dam upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1929 reached a stage of about 10.8 ft, discharge, about 12,400 ft^3/s from information by local resident. From flood marks, flood of June 30, 1928, reached a stage 1.5 ft higher than that in March 1929 at a point 12.5 mi upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1930	6,390	7.71	Feb. 21	0200	7,700	8.48
Feb. 14	1400	*8,900	*9.19	Mar. 5	2330	6,850	7.97

Minimum discharge, 10 ft^3/s, Oct. 13, 14, 15, 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	16	98	230	94	214	302	154	92	196	69	47
2	16	16	81	218	90	201	247	138	81	165	74	170
3	15	15	68	195	127	191	266	107	73	149	57	116
4	14	18	61	165	237	176	1320	95	79	378	43	83
5	14	104	53	142	213	2750	832	148	185	295	35	61
6	13	177	47	683	230	3520	508	667	602	221	46	46
7	12	96	43	608	209	997	382	532	637	450	39	40
8	12	65	39	665	180	576	335	321	343	423	34	36
9	12	46	36	493	153	406	309	281	356	240	29	33
10	11	60	34	354	137	314	251	337	298	175	26	31
11	11	94	33	324	131	253	217	250	207	142	25	165
12	11	67	32	3730	120	215	192	204	167	e120	23	88
13	10	50	30	2080	110	188	170	168	198	e140	22	56
14	10	37	30	942	4220	168	153	138	226	e120	21	60
15	10	32	29	1080	1610	148	162	133	567	e100	21	88
16	11	45	28	691	881	124	156	114	947	e90	21	380
17	11	129	27	489	761	111	138	96	524	e80	20	228
18	11	89	26	368	789	108	128	86	324	e75	20	153
19	11	83	25	279	611	108	119	78	229	e70	20	109
20	11	1100	25	224	1500	117	108	313	190	e80	19	85
21	13	429	225	183	5150	910	101	248	174	e75	19	67
22	13	201	366	159	1230	562	94	183	175	e65	18	83
23	13	130	1240	141	685	385	89	239	289	e60	18	829
24	14	98	1160	126	462	310	84	196	329	e55	963	493
25	13	79	851	112	362	250	77	153	196	51	355	280
26	13	68	416	105	313	213	71	284	147	45	146	264
27	13	116	269	101	267	186	67	490	201	40	93	205
28	16	206	362	94	230	164	68	271	171	38	66	161
29	16	164	405	89	---	151	69	187	209	37	54	156
30	19	123	296	92	---	150	74	142	155	36	50	487
31	17	---	233	98	---	305	---	112	---	55	46	---
TOTAL	402	3953	6668	15260	21102	14471	7089	6865	8371	4266	2492	5100
MEAN	13.0	132	215	492	754	467	236	221	279	138	80.4	170
MAX	19	1100	1240	3730	5150	3520	1320	667	947	450	963	829
MIN	10	15	25	89	90	108	67	78	73	36	18	31
CFSM	.12	1.24	2.03	4.64	7.11	4.40	2.23	2.09	2.63	1.30	.76	1.60
IN.	.14	1.39	2.34	5.36	7.41	5.08	2.49	2.41	2.94	1.50	.87	1.79

CAL YR 1988 TOTAL 38258.8 MEAN 105 MAX 2870 MIN 5.9 CFSM .99 IN. 13.43
WTR YR 1989 TOTAL 96039 MEAN 263 MAX 5150 MIN 10 CFSM 2.48 IN. 33.70

e Estimated

03417500 CUMBERLAND RIVER AT CELINA, TN

LOCATION.--Lat 36°33'15", long 85°30'52", Clay County, Hydrologic Unit 05130106, on right bank at State Highway 52 bridge, 0.5 mi northwest of courthouse in Celina, 600 ft downstream from Obey River, and at mile 380.8.

DRAINAGE AREA.--7,307 mi^2.

PERIOD OF RECORD.--October 1922 to current year. Gage-height records collected at same site 1903-54 are in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 893: 1923-38. WSP 1276: 1924. WSP 1306: 1943 (monthly runoff). WSP 2110: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 489.00 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 20, 1930, nonrecording gage at site 400 ft downstream at same datum. Since Feb. 2, 1973, auxiliary water-stage recorder 15.8 mi downstream from base gage at same datum.

REMARKS.--Records fair, except those for periods of low fall, which are poor. Flow regulated by Lake Cumberland and Dale Hollow Lake (see page 91). Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--66 years (water years 1923-1980, 1982-1989), 11,620 ft^3/s, 21.60 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 145,000 ft^3/s, Dec. 29, 1926, maximum gage height, 57.25 ft, Dec. 29, 1926, from graph based on gage readings; minimum daily, 69 ft^3/s, Sept. 2, 11-14, 1925; minimum gage height observed, 0.20 ft, Sept. 2, 11-14, 1925.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1793, 59.2 ft in March 1826, from Cumberland River profile.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 57,100 ft^3/s, Mar. 6, gage height, 32.65 ft; minimum daily, 576 ft^3/s, Apr. 30; minimum gage height, 10.66 ft, Dec. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2790	1740	11800	9410	21300	30700	30000	1780	7420	28500	16800	14200
2	2010	2450	11700	10700	19900	30700	22700	4450	6550	28000	19600	13000
3	1900	2630	11000	13700	17800	30900	13400	4530	5030	28700	17900	9720
4	1410	3280	5650	14600	18200	31100	21800	5520	3170	29700	17200	7730
5	2780	3110	3940	17800	15300	44700	25700	6720	3090	24900	15100	8520
6	2400	3010	9690	18000	12700	52700	e24600	7860	3860	21800	10700	12500
7	2140	1240	8020	16400	22100	40900	e24600	9880	8280	21300	6790	14000
8	2070	2500	6370	14600	25300	e23000	e24600	17400	13600	20300	6520	14800
9	1650	2710	8210	13800	24400	e19600	e24600	19800	15800	16200	7750	12700
10	1600	3900	13900	17300	23700	34500	e27500	19200	14500	15300	7480	10100
11	1470	3970	9810	18200	21700	34000	29900	19000	13100	17100	7470	7340
12	2100	3790	7670	24100	10900	33500	24300	18800	13800	18800	6930	9390
13	1690	2690	13300	26000	6300	33000	22400	18700	21500	19000	4710	10000
14	2330	863	15300	20500	25800	33200	21700	17900	25400	18200	8190	11500
15	2440	1400	14400	21800	32200	32500	15100	18600	31400	15600	11900	12300
16	1510	1600	10700	20500	22300	30600	8420	18500	34000	14500	12400	15600
17	2310	1710	13000	22100	17200	30000	6560	15200	30300	12200	12400	11700
18	2400	2000	8080	22500	16400	30200	7580	15000	31400	14600	12600	7090
19	2830	2770	5420	22800	13200	30400	8620	10600	30800	16000	12200	6490
20	1600	16300	11600	24600	14300	30900	8660	13700	29600	16900	10700	6910
21	2990	9720	11500	23900	42900	38200	8780	11900	30100	16200	8010	6710
22	2510	2990	13200	22700	31600	37400	8890	4410	29600	15800	9800	12100
23	1200	2690	16300	23400	27400	33900	5820	6050	29200	11400	10300	25000
24	731	5670	19900	23300	30200	32400	3640	6910	27800	10800	17900	13000
25	2390	4030	19500	23400	30600	31600	5710	9040	26300	14800	13700	9180
26	3120	1930	9980	23500	30900	31100	10300	16100	27100	16500	11900	9330
27	2670	2200	8940	23200	30800	31200	10300	18200	26900	16800	9690	7890
28	3890	4480	11200	24300	30700	31000	6260	17400	26800	16700	9040	8290
29	3380	6620	13000	21400	---	31500	5140	9130	28300	15800	13100	8190
30	2310	11100	16500	17500	---	30700	576	5560	28600	11100	16100	11200
31	1550	---	12000	22600	---	31700	---	8090	---	11500	15200	---
TOTAL	68171	115093	351580	618610	636100	1017800	458156	375930	623300	555000	360080	326480
MEAN	2199	3836	11340	19960	22720	32830	15270	12130	20780	17900	11620	10880
MAX	3890	16300	19900	26000	42900	52700	30000	19800	34000	29700	19600	25000
MIN	731	863	3940	9410	6300	19600	576	1780	3090	10800	4710	6490

CAL YR 1988 TOTAL 2106368 MEAN 5755 MAX 19900 MIN 731 MEAN‡ 6774 CFSM‡ .93 IN.‡ 12.62
WTR YR 1989 TOTAL 5506300 MEAN 15090 MAX 52700 MIN 576 MEAN‡ 16780 CFSM‡ 2.30 IN.‡ 31.17

e Estimated
‡ Adjusted for change in contents in Lake Cumberland and Dale Hollow Lake.
NOTE.--Contents (cfs-days) for adjustments furnished by U.S. Army Corps of Engineers.

03418070 ROARING RIVER ABOVE GAINESBORO, TN

LOCATION.--Lat 36°21'04", long 85°32'45", Jackson County, Hydrologic Unit 05130106, near left bank of downstream end of county road bridge, 1.1 mi upstream from Blackburn Fork, 6.3 mi east of Gainesboro, and at mile 9.1.

DRAINAGE AREA.--210 mi^2, includes 34 mi^2 without surface drainage.

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage encoder and crest-stage gage. Datum of gage is 520.56 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair, except those below 5.0 ft^3/s, which are poor. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--15 years, 256 ft^3/s, 16.55 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,400 ft^3/s, Mar. 12, 1975, gage height, 21.83 ft, from high-water marks; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1830	8,340	15.13	Feb. 21	0600	9,810	16.43
Feb. 14	1300	*16,600	*19.95	Mar. 5	2230	10,900	17.27

No flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	128	755	85	581	654	61	22	86	11	.12
2	.00	.00	80	657	73	558	513	60	18	102	14	12
3	.00	.00	56	533	109	532	580	33	19	65	6.5	8.5
4	.00	.97	46	380	345	455	2390	23	26	409	3.6	2.9
5	.00	140	37	275	322	5880	1680	45	33	734	1.6	.13
6	.00	366	33	654	349	5860	1020	467	246	446	.02	.00
7	.00	79	30	729	324	1800	797	453	671	428	.00	.00
8	.00	21	26	1150	265	1120	685	225	224	992	.00	.00
9	.00	5.7	24	902	206	835	596	169	134	439	.00	.00
10	.00	16	22	677	175	678	459	157	86	206	.00	.00
11	.00	50	21	649	164	576	361	106	46	203	.00	.00
12	.00	23	18	4680	139	484	294	78	38	132	.00	.00
13	.00	9.4	17	3800	131	384	243	60	746	91	.00	.00
14	.00	2.6	16	1770	9270	311	203	45	672	62	.00	51
15	.00	.73	13	1880	4180	241	243	38	1080	38	.00	96
16	.00	1.6	9.1	1270	1820	178	225	29	1770	25	.00	320
17	.00	94	7.6	929	1710	149	173	22	956	20	.00	103
18	.00	70	6.7	730	2170	133	142	18	590	15	.00	24
19	.00	135	6.1	587	1540	113	121	15	393	13	.00	6.6
20	.00	2390	5.8	459	2330	135	104	227	392	16	.00	4.0
21	.00	1050	218	342	7230	1230	91	133	556	9.3	.00	2.1
22	.00	480	857	270	2290	931	79	87	365	9.2	.00	219
23	.00	248	2330	224	1280	660	71	627	195	4.9	.00	2440
24	.00	130	2170	186	919	575	60	222	139	4.4	228	952
25	.00	79	1650	149	741	463	49	104	90	3.8	134	470
26	.00	62	845	123	641	369	40	66	59	2.9	44	656
27	.00	538	588	113	580	300	33	334	60	1.2	8.6	422
28	.00	623	744	94	537	240	29	276	38	.06	3.2	215
29	.00	396	842	84	---	203	26	116	39	.00	.50	192
30	.00	226	619	98	---	222	23	65	69	.00	.00	1130
31	.00	---	562	101	---	708	---	36	---	.00	.00	---
TOTAL	0.00	7237.00	12027.3	25250	39925	26904	11984	4397	9772	4557.76	455.02	7326.35
MEAN	.00	241	388	815	1426	868	399	142	326	147	14.7	244
MAX	.00	2390	2330	4680	9270	5880	2390	627	1770	992	228	2440
MIN	.00	.00	5.8	84	73	113	23	15	18	.00	.00	.00
CFSM	.00	1.15	1.85	3.88	6.79	4.13	1.90	.68	1.55	.70	.07	1.16
IN.	.00	1.28	2.13	4.47	7.07	4.77	2.12	.78	1.73	.81	.08	1.30

CAL YR 1988 TOTAL 61189.23 MEAN 167 MAX 5210 MIN .00 CFSM .80 IN. 10.84
WTR YR 1989 TOTAL 149835.43 MEAN 411 MAX 9270 MIN .00 CFSM 1.95 IN. 26.54

03418420 CUMBERLAND RIVER BELOW CORDELL HULL DAM, TN

LOCATION.--Lat 36°17'12", long 85°56'27", Smith County, Hydrologic Unit 05130108, on right bank in powerhouse at Cordell Hull Dam, 2.7 mi north of Carthage, and at mile 313.5.

DRAINAGE AREA.--8,095 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1972 to current year. Equivalent record prior to 1981 published in annual reports of Tennessee Valley Authority entitled "Operation of TVA Reservoirs".

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by Lake Cumberland (station 03413500) and Dale Hollow Lake (station 03416500).

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

AVERAGE DISCHARGE.--17 years, 13,290 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 116,000 ft^3/s, Mar. 13, 1975; no flow Nov. 2, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 83,800 ft^3/s, Mar. 6; minimum daily, 1,290 ft^3/s, Apr. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3720	2920	14300	13800	20300	30700	29100	3120	7630	30900	14400	15900
2	3430	2320	16300	13000	21500	30100	26000	4370	6250	28400	22600	12500
3	2800	3330	10900	13600	20000	31700	16100	5350	6070	28000	20200	10300
4	2800	3560	6060	14300	15500	30400	22600	6270	4050	32500	17300	8950
5	3110	3570	8600	20500	16600	53300	31100	6750	5420	30300	16200	9700
6	3110	4870	7870	21400	12400	83800	24500	7870	6390	23900	11600	11900
7	3420	3930	9640	20300	18300	56800	30600	11400	10700	26000	7610	14300
8	2800	4900	8550	16500	28400	38600	35100	13400	12900	19900	7100	16900
9	2800	4690	8020	16000	28400	37200	29600	22200	17800	23500	9360	13100
10	2800	4260	10400	18500	21700	36600	33600	19700	15800	17000	8500	11000
11	3150	3930	10900	24000	22100	37600	30700	18100	14800	17600	9200	9150
12	3000	4950	10000	33900	13900	36800	23600	18500	15500	17400	7810	9140
13	3470	4870	12100	43400	9710	31700	21800	17400	22000	20000	6390	10400
14	3170	2940	14500	27200	44900	31400	23000	17700	27900	20200	7860	11600
15	2890	2620	15300	26100	52700	29300	15100	20000	35400	16700	13600	12300
16	2860	2300	12900	23200	29100	32400	9500	17100	41300	16600	12200	18000
17	2870	2300	11500	22300	20300	29900	6800	14100	31000	17200	12500	14500
18	2860	5760	8150	24300	22700	27800	6890	13100	33800	15400	13400	9700
19	2850	3310	8520	24000	19400	29600	8240	11800	35900	12800	13000	8650
20	2840	30400	9170	23000	17200	29500	8210	10600	26800	16900	11800	8810
21	2850	18500	12200	25400	55100	35300	7150	14000	32100	19600	9180	9170
22	2850	7760	17300	25000	47400	43700	6630	7490	31600	16200	10900	14000
23	2530	4120	24600	21400	32900	37600	5510	6540	27000	12700	10500	36200
24	2890	4050	28400	20900	31200	35800	4700	9200	30700	11400	17500	20200
25	3230	7270	28700	22600	31900	33500	1290	9220	23100	13500	14500	9600
26	3210	6690	15200	26600	33200	30300	5870	15100	26600	17300	14400	8770
27	4000	2710	12500	23500	32100	32800	7500	19600	28900	19100	12200	11100
28	3870	7000	10100	23200	32200	28100	6100	19200	26600	16700	10300	11300
29	4520	9420	16000	20100	---	32700	5430	11300	25700	14900	12900	9310
30	3560	11200	18000	19300	---	32300	2800	7930	28100	13100	16400	14000
31	3570	---	16800	20300	---	31700	---	8280	---	11200	15400	---
TOTAL	97830	180450	413480	687600	751110	1119000	485120	386690	657810	596900	386810	380450
MEAN	3156	6015	13340	22180	26830	36100	16170	12470	21930	19250	12480	12680
MAX	4520	30400	28700	43400	55100	83800	35100	22200	41300	32500	22600	36200
MIN	2530	2300	6060	13000	9710	27800	1290	3120	4050	11200	6390	8650

CAL YR 1988 TOTAL 2439380 MEAN 6665 MAX 38300 MIN 2290
WTR YR 1989 TOTAL 6143250 MEAN 16830 MAX 83800 MIN 1290

03418420 CUMBERLAND RIVER BELOW CORDELL HULL DAM, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1980 to current year.
WATER TEMPERATURE: October 1980 to current year.
DISSOLVED OXYGEN: October 1980 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1980.

REMARKS.--Flow regulated by Cordell Hull Dam and other reservoirs above station. Interruptions in the record were due to monitor malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 270 microsiemens, Nov. 23, 1988; minimum, 140 microsiemens, Sept. 3, 1984.
WATER TEMPERATURE: Maximum, 23.6°C, July 8, 1988; minimum, 2.0°C, Jan. 12, 15-21, 1981.
DISSOLVED OXYGEN: Maximum, 15.5 mg/L, Mar. 4, 1983; minimum, 3.7 mg/L, Aug 5, 1988.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 270 microsiemens, Nov. 23; minimum, 157 microsiemens, Mar. 7.
WATER TEMPERATURE: Maximum, 22.2°C, Aug. 15, 16; minimum, 6.3°C, Feb. 10, 11.
DISSOLVED OXYGEN: Maximum, 12.1 mg/L, Apr. 21; minimum, 4.8 mg/L, Oct. 1, 2.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	230	219	224	230	215	223	210	198	204	216	196	206
2	231	219	224	227	216	223	218	198	207	221	212	216
3	231	224	225	232	221	224	225	214	221	225	217	219
4	235	224	227	237	221	226	237	225	229	225	218	222
5	228	218	223	237	222	227	237	229	232	230	222	226
6	233	218	222	239	223	227	237	226	231	234	226	229
7	226	218	222	239	220	228	238	226	230	235	227	231
8	230	219	223	239	222	227	254	222	232	236	227	232
9	226	219	222	233	216	222	237	222	229	236	225	232
10	227	219	222	226	211	215	233	222	230	237	228	232
11	227	220	224	228	213	217	233	221	227	233	226	230
12	228	220	223	228	213	218	232	224	228	231	223	228
13	228	215	221	228	213	218	232	221	225	241	227	234
14	227	215	220	236	203	215	231	220	224	226	201	214
15	222	194	210	222	208	213	243	220	225	208	200	203
16	217	205	210	226	211	215	235	216	223	207	195	200
17	217	208	213	232	213	219	227	220	223	218	202	212
18	230	212	223	234	216	222	227	220	222	225	218	221
19	230	219	225	235	219	226	235	219	224	229	218	223
20	229	222	225	236	222	228	223	219	221	233	222	227
21	233	210	222	249	236	244	230	215	222	233	225	230
22	221	213	217	262	238	249	226	215	220	233	229	231
23	221	212	217	270	238	248	223	215	220	237	229	231
24	220	207	215	258	238	246	226	219	222	234	229	232
25	222	211	217	254	238	243	223	207	216	234	230	232
26	223	198	213	254	230	240	210	198	204	234	230	232
27	228	209	219	246	230	237	210	198	206	234	230	231
28	227	216	219	234	223	229	210	190	199	234	226	231
29	224	216	219	234	214	221	198	182	190	234	226	231
30	229	217	221	218	206	209	186	171	178	234	226	229
31	233	218	222	---	---	---	196	168	179	234	225	228
MONTH	235	194	220	270	203	227	254	168	218	241	195	225

03418420 CUMBERLAND RIVER BELOW CORDELL HULL DAM, TN--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	231	220	225	208	204	207	203	183	192	201	193	198
2	220	220	220	204	204	204	207	187	197	202	197	198
3	220	219	220	204	204	204	207	191	196	202	198	198
4	219	216	218	204	200	201	203	179	185	202	198	198
5	216	216	216	200	196	199	211	183	193	203	194	200
6	216	216	216	196	161	178	207	183	193	203	199	202
7	216	211	214	161	157	160	195	175	184	203	199	201
8	215	211	213	170	159	162	198	178	186	204	200	201
9	211	211	211	183	170	178	186	174	179	200	200	200
10	215	210	211	189	182	186	182	178	178	200	200	200
11	210	210	210	188	186	187	178	178	178	204	200	202
12	210	210	210	186	184	185	178	178	178	204	200	203
13	214	210	210	187	183	185	182	178	179	208	200	204
14	217	202	209	185	183	184	182	178	178	212	204	207
15	209	162	187	183	181	182	186	182	182	212	196	204
16	166	161	164	181	180	180	186	182	184	207	199	202
17	187	161	167	181	177	180	202	186	190	211	195	201
18	170	161	164	182	177	178	202	186	190	207	191	200
19	180	170	175	187	182	183	203	187	189	207	195	199
20	202	180	190	188	183	187	199	187	190	199	191	196
21	220	198	209	188	184	185	204	188	193	199	191	194
22	216	178	193	186	185	185	209	189	194	211	195	198
23	196	169	179	186	178	183	213	193	196	199	194	196
24	---	---	---	187	178	181	210	194	200	214	193	196
25	---	---	---	188	187	188	218	198	203	205	192	195
26	---	---	---	192	188	189	211	199	202	196	191	193
27	---	---	---	190	189	189	211	199	204	199	191	193
28	212	208	210	195	190	191	204	200	201	198	190	195
29	---	---	---	215	195	199	201	196	198	213	189	200
30	---	---	---	218	191	202	201	197	199	213	200	202
31	---	---	---	207	187	195	---	---	---	212	200	203
MONTH	231	161	202	218	157	187	218	174	190	214	189	199
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	207	195	198	200	188	192	200	195	196	204	188	192
2	203	195	197	196	188	192	197	196	196	196	192	193
3	206	194	198	196	188	192	205	189	196	196	192	194
4	214	186	198	200	192	196	197	189	191	196	192	195
5	222	197	205	200	196	199	195	190	192	196	192	192
6	221	197	206	203	195	199	207	191	196	196	192	192
7	224	196	206	203	198	199	207	183	195	196	192	192
8	216	196	203	214	198	203	208	184	193	197	193	194
9	208	199	203	214	201	205	193	185	190	197	193	195
10	207	199	203	217	204	209	201	189	191	197	193	197
11	210	198	201	223	204	212	198	186	192	197	193	197
12	206	200	203	230	211	218	196	191	191	197	193	196
13	204	200	202	221	210	214	197	188	192	197	193	195
14	200	196	198	214	194	201	197	193	194	197	193	197
15	208	192	196	205	197	201	198	190	194	197	192	195
16	220	192	198	201	192	196	205	192	194	196	191	193
17	220	196	202	204	188	194	203	191	193	195	191	193
18	212	196	200	218	191	197	203	190	193	197	193	194
19	220	196	202	211	190	199	190	189	190	201	188	193
20	208	196	199	202	189	193	197	188	189	196	187	190
21	212	192	199	201	189	196	204	184	189	199	187	189
22	212	192	195	213	192	199	207	186	192	210	186	191
23	204	192	194	215	187	195	206	189	192	189	185	187
24	212	184	198	214	195	199	198	190	192	193	189	192
25	216	188	199	212	196	200	195	190	191	196	191	193
26	220	188	199	201	193	195	195	191	191	199	187	194
27	192	188	191	221	193	197	199	191	193	206	194	199
28	196	188	192	237	194	208	203	191	195	206	190	195
29	196	192	192	210	194	197	199	187	192	202	190	192
30	192	188	192	214	195	199	207	184	190	199	190	194
31	---	---	---	219	195	199	208	184	189	---	---	---
MONTH	224	184	199	237	187	200	208	183	192	210	185	193

03418420 CUMBERLAND RIVER BELOW CORDELL HULL DAM, TN--Continue

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	20.2	18.6	19.3	13.9	13.1	13.5	11.6	11.0	11.2	10.0	9.2	9.6
2	19.7	18.9	19.5	13.9	12.7	13.1	10.8	9.9	10.3	9.5	9.1	9.2
3	19.7	18.7	19.1	13.8	12.7	13.2	10.3	9.8	9.9	9.3	8.4	8.9
4	19.6	17.8	18.8	13.8	13.2	13.6	10.0	9.5	9.7	8.6	8.1	8.5
5	19.1	17.7	18.6	13.6	12.9	13.4	9.7	8.9	9.3	8.5	8.1	8.4
6	19.3	17.8	18.7	13.3	12.5	13.0	9.6	8.8	9.1	8.8	8.2	8.5
7	19.4	18.2	18.9	13.2	12.1	12.8	9.4	9.0	9.3	8.9	8.4	8.8
8	19.2	18.1	18.7	12.9	12.5	12.8	9.6	9.2	9.3	9.3	8.7	9.0
9	19.4	18.1	18.9	13.5	12.1	12.8	9.4	8.8	9.1	9.1	8.6	8.9
10	19.5	18.4	19.0	13.9	13.5	13.8	9.0	8.6	8.9	9.1	8.6	8.9
11	19.5	18.3	18.9	14.0	12.9	13.6	8.8	8.4	8.7	9.3	8.7	8.9
12	19.0	17.8	18.4	13.9	13.1	13.6	8.6	7.8	8.2	9.2	8.6	8.9
13	18.8	17.3	18.0	14.1	13.5	13.9	8.2	7.4	7.8	9.1	8.4	8.7
14	18.2	17.2	17.8	14.2	13.2	13.7	8.4	7.6	8.1	9.6	8.9	9.2
15	18.7	17.1	17.8	14.2	12.8	13.4	8.4	8.0	8.3	9.7	9.2	9.5
16	18.3	17.1	17.8	13.9	13.2	13.6	8.4	7.8	8.1	9.5	9.0	9.3
17	19.4	17.6	18.2	14.3	12.7	13.5	7.9	7.4	7.7	9.4	8.8	9.1
18	18.4	17.9	18.0	13.5	12.7	13.2	7.5	7.2	7.4	9.4	8.8	9.0
19	18.1	17.3	17.7	13.5	13.1	13.3	7.5	7.1	7.3	9.2	8.8	8.9
20	18.3	17.2	17.6	13.6	13.1	13.4	8.1	7.5	7.8	9.0	8.4	8.7
21	18.0	17.3	17.7	13.6	13.0	13.4	8.5	8.1	8.3	8.6	8.2	8.4
22	17.9	16.9	17.4	13.2	12.6	13.0	9.2	8.3	8.8	8.4	7.8	8.2
23	17.5	16.6	17.2	13.1	12.3	12.7	9.7	9.0	9.3	8.2	8.0	8.1
24	17.8	16.6	17.1	12.8	12.2	12.6	10.7	9.3	10.0	8.4	7.8	8.2
25	17.2	16.1	16.8	12.6	12.2	12.4	11.6	10.7	11.1	8.4	7.8	8.3
26	17.3	16.3	16.8	12.9	12.5	12.7	11.5	11.0	11.2	8.8	8.4	8.6
27	16.2	14.6	15.5	12.8	12.2	12.7	11.9	11.1	11.4	9.0	8.4	8.8
28	15.5	14.5	14.9	12.4	11.8	12.2	11.8	11.4	11.5	9.2	8.6	8.9
29	14.9	13.9	14.3	12.1	11.7	11.8	11.6	11.0	11.2	9.0	8.8	9.0
30	14.1	13.1	13.8	12.0	11.2	11.6	11.2	10.3	10.7	9.2	8.8	9.1
31	13.8	13.4	13.7	---	---	---	10.5	9.8	10.2	9.2	8.6	9.0
MONTH	20.2	13.1	17.6	14.3	11.2	13.1	11.9	7.1	9.3	10.0	7.8	8.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	9.2	9.0	9.1	7.3	7.0	7.2	9.2	8.8	8.9	15.6	14.0	15.0
2	9.4	9.2	9.3	7.3	7.0	7.2	9.1	8.6	8.8	15.0	13.4	14.2
3	9.5	9.3	9.3	7.7	7.2	7.5	9.7	8.9	9.2	15.6	13.4	14.7
4	9.3	8.9	9.1	7.9	7.5	7.7	9.9	9.5	9.7	16.0	14.4	15.2
5	8.9	8.4	8.6	8.3	7.9	8.1	10.2	9.7	10.0	17.0	15.4	15.8
6	8.4	8.0	8.2	9.3	8.3	9.0	11.4	10.2	10.8	16.2	14.9	15.5
7	8.0	7.5	7.8	9.1	8.5	8.8	11.2	10.4	10.9	16.3	15.1	15.8
8	7.5	7.0	7.2	8.3	8.0	8.2	10.5	8.9	9.7	16.7	15.9	16.2
9	7.0	6.4	6.6	7.8	7.6	7.8	8.9	8.7	8.9	16.7	16.1	16.4
10	6.5	6.3	6.4	7.8	7.4	7.6	8.7	8.4	8.6	16.1	15.5	15.9
11	6.7	6.3	6.5	8.2	7.6	7.9	8.6	8.2	8.4	15.5	14.1	15.0
12	6.7	6.5	6.6	8.4	8.0	8.3	8.6	8.2	8.4	14.3	13.4	14.0
13	6.9	6.6	6.7	9.0	8.4	8.6	8.9	8.2	8.6	13.6	13.2	13.4
14	7.7	7.1	7.4	9.2	8.8	9.0	9.3	8.7	9.0	13.4	12.8	13.1
15	9.6	7.9	8.7	9.4	9.2	9.3	9.3	9.1	9.3	13.2	12.8	13.0
16	10.0	9.6	9.8	9.6	9.2	9.4	10.2	9.3	9.7	13.6	13.0	13.3
17	9.8	9.2	9.5	9.9	9.3	9.5	10.4	9.4	9.9	13.6	13.0	13.4
18	9.0	8.9	9.0	9.5	9.1	9.4	10.8	10.2	10.4	14.2	13.4	13.7
19	8.7	8.5	8.6	9.1	8.6	8.8	11.1	10.2	10.8	13.9	13.5	13.8
20	8.5	8.3	8.4	8.8	8.6	8.7	12.1	10.5	11.2	14.3	13.9	14.2
21	8.3	7.7	7.9	8.8	8.1	8.5	12.6	11.1	11.8	15.1	14.1	14.6
22	8.4	7.9	8.3	8.1	7.7	7.9	12.6	11.5	12.0	15.3	14.3	14.7
23	8.2	7.6	8.0	8.6	8.0	8.4	12.7	12.2	12.4	14.7	14.0	14.4
24	7.6	7.3	7.4	8.4	7.9	8.2	13.3	12.4	12.8	16.0	14.0	15.0
25	7.1	6.7	6.9	8.5	7.7	8.1	14.7	13.1	13.7	16.5	14.9	15.7
26	7.2	6.7	6.9	9.2	8.5	8.8	14.3	13.4	13.9	17.2	14.9	16.2
27	7.2	7.0	7.0	9.6	9.0	9.3	14.2	13.4	13.9	17.2	16.4	16.8
28	7.2	7.0	7.0	9.9	9.4	9.5	14.7	13.6	14.2	17.8	17.2	17.5
29	---	---	---	10.1	9.7	9.8	15.3	13.9	14.4	17.8	16.9	17.3
30	---	---	---	9.9	9.7	9.7	17.3	14.1	14.9	18.5	17.0	17.4
31	---	---	---	9.8	9.2	9.5	---	---	---	18.0	17.3	17.6
MONTH	10.0	6.3	7.9	10.1	7.0	8.6	17.3	8.2	10.8	18.5	12.8	15.1

03418420 CUMBERLAND RIVER BELOW CORDELL HULL DAM, TN--Continued

TEMPERATURE, WATER, (DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	18.2	17.1	17.4	14.8	14.4	14.5	20.6	19.2	19.7	21.2	20.6	20.9
2	17.8	16.5	17.0	14.4	14.1	14.4	20.6	19.2	19.8	20.6	20.2	20.5
3	17.6	16.1	16.9	14.5	14.1	14.2	20.0	19.2	19.6	20.6	20.2	20.4
4	17.5	16.3	16.5	14.7	14.3	14.4	20.0	18.8	19.5	21.0	20.2	20.4
5	17.3	16.1	16.6	14.5	14.3	14.4	20.4	18.8	19.4	21.0	19.8	20.4
6	17.4	16.3	16.6	14.8	14.3	14.6	20.2	18.8	19.5	21.2	19.8	20.5
7	19.3	16.4	17.5	15.4	14.8	15.0	19.8	19.0	19.3	21.0	20.0	20.7
8	19.5	17.0	18.3	16.5	15.4	15.8	20.2	18.4	19.3	20.8	20.0	20.6
9	19.3	17.4	18.5	17.1	16.5	16.7	20.4	18.6	19.4	20.8	20.0	20.5
10	19.1	17.9	18.5	17.3	16.3	16.8	20.2	19.0	19.6	20.8	20.0	20.5
11	19.1	18.1	18.7	17.4	16.8	17.1	20.4	19.0	19.6	20.6	20.2	20.4
12	18.9	17.5	18.4	17.8	16.8	17.4	20.0	19.0	19.5	20.4	19.8	20.2
13	18.2	16.7	17.6	18.0	17.6	17.9	20.0	17.8	19.2	21.0	19.8	20.3
14	16.9	16.1	16.5	18.2	17.8	18.0	20.6	18.4	19.6	21.2	19.8	20.6
15	16.1	14.6	15.5	18.9	17.9	18.3	22.2	19.2	20.5	20.3	19.6	19.9
16	14.8	14.4	14.5	18.3	18.1	18.3	22.2	19.8	20.8	20.3	19.7	20.0
17	14.4	14.0	14.2	18.8	17.8	18.3	21.8	19.6	20.4	19.7	19.3	19.5
18	15.2	14.2	14.6	19.0	18.0	18.6	21.6	19.6	20.5	20.0	19.1	19.5
19	15.0	14.2	14.6	19.3	18.1	18.7	21.4	20.0	20.7	19.8	19.0	19.4
20	14.2	13.8	14.0	19.1	18.1	18.6	21.0	20.0	20.4	20.2	18.8	19.4
21	14.0	13.5	13.7	19.6	18.5	19.0	21.6	19.8	20.3	19.9	18.9	19.4
22	13.7	13.3	13.5	19.2	18.2	18.8	21.6	19.8	20.4	19.9	19.1	19.5
23	13.9	13.5	13.7	19.7	18.4	19.0	21.5	19.6	20.4	19.5	18.8	19.2
24	14.3	13.7	13.9	20.5	18.5	19.2	21.9	19.7	21.0	18.8	18.0	18.3
25	14.3	13.9	14.1	20.2	18.7	19.5	21.3	20.3	20.8	18.0	17.6	17.8
26	14.7	14.3	14.5	21.0	18.6	19.8	21.5	20.3	20.8	17.9	17.6	17.8
27	14.8	14.4	14.5	21.0	19.0	20.0	21.5	20.3	20.9	18.0	17.5	17.7
28	14.6	14.4	14.5	20.5	19.3	19.9	21.4	20.4	20.8	18.0	17.6	17.9
29	14.8	14.4	14.6	20.9	19.5	20.2	22.0	20.6	21.1	18.0	17.8	18.0
30	14.8	14.4	14.6	20.6	19.4	20.0	21.4	20.6	21.1	18.0	18.0	18.0
31	---	---	---	20.8	19.2	19.8	21.4	20.8	21.1	---	---	---
MONTH	19.5	13.3	15.8	21.0	14.1	17.7	22.2	17.8	20.2	21.2	17.5	19.6

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	5.9	4.8	5.3	8.0	6.0	7.2	8.6	8.3	8.6	9.9	9.5	9.7
2	5.6	4.8	5.2	7.9	6.7	7.4	9.0	8.5	8.8	10.1	9.6	9.9
3	5.9	5.0	5.5	8.2	6.8	7.5	9.2	9.0	9.1	10.1	9.7	10.0
4	6.6	5.6	6.0	8.5	6.8	8.0	9.5	9.0	9.3	10.2	10.0	10.1
5	6.3	5.6	6.0	8.9	6.8	8.2	9.7	9.4	9.6	10.3	10.1	10.2
6	6.7	5.5	6.1	8.6	7.8	8.4	9.8	9.5	9.7	10.4	10.2	10.3
7	6.8	5.9	6.5	9.2	7.4	8.4	9.7	9.2	9.4	10.5	10.3	10.4
8	6.8	5.7	6.2	9.5	7.5	8.7	9.5	9.1	9.4	10.6	10.2	10.5
9	6.8	5.6	6.2	11.6	8.2	9.2	9.7	9.3	9.6	10.7	10.3	10.5
10	6.6	5.5	6.0	10.0	9.1	9.5	9.8	9.5	9.7	10.6	10.3	10.4
11	6.7	5.1	6.1	10.8	8.5	9.8	9.9	9.6	9.8	10.4	10.1	10.3
12	6.9	5.9	6.5	10.6	8.2	9.3	10.3	9.9	10.1	10.4	10.1	10.3
13	7.9	6.6	7.0	9.8	6.9	8.7	10.5	10.1	10.2	10.7	10.4	10.5
14	8.2	6.6	7.4	10.1	8.1	9.4	10.5	10.3	10.4	10.5	10.1	10.3
15	8.2	7.1	7.7	9.5	8.6	9.1	10.5	10.1	10.4	10.4	10.1	10.3
16	7.5	7.0	7.3	9.6	8.8	9.2	10.5	10.1	10.3	10.4	10.2	10.2
17	7.9	6.9	7.2	10.0	9.0	9.5	10.4	10.0	10.2	10.5	10.1	10.3
18	7.3	6.9	7.1	9.8	9.1	9.5	10.5	10.2	10.3	10.3	10.1	10.2
19	7.2	6.6	6.9	9.9	8.7	9.6	10.5	9.3	10.3	10.5	10.2	10.3
20	7.0	6.5	6.8	10.1	8.4	9.7	10.5	10.4	10.5	10.6	10.3	10.4
21	7.4	6.3	7.0	8.5	8.3	8.4	10.6	10.4	10.5	10.7	10.6	10.6
22	7.4	6.5	6.9	9.0	8.4	8.9	10.6	10.4	10.5	10.7	10.6	10.6
23	7.6	6.8	7.2	8.9	8.3	8.6	10.6	10.4	10.5	10.7	10.5	10.6
24	7.9	7.1	7.4	9.1	8.3	8.8	10.6	10.3	10.5	10.7	10.6	10.6
25	7.6	6.0	7.3	9.0	8.3	8.8	10.3	9.9	10.1	10.8	10.6	10.7
26	7.8	6.2	7.1	9.0	8.1	8.7	10.0	9.7	9.9	10.8	10.7	10.8
27	8.5	7.1	7.6	8.9	8.2	8.6	9.9	9.7	9.8	10.9	10.8	10.8
28	7.9	6.6	7.6	8.8	8.4	8.7	10.0	9.7	9.9	10.9	10.7	10.9
29	7.9	6.8	7.4	8.8	8.4	8.5	9.9	9.3	9.6	10.9	10.8	10.8
30	7.8	6.7	7.4	9.6	8.5	8.6	9.4	9.1	9.3	11.0	10.6	10.9
31	7.6	6.6	7.2	---	---	---	9.6	9.1	9.4	11.4	10.7	11.0
MONTH	8.5	4.8	6.7	11.6	6.0	8.8	10.6	8.3	9.9	11.4	9.5	10.4

03418420 CUMBERLAND RIVER BELOW CORDELL HULL DAM, TN--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	11.2	10.6	10.8	10.7	10.7	10.7	11.0	10.8	10.9	9.2	7.5	8.8
2	10.6	10.5	10.5	10.7	10.7	10.7	11.0	10.8	10.9	8.8	7.9	8.5
3	10.5	10.3	10.4	10.8	10.7	10.7	10.9	10.5	10.8	8.7	8.0	8.5
4	10.5	10.2	10.4	10.8	10.7	10.7	10.8	10.4	10.7	8.8	8.0	8.3
5	10.5	10.4	10.4	11.1	10.7	10.8	10.8	10.6	10.7	8.3	7.6	8.0
6	10.5	10.2	10.4	11.1	10.0	10.5	10.5	10.1	10.4	7.9	7.3	7.7
7	11.1	10.4	10.4	10.1	10.0	10.1	10.2	10.0	10.1	7.9	7.5	7.7
8	10.7	10.4	10.5	10.5	10.1	10.3	10.7	10.3	10.6	8.1	7.5	7.8
9	11.0	10.7	10.9	10.7	10.5	10.6	10.8	10.6	10.8	8.3	8.0	8.2
10	10.9	10.9	10.9	10.9	10.7	10.8	10.9	10.8	10.8	8.8	8.2	8.5
11	10.9	10.9	10.9	11.1	10.9	11.0	11.0	10.9	10.9	9.1	8.4	8.9
12	10.9	10.8	10.9	11.0	11.0	11.0	11.0	10.8	10.9	9.4	8.7	9.2
13	10.9	10.8	10.9	11.0	10.9	10.9	10.9	10.8	10.9	9.4	8.9	9.3
14	10.9	10.6	10.9	11.0	10.8	10.9	10.9	10.7	10.8	9.2	7.7	8.5
15	10.9	9.9	10.3	10.8	10.8	10.8	10.8	10.5	10.8	8.8	7.1	8.2
16	10.1	9.9	10.0	10.8	10.8	10.8	11.1	10.3	10.7	8.6	7.3	8.1
17	10.3	10.0	10.1	10.8	10.8	10.8	11.5	10.0	10.9	8.7	7.1	8.0
18	10.3	10.2	10.2	11.4	10.8	10.8	11.5	10.5	11.1	8.6	7.1	7.8
19	10.3	10.3	10.3	10.9	10.8	10.8	11.5	10.0	11.1	8.1	6.0	7.5
20	10.4	10.2	10.3	10.9	10.9	10.9	12.0	9.9	11.2	---	---	---
21	10.9	10.4	10.6	10.9	10.6	10.9	12.1	10.1	11.3	---	---	---
22	10.6	10.2	10.4	10.9	10.9	10.9	11.7	10.5	11.2	8.8	7.4	8.3
23	10.5	10.2	10.3	10.8	10.6	10.7	11.4	10.2	11.0	7.7	6.6	7.2
24	10.6	10.5	10.5	10.8	10.6	10.7	11.5	10.0	10.8	8.5	7.0	7.7
25	10.9	10.5	10.7	10.9	10.8	10.8	11.3	10.2	10.8	8.0	6.7	7.5
26	11.0	10.9	10.9	11.0	10.8	10.9	11.4	10.0	10.7	7.9	7.4	7.7
27	10.9	10.8	10.9	10.9	10.9	10.9	11.1	9.5	10.3	7.7	7.3	7.5
28	10.8	10.7	10.8	10.9	10.8	10.8	10.2	9.4	9.9	8.2	7.4	7.6
29	---	---	---	11.0	10.8	10.9	9.8	8.9	9.4	7.9	6.6	7.3
30	---	---	---	10.9	10.8	10.9	9.7	8.1	9.1	---	---	---
31	---	---	---	10.9	10.8	10.9	---	---	---	9.4	8.1	9.0
MONTH	11.2	9.9	10.6	11.4	10.0	10.8	12.1	8.1	10.7	9.4	6.0	8.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	9.6	7.7	8.8	8.4	7.5	8.1	7.6	6.3	7.0	10.7	6.2	7.1
2	9.6	7.5	8.6	8.3	7.8	8.2	7.6	7.0	7.3	7.4	6.4	6.9
3	9.1	7.1	8.2	8.1	7.7	7.9	7.7	6.9	7.2	7.9	6.2	7.0
4	8.5	7.1	8.2	8.1	7.6	7.9	7.7	6.6	7.2	7.5	5.8	6.3
5	8.8	6.6	8.0	8.4	7.7	7.8	8.5	6.6	7.4	8.1	6.3	7.1
6	8.4	6.1	7.8	8.3	7.6	7.8	8.3	7.0	7.4	8.3	7.0	7.6
7	9.3	6.4	7.9	7.9	7.3	7.7	7.8	6.0	7.0	8.2	6.9	7.8
8	8.8	6.3	8.1	7.6	6.9	7.3	8.0	6.1	7.0	8.3	7.1	7.7
9	8.7	6.8	8.2	7.7	7.1	7.5	8.9	5.5	7.1	8.0	7.1	7.5
10	8.8	7.6	8.3	8.2	6.8	7.6	8.0	5.6	7.1	7.5	6.9	7.3
11	9.3	8.2	8.9	8.8	7.1	8.0	8.6	5.9	7.3	7.7	6.9	7.2
12	9.4	8.3	8.8	8.5	7.3	8.0	7.9	6.7	7.4	7.8	6.7	7.2
13	8.8	7.9	8.5	8.6	7.6	8.3	7.9	6.4	7.1	8.2	6.6	7.3
14	9.0	8.3	8.6	8.6	7.9	8.4	7.8	6.4	7.1	7.8	6.5	7.2
15	9.0	8.5	8.7	9.5	8.3	8.9	8.5	6.4	7.5	8.9	6.1	6.7
16	9.1	8.1	8.4	9.0	8.5	8.7	8.1	6.5	7.3	7.1	6.7	6.9
17	8.3	8.2	8.3	9.1	7.7	8.5	7.6	6.6	7.0	7.3	6.8	6.9
18	8.4	8.2	8.3	9.5	7.3	8.6	7.6	6.4	7.0	8.2	6.8	7.4
19	9.0	8.1	8.6	9.2	7.4	8.4	7.7	6.5	7.1	8.7	6.9	7.7
20	8.9	8.4	8.7	8.9	7.8	8.5	7.5	6.7	7.0	9.0	7.2	8.0
21	8.9	8.4	8.7	9.4	8.5	8.9	6.8	5.5	6.3	9.0	7.2	8.1
22	9.0	8.4	8.7	9.3	7.3	8.6	6.7	5.3	5.9	8.6	5.9	7.8
23	8.7	8.4	8.5	9.6	7.0	8.7	7.9	6.9	7.4	8.1	7.5	7.7
24	8.8	8.4	8.6	10.0	6.9	8.6	8.1	6.1	7.4	7.7	7.5	7.6
25	8.5	8.2	8.4	9.7	5.8	8.4	8.0	7.2	7.5	7.7	7.0	7.6
26	9.5	8.1	8.5	9.4	7.3	8.5	8.0	7.0	7.5	8.0	5.7	7.4
27	8.4	8.1	8.3	8.8	5.7	7.9	8.1	6.3	7.3	8.1	6.9	7.7
28	8.5	8.1	8.3	8.3	6.7	7.4	8.3	6.2	7.3	8.5	7.4	7.8
29	8.5	8.1	8.3	8.3	6.7	7.5	8.5	6.8	7.5	7.8	6.3	7.3
30	8.6	8.1	8.3	7.9	7.3	7.6	7.5	6.5	7.1	7.5	6.0	7.2
31	---	---	---	7.9	6.8	7.4	7.2	5.4	6.6	---	---	---
MONTH	9.6	6.1	8.4	10.0	5.7	8.1	8.9	5.3	7.1	10.7	5.7	7.4

03421000 COLLINS RIVER NEAR MCMINNVILLE, TN

LOCATION.--Lat 35°42'32", long 85°43'46", Warren County, Hydrologic Unit 05130107, on left bank at downstream side of bridge on U.S. Highway 70S, 1.8 mi downstream from Barren Fork River, 2.5 mi northeast of McMinnville, and at mile 19.5.

DRAINAGE AREA.--640 mi^2.

PERIOD OF RECORD.--October 1924 to current year. Prior to April 1925 monthly discharge only, published in WSP 1306.

REVISED RECORDS.--WSP 873: 1929, 1932(M), 1934-35, 1936(M), 1937. WSP 1276: 1925-26, 1928(M), 1933, 1936, 1940. WSP 2110: Drainage area.

GAGE.--Water-stage encoder. Datum of gage is 825.78 ft, Sandy Hook datum. Prior to Oct. 16, 1926, nonrecording gage on upstream side of bridge at same datum.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--65 years, 1,153 ft^3/s, 24.47 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 75,300 ft^3/s, Mar. 23, 1929, gage height, 39.1 ft, from rating curve extended above 42,000 ft^3/s on basis of slope-area measurement of peak flow; minimum, 35 ft^3/s, Sept. 21, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1854 is believed to have been about equal to that of Mar. 23, 1929, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft^3/s and maximum (*):

Date	Time	(ft^3/s)	(ft)	Date	Time	(ft^3/s)	(ft)
Jan. 12	1930	20,800	19.99	Apr. 5	0500	12,500	14.64
Feb. 21	2030	18,700	18.79	June 22	2330	20,900	20.02
Mar. 6	0900	*22,000	*20.67				

Minimum discharge, 78 ft^3/s, Oct. 19, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	97	1280	7270	824	5010	2410	669	519	2780	660	280
2	131	93	987	4590	778	3670	1990	766	502	2920	1180	352
3	141	92	783	3080	745	2790	1840	642	902	3400	961	330
4	227	106	660	2260	739	2410	5460	555	609	7070	717	311
5	207	383	570	1720	776	7830	9860	580	520	5430	579	281
6	176	1080	497	1680	1120	19400	5190	1560	3960	3980	506	262
7	148	1080	447	2050	1340	9670	4680	1860	4280	3360	445	252
8	131	835	407	3500	1370	4950	5060	1380	2560	3550	404	243
9	121	623	378	3610	1240	3320	4640	1140	3610	2430	372	234
10	114	518	348	2780	1100	2540	3470	3430	3060	1760	348	264
11	106	527	326	2660	1010	2050	2640	3120	2050	1750	330	418
12	102	741	308	15100	939	1750	2090	2010	1470	2670	314	479
13	97	652	289	18200	862	1520	1730	1450	1520	2870	303	436
14	94	625	270	10300	838	1350	1480	1120	2030	1970	290	1080
15	90	594	257	8210	1170	1210	1400	933	3630	1400	281	3560
16	87	549	243	5320	1160	1070	1340	808	7790	1110	285	3000
17	86	674	231	3690	1610	961	1170	701	4950	976	285	2000
18	84	777	219	2780	6510	943	1040	618	2950	853	281	1280
19	80	727	210	2170	5500	958	942	550	3160	1090	276	912
20	79	1720	201	1780	4260	943	867	2190	3070	3000	262	725
21	83	2550	227	1490	13100	2930	803	2380	2800	2220	253	615
22	82	1820	358	1290	11700	2390	745	1510	10500	1500	243	682
23	82	1270	865	1150	5520	1820	695	1240	9390	1150	243	2860
24	80	943	2210	1040	3500	2210	647	1090	3530	995	264	1990
25	80	737	3610	945	2630	2220	605	880	2460	865	337	1410
26	81	618	2440	872	2180	1860	565	740	1800	758	278	1970
27	81	1540	1720	831	2160	1560	528	1330	1440	670	469	2330
28	91	3380	1630	797	5150	1350	496	1210	1190	603	445	1680
29	87	2570	2410	754	---	1200	477	889	1120	556	375	1310
30	90	1720	1890	739	---	1140	460	718	1670	510	318	2050
31	91	---	2950	796	---	1880	---	606	---	631	288	---
TOTAL	3347	29641	29221	113454	79831	94905	65320	38675	89042	64827	12592	33596
MEAN	108	988	943	3660	2851	3061	2177	1248	2968	2091	406	1120
MAX	227	3380	3610	18200	13100	19400	9860	3430	10500	7070	1180	3560
MIN	79	92	201	739	739	943	460	550	502	510	243	234
CFSM	.17	1.54	1.47	5.72	4.45	4.78	3.40	1.95	4.64	3.27	.63	1.75
IN.	.19	1.72	1.70	6.59	4.64	5.52	3.80	2.25	5.18	3.77	.73	1.95

CAL YR 1988 TOTAL 233619 MEAN 638 MAX 12900 MIN 71 CFSM 1.00 IN. 13.58
WTR YR 1989 TOTAL 654451 MEAN 1793 MAX 19400 MIN 79 CFSM 2.80 IN. 38.04

03422500 CANEY FORK NEAR ROCK ISLAND, TN

LOCATION.--Lat 35°48'26", long 85°37'44", White County, Hydrologic Unit 05130108, on right bank 180 ft downstream from powerhouse of Tennessee Valley Authority, 0.8 mi downstream from Great Falls Dam, 0.9 mi downstream from Collins River, 1.5 mi northwest of Rock Island, and at mile 90.3.

DRAINAGE AREA.--1,678 mi^2.

PERIOD OF RECORD.--November 1911 to April 1913, July 1913 to May 1914, August 1914 to current year. Monthly discharge only for some periods, published in WSP 1306.

REVISED RECORDS.--WSP 1276: 1934, 1937. WSP 1910: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 647.09 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 30, 1924, at sites from 80 ft to 0.5 mi upstream at different datums. Apr. 12, 1925, to Sept. 9, 1930, at present site at datum 5.00 ft higher and Sept. 10, 1930, to Sept. 18, 1964, 3.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since Dec. 8, 1916, by Great Falls Lake (station 03422000). Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--75 years (1915-89), 3,124 ft^3/s, 25.28 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 210,000 ft^3/s, Mar. 23, 1929, gage height, 43.6 ft, present datum, from floodmark, from rating curve extended above 110,000 ft^3/s; minimum daily, 25 ft^3/s, several days August to October 1951.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1902 reached a stage about 10 ft lower than the flood of Mar. 23, 1929, at a point 8 mi downstream, from profile by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 56,900 ft^3/s, Mar. 6, gage height, 24.28 ft; minimum daily, 41 ft^3/s Oct. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147	55	3010	20100	1610	10400	5090	2240	1670	4010	1150	1210
2	146	54	2310	13300	1600	6890	5560	2470	1670	4220	2930	71
3	144	54	1820	8100	1440	5890	7060	1970	1690	6250	2980	788
4	146	73	1500	4580	1620	5690	15100	2010	1670	21100	1560	844
5	77	211	1270	3770	1610	14300	23800	1740	1680	17500	1540	581
6	41	3350	1080	3840	1600	42600	14000	5490	7420	8040	1560	815
7	75	3850	955	4760	1620	20400	11000	6170	12200	6930	1620	740
8	157	2590	860	8980	1630	11700	10700	5350	7170	8050	1690	986
9	155	1800	795	10800	1620	8210	11100	3310	6380	8300	807	62
10	154	1170	723	7560	1460	6000	4770	7350	7150	3090	728	63
11	153	832	668	7000	1630	4640	3530	7390	6410	1590	665	460
12	149	882	395	39500	1640	4510	4120	3940	3110	4550	626	475
13	111	922	70	40900	1610	2500	3470	1730	6630	4780	479	488
14	61	894	58	22200	1630	2140	4600	1710	5950	3870	466	1030
15	60	588	54	19200	1620	2430	4630	1680	8520	3420	441	5640
16	59	523	52	13000	1640	2130	3690	1710	21000	3290	403	11200
17	59	721	52	7890	1650	1880	2820	1680	12900	2090	370	7440
18	59	1610	52	5340	15300	1610	2810	1700	6770	1590	379	2870
19	59	2170	140	3190	13400	1660	2750	1680	5010	1590	83	1650
20	59	9470	282	2330	10100	2500	2370	1630	6280	1570	68	1670
21	62	9900	470	1900	31900	8740	1820	5680	7110	1550	545	1680
22	62	5730	2900	1970	21900	8510	1760	4530	17200	1530	549	2400
23	63	3300	3220	1030	11900	4720	1750	2220	16400	1530	430	3630
24	61	2410	6450	1310	7980	5690	1740	1690	6960	3000	427	5330
25	60	1830	10900	2350	7160	5950	1290	1710	6490	3050	861	3210
26	60	1480	7520	2150	6540	3680	1350	1720	3730	1330	437	3490
27	59	2530	4810	1710	3450	2760	866	1390	2730	1290	721	5190
28	73	7390	3550	1640	9330	2920	1270	3940	4350	1330	787	2790
29	63	6680	5040	1630	---	2720	465	1650	2590	1060	883	3760
30	58	4380	5220	1620	---	2590	450	1640	1690	1050	780	6670
31	56	---	7140	1620	---	3030	---	1660	---	1090	776	---
TOTAL	2748	77449	73366	265270	166190	209390	155731	90780	200530	133640	27741	77233
MEAN	88.6	2582	2367	8557	5935	6755	5191	2928	6684	4311	895	2574
MAX	157	9900	10900	40900	31900	42600	23800	7390	21000	21100	2980	11200
MIN	41	54	52	1030	1440	1610	450	1390	1670	1050	68	62
(†)	+400	0	+5000	+1800	+1600	+1500	-5000	+2500	-2600	-1100	+400	+800
MEAN‡	102	2582	2528	8615	5786	6803	5024	3009	6598	4275	908	2601
CFSM†	.06	1.54	1.51	5.13	3.45	4.05	2.99	1.79	3.93	2.55	.54	1.55
IN‡	.07	1.72	1.74	5.92	3.72	4.67	3.34	2.07	4.39	2.94	.62	1.73

CAL YR 1988 TOTAL 553018 MEAN 1511 MAX 34300 MIN 41 MEAN‡ 1529 CFSM‡ .91 IN.‡ 12.40
WTR YR 1989 TOTAL 1480068 MEAN 4055 MAX 42600 MIN 41 MEAN‡ 4070 CFSM‡ 2.43 IN.‡ 32.92

† Change in contents, in cfs-days, in Great Falls Lake.
‡ Adjusted for change in contents.
NOTE.--Contents (cfs-day) for adjustment furnished by Tennessee Valley Authority.

03425000 CUMBERLAND RIVER AT CARTHAGE, TN
(National stream-quality accounting network station)

LOCATION.--Lat 36°14'53", long 85°57'19", Smith County, Hydrologic Unit 05130201, on left bank of Cordell Hull Bridge on State Highway 25, at Carthage, 1.0 mi downstream from Caney Fork River, and at mile 308.2.

DRAINAGE AREA.--10,690 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1922 to current year. Gage-height records collected in this vicinity since 1885 are in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 893: 1923-39. WSP 1276: 1927, 1929(M), 1937(M). WSP 1306: 1943 (monthly runoff). WSP 2110: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 437.53 ft above National Geodetic Vertical Datum of 1929. Prior to May 12, 1936 nonrecording gage at site 1,000 ft downstream at same datum. May 12 to July 17, 1936, nonrecording gage at present site and datum. Since Oct. 1, 1957, auxiliary water-stage recorder 15.8 mi downstream from base gage at same datum.

REMARKS.--Records good. Flow regulated by five upstream lakes or reservoirs, (see p. 91). U.S. Army Corps of Engineers Satellite telemeter at station.

AVERAGE DISCHARGE.--67 years, 17,330 ft^3/s, 22.01 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 210,000 ft^3/s, Dec. 30, 1926; maximum gage height, 59.8 ft, Dec. 30, 1926; minimum daily discharge, 366 ft^3/s, Oct. 29, 1940; minimum gage height since filling of Old Hickory Lake on Dec. 30, 1956, 4.3 ft, Oct. 28, 1969.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1793, that of Dec. 30, 1926.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 115,000 ft^3/s, Mar. 6; maximum gage height, 39.72 ft, Mar. 6; minimum daily discharge, 3,100 ft^3/s, Nov. 16; minimum gage height, 5.94 ft, Nov 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4850	3630	20500	17000	26900	47000	37100	3920	10600	45400	21800	19400
2	4580	3540	25900	15900	28600	47100	35000	6110	9210	51300	e29700	16600
3	3410	4240	16100	15600	25900	46500	24600	7020	8270	36200	e27500	12800
4	3280	4440	6560	18800	21900	38800	34500	8790	5500	40300	24500	11800
5	3500	5870	14800	25100	19900	66200	45800	8970	6700	39600	e20400	12800
6	3420	6660	13200	22900	18600	108000	41400	11400	8590	41200	15600	17500
7	3820	4930	12500	23700	27500	73200	45400	12500	14200	39500	11100	18300
8	3250	5660	10100	17800	38200	55600	49800	15900	19100	37800	9640	20200
9	3260	5380	13300	21500	37900	60200	46200	26800	24700	37300	11700	17300
10	3120	5080	16700	25100	32200	60200	48000	25600	23100	27100	e11500	13000
11	3430	5370	12500	31100	27100	59400	45900	24000	24800	33500	11800	12100
12	3580	5860	14300	47200	15900	59100	39100	23900	23400	31100	e10500	11500
13	3730	5130	18500	68000	12800	55700	e37800	24300	34300	27800	8100	13500
14	3270	3850	18400	52300	49700	47900	e37700	22100	41000	27700	10500	14500
15	3590	3120	17400	48000	65000	45200	24700	25300	48000	23200	17100	16600
16	3360	3100	18300	45700	38700	47400	13900	22900	60900	e23300	16000	21600
17	3410	3540	15200	43500	24700	41500	9370	19400	50100	e22600	16200	21800
18	3260	6520	9690	42400	30600	35600	10800	16500	50000	21300	16800	12400
19	3360	5070	12200	e43700	23800	36000	11100	14300	52900	19500	16100	11400
20	3540	38500	11900	37100	21000	35800	11000	13000	48800	22900	14200	11800
21	3550	24400	12700	39000	67800	43200	10300	16600	48200	26200	12200	12000
22	3390	9680	20000	38700	62600	53200	7620	9690	51100	22000	14100	16500
23	3280	5660	30400	35600	49100	47100	6620	10400	43600	17300	14300	51200
24	3570	5740	32300	31000	48000	44800	5780	12500	48500	17200	18900	28400
25	3750	6690	34900	29300	47300	41200	4490	11000	40500	19800	20500	14600
26	3750	5650	16900	34800	47800	35500	8060	16000	43400	23900	18100	12000
27	4020	4780	15300	33400	48100	38900	7780	26500	45900	24900	15300	14700
28	5360	9720	10500	31700	47200	37500	6490	21500	43600	23900	13400	14500
29	4860	14700	19500	25700	---	37100	5620	14300	42300	21500	16400	12500
30	4080	18200	22400	26900	---	40900	3460	9330	43300	e17900	20500	e15900
31	4070	---	18000	30900	---	40400	---	10500	---	e16000	18900	---
TOTAL	114700	234710	530950	1019400	1004800	1526200	715390	491030	1014570	879200	503340	499200
MEAN	3700	7824	17130	32880	35890	49230	23850	15840	33820	28360	16240	16640
MAX	5360	38500	34900	68000	67800	108000	49800	26800	60900	51300	29700	51200
MIN	3120	3100	6560	15600	12800	35500	3460	3920	5500	16000	8100	11400

CAL YR 1988 TOTAL 3313670 MEAN 9054 MAX 54900 MIN 3100 CFSM .85 IN. 11.53 MEAN‡ 10260 CFSM‡ .96 IN.‡ 13.06
WTR YR 1989 TOTAL 8533490 MEAN 23380 MAX 108000 MIN 3100 CFSM 2.19 IN. 29.70 MEAN‡ 25440 CFSM‡ 2.38 IN.‡ 32.31

e Estimated
‡ Adjusted for changes in contents in Lake Cumberland, Dale Hollow Lake, Cordell Hull Reservoir, Great Falls, and Center Hill Lakes.
NOTE.--Contents (cfs-days) for adjustments furnished by U.S. Army Corps of Engineers.

03425000 CUMBERLAND RIVER AT CARTHAGE, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1975 to September 1981.
WATER TEMPERATURE: October 1975 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 338 microsiemens, Sept. 5, 1981; minimum, 89 microsiemens, July 2, 1980.
WATER TEMPERATURES: Maximum, 29.5°C, Oct. 10, 1977; minimum, 2.0°C, Jan 20, 22, 23, 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT 12...	1030	7640	260	8.10	17.5	759	4.6	7.0	74	K2
DEC 06...	1100	12800	212	7.70	10.0	760	4.7	9.6	85	K18
FEB 16...	0845	43800	160	8.30	10.5	770	120	10.0	89	200
APR 17...	1030	9620	187	7.80	11.0	756	5.6	10.5	96	K19
JUN 07...	1000	7350	190	8.20	16.0	750	4.1	9.6	99	57
JUL 31...	1000	8550	192	7.80	19.0	754	4.0	7.4	81	120

DATE	STREP-TOCOCCI FECAL, KF AGAR COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT 12...	K5	96	33	1.7	65	37	6.1	0.10	3.2	129
DEC 06...	K12	97	23	1.4	72	27	4.9	0.10	3.6	120
FEB 16...	4100	73	18	1.8	60	21	3.1	0.10	4.9	100
APR 17...	K3	80	24	1.4	86	28	3.6	0.10	4.4	105
JUN 07...	41	80	24	1.4	56	26	3.3	0.10	4.0	115
JUL 31...	320	81	29	1.4	41	28	3.3	0.10	4.7	116

K--Results based on non-ideal colony counts.

03425000 CUMBERLAND RIVER AT CARTHAGE, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
OCT 12...	127	0.18	2660	<0.010	0.180	0.03	0.030	0.020	0.27
DEC 06...	122	0.16	4150	0.010	0.340	0.03	0.010	0.020	0.39
FEB 16...	99	0.14	11800	<0.010	0.330	0.06	0.060	0.050	0.54
APR 17...	105	0.14	2730	<0.010	0.380	0.05	0.020	0.040	0.28
JUN 07...	103	0.16	2280	<0.010	0.330	0.04	0.040	0.030	0.26
JUL 31...	103	0.16	2680	<0.010	0.330	0.03	0.020	0.020	0.58

DATE	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORGANIC TOTAL (MG/L AS P)	PHOS-PHORUS ORGANIC DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 12...	0.30	0.040	0.020	<0.010	0.04	0.02	15	309	70
DEC 06...	0.40	0.240	0.030	0.010	0.24	0.02	21	726	99
FEB 16...	0.60	0.270	0.050	0.030	0.27	0.02	132	15600	99
APR 17...	0.30	0.060	0.030	0.020	0.06	0.01	1	39	100
JUN 07...	0.30	0.020	<0.010	<0.010	0.02	--	12	238	81
JUL 31...	0.60	0.030	0.030	<0.010	0.03	0.03	12	277	65

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)
OCT 12...	<10	<1	23	<0.5	<1	1	<3	2	6	<5
FEB 16...	270	1	21	<0.5	1	2	<3	6	310	10
APR 17...	40	<1	20	<0.5	<1	<1	<3	1	49	<5
JUL 31...	10	<1	21	<0.5	<1	<1	<3	<1	24	<1

DATE	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT 12...	4	4	<0.1	<10	1	<1	<1.0	120	<6	7
FEB 16...	<4	71	<0.1	<10	<1	<1	<1.0	70	<6	21
APR 17...	<4	24	<0.1	<10	6	<1	<1.0	90	<6	11
JUL 31...	<4	6	0.8	<10	2	<1	<1.0	93	<6	5

03425400 CUMBERLAND RIVER AT HUNTERS POINT, TN

LOCATION.--Lat 36°17'57", long 86°15'49", Wilson County, Hydrologic Unit 05130201, on left bank pier of bridge on U.S. Highway 231, at Hunters Point, 2.1 mi upstream from Rocky Creek, 6.5 mi northeast of Lebanon, and at mile 262.9.

DRAINAGE AREA.--11,107 mi^2.

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage encoder. Datum of gage is 400.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.-Site located in Old Hickory Lake. Stage regulated by five reservoirs above site (see p. 91). U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 53.66 ft, Mar. 6, 1989; minimum, 43.19 ft, Aug. 8, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 53.66 ft, Mar. 6; minimum, 43.83 ft, Nov. 3.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	44.51	44.24	44.60	44.10	44.91	44.64	44.55	44.32	45.40	44.93	47.32	47.05
2	44.58	44.40	44.53	44.07	45.02	44.59	44.64	44.48	45.41	45.19	47.15	46.71
3	44.63	44.18	44.43	43.83	44.67	44.56	44.84	44.43	45.41	44.78	46.93	46.52
4	44.48	44.11	44.69	44.09	44.72	44.39	44.89	44.40	45.41	44.83	46.85	45.84
5	44.54	44.20	45.11	44.43	44.58	44.23	45.48	44.60	45.12	44.96	52.25	45.88
6	44.60	44.11	45.09	44.81	44.86	44.57	45.43	44.87	45.15	44.72	53.66	52.35
7	44.40	44.03	45.16	44.68	44.97	44.70	45.03	44.68	45.31	44.87	53.54	50.71
8	44.56	44.23	45.09	44.60	44.76	44.40	45.30	44.86	46.23	45.07	50.63	47.84
9	44.54	44.16	45.00	44.53	44.69	44.43	45.07	44.64	46.55	45.76	47.81	47.45
10	44.55	44.11	44.93	44.46	45.11	44.55	45.30	45.00	46.52	45.73	47.72	47.61
11	44.50	44.13	45.01	44.58	45.23	44.83	46.48	45.07	45.73	45.20	47.72	47.70
12	44.50	44.11	44.94	44.58	44.84	44.53	48.63	46.52	45.34	44.70	47.71	47.62
13	44.61	44.11	44.83	44.63	44.91	44.55	48.94	48.46	44.68	44.32	47.63	47.09
14	44.78	44.32	44.91	44.21	45.08	44.74	48.43	47.11	51.11	44.52	47.04	46.26
15	44.66	44.16	44.53	44.12	44.95	44.75	47.16	46.42	51.45	50.27	46.89	46.11
16	44.70	44.26	44.57	44.13	44.87	44.44	47.15	46.36	50.21	47.49	46.97	46.67
17	44.76	44.31	44.75	44.21	44.86	44.64	46.49	46.08	47.42	45.87	47.07	46.01
18	44.75	44.22	44.79	44.38	44.71	44.54	46.66	45.99	46.27	45.68	45.99	45.25
19	44.80	44.34	45.35	44.45	44.65	44.39	47.05	46.64	45.65	45.34	45.54	45.32
20	44.72	44.29	48.08	45.38	44.88	44.65	47.04	46.43	46.52	44.99	46.50	45.49
21	44.76	44.36	47.48	45.14	45.58	44.67	46.53	46.19	50.41	46.73	47.07	46.57
22	44.72	44.38	45.10	44.41	45.56	44.85	46.27	45.89	50.47	48.51	47.37	46.95
23	44.75	44.26	44.51	44.00	46.55	45.30	45.91	45.40	48.46	46.91	47.19	46.54
24	44.68	44.34	44.43	44.07	47.42	46.02	45.39	45.01	47.07	46.62	46.52	46.16
25	44.72	44.28	44.49	44.13	47.32	45.76	45.18	44.80	46.93	46.52	46.40	46.17
26	44.72	44.33	44.77	44.23	45.77	44.79	45.78	44.87	47.11	46.64	46.16	45.48
27	44.52	44.02	45.04	44.64	44.77	44.20	46.00	45.72	47.19	46.98	45.81	45.49
28	44.81	44.36	44.96	44.74	44.93	44.13	45.94	45.46	47.20	46.57	45.92	45.72
29	44.88	44.47	45.08	44.83	45.47	44.80	45.68	45.04	---	---	46.18	45.60
30	44.84	44.34	45.24	44.84	45.29	44.97	45.02	44.31	---	---	46.43	46.20
31	44.50	44.08	---	---	45.03	44.47	45.16	44.48	---	---	46.75	46.27
MONTH	44.88	44.02	48.08	43.83	47.42	44.13	48.94	44.31	51.45	44.32	53.66	45.25

03425400 CUMBERLAND RIVER AT HUNTERS POINT, TN--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	46.75	45.99	44.59	44.16	44.53	44.03	46.35	45.43	45.21	44.63	44.73	44.49
2	46.22	45.61	44.64	44.33	44.83	44.31	47.39	46.39	46.09	45.23	44.61	44.37
3	45.78	44.51	44.87	44.47	44.48	44.29	46.63	45.69	45.64	45.30	44.61	44.32
4	46.91	44.61	44.80	44.43	44.61	44.43	46.83	45.72	45.38	44.86	44.58	44.30
5	47.02	46.77	44.62	44.33	44.67	44.40	47.11	46.74	45.20	44.84	44.44	44.19
6	46.99	46.08	45.05	44.57	44.78	44.46	47.21	46.79	44.96	44.73	44.72	44.33
7	46.87	45.62	45.01	44.86	44.78	44.55	46.98	46.36	45.05	44.66	44.95	44.60
8	47.12	46.84	45.06	44.50	45.05	44.75	46.88	46.31	44.92	44.48	45.08	44.81
9	47.10	46.59	45.00	44.36	45.26	44.80	46.53	45.80	44.79	44.51	45.05	44.56
10	46.89	46.29	45.33	45.04	45.25	44.53	46.28	44.68	44.93	44.63	44.54	44.21
11	46.91	46.48	45.18	44.89	44.86	44.60	46.30	44.25	44.91	44.54	44.35	44.06
12	46.58	45.78	44.91	44.59	45.26	44.80	46.32	45.45	44.66	44.41	44.27	44.08
13	45.76	45.46	44.91	44.59	46.25	45.31	46.02	45.30	44.58	44.36	44.50	44.11
14	45.73	45.11	44.85	44.64	46.67	46.01	45.50	45.03	44.60	44.32	44.76	44.31
15	45.76	45.06	44.95	44.47	48.00	46.77	45.00	44.34	44.90	44.44	45.39	44.75
16	45.03	44.32	44.95	44.53	47.96	47.50	44.64	44.36	45.01	44.74	46.07	45.38
17	44.36	44.10	44.83	44.60	47.48	46.54	45.01	44.64	44.98	44.71	45.70	45.14
18	44.41	44.15	44.89	44.62	46.58	46.44	45.15	44.66	44.92	44.67	45.16	44.96
19	44.56	44.28	44.82	44.61	47.37	46.61	45.15	44.56	44.94	44.68	44.97	44.60
20	44.63	44.42	45.07	44.61	47.41	46.71	45.00	44.69	44.89	44.61	44.73	44.37
21	44.66	44.33	45.40	45.08	46.76	46.06	45.58	44.94	44.67	44.42	44.47	44.23
22	44.96	44.51	45.09	44.40	47.21	46.54	45.63	45.04	44.62	44.38	47.06	44.33
23	44.80	44.43	44.81	44.29	46.48	45.44	45.12	44.68	44.96	44.63	48.34	47.04
24	44.65	44.01	44.61	44.27	46.59	45.85	44.79	44.50	45.07	44.65	46.97	44.93
25	44.42	43.86	44.71	44.43	46.68	45.90	44.99	44.81	45.61	44.75	44.91	44.35
26	44.42	44.01	44.69	44.40	46.12	45.55	45.26	44.96	45.31	44.73	44.63	44.24
27	44.71	44.24	45.76	44.68	46.53	46.13	45.32	45.05	45.32	44.71	44.43	44.13
28	44.93	44.58	45.06	44.64	46.46	45.80	45.27	44.81	44.80	44.59	44.48	44.15
29	44.85	44.53	45.00	44.30	45.87	45.55	45.16	44.89	44.76	44.43	44.51	44.23
30	44.71	44.25	44.50	43.84	45.58	45.28	45.18	44.83	45.23	44.76	46.68	44.35
31	---	---	44.25	43.93	---	---	45.03	44.66	45.24	44.77	---	---
MONTH	47.12	43.86	45.76	43.84	48.00	44.03	47.39	44.25	46.09	44.32	48.34	44.06

03426310 CUMBERLAND RIVER AT OLD HICKORY DAM (TAILWATER), TN

LOCATION.--Lat 36°17'47", long 86°39'28", Davidson County, Hydrologic Unit 05130202, at right bank in powerhouse, at Old Hickory Dam, 2.0 mi west of Hendersonville, and at mile 216.2.

DRAINAGE AREA.--11,673 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1931 to September 1942, October 1947 to current year. Prior to July 1953, published as "at dam 3, near Old Hickory". July 1953 to September 1986 published as "below Old Hickory".

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by six lakes or reservoirs (see p. 91).

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

AVERAGE DISCHARGE.--53 years (water years 1932-42, 1948-89), 18,840 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 173,000 ft^3/s, Jan. 29, 1937; maximum gage height, 48.13 ft, Mar. 14, 1975; minimum daily discharge, 86 ft^3/s, Aug. 15, 1936; minimum gage height since filling of Cheatham Lake on Oct. 1, 1956, 3.49 ft, Sept. 10, 1962, site and datum then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1793, 57.4 ft Dec. 31, 1926, previous site and datum, from profile by U.S. Army Corps of Engineers, discharge, 200,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 107,000 ft^3/s Mar. 6; minimum daily discharge, 2,640 ft^3/s Nov. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4600	3370	25100	19400	25000	47900	38600	3850	6770	35700	17100	20500
2	4320	4240	27600	17200	30000	48400	36200	4290	11600	46100	28500	15100
3	4740	2880	16100	16200	28400	45000	33500	9060	6650	43500	27900	12100
4	3360	2640	10700	20400	24300	45100	34100	10500	7880	31900	25800	11100
5	3370	3350	13700	21500	21000	75100	47100	9510	6190	41100	20400	11300
6	3120	8420	11600	31800	22600	107000	48000	9410	9790	45100	14800	11700
7	3120	6620	15300	24600	26400	106000	34900	13700	12900	42100	12600	15000
8	3120	6650	13500	26100	30600	85200	45400	22600	19800	39100	10200	18500
9	3250	6440	13100	23200	32800	64100	47200	22100	23100	36300	10200	18400
10	2890	6420	12600	25800	38500	61000	41300	24900	25800	34500	10100	14200
11	3070	5580	16500	32900	30300	60500	45200	25700	21900	28500	12600	12300
12	2650	6500	17500	64200	20800	60300	42400	26500	22600	30800	10600	9780
13	2650	6320	16100	80800	13500	60200	35400	21000	25900	32200	8100	10800
14	2670	7270	19000	75100	63700	52000	31300	23500	43000	29500	9190	12300
15	3120	3350	19000	53000	88500	37400	28300	23300	74200	28700	12600	12800
16	2880	3430	19600	55600	75300	47000	20100	23200	68100	17600	16200	18900
17	3150	2650	15900	43700	45400	48100	10400	18900	57400	20500	16200	21600
18	2650	6690	11700	40700	42000	37900	11700	16300	48600	19800	16400	13100
19	2660	9390	11700	41800	29000	32300	10400	15700	47500	22200	15600	13200
20	3110	53900	12200	42400	32600	33100	12400	12600	56100	19400	14300	13300
21	2960	45600	15400	42300	83300	50600	9360	16900	46100	19900	13000	11300
22	3120	19100	27200	42400	86900	52400	7800	16400	52800	26100	10900	14400
23	3120	9770	43100	39700	65700	51800	9300	13900	44200	19300	13600	68100
24	3140	6510	51700	31900	50200	43700	9370	10800	37100	15500	14100	43900
25	3120	6870	51700	31100	47100	41000	7010	12600	43800	17800	22000	17300
26	4180	9350	28800	28400	46800	38200	4370	16000	38300	20800	14600	13600
27	3670	9910	21600	30900	50600	34400	5410	28700	41300	23000	19600	13100
28	3110	12400	16300	32300	43400	33600	7700	22700	46600	23700	15100	13000
29	3130	16400	20600	32400	---	34800	6990	19000	41600	20000	13100	12400
30	7490	20800	26500	31300	---	39700	6690	12500	40000	18600	15200	14500
31	4870	---	25500	26600	---	39900	---	9100	---	17000	22100	---
TOTAL	106410	312820	646900	1125700	1194700	1613700	727900	515220	1027580	866300	482690	507580
MEAN	3433	10430	20870	36310	42670	52050	24260	16620	34250	27950	15570	16920
MAX	7490	53900	51700	80800	88500	107000	48000	28700	74200	46100	28500	68100
MIN	2650	2640	10700	16200	13500	32300	4370	3850	6190	15500	8100	9780

CAL YR 1988 TOTAL 3589720 MEAN 9808 MAX 74000 MIN 2640
WTR YR 1989 TOTAL 9127500 MEAN 25010 MAX 107000 MIN 2640

03426310 CUMBERLAND RIVER AT OLD HICKORY DAM (TAILWATER), TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1979 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1979 to current year.
pH: April 1979 to current year.
WATER TEMPERATURE: April 1979 to current year.
DISSOLVED OXYGEN: April 1979 to current year.

INSTRUMENTATION.--Water-quality monitor since April 1979.

REMARKS.--Flow regulated by Old Hickory Dam and other reservoirs above station. Periods of missing record were due to monitor malfunction. Supersaturation of dissolved oxygen may occur due to local hydraulic conditions.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 262 microsiemens, Apr. 15, Dec. 2, 1988; minimum, 146 microsiemens, May 6, 1979.
pH: Maximum, 9.8 units, Mar. 26, 1988; minimum, 6.7 units, Aug. 8, Sept. 20, 1988.
WATER TEMPERATURE: Maximum, 27.6°C, Aug. 8, 1988; minimum, 2.5°C, Jan. 12-14, 1981, Jan. 21, 22, 1984, Feb. 2-4, 1985.
DISSOLVED OXYGEN: Maximum, 15.2 mg/L, April 6, 1983; minimum, 2.9 mg/L, Sept. 5, 1988.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 262 microsiemens, Dec. 2; minimum, 164 microsiemens, Mar. 8, 9.
pH: Maximum, 8.9 units, May 4; minimum, 7.0 units, Oct. 4, 5.
WATER TEMPERATURE: Maximum, 25.5°C, Aug. 28, 29; minimum, 6.1°C, Jan. 14.
DISSOLVED OXYGEN: Maximum, 14.6 mg/L, Feb. 14; minimum, 4.1 mg/L, June 5.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	223	216	221	219	212	216	254	237	245	238	229	233
2	223	216	219	219	211	214	262	250	258	235	229	232
3	239	216	220	235	211	226	258	250	253	237	230	232
4	251	219	225	234	225	231	258	250	253	236	228	232
5	222	215	220	233	224	228	258	246	253	234	219	226
6	222	215	220	232	223	228	254	239	247	224	217	220
7	222	215	218	231	222	228	247	228	239	239	221	230
8	223	215	217	230	222	228	231	220	226	239	231	236
9	225	216	218	229	224	226	228	217	222	241	232	236
10	225	217	218	228	219	225	225	210	217	236	228	233
11	226	218	220	227	218	223	218	208	212	242	231	238
12	223	214	219	225	218	223	214	205	209	245	240	242
13	227	219	220	225	216	221	227	204	215	244	219	232
14	228	220	223	223	218	221	227	216	220	223	210	214
15	227	219	223	224	218	221	225	212	216	216	209	212
16	226	219	224	224	220	222	225	213	218	223	214	219
17	226	219	223	224	220	222	221	213	215	218	207	212
18	226	218	223	227	220	224	221	213	215	213	204	209
19	225	222	223	227	219	222	221	213	215	210	201	206
20	225	221	223	234	215	223	222	213	215	211	202	206
21	224	221	222	250	234	240	222	214	217	217	207	212
22	224	221	222	242	226	233	218	210	215	221	213	215
23	223	220	221	236	226	232	222	210	218	223	214	218
24	223	215	220	236	228	231	225	214	219	228	219	223
25	222	214	218	232	225	228	226	217	221	230	220	224
26	221	214	218	229	218	225	221	213	218	232	226	229
27	221	214	217	226	218	220	226	216	220	232	225	230
28	220	213	215	226	218	221	221	213	218	232	225	228
29	220	213	217	226	218	222	224	216	219	232	227	230
30	220	212	217	241	222	230	226	219	223	235	227	230
31	219	212	216	---	---	---	233	222	226	235	224	230
MONTH	251	212	220	250	211	225	262	204	225	245	201	225

03426310 CUMBERLAND RIVER AT OLD HICKORY DAM (TAILWATER), TN--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	235	227	229	201	189	197	206	198	202	197	189	193
2	235	227	229	201	196	199	207	202	204	196	188	193
3	235	224	229	200	196	198	207	203	206	195	186	192
4	227	223	226	204	196	198	208	199	204	194	186	192
5	226	223	224	200	192	197	212	204	209	196	189	191
6	230	219	225	208	172	193	220	205	213	196	188	192
7	230	223	226	184	172	180	213	205	209	195	187	191
8	234	226	230	184	164	173	217	209	212	194	189	191
9	234	226	232	173	164	170	214	202	209	193	185	190
10	234	222	229	180	165	172	206	198	202	196	188	193
11	225	218	220	173	165	169	207	198	201	196	188	192
12	225	218	222	181	170	177	203	195	198	200	188	194
13	225	218	220	181	177	180	200	195	198	204	196	198
14	222	214	219	186	177	181	200	195	198	200	188	193
15	225	194	211	184	178	182	202	194	197	196	188	190
16	206	182	191	189	180	183	202	193	196	193	189	191
17	214	202	208	190	181	184	197	188	195	193	189	191
18	218	210	213	190	182	185	196	188	192	193	189	191
19	213	205	207	190	182	186	195	187	191	193	185	190
20	213	205	208	191	183	188	195	186	191	193	185	188
21	221	205	213	192	187	189	194	185	191	189	181	184
22	213	189	201	201	188	194	193	188	191	189	181	184
23	201	185	195	201	193	199	196	188	192	189	181	183
24	213	201	205	202	197	200	196	187	193	185	178	183
25	209	193	203	202	198	200	198	190	194	186	178	184
26	201	177	188	203	195	199	202	193	197	186	179	183
27	181	170	176	199	191	193	---	---	---	190	182	185
28	193	177	184	204	196	198	---	---	---	194	182	187
29	---	---	---	205	200	203	199	190	195	194	186	190
30	---	---	---	209	201	203	198	189	194	194	186	190
31	---	---	---	206	198	202	---	---	---	194	186	189
MONTH	235	170	213	209	164	189	220	185	199	204	178	190
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	194	185	187	190	182	185	194	186	190	190	182	185
2	189	185	187	190	180	183	194	186	189	190	182	185
3	193	185	188	183	180	182	191	183	189	190	182	186
4	193	185	189	191	183	187	191	183	189	190	186	188
5	193	189	191	198	183	190	191	187	189	190	185	187
6	200	192	194	213	198	205	192	184	189	189	181	186
7	196	188	192	217	209	211	196	188	191	189	181	184
8	204	192	197	217	209	214	196	188	193	185	181	182
9	208	200	202	216	208	212	197	188	193	185	181	183
10	204	196	201	216	208	210	197	189	192	189	181	184
11	200	192	197	215	207	209	197	189	193	192	181	189
12	200	196	198	211	203	208	194	189	191	192	188	190
13	196	188	191	211	203	207	198	190	194	193	185	190
14	192	188	189	210	202	206	198	190	193	193	185	191
15	196	184	189	210	202	205	198	189	194	193	185	190
16	204	192	199	209	201	205	197	189	194	193	185	189
17	204	196	201	213	201	206	197	193	195	194	185	189
18	208	200	203	213	209	210	197	192	194	194	190	192
19	212	200	205	217	209	210	196	192	195	196	188	191
20	205	197	201	213	205	210	196	192	194	193	188	190
21	205	193	199	214	205	208	196	191	193	193	189	191
22	201	193	199	210	206	208	195	191	193	193	189	191
23	205	197	202	210	202	205	195	187	192	197	185	189
24	205	193	199	206	198	203	194	186	191	194	178	188
25	201	193	195	204	198	201	194	186	192	182	174	177
26	198	190	195	203	199	201	194	190	192	183	174	179
27	194	186	190	203	198	200	193	189	192	187	179	184
28	190	182	187	205	197	199	196	188	191	191	183	187
29	190	182	186	205	196	200	192	187	189	196	187	191
30	190	182	185	200	195	197	191	182	186	204	192	195
31	---	---	---	199	190	195	190	182	185	---	---	---
MONTH	212	182	195	217	180	202	198	182	192	204	174	187

PH (STANDARD UNITS), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.9	7.4	8.0	7.6	7.6	7.5	---	---	7.7	7.6	7.5	7.5
2	7.5	7.2	8.0	7.7	7.6	7.5	---	---	7.7	7.6	7.5	7.4
3	7.4	7.2	8.0	7.6	7.6	7.5	---	---	7.7	7.6	7.5	7.4
4	7.4	7.0	8.0	7.8	7.6	7.4	---	---	7.7	7.6	7.4	7.3
5	7.7	7.0	8.0	7.8	7.6	7.3	---	---	7.7	7.6	7.5	7.3
6	7.8	7.2	8.0	7.7	7.5	7.4	7.6	7.4	7.7	7.6	7.6	7.4
7	8.1	7.3	7.9	7.4	7.5	7.3	7.7	7.6	7.8	7.7	7.4	7.4
8	7.9	7.6	7.9	7.6	7.4	7.3	7.8	7.7	7.8	7.7	7.4	7.4
9	8.0	7.7	7.9	7.4	7.5	7.2	7.8	7.7	7.8	7.7	7.5	7.4
10	8.0	7.4	7.9	7.4	7.3	7.2	7.8	7.7	7.8	7.7	7.6	7.4
11	7.9	7.3	7.8	7.4	7.3	7.2	7.8	7.4	7.8	7.7	7.6	7.5
12	8.0	7.3	7.9	7.3	7.4	7.2	7.6	7.5	7.8	7.7	7.6	7.5
13	8.2	7.4	7.9	7.3	7.5	7.3	7.6	7.4	7.8	7.6	7.7	7.6
14	8.1	7.4	7.8	7.3	7.6	7.4	7.6	7.3	7.8	7.7	7.7	7.6
15	8.3	7.9	7.9	7.1	7.5	7.4	7.5	7.3	7.9	7.6	7.7	7.5
16	8.3	7.8	7.9	7.6	7.5	7.4	7.6	7.4	7.6	7.5	7.7	7.6
17	8.0	7.7	7.9	7.5	7.5	7.4	7.6	7.3	7.6	7.5	7.7	7.6
18	8.0	7.6	7.9	7.5	7.5	7.4	7.7	7.4	7.6	7.5	7.7	7.6
19	7.8	7.6	7.8	7.5	7.5	7.4	7.8	7.4	7.6	7.5	7.8	7.7
20	7.7	7.6	7.8	7.7	7.4	7.3	7.8	7.6	7.6	7.5	7.8	7.7
21	7.8	7.5	7.8	7.6	7.4	7.3	7.9	7.5	7.6	7.5	7.8	7.7
22	7.8	7.3	7.7	7.6	7.4	7.2	7.9	7.5	7.6	7.6	7.8	7.7
23	7.7	7.4	7.7	7.5	7.3	7.2	7.8	7.5	7.6	7.6	7.8	7.7
24	7.8	7.1	7.6	7.5	---	---	7.8	7.5	7.6	7.6	7.8	7.7
25	7.7	7.5	7.6	7.5	---	---	7.8	7.6	7.6	7.5	7.8	7.7
26	7.8	7.6	7.6	7.4	---	---	7.7	7.4	7.6	7.5	7.8	7.6
27	8.0	7.4	7.6	7.4	---	---	7.6	7.5	7.6	7.5	7.7	7.6
28	8.0	7.6	7.5	7.4	---	---	7.6	7.5	7.5	7.4	7.7	7.6
29	8.0	7.6	7.5	7.4	---	---	7.6	7.6	---	---	7.6	7.5
30	8.0	7.6	7.6	7.5	---	---	7.7	7.6	---	---	7.6	7.5
31	8.0	7.8	---	---	7.6	7.2	7.7	7.6	---	---	7.7	7.6
MONTH	8.3	7.0	8.0	7.1	---	---	7.9	7.3	7.9	7.4	7.8	7.3

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.7	7.6	8.3	8.0	8.0	7.6	7.8	7.7	8.2	7.8	8.1	7.6
2	7.7	7.6	8.0	7.8	8.3	7.6	7.9	7.7	8.6	7.8	7.8	7.6
3	7.7	7.6	8.6	7.7	8.0	7.6	7.7	7.6	8.2	7.9	8.0	7.5
4	7.8	7.6	8.9	8.1	7.8	7.5	7.7	7.5	8.1	7.9	8.6	7.8
5	7.8	7.7	8.5	8.0	7.7	7.4	8.0	7.5	8.1	7.7	8.4	7.6
6	7.8	7.7	8.2	7.9	7.7	7.4	8.2	8.0	7.9	7.6	8.2	7.4
7	7.8	7.6	8.5	8.2	8.2	7.5	8.2	8.1	7.8	7.4	8.2	7.5
8	7.9	7.7	8.6	8.3	8.0	7.6	8.4	8.2	8.0	7.6	8.2	7.4
9	7.9	7.8	8.4	8.0	8.1	7.5	8.4	8.3	8.2	7.6	8.2	7.3
10	7.9	7.7	8.3	8.0	8.3	7.9	8.5	8.3	8.1	7.7	7.7	7.4
11	7.9	7.8	8.2	8.0	8.1	7.7	8.5	8.4	8.2	7.6	7.7	7.4
12	7.8	7.6	8.1	7.9	7.8	7.4	8.4	8.3	8.0	7.6	7.9	7.5
13	7.8	7.7	8.2	7.9	7.6	7.5	8.4	8.3	8.0	7.4	8.1	7.6
14	7.8	7.7	8.2	8.0	7.8	7.4	8.6	8.3	7.9	7.4	7.9	7.5
15	7.9	7.7	8.2	8.0	---	---	8.5	8.2	7.9	7.4	7.8	7.4
16	7.9	7.7	8.2	8.0	7.7	7.7	8.3	7.9	8.1	7.4	8.2	7.6
17	8.1	7.8	8.3	7.9	7.9	7.8	8.2	7.8	8.2	7.3	8.1	7.8
18	8.1	7.9	8.2	7.8	7.9	7.8	8.4	7.7	8.1	7.5	7.9	7.7
19	8.1	7.8	8.2	7.8	7.9	7.8	8.1	7.8	8.1	7.5	7.8	7.5
20	8.6	8.1	8.0	7.8	8.0	7.8	8.2	7.7	8.5	7.5	7.7	7.4
21	8.7	8.4	8.2	7.7	7.9	7.8	8.5	7.9	8.2	7.6	7.7	7.4
22	8.7	8.3	8.2	7.8	7.9	7.8	8.6	8.1	8.1	7.6	8.4	7.3
23	8.6	8.3	8.0	7.7	7.9	7.8	8.7	7.9	8.0	7.6	8.5	7.5
24	8.7	8.1	8.2	7.9	8.0	7.8	8.5	7.8	8.3	7.6	7.6	7.4
25	8.5	8.1	8.3	7.9	8.0	8.0	8.1	7.6	8.1	7.6	7.5	7.3
26	8.2	7.9	8.2	7.9	8.0	7.9	8.1	7.6	7.9	7.7	7.5	7.3
27	8.0	7.9	8.1	7.9	8.1	7.9	8.1	7.7	8.0	7.6	7.6	7.4
28	8.5	7.9	8.1	8.0	8.0	7.9	8.1	7.8	8.0	7.5	7.7	7.5
29	8.1	7.8	8.0	7.8	7.9	7.8	8.3	7.8	8.2	7.3	7.8	7.7
30	8.2	7.8	7.9	7.2	7.9	7.7	8.4	7.7	7.6	7.3	8.0	7.7
31	---	---	8.1	7.1	---	---	8.5	7.8	8.4	7.4	---	---
MONTH	8.7	7.6	8.9	7.1	8.3	7.4	8.7	7.5	8.6	7.3	8.6	7.3

03426310 CUMBERLAND RIVER AT OLD HICKORY DAM (TAILWATER), TN--Continued

TEMPERATURE WATER, (DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	23.4	22.8	23.1	15.8	15.4	15.6	12.2	11.6	11.9	10.6	9.9	10.2
2	23.0	22.2	22.5	15.7	14.7	15.2	11.8	11.2	11.4	10.1	9.7	9.9
3	22.4	22.0	22.1	15.4	14.6	15.1	11.4	11.0	11.1	10.0	9.6	9.8
4	22.5	21.5	22.0	15.4	15.0	15.3	11.4	11.0	11.1	9.6	8.9	9.4
5	21.9	21.1	21.5	15.3	14.9	15.1	11.0	10.4	10.7	9.1	8.8	9.0
6	21.4	20.7	21.2	15.3	14.3	14.8	10.8	10.2	10.5	9.0	8.2	8.8
7	21.2	20.3	20.8	14.7	14.1	14.4	10.8	10.2	10.5	9.2	8.3	8.7
8	20.7	19.9	20.3	14.8	14.2	14.5	10.8	10.2	10.4	9.2	8.6	8.9
9	20.4	19.7	20.0	15.0	14.0	14.4	10.4	9.7	10.1	8.9	8.4	8.7
10	20.0	19.4	19.6	15.2	14.5	14.9	9.9	9.5	9.7	8.7	8.2	8.6
11	19.7	18.9	19.3	14.9	14.5	14.6	9.6	8.7	9.3	8.8	8.3	8.5
12	19.4	18.4	18.9	14.7	14.3	14.4	9.1	8.0	8.6	9.7	7.6	8.7
13	18.5	18.0	18.4	14.7	14.1	14.4	8.4	8.0	8.3	10.3	6.5	7.6
14	18.8	17.8	18.2	14.6	14.0	14.4	8.4	8.0	8.3	9.7	6.1	8.0
15	18.5	17.8	18.2	15.4	14.2	14.8	8.6	8.2	8.4	9.8	8.4	9.3
16	18.3	17.8	18.1	15.3	14.9	15.1	8.4	7.8	8.1	9.7	8.2	9.2
17	18.6	17.8	18.2	15.0	14.4	14.8	8.0	7.4	7.8	9.8	9.2	9.5
18	18.4	17.7	18.2	14.6	14.1	14.3	7.8	7.1	7.6	9.8	9.4	9.5
19	18.3	17.5	17.8	14.3	13.9	14.1	7.6	6.9	7.2	9.9	9.4	9.7
20	17.8	17.3	17.6	14.4	14.0	14.2	7.8	7.1	7.5	9.9	9.3	9.7
21	17.6	17.1	17.3	14.4	13.3	13.9	8.0	7.6	7.9	9.3	8.7	9.0
22	17.4	17.0	17.1	13.5	13.0	13.2	8.8	7.8	8.3	9.1	8.5	8.9
23	17.2	16.6	16.9	13.1	12.7	13.0	9.0	8.8	9.0	9.1	8.5	8.8
24	17.0	16.3	16.6	13.1	12.5	12.8	---	---	---	9.2	8.5	8.9
25	16.5	16.1	16.3	13.1	12.7	12.9	---	---	---	9.4	8.6	8.9
26	16.8	15.9	16.3	13.5	12.9	13.2	---	---	---	9.4	9.0	9.1
27	16.8	16.0	16.3	13.3	12.9	13.2	11.2	10.8	11.0	9.4	9.0	9.2
28	16.8	16.3	16.5	13.1	12.3	12.7	11.2	10.5	10.9	9.4	8.8	9.1
29	16.6	15.9	16.3	12.7	12.2	12.5	10.9	10.1	10.4	9.4	8.8	9.1
30	16.3	15.7	16.0	12.3	12.0	12.2	10.4	10.0	10.2	9.8	9.2	9.5
31	16.0	15.5	15.8	---	---	---	10.6	10.0	10.2	10.1	9.3	9.7
MONTH	23.4	15.5	18.6	15.8	12.0	14.1	12.2	6.9	9.5	10.6	6.1	9.1
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	10.3	9.5	9.9	8.0	7.5	7.8	12.2	11.7	11.9	16.6	15.8	16.3
2	10.5	9.9	10.2	8.2	7.6	8.0	12.1	11.5	11.8	16.4	15.1	15.5
3	10.5	9.9	10.2	8.8	7.8	8.4	12.2	11.7	11.9	17.6	14.9	16.6
4	10.1	9.3	9.7	9.2	8.6	8.9	12.2	11.9	12.1	18.8	16.7	18.0
5	9.5	8.7	9.1	9.4	8.8	9.0	12.4	11.9	12.1	18.2	16.9	17.5
6	8.9	8.1	8.4	10.0	8.8	9.4	12.1	11.7	11.9	17.3	16.6	16.9
7	8.3	7.7	8.0	9.8	8.8	9.1	11.8	11.4	11.7	17.7	17.1	17.4
8	8.3	7.7	8.0	9.4	8.8	9.1	11.6	11.2	11.4	18.1	17.1	17.6
9	8.0	7.5	7.7	9.5	8.9	9.2	11.2	10.8	10.9	17.4	16.8	17.1
10	7.7	7.1	7.3	9.4	8.7	9.1	11.2	10.6	10.9	17.0	16.6	16.9
11	7.7	7.1	7.3	9.4	8.7	9.0	10.8	9.9	10.3	16.6	15.9	16.3
12	7.7	7.1	7.3	9.3	8.8	9.0	10.3	9.7	10.0	16.2	15.6	15.9
13	8.4	7.3	7.6	9.4	8.9	9.2	10.5	9.7	10.0	16.7	15.8	16.3
14	8.6	7.8	8.2	10.1	9.1	9.6	10.9	10.1	10.5	16.8	16.0	16.4
15	10.0	8.4	9.2	10.4	9.8	10.1	10.9	10.5	10.7	16.8	16.3	16.5
16	10.6	9.4	10.2	10.6	10.0	10.2	11.4	10.5	10.8	17.2	16.5	16.8
17	9.8	9.2	9.5	10.8	10.2	10.5	12.5	11.0	11.7	17.7	16.5	17.0
18	9.4	9.0	9.3	11.0	10.6	10.8	12.4	11.8	12.1	17.5	16.6	17.0
19	9.8	9.4	9.6	10.8	10.2	10.4	12.5	11.0	11.9	17.3	16.6	17.0
20	10.0	9.6	9.9	10.8	10.2	10.4	13.7	12.5	13.2	17.4	16.8	17.1
21	10.0	9.2	9.7	10.6	10.0	10.4	14.4	13.0	13.7	18.0	16.5	17.2
22	9.6	9.0	9.3	9.8	9.3	9.7	14.2	13.0	13.7	18.0	17.4	17.6
23	9.0	7.8	8.5	9.7	9.3	9.4	14.2	13.2	13.9	17.9	16.6	17.1
24	8.2	7.5	7.8	9.7	9.1	9.4	15.6	13.2	14.4	19.1	17.5	18.1
25	8.4	7.6	8.1	10.1	9.3	9.7	15.1	13.7	14.6	19.5	17.3	18.6
26	8.6	8.0	8.3	10.9	9.9	10.3	15.3	13.7	14.4	19.6	18.4	19.0
27	8.4	7.6	8.1	11.3	10.5	10.8	14.7	13.7	14.5	20.8	18.6	19.6
28	8.0	7.5	7.8	11.9	10.9	11.3	16.1	14.5	15.0	21.2	20.2	20.5
29	---	---	---	12.3	11.3	11.8	15.4	14.2	14.8	21.3	20.1	20.7
30	---	---	---	12.7	12.1	12.4	15.8	14.2	14.9	20.8	19.4	20.3
31	---	---	---	12.7	12.0	12.4	---	---	---	20.4	19.0	19.7
MONTH	10.6	7.1	8.7	12.7	7.5	9.8	16.1	9.7	12.4	21.3	14.9	17.6

TEMPERATURE WATER, (DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	20.5	19.4	19.8	18.3	17.9	18.2	23.7	22.8	23.3	24.6	23.4	24.0
2	21.3	19.3	20.2	18.1	17.6	17.8	25.1	22.7	24.0	24.3	23.7	24.0
3	20.9	19.9	20.4	17.6	17.1	17.3	24.1	23.1	23.7	24.4	23.5	24.0
4	20.7	19.5	20.0	18.2	17.3	17.6	24.1	23.3	23.7	24.8	24.0	24.4
5	20.9	20.1	20.5	19.1	18.0	18.6	23.9	22.7	23.4	24.8	23.6	24.1
6	21.4	19.8	20.5	18.9	17.9	18.4	23.7	22.5	23.3	24.5	23.3	24.0
7	22.5	20.6	21.6	18.6	17.8	18.3	23.1	22.4	22.8	24.7	23.5	24.0
8	22.1	21.2	21.7	19.0	18.2	18.6	23.4	22.6	23.1	25.0	23.6	24.2
9	22.3	21.1	21.6	19.2	18.6	18.9	23.6	22.6	23.1	25.0	23.8	24.4
10	22.3	21.5	22.0	19.5	19.1	19.2	23.2	22.4	22.9	24.5	23.8	24.1
11	21.9	21.0	21.5	19.7	19.1	19.5	23.2	22.1	22.6	24.4	23.7	24.0
12	21.4	20.1	21.0	20.6	19.3	19.7	23.0	22.3	22.6	24.4	23.8	24.1
13	20.7	20.1	20.4	20.8	20.0	20.4	23.0	21.7	22.4	24.6	23.8	24.3
14	20.7	20.1	20.4	21.2	20.4	20.8	22.9	22.3	22.5	24.2	23.2	23.9
15	20.3	19.0	19.5	21.8	20.8	21.3	23.5	22.0	22.7	23.9	23.2	23.6
16	19.0	18.1	18.7	21.9	21.5	21.6	23.7	22.2	23.0	23.9	23.3	23.7
17	18.3	17.6	17.9	22.2	21.1	21.5	23.9	22.2	23.0	23.3	22.7	23.1
18	17.9	17.2	17.5	22.3	20.9	21.7	23.5	22.5	23.1	23.1	22.7	22.9
19	18.2	17.2	17.6	22.2	21.4	21.8	23.9	22.7	23.3	22.9	22.2	22.6
20	17.5	16.9	17.2	22.5	21.2	21.7	24.3	22.5	23.4	22.5	22.2	22.3
21	17.7	16.9	17.1	22.8	21.6	22.2	23.8	22.7	23.3	22.5	22.0	22.3
22	17.8	17.1	17.4	23.0	21.9	22.4	24.2	22.8	23.4	22.8	21.7	22.0
23	17.7	17.1	17.4	22.8	22.1	22.5	24.0	22.6	23.3	22.8	20.7	21.6
24	18.2	17.3	17.6	23.3	22.2	22.5	24.6	23.0	23.7	20.7	19.3	19.9
25	18.0	17.5	17.7	23.3	21.8	22.4	24.8	23.4	24.1	19.5	19.1	19.3
26	17.9	17.4	17.6	23.3	22.0	22.6	24.4	23.4	23.9	19.3	18.8	19.0
27	17.9	17.6	17.8	23.7	22.4	23.1	25.2	24.0	24.5	19.2	18.8	18.9
28	17.7	17.4	17.6	23.9	22.7	23.3	25.5	23.8	24.5	19.2	18.8	19.0
29	18.5	17.2	17.7	24.4	23.0	23.7	25.5	23.7	24.5	19.2	18.8	19.0
30	18.5	17.6	18.0	24.2	23.0	23.6	24.5	23.5	24.1	19.2	18.8	19.0
31	---	---	---	24.0	23.2	23.6	24.6	24.0	24.3	---	---	---
MONTH	22.5	16.9	19.2	24.4	17.1	20.8	25.5	21.7	23.4	25.0	18.8	22.5

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	6.9	5.5	6.3	9.2	8.3	8.9	9.2	8.7	9.0	9.7	9.6	9.6
2	6.0	4.8	5.3	9.3	8.5	8.7	9.3	9.0	9.1	9.7	9.5	9.6
3	5.8	4.5	4.9	9.0	8.3	8.8	9.2	9.0	9.1	9.7	9.4	9.6
4	6.6	5.2	6.0	9.0	8.6	8.8	9.3	9.0	9.2	9.9	9.7	9.8
5	7.8	5.9	7.0	9.1	8.6	8.8	9.5	9.1	9.3	9.9	9.7	9.8
6	8.0	7.2	7.5	8.9	8.5	8.8	9.5	9.2	9.4	10.1	9.7	9.9
7	8.2	7.0	7.5	9.2	8.2	8.8	9.5	9.1	9.3	10.4	10.0	10.1
8	7.7	6.9	7.3	9.3	8.8	9.1	9.4	9.1	9.2	10.7	10.3	10.5
9	7.7	6.8	7.3	9.7	8.8	9.3	9.6	9.2	9.4	10.7	10.6	10.7
10	7.8	6.9	7.3	9.8	9.0	9.5	9.5	9.3	9.4	10.8	10.6	10.7
11	8.5	7.2	7.6	9.7	8.9	9.4	9.7	9.3	9.5	10.8	10.6	10.7
12	8.3	7.4	7.6	10.1	8.9	9.7	9.9	9.5	9.7	14.0	10.7	12.9
13	8.6	7.3	7.9	10.2	9.5	9.7	10.2	9.8	10.0	12.8	12.1	12.5
14	8.5	7.6	8.0	9.8	9.2	9.6	10.4	10.0	10.2	12.0	11.2	11.6
15	9.0	7.9	8.5	9.7	8.8	9.4	10.5	10.1	10.3	12.2	9.3	10.9
16	8.7	7.1	8.0	9.6	9.1	9.4	10.7	10.4	10.6	11.9	10.6	11.4
17	8.3	7.0	7.7	9.5	8.9	9.3	10.8	10.5	10.7	12.9	10.0	11.0
18	8.1	6.8	7.5	9.5	8.7	9.1	11.2	10.6	10.9	12.9	9.8	10.9
19	7.6	6.5	7.0	9.2	8.6	9.1	11.2	11.0	11.1	11.5	9.8	10.9
20	7.6	6.7	7.1	11.5	9.2	10.9	11.2	11.1	11.2	11.6	10.9	11.4
21	7.8	7.0	7.4	11.4	9.0	10.4	11.2	11.0	11.1	11.8	11.4	11.6
22	7.9	7.1	7.7	9.1	9.0	9.0	11.2	11.0	11.2	11.7	11.5	11.6
23	8.3	7.7	8.0	9.1	8.5	8.8	14.0	11.0	12.9	11.8	10.4	11.1
24	8.7	7.8	8.2	8.6	8.2	8.4	13.2	12.5	12.9	10.6	10.4	10.5
25	8.5	7.8	8.2	8.6	8.2	8.4	12.9	10.2	12.0	10.7	10.6	10.6
26	8.6	7.9	8.2	8.6	8.3	8.5	10.3	10.1	10.2	10.6	10.4	10.5
27	9.2	7.8	8.3	8.5	8.2	8.4	10.3	9.9	10.1	10.8	10.4	10.6
28	9.7	8.5	9.0	8.4	8.1	8.2	10.1	10.0	10.1	10.8	10.5	10.6
29	9.5	8.3	8.9	8.7	8.3	8.5	10.3	10.0	10.1	10.9	10.6	10.7
30	9.4	8.5	9.0	8.8	8.6	8.7	10.5	10.1	10.3	10.9	10.6	10.8
31	9.2	8.8	9.0	---	---	---	10.1	9.6	9.9	10.9	10.7	10.8
MONTH	9.7	4.5	7.6	11.5	8.1	9.1	14.0	8.7	10.2	14.0	9.3	10.8

03426310 CUMBERLAND RIVER AT OLD HICKORY DAM (TAILWATER), TN--Continued

OXYGEN DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	11.0	10.7	10.9	14.0	13.2	13.7	12.5	10.3	11.4	9.2	8.2	8.8
2	10.9	10.7	10.8	14.0	13.4	13.8	11.2	10.3	10.8	8.4	7.7	8.0
3	11.0	10.7	10.9	13.9	11.9	13.2	10.5	10.1	10.2	8.7	7.6	8.2
4	11.1	10.8	11.0	13.8	12.1	13.5	12.3	10.0	10.2	8.9	7.8	8.4
5	11.3	10.9	11.1	13.5	11.7	13.0	12.4	11.7	12.3	8.2	7.8	8.0
6	11.5	11.1	11.3	12.9	12.5	12.7	12.4	11.7	12.1	8.0	7.4	7.8
7	11.6	11.2	11.4	13.1	12.6	12.9	11.9	9.6	10.1	8.5	8.0	8.2
8	11.7	11.4	11.6	13.0	12.6	12.8	12.4	11.0	12.2	9.3	8.2	8.8
9	12.9	11.5	11.8	12.7	11.8	12.3	12.6	11.9	12.4	8.9	8.6	8.8
10	13.1	11.8	12.4	12.6	12.2	12.4	12.8	11.0	12.1	9.3	8.1	8.9
11	12.0	11.8	11.9	12.5	12.2	12.4	12.8	12.4	12.7	9.6	8.3	9.0
12	12.2	11.8	12.0	12.5	12.3	12.5	13.0	11.5	12.3	9.7	8.6	9.2
13	12.2	11.7	11.9	12.9	12.2	12.4	11.9	10.7	10.9	10.0	9.0	9.4
14	14.6	11.8	13.4	12.7	11.3	12.2	10.8	10.6	10.7	10.0	8.9	9.5
15	13.5	12.7	13.1	12.6	10.8	11.1	10.7	10.5	10.6	10.0	9.3	9.7
16	12.7	12.4	12.6	13.6	12.4	13.2	11.1	10.6	10.8	10.7	9.5	10.1
17	12.7	11.1	11.9	13.3	12.4	13.1	11.5	10.9	11.2	11.3	9.5	10.5
18	14.2	10.9	12.2	12.1	10.8	11.3	11.9	11.0	11.3	11.6	9.8	10.7
19	10.7	10.1	10.4	11.1	10.8	10.9	11.2	10.6	10.9	11.0	9.6	10.6
20	12.9	10.0	10.2	11.1	10.8	10.9	12.3	11.1	11.8	10.7	9.3	9.9
21	12.8	12.5	12.7	13.5	10.8	12.9	12.3	11.5	11.9	10.8	9.1	10.1
22	12.9	12.5	12.8	13.5	13.2	13.3	12.2	11.1	11.7	10.5	9.4	10.0
23	12.8	12.0	12.6	13.3	12.6	13.2	11.7	11.1	11.4	9.8	8.3	9.3
24	13.9	12.0	13.2	13.3	11.8	12.4	11.5	10.4	11.1	10.4	9.0	9.6
25	13.8	13.4	13.6	12.7	12.0	12.3	10.9	10.1	10.6	10.0	7.7	9.3
26	13.5	13.3	13.4	12.7	11.3	12.0	10.4	9.6	10.0	9.6	8.5	9.1
27	13.6	12.9	13.3	11.7	11.4	11.5	10.1	9.6	10.0	9.6	8.4	9.0
28	13.7	11.8	12.6	12.2	11.7	11.9	10.4	9.4	9.8	9.6	7.7	8.9
29	---	---	---	12.4	11.9	12.2	9.5	8.8	9.2	10.2	7.2	8.9
30	---	---	---	12.3	11.2	12.1	9.3	8.6	8.9	10.0	6.5	8.4
31	---	---	---	12.5	10.9	11.3	---	---	---	9.3	6.9	8.1
MONTH	14.6	10.0	12.0	14.0	10.8	12.4	13.0	8.6	11.1	11.6	6.5	9.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.2	6.3	7.8	6.6	5.7	6.2	7.9	7.0	7.5	7.0	5.1	6.0
2	8.9	6.8	7.7	9.6	5.9	8.5	8.7	7.0	8.1	6.6	5.2	5.9
3	7.8	6.2	7.0	9.8	7.7	9.0	8.3	7.2	7.8	6.9	5.3	6.2
4	6.4	5.2	5.9	7.7	7.0	7.4	8.3	7.4	7.8	8.4	6.2	7.0
5	6.3	4.1	5.6	9.8	7.1	8.6	8.3	6.8	7.6	8.5	5.9	6.9
6	5.9	4.5	5.2	9.9	9.4	9.6	7.5	6.7	7.1	8.4	5.7	6.9
7	8.2	5.5	6.5	10.0	8.6	9.4	7.1	6.0	6.6	8.7	6.1	7.3
8	7.9	5.5	6.6	9.2	8.8	9.0	7.8	6.6	7.3	9.1	6.4	7.6
9	7.2	4.7	6.1	9.2	7.9	8.7	7.9	6.0	7.2	9.0	5.4	7.6
10	8.7	5.9	7.4	10.4	8.1	9.0	7.5	6.3	7.1	8.2	6.3	7.0
11	8.7	6.5	7.7	9.2	8.5	8.9	7.6	6.2	6.9	6.5	5.7	6.2
12	8.3	6.8	7.6	9.1	8.4	8.7	7.6	6.4	6.9	6.7	5.6	6.1
13	8.1	7.2	7.6	9.5	8.2	8.9	7.0	6.1	6.7	6.8	5.6	6.3
14	10.1	7.4	8.8	11.6	8.6	9.8	6.8	5.1	6.1	6.0	5.1	5.7
15	9.8	9.1	9.5	10.2	9.3	9.8	6.5	4.4	5.9	5.7	4.9	5.4
16	9.1	8.7	8.9	9.8	8.4	9.3	6.8	5.3	5.9	9.3	5.3	7.1
17	9.4	8.3	9.0	9.3	7.6	8.4	6.9	5.1	5.8	9.6	5.8	8.1
18	9.5	8.9	9.3	9.4	7.5	8.4	6.9	5.6	6.2	6.3	5.7	6.0
19	9.3	9.0	9.2	8.4	7.8	8.2	7.0	5.9	6.5	6.7	6.0	6.4
20	9.3	9.1	9.2	8.5	7.2	7.9	7.7	5.7	6.6	7.3	6.4	6.9
21	9.2	6.9	8.2	8.7	7.3	8.0	6.9	5.7	6.2	7.5	6.6	7.2
22	9.3	7.7	8.8	8.4	7.4	7.9	7.2	5.7	6.2	9.1	6.1	6.8
23	9.3	6.8	8.0	8.1	7.2	7.7	6.6	4.3	5.6	9.7	9.3	9.5
24	7.8	6.7	7.1	8.0	6.5	7.2	7.0	4.9	6.0	9.9	9.6	9.7
25	9.6	8.0	8.6	7.4	6.0	6.6	7.0	5.5	6.2	9.9	6.0	7.4
26	8.1	6.7	7.4	7.4	6.2	6.8	6.4	5.3	5.7	6.3	6.0	6.1
27	9.6	6.8	8.1	7.3	6.5	7.0	7.2	5.7	6.4	7.0	6.2	6.6
28	9.3	8.1	9.1	7.2	6.6	6.9	7.9	5.4	6.5	6.7	6.5	6.6
29	8.0	7.4	7.7	8.0	6.8	7.3	8.5	6.0	6.9	6.7	6.4	6.6
30	7.6	6.2	7.1	7.9	6.9	7.4	7.0	5.8	6.3	10.0	6.4	7.2
31	---	---	---	8.1	7.1	7.5	7.5	6.1	6.7	---	---	---
MONTH	10.1	4.1	7.8	11.6	5.7	8.2	8.7	4.3	6.7	10.0	4.9	6.9

03426800 EAST FORK STONES RIVER AT WOODBURY, TN

LOCATION.--Lat 35°49'41", long 86°04'36", Cannon County, Hydrologic Unit 05130203, on center pier on downstream side of bridge on U.S. Highway 70S, at Woodbury, 0.4 mi downstream from Doolittle Branch, and at mile 45.6.

DRAINAGE AREA.--39.1 mi^2.

PERIOD OF RECORD.--Water years 1932-33, 1950, 1954, 1962, occasional low-flow measurements. October 1962 to February 1988, July 1988 to September 1989 (discontinued as a continuous-record station; converted to crest-stage partial-record station).

REVISED RECORDS.--WSP 1910; Drainage area. WSP 2110: 1963, 1964(M), 1965.

GAGE.--Water-stage recorder. Datum of gage is 676.23 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--25 years (water years 1963-87, 1989), 67.4 ft^3/s, 23.41 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,200 ft^3/s, Mar. 15, 1973, gage height, 16.75 ft, from rating curve extended above 3,000 ft^3/s on basis of velocity-area study and contracted-opening measurement at gage height 16.52 ft at bridge 4.6 mi downstream; minimum, 1.6 ft^3/s, Sept. 15, 1988 (result of unnatural regulation upstream).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1902, that of Mar. 15, 1973.

EXTREMES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	1315	2,230	9.36	Mar. 5	1815	2,950	10.82
Feb. 21	0345	2,100	9.04	June 19	1945	2,240	9.38
Mar. 5	0900	*3,790	*11.96	Sept. 30	2245	2,170	9.21

Minimum discharge, 1.8 ft^3/s, Sept. 18, caused by unnatural regulation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	5.9	42	342	41	125	104	114	30	75	31	12
2	16	5.3	33	163	37	109	74	62	87	70	46	12
3	13	5.1	28	100	38	94	89	45	88	61	28	12
4	10	58	26	66	39	87	780	40	56	105	24	11
5	8.3	256	22	55	62	1880	396	67	48	67	20	11
6	8.3	77	20	83	76	761	193	126	50	57	20	10
7	6.9	37	18	68	70	278	196	73	48	134	20	10
8	6.9	25	17	224	62	160	198	56	140	100	18	8.6
9	7.0	17	16	135	55	103	169	87	298	67	16	8.4
10	7.0	16	15	92	52	78	117	97	131	52	16	9.0
11	6.6	15	14	367	50	65	82	66	85	238	15	12
12	6.5	13	13	1420	46	56	66	54	190	152	14	12
13	6.1	13	13	657	44	49	56	46	454	106	14	10
14	5.9	11	13	368	175	43	49	39	193	71	14	16
15	8.1	10	12	365	220	38	54	35	544	55	14	25
16	6.3	40	11	225	180	32	46	31	375	49	15	19
17	6.5	66	11	152	325	30	41	28	173	43	15	15
18	6.1	36	11	113	512	29	37	26	113	37	14	12
19	4.2	268	11	84	286	27	34	25	603	35	13	9.5
20	6.7	698	11	68	380	33	31	291	456	34	13	12
21	6.7	166	79	55	1120	231	30	104	238	31	12	10
22	6.3	78	71	49	325	108	28	62	192	29	12	241
23	6.0	53	418	45	189	91	28	54	126	41	13	180
24	6.0	40	326	40	130	93	26	41	95	39	31	58
25	6.0	32	200	37	103	74	24	34	73	30	26	39
26	5.7	51	97	36	89	62	23	32	61	27	17	35
27	5.4	193	64	34	87	53	30	207	54	24	15	27
28	13	129	204	31	106	46	40	86	48	22	14	22
29	11	76	144	31	---	42	38	56	44	21	13	26
30	8.2	55	108	43	---	49	66	43	40	20	12	453
31	6.8	---	281	44	---	166	---	35	---	21	12	---
TOTAL	237.0	2545.3	2349	5592	4899	5092	3145	2162	5133	1913	557	1337.5
MEAN	7.65	84.8	75.8	180	175	164	105	69.7	171	61.7	18.0	44.6
MAX	16	698	418	1420	1120	1880	780	291	603	238	46	453
MIN	4.2	5.1	11	31	37	27	23	25	30	20	12	8.4
CFSM	.20	2.17	1.94	4.61	4.47	4.20	2.68	1.78	4.38	1.58	.46	1.14
IN.	.23	2.42	2.23	5.32	4.66	4.84	2.99	2.06	4.88	1.82	.53	1.27

WTR YR 1989 TOTAL 34961.8 MEAN 95.8 MAX 1880 MIN 4.2 CFSM 2.45 IN. 33.26

03427500 EAST FORK STONES RIVER NEAR LASCASSAS, TN

LOCATION.--Lat 35°55'06", long 86°20'02", Rutherford County, Hydrologic Unit 05130203, on left bank 100 ft upstream from highway bridge, 2.5 mi southwest of Lascassas, 3.7 mi downstream from Bradley Creek, 6.0 mi northeast of the courthouse in Murfreesboro, and at mile 15.4.

DRAINAGE AREA.--262 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1950 to November 1958, May 1963 to current year. Prior to February 1951 monthly discharge only, published in WSP 1726.

REVISED RECORDS.--WSP 1910: Drainage Area. WDR-TN-75-1: 1955(M), 1963(M), 1970(M), 1973 (M)(P).

GAGE.--Water-stage encoder. Datum of gage is 507.88 ft, Sandy Hook datum (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1973, water-stage recorder 100 ft downstream at same datum.

REMARKS.--Records good. Frequent diurnal fluctuation at low flow caused by small mills above station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--34 years (water years 1951-58, 1964-89), 460 ft^3/s, 23.84 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,200 ft^3/s, Mar. 13, 1975, gage height, 39.48 ft; minimum, 0.2 ft^3/s, Oct. 23, 1953, gage height, 2.22 ft; minimum daily, 0.4 ft^3/s, Aug. 31, 1953.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1902, that of Mar. 13, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft^3/s and maximum(*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	0730	9,240	19.92	Apr. 4	1200	7,720	17.99
Dec. 23	1000	7,400	17.56	May 20	1030	9,280	19.97
Dec. 24	1430	8,070	18.44	June 9	0900	7,860	18.17
Jan. 12	0300	9,180	19.85	June 15	2030	8,020	18.38
Jan. 12	1830	12,700	23.88	July 1	1600	16,700	28.13
Feb. 21	0700	14,100	25.32	July 11	1730	8,520	19.02
Mar. 5	2130	*21,900	*32.01	Sept. 23	0300	9,190	19.86

Minimum discharge, 13 ft^3/s, Oct. 20, 26, 27, 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	29	263	3210	223	1040	851	179	135	7290	545	34
2	43	25	206	1200	200	724	578	190	907	2550	1070	34
3	125	23	170	721	212	573	657	138	1160	1470	304	32
4	73	84	145	484	282	466	5270	111	481	1870	191	31
5	46	2710	120	367	363	12100	3180	114	430	1240	139	29
6	33	1010	104	627	510	10400	1320	310	349	686	200	26
7	27	393	94	549	439	2150	1430	241	277	1050	156	24
8	23	231	84	1810	380	1110	1290	176	233	1090	104	22
9	21	159	77	1040	321	751	1180	152	4520	492	83	22
10	20	123	73	682	276	579	786	280	1170	333	71	22
11	19	147	67	1620	251	478	576	223	536	3350	62	23
12	18	117	61	9870	228	408	457	173	495	2200	55	22
13	17	97	55	5860	209	353	383	144	4540	912	49	23
14	16	86	52	2520	1660	311	327	122	1710	508	46	24
15	15	74	50	3030	2040	272	357	106	3990	348	44	72
16	14	145	46	1510	1360	232	339	92	3510	267	45	111
17	16	653	42	933	2310	207	285	81	1300	227	45	71
18	16	333	41	650	4380	194	247	73	721	190	47	50
19	14	2050	40	481	1900	180	220	66	2620	168	41	40
20	13	6370	38	383	2240	176	197	3860	3060	196	38	33
21	14	1490	710	309	10300	1860	180	904	1800	155	35	31
22	14	643	865	260	2650	878	165	357	1280	246	33	797
23	15	385	4110	229	1300	678	152	254	686	172	31	4270
24	15	272	4150	207	841	901	139	197	460	187	37	816
25	14	212	2030	186	622	640	125	154	347	145	84	379
26	13	237	877	172	506	497	113	125	272	109	62	380
27	13	1430	524	170	458	411	105	2680	225	90	124	276
28	16	1000	1960	154	716	352	97	747	195	79	75	192
29	38	548	1300	144	---	301	89	348	175	71	49	163
30	44	364	729	177	---	364	85	219	250	65	40	2460
31	34	---	1600	257	---	1310	---	168	---	80	36	---
TOTAL	830	21440	20683	39812	37177	40896	21180	12984	37834	27836	3941	10509
MEAN	26.8	715	667	1284	1328	1319	706	419	1261	898	127	350
MAX	125	6370	4150	9870	10300	12100	5270	3860	4540	7290	1070	4270
MIN	13	23	38	144	200	176	85	66	135	65	31	22
CFSM	.10	2.73	2.55	4.90	5.07	5.04	2.69	1.60	4.81	3.43	.49	1.34
IN.	.12	3.04	2.94	5.65	5.28	5.81	3.01	1.84	5.37	3.95	.56	1.49

CAL YR 1988 TOTAL 109912.9 MEAN 300 MAX 6800 MIN 5.9 CFSM 1.15 IN. 15.61
WTR YR 1989 TOTAL 275122 MEAN 754 MAX 12100 MIN 13 CFSM 2.88 IN. 39.06

03427500 EAST FORK STONES RIVER NEAR LASCASSAS, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1975 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1975 to current year.
WATER TEMPERATURE: October 1975 to current year.
DISSOLVED OXYGEN: January 1980 to September 1981.

INSTRUMENTATION.--Water-quality monitor since October 1975.

REMARKS.--Interruptions in the record were due to monitor malfunction.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 697 microsiemens, Dec. 6, 1979; minimum, 40 microsiemens, Sept. 4, 1986.
WATER TEMPERATURES: Maximum, 34.2°C, Aug. 26, 1987; minimum, 0.0°C, Jan. 21, 1977, Jan. 21, 22, 1985.
DISSOLVED OXYGEN: Maximum recorded, 13.6 mg/L, Feb. 14, 25, 26, 1981; minimum, 4.4 mg/L, July 18, 19, 1981.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 451 microsiemens, Nov. 8; minimum, 64 microsiemens, July 1.
WATER TEMPERATURE: Maximum, 28.9°C, July 29; minimum, 3.3°C, Dec. 18.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	437	429	431	417	409	414	417	409	415	336	194	296
2	433	422	426	425	417	420	421	326	412	360	336	350
3	430	422	427	429	421	425	421	401	414	369	360	364
4	430	427	427	433	284	406	421	397	415	370	365	369
5	427	427	427	382	277	310	420	400	414	383	370	379
6	427	419	426	355	226	310	420	396	413	380	364	372
7	428	423	426	422	312	377	422	404	415	373	368	370
8	424	424	424	451	388	402	421	413	418	377	216	301
9	424	424	424	431	408	418	421	402	410	356	300	332
10	428	424	424	431	412	416	418	402	411	376	356	367
11	429	424	426	424	416	420	415	399	409	384	240	358
12	429	429	429	427	420	423	411	400	405	239	181	219
13	432	429	430	427	416	421	408	392	404	337	235	299
14	436	429	432	424	416	422	409	389	401	357	290	346
15	436	430	433	426	419	423	402	390	395	349	279	328
16	433	430	431	430	415	422	407	391	397	357	349	353
17	434	424	431	426	383	405	411	391	400	361	353	357
18	438	430	434	403	387	395	404	388	395	361	357	360
19	438	434	435	411	230	349	393	378	386	377	365	367
20	434	426	431	305	211	249	398	378	389	379	364	373
21	431	431	431	364	309	344	402	261	350	368	360	364
22	431	424	427	383	372	377	376	332	353	368	356	360
23	427	424	424	403	383	395	376	203	269	368	356	362
24	427	420	424	415	364	406	337	196	281	372	360	365
25	424	420	420	418	410	414	362	272	330	376	364	371
26	427	420	423	418	308	396	383	362	373	368	360	365
27	427	412	418	371	273	311	395	383	389	373	354	363
28	421	405	412	382	331	363	395	289	340	370	349	361
29	417	409	413	406	382	395	365	301	341	364	346	354
30	413	405	409	413	389	405	386	365	377	356	334	347
31	409	405	407	---	---	---	386	320	374	356	338	350
MONTH	438	405	425	451	211	388	422	196	384	384	181	349

03427500 EAST FORK STONES RIVER NEAR LASCASSAS, TN--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	358	336	347	352	328	340	363	312	348	323	315	317
2	353	327	341	365	344	363	371	355	366	311	280	298
3	348	326	336	377	361	370	362	351	356	291	276	280
4	351	332	343	377	358	369	366	213	266	306	291	299
5	346	292	341	358	127	213	327	244	304	310	302	306
6	345	329	339	287	158	229	338	327	332	329	310	318
7	339	280	333	316	287	303	342	315	331	341	318	329
8	343	328	335	327	316	321	342	315	332	345	326	334
9	348	327	336	335	327	331	345	319	336	333	294	326
10	339	318	328	343	335	338	357	349	352	337	289	320
11	334	301	318	344	339	341	369	353	361	321	297	313
12	320	287	307	348	344	346	369	353	362	321	309	315
13	309	282	296	352	344	347	361	349	354	325	293	309
14	292	159	233	348	340	345	353	345	350	336	313	324
15	261	185	225	348	336	341	353	337	345	336	281	304
16	289	261	279	344	328	337	352	340	347	313	278	294
17	305	255	291	345	326	336	352	325	341	312	273	289
18	299	241	270	337	326	332	348	293	324	304	273	289
19	342	304	324	333	318	327	340	289	319	355	284	305
20	373	198	349	333	306	325	340	285	315	308	147	220
21	275	149	198	318	263	285	329	278	309	363	269	329
22	326	278	309	319	290	306	324	284	305	371	359	366
23	342	311	335	327	319	325	308	288	300	371	362	364
24	338	334	337	327	319	324	308	284	299	366	358	362
25	335	331	334	342	330	336	312	261	295	362	338	352
26	359	327	338	350	342	345	312	284	302	354	334	345
27	359	352	356	346	338	342	320	281	303	334	174	258
28	360	344	351	334	330	331	315	291	304	362	299	337
29	---	---	---	331	324	328	315	303	310	369	345	358
30	---	---	---	335	312	322	323	307	315	361	349	357
31	---	---	---	320	273	298	---	---	---	376	361	370
MONTH	373	149	315	377	127	326	371	213	326	376	147	319
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	365	357	361	295	64	182	329	244	273	276	265	269
2	380	266	348	346	228	305	319	274	294	292	273	281
3	313	250	274	366	248	348	353	319	333	304	292	298
4	335	292	305	326	205	279	351	327	339	316	308	313
5	328	281	294	319	244	276	354	326	340	323	320	321
6	339	296	309	268	224	256	356	271	332	327	323	326
7	342	276	320	291	205	244	324	271	296	331	327	328
8	327	280	306	217	162	195	350	313	332	335	327	331
9	345	185	277	240	158	205	364	294	333	335	331	332
10	396	349	371	178	142	157	346	288	309	331	327	329
11	365	275	327	210	147	170	339	308	325	331	323	328
12	344	282	304	331	190	291	336	305	326	331	327	329
13	317	223	262	351	241	331	355	308	333	331	327	329
14	332	254	302	343	269	333	349	322	335	331	327	329
15	301	219	256	343	323	334	348	324	336	331	276	308
16	359	277	338	339	320	331	343	326	336	371	304	345
17	375	339	360	331	304	324	337	315	329	355	331	346
18	375	330	352	327	300	315	333	309	325	363	335	344
19	354	287	321	320	292	302	339	319	333	363	327	341
20	311	236	267	308	292	300	338	318	328	339	327	335
21	264	221	250	363	288	330	344	325	331	335	304	331
22	---	---	---	359	276	319	338	311	328	331	229	306
23	384	372	378	356	313	327	345	310	330	339	159	260
24	380	365	374	360	285	355	343	331	339	386	339	365
25	380	361	368	364	340	355	---	---	---	398	386	392
26	369	353	359	356	340	348	---	---	---	406	398	402
27	361	341	353	356	328	344	---	---	---	418	406	411
28	353	333	345	349	332	342	---	---	---	422	363	419
29	346	326	339	359	339	350	---	---	---	418	414	417
30	342	232	318	358	334	352	280	261	273	410	270	360
31	---	---	---	359	279	343	273	265	268	---	---	---
MONTH	396	185	322	366	64	298	364	244	321	422	159	337

03427500 EAST FORK STONES RIVER NEAR LASCASSAS, TN--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	21.1	20.1	20.6	12.1	10.9	11.5	10.7	9.5	10.3	12.0	11.0	11.6
2	20.7	19.7	20.1	11.9	10.5	11.2	9.7	8.3	9.0	11.6	11.4	11.4
3	20.9	18.9	19.7	12.4	10.9	11.6	9.1	7.5	8.5	11.8	11.2	11.5
4	18.7	17.0	17.9	13.2	11.7	12.9	9.1	8.1	8.6	11.0	9.2	10.1
5	17.5	15.0	16.6	14.3	12.8	13.7	8.3	7.0	7.7	9.2	8.5	8.8
6	16.0	13.4	15.2	13.7	10.2	12.7	7.9	6.6	7.2	11.2	8.7	10.1
7	15.5	14.6	15.1	12.3	10.0	11.5	8.3	7.2	7.6	13.7	10.8	11.9
8	15.1	13.1	14.4	13.9	12.3	13.2	8.1	7.7	7.9	13.9	11.9	13.3
9	14.7	13.5	14.2	14.2	12.6	13.2	7.9	6.6	7.2	11.9	10.1	10.9
10	15.3	13.7	14.5	14.8	14.1	14.5	6.6	5.6	6.1	10.6	10.0	10.3
11	17.1	13.7	15.5	14.1	13.1	13.6	6.0	5.0	5.6	11.3	10.2	10.5
12	15.3	13.7	14.6	13.3	12.3	12.7	5.0	4.1	4.6	12.7	11.1	12.0
13	14.5	11.6	13.5	13.0	12.6	12.8	5.7	4.1	5.0	12.7	10.9	11.6
14	14.0	10.9	13.0	12.8	11.9	12.3	6.7	4.7	5.6	11.4	11.0	11.2
15	14.4	13.4	13.9	13.1	12.1	12.6	6.7	6.1	6.4	11.6	11.0	11.2
16	---	---	---	13.9	13.1	13.6	6.1	4.7	5.1	11.3	10.7	11.1
17	15.6	14.4	14.8	13.7	12.6	13.2	4.9	4.1	4.6	10.7	9.9	10.4
18	16.4	15.4	16.0	12.6	11.7	12.0	4.7	3.3	4.1	10.4	9.0	9.8
19	15.4	13.7	14.7	13.1	11.7	12.3	5.3	4.3	4.7	10.4	9.4	10.0
20	13.7	13.1	13.5	14.9	13.1	14.2	7.6	5.3	6.1	10.1	8.9	9.8
21	13.7	12.7	13.2	13.9	12.2	13.0	12.3	7.6	9.7	9.1	7.9	8.7
22	12.9	11.6	12.4	12.9	11.5	12.3	13.2	12.1	12.6	8.6	7.3	7.9
23	12.2	11.2	11.8	12.3	11.6	12.0	14.0	13.4	13.7	8.8	6.7	7.8
24	12.6	11.1	11.9	12.3	11.2	11.7	15.0	14.0	14.6	9.7	7.7	8.7
25	11.9	10.7	11.3	12.9	10.8	11.9	14.2	11.5	12.6	11.1	8.9	9.9
26	11.9	10.5	11.2	15.1	12.5	13.5	11.5	10.5	11.0	11.2	10.4	10.8
27	12.1	9.5	11.0	15.3	13.7	14.7	12.1	10.7	11.3	11.0	9.8	10.4
28	12.5	11.4	12.0	13.7	11.2	12.4	12.5	9.9	11.3	10.1	8.5	9.5
29	11.4	10.2	10.9	11.2	10.0	10.6	9.9	9.1	9.5	10.3	9.5	9.8
30	11.0	10.2	10.5	11.3	10.5	11.0	10.4	9.3	9.7	11.4	10.3	10.8
31	11.0	10.4	10.6	---	---	---	11.6	10.4	10.8	11.6	9.6	10.6
MONTH	21.1	9.5	14.2	15.3	10.0	12.6	15.0	3.3	8.3	13.9	6.7	10.4
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	12.5	10.5	11.5	11.1	9.5	10.3	13.2	11.3	12.5	22.7	20.7	21.7
2	14.1	12.1	13.0	11.3	9.3	10.4	14.6	11.9	13.2	20.7	19.1	19.7
3	14.1	11.4	12.9	12.8	10.1	11.4	16.2	14.0	15.0	18.9	17.2	18.2
4	11.4	9.7	10.5	13.6	12.3	12.9	16.2	14.2	15.0	18.3	16.6	17.2
5	9.5	8.5	9.1	14.0	13.0	13.4	14.2	12.8	13.5	17.7	16.8	17.1
6	8.6	7.3	7.9	---	---	---	13.4	12.3	13.1	17.2	15.6	16.6
7	7.4	6.5	7.0	---	---	---	12.8	11.9	12.3	16.8	15.0	15.8
8	7.4	6.6	6.9	10.7	9.5	10.0	12.8	11.9	12.5	16.8	14.2	15.6
9	6.9	5.3	6.4	11.7	9.5	10.7	12.3	11.3	11.9	16.8	15.8	16.2
10	6.9	5.1	5.9	12.3	9.9	11.2	12.4	11.3	11.8	17.5	16.0	16.6
11	8.0	5.3	6.6	13.0	11.5	12.3	12.3	10.0	11.3	17.5	16.0	16.7
12	8.7	6.2	7.5	14.0	12.9	13.3	12.2	10.8	11.6	17.5	14.6	16.1
13	11.2	7.9	9.2	15.6	13.2	14.5	13.7	11.8	12.6	17.2	15.2	16.3
14	13.7	11.0	12.5	16.9	14.6	15.8	13.5	12.3	13.1	17.0	16.2	16.6
15	14.4	13.4	13.9	17.1	15.3	16.2	13.3	12.3	12.9	18.9	16.6	17.5
16	14.2	11.9	13.2	16.3	13.7	15.0	15.1	12.2	13.5	19.3	17.2	18.2
17	11.9	9.3	10.8	16.5	12.8	14.8	17.4	13.7	15.5	20.1	18.1	19.0
18	10.5	8.7	9.5	16.1	13.7	14.9	19.4	15.3	17.3	20.7	19.3	19.9
19	11.1	10.5	10.8	14.7	12.4	13.6	19.0	16.7	17.8	21.3	19.9	20.5
20	11.9	11.1	11.5	14.7	12.9	13.7	18.6	15.5	17.2	21.3	16.6	18.2
21	12.3	11.1	11.7	14.5	11.2	12.6	19.0	15.7	17.3	19.3	17.2	18.1
22	11.9	9.9	10.9	11.8	10.2	11.1	19.2	16.5	17.8	19.1	18.0	18.7
23	9.7	8.1	8.9	12.2	11.2	11.6	20.4	18.0	19.2	20.8	18.8	19.6
24	8.5	7.2	7.9	12.8	11.4	12.1	21.6	19.2	20.3	21.6	18.4	20.0
25	9.5	7.0	8.3	14.9	12.0	13.5	22.3	20.2	21.2	22.9	19.8	21.3
26	11.1	9.3	10.2	16.0	13.6	14.9	23.1	21.0	22.0	22.7	22.0	22.3
27	11.3	9.1	9.8	16.6	15.6	16.0	23.7	22.0	22.8	22.3	19.4	20.3
28	10.1	8.7	9.3	16.4	16.2	16.4	23.9	22.5	23.2	19.6	18.0	18.9
29	---	---	---	19.5	17.2	18.3	23.7	22.7	23.2	20.0	18.6	19.3
30	---	---	---	18.9	17.6	18.2	23.5	22.2	22.9	22.1	19.6	20.8
31	---	---	---	17.6	12.6	15.1	---	---	---	23.5	20.4	21.9
MONTH	14.4	5.1	9.8	19.5	9.3	13.6	23.9	10.0	16.1	23.5	14.2	18.5

03427500 EAST FORK STONES RIVER NEAR LASCASSAS, TN--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	23.1	22.0	22.2	22.7	20.4	21.6	26.3	23.5	25.1	27.6	26.7	27.3
2	23.5	20.0	22.8	20.4	19.2	19.5	23.7	21.8	23.0	27.5	26.5	26.9
3	21.0	20.0	20.4	21.8	19.0	19.7	24.5	23.1	23.7	26.9	25.3	25.9
4	20.8	19.6	20.1	22.7	19.6	20.9	26.2	23.0	24.4	26.1	24.9	25.7
5	20.6	19.8	20.2	22.2	19.8	20.9	27.3	24.8	25.9	26.3	24.9	25.7
6	19.8	19.0	19.4	21.2	20.0	20.7	26.4	24.2	25.6	26.1	25.1	25.5
7	20.4	18.4	19.3	22.5	20.6	21.5	24.4	23.4	24.0	25.3	24.7	25.1
8	20.0	19.2	19.6	22.7	21.6	22.1	23.9	21.7	22.8	26.3	24.7	25.5
9	19.8	17.8	18.7	22.9	21.0	22.0	23.9	21.2	22.5	26.5	25.3	25.9
10	19.4	17.8	18.6	24.3	22.7	23.3	24.1	21.8	22.9	26.3	25.7	26.1
11	20.0	18.0	19.1	22.8	21.3	22.2	24.1	22.0	23.1	26.5	25.7	26.2
12	21.1	19.6	20.1	21.1	19.3	20.1	24.1	21.8	23.1	26.7	25.5	26.2
13	20.9	19.5	20.0	22.1	19.7	20.9	24.8	22.1	23.5	26.5	25.7	26.0
14	19.7	18.9	19.3	22.1	20.3	21.2	25.2	22.6	24.0	26.1	25.5	25.8
15	19.7	18.7	19.1	22.8	21.3	22.0	25.2	23.6	24.6	25.5	22.5	23.9
16	19.1	17.0	17.5	23.2	21.7	22.3	25.2	23.6	24.5	22.7	22.2	22.5
17	18.7	17.0	17.8	24.0	20.9	22.4	24.9	23.4	24.3	22.5	21.6	22.1
18	20.5	17.9	19.2	24.2	21.5	22.9	25.3	22.9	24.2	22.2	20.4	21.4
19	20.3	18.7	19.7	23.8	22.6	23.3	25.3	23.3	24.5	22.0	20.4	21.3
20	20.1	18.3	19.1	24.4	22.6	23.5	25.9	23.9	24.9	22.0	20.6	21.3
21	19.9	18.7	19.4	24.4	22.4	23.4	27.3	25.1	26.2	22.4	21.2	21.8
22	19.9	18.9	19.5	24.6	22.4	23.8	27.7	26.0	27.1	22.4	20.6	22.0
23	20.8	18.4	19.5	25.2	23.0	24.1	28.1	26.8	27.5	20.6	16.9	18.7
24	21.8	20.0	20.8	25.6	23.6	24.6	27.7	26.6	27.2	16.7	15.3	15.7
25	23.3	21.8	22.4	27.2	24.0	25.5	27.8	25.6	26.6	16.1	15.5	15.8
26	24.3	22.2	23.2	27.7	25.4	26.5	27.3	26.7	27.0	17.8	15.9	16.9
27	24.5	22.3	23.4	28.3	26.0	27.1	27.6	25.7	26.6	18.2	16.9	17.5
28	23.5	22.7	23.1	28.3	26.2	27.2	27.9	26.2	27.1	17.8	16.9	17.4
29	24.7	22.2	23.4	28.9	26.4	27.6	28.3	26.6	27.5	17.8	17.5	17.6
30	23.9	22.5	23.3	27.9	26.8	27.4	28.0	26.8	27.2	18.6	17.6	18.0
31	---	---	---	28.2	25.9	26.8	27.8	26.3	27.0	---	---	---
MONTH	24.7	17.0	20.3	28.9	19.0	23.1	28.3	21.2	25.1	27.6	15.3	22.6

03428200 WEST FORK STONES RIVER AT MURFREESBORO, TN

LOCATION.--Lat 35°54'10", long 86°25'48", Rutherford County, Hydrologic Unit 05130203, on left bank at Murfreesboro waste treatment plant outfall, 3,000 ft downstream from Sinking Creek, 4.5 mi northwest of the courthouse in Murfreesboro, and at mile 10.7.

DRAINAGE AREA.--177 mi^2, includes 17 mi^2 without surface drainage.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1972 to January 1982, January 1986 to current year.

GAGE.--Water-stage encoder. Datum of gage is 514.95 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow is affected by Murfreesboro sewage treatment plant outflow. An annual average of 11.6 ft^3/s, with a maximum of 15.5 ft^3/s is discharged to the West Fork Stones River 25 ft above the control. Prior to July 1987 an annual average of 7.7 ft^3/s was discharged. Natural flow of stream affected by transbasin diversion of water from East Fork Stones River basin into the West Fork Stones River basin. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--12 years (water years 1973-81, 1987-89) 323 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,000 ft^3/s, Mar. 13, 1975, gage height 23.80 ft; minimum, 2.9 ft^3/s, July 7, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	1200	4,640	11.56	Apr. 4	2200	4,030	10.50
Dec. 23	1300	3,950	10.35	June 2	2330	4,760	11.77
Jan. 1	0230	4,000	10.44	June 9	1000	6,760	14.56
Jan. 12	0530	5,470	12.81	June 15	2300	3,960	10.37
Jan. 12	2330	7,470	15.31	June 19	1300	4,300	10.98
Feb. 18	0600	3,910	10.29	July 1	1600	6,900	14.74
Feb. 21	1200	10,600	17.50	July 11	2400	6,840	14.66
Mar. 5	2100	*20,000	*21.27				

Minimum discharge, 11 ft^3/s, Oct. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	19	242	2140	142	844	516	120	113	3110	98	59
2	71	19	200	800	141	583	352	130	1030	1730	905	48
3	64	17	170	575	142	473	389	94	1570	1350	258	47
4	68	94	147	432	156	393	2170	84	444	1500	161	41
5	53	1090	125	343	228	8370	1670	102	295	727	120	36
6	43	653	113	544	46	[illegible]	755	129	243	578	100	31
7	35	302	103	471	82	1,2[illegible]	912	123	209	616	86	27
8	31	191	92	1430	247	89[illegible]	752	100	191	674	75	26
9	27	139	88	740	208	67[illegible]	666	101	3230	410	66	22
10	25	126	83	558	182	55[illegible]	495	180	729	304	59	34
11	23	157	78	888	163	47[illegible]	388	144	418	2110	53	34
12	22	133	73	5350	146	39[illegible]	320	109	373	2630	48	27
13	20	118	68	3680	138	33[illegible]	290	90	1050	797	44	26
14	19	107	65	1620	641	29[illegible]	231	81	748	618	40	41
15	18	94	61	2170	1180	247	254	76	1690	421	37	305
16	17	119	57	1080	805	210	228	69	1880	322	53	343
17	18	335	53	750	1140	190	193	63	797	270	37	164
18	17	240	49	599	2760	177	166	56	528	221	36	105
19	16	504	48	496	1200	154	144	52	2390	199	31	82
20	16	3330	46	405	1190	167	127	213	1310	189	28	72
21	15	953	116	328	6760	811	117	154	1000	164	27	62
22	15	548	318	277	1680	507	108	99	599	380	27	112
23	14	384	1930	248	939	417	100	90	453	220	24	1600
24	15	290	1930	222	694	611	91	80	341	175	56	478
25	14	236	1240	198	556	435	84	77	278	141	54	306
26	14	291	649	185	464	337	77	81	234	116	39	572
27	14	820	483	174	453	279	73	697	211	97	124	344
28	31	625	1150	150	710	237	70	300	194	87	69	223
29	32	413	865	137	---	209	64	187	172	80	54	208
30	22	306	579	145	---	224	60	143	232	77	47	1570
31	19	---	994	165	---	799	---	120	---	71	54	---
TOTAL	858	12653	12215	27300	23693	28706	11862	4144	22952	20384	2910	7045
MEAN	27.7	422	394	881	846	926	395	134	765	658	93.9	235
MAX	71	3330	1930	5350	6760	8370	2170	697	3230	3110	905	1600
MIN	14	17	46	137	138	154	60	52	113	71	24	22

CAL YR 1988 TOTAL 72991.5 MEAN 199 MAX 3450 MIN 7.7
WTR YR 1989 TOTAL 174722 MEAN 479 MAX 8370 MIN 14

03428200 WEST FORK STONES RIVER AT MURFREESBORO, TN--Continued

WATER-QUALITY RECORDS

LOCATION.--At bridge on Blanton Drive, 900 ft upstream from Sinking Creek, 0.7 mi upstream from discharge station.

PERIOD OF RECORD.--February 1986 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1986 to current year.
pH: February 1986 to current year.
WATER TEMPERATURE: February 1986 to current year.
DISSOLVED OXYGEN: February 1986 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the record were due to monitor malfunctions.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 484 microsiemens, Nov. 12, 1988; minimum 63 microsiemens, Dec. 25, 1987.
pH: Maximum, 9.0 units, Mar. 24, 1986; minimum, 6.3 units, July 29, 1989.
WATER TEMPERATURES: Maximum, 33.2°C, June 24, 1988; minimum, 1.1°C, Jan. 11, 1988.
DISSOLVED OXYGEN: Maximum, 18.2 mg/L, March 20, 1988; minimum, 2.5 mg/L, Aug. 5, 1987, Aug. 31, 1988.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 484 microsiemens, Nov. 12; minimum 102 microsiemens, Mar. 5.
pH: Maximum, 8.5 units, Mar. 9, 10, May 2, 10; minimum, 6.3 units, July 29.
WATER TEMPERATURES: Maximum, 29.9°C, Aug. 23; minimum, 2.8°C, Dec. 18.
DISSOLVED OXYGEN: Maximum, 16.6 mg/L, Mar. 16; minimum, 3.9 mg/L, Aug. 25, 26.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	368	334	356	442	436	439	425	411	418	314	205	247
2	409	350	374	436	424	429	433	425	428	356	297	331
3	417	405	411	430	424	427	437	429	433	375	358	367
4	415	407	411	432	305	402	439	429	436	386	376	380
5	421	414	418	375	260	314	442	421	433	391	384	388
6	421	414	418	352	260	305	440	426	433	388	372	383
7	423	415	420	385	354	369	446	431	437	370	360	363
8	429	420	425	415	387	400	448	435	442	361	214	286
9	425	416	421	436	416	424	446	433	441	333	237	288
10	425	421	423	451	437	442	454	439	446	369	335	354
11	423	420	421	455	446	451	452	438	446	374	303	359
12	421	417	419	484	427	458	453	439	447	286	154	191
13	422	418	419	474	420	436	453	439	447	256	156	214
14	423	418	419	465	406	438	455	438	447	302	260	290
15	423	417	420	482	443	455	457	438	448	295	241	262
16	421	413	418	481	432	455	460	443	451	328	282	309
17	423	420	421	459	445	453	464	444	454	345	329	338
18	425	423	424	454	445	449	466	447	456	354	345	350
19	427	418	423	450	359	401	469	450	459	359	355	356
20	424	418	421	382	153	235	470	453	462	365	359	362
21	422	417	420	344	229	291	467	373	409	---	---	---
22	427	421	424	395	348	373	422	399	412	---	---	---
23	433	427	431	412	395	404	370	215	294	---	---	---
24	434	431	432	425	412	418	302	242	269	---	---	---
25	434	432	433	432	425	427	336	273	296	---	---	---
26	436	433	434	434	352	414	387	339	367	---	---	---
27	438	434	436	404	324	372	406	388	397	---	---	---
28	435	401	414	347	306	319	408	289	370	377	363	372
29	423	413	418	391	350	373	333	273	295	379	369	375
30	418	410	412	412	392	401	371	336	355	379	362	373
31	440	419	429	---	---	---	374	325	365	381	360	373
MONTH	440	334	418	484	153	399	470	215	409	---	---	---

03428200 WEST FORK STONES RIVER AT MURFREESBORO, TN--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	381	367	376	338	312	317	294	254	269	339	333	337
2	384	371	379	346	313	327	337	297	318	337	327	333
3	385	365	377	363	347	354	351	336	342	345	337	342
4	387	379	384	368	361	366	340	191	276	344	339	342
5	391	386	387	365	102	217	299	192	244	343	331	339
6	392	388	390	250	124	182	332	303	321	347	331	342
7	395	381	385	300	254	280	334	323	330	356	345	351
8	395	377	385	323	301	313	324	311	317	359	351	356
9	391	371	384	335	324	329	343	325	335	368	358	364
10	394	382	390	339	334	336	351	344	346	374	366	370
11	398	383	392	342	336	339	355	346	351	376	372	374
12	400	379	392	347	342	344	357	347	352	377	368	372
13	414	390	399	349	340	346	354	334	347	377	369	374
14	417	339	385	352	338	347	354	345	350	378	373	375
15	330	279	297	354	339	348	356	345	351	379	367	374
16	355	316	336	354	327	344	354	320	342	372	364	368
17	361	327	354	359	330	347	350	311	334	366	358	363
18	320	219	251	375	351	359	346	308	330	365	359	362
19	335	272	308	375	331	355	340	315	329	364	358	361
20	355	319	345	363	337	350	343	315	330	358	229	312
21	288	127	173	340	306	319	345	319	333	318	304	311
22	281	218	256	310	297	302	349	326	337	321	318	319
23	333	273	312	345	312	328	350	332	340	326	320	322
24	345	331	338	351	346	348	348	334	340	332	325	329
25	352	345	347	351	342	347	346	337	341	330	324	327
26	357	352	354	356	345	351	342	339	340	331	305	326
27	384	356	368	363	348	356	343	341	342	288	226	251
28	362	344	354	362	330	349	342	341	342	284	233	268
29	---	---	---	356	332	346	343	339	341	291	279	282
30	---	---	---	353	333	340	342	338	341	304	292	298
31	---	---	---	335	275	317	---	---	---	315	305	312
MONTH	417	127	350	375	102	329	357	191	330	379	226	337
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	368	134	255	384	355	366	313	299	308
2	---	---	---	299	194	243	359	177	242	332	314	325
3	---	---	---	330	297	316	264	195	227	347	332	341
4	---	---	---	329	277	299	305	266	285	357	348	353
5	---	---	---	363	327	347	339	308	324	352	348	351
6	---	---	---	377	356	368	356	342	350	350	345	347
7	---	---	---	388	357	381	370	356	365	350	345	347
8	---	---	---	355	338	348	374	370	373	353	350	351
9	---	---	---	367	357	363	381	375	378	368	348	354
10	---	---	---	382	368	374	384	376	380	381	342	358
11	---	---	---	401	172	314	381	371	378	377	359	362
12	---	---	---	337	181	268	376	366	372	379	350	362
13	---	---	---	373	340	360	370	360	366	384	356	370
14	344	310	331	380	368	375	362	357	359	363	358	360
15	340	268	322	394	375	386	360	356	358	365	297	341
16	344	251	290	404	386	393	363	357	360	336	273	289
17	387	347	372	390	379	384	360	345	353	343	292	316
18	400	387	394	380	370	375	352	346	348	371	345	359
19	394	222	296	374	362	367	354	350	352	381	373	377
20	340	260	307	368	360	365	353	347	350	394	382	388
21	345	327	334	368	360	365	350	347	348	399	393	397
22	385	337	362	369	349	363	353	347	349	403	326	386
23	397	386	392	345	313	322	354	335	351	352	207	254
24	400	382	394	325	317	321	348	114	312	363	270	318
25	385	375	381	333	325	328	341	279	321	408	366	389
26	385	372	380	350	337	344	360	320	349	426	409	420
27	383	354	370	360	352	357	358	349	353	420	406	411
28	382	362	373	369	361	365	360	326	351	428	410	417
29	384	370	379	370	364	367	322	280	302	440	428	433
30	389	244	353	369	332	362	281	278	280	443	259	383
31	---	---	---	368	326	361	297	281	290	---	---	---
MONTH	---	---	---	404	134	346	384	114	338	443	207	359

03428200 WEST FORK STONES RIVER AT MURFREESBORO, TN--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.7	7.4	7.5	7.5	7.9	7.7	7.8	7.5	7.9	7.5	7.9	7.8
2	7.5	7.4	7.5	7.5	7.9	7.8	7.8	7.7	7.7	7.5	7.8	7.8
3	7.6	7.4	7.5	7.4	8.1	7.9	7.8	7.8	7.6	7.4	8.0	7.8
4	7.8	7.6	7.8	7.4	8.1	7.8	7.9	7.8	7.7	7.4	7.9	7.8
5	7.8	7.6	7.9	7.6	8.1	7.8	7.9	7.8	7.7	7.5	8.3	7.8
6	7.7	7.6	7.8	7.6	8.2	7.8	7.9	7.7	7.8	7.7	8.3	7.8
7	7.7	7.6	7.8	7.8	8.2	7.9	7.7	7.7	7.8	7.7	8.3	8.2
8	7.8	7.6	7.8	7.8	8.1	7.8	7.7	7.3	7.9	7.7	8.4	8.3
9	7.8	7.7	7.9	7.8	8.2	7.9	7.6	7.4	8.1	7.7	8.5	8.3
10	8.1	7.7	7.9	7.8	8.2	7.9	7.6	7.6	8.1	7.8	8.5	8.4
11	8.0	7.6	8.0	7.8	8.3	7.9	7.6	7.6	8.3	7.8	8.4	8.2
12	7.8	7.6	7.9	7.8	8.2	8.0	7.6	7.2	8.3	7.9	8.3	8.1
13	7.8	7.6	7.9	7.8	8.2	8.0	7.4	7.2	8.2	7.8	8.2	8.0
14	7.8	6.7	7.9	7.8	8.2	8.0	7.5	7.4	7.9	7.6	8.0	7.8
15	7.7	7.6	8.0	7.8	8.2	7.9	7.5	7.3	7.7	7.6	7.8	7.7
16	7.8	7.6	8.0	7.8	8.2	8.0	7.5	7.4	7.7	7.6	7.8	7.7
17	7.8	7.6	8.0	7.8	8.2	8.0	7.5	7.5	7.7	7.7	8.3	7.7
18	7.6	7.5	8.2	7.9	8.3	8.2	7.8	7.5	7.7	7.5	8.2	7.6
19	8.0	7.5	8.0	7.7	8.2	8.2	7.9	7.8	7.7	7.6	8.3	7.7
20	7.9	7.8	7.8	7.5	8.3	8.1	7.9	7.8	7.8	7.7	8.2	7.8
21	7.9	7.8	7.8	7.5	8.2	7.5	8.0	7.8	7.7	7.3	8.0	7.8
22	7.8	7.7	7.9	7.8	7.9	7.5	8.0	7.8	7.7	7.4	7.9	7.8
23	7.7	7.6	8.0	7.9	7.8	7.4	8.0	7.8	7.8	7.7	8.0	7.8
24	7.7	7.6	7.9	7.8	7.6	7.5	8.0	7.8	7.8	7.7	8.1	8.0
25	7.7	7.6	8.0	7.8	7.6	7.5	8.1	7.8	7.9	7.8	8.3	7.9
26	7.7	7.6	8.0	7.8	7.7	7.6	8.0	7.8	7.9	7.8	8.3	7.8
27	7.7	7.6	7.9	7.7	7.8	7.7	8.0	7.7	7.8	7.8	8.2	7.9
28	7.8	7.5	7.8	7.7	7.9	7.7	8.0	7.6	8.0	7.8	8.1	7.7
29	7.7	7.6	7.9	7.8	7.7	7.6	8.0	7.6	---	---	7.9	7.7
30	7.8	7.6	7.8	7.7	7.8	7.8	8.1	7.6	---	---	7.9	7.6
31	7.6	7.5	---	---	7.9	7.8	8.0	7.6	---	---	8.0	7.8
MONTH	8.1	6.7	8.2	7.4	8.3	7.4	8.1	7.2	8.3	7.3	8.5	7.6
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.0	7.8	8.4	7.9	---	---	7.9	7.4	7.3	6.7	7.8	7.7
2	8.4	8.0	8.5	8.3	---	---	7.6	7.4	7.7	7.3	7.9	7.8
3	8.3	8.1	8.3	8.2	---	---	7.8	7.6	7.4	7.2	8.1	7.9
4	8.1	7.6	8.3	8.1	---	---	7.7	7.6	7.5	7.3	8.0	7.9
5	7.9	7.7	8.2	8.1	---	---	7.8	7.7	7.4	7.2	7.9	7.8
6	8.0	7.9	8.3	8.1	---	---	8.0	7.8	7.4	7.1	7.9	7.7
7	8.0	7.9	8.2	8.1	---	---	7.9	7.9	7.3	7.2	7.9	7.6
8	8.0	8.0	8.1	7.9	---	---	7.8	7.6	7.5	7.2	7.7	7.5
9	8.2	8.0	8.0	7.9	---	---	7.6	7.4	7.4	7.2	7.7	7.5
10	8.2	8.0	8.5	7.9	---	---	7.4	7.3	7.4	7.2	7.9	7.7
11	8.3	8.1	8.3	8.1	---	---	7.8	7.2	7.5	7.0	7.8	7.6
12	8.3	8.1	8.1	8.0	---	---	7.5	7.3	7.5	7.1	7.8	7.6
13	8.3	8.0	8.0	7.8	---	---	7.8	7.6	7.4	7.2	7.8	7.7
14	8.2	8.0	7.9	7.7	7.8	7.7	7.9	7.8	7.5	7.2	7.9	7.8
15	8.2	8.0	7.8	7.7	7.8	7.6	8.0	7.9	7.5	7.3	8.1	7.8
16	8.1	7.9	8.1	7.7	7.7	7.6	7.9	7.8	7.7	7.4	8.1	7.9
17	8.0	7.7	8.0	7.3	7.7	7.7	7.9	7.8	7.7	7.4	8.0	7.9
18	7.8	7.6	7.3	7.2	7.7	7.6	8.0	7.8	8.0	7.6	7.9	7.8
19	7.8	7.6	7.4	7.3	7.6	7.2	8.0	7.8	8.0	7.6	8.0	7.8
20	7.8	7.7	8.0	7.2	7.5	7.3	8.1	7.8	8.0	7.7	7.9	7.8
21	7.7	7.6	8.0	7.2	7.5	7.4	7.9	7.8	7.8	7.7	7.9	7.7
22	7.8	7.5	7.2	6.8	7.5	7.4	8.3	7.8	8.1	7.8	8.0	7.6
23	7.9	7.7	6.8	6.6	7.5	7.3	8.1	7.9	8.3	7.9	8.1	7.7
24	7.9	7.7	6.9	6.6	7.4	7.3	7.9	7.8	8.1	7.7	8.0	7.8
25	8.0	7.7	7.6	6.9	7.5	7.3	7.8	7.7	7.7	7.5	8.1	8.0
26	8.0	7.7	7.8	7.3	7.7	7.3	7.9	7.8	7.7	7.5	8.2	8.1
27	7.9	7.6	8.3	7.8	7.5	7.2	7.8	7.0	8.1	7.7	8.2	8.1
28	7.9	7.5	8.0	7.7	7.3	7.1	7.1	6.4	7.9	7.7	8.3	8.3
29	7.9	7.5	7.8	7.4	7.5	7.3	6.4	6.3	7.7	7.6	8.3	8.2
30	8.0	7.6	7.7	7.3	7.8	7.2	6.7	6.4	7.8	7.6	8.4	7.8
31	---	---	7.7	7.5	---	---	6.7	6.5	7.8	7.6	---	---
MONTH	8.4	7.5	8.5	6.6	---	---	8.3	6.3	8.3	6.7	8.4	7.5

03428200 WEST FORK STONES RIVER AT MURFREESBORO, TN--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	22.4	20.9	21.8	13.3	10.8	12.0	10.8	9.4	10.2	10.8	10.3	10.6
2	21.8	20.4	21.0	13.3	10.9	12.0	10.1	8.6	9.3	10.8	10.7	10.8
3	21.3	20.0	20.7	13.8	11.1	12.5	10.2	7.9	9.0	11.5	10.6	11.0
4	19.7	17.9	19.0	14.6	13.2	13.9	10.1	8.5	9.2	10.6	9.6	10.1
5	18.6	16.4	17.5	14.4	13.8	14.1	9.6	7.4	8.5	9.5	8.8	9.1
6	17.1	15.0	16.2	13.7	12.3	13.1	9.1	7.0	8.2	10.7	9.1	10.0
7	16.8	15.1	16.1	13.3	11.5	12.4	9.6	8.0	8.9	13.3	10.5	11.7
8	16.3	14.6	15.6	14.7	12.4	13.5	9.3	8.7	9.1	13.7	11.8	13.1
9	15.9	14.6	15.4	15.1	12.2	13.6	8.6	7.6	8.1	11.6	9.7	10.5
10	17.0	15.1	16.0	16.1	14.6	15.2	7.4	6.3	7.0	9.8	9.4	9.6
11	17.2	15.5	16.2	15.1	13.3	14.1	6.9	5.4	6.3	10.5	9.2	9.7
12	16.1	13.9	15.1	14.2	12.5	13.4	5.2	4.1	4.8	11.9	10.5	11.2
13	14.9	12.8	13.7	14.8	13.0	13.9	6.4	4.9	5.6	11.7	9.3	10.2
14	14.8	11.9	13.3	14.7	12.1	13.5	7.2	5.1	6.2	10.1	9.4	9.7
15	16.2	13.2	14.5	14.8	13.1	13.9	7.4	6.5	7.1	10.1	9.7	9.9
16	15.5	14.0	14.8	15.5	14.6	15.2	6.4	4.4	5.1	10.3	9.6	9.9
17	17.8	15.1	16.4	14.6	12.9	13.9	4.5	3.3	4.1	10.0	9.1	9.6
18	17.8	16.8	17.3	13.5	11.8	12.7	4.1	2.8	3.7	10.3	9.0	9.7
19	17.3	13.3	15.9	13.9	12.5	13.3	5.4	3.2	4.3	10.8	9.3	10.0
20	15.0	14.3	14.8	15.8	13.9	15.2	8.5	5.3	6.6	10.5	9.3	10.0
21	15.0	13.8	14.5	14.9	13.0	14.0	9.5	8.6	9.2	9.5	8.1	8.8
22	15.3	12.8	13.8	13.2	12.1	12.6	11.0	9.3	10.1	9.4	7.5	8.3
23	13.6	12.4	13.0	13.1	11.6	12.3	12.9	11.8	12.5	9.3	7.5	8.3
24	14.6	12.0	13.1	13.1	11.3	12.1	14.4	12.9	13.8	10.4	8.7	9.5
25	13.3	11.6	12.4	13.7	11.5	12.5	13.9	11.3	12.6	11.9	9.5	10.7
26	14.2	11.7	12.7	15.1	12.7	13.9	11.2	10.3	10.7	11.9	11.1	11.5
27	13.6	10.1	11.9	15.1	14.0	14.7	11.9	10.4	11.2	11.7	9.9	10.8
28	13.4	12.8	13.1	13.8	11.4	12.6	12.2	9.8	11.5	11.1	8.8	9.9
29	12.7	11.1	11.8	11.4	10.4	10.9	9.6	8.6	9.0	11.0	9.5	10.3
30	11.5	11.0	11.4	11.7	10.2	10.8	9.6	9.0	9.2	12.3	10.7	11.3
31	11.4	10.9	11.2	---	---	---	10.6	9.6	10.2	12.8	10.2	11.4
MONTH	22.4	10.1	15.2	16.1	10.2	13.3	14.4	2.8	8.4	13.7	7.5	10.2
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	13.2	10.9	12.0	9.6	7.7	8.6	13.7	11.4	12.6	23.2	20.7	21.8
2	14.7	12.5	13.7	9.9	8.3	9.2	14.5	12.1	13.1	21.5	18.8	20.1
3	14.4	11.6	13.0	11.8	9.1	10.5	15.6	13.5	14.6	21.0	18.1	19.5
4	11.5	9.7	10.8	12.8	11.3	12.0	15.5	14.0	14.8	19.4	17.7	18.2
5	9.6	8.5	9.2	13.1	10.1	12.2	13.9	13.0	13.5	19.5	17.7	18.3
6	8.4	6.6	7.6	9.8	9.0	9.5	13.0	12.3	12.7	18.4	17.0	17.8
7	7.3	5.6	6.3	9.0	7.8	8.4	12.6	11.7	12.1	18.7	15.6	17.1
8	7.7	5.7	6.4	9.3	7.6	8.5	12.1	11.6	11.9	18.2	15.7	17.1
9	6.9	4.9	5.8	10.9	8.7	9.8	12.0	11.1	11.6	18.0	17.4	17.7
10	6.9	4.2	5.3	12.3	9.7	11.0	11.9	10.9	11.4	19.3	16.7	17.9
11	8.0	4.9	6.2	13.5	10.7	12.1	12.8	9.9	11.2	19.2	16.1	17.6
12	9.0	5.9	7.2	14.2	12.3	13.3	13.2	11.0	11.9	19.4	15.5	17.4
13	10.8	7.4	8.9	15.8	13.3	14.5	15.2	11.5	13.0	19.0	16.4	17.8
14	13.0	10.8	12.0	17.0	15.1	15.9	13.8	13.0	13.4	18.2	17.5	17.9
15	14.2	13.0	13.7	16.7	14.8	16.0	13.9	13.0	13.4	20.7	17.5	18.9
16	14.1	11.9	13.3	16.4	13.4	14.7	16.6	12.5	14.2	21.5	17.7	19.7
17	11.8	9.0	10.6	16.4	12.9	14.6	18.7	14.1	16.1	22.2	18.9	20.7
18	8.8	6.8	7.5	15.0	12.9	14.6	20.5	15.9	18.0	22.9	20.9	22.0
19	9.5	7.8	8.7	14.5	11.5	13.0	19.8	17.4	18.4	23.5	21.5	22.6
20	10.9	9.5	10.2	14.2	12.2	13.2	20.3	15.6	17.9	23.1	19.3	21.9
21	11.0	10.6	10.8	13.3	11.0	12.3	19.9	15.8	17.8	24.5	20.6	22.3
22	10.8	8.5	9.8	11.5	9.8	10.7	20.6	16.0	18.4	23.9	21.9	22.9
23	8.3	6.6	7.4	11.0	10.5	10.8	22.1	18.4	20.2	24.1	22.0	23.0
24	7.0	5.6	6.4	12.1	10.7	11.3	23.4	19.6	21.4	24.8	21.4	23.1
25	8.3	6.1	7.3	14.4	11.5	12.9	24.1	20.8	22.4	26.2	23.5	24.8
26	10.4	8.1	9.3	16.0	13.1	14.4	25.0	21.5	23.2	25.6	24.6	25.1
27	10.1	8.1	8.7	16.8	14.8	15.6	25.9	22.5	24.1	24.0	21.8	22.8
28	9.0	7.1	8.1	18.6	15.4	16.8	25.8	23.2	24.4	23.2	20.5	21.6
29	---	---	---	18.9	15.4	17.7	24.5	22.8	23.7	24.3	20.9	22.5
30	---	---	---	18.8	17.0	17.7	24.5	22.3	23.5	25.5	21.9	23.6
31	---	---	---	16.9	12.7	15.3	---	---	---	26.2	23.2	24.8
MONTH	14.7	4.2	9.1	18.9	7.6	12.8	25.9	9.9	16.5	26.2	15.5	20.6

03428200 WEST FORK STONES RIVER AT MURFREESBORO, TN--Continued

TEMPERATURE, WATER, (DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	22.7	21.2	21.9	27.7	26.3	26.9	28.2	26.5	27.3
2	---	---	---	21.7	21.0	21.3	26.3	24.1	25.3	27.5	25.9	26.6
3	---	---	---	21.7	20.9	21.2	27.4	24.9	26.0	26.8	24.7	25.8
4	---	---	---	22.8	21.8	22.2	28.5	25.0	26.6	26.3	24.4	25.5
5	---	---	---	22.5	21.6	22.1	29.3	25.7	27.4	26.9	24.4	25.6
6	---	---	---	22.8	21.5	22.0	28.1	26.4	27.0	26.2	24.7	25.5
7	---	---	---	22.4	21.8	22.1	26.5	24.8	25.8	26.1	24.5	25.3
8	---	---	---	23.7	21.9	22.8	25.0	22.6	23.9	26.8	24.4	25.5
9	---	---	---	24.9	22.8	23.7	25.0	22.1	23.6	27.3	24.8	26.0
10	---	---	---	25.8	23.6	24.5	25.0	22.5	23.9	26.7	25.5	26.1
11	---	---	---	24.4	22.0	23.2	25.1	22.8	24.1	26.7	25.4	26.0
12	---	---	---	22.6	21.6	22.2	25.2	22.7	24.1	27.0	25.0	25.9
13	---	---	---	23.0	22.0	22.5	25.6	23.0	24.4	26.4	24.9	25.6
14	20.9	20.3	20.6	23.8	22.0	22.9	26.0	23.4	24.8	26.0	24.9	25.4
15	20.5	19.3	19.9	24.1	22.0	23.0	26.3	24.3	25.4	25.2	22.4	23.6
16	19.4	18.2	18.8	23.6	22.5	23.1	26.2	24.7	25.5	22.2	20.4	21.2
17	19.4	17.5	18.4	24.7	22.0	23.1	25.5	24.2	24.8	22.0	19.9	20.8
18	20.8	18.9	19.8	25.1	22.3	23.5	25.9	23.7	24.7	22.3	19.0	20.6
19	20.5	19.6	20.2	24.8	23.2	23.9	26.1	24.0	25.1	22.2	19.3	20.9
20	20.4	19.8	20.2	25.0	22.8	23.8	27.0	24.3	25.6	22.4	20.3	21.3
21	20.8	19.5	20.2	25.6	22.7	24.0	28.5	25.7	26.9	22.9	20.9	21.9
22	21.0	20.0	20.5	24.5	23.3	23.9	29.1	26.5	27.7	22.7	21.3	22.2
23	22.3	20.0	21.1	24.9	23.0	23.8	29.9	27.3	28.4	21.2	17.9	19.7
24	23.7	21.3	22.3	26.3	23.5	24.7	28.2	25.5	27.2	17.7	16.0	16.6
25	24.8	22.2	23.3	27.6	24.2	25.7	27.7	24.8	26.3	16.3	15.8	16.1
26	25.4	22.9	24.0	28.6	24.8	26.6	27.4	26.0	26.8	17.7	16.2	16.8
27	25.1	23.6	24.3	28.6	26.0	27.4	28.4	25.6	26.8	18.7	16.7	17.6
28	24.1	23.3	23.6	28.8	26.2	27.6	28.3	26.1	27.2	18.2	17.4	17.8
29	25.6	22.5	23.9	29.1	26.6	27.9	28.2	26.6	27.5	18.1	17.5	17.8
30	24.5	22.5	23.4	28.2	27.1	27.6	27.6	26.6	27.1	18.8	17.7	18.1
31	---	---	---	28.7	26.1	27.3	28.2	26.0	27.0	---	---	---
MONTH	---	---	---	29.1	20.9	23.9	29.9	22.1	25.9	28.2	15.8	22.5

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	8.9	6.5	7.7	11.4	9.9	10.5	10.8	10.6	10.7
2	---	---	---	8.0	5.7	6.8	---	---	---	10.8	10.7	10.8
3	---	---	---	10.2	5.6	7.0	---	---	---	10.7	10.2	10.5
4	---	---	---	8.5	5.2	6.5	---	---	---	11.3	10.2	10.6
5	---	---	---	9.6	7.8	9.1	---	---	---	11.3	10.4	10.7
6	---	---	---	9.8	9.4	9.5	13.1	10.0	11.2	11.1	10.1	10.5
7	---	---	---	10.2	9.6	9.9	13.5	9.8	11.3	10.4	9.5	10.0
8	---	---	---	10.4	9.2	9.7	12.9	9.7	11.0	10.0	9.4	9.7
9	---	---	---	10.4	9.1	9.6	14.0	9.9	11.6	10.5	10.0	10.4
10	---	---	---	10.0	8.8	9.2	14.7	10.4	12.1	10.9	10.5	10.6
11	---	---	---	10.6	8.9	9.5	15.0	10.8	12.6	10.7	10.4	10.5
12	9.2	7.6	8.2	10.9	9.3	9.9	15.2	11.5	13.1	10.3	9.5	9.9
13	9.6	7.5	8.3	11.3	9.1	9.9	15.3	11.5	13.2	10.7	9.5	10.3
14	9.3	7.6	8.2	11.8	9.2	10.2	15.5	11.4	13.3	10.6	10.4	10.5
15	9.8	7.4	8.3	11.1	9.0	10.0	15.3	11.1	13.2	10.5	10.4	10.4
16	8.3	6.7	7.5	10.4	8.8	9.5	15.2	11.5	13.5	10.7	10.3	10.4
17	8.4	6.3	7.1	11.6	9.1	10.3	15.2	12.1	13.8	10.9	10.3	10.5
18	6.5	4.6	5.7	---	---	---	15.3	12.3	14.0	11.2	10.3	10.6
19	7.9	4.0	5.7	---	---	---	15.3	12.5	14.1	11.3	10.3	10.7
20	7.8	5.8	6.8	---	---	---	14.3	12.1	13.5	11.5	10.3	10.8
21	8.0	6.1	6.9	---	---	---	12.8	9.7	11.2	12.2	10.7	11.2
22	8.8	6.1	7.2	---	---	---	11.4	9.4	10.2	12.6	11.1	11.5
23	8.6	6.8	7.5	---	---	---	9.8	9.4	9.6	12.9	11.0	11.6
24	9.1	6.5	7.6	---	---	---	9.7	9.4	9.5	12.7	10.8	11.5
25	9.8	7.9	8.5	---	---	---	10.3	9.5	10.0	11.9	10.3	11.1
26	10.1	7.5	8.6	---	---	---	11.0	10.3	10.6	12.0	10.4	10.8
27	10.4	8.0	8.8	---	---	---	11.3	10.1	10.6	13.4	9.3	12.0
28	8.8	7.7	8.1	---	---	---	10.9	9.9	10.3	12.9	9.1	10.5
29	9.0	7.4	8.2	---	---	---	11.3	11.0	11.2	11.7	9.0	9.9
30	8.8	7.9	8.4	---	---	---	11.1	10.7	11.0	13.4	8.8	10.4
31	8.4	7.5	7.9	---	---	---	10.9	10.6	10.8	13.6	8.9	10.5
MONTH	---	---	---	---	---	---	15.5	9.4	11.7	13.6	8.8	10.6

03428200 WEST FORK STONES RIVER AT MURFREESBORO, TN--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	12.5	8.8	10.2	11.7	10.7	11.1	9.3	8.7	8.9	7.0	5.4	6.2
2	11.7	8.4	9.7	11.9	10.7	11.1	10.4	8.5	9.2	8.2	6.5	7.2
3	9.9	8.3	9.0	13.0	10.2	11.3	10.2	8.4	8.9	8.3	6.6	7.3
4	11.1	8.8	9.8	12.2	9.9	10.7	8.7	8.2	8.5	7.3	6.4	6.9
5	11.4	9.8	10.4	10.3	9.8	9.9	9.1	8.7	8.9	7.7	6.5	7.0
6	11.8	10.5	11.1	11.2	10.4	10.8	9.6	8.9	9.2	8.2	6.7	7.3
7	13.4	11.1	11.9	11.6	11.2	11.5	9.7	9.0	9.2	8.9	7.2	7.9
8	13.9	11.4	12.2	12.3	11.3	11.7	9.3	9.0	9.1	8.9	7.3	7.9
9	13.0	10.5	11.8	12.4	11.0	11.6	10.1	9.2	9.5	7.7	6.9	7.3
10	13.4	10.1	11.3	12.4	10.6	11.3	10.6	9.2	9.7	8.6	7.0	7.7
11	13.7	10.0	11.3	12.8	10.2	11.2	11.4	9.3	10.1	8.9	7.4	8.0
12	14.1	9.6	11.3	13.0	10.1	11.1	11.7	9.2	10.1	9.1	7.3	8.0
13	13.1	9.2	10.6	13.7	9.7	11.1	12.5	9.0	10.3	9.0	7.1	7.9
14	9.4	8.3	8.6	13.9	9.4	10.9	10.5	8.6	9.4	8.0	6.9	7.4
15	8.8	8.6	8.7	14.4	9.3	11.0	10.8	8.5	9.3	8.8	6.8	7.7
16	9.4	8.6	8.9	16.6	9.6	12.1	13.5	8.7	10.5	8.5	6.7	7.4
17	10.3	9.4	9.8	13.4	8.7	10.9	13.3	8.3	10.2	8.4	6.3	7.3
18	10.9	10.3	10.7	10.7	8.1	9.1	12.6	7.9	9.7	7.8	6.0	7.0
19	10.7	10.3	10.5	13.7	8.4	10.6	11.3	7.4	8.9	7.6	5.9	6.8
20	10.5	10.1	10.2	11.7	8.6	9.8	11.3	7.7	9.1	7.3	6.2	6.9
21	10.1	9.5	9.8	9.4	8.5	9.0	10.4	7.7	8.7	8.1	6.5	7.1
22	10.9	10.1	10.5	10.1	9.4	9.7	9.8	7.0	8.1	7.8	6.3	6.9
23	11.9	11.0	11.4	10.0	9.4	9.6	9.4	6.6	7.7	8.4	6.2	7.1
24	12.2	11.1	11.7	10.5	9.4	9.8	9.0	6.2	7.3	8.5	6.3	7.3
25	12.1	10.7	11.4	11.3	9.0	9.9	8.9	6.0	7.1	8.6	6.1	7.2
26	11.8	10.2	10.8	12.0	8.8	10.0	8.7	5.8	7.0	7.4	5.9	6.6
27	11.1	10.1	10.5	11.9	8.6	9.8	8.6	5.6	6.8	7.5	6.9	7.2
28	12.2	10.6	11.3	12.7	8.4	10.0	8.2	5.4	6.5	8.5	7.4	7.8
29	---	---	---	11.9	8.0	9.3	7.9	5.2	6.4	8.6	7.3	7.7
30	---	---	---	11.5	7.9	9.2	7.6	5.3	6.4	8.8	7.1	7.7
31	---	---	---	8.6	8.0	8.4	---	---	---	8.9	6.8	7.7
MONTH	14.1	8.3	10.5	16.6	7.9	10.4	13.5	5.2	8.7	9.1	5.4	7.3
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	7.2	5.7	6.5	6.4	4.7	5.5	7.1	4.9	5.8
2	---	---	---	7.3	7.0	7.2	6.4	5.3	6.1	7.1	4.8	5.8
3	---	---	---	7.5	7.2	7.3	6.3	5.6	6.0	8.0	5.3	6.5
4	---	---	---	7.3	7.1	7.2	6.7	5.5	5.9	8.2	5.2	6.6
5	---	---	---	7.6	7.1	7.3	6.9	5.3	5.9	8.7	5.5	6.9
6	---	---	---	7.7	6.7	7.3	6.5	5.1	5.7	8.7	5.6	7.0
7	---	---	---	7.5	6.7	7.0	7.3	5.3	6.1	8.2	5.8	7.0
8	---	---	---	7.5	6.4	6.9	7.9	5.8	6.6	8.3	5.8	6.9
9	---	---	---	7.7	6.0	6.8	8.3	5.9	6.9	7.8	5.7	6.5
10	---	---	---	8.1	5.8	6.6	8.4	5.8	7.0	6.4	5.1	5.8
11	---	---	---	6.4	5.7	6.0	8.4	5.9	7.0	6.9	4.7	5.7
12	---	---	---	6.7	5.7	6.3	8.4	5.8	7.1	7.0	5.1	5.9
13	---	---	---	6.9	6.1	6.5	8.9	5.8	7.2	6.5	5.0	5.6
14	7.1	6.7	6.9	7.1	5.9	6.4	8.7	5.7	7.0	6.4	5.0	5.6
15	7.3	6.8	7.0	7.8	5.8	6.6	7.7	5.5	6.6	6.9	5.1	6.1
16	7.5	7.1	7.3	7.7	5.7	6.3	7.9	5.7	6.6	7.3	6.9	7.1
17	8.2	7.3	7.7	8.5	5.7	6.8	7.1	5.1	6.1	7.7	6.9	7.2
18	8.4	7.0	7.6	9.0	5.4	6.7	8.3	5.4	6.7	8.2	6.9	7.3
19	7.2	6.9	7.0	8.2	5.1	6.2	8.4	5.8	7.0	8.4	6.7	7.3
20	7.4	7.1	7.2	8.6	4.9	6.3	8.7	5.9	7.1	8.5	6.5	7.4
21	7.5	7.1	7.3	8.8	4.9	6.4	8.5	5.7	6.9	8.2	6.3	7.2
22	8.0	7.1	7.4	7.0	4.7	5.7	7.6	5.1	6.2	6.9	5.9	6.4
23	8.5	6.9	7.6	6.2	4.9	5.5	7.7	5.1	6.1	7.6	6.5	7.3
24	8.9	6.8	7.5	6.7	4.5	5.3	6.7	4.4	5.2	8.2	7.7	8.0
25	9.5	6.6	7.7	7.0	4.4	5.3	7.1	3.9	5.1	8.3	7.8	8.1
26	10.0	6.3	7.6	7.5	4.3	5.5	5.4	3.9	4.5	8.5	7.8	8.1
27	9.2	6.1	7.2	7.8	4.0	5.7	7.5	4.0	5.9	8.7	7.6	8.0
28	8.5	6.0	7.0	7.6	5.1	6.1	8.1	5.2	6.3	8.3	7.5	7.8
29	10.2	6.2	7.7	7.9	5.0	6.2	7.2	4.7	5.8	8.0	7.4	7.6
30	9.2	6.1	7.1	7.0	4.9	5.8	5.7	4.5	5.1	7.7	7.2	7.5
31	---	---	---	7.9	4.8	5.9	7.0	4.2	5.5	---	---	---
MONTH	---	---	---	9.0	4.0	6.4	8.9	3.9	6.2	8.7	4.7	6.9

03428500 WEST FORK STONES RIVER NEAR SMYRNA, TN

LOCATION.--Lat 35°56'25", long 86°27'54", Rutherford County, Hydrologic Unit 05130203, near left bank at county bridge on Sulphur Springs Road, 400 ft upstream from Nice's Mill dam, 1.6 mi downstream from Overall Creek, 4.2 mi southeast of Smyrna, and at mile 6.4.

DRAINAGE AREA.--237 mi^2, includes 43 mi^2 without surface drainage.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage encoder. Datum of gage is 500.00 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 21, 1986, at site on right bank, 40 ft downstream at same datum.

REMARKS.--No estimated daily discharges, records fair. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--24 years, 433 ft^3/s, 24.81 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 63,800 ft^3/s, Mar. 13, 1975, gage height, 19.18 ft from rating curve extended above 14,000 ft^3/s on basis of area-velocity study at gage height 17.11 ft and flood routing from Murfreesboro gage and Overall Creek at gage heights 16.65 ft and 17.39 ft; no flow Aug. 9, 10, Sept. 12, 13, 1983, result of upstream regulation and diversion; minimum natural discharge, 2.2 ft^3/s, Nov. 6-8, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 13	0030	10,100	10.66	Mar. 5	2330	*34,300	*17.25
Feb. 21	1300	12,300	12.42				

Minimum discharge, 26.0 ft^3/s, Aug, 23, 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	40	466	3020	278	1230	799	177	210	4450	121	123
2	315	41	393	1430	260	875	575	223	1140	3030	1020	86
3	273	38	341	1010	276	723	586	162	2180	2130	406	80
4	217	95	296	763	345	617	2940	140	705	2440	286	63
5	162	1970	258	620	382	11400	2580	161	500	1420	220	51
6	117	1030	230	858	509	11800	1270	214	414	1140	181	44
7	85	496	211	785	442	2480	1440	211	360	1060	147	38
8	70	330	189	1950	395	1700	1220	171	327	1160	119	36
9	59	250	177	1230	350	1270	1100	159	3530	754	94	32
10	52	217	163	893	314	1020	804	248	1040	601	80	36
11	48	261	148	1270	291	847	647	231	595	2740	69	48
12	48	230	133	7340	271	723	550	177	508	4030	61	36
13	44	203	120	5280	257	633	478	144	1640	1370	52	32
14	41	193	109	2460	1070	568	423	126	1390	994	47	47
15	39	172	98	3050	2020	503	429	111	2630	682	44	352
16	35	199	86	1780	1380	443	404	94	2800	549	63	570
17	37	528	77	1250	1780	410	357	82	1410	472	45	348
18	38	380	70	959	3820	387	323	71	943	401	41	248
19	35	936	66	770	1960	347	295	66	2900	357	38	180
20	34	5540	62	639	1660	338	275	288	2070	332	33	136
21	33	2000	225	545	8820	1320	256	301	1570	291	31	107
22	32	1170	559	479	2630	821	238	199	993	456	31	131
23	30	816	2830	433	1610	635	223	165	746	337	27	1830
24	31	621	3230	393	1140	872	204	139	596	278	100	631
25	30	508	2300	356	902	652	187	124	495	243	113	422
26	35	539	1260	334	754	540	172	103	421	205	66	669
27	35	1700	891	316	691	467	159	1190	373	172	188	470
28	57	1110	1780	288	936	457	145	595	399	146	118	336
29	69	750	1570	272	---	376	128	378	352	128	80	291
30	48	571	1030	273	---	408	113	295	414	111	68	1710
31	42	---	1480	299	---	1190	---	245	---	98	79	---
TOTAL	2280	22934	20848	41345	35543	46052	19320	6990	33651	32577	4068	9183
MEAN	73.5	764	673	1334	1269	1486	644	225	1122	1051	131	306
MAX	315	5540	3230	7340	8820	11800	2940	1190	3530	4450	1020	1830
MIN	30	38	62	272	257	338	113	66	210	98	27	32
CFSM	.31	3.23	2.84	5.63	5.36	6.27	2.72	.95	4.73	4.43	.55	1.29
IN.	.36	3.60	3.27	6.49	5.58	7.23	3.03	1.10	5.28	5.11	.64	1.44

CAL YR 1988 TOTAL 105615.7 MEAN 289 MAX 5540 MIN 7.0 CFSM 1.22 IN. 16.58
WTR YR 1989 TOTAL 274791 MEAN 753 MAX 11800 MIN 27 CFSM 3.18 IN. 43.13

03428500 WEST FORK STONES RIVER NEAR SMYRNA, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1975 to current year.
WATER TEMPERATURE: March 1974 to current year.

INSTRUMENTATION.--Water-temperature recorder March 1974 to September 1975, water-quality monitor October 1975 to current year.

REMARKS.--Records good. Interruptions in the record were due to monitor malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 631 microsiemens, Nov. 18, 1980; minimum, 83 microsiemens, May 19, 1983.
WATER TEMPERATURES: Maximum, 31.6°C, June 25, 1988; minimum, 0.5°C, Jan. 21, 1985.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 564 microsiemens, Oct. 29; minimum, 117 microsiemens, Mar. 5.
WATER TEMPERATURES: Maximum, 28.8°C, Aug. 5; minimum, 5.2°C, Feb. 10.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	445	434	441	504	500	501	423	400	406	335	234	272
2	454	434	445	516	504	508	416	408	412	358	306	333
3	462	450	455	527	516	524	420	412	416	379	358	368
4	463	454	460	527	461	515	424	420	422	387	379	383
5	471	463	465	453	367	387	428	424	426	392	384	391
6	480	471	475	397	370	380	432	428	429	389	384	388
7	484	480	481	428	401	414	436	432	434	389	379	385
8	488	484	487	448	428	438	444	436	439	380	274	331
9	496	488	492	459	448	452	442	438	439	349	278	315
10	496	493	493	467	459	463	441	436	438	386	349	369
11	497	493	495	467	463	465	443	438	440	390	316	375
12	501	494	496	463	459	460	438	433	436	308	162	209
13	506	497	502	467	463	465	436	431	434	268	162	221
14	510	506	508	470	466	466	435	431	434	307	272	297
15	515	510	513	473	470	470	437	428	434	303	267	282
16	515	515	515	481	466	473	436	426	432	337	294	317
17	520	511	515	463	451	456	438	429	433	352	337	346
18	527	520	521	459	455	456	436	423	430	364	356	358
19	527	516	521	459	310	387	427	421	425	368	364	365
20	530	520	525	354	228	247	425	420	423	371	367	367
21	530	526	529	342	260	304	423	391	405	371	371	370
22	530	526	528	373	342	358	405	383	398	374	370	372
23	534	523	528	390	374	382	377	213	279	373	370	373
24	533	523	528	410	390	396	272	198	242	381	373	377
25	533	525	532	414	402	405	310	254	273	380	380	380
26	525	522	525	419	379	409	358	314	335	388	380	384
27	537	525	533	372	328	356	374	358	366	391	383	386
28	537	514	527	364	348	354	378	309	348	391	383	386
29	564	532	551	388	365	379	325	285	301	390	386	387
30	528	485	497	400	388	397	362	325	347	390	386	387
31	501	489	496	---	---	---	367	343	362	394	386	388
MONTH	564	434	503	527	228	422	444	198	395	394	162	350

03428500 WEST FORK STONES RIVER NEAR SMYRNA, TN--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	394	386	391	352	336	342	328	313	319	390	370	384
2	398	394	396	354	341	344	367	327	347	370	365	366
3	398	386	393	366	354	361	378	367	372	377	369	372
4	401	389	393	371	351	368	378	256	327	381	373	378
5	405	397	401	355	117	231	326	256	284	384	372	381
6	401	397	400	255	125	186	361	326	347	384	368	372
7	401	397	400	299	255	279	365	357	362	379	367	372
8	405	397	402	316	299	306	365	356	360	383	375	380
9	405	397	402	324	316	319	371	356	365	391	379	386
10	413	405	408	334	327	330	379	371	376	398	386	390
11	413	409	410	337	333	337	386	378	381	390	386	388
12	413	408	410	341	337	340	386	382	383	397	389	392
13	412	404	408	344	340	343	386	377	381	401	393	397
14	416	302	364	347	342	345	385	377	381	400	396	398
15	333	310	319	350	345	348	385	380	383	400	395	397
16	361	333	346	353	340	347	384	372	378	403	394	398
17	365	361	363	348	340	345	380	368	375	413	402	411
18	357	263	287	347	339	345	379	367	373	416	412	413
19	341	298	322	354	346	348	375	367	371	419	412	416
20	357	320	350	349	341	345	375	366	370	419	331	379
21	313	164	212	341	302	320	374	366	370	355	335	348
22	309	238	280	319	312	314	378	369	373	377	350	362
23	332	309	321	342	319	331	377	369	374	388	381	385
24	344	332	338	354	342	347	381	373	375	399	392	395
25	353	344	347	357	349	352	384	373	380	407	399	404
26	354	353	354	357	352	355	388	380	385	406	397	404
27	371	354	359	363	356	359	391	384	387	369	287	320
28	367	355	359	366	358	363	395	387	390	349	306	325
29	---	---	---	365	354	359	395	391	391	360	348	355
30	---	---	---	361	340	354	390	386	389	374	359	368
31	---	---	---	352	332	341	---	---	---	389	374	381
MONTH	416	164	362	371	117	332	395	256	368	419	287	381
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	396	389	392	335	210	268	376	371	374	383	364	372
2	396	261	362	319	230	277	376	299	331	380	371	377
3	277	214	243	341	319	333	321	299	308	393	380	386
4	339	284	307	348	326	335	359	326	341	393	389	392
5	377	339	358	360	340	352	385	359	372	402	393	400
6	396	377	383	375	348	364	394	385	389	410	402	407
7	400	368	393	383	375	379	399	392	395	419	410	414
8	403	390	397	379	356	366	402	396	399	426	419	421
9	398	178	270	375	368	371	409	402	406	435	426	430
10	357	271	320	383	375	379	415	409	412	440	435	437
11	384	357	373	387	383	386	421	415	417	452	432	443
12	391	375	387	---	---	---	423	417	420	428	413	418
13	344	300	319	368	360	362	420	413	417	433	414	421
14	365	334	348	375	368	372	414	410	412	446	433	438
15	342	321	333	386	371	379	412	409	410	442	274	373
16	348	282	309	390	386	387	416	407	412	357	313	329
17	383	348	368	390	385	389	418	410	413	357	325	341
18	390	378	385	389	385	389	429	418	424	389	358	374
19	378	255	320	389	384	386	425	421	423	406	389	398
20	352	279	318	392	384	388	425	421	423	418	410	413
21	364	348	359	392	388	390	428	421	425	427	418	423
22	387	363	373	395	379	387	431	424	428	430	395	424
23	393	386	391	383	340	361	435	427	433	395	302	325
24	396	392	395	340	335	338	435	344	419	384	329	356
25	400	396	399	347	343	345	348	317	328	425	388	408
26	403	398	401	367	351	357	391	352	373	437	425	430
27	402	393	400	381	367	373	423	382	400	437	433	437
28	397	389	393	386	382	385	402	382	389	442	433	438
29	400	396	397	383	379	380	406	401	403	450	440	443
30	396	289	374	382	378	381	401	370	386	444	342	410
31	---	---	---	379	373	375	383	370	374	---	---	---
MONTH	403	178	359	395	210	364	435	299	395	452	274	403

03428500 WEST FORK STONES RIVER NEAR SMYRNA, TN--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	22.2	21.3	21.7	15.2	13.3	14.1	11.9	11.2	11.5	10.8	10.0	10.3
2	21.3	18.9	20.0	15.1	13.8	14.3	10.9	9.8	10.4	11.0	10.8	10.9
3	18.9	18.1	18.7	15.0	13.6	14.4	10.6	9.3	9.9	11.6	11.0	11.3
4	18.6	17.4	18.0	15.7	15.0	15.3	10.2	9.3	9.9	10.8	10.0	10.4
5	18.0	16.3	16.9	15.9	14.5	15.1	9.2	8.3	8.7	10.0	9.4	9.7
6	16.7	15.3	16.0	14.5	13.5	14.1	9.1	7.8	8.3	11.2	9.8	10.6
7	16.9	15.5	16.1	14.5	12.7	13.6	11.7	8.1	9.7	13.3	10.8	11.9
8	16.5	15.1	15.8	15.7	14.5	15.0	11.2	10.8	10.7	13.5	11.6	12.8
9	16.3	14.9	15.6	15.8	14.1	14.9	10.6	9.4	10.0	11.6	10.2	10.7
10	17.1	15.2	16.1	17.1	15.9	16.6	9.4	8.4	8.9	10.6	10.0	10.3
11	16.9	15.6	16.2	15.9	14.4	15.1	9.0	8.2	8.6	10.6	9.8	10.2
12	16.6	14.8	15.7	14.8	13.9	14.4	8.0	7.1	7.5	11.4	10.4	10.8
13	15.4	13.8	14.7	15.7	14.8	15.2	8.8	7.3	8.0	11.2	9.6	10.2
14	15.2	13.4	14.2	15.6	14.0	14.8	10.0	7.8	8.9	10.4	9.6	10.0
15	16.1	13.8	14.8	15.6	14.5	15.0	9.9	9.3	9.6	10.2	9.8	10.0
16	14.7	14.3	14.5	16.2	15.6	15.9	9.1	7.5	8.1	10.9	10.0	10.4
17	17.8	14.9	16.3	15.4	13.7	14.3	7.5	6.6	6.9	10.9	9.7	10.3
18	17.2	16.8	17.1	13.9	12.4	13.2	7.0	6.2	6.5	11.1	9.9	10.5
19	17.5	15.7	16.6	15.1	13.9	14.3	8.1	6.6	7.2	11.3	10.1	10.8
20	15.7	14.8	15.4	16.1	14.9	15.8	10.7	8.1	9.0	10.9	10.1	10.7
21	15.4	14.8	15.1	15.3	14.0	14.7	12.3	10.7	11.4	10.1	9.1	9.6
22	16.1	14.3	15.0	14.2	13.2	13.8	12.8	11.5	12.1	9.9	8.5	9.3
23	14.4	13.9	14.2	14.2	13.0	13.6	13.2	12.8	13.1	10.3	8.5	9.5
24	15.2	13.6	14.3	14.0	12.6	13.4	14.4	13.2	13.9	11.3	9.9	10.6
25	14.5	13.5	13.9	14.9	13.3	14.1	13.6	11.9	12.7	12.4	10.7	11.5
26	15.2	13.3	14.1	15.9	14.5	15.1	11.9	10.9	11.4	12.6	12.2	12.3
27	14.7	12.9	13.8	15.9	14.5	15.2	12.6	11.3	12.0	12.0	10.8	11.3
28	14.5	13.9	14.3	14.3	12.7	13.5	12.6	10.1	11.6	11.2	9.8	10.5
29	14.4	13.5	13.9	12.8	11.9	12.4	9.9	9.1	9.5	11.6	10.8	11.1
30	13.6	12.8	13.3	13.0	12.1	12.6	10.5	9.7	10.0	12.2	11.4	11.8
31	13.3	12.8	13.1	---	---	---	10.9	10.1	10.5	12.2	10.6	11.3
MONTH	22.2	12.8	15.7	17.1	11.9	14.5	14.4	6.2	9.9	13.5	8.5	10.7
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	12.7	11.4	12.0	11.0	9.2	10.1	14.3	12.2	13.3	22.0	20.2	20.9
2	14.1	12.7	13.3	11.8	10.0	10.9	14.7	12.5	13.7	20.4	19.0	19.7
3	13.9	11.0	12.6	13.1	10.6	11.9	16.1	13.9	15.1	20.2	18.2	19.2
4	10.9	9.7	10.3	13.4	12.6	13.1	15.9	14.6	15.2	19.4	17.6	18.1
5	9.7	8.7	9.3	13.8	10.5	12.3	14.4	13.6	14.0	18.7	17.6	17.9
6	8.7	7.2	7.8	10.1	9.3	9.8	13.6	12.6	13.1	18.3	17.8	18.0
7	7.4	6.4	7.0	9.9	9.2	9.6	13.2	12.3	12.8	17.9	16.2	17.1
8	7.7	6.2	7.0	11.0	9.0	10.0	12.8	12.3	12.5	18.1	16.0	17.2
9	7.0	5.6	6.3	12.0	10.0	10.9	12.6	11.7	12.2	18.1	17.4	17.7
10	7.2	5.2	6.2	12.7	10.6	11.7	12.5	11.5	11.9	18.9	17.4	18.1
11	8.3	6.4	7.3	13.9	11.6	12.7	13.3	10.3	11.8	18.8	17.4	18.1
12	8.7	7.4	8.0	14.3	12.7	13.6	13.5	11.2	12.3	19.0	16.9	17.9
13	11.2	8.6	9.6	15.5	13.3	14.4	15.1	11.6	13.2	19.4	16.9	18.2
14	12.7	11.2	12.1	16.3	14.7	15.5	14.5	12.9	13.6	18.8	17.9	18.3
15	13.7	12.2	13.0	15.8	14.4	15.3	14.1	13.1	13.6	20.0	18.0	18.8
16	13.1	11.6	12.5	15.2	13.0	14.1	15.9	12.6	14.2	20.8	17.8	19.3
17	11.6	9.4	10.8	16.0	12.6	14.4	17.8	14.3	15.9	21.2	18.6	19.9
18	9.2	7.6	8.3	15.6	13.2	14.7	19.0	16.3	17.6	21.3	19.6	20.5
19	10.5	8.7	9.8	14.2	11.9	13.1	18.6	17.4	18.0	21.7	20.1	21.0
20	11.8	10.7	11.2	14.4	13.2	13.7	18.3	16.0	17.2	21.5	20.3	21.0
21	11.5	11.0	11.2	14.2	11.5	12.8	18.9	16.6	17.7	22.5	20.1	21.1
22	11.3	9.9	10.7	12.4	10.5	11.6	19.9	17.2	18.4	22.1	20.7	21.4
23	9.7	8.6	9.2	11.9	11.5	11.7	21.1	18.5	19.8	22.7	20.5	21.5
24	9.6	7.9	8.9	13.0	11.7	12.3	22.3	19.5	20.8	22.8	20.1	21.5
25	10.8	8.6	9.8	15.2	12.4	13.7	22.8	20.3	21.5	24.7	21.8	23.2
26	12.3	10.5	11.4	16.3	13.5	15.0	23.3	20.7	22.0	24.3	23.1	23.7
27	11.7	9.7	10.4	16.9	14.7	15.9	24.1	21.4	22.9	22.9	19.8	21.5
28	10.7	9.1	9.9	18.2	15.3	16.9	23.9	22.0	23.1	21.2	19.2	20.3
29	---	---	---	18.8	17.1	18.0	23.3	21.8	22.5	22.4	19.8	21.0
30	---	---	---	18.4	17.1	17.8	22.4	21.2	21.9	23.1	21.0	22.1
31	---	---	---	17.4	13.5	15.5	---	---	---	24.4	21.8	23.0
MONTH	14.1	5.2	9.9	18.8	9.0	13.3	24.1	10.3	16.4	24.7	16.0	19.9

03428500 WEST FORK STONES RIVER NEAR SMYRNA, TN--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	24.6	22.5	23.5	22.9	21.1	22.1	26.4	25.4	25.9	27.6	25.8	26.7
2	23.8	21.5	23.1	22.1	20.8	21.4	27.0	25.6	26.3	27.1	25.3	26.1
3	21.5	21.3	21.4	22.0	20.6	21.1	27.3	25.7	26.5	26.7	24.3	25.5
4	21.5	20.7	21.1	22.4	21.6	21.9	28.0	26.1	27.0	26.5	24.1	25.3
5	20.9	20.5	20.7	21.6	20.8	21.2	28.8	26.9	27.7	27.1	24.1	25.5
6	20.5	19.7	20.1	21.2	20.4	20.8	27.7	26.7	27.2	25.8	24.0	25.0
7	21.0	19.0	20.0	21.8	20.4	21.0	26.5	25.1	25.8	26.0	24.0	25.0
8	20.6	19.8	20.0	22.5	21.0	21.7	24.9	22.9	23.9	26.6	23.8	25.2
9	20.8	19.8	20.4	23.1	21.4	22.2	24.5	22.2	23.4	27.2	24.0	25.5
10	21.2	19.6	20.4	23.7	22.0	22.8	25.3	22.8	23.8	25.9	24.5	25.3
11	21.4	19.8	20.7	23.1	22.2	22.3	25.7	22.9	24.2	26.5	24.9	25.6
12	22.0	20.6	21.2	---	---	---	25.4	22.9	24.2	27.3	24.7	25.9
13	21.5	20.7	21.1	22.8	22.0	22.3	25.8	23.0	24.4	26.5	24.5	25.4
14	20.9	20.1	20.4	23.3	22.0	22.6	26.4	23.2	24.7	25.4	24.1	24.9
15	19.9	19.5	19.7	23.0	21.7	22.4	26.6	23.8	25.2	24.8	21.7	23.5
16	19.9	18.5	19.2	23.0	22.1	22.5	26.2	23.8	25.1	22.8	21.1	21.9
17	19.7	17.8	18.7	23.6	21.5	22.5	25.4	24.0	24.6	21.5	20.1	20.8
18	20.5	18.7	19.7	23.7	21.8	22.9	25.4	22.8	24.0	21.7	19.9	20.8
19	21.2	20.1	20.6	23.7	22.7	23.2	25.2	22.6	23.8	22.0	19.6	20.7
20	20.6	20.2	20.4	23.9	22.6	23.2	25.7	22.6	24.1	22.1	19.8	21.0
21	21.0	19.8	20.4	24.2	22.5	23.3	26.3	23.5	24.8	22.5	20.8	21.7
22	21.0	20.0	20.5	25.4	23.0	24.1	27.3	23.9	25.3	22.3	21.8	22.0
23	22.0	20.0	21.0	24.6	23.2	24.0	27.5	24.5	25.8	21.8	17.9	19.9
24	23.0	21.0	22.0	25.3	23.3	24.3	26.3	24.7	25.4	17.7	16.4	16.7
25	23.9	21.8	22.9	26.3	24.1	25.1	26.1	24.1	25.0	16.8	16.2	16.4
26	24.4	22.7	23.6	27.1	24.9	25.8	25.3	23.6	24.3	17.7	16.4	17.0
27	24.2	23.3	23.7	27.4	25.0	26.0	25.8	23.2	24.5	18.0	16.5	17.3
28	23.4	21.7	22.5	27.2	25.0	26.1	26.2	24.6	25.3	17.8	17.0	17.6
29	23.8	21.7	22.7	27.2	25.4	26.3	27.8	24.6	26.3	18.0	17.6	17.8
30	23.6	22.5	23.1	27.0	25.6	26.2	27.2	26.2	26.7	18.4	18.0	18.1
31	---	---	---	27.2	25.0	26.0	28.1	25.6	26.6	---	---	---
MONTH	24.6	17.8	21.2	27.4	20.4	23.2	28.8	22.2	25.2	27.6	16.2	22.3

03431000 MILL CREEK NEAR ANTIOCH, TN

LOCATION.--Lat 36°04'54", long 86°40'50", Davidson County, Hydrologic Unit 05130202, at downstream end of left bridge pier on Franklin Limestone Road, 900 ft upstream from Louisville and Nashville spur track bridge, 1.6 mi north of Antioch, 2.1 mi downstream from Whittemore Branch, 8.2 mi southeast of the State Capitol in Nashville, and at mile 11.0.

DRAINAGE AREA.--64.0 mi^2.

PERIOD OF RECORD.--October 1987 to September 1989 (gage height only). October 1953 to September 1961, October 1963 to September 1975 (discharge).

GAGE.--Water-stage encoder and crest-stage gage. Datum of gage is 472.57 ft above National Geodetic Vertical Datum of 1929. Dec. 5, 1961, to Nov. 29, 1963, Oct. 1976 to Sept. 1987, crest-stage gage at same site and datum.

REMARKS.--Records good. Minor diversion from gage pool for industrial use. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage-height, 19.73 ft, Mar. 21, 1955. Minimum gage-height since Oct. 1987, 1.55 ft observed July 7, 1988. Maximum stage since at least 1920, that of Mar. 21, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum gage-height, 14.34 ft, Feb. 14; minimum gage-height, 1.82 ft Sept. 7, 8, 9, 10, 11, 12, 13, 14.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	2.94	2.51	2.69	2.62	3.05	2.95	4.46	3.84	3.15	3.07	3.86	3.55
2	2.70	2.55	2.69	2.62	2.95	2.89	3.82	3.60	3.07	3.02	3.55	3.46
3	2.66	2.55	2.67	2.56	2.89	2.86	3.60	3.42	4.63	3.02	3.46	3.37
4	2.65	2.55	3.77	2.60	2.85	2.80	3.42	3.26	3.80	3.50	3.72	3.33
5	2.62	2.53	4.76	3.10	2.80	2.78	3.79	3.22	3.50	3.42	13.43	3.72
6	2.61	2.51	3.36	2.97	2.78	2.76	3.70	3.48	3.42	3.31	8.36	4.91
7	2.59	2.49	2.96	2.82	2.77	2.74	4.66	3.38	3.31	3.24	4.89	4.24
8	2.52	2.49	2.82	2.73	2.74	2.71	5.12	3.79	3.24	3.18	4.22	3.90
9	2.55	2.52	2.73	2.69	2.78	2.71	3.79	3.56	3.17	3.09	3.90	3.68
10	2.68	2.55	3.26	2.68	2.75	2.72	3.56	3.39	3.11	3.06	3.67	3.52
11	2.76	2.59	3.13	2.86	2.73	2.69	8.11	3.35	3.08	3.03	3.52	3.41
12	2.75	2.63	2.86	2.80	2.70	2.67	11.39	5.61	3.03	2.99	3.41	3.31
13	2.79	2.61	2.81	2.76	2.70	2.66	6.06	4.59	3.07	2.99	3.30	3.25
14	2.75	2.61	2.76	2.72	2.67	2.63	6.80	4.50	14.34	3.00	3.25	3.18
15	2.70	2.62	2.74	2.68	2.67	2.64	5.54	4.38	7.38	5.18	3.18	3.10
16	2.76	2.70	3.34	2.69	2.65	2.61	4.38	3.96	5.72	4.83	3.10	3.06
17	2.97	2.79	3.27	2.96	2.65	2.62	3.96	3.70	6.70	4.71	3.06	3.04
18	2.93	2.80	2.96	2.85	2.62	2.62	3.70	3.50	6.09	4.93	3.14	3.03
19	2.95	2.79	10.08	2.83	2.65	2.62	3.50	3.37	4.90	4.36	3.04	2.99
20	2.93	2.76	13.67	4.59	2.64	2.61	3.35	3.25	11.18	4.24	5.31	2.99
21	3.03	2.79	4.56	3.71	7.21	2.61	3.25	3.17	13.64	5.41	5.99	3.88
22	3.09	3.00	3.70	3.35	4.41	3.67	3.17	3.10	5.36	4.41	3.87	3.55
23	3.08	3.01	3.34	3.15	11.57	4.40	3.10	3.06	4.39	3.97	3.55	3.42
24	3.31	3.08	3.14	3.02	12.03	4.62	3.07	3.02	3.97	3.73	3.42	3.30
25	3.33	3.18	3.02	2.97	5.15	4.10	3.02	2.99	3.72	3.58	3.30	3.19
26	3.34	3.22	7.10	2.91	4.09	3.70	3.09	2.96	3.58	3.41	3.19	3.14
27	3.33	3.22	5.79	3.75	3.70	3.46	3.02	2.95	3.55	3.41	3.16	3.10
28	3.77	2.67	3.75	3.35	7.36	3.45	2.95	2.93	3.91	3.41	3.10	3.07
29	2.74	2.66	3.34	3.16	4.44	3.88	3.67	2.93	---	---	3.27	3.05
30	2.67	2.64	3.15	3.05	3.87	3.69	3.38	3.24	---	---	3.58	3.13
31	2.70	2.64	---	---	4.52	3.57	3.24	3.15	---	---	5.19	3.62
MONTH	3.77	2.49	13.67	2.56	12.03	2.61	11.39	2.93	14.34	2.99	13.43	2.99

03431000 MILL CREEK NEAR ANTIOCH, TN--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	3.61	3.36	2.92	2.76	2.86	2.79	4.30	3.14	2.83	2.67	2.30	2.07
2	3.36	3.26	2.87	2.72	3.60	2.78	5.40	3.93	3.52	2.78	2.37	2.15
3	4.94	3.38	2.74	2.68	3.40	2.94	7.54	3.96	2.84	2.72	2.31	2.26
4	11.30	3.80	2.94	2.66	3.03	2.84	5.84	4.26	2.71	2.63	2.27	2.23
5	5.18	4.28	3.73	2.78	3.68	2.82	8.74	3.95	2.64	2.58	2.29	2.05
6	4.28	3.95	3.16	2.93	2.89	2.78	5.70	4.39	2.85	2.56	2.12	1.83
7	4.60	3.95	2.93	2.82	2.78	2.74	5.02	4.00	2.89	2.62	1.90	1.82
8	4.41	3.94	2.83	2.77	3.84	2.70	4.33	3.68	2.66	2.47	1.83	1.82
9	4.02	3.75	2.86	2.78	3.56	3.00	3.67	3.39	2.58	2.47	1.83	1.82
10	3.75	3.56	2.80	2.74	3.00	2.83	4.92	3.25	2.54	2.47	1.83	1.82
11	3.56	3.42	2.76	2.70	2.82	2.76	4.41	3.41	2.61	2.39	1.83	1.82
12	3.42	3.33	2.72	2.65	4.62	2.74	3.51	3.21	2.45	2.39	1.83	1.82
13	3.33	3.22	2.69	2.64	5.01	3.69	3.68	3.14	2.45	2.41	1.83	1.82
14	3.22	3.19	2.68	2.64	8.73	3.66	3.13	2.99	2.41	2.29	2.86	1.82
15	3.26	3.15	2.67	2.58	11.65	5.43	2.99	2.91	2.40	2.27	3.59	2.43
16	3.15	3.08	2.66	2.58	5.37	4.28	2.94	2.87	2.37	2.23	3.17	2.69
17	3.08	3.03	2.65	2.56	4.27	3.78	2.88	2.83	2.44	2.24	2.69	2.57
18	3.03	2.99	2.64	2.58	3.87	3.53	2.83	2.77	3.48	2.46	2.57	2.47
19	2.99	2.94	2.65	2.59	8.69	3.81	2.91	2.76	2.54	2.45	2.49	2.38
20	2.95	2.91	9.35	2.64	6.94	4.10	2.80	2.73	2.44	2.38	2.43	2.29
21	2.92	2.89	3.20	2.88	4.15	3.64	3.34	2.79	2.38	2.22	2.37	2.25
22	2.90	2.87	4.81	2.85	3.63	3.38	2.82	2.72	2.36	2.17	6.02	2.27
23	2.87	2.85	4.85	4.32	3.38	3.20	2.72	2.69	2.37	2.16	5.72	3.42
24	2.85	2.82	4.31	4.01	3.19	3.07	2.69	2.63	2.60	2.28	3.40	2.98
25	2.83	2.79	4.00	3.43	3.07	2.99	2.65	2.60	2.91	2.14	3.07	2.92
26	2.81	2.77	4.99	3.33	3.14	2.95	2.62	2.58	2.78	2.37	3.09	2.94
27	2.80	2.76	10.99	3.82	6.93	2.90	2.59	2.54	2.53	2.35	2.94	2.74
28	2.78	2.73	3.79	3.25	6.12	3.77	2.56	2.50	2.35	2.17	2.80	2.74
29	2.75	2.72	3.25	3.08	3.76	3.38	2.55	2.52	2.29	2.11	2.83	2.72
30	2.90	2.73	3.07	2.94	3.38	3.18	4.34	2.48	2.34	2.07	8.85	2.78
31	---	---	2.94	2.86	---	---	3.73	2.77	2.39	2.20	---	---
MONTH	11.30	2.72	10.99	2.56	11.65	2.70	8.74	2.48	3.52	2.07	8.85	1.82

03431500 CUMBERLAND RIVER AT NASHVILLE, TN

LOCATION.--Lat 36°09'45", long 85°46'17", Davidson County, Hydrologic Unit 05130202, at left bank pier of Shelby Avenue (formerly Sparkman Street) Bridge, at Nashville, 3.3 mi downstream from Mill Creek, and at mile 191.1.

DRAINAGE AREA.--12,860 mi^2, approximately.

PERIOD OF RECORDS.--October 1986 to current year (gage height only). October 1892 to September 1954 (discharge), published in WSP 1726. Gage heights for some periods since 1873 are in reports of the Tennessee Division of Geology or the U.S. Weather Bureau.

GAGE.--Water-stage encoder. Datum of gage of 368.17 ft above National Geodetic Vertical Datum of 1929. Prior to fall of 1922 inclined and vertical staff gage at site 350 ft downstream and from fall of 1922 to April 9, 1940, staff gage at site 400 ft downstream, both gages at same datum. November 1, 1930 to September 30, 1954 upper staff gage at former lock 1, 2.7 miles downstream was used as auxiliary gage.

REMARKS.--Flow regulated by seven lakes or reservoirs above station (see p. 91). U.S. Army Corps of Engineers satellite telemeter at station.

EXTREME FOR PERIOD OF RECORD.--Maximum gage height, 56.2 ft, Jan. 1, 1927; minimum gage height observed after first filling of pool at dam 1, 6.1 ft Oct. 19, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 39.53 ft, Mar. 7; minimum; 15.29 ft, Aug. 7.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	17.53	16.98	17.83	17.18	21.41	19.88	21.44	19.70	21.20	19.53	27.92	26.42
2	17.64	17.06	18.16	16.85	21.72	21.03	20.32	19.18	22.22	20.92	28.20	27.62
3	17.88	17.00	17.65	16.89	21.27	18.80	20.07	18.43	22.24	21.46	27.68	26.00
4	17.59	17.16	17.52	16.82	18.74	17.47	20.73	19.16	21.66	19.64	26.94	25.98
5	17.87	17.15	17.77	17.15	18.55	17.02	21.62	19.18	20.38	19.47	38.01	26.86
6	17.64	16.86	18.46	17.40	18.42	17.13	23.63	20.94	21.36	18.60	39.41	37.95
7	17.69	16.93	18.12	16.92	19.05	17.48	23.66	20.65	21.66	19.70	39.53	38.96
8	17.72	17.02	17.61	16.91	18.92	17.94	22.71	20.13	22.78	21.32	38.89	35.43
9	17.84	17.13	17.68	16.75	18.56	17.64	22.70	21.15	23.16	22.60	35.27	30.88
10	17.94	16.83	17.75	16.68	18.28	17.32	21.83	20.14	24.58	23.23	30.78	30.58
11	17.64	16.66	17.63	17.12	18.95	17.36	25.50	21.80	23.31	21.38	30.86	30.62
12	17.76	16.99	17.90	17.07	18.85	17.77	33.25	25.58	21.34	18.55	30.75	30.49
13	17.60	16.96	17.82	17.12	19.12	17.54	34.28	33.34	20.29	17.90	31.16	30.40
14	17.70	16.75	17.98	17.21	19.08	17.11	34.56	33.71	35.73	17.80	31.08	28.66
15	17.80	17.08	17.68	16.47	19.27	18.40	34.00	28.57	36.46	35.74	28.54	24.48
16	17.84	17.27	17.87	16.47	20.19	18.54	29.51	28.78	36.10	33.36	26.68	24.41
17	17.52	16.84	17.86	16.96	18.71	17.96	28.68	26.52	33.16	26.62	27.60	26.60
18	17.78	16.95	17.82	17.10	18.49	17.34	27.40	26.15	26.52	25.00	27.62	24.52
19	17.84	17.03	18.86	17.10	17.39	16.94	26.51	25.91	25.90	22.89	24.54	22.46
20	17.64	17.12	29.12	19.00	17.66	16.89	25.86	25.48	28.14	22.88	23.65	21.77
21	17.73	16.98	29.44	24.63	19.68	17.59	25.52	25.26	36.11	28.62	28.42	23.74
22	17.88	16.96	24.53	18.96	22.76	19.77	25.30	25.04	36.01	35.22	28.62	27.59
23	17.87	17.16	19.96	17.44	26.84	21.57	25.18	24.64	35.22	31.66	28.53	27.87
24	17.70	16.88	17.54	16.30	29.86	26.22	24.60	22.56	31.44	28.31	27.80	25.62
25	17.81	16.93	17.42	16.48	29.98	25.90	23.08	21.58	28.24	27.51	25.62	25.02
26	17.71	17.00	18.84	16.99	25.68	22.09	23.12	20.64	28.27	28.06	25.26	24.25
27	17.83	16.94	18.88	17.80	22.13	19.89	22.11	21.09	29.45	28.16	24.23	23.52
28	17.74	16.99	18.38	17.82	21.54	19.04	22.74	21.92	29.00	26.52	23.72	23.12
29	17.75	17.01	19.70	17.48	21.39	19.73	22.90	22.26	---	---	25.31	23.63
30	18.07	16.79	20.76	19.17	22.30	21.29	23.19	22.08	---	---	25.68	24.17
31	17.73	17.14	---	---	21.56	20.11	22.86	19.78	---	---	25.98	25.53
MONTH	18.07	16.66	29.44	16.30	29.98	16.89	34.56	18.43	36.46	17.80	39.53	21.77

03431500 CUMBERLAND RIVER AT NASHVILLE, TN--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	26.14	23.98	17.83	16.92	18.44	17.06	23.98	23.08	19.72	17.59	20.65	18.09
2	24.78	24.02	17.60	16.90	18.79	16.82	28.16	23.98	22.86	18.82	20.49	17.84
3	24.83	24.06	18.28	16.78	18.15	16.57	28.39	26.08	22.02	20.36	18.47	17.69
4	26.68	24.14	18.18	17.17	18.03	16.28	25.98	23.45	21.28	19.20	18.38	17.54
5	27.64	26.06	17.88	17.34	17.93	17.23	26.65	23.46	20.81	17.52	18.22	17.35
6	27.66	27.30	18.35	16.93	18.60	17.30	27.04	26.65	19.74	17.78	18.44	16.97
7	27.42	24.53	18.63	18.18	19.30	17.37	26.92	25.58	18.86	15.29	19.08	17.51
8	27.88	24.58	20.85	18.24	21.70	17.46	25.66	25.17	18.74	16.97	19.52	17.86
9	28.07	27.89	20.94	19.72	21.75	18.30	25.41	24.50	18.04	16.12	19.99	17.54
10	27.97	25.74	20.86	18.71	22.70	20.50	24.96	23.24	19.43	17.38	19.43	17.53
11	27.08	25.64	21.16	19.95	21.93	19.27	23.20	21.36	18.97	16.72	17.98	16.90
12	26.53	25.52	21.12	20.26	21.39	18.62	23.00	21.35	18.57	17.08	17.31	15.55
13	25.48	24.08	21.07	18.75	24.70	21.62	23.73	22.65	17.30	16.61	18.22	16.44
14	24.06	22.51	20.50	19.05	26.67	24.36	22.99	21.00	18.36	17.01	18.67	17.24
15	22.40	21.22	20.71	19.92	33.93	26.92	22.52	21.97	18.69	16.90	18.62	18.10
16	21.25	18.35	20.82	19.90	32.94	30.82	22.01	19.37	19.49	17.32	19.91	18.14
17	18.90	16.92	20.40	18.72	30.86	27.96	21.06	17.93	19.75	17.48	20.95	18.13
18	17.96	16.50	19.71	18.54	27.94	27.03	21.80	18.96	19.22	17.97	18.10	17.39
19	18.06	17.16	19.26	17.98	27.50	27.08	22.60	18.48	18.92	17.85	18.54	17.48
20	17.96	17.29	19.48	18.38	29.30	27.56	22.33	19.26	18.48	17.59	18.14	17.51
21	17.85	16.85	19.22	18.22	29.44	26.07	21.58	18.45	18.22	17.34	18.34	17.51
22	17.39	16.66	18.86	18.08	28.69	25.66	21.60	20.13	18.10	17.37	18.67	17.16
23	17.99	17.04	18.80	17.14	29.03	25.32	21.47	18.30	19.09	17.06	29.99	18.93
24	18.12	17.14	18.38	17.30	25.30	24.44	19.55	17.19	18.59	17.09	29.85	23.50
25	17.91	16.92	19.20	16.89	26.36	24.49	20.07	17.51	20.91	18.00	23.35	19.44
26	17.59	16.36	20.34	17.71	25.97	24.50	20.50	18.59	20.11	17.85	19.40	18.46
27	17.44	16.43	22.86	19.73	26.33	24.29	21.46	18.85	19.06	17.87	19.04	17.93
28	17.92	16.85	22.72	20.06	26.88	26.35	21.29	19.59	18.77	17.08	18.81	17.70
29	17.80	17.12	20.65	17.65	26.73	25.60	20.62	18.37	18.98	17.17	18.94	18.06
30	18.00	17.02	20.03	16.65	25.60	23.79	19.63	17.68	19.59	17.76	21.14	17.91
31	---	---	18.36	17.10	---	---	20.04	17.00	20.51	18.02	---	---
MONTH	28.07	16.36	22.86	16.65	33.93	16.28	28.39	17.00	22.86	15.29	29.99	15.55

03431517 CUMMINGS BRANCH AT LICKTON, TN

LOCATION.--Lat 36°18'25", long 86°48'00", Davidson County, Hydrologic Unit 05130202, on right downstream wingwall of private driveway bridge, 900 ft above confluence with Shaw Branch, 0.8 mi northeast of Lickton, and at mile 0.2.

DRAINAGE AREA.--2.40 mi^2.

PERIOD OF RECORD.--December 1975 to April 1985, August 1985 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and V-notch wier. Datum of gage is 532.25 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good, except those for estimated discharges and below 1.0 ft^3/s, which are fair. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quailty data.

AVERAGE DISCHARGE.--12 years (water years 1977-84, 1986-89), 3.12 ft^3/s, 17.65 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 881 ft^3/s, Sept. 13, 1979, gage height, 5.21 ft; no flow many days, 1980, 1983, 1984, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 23	0050	108	3.11	Mar. 5	0215	241	3.74
Jan. 12	1020	192	3.55	Mar. 5	1810	326	4.02
Feb. 14	0145	*339	*4.06	Apr. 4	0105	187	3.53
Feb. 20	2055	317	3.99	June 14	2155	275	3.86

Minimum discharge, .03 ft^3/s, Oct. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.11	1.7	5.4	2.5	3.4	16	.95	.58	2.4	.58	.16
2	.11	.10	1.3	4.5	2.4	3.0	12	.93	.55	11	.53	.16
3	.10	.09	.99	3.3	2.3	2.8	12	.91	.55	15	.47	.15
4	.08	.13	.87	2.8	2.3	3.2	53	.93	.56	11	.42	.13
5	.07	.29	.74	2.5	2.3	111	20	1.5	.62	8.5	.38	.12
6	.06	.31	.67	2.6	2.3	50	13	1.5	.68	6.3	.39	.11
7	.05	.30	.65	2.9	2.3	20	11	1.2	.60	4.8	.42	.10
8	.05	.28	.66	15	2.3	13	8.6	.95	.61	3.7	.37	.09
9	.05	.22	.62	10	2.3	11	6.7	.95	.68	2.9	.33	.09
10	.05	.66	.58	8.4	2.3	8.8	5.6	.95	.57	2.4	.30	.10
11	.04	.76	.57	21	2.2	7.5	4.8	.90	.46	2.3	.28	.11
12	.04	.45	.53	64	2.1	6.6	4.2	.88	2.0	2.1	.24	.11
13	.04	.32	.51	32	2.1	5.8	3.7	.88	12	1.8	.21	.10
14	.04	.24	.49	31	101	5.1	3.3	.88	24	1.5	.19	.11
15	.04	.21	.48	27	36	4.6	3.1	.84	45	1.2	.18	.14
16	.04	.22	.48	17	24	3.9	2.7	.83	20	1.0	.17	.15
17	.04	.29	.48	12	19	3.3	2.5	.83	13	.90	.17	.15
18	.04	.28	.47	9.2	17	3.2	2.3	.69	8.0	.77	.17	.15
19	.04	2.2	.41	7.2	14	2.9	2.2	.67	9.5	.87	.16	.14
20	.04	14	.34	6.0	64	6.2	2.1	2.7	9.8	1.5	.14	.14
21	.04	4.5	3.9	5.1	96	23	1.9	2.0	8.6	1.1	.12	.12
22	.04	2.8	5.8	4.5	22	15	1.7	1.3	6.4	.79	.11	.18
23	.04	1.8	27	3.9	13	10	1.6	1.2	4.9	1.3	.11	.38
24	.05	1.2	26	3.3	9.3	8.5	1.5	.86	3.7	2.3	.12	.38
25	.06	.95	11	2.8	6.7	7.0	1.4	.81	2.9	2.0	.12	.39
26	.06	5.4	6.9	2.7	5.6	6.0	1.3	.98	2.4	1.4	.14	.40
27	.06	8.3	e5.5	2.6	4.9	5.2	1.2	2.6	2.2	.99	.17	.38
28	.26	4.4	e21	2.5	4.0	4.7	1.1	2.0	2.3	.80	.17	.33
29	.21	3.0	12	2.5	---	34	1.1	1.5	2.2	.67	.16	.33
30	.15	2.3	7.8	2.6	---	20	.97	1.1	2.1	.64	.16	.91
31	.12	---	5.8	2.6	---	26	---	.76	---	.65	.16	---
TOTAL	2.20	56.11	146.24	318.9	466.2	434.7	202.57	35.98	187.46	94.58	7.64	6.31
MEAN	.071	1.87	4.72	10.3	16.6	14.0	6.75	1.16	6.25	3.05	.25	.21
MAX	.26	14	27	64	101	111	53	2.7	45	15	.58	.91
MIN	.04	.09	.34	2.5	2.1	2.8	.97	.67	.46	.64	.11	.09
CFSM	.03	.78	1.97	4.29	6.94	5.84	2.81	.48	2.60	1.27	.10	.09
IN.	.03	.87	2.27	4.94	7.23	6.74	3.14	.56	2.91	1.47	.12	.10

CAL YR 1988 TOTAL 732.67 MEAN 2.00 MAX 36 MIN .00 CFSM .83 IN. 11.36
WTR YR 1989 TOTAL 1958.89 MEAN 5.37 MAX 111 MIN .04 CFSM 2.24 IN. 30.36

e Estimated

03431700 RICHLAND CREEK AT CHARLOTTE AVENUE, AT NASHVILLE, TN

LOCATION.--Lat 36°09'04", long 86°51'16", Davidson County, Hydrologic Unit 05130202, near left bank on downstream end of pier of Charlotte Avenue bridge on U.S. Highway 70, 4.0 mi southwest of the State Capitol in Nashville, and at mile 3.6.

DRAINAGE AREA.--24.3 mi^2.

PERIOD OF RECORD.--July 1964 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 409.56 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair, except those below 5.0 ft^3/s and periods of missing and fragmentary gage-heights, Dec. 7-20, May 8-11, May 20 to June 2, July 29 to Sept. 30 which are poor. Diversions above station used for irrigation of golf courses and water supply. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--25 years, 33.9 ft^3/s, 18.95 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,470 fts^3/s, Sept. 13, 1979, gage height, 15.13 ft; minimum, 0.05 ft^3/s, Oct. 7-9, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	0310	2,270	7.03	Feb. 14	0630	*5,650	*11.84
Dec. 23	0205	2,310	7.10	Feb. 21	0045	2,420	7.29
Dec. 24	0925	2,650	7.67	Mar. 5	0645	2,580	7.56
Jan. 12	1155	2,350	7.17	May 20	0550	1,880	6.35

Minimum daily discharge, 1.2 fts^3/s, Oct. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	1.5	17	59	36	46	85	10	e10	74	8.8	7.7
2	8.5	1.4	13	58	23	40	69	7.0	e14	112	4.1	3.1
3	4.8	1.3	9.3	55	46	35	134	7.0	11	71	2.9	3.1
4	3.7	17	6.9	46	35	55	593	17	13	50	2.9	2.1
5	3.5	50	5.6	50	31	1040	218	40	11	101	2.7	2.5
6	2.9	11	4.8	55	26	363	147	31	8.9	74	3.1	2.1
7	2.7	5.2	e4.6	66	23	196	129	19	7.4	50	3.6	1.9
8	2.7	4.4	e4.3	137	20	130	113	e13	13	39	3.1	1.9
9	2.6	4.4	e4.1	63	17	89	78	e11	26	30	2.5	1.9
10	2.5	31	e4.0	59	16	67	61	e9.5	10	24	2.3	2.5
11	2.5	8.6	e3.9	311	16	54	50	e8.6	7.1	34	2.5	1.6
12	2.4	9.9	e3.8	555	15	44	42	6.5	24	23	2.3	1.5
13	2.3	12	e3.7	238	20	37	38	5.6	160	22	2.5	3.1
14	2.3	5.5	e3.6	273	1740	31	33	5.3	77	15	2.1	39
15	2.1	4.1	e3.5	186	426	26	30	5.5	240	12	2.1	29
16	2.1	14	e3.4	118	328	22	26	4.2	90	11	2.3	13
17	1.8	7.1	e3.3	76	307	19	24	4.0	56	9.0	1.9	8.8
18	1.9	5.8	e3.2	63	251	24	21	4.2	45	7.9	2.3	5.4
19	1.8	163	e3.1	61	176	17	19	6.6	38	17	1.9	4.4
20	1.6	441	e3.0	60	478	52	18	e200	45	12	1.6	4.1
21	1.8	65	194	59	878	127	16	e50	35	16	1.6	2.9
22	1.5	53	79	50	273	56	14	e20	24	8.2	1.6	26
23	1.6	30	427	34	174	44	13	e10	20	6.5	2.1	179
24	1.7	16	487	26	120	37	11	e7.5	16	6.4	18	32
25	1.5	10	142	24	83	32	10	e6.0	14	5.5	4.4	26
26	1.2	173	75	25	63	31	9.2	e10	11	5.2	2.5	20
27	1.3	95	65	14	64	25	8.2	e50	108	4.1	1.8	22
28	29	47	323	12	51	23	7.5	e15	47	4.3	2.1	17
29	3.2	41	117	48	---	144	6.9	e10	29	3.6	1.8	10
30	3.1	39	73	49	---	73	6.9	e7.5	20	7.7	3.1	250
31	1.6	---	69	48	---	177	---	e6.0	---	3.6	2.9	---
TOTAL	110.1	1367.2	2159.1	2978	5736	3156	2030.7	607.0	1230.4	859.0	99.4	723.6
MEAN	3.55	45.6	69.6	96.1	205	102	67.7	19.6	41.0	27.7	3.21	24.1
MAX	29	441	487	555	1740	1040	593	200	240	112	18	250
MIN	1.2	1.3	3.0	12	15	17	6.9	4.0	7.1	3.6	1.6	1.5
CFSM	.15	1.88	2.87	3.95	8.43	4.19	2.79	.81	1.69	1.14	.13	.99
IN.	.17	2.09	3.31	4.56	8.78	4.83	3.11	.93	1.88	1.32	.15	1.11

CAL YR 1988 TOTAL 9669.03 MEAN 26.4 MAX 900 MIN .76 CFSM 1.09 IN. 14.80
WTR YR 1989 TOTAL 21056.5 MEAN 57.7 MAX 1740 MIN 1.2 CFSM 2.37 IN. 32.23

e Estimated

03431800 SYCAMORE CREEK NEAR ASHLAND CITY, TN

LOCATION.--Lat 36°19'12", long 87°03'04", Cheatham County, Hydrologic Unit 05130202, near right bank on downstream end of pier of bridge on State Highway 49, at Sycamore, 3.2 mi north of Ashland City, 4.4 mi upstream from Spring Creek, and at mile 8.6.

DRAINAGE AREA.--97.2 mi^2.

PERIOD OF RECORD.--October 1961 to December 1987, July 1988 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 400 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--27 years (water years 1962-1987, 1989), 145 ft^3/s, 20.26 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,500 ft^3/s, Feb. 21, 1989, gage height, 13.50 ft; minimum, 7.5 ft^3/s, Sept. 15, 16, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharges of 3,000 ft^3/s, and maximum (*).

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 23	0645	4,360	9.23	Mar. 6	0215	7,740	11.05
Dec. 24	1445	6,010	10.30	Mar. 21	0230	3,200	8.23
Jan. 12	1715	4,660	9.46	Apr. 4	0845	6,820	10.67
Feb. 14	1115	14,400	12.75	June 15	0630	7,770	11.06
Feb. 21	0400	*18,500	*13.50	July 3	0745	6,570	10.56
Mar. 5	1045	6,030	10.31				

Minimum discharge, 15.0 ft^3/s, Oct. 7, 8, 12, 13, 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	24	63	178	102	167	511	51	40	208	73	33
2	21	23	53	140	91	153	373	50	36	1750	64	29
3	20	22	47	122	282	146	414	45	36	2750	54	25
4	18	26	43	103	323	149	3260	58	42	750	48	22
5	16	64	39	97	233	4470	710	142	54	593	44	21
6	16	54	38	322	182	2610	460	127	62	420	70	20
7	16	41	36	266	141	644	373	85	46	333	67	20
8	16	33	33	842	115	438	354	66	74	267	38	19
9	16	29	33	347	93	345	301	69	142	216	31	19
10	16	79	33	238	84	287	252	64	63	174	29	37
11	16	74	31	858	84	252	220	52	44	149	27	34
12	16	44	29	2580	77	222	199	47	182	181	26	26
13	15	35	29	750	92	200	178	44	1770	149	25	23
14	16	30	28	985	7180	185	161	42	854	124	23	51
15	16	28	27	825	1720	161	158	41	3970	104	22	62
16	17	35	27	420	1210	133	140	39	667	92	21	42
17	19	47	26	294	777	120	122	36	308	86	21	34
18	19	36	25	232	688	162	110	34	202	79	21	28
19	19	156	26	190	558	168	99	34	559	94	21	24
20	19	1030	26	155	2280	516	90	279	328	84	20	22
21	20	169	414	124	7340	1830	85	126	220	73	19	22
22	21	98	258	108	813	568	80	74	161	66	19	25
23	21	73	1770	98	459	393	77	74	125	62	18	99
24	23	58	2610	89	309	304	72	57	103	67	20	57
25	23	49	532	81	246	249	67	46	76	64	21	41
26	22	108	287	82	214	211	63	46	54	59	23	43
27	23	408	210	82	195	184	59	285	69	56	57	33
28	65	144	1020	70	172	159	57	137	115	81	28	27
29	47	96	425	80	---	908	58	83	80	78	22	30
30	30	77	267	117	---	593	53	60	59	120	76	204
31	26	---	205	115	---	1020	---	46	---	136	32	---
TOTAL	668	3190	8690	10990	26060	17947	9156	2439	10541	9465	1080	1172
MEAN	21.5	106	280	355	931	579	305	78.7	351	305	34.8	39.1
MAX	65	1030	2610	2580	7340	4470	3260	285	3970	2750	76	204
MIN	15	22	25	70	77	120	53	34	36	56	18	19
CFSM	.22	1.09	2.88	3.65	9.58	5.96	3.14	.81	3.61	3.14	.36	.40
IN.	.26	1.22	3.33	4.21	9.97	6.87	3.50	.93	4.03	3.62	.41	.45

WTR YR 1989 TOTAL 101398 MEAN 278 MAX 7340 MIN 15 CFSM 2.86 IN. 38.81

03432350 HARPETH RIVER AT FRANKLIN, TN

LOCATION.--Lat 35°55'14", long 86°51'56", Williamson County, Hydrologic Unit 05130204, on left bank 15 ft downstream from State Highway 96 bridge, 0.4 mi southeast of the courthouse in Franklin, and at mile 88.1.

DRAINAGE AREA.--191 mi^2, includes 15 mi^2 without surface drainage.

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage encoder and crest-stage gage. Datum of gage is 604.42 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges and those below 5.0 ft^3/s, which are poor. The Franklin Utility District diverts part of its municipal water supply from the river above the gage. This water along with other water is returned to the river through the sewage treatment plant below the gage. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--15 years, 296 ft^3/s, 21.05 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,200 ft^3/s, Mar. 13, 1975, gage height, 33.65 ft; minimum daily, 0.30 ft^3/s, Oct. 14, 20, 22, 23, 26, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 19	2130	3,570	15.91	Feb. 18	0400	3,220	15.00
Nov. 20	2100	6,980	22.41	Feb. 21	1500	7,350	22.95
Dec. 23	1130	3,670	16.17	Mar. 6	0200	*12,300	*28.67
Dec. 24	2100	4,330	17.72	Apr. 4	1300	3,400	15.48
Jan. 13	0430	6,500	21.67	June 15	1100	3,340	15.31
Feb. 14	1830	4,820	18.83	July 1	2330	3,060	14.56

Minimum daily discharge, 1.3 ft^3/s, Oct. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	11	261	1340	328	739	570	60	54	754	54	28
2	214	9.4	218	944	310	650	442	60	e436	2070	96	48
3	208	5.2	188	801	433	606	566	50	e923	1030	45	26
4	89	23	151	718	534	565	2330	50	e249	1040	44	20
5	50	1350	127	633	500	5760	1570	77	e175	962	40	18
6	37	609	117	785	507	9640	909	94	107	815	38	17
7	26	262	104	659	461	1800	997	68	85	652	37	17
8	17	177	92	923	429	1010	901	57	90	615	34	15
9	13	135	83	708	396	824	831	52	151	423	32	14
10	13	110	81	606	361	718	700	65	134	323	32	13
11	14	141	75	874	345	631	596	65	95	626	31	13
12	12	103	69	4370	328	543	510	48	97	1410	33	12
13	11	88	66	4680	325	475	438	45	891	539	35	12
14	6.9	91	59	1740	2920	427	366	44	657	373	28	13
15	1.9	73	55	1860	2560	377	351	44	2700	280	27	383
16	1.4	77	51	1070	1550	331	305	42	1410	231	27	383
17	1.3	362	51	843	1650	299	262	40	791	202	26	46
18	1.5	200	50	717	2660	316	208	39	559	164	28	31
19	1.6	1560	45	628	1380	286	181	38	1220	136	25	25
20	1.7	5840	42	562	1180	289	165	353	1020	112	24	21
21	6.0	2720	362	504	6210	885	145	130	672	141	23	19
22	7.1	684	540	467	2270	615	128	67	479	70	24	21
23	2.9	466	2490	437	1050	466	115	102	353	55	22	646
24	5.3	356	2800	414	832	490	102	62	264	47	22	188
25	10	288	1980	391	725	400	89	45	208	45	26	87
26	7.6	342	788	377	651	341	82	50	155	44	31	141
27	3.2	1170	560	389	621	305	73	944	169	43	36	67
28	12	601	1200	345	632	285	67	290	1170	43	37	41
29	18	405	950	348	---	253	55	152	364	41	32	37
30	27	321	644	373	---	338	50	97	219	39	147	1000
31	20	---	719	366	---	772	---	71	---	41	203	---
TOTAL	853.4	18579.6	15018	29872	32148	31436	14104	3401	15897	13366	1339	3402
MEAN	27.5	619	484	964	1148	1014	470	110	530	431	43.2	113
MAX	214	5840	2800	4680	6210	9640	2330	944	2700	2070	203	1000
MIN	1.3	5.2	42	345	310	253	50	38	54	39	22	12
CFSM	.14	3.24	2.54	5.05	6.01	5.31	2.46	.57	2.77	2.26	.23	.59
IN.	.17	3.62	2.92	5.82	6.26	6.12	2.75	.66	3.10	2.60	.26	.66

CAL YR 1988 TOTAL 74536.51 MEAN 204 MAX 5840 MIN .34 CFSM 1.07 IN. 14.52
WTR YR 1989 TOTAL 179416.0 MEAN 492 MAX 9640 MIN 1.3 CFSM 2.57 IN. 34.94

e Estimated

03432400 HARPETH RIVER BELOW FRANKLIN, TN

LOCATION.--Lat 35°56'53", long 86°52'54", Williamson County, Hydrologic Unit 05130204, on right bank 0.1 mi below bridge on U.S. Highway 431, 1.2 mi downstream from Spence Creek, 1.8 mi northwest of the courthouse in Franklin, and at mile 84.3.

DRAINAGE AREA.--201 mi^2, includes 15 mi^2 without surface drainage.

PERIOD OF RECORD.--Occasional measurements, water years 1959-64, 1969-72, 1975-76, 1986. August 1988 to September 1989, discharge for stage of 5.00 ft and below only.

GAGE.--Water-stage encoder.

REMARKS.--Records good. Flow is affected by Franklin sewage treatment plant outflow 1.1 mi upstream. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR CURRENT PERIOD.--August 1988 to September 1988: Maximum discharge, not determined; maximum gage height, 6.19 ft, Sept. 25; minimum, 3.0 ft^3/s, Aug. 19.

Water year 1989: Maximum discharge, not determined; maximum gage height, 27.25 ft, Mar. 6; minimum, 6.1 ft^3/s, part of each day Oct. 16-20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR AUGUST 1988 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1											7.1	7.3
2											7.3	7.0
3											11	13
4											7.8	14
5											8.7	8.4
6											17	7.7
7											9.3	8.1
8											5.4	8.5
9											4.6	8.9
10											4.6	9.3
11											5.2	10
12											4.6	10
13											4.3	10
14											4.2	10
15											4.4	16
16											4.3	55
17											4.1	18
18											4.7	27
19											37	22
20											6.8	12
21											15	11
22											14	8.7
23											8.6	116
24											7.1	---
25											7.4	228
26											7.1	96
27											7.0	52
28											7.3	32
29											7.1	21
30											7.2	---
31												
TOTAL											254.8	---
MEAN											8.22	---
MAX											37	---
MIN											4.1	---
CFSM											.04	---
IN.											.05	---

03432400 HARPETH RIVER BELOW FRANKLIN, TN--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	13	290	---	211	---	---	95	65	---	60	86
2	191	13	247	---	196	---	---	96	---	---	123	155
3	229	8.7	216	---	298	---	---	85	---	---	64	74
4	108	20	181	---	---	---	---	76	233	---	55	47
5	58	---	150	---	---	---	---	105	162	---	46	35
6	44	---	139	---	---	---	---	111	122	---	40	31
7	33	295	126	---	324	---	---	89	100	---	37	30
8	21	205	112	---	290	---	---	81	114	---	34	26
9	17	154	104	---	256	---	---	77	230	---	32	21
10	16	134	99	---	231	---	---	83	179	315	30	20
11	17	154	93	---	217	---	---	86	128	---	30	18
12	16	117	86	---	203	---	---	68	138	---	29	17
13	14	98	85	---	199	---	---	56	---	---	31	16
14	12	99	78	---	---	---	312	50	---	331	26	21
15	8.8	85	75	---	---	328	302	52	---	257	26	247
16	7.5	93	68	---	---	285	267	44	---	225	27	---
17	7.3	---	67	---	---	260	238	35	---	207	25	175
18	7.3	228	66	---	---	266	211	31	---	183	30	97
19	7.8	---	63	---	---	267	192	27	---	168	24	64
20	7.8	---	59	---	---	280	180	260	---	145	23	49
21	11	---	---	---	---	---	167	125	---	162	22	40
22	14	---	---	338	---	---	153	75	---	108	25	57
23	9.8	---	---	305	---	---	143	94	348	89	25	---
24	9.1	---	---	278	---	---	133	70	278	78	25	334
25	14	322	---	258	---	334	124	49	231	70	28	211
26	14	343	---	243	---	291	117	64	218	63	41	284
27	9.4	---	---	249	---	265	111	---	---	58	46	216
28	23	---	---	222	---	249	109	277	---	58	45	150
29	15	---	---	232	---	234	99	159	---	51	29	126
30	29	---	---	243	---	---	92	110	245	45	88	---
31	24	---	---	240	---	---	---	84	---	49	319	---
TOTAL	1015.8	---	---	---	---	---	---	---	---	---	1485	---
MEAN	32.8	---	---	---	---	---	---	---	---	---	47.9	---
MAX	229	---	---	---	---	---	---	---	---	---	319	---
MIN	7.3	---	---	---	---	---	---	---	---	---	22	---
CFSM	.16	---	---	---	---	---	---	---	---	---	.23	---
IN.	.18	---	---	---	---	---	---	---	---	---	.26	---

03433500 HARPETH RIVER AT BELLEVUE, TN

LOCATION.--Lat 36°03'16", long 86°55'42", Davidson County, Hydrologic Unit 05130204, on right bank 45 ft upstream from bridge on State Highway 100, 0.1 mi downstream from Little Harpeth River, 0.9 mi southeast of Bellevue, and at mile 62.1.

DRAINAGE AREA.--408 mi^2, includes 15 mi^2 without surface drainage.

PERIOD OF RECORD.--April 1920 to current year. Monthly discharge only November 1929 to December 1931, published in WSP 1306.

REVISED RECORDS.--WSP 953: 1920-30, 1932-35. WSP 1386: 1948. WSP 1556: Drainage area. WSP 1910: 1960.

GAGE.--Water-stage recorder. Datum of gage is 541.04 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Apr. 11, 1920, to Oct. 31, 1929, Jan. 1, 1932, to Sept. 30, 1933, non-recording gage at site 2.8 mi downstream at datum 7.85 ft lower.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--69 years, 583 ft^3/s, 19.40 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft^3/s, Feb. 13, 1948, gage height, 24.34 ft from floodmark; no flow Oct. 5-10, 1922.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1897, that of Feb. 13, 1948.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	0900	9,860	14.67	Feb. 21	2230	13,200	16.80
Dec. 24	2200	8,050	12.72	Mar. 6	1430	*18,400	*18.75
Jan. 13	1230	10,900	15.17	Apr. 4	1630	7,760	12.39
Feb. 14	0900	13,200	16.82	June 15	1100	10,100	14.51

Minimum discharge, 8.5 ft^3/s, Oct. 19, 20, 21, 22, 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	43	570	2330	525	1260	1180	150	169	537	157	208
2	33	31	466	1750	465	1110	868	153	204	3200	301	193
3	277	25	391	1340	575	1010	1180	139	1370	2290	181	191
4	201	25	334	1080	973	931	5730	129	416	2020	129	112
5	108	935	279	902	830	8350	4370	175	280	1850	109	82
6	70	1340	250	1100	820	16900	2270	281	227	2840	97	65
7	54	494	228	1080	731	8330	2170	202	306	1400	90	55
8	41	298	201	1760	642	2630	1970	162	209	1520	83	51
9	30	220	187	1480	562	1920	1790	152	960	996	73	44
10	25	192	178	1150	498	1540	1400	161	451	753	64	36
11	20	186	165	1870	460	1300	1170	165	310	676	58	33
12	20	187	151	8010	426	1120	993	141	535	2010	57	31
13	19	144	142	9860	409	973	857	118	2080	1070	52	29
14	17	133	134	4910	10000	881	736	106	1270	636	51	75
15	15	128	123	5000	9300	778	684	102	7730	478	45	114
16	13	122	114	3100	4390	669	601	99	4410	397	41	860
17	9.9	325	110	2220	3840	592	507	87	2130	364	38	333
18	9.8	362	106	1770	5720	562	443	78	1390	310	37	190
19	8.8	1400	101	1460	3690	602	382	73	1880	287	37	134
20	8.5	9160	95	1230	3040	550	349	383	2400	281	37	104
21	8.5	5880	814	1040	12000	2120	319	394	1610	267	34	87
22	8.6	1700	1560	892	8270	1550	289	177	1060	240	29	117
23	11	1130	5610	778	2920	1050	270	172	795	188	26	973
24	17	837	6380	670	2020	937	248	191	606	175	25	811
25	13	656	5330	578	1560	818	228	130	476	164	25	424
26	10	735	2120	512	1290	699	211	110	385	141	25	442
27	13	2200	1450	489	1140	614	196	2170	546	125	58	425
28	40	1470	3110	439	1090	557	183	889	1700	114	76	299
29	42	959	2700	505	---	544	167	415	819	107	60	243
30	43	731	1650	648	---	550	150	282	504	97	116	1850
31	43	---	1470	610	---	1260	---	213	---	93	522	---
TOTAL	1264.1	32048	36519	60563	78186	62707	31911	8199	37228	25626	2733	8611
MEAN	40.8	1068	1178	1954	2792	2023	1064	264	1241	827	88.2	287
MAX	277	9160	6380	9860	12000	16900	5730	2170	7730	3200	522	1850
MIN	8.5	25	95	439	409	544	150	73	169	93	25	29
CFSM	.10	2.62	2.89	4.79	6.84	4.96	2.61	.65	3.04	2.03	.22	.70
IN.	.12	2.92	3.33	5.52	7.13	5.72	2.91	.75	3.39	2.34	.25	.79

CAL YR 1988 TOTAL 171814.7 MEAN 469 MAX 12500 MIN 5.8 CFSM 1.15 IN. 15.67
WTR YR 1989 TOTAL 385595.1 MEAN 1056 MAX 16900 MIN 8.5 CFSM 2.59 IN. 35.16

03434500 HARPETH RIVER NEAR KINGSTON SPRINGS, TN

LOCATION.--Lat 36°07'19", long 87°05'56", Cheatham County, Hydrologic Unit 05130204, on right bank 400 ft upstream from bridge on U.S. Highway 70, 1.7 mi northeast of Kingston Springs, 3.0 mi downstream from Turnbull Creek, and at mile 32.4.

DRAINAGE AREA.--681 mi^2, includes 15 mi^2 without surface drainage.

PERIOD OF RECORD.--October 1924 to current year. Prior to July 1925 monthly discharge only, published in WSP 1306.

REVISED RECORDS.--WSP 953: 1927, 1933, 1935-36. WSP 1033: 1927(M), 1932-33(M), 1935(M), 1937(M). WSP 1706: 1945(P). WSP 2110: Drainage area.

GAGE.--Water-stage encoder. Datum of gage is 447.04 ft above National Geodetic Vertical Datum of 1929. July 8, 1925, to Jan. 22, 1939, nonrecording gage at site 150 ft downstream, and Jan. 22, 1939 to July 26, 1988 water-stage recorder at present site at datum 1.0 ft higher.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--65 years, 979 ft^3/s, 19.52 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,000 ft^3/s, Jan. 7, 1946, gage height, 32.20 ft from high-water mark in gage house; minimum, 12 ft^3/s, Sept. 18, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1897, that of Jan. 7, 1946. Flood of March 1902 reached a stage about 3 ft lower than that of Jan. 7, 1946.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 10,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	1100	11,900	15.51	Feb. 21	0830	27,700	24.99
Dec. 23	1000	11,400	15.13	Mar. 5	1900	20,000	21.57
Dec. 24	1730	15,100	18.31	Apr. 4	1200	13,500	16.88
Jan. 12	2030	17,300	19.91	June 15	2000	10,800	14.50
Feb. 14	1430	*40,900	*28.84				

Minimum discharge, 55 ft^3/s, Oct. 19, 20, 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	116	94	855	2620	969	1780	2480	316	366	652	227	509
2	106	94	708	2450	846	1730	1750	309	449	2640	497	400
3	110	91	611	1810	990	1580	2530	301	1350	3350	382	322
4	293	90	538	1470	1420	1510	9740	295	863	2380	277	254
5	219	189	462	1230	1300	13600	7680	390	559	2050	224	189
6	151	1630	401	1460	1190	12200	3800	503	501	4040	250	156
7	116	820	371	1560	1070	7190	3150	456	406	2020	242	137
8	100	484	342	2690	951	4040	3040	360	356	1830	187	125
9	89	352	316	2350	845	2860	2740	342	938	1410	168	121
10	80	332	297	1690	756	2270	2210	334	772	1070	154	126
11	73	337	280	2900	711	1930	1840	322	553	979	145	111
12	66	287	259	11300	671	1680	1580	308	514	1600	138	102
13	62	276	244	12100	654	1460	1380	275	3440	1750	133	103
14	61	241	236	7570	22600	1300	1220	252	2360	949	127	1390
15	61	215	223	7120	16200	1170	1120	246	7880	732	124	516
16	61	221	208	4140	7340	1020	1030	229	7190	611	118	696
17	60	270	194	2790	5540	909	907	219	3150	550	110	715
18	61	507	184	2130	7340	869	811	204	2030	494	110	398
19	56	896	187	1720	5520	868	729	192	1720	471	110	289
20	55	9140	183	1450	5170	881	660	582	2730	496	106	232
21	56	8190	1450	1230	21700	3250	609	661	2050	413	103	196
22	57	2570	2280	1080	8830	2680	565	411	1430	405	97	186
23	58	1450	7990	968	4250	1760	523	361	1110	337	94	672
24	57	1080	10200	876	3070	1450	487	330	890	299	100	1230
25	56	865	7840	795	2410	1300	449	306	746	287	104	694
26	61	1120	3220	752	2040	1110	415	261	635	263	125	595
27	62	3260	2070	733	1810	986	389	2550	659	239	180	601
28	125	2250	4900	685	1710	903	366	2010	1440	230	126	487
29	149	1390	4260	774	---	4210	350	852	1440	206	147	402
30	107	1050	2470	1200	---	2100	325	582	804	217	141	1890
31	105	---	1970	1090	---	2980	---	445	---	232	346	---
TOTAL	2889	39791	55749	82733	127903	83576	54875	15204	49331	33202	5392	13844
MEAN	93.2	1326	1798	2669	4568	2696	1829	490	1644	1071	174	461
MAX	293	9140	10200	12100	22600	13600	9740	2550	7880	4040	497	1890
MIN	55	90	183	685	654	868	325	192	356	206	94	102
CFSM	.14	1.95	2.64	3.92	6.71	3.96	2.69	.72	2.41	1.57	.26	.68
IN.	.16	2.17	3.05	4.52	6.99	4.57	3.00	.83	2.69	1.81	.29	.76

CAL YR 1988 TOTAL 268788 MEAN 734 MAX 15500 MIN 35 CFSM 1.08 IN. 14.68
WTR YR 1989 TOTAL 564489 MEAN 1547 MAX 22600 MIN 55 CFSM 2.27 IN. 30.84

03435000 CUMBERLAND RIVER BELOW CHEATHAM DAM, TN

LOCATION.--Lat 36°19'26", long 87°13'32", Cheatham County, Hydrologic Unit 05130205, on downstream end of lower lock wall at Cheatham Dam, 2.0 mi southwest of Neptune, 3.0 mi upstream from Half Pone Creek, 9.7 mi west of Ashland City, and at mile 148.4.

DRAINAGE AREA.--14,163 mi^2.

PERIOD OF RECORD.--October 1954 to current year.

REVISED RECORDS.--WSP 1726: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 350.00 ft above National Geodetic Vertical Datum of 1929. Prior to May 5, 1966, at National Geodetic Vertical Datum. Auxiliary water-stage recorder 15.3 mi downstream from base gage at same datum. Prior to June 3, 1966, auxiliary water-stage recorder and non-recording gage on upper lock wall at former dam B, at site 8.1 mi downstream from base gage at datum 1.76 ft lower.

REMARKS.--Records good. Flow regulated by eight lakes or reservoirs above station (see p. 91).

AVERAGE DISCHARGE.--35 years, 23,210 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 204,000 ft^3/s, Mar. 15, 1975; maximum gage height, 48.39 ft, Mar. 1, 1962; minimum daily discharge, 700 ft^3/s, Oct. 29, 1969; minimum gage height, 1.55 ft, Nov. 26, 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1793, 53.5 ft, Jan. 25, 1937, from profile by U.S. Army Corps of Engineers, discharge, about 200,000 ft^3/s on Jan. 24, 1937. Flood of Jan. 1, 1927, reached a stage of 51.7 ft, from profile, discharge about 205,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 146,000 ft^3/s, Mar. 7; maximum gage height, 38.81 ft, Mar. 7; minimum daily discharge, 2,710 ft^3/s, Nov. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e4700	4040	31500	34300	29400	58900	58300	6110	9280	44100	18300	23100
2	e5000	5040	35400	27400	33900	63600	48200	5040	11800	56600	25700	22400
3	e4600	2920	29100	29000	38300	62200	51000	5630	14000	74300	36300	13700
4	e4300	2720	19400	26500	35500	59500	75300	12300	7610	55500	30700	11700
5	e4000	5550	18600	33600	28400	96400	71500	13100	8920	48600	26500	13700
6	e5000	9900	15900	38500	27500	142000	68300	8180	11700	59200	20800	11800
7	e4000	11600	18800	43300	32200	145000	56400	14900	15200	59200	11100	14600
8	3280	8900	20700	38700	36000	136000	56100	20200	19000	53900	14700	17700
9	3520	9120	19200	41000	40900	106000	64700	26900	31000	50900	10300	21600
10	4810	7910	18500	36500	45000	78300	59300	24500	32500	49500	8910	20000
11	3130	7840	17900	46600	40800	77500	54600	27800	33000	42800	17200	12900
12	3320	8520	20100	82100	30500	77200	55500	29600	25000	37800	16000	12000
13	2950	7100	20100	106000	20900	72400	49900	26200	59100	43900	7100	7760
14	2800	8380	20800	108000	90100	74100	44100	22900	55500	40700	7900	12000
15	3260	6310	22200	99900	134000	60800	37500	24800	97700	38300	12400	16300
16	3160	2710	22000	75700	124000	53100	28300	26100	97300	31200	14100	18500
17	4600	5290	18000	62500	99200	58000	17900	22400	77900	24700	18400	28400
18	2840	8810	15600	58000	65200	58100	11800	18900	60400	25300	17900	18100
19	3260	14300	13100	56200	52200	48400	12900	16100	61300	28200	18900	16000
20	3250	55600	10800	54800	53200	42700	14100	20300	64200	28500	14600	14000
21	3630	72700	19000	54300	126000	62600	12500	23200	66900	27100	15500	15500
22	3860	40500	34500	53400	129000	67800	7840	19100	59000	30700	11500	14400
23	3680	23300	60900	51400	112000	66900	9630	19000	61300	27400	11400	50800
24	3810	14400	80600	46000	80100	61600	9030	14400	49800	19200	17200	65000
25	3340	11700	81500	39800	62800	54600	9870	10600	50600	18900	18400	34800
26	4520	15000	49400	39700	63100	51200	6590	16500	51500	21400	21900	22100
27	4780	22600	37600	38100	66200	47900	3900	34300	49700	24300	19300	19700
28	3320	24300	32700	38200	63800	44300	8130	36900	56000	29700	19400	19800
29	5240	20500	38600	40000	---	59400	7850	23200	56600	23900	13800	16200
30	6500	28500	39800	41200	---	56300	5460	20700	49600	23200	15800	23300
31	6060	---	37000	39000	---	59700	---	11900	---	18700	21000	---
TOTAL	124520	466060	919300	1579700	1760200	2202500	1016500	601760	1343410	1157700	533010	607860
MEAN	4017	15540	29650	50960	62860	71050	33880	19410	44780	37350	17190	20260
MAX	6500	72700	81500	108000	134000	145000	75300	36900	97700	74300	36300	65000
MIN	2800	2710	10800	26500	20900	42700	3900	5040	7610	18700	7100	7760

CAL YR 1988 TOTAL 4585400 MEAN 12530 MAX 97100 MIN 2420
WTR YR 1989 TOTAL 12312520 MEAN 33730 MAX 145000 MIN 2710

e Estimated

03436000 SULPHUR FORK RED RIVER NEAR ADAMS, TN

LOCATION.--Lat 36°30'55", long 85°03'32", Robertson County, Hydrologic Unit 05130206, on left bank 600 ft downstream from county highway bridge, 2.8 mi downstream from Millers Creek, 4.1 mi southwest of Cedar Hill, 4.6 mi south of Adams, and at mile 10.2.

DRAINAGE AREA.--186 mi^2, includes 21 mi^2 without surface drainage.

PERIOD OF RECORD.--October 1938 to current year. Prior to January 1939, monthly discharge only, published in WSP 1306.

REVISED RECORDS.--WSP 1910: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 424.36 ft, Sandy Hook datum. Jan. 20, 1939, to Nov. 25, 1940, non-recording gage at site 600 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--51 years, 252 ft^3/s, 18.40 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,400 ft^3/s, Mar. 12, 1975, gage height, 30.86 ft, from floodmarks; minimum, 1.8 ft^3/s, Sept. 27, 1948.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1934 reached a stage of 25.1 ft, from floodmarks, discharge not determined. Flood in January 1937 reached a stage of about 22.6 ft, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	1415	6,690	15.31	Mar. 21	0830	4,910	12.83
Jan. 12	1845	4,600	12.38	Apr. 4	1045	5,860	14.17
Jan. 14	2130	3,650	10.94	June 13	0700	4,480	12.20
Feb. 14	1615	8,810	17.79	June 15	1145	4,930	12.86
Feb. 21	0945	*13,500	*21.84	July 3	1245	11,200	19.97
Mar. 6	0445	9,190	18.18				

Minimum discharge, 16 ft^3/s, Oct. 14, 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	30	191	449	189	532	1060	87	46	260	98	40
2	33	28	162	368	176	468	775	85	47	2450	100	39
3	29	25	134	325	553	453	938	81	61	7150	84	36
4	25	36	113	284	667	448	3900	83	459	2280	76	32
5	22	79	97	265	500	5020	1710	121	344	1520	70	30
6	20	91	91	653	408	5920	1090	137	169	1010	90	29
7	19	60	88	577	335	1980	809	108	117	753	111	28
8	19	48	81	1960	289	1340	687	92	98	600	79	27
9	19	41	76	846	248	1030	566	91	170	494	67	26
10	18	50	72	611	226	818	443	95	110	417	62	31
11	19	83	67	975	217	692	370	83	87	391	58	52
12	19	65	63	3300	205	589	326	77	186	442	56	36
13	17	51	61	1790	215	493	289	74	3140	574	53	31
14	17	42	59	2040	6810	444	257	72	1050	384	50	31
15	17	38	56	2020	4420	389	252	69	3770	294	48	69
16	17	40	52	1040	2810	320	227	66	1460	251	46	57
17	19	56	50	735	1730	282	198	66	830	219	46	51
18	19	56	48	589	1400	294	181	61	631	193	45	39
19	18	98	47	480	1180	318	165	60	1020	364	44	33
20	19	1580	47	401	2040	390	152	217	708	239	43	30
21	19	730	491	334	9230	3280	143	139	672	191	40	28
22	21	391	565	295	2260	1410	134	91	469	174	39	29
23	21	276	1670	266	1410	965	128	79	357	152	39	185
24	26	214	4290	242	1030	726	121	71	282	157	42	110
25	27	173	1480	221	819	580	113	66	226	146	45	71
26	24	414	791	211	711	480	108	62	191	118	42	65
27	24	611	590	204	636	413	103	64	173	101	44	55
28	91	369	1780	183	556	360	99	68	237	110	41	44
29	84	274	981	175	---	977	103	57	176	103	37	44
30	48	224	671	198	---	995	92	52	144	89	60	79
31	36	---	526	201	---	1570	---	49	---	87	44	---
TOTAL	835	6273	15490	22238	41270	33976	15539	2623	17430	21713	1799	1457
MEAN	26.9	209	500	717	1474	1096	518	84.6	581	700	58.0	48.6
MAX	91	1580	4290	3300	9230	5920	3900	217	3770	7150	111	185
MIN	17	25	47	175	176	282	92	49	46	87	37	26
CFSM	.14	1.12	2.69	3.86	7.92	5.89	2.78	.45	3.12	3.77	.31	.26
IN.	.17	1.25	3.10	4.45	8.25	6.80	3.11	.52	3.49	4.34	.36	.29

CAL YR 1988 TOTAL 69717 MEAN 190 MAX 4290 MIN 12 CFSM 1.02 IN. 13.94
WTR YR 1989 TOTAL 180643 MEAN 495 MAX 9230 MIN 17 CFSM 2.66 IN. 36.13

03436100 RED RIVER AT PORT ROYAL, TN

LOCATION.--Lat 36°33'17", long 87°08'31", Montgomery County, Hydrologic Unit 05130206, on left bank at county road bridge at Port Royal, 250 ft downstream from Sulphur Fork, and at mile 25.5.

DRAINAGE AREA.--935 mi^2 includes 437 mi^2 without surface drainage.

PERIOD OF RECORD.--July 1961 to current year.

GAGE.--Water-stage encoder and crest-stage gage. Datum of gage is 376.25 ft above National Geodetic Vertical Datum of 1929. July 13, 1961, to Oct. 9, 1963, nonrecording gage and crest-stage gage at same site and datum.

REMARKS.--Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--28 years, 1,340 ft^3/s, 19.46 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,300 ft^3/s, Mar. 13, 1975, gage height, 48.26 ft; minimum, 54 ft^3/s, Sept. 17, 18, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 23, 1937, reached a stage of 44.4 ft; from flood profile of U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	2400	18,700	30.72	Feb. 21	1800	28,600	36.73
Jan. 13	0400	13,100	26.02	Mar. 6	1300	26,400	35.58
Jan. 15	1330	15,500	28.33	Apr. 4	2400	15,500	28.28
Feb. 15	1230	*29,500	*37.24	July 3	2030	22,800	33.41

Minimum discharge, 105 ft^3/s, Oct. 19, 20, 21, 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	201	153	1240	2960	1340	3070	4280	788	402	714	489	274
2	195	137	1060	2560	1250	2850	3270	754	389	5280	1190	304
3	186	129	936	2270	2530	2730	3630	710	395	16300	657	406
4	175	145	852	2020	5640	e2300	10400	681	877	16400	430	316
5	160	317	773	1820	3540	e9000	12200	776	912	7460	362	283
6	149	592	718	2620	2790	e20000	7260	955	738	4900	363	251
7	135	428	672	2950	2330	16000	5650	950	614	3710	964	228
8	131	316	628	5970	2020	e7000	4880	777	487	2970	724	214
9	127	261	596	4990	1760	e5000	4300	734	621	2520	453	208
10	122	314	551	3500	1590	4100	3860	748	567	2200	375	200
11	119	608	511	3340	1510	3550	3480	702	452	1970	340	217
12	116	634	457	8630	1420	3150	2550	639	512	2360	320	209
13	115	441	428	11400	1380	2820	2010	606	6460	2470	308	194
14	111	367	410	7620	13400	2600	1850	572	4430	2510	295	182
15	111	317	394	14200	28700	2400	1750	539	6490	1840	286	202
16	112	292	370	8550	25700	2150	1670	499	5480	1560	278	252
17	113	281	347	5050	16400	2000	1540	458	3120	1370	271	274
18	112	277	336	4050	8830	1930	1430	428	2300	1250	260	241
19	107	837	319	3410	6400	1930	1330	411	3320	1460	261	197
20	105	6750	310	2900	5840	1860	1240	1640	2970	1410	257	177
21	105	5600	854	2520	22600	6180	1170	2410	2780	1130	250	160
22	107	2680	2150	2260	21800	5090	1120	1070	2130	1020	248	159
23	111	1980	4300	2070	8530	3410	1070	1390	1660	898	244	289
24	112	1610	11300	1920	5440	2820	1020	1230	1390	854	291	476
25	114	1350	15600	1770	4440	2470	965	898	1190	827	472	357
26	109	1210	6020	1660	3950	2190	910	775	988	684	425	271
27	111	2850	3960	1640	3590	2020	865	723	920	606	413	233
28	161	2480	5930	1550	3290	e1870	1250	665	1030	542	340	198
29	197	1740	7330	1420	---	2620	1200	561	920	521	313	189
30	203	1450	4380	1400	---	3480	881	476	796	438	310	225
31	181	---	3470	1440	---	4380	---	430	---	413	291	---
TOTAL	4213	36546	77203	120460	208010	132970	89031	24995	55340	88587	12480	7386
MEAN	136	1218	2490	3886	7429	4289	2968	806	1845	2858	403	246
MAX	203	6750	15600	14200	28700	20000	12200	2410	6490	16400	1190	476
MIN	105	129	310	1400	1250	1860	865	411	389	413	244	159
CFSM	.15	1.30	2.66	4.16	7.95	4.59	3.17	.86	1.97	3.06	.43	.26
IN.	.17	1.45	3.07	4.79	8.28	5.29	3.54	.99	2.20	3.52	.50	.29

CAL YR 1988 TOTAL 347013 MEAN 948 MAX 15600 MIN 71 CFSM 1.01 IN. 13.81
WTR YR 1989 TOTAL 857221 MEAN 2349 MAX 28700 MIN 105 CFSM 2.51 IN. 34.11

e Estimated

03436500 CUMBERLAND RIVER AT CLARKSVILLE, TN

LOCATION.--Lat 36°32'28", long 87°22'04", Montogmery County, Hydrologic Unit 05130205, on left bank 30 ft below U.S. Highways 41A, 79 bridge, at Clarksville, 0.3 mile up Red River, and at mile 125.5.

DRAINAGE AREA.--16,000 sq mi, approximately.

PERIOD OF RECORDS.--October 1986 to current year (gage height only). October 1924 to September 1944 (discharge), published in WSP 1306. Gage height for some periods since 1900 are in reports of U.S. Weather Bureau.

GAGE.--Water-stage encoder. Datum of gage 300.00 ft above National Geodetic Vertical Datum of 1929. Oct. 1924 to Sept. 1944 at site 1.0 mi upstream at datum 30.86 ft higher.

REMARKS.--Flow regulated by eight lakes or reservoirs above station, (see p. 91). U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 65.7 ft, Jan. 25, 1937, from floodmarks; minimum observed, 12.3 ft, Oct. 7, 24, 1935, site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 80.33 ft, Feb. 16; minimum, 54.74 ft, Sept. 22.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	59.45	58.40	58.12	56.89	58.76	58.19	60.79	59.76	59.11	58.00	65.88	65.02
2	59.39	58.50	58.03	57.18	58.87	58.04	59.68	58.58	59.02	58.38	65.37	65.20
3	59.22	58.32	58.05	57.26	58.87	58.04	59.21	58.31	61.50	59.03	65.21	64.41
4	59.28	58.35	58.49	57.30	58.11	57.04	58.29	57.85	61.61	60.73	64.39	63.86
5	59.29	58.33	58.17	57.35	57.61	56.31	58.71	57.85	60.66	59.53	74.29	63.92
6	59.07	58.45	58.50	57.82	56.88	55.95	60.34	58.70	59.41	58.92	78.47	74.46
7	59.34	58.47	58.45	57.94	57.03	55.72	61.00	59.81	59.50	59.05	79.06	78.54
8	59.32	58.54	59.06	57.69	57.01	55.66	61.60	59.97	59.64	59.33	78.87	77.09
9	59.08	58.38	58.82	57.74	57.06	55.58	62.02	60.57	60.10	59.59	77.05	73.45
10	59.22	58.27	59.69	57.76	57.28	56.15	60.56	59.62	60.83	60.14	73.37	69.30
11	58.92	58.05	58.80	57.81	56.97	55.76	63.15	59.78	60.75	59.62	69.26	68.43
12	58.79	57.74	58.78	57.71	57.02	56.21	71.62	63.33	59.60	57.79	68.46	68.06
13	58.61	57.72	58.65	57.87	57.15	55.54	73.50	71.67	57.80	56.87	68.06	66.53
14	58.57	57.76	58.46	57.53	57.10	56.18	75.44	73.43	76.08	57.95	67.98	66.77
15	58.47	57.65	58.35	57.47	57.08	55.73	75.94	74.52	79.90	76.21	66.74	64.00
16	58.20	57.46	58.94	57.09	56.99	56.08	74.46	70.57	80.33	79.62	63.91	63.02
17	58.06	57.22	58.08	57.12	56.82	55.93	70.46	66.28	79.54	76.02	63.61	63.17
18	58.32	57.11	58.25	57.00	56.70	56.22	66.21	65.01	75.95	70.45	63.76	63.15
19	57.94	57.10	60.24	57.27	57.06	55.74	64.99	64.27	70.38	65.73	63.09	61.12
20	57.80	57.08	67.85	60.27	56.59	55.83	64.26	63.55	69.24	64.60	61.05	60.22
21	58.00	57.00	69.00	66.72	57.58	55.54	63.52	62.96	77.28	69.64	65.87	60.86
22	58.00	57.05	66.58	61.35	59.67	57.60	62.94	62.26	78.31	77.35	66.28	65.70
23	57.74	57.09	61.26	60.22	64.66	59.70	62.24	61.20	78.07	75.48	65.69	65.19
24	57.62	56.75	60.45	58.50	71.53	64.68	61.19	60.03	75.43	70.84	65.20	63.72
25	57.76	56.76	58.94	58.22	71.97	70.40	60.01	59.06	70.78	67.60	63.69	62.57
26	57.90	56.93	59.20	57.90	70.35	64.16	59.23	59.06	67.59	67.20	62.56	61.61
27	57.99	56.97	59.43	58.58	64.08	61.73	59.22	58.72	67.38	67.01	61.59	61.21
28	58.42	56.92	59.18	58.73	63.48	61.66	59.15	58.66	67.38	65.94	61.20	60.59
29	57.78	56.99	58.57	57.02	63.72	62.90	59.33	59.16	---	---	64.64	60.58
30	57.74	57.10	58.71	57.98	62.88	62.04	59.82	59.33	---	---	64.56	63.73
31	57.65	56.86	---	---	62.02	60.80	59.81	59.25	---	---	65.42	63.70
MONTH	59.45	56.75	69.00	56.89	71.97	55.54	75.94	57.85	80.33	56.87	79.06	60.22

03436500 CUMBERLAND RIVER AT CLARKSVILLE, TN--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	65.37	63.88	59.90	59.24	60.31	58.82	63.33	62.80	58.97	58.27	58.51	57.70
2	63.88	63.08	59.96	59.09	60.32	58.67	68.00	62.88	59.96	58.23	58.30	57.76
3	64.24	63.34	59.99	59.20	60.24	58.60	70.28	68.12	60.42	59.96	58.06	56.91
4	71.58	64.36	59.87	59.28	60.25	59.04	69.79	67.00	59.96	59.30	57.78	56.43
5	71.53	70.32	59.97	59.28	60.02	58.38	66.96	65.74	59.36	58.90	57.85	56.56
6	70.28	68.27	60.14	58.53	60.48	59.36	66.82	66.19	58.94	58.23	57.85	57.50
7	68.25	65.41	60.05	59.26	60.90	59.56	66.85	65.86	58.88	57.49	57.72	57.33
8	66.12	65.20	60.38	59.19	60.80	59.64	65.83	64.41	58.43	57.39	57.82	56.40
9	67.18	66.12	61.49	60.35	61.27	60.71	64.40	63.99	58.21	56.92	58.02	56.56
10	67.26	66.69	61.08	60.50	61.36	61.17	63.98	63.36	58.07	56.91	58.06	57.05
11	66.69	66.40	61.14	60.66	61.44	60.62	63.31	62.35	58.32	57.70	57.60	56.07
12	66.79	66.32	60.98	60.54	60.74	60.55	62.35	61.70	58.62	57.24	57.87	56.05
13	66.30	65.54	60.97	59.83	67.14	60.74	62.90	61.95	58.20	56.78	57.20	56.19
14	65.53	64.46	60.39	59.71	66.99	65.57	62.87	61.94	58.00	56.70	57.45	55.71
15	64.46	63.45	60.36	60.08	72.45	66.32	61.92	61.52	57.99	56.54	57.20	56.51
16	63.44	61.80	60.52	59.98	72.80	71.82	61.48	60.08	57.75	57.14	57.35	56.50
17	61.78	60.70	60.27	59.68	71.74	68.88	60.04	59.53	58.19	56.94	58.32	57.35
18	60.77	59.42	60.00	59.26	68.77	65.76	60.14	59.50	58.36	57.15	57.54	56.28
19	60.26	59.06	59.84	58.91	65.92	65.85	60.54	59.77	58.38	56.99	57.04	55.57
20	60.05	58.89	60.49	59.55	66.44	65.83	60.52	59.77	58.53	57.12	56.62	55.71
21	60.07	58.57	60.81	60.29	66.86	65.97	60.26	59.63	58.30	56.78	56.51	55.22
22	59.98	58.57	60.98	59.93	65.92	65.11	60.63	59.67	58.39	56.58	56.40	54.74
23	59.97	58.74	61.00	59.93	65.95	64.68	60.26	59.63	58.39	56.62	62.12	56.41
24	59.88	58.78	60.98	59.28	64.59	63.30	59.63	58.16	58.14	56.66	63.18	61.54
25	60.11	58.82	60.64	59.07	63.84	63.16	59.06	58.08	58.34	56.49	61.41	57.40
26	60.29	58.90	60.34	59.79	63.98	63.48	59.08	58.32	58.27	57.53	57.37	55.49
27	60.04	58.78	62.06	59.91	63.56	63.36	59.23	59.03	58.35	57.32	56.84	55.12
28	60.09	58.98	62.71	61.28	64.53	63.56	59.86	59.13	58.35	56.79	56.58	55.75
29	60.07	58.90	61.21	60.58	64.71	64.54	59.66	58.54	58.55	56.73	55.76	55.63
30	59.96	59.14	60.73	60.22	64.56	63.38	59.26	58.57	58.28	56.52	58.23	55.57
31	---	---	60.46	59.10	---	---	59.06	58.35	58.35	57.06	---	---
MONTH	71.58	58.57	62.71	58.53	72.80	58.38	70.28	58.08	60.42	56.49	63.18	54.74

03436690 YELLOW CREEK AT ELLIS MILLS, TN

LOCATION.--Lat 36°18'39", long 87°33'15", Houston County, Hydrologic Unit 05130205, on right bank at downstream end of bridge on county road, 0.3 mi northeast of Ellis Mills, 1.0 mi upstream from Leatherwood Creek, 1.0 mi downstream from Williamson Branch.

DRAINAGE AREA.--103 mi^2.

PERIOD OF RECORD.--October 1980 to current year.

GAGE.--Water-stage encoder and crest-stage gage. Elevation of gage is 417 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--9 years, 154 ft^3/s, 20.30 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,400 ft^3/s May 6, 1984, gage height, 18.47 ft recorded, 18.95 ft, from floodmarks, from rating curve extended above 9,500 ft^3/s on basis of regression formula and peak discharge at Station No. 03436700 Yellow Creek near Shiloh, TN; minimum, 7.2 ft^3/s Oct. 14, 1986, result of upstream regulation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	1100	4,290	11.59	Mar. 5	2030	3,240	10.42
Jan. 12	1630	2,370	9.20	Apr. 4	0730	5,010	12.32
Jan. 14	1930	4,270	11.56	June 13	0530	6,470	13.68
Feb. 14	1000	7,590	13.91	June 15	0300	2,690	9.70
Feb. 21	0300	*7,950	*14.79				

Minimum discharge, 20 ft^3/s, Oct. 11, 12-15, 16, 18-20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	25	77	328	154	245	754	80	63	129	66	40
2	32	24	69	279	146	228	550	78	86	301	65	40
3	28	24	62	247	220	218	903	76	150	704	62	38
4	25	27	57	213	335	205	3040	76	102	456	58	37
5	24	33	53	190	305	1330	1190	82	89	325	57	36
6	23	37	50	223	265	1570	667	79	85	262	56	36
7	22	34	49	260	226	732	524	76	79	214	55	35
8	21	32	47	1060	189	503	455	74	84	181	52	35
9	21	30	46	589	165	401	396	76	348	157	50	36
10	21	35	45	422	153	338	332	74	162	143	50	36
11	21	36	42	437	145	311	286	72	118	184	49	37
12	20	35	42	1490	137	277	244	69	130	311	47	37
13	20	33	40	1150	146	255	212	68	3100	218	46	36
14	20	32	39	2120	5110	237	187	67	791	170	46	47
15	20	29	38	1780	2440	215	172	67	1750	146	46	48
16	21	32	37	868	1690	187	156	64	759	130	48	44
17	21	35	37	552	1100	171	145	62	473	118	45	41
18	20	34	36	424	865	174	135	62	351	106	45	39
19	20	83	35	351	697	160	127	61	418	121	44	38
20	20	321	35	300	1570	225	118	74	433	116	42	37
21	21	197	136	257	3920	1170	113	65	334	103	42	37
22	21	123	234	228	1160	662	108	62	286	94	42	38
23	22	90	980	208	672	471	103	65	234	88	41	42
24	22	74	2090	184	490	379	100	61	199	83	43	40
25	22	64	883	170	400	323	96	60	173	80	44	39
26	24	75	484	160	356	285	92	63	160	76	42	41
27	23	140	367	149	320	255	89	92	156	72	41	39
28	30	129	1130	128	281	234	86	87	223	74	39	38
29	31	104	744	128	---	992	89	77	161	70	38	40
30	27	88	480	151	---	819	84	72	140	68	40	77
31	25	---	378	157	---	1210	---	67	---	74	41	---
TOTAL	717	2055	8842	15203	23657	14782	11553	2208	11637	5374	1482	1204
MEAN	23.1	68.5	285	490	845	477	385	71.2	388	173	47.8	40.1
MAX	32	321	2090	2120	5110	1570	3040	92	3100	704	66	77
MIN	20	24	35	128	137	160	84	60	63	68	38	35
CFSM	.22	.67	2.77	4.76	8.20	4.63	3.74	.69	3.77	1.68	.46	.39
IN.	.26	.74	3.19	5.49	8.54	5.34	4.17	.80	4.20	1.94	.54	.43

CAL YR 1988 TOTAL 40521 MEAN 111 MAX 2090 MIN 17 CFSM 1.07 IN. 14.63
WTR YR 1989 TOTAL 98714 MEAN 270 MAX 5110 MIN 20 CFSM 2.63 IN. 35.65

03437000 CUMBERLAND RIVER AT DOVER, TN

LOCATION.--Lat 36°29'26", long 87°50'20", Stewart County, Hydrologic Unit 05130205, on left bank, 50 ft downstream from bridge on U.S. Highway 79, at Dover, 0.1 mile upstream from Dyer Creek, 0.6 mile upstream from Indian Creek, 0.8 mile upstream from former lock and dam D, and at mile 88.8.

DRAINAGE AREA.--16,530 mi^2, approximately.

PERIOD OF RECORD.--October 1986 to current year (gage height only). Prior to September 1965 (discharge), published in WSP 1910. Gage-height records collected in this vicinity 1917-22 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 1276: 1942. WSP 1706: Drainage area.

GAGE.--Water-stage encoder. Datum of gage is 300.00 ft, Sandy Hook datum. Oct. 1937 to Sept. 1965 at datum 24.25 ft higher. Staff gage above spillway at lock and dam D, at datum 24.25 ft higher, used during periods of crest-wicket manipulation.

REMARKS.--Flow regulated by eight lakes or reservoirs above station (see p. 91). U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height since October 1987, 66.15 ft Feb. 16, 1989; minimum 53.58 ft Mar. 17, 1987. Maximum gage height observed, 56.8 ft Jan. 25, 1937, at lock D; minimum observed, 6.8 ft in Sept. 1925, at lock D. Both extremes from unpublished records of U.S. Army Corps of Engineers and prior to closure of Barkley Dam.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 66.15 ft Feb. 16; minimum gage height 54.72 ft, Sept. 22.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	58.92	58.42	57.38	56.86	56.64	56.33	57.84	57.30	56.42	56.12	60.48	59.55
2	58.84	58.44	57.43	56.98	56.58	56.30	57.26	56.58	56.39	56.11	59.54	59.16
3	58.65	58.21	57.51	57.19	56.71	56.54	56.62	56.34	57.64	56.39	59.16	58.68
4	58.66	58.20	57.86	57.18	56.77	56.10	56.32	55.98	57.83	57.65	58.65	58.23
5	58.67	58.18	57.66	57.32	56.14	55.60	56.11	55.92	57.76	57.28	61.58	58.28
6	58.60	58.24	57.67	57.45	55.67	55.32	56.30	55.99	57.32	56.83	63.79	61.65
7	58.77	58.36	57.83	57.60	55.66	55.19	56.60	56.34	56.90	56.64	64.62	63.82
8	58.80	58.37	58.14	57.66	55.54	55.27	56.97	56.61	56.84	56.65	64.68	64.43
9	58.49	58.12	58.10	57.58	55.61	55.22	57.24	56.90	56.74	56.60	64.42	63.22
10	58.38	58.12	58.52	57.57	55.82	55.60	56.90	56.56	56.84	56.64	63.20	61.25
11	58.34	57.90	58.10	57.85	55.73	55.47	57.00	56.48	56.89	56.56	61.22	60.65
12	58.24	57.80	58.22	57.64	55.71	55.37	60.31	57.04	56.56	55.96	60.64	60.48
13	58.04	57.73	58.12	57.62	55.67	55.16	61.84	60.35	56.68	55.67	60.47	59.96
14	58.04	57.68	57.74	57.43	55.60	55.32	63.47	61.80	62.94	56.75	60.26	59.93
15	57.90	57.52	57.80	57.36	55.68	55.26	63.80	63.49	65.46	63.05	59.96	59.08
16	57.72	57.59	57.98	56.92	55.39	55.12	63.64	62.21	66.15	65.48	59.04	58.16
17	57.59	57.04	57.36	56.92	55.70	55.17	62.21	60.16	66.11	65.24	58.27	58.01
18	57.62	56.97	57.57	56.90	55.70	55.49	60.12	59.48	65.20	62.92	58.44	58.19
19	57.34	56.96	58.86	57.32	55.70	55.42	59.46	58.82	62.88	60.88	58.17	57.24
20	57.32	56.94	61.14	58.97	55.91	55.47	58.92	58.44	61.07	60.25	57.22	56.63
21	57.36	56.97	61.71	61.17	56.01	55.43	58.44	57.86	64.37	61.12	58.03	56.77
22	57.41	56.93	61.36	59.68	56.62	55.91	57.86	57.24	65.49	64.40	58.58	58.08
23	57.23	56.94	59.64	59.07	58.26	56.66	57.24	56.66	65.52	65.01	58.56	58.44
24	57.12	56.83	59.06	58.25	61.32	58.28	56.66	56.16	64.98	63.34	58.44	58.05
25	57.18	56.76	58.39	57.74	62.16	61.33	56.14	55.71	63.30	61.89	58.04	57.60
26	57.14	56.78	57.84	57.48	62.02	60.16	55.95	55.68	61.88	61.46	57.60	57.25
27	57.36	56.96	57.83	57.42	60.12	59.26	55.88	55.77	61.46	61.13	57.24	57.00
28	57.47	56.80	57.54	57.12	59.55	59.31	55.92	55.77	61.13	60.49	57.00	56.78
29	57.33	56.88	57.11	56.37	59.44	58.96	56.10	55.92	---	---	58.09	56.68
30	57.20	56.92	56.60	56.44	58.95	58.44	56.38	56.10	---	---	58.52	58.12
31	57.14	56.81	---	---	58.42	57.85	56.48	56.36	---	---	58.98	58.52
MONTH	58.92	56.76	61.71	56.37	62.16	55.12	63.80	55.68	66.15	55.67	64.68	56.63

03437000 CUMBERLAND RIVER AT DOVER, TN--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	59.19	58.99	59.41	59.09	59.45	58.86	60.14	59.85	57.83	57.61	57.41	56.94
2	59.08	58.64	59.37	59.09	59.36	58.73	61.34	59.84	57.79	57.56	57.21	56.98
3	59.43	58.88	59.48	58.96	59.27	58.58	62.22	61.36	58.04	57.80	56.98	56.66
4	62.34	59.51	59.19	58.96	59.44	58.97	62.22	61.64	58.00	57.82	56.70	56.42
5	62.54	62.34	59.01	58.77	59.82	59.08	61.63	61.19	57.82	57.65	56.67	56.31
6	62.32	61.57	59.14	58.46	59.84	59.29	61.40	61.19	57.76	57.56	56.70	56.14
7	61.57	60.64	59.12	58.84	59.84	59.41	61.41	59.92	57.80	57.06	56.60	56.12
8	61.04	60.52	59.24	58.89	59.70	59.45	61.07	60.45	57.72	57.06	56.68	56.28
9	61.98	61.04	59.87	59.23	59.69	59.56	60.44	60.01	57.53	56.80	56.78	56.31
10	62.40	62.00	59.64	59.46	59.64	59.55	60.00	59.73	57.38	56.78	56.78	56.51
11	62.64	62.41	59.55	59.27	59.64	59.51	59.75	59.48	57.44	56.98	56.61	56.22
12	62.60	62.50	59.36	59.12	60.04	59.46	59.48	59.28	57.45	56.97	56.72	55.96
13	62.49	62.21	59.30	59.00	61.79	60.06	59.68	59.37	57.41	56.88	56.50	55.83
14	62.20	61.76	59.20	58.88	61.79	61.28	59.54	59.27	57.23	56.70	56.52	55.85
15	61.76	61.20	59.12	58.72	62.90	61.27	59.26	59.19	57.21	56.55	56.12	55.92
16	61.20	60.45	59.07	58.72	63.32	62.93	59.17	58.59	57.12	56.74	56.15	55.88
17	60.43	59.70	59.08	58.75	63.25	62.30	58.58	58.23	57.24	56.69	56.45	56.07
18	59.74	59.14	58.88	58.62	62.28	60.84	58.29	58.20	57.16	56.85	56.40	55.90
19	59.36	58.91	58.90	58.66	60.83	60.57	58.50	58.33	57.20	56.76	55.85	55.49
20	59.06	58.64	59.24	58.76	60.57	60.50	58.53	58.36	57.41	56.88	55.76	55.38
21	59.05	58.53	59.59	59.19	60.74	60.56	58.44	58.27	57.23	56.79	55.44	54.97
22	59.08	58.52	59.84	59.48	60.62	60.26	58.55	58.28	57.29	56.72	55.35	54.72
23	59.08	58.70	59.82	59.50	60.54	60.28	58.52	58.27	57.11	56.63	56.76	55.14
24	59.08	58.67	59.81	59.32	60.42	59.93	58.26	57.80	57.06	56.50	57.41	56.80
25	59.27	58.75	59.54	59.11	60.02	59.87	57.83	57.63	57.08	56.44	57.20	55.87
26	59.42	58.81	59.46	59.14	60.18	60.03	57.82	57.58	57.17	56.79	55.86	55.27
27	59.40	58.80	59.88	59.15	60.08	59.90	58.04	57.76	57.25	56.86	55.48	54.84
28	59.48	59.02	60.28	59.81	60.35	60.08	58.15	57.83	57.17	56.55	55.20	54.98
29	59.60	59.12	59.92	59.60	60.45	60.36	58.12	57.92	57.27	56.71	54.97	54.84
30	59.52	59.06	59.74	59.49	60.42	60.17	58.01	57.74	57.15	56.52	55.23	54.79
31	---	---	59.49	59.19	---	---	57.88	57.64	57.16	56.70	---	---
MONTH	62.64	58.52	60.28	58.46	63.32	58.58	62.22	57.58	58.04	56.44	57.41	54.72

RESERVOIRS IN CUMBERLAND RIVER BASIN

03413500 LAKE CUMBERLAND.--Lat 36°52'09", long 85°08'45", Russell County, KY, Hydrologic Unit 05130103, in pylon of Wolf Creek Dam on Cumberland River and 10 mi southwest of Jamestown, Ky. DRAINAGE AREA, 5,789 mi^2. PERIOD OF RECORD, April 1950 to current year. Prior to October 1954, published as Wolf Creek Reservoir. April to June 1950, published in WSP 1726. GAGE, water-stage recorder. Datum of gage is Sandy Hook datum. Prior to Dec. 6, 1950, nonrecording gage at same site at datum 545.0 ft higher.

REVISIONS.--WSP 1556: Drainage area.

REMARKS.--Reservoir is formed by earth embankment and concrete gravity dam surmounted by 10 tainter gates, each 37 ft high by 50 ft wide. Final closure of dam made Aug. 7, 1950. Total capacity at elevation 760.00 ft top of gates, is 3,070,000 cfs-days, of which 1,056,000 cfs-days above elevation 723.00 ft, crest of spillway, are reserved for flood control and 1,080,000 cfs-days between elevation 673.00 ft, minimum power pool, and 723.00 ft are used for power production. Figures given herein represent total contents, of which 934,000 cfs-days below elevation 673.00 ft is dead storage. Reservoir is used for flood control, power, navigation, and recreation.

COOPERATION.--Records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,811,000 cfs-days, May 13, 1984, elevation, 751.70 ft; minimum, after first filling, 934,400 cfs-days, Jan. 1, 1956, elevation, 673.01 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,326,800 cfs-days, Mar. 8, elevation, 734.90 ft; minimum, 1,201,600 cfs-days, Nov. 4, elevation, 687.07 ft.

03416500 DALE HOLLOW LAKE.--Lat 36°32'19", long 85°27'05", Clay County, Hydrologic Unit 05130105, at Dale Hollow Dam on Obey River, 3.0 mi east of Celina, and 7.3 mi upstream from mouth. DRAINAGE AREA, 936 mi^2. PERIOD OF RECORD, August 1943 to current year. Prior to October 1965, published as Dale Hollow Reservoir. GAGE, water-stage recorder. Datum of gage is Sandy Hook datum. Prior to June 25, 1946, nonrecording gage at same site and datum.

REVISIONS.--WSP 1306: 1944. WSP 2110: Drainage area.

REMARKS.--Reservoir is formed by concrete gravity dam. Spillway is equipped with six taintor gates, each 12 ft high by 60 ft wide. Closure of dam was made Aug. 30, 1943; water in reservoir first reached minimum pool elevation May 7, 1944. Revised capacity table used after Sept. 30, 1970. Total capacity at elevation 663.0 ft, top of gates, is 859,800 cfs-days of which 177,500 cfs-days between elevations 663.00 ft and 651.00 ft, crest of spillway, are reserved for flood control, and 250,200 cfs-days between elevations 651.00 ft and 631.00 ft, ordinary minimum pool, are used for power production. Contents of 432,100 cfs-days below elevation 631.00 ft is dead storage. Reservoir is used for flood control, navigation, and power.

COOPERATION.--Records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 828,600 cfs-days, Mar. 15, 1975, elevation, 660.98 ft; minimum, after first filling, 428,000 cfs-days, Sept. 11, 1944, elevation, 630.63 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 755,600 cfs-days, Mar. 8, elevation, 656.12 ft; minimum, 494,600 cfs-days, Nov. 3, elevation, 636.46 ft.

03418400 CORDELL HULL RESERVOIR.--Lat 36°17'23", long 85°56'39", Smith County, Hydrologic Unit 05130108, at Cordell Hull Dam on Cumberland River, 2.7 mi north of Carthage, and at mile 313.5. DRAINAGE AREA, 8,095 mi^2. PERIOD OF RECORD, October 1972 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete gravity dam with earth embankment. Spillway is equipped with five taintor gates, each 41 ft high and 45 ft wide. Closure of dam was made Oct. 4, 1967; water in reservoir first reached ordinary minimum pool Mar. 13, 1973. Total capacity at elevation 508.0 ft, maximum surcharge pool, is 156,700 cfs-days, of which 53,400 cfs-days is controlled storage between elevations 508.0 ft and 499.0 ft, ordinary minimum pool. Contents of 5,000 cfs-days between elevation of 499.0 ft and 500.0 ft full winter pool, is available for power production. Contents of 48,400 cfs-days above 500.0 ft is available for flood control during the winter, and 26,100 cfs-days above 504.0 ft, full pool during spring to fall season, is available for flood control the rest of the year. Contents of 103,300 cfs-days below elevation 499.0 ft is dead storage. Reservoir is used for navigation, power, and flood control.

COOPERATION.--Records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 156,700 cfs-days, Mar. 13, 1975, May 8, 1984, elevation, 508.00 ft; minimum, after first filling to ordinary minimum pool, 96,700 cfs-days, Apr. 18, 1974, elevation, 497.65 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 136,100 cfs-days, July 3, elevation, 504.88 ft; minimum, 102,800 cfs-days, Feb. 10, elevation, 498.90 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03413500	LAKE CUMBERLAND		03416500	DALE HOLLOW LAKE		03418400	CORDELL HULL RESERVOIR	
Sept. 30...	690.58	1,272,600	-	637.36	505,300	-	504.10	131,200	-
Oct. 31...	687.49	1,210,000	-62,600	636.51	495,200	-10,100	501.86	118,300	-12,900
Nov. 30...	699.04	1,450,900	+240,900	640.06	538,200	+43,000	500.66	111,800	-6,500
Dec. 31...	703.74	1,554,600	+103,700	642.37	567,200	+29,000	500.10	108,800	-3,000
CAL YR 1988	-	-	+316,800	-	-	+56,100	-	-	-3,000
Jan. 31...	710.83	1,717,100	+162,500	645.27	604,600	+37,400	500.45	110,700	+1,900
Feb. 28...	728.06	2,144,100	+427,000	652.49	703,300	+98,700	499.60	106,300	-4,400
Mar. 31...	723.60	2,029,100	-115,000	650.83	679,900	-23,400	499.75	107,000	+700
Apr. 30...	722.85	2,010,100	-19,000	650.51	675,500	-4,400	504.02	130,800	+23,800
May 31...	724.41	2,049,700	+39,600	651.94	695,500	+20,000	503.81	129,500	-1,300
June 30...	728.45	2,154,300	+104,600	650.12	670,100	-25,400	504.45	133,400	+3,900
July 31...	718.73	1,907,100	-247,200	647.62	635,900	-34,200	504.20	131,900	-1,500
Aug. 31...	711.23	1,726,500	-180,600	645.50	607,700	-28,200	504.11	131,300	-600
Sept. 30...	714.64	1,807,600	+81,100	644.00	588,100	-19,600	504.46	133,500	+2,200
WTR YR 1989	-	-	+535,000	-	-	+82,800	-	-	+2,300

RESERVOIRS IN CUMBERLAND RIVER BASIN--Continued

03422000 GREAT FALLS LAKE.--Lat 35°48'21", long 85°38'09", Warren County, Hydrologic Unit 05130108, at penstock inlet on Collins River, 700 ft southwest of powerhouse of Tennessee Valley Authority, 1.5 mi northwest of Rock Island, 1.8 mi upstream from mouth of Collins River, and 2.0 mi upstream from Great Falls Dam on Caney Fork. DRAINAGE AREA, 1,677 mi^2. PERIOD OF RECORD, January 1917 to current year. GAGE, remote indicator gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REVISIONS.--WSP 2110: Drainage area.

REMARKS.--Reservoir is formed by concrete gravity dam. Spillway is equipped with 18 taintor gates, each 14 ft high by 25 ft wide. Closure of dam was made in 1916; dam redesigned and crest raised 35 ft in 1925. Revised capacity table used after Sept. 30, 1970. Total capacity at elevation 805.3 ft top of gates, is 25,900 cfs-days, of which 18,700 cfs-days are controlled storage above elevation 780.0 ft, normal minimum pool. Contents of 1,500 cfs-days below elevation 762.0 ft is dead storage. Reservoir is used primarily for power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum midnight elevation, 817.48 ft, Mar. 23, 1929, contents not determined; minimum midnight contents, 1,700 cfs-days, Aug. 19, 1918, elevation, 756.3 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 26,500 cfs-days, Mar. 5, elevation, 806.40 ft; minimum, 14,300 cfs-days, Dec. 12, elevation, 792.02 ft.

03424000 CENTER HILL LAKE.--Lat 36°05'48", long 85°49'38", DeKalb County, Hydrologic Unit 05130108, at Center Hill Dam on Caney Fork, 10 mi north of Smithville, 14 mi southeast of Carthage, and at mile 26.6. DRAINAGE AREA, 2,174 mi^2. PERIOD OF RECORD, October 1948 to current year. Prior to October 1965, published as Center Hill Reservoir. GAGE, water-stage recorder. Datum of gage is Sandy Hook datum. Prior to Mar. 14, 1949, nonrecording gage at site 1,320 ft upstream at same datum.

REVISIONS.--WSP 1910: Drainage area.

REMARKS.--Reservoir is formed by earth embankment and concrete gravity dam. Spillway is equipped with eight taintor gates, each 37 ft high by 50 ft wide. Closure of dam was made Nov. 27, 1948; water in reservoir first reached minimum pool elevation Jan. 11, 1949. Revised capacity table used after Sept. 30, 1970. Total capacity at elevation 685.0 ft, top of gates, is 1,054,800 cfs-days, of which 384,500 cfs-days between 685.0 ft and 648.0 ft, crest of spillway, are reserved for flood control, and 248,000 cfs-days between elevations 648.0 ft and 618.0 ft, ordinary minimum pool, are used for power production. Contents of 422,300 cfs-days below 618.0 ft is dead storage. Reservoir is used for flood control, navigation, and power.

COOPERATION.--Records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,014,600 cfs-days, May 10, 1984, elevation, 681.52 ft; minimum, after first filling, 171,000 cfs-days, Dec. 1, 2, 1949, elevation, 576.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 777,400 cfs-days, Mar. 7, elevation, 659.21 ft; minimum, 480,400 cfs-days, Dec. 21, elevation, 625.65 ft.

03426300 OLD HICKORY LAKE.--Lat 36°17'50", long 86°39'20", Sumner County, Hydrologic Unit 05130201, at Old Hickory Dam on Cumberland River, 2.0 mi west of Hendersonville, 10 mi northeast of the State Capitol in Nashville, and at mile 216.2. DRAINAGE AREA, 11,673 mi^2. PERIOD OF RECORD, June 1954 to current year. GAGE, water-stage recorder. Datum of gage is 408.5 ft National Geodetic Vertical Datum of 1929; gage readings have been reduced to elevations NGVD. Prior to Apr. 4, 1957, nonrecording gage at same site and datum.

REVISIONS.--WSP 2110: Drainage area.

REMARKS.--Reservoir is formed by concrete gravity dam with earth embankment. Spillway is equipped with six taintor gates, each 41 ft high and 45 ft wide. Closure of dam was made in June 1954 and water in reservoir was raised sufficiently to maintain navigation through the lock. Water in reservoir first reached ordinary minimum pool elevation Dec. 30, 1956. Revised capacity table used after Sept. 30, 1970. Total capacity at elevation 450.0 ft, maximum surcharge pool, 274,600 cfs-days of which 63,000 cfs-days between elevations 450.0 ft and 445.0 ft, normal pool, are induced surcharge storage provided to compensate for loss of natural valley storage incurred by construction of the project, and 31,800 cfs-days between elevations 445.0 ft and 442.0 ft, ordinary minimum pool, are used for power production. Contents of 179,800 cfs-days below elevation 442.0 ft, is dead storage. Reservoir is used for navigation and power.

COOPERATION.--Records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 277,200 cfs-days, May 9, 1984, elevation, 450.18 ft; minimum, after first filling to ordinary minimum pool, 179,400 cfs-days, Oct. 22, 1957, Oct. 28, 1969, elevation, 441.96 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 242,200 cfs-days, Feb. 15, elevation, 447.55 ft; minimum, 195,800 cfs-days, Jan. 31, elevation, 443.56 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03422000 GREAT FALLS LAKE			03424000 CENTER HILL LAKE			03426300 OLD HICKORY LAKE		
Sept. 30...	793.32	15,200	-	627.63	496,000	-	444.43	205,200	-
Oct. 31...	793.94	15,600	+400	626.88	490,000	-6,000	444.32	204,000	-1,200
Nov. 30...	793.86	15,600	0	635.55	560,700	+70,700	444.75	208,800	+4,800
Dec. 31...	800.10	20,600	+5,000	634.46	551,600	-9,100	444.08	201,400	-7,400
CAL YR 1988	-	-	+6,000	-	-	+57,300	-	-	-4,700
Jan. 31...	802.20	22,400	+1,800	641.36	610,700	+59,100	444.40	204,900	+3,500
Feb. 28...	803.97	24,000	+1,600	648.57	675,500	+64,800	445.46	216,900	+12,000
Mar. 31...	805.52	25,500	+1,500	647.85	668,900	-6,600	445.04	212,100	-4,800
Apr. 30...	800.00	20,500	-5,000	648.18	671,900	+3,000	444.46	205,600	-6,500
May 31...	802.97	23,000	+2,500	649.81	687,000	+15,100	444.18	202,500	-3,100
June 30...	799.89	20,400	-2,600	648.69	676,600	-10,400	444.01	200,600	-1,900
July 31...	798.63	19,300	-1,100	644.40	637,600	-39,000	444.52	206,200	+5,600
Aug. 31...	799.06	19,700	+400	638.21	583,300	-54,300	444.46	205,600	-600
Sept. 30...	800.03	20,500	+800	642.80	623,400	+40,100	445.30	215,000	+9,400
WTR YR 1989	-	-	+5,300	-	-	+127,400	-	-	+9,800

RESERVOIRS IN CUMBERLAND RIVER BASIN--Continued

03430050 J. PERCY PRIEST RESERVOIR.--Lat 36°09'23", long 86°37'07", Davidson County, Hydrologic Unit 05130203, on upstream face of J. Percy Priest Dam on Stones River, 2.6 mi east of Donelson, and 6.8 mi above mouth. DRAINAGE AREA, 892 mi^2. PERIOD OF RECORD, September 1967 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Dec. 15, 1967, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by concrete gravity dam with earth embankments. Spillway is equipped with four taintor gates, each 41 ft high by 45 ft wide. Closure of dam was made Sept. 18, 1967; water in reservoir first reached ordinary minimum pool May 15, 1968. Revised capacity table used after Sept. 30, 1970. Total capacity at elevation 504.5 ft, maximum controlled pool, is 328,700 cfs-days of which 193,600 cfs-days is controlled storage between elevations 504.5 ft and 480.0 ft, ordinary minimum pool. Contents of 17,200 cfs-days between elevations 480.0 ft and 483.0 ft, full winter pool, is available for power production. Contents of 176,400 cfs-days above 483.0 ft is available for flood control during the winter, and 131,100 cfs-days above 490.0 ft, full pool during spring-to-fall season, is available for flood control the rest of the year. Contents of 135,100 cfs-days below elevation 480.0 ft is dead storage. Reservoir is used for flood control, power, recreation, and wildlife.

COOPERATION.--Records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 336,600 cfs-days, May 9, 1984, elevation, 505.18 ft; minimum, after first filling to ordinary minimum pool, 109,500 cfs-days, Dec. 5, 1968, elevation, 474.75 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 260,000 cfs-days, Mar. 8, elevation, 497.80 ft; minimum, 146,700 cfs-days, Jan. 31, elevation, 482.05 ft.

03434900 CHEATHAM LAKE.--Lat 36°18'56", long 87°13'10", Cheatham County, Hydrologic Unit 05130202, at Cheatham Dam on Cumberland River, 9.4 mi west of Ashland City, 16 mi southeast of the courthouse in Clarksville, and at mile 148.7. DRAINAGE AREA, 14,159 mi^2.

REMARKS.--Reservoir is formed by concrete gravity dam. Spillway is equipped with seven semi-submersible taintor gates, each 27 ft high by 60 ft wide. Total capacity at elevation 385.0 ft, normal pool, is 52,200 cfs-days, of which 9,800 cfs-days are controlled storage. Records of contents not published herein.

03438210 LAKE BARKLEY.--Lat 37°01'17", long 88°13'16", Lyon County, KY, Hydrologic Unit 05130205, in powerhouse of Barkley Dam on Cumberland River, 1.4 mi northeast of Grand Rivers, KY, and at mile 30.6. DRAINAGE AREA, 17,598 mi^2. PERIOD OF RECORD, July 1964 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929, (levels by U.S. Army Corps of Engineers). Prior to Jan. 1, 1966, nonrecording gage, 1,200 ft upstream from Barkley Dam at same datum.

REMARKS.--Reservoir is formed by concrete gravity dam with earth embankments. Spillway is equipped with 12 taintor gates, each 50 ft high by 55 ft wide. Construction cofferdam was closed and limited storage began July 1, 1964; reservoir reached ordinary minimum pool elevation of 354.0 ft Feb. 16, 1966. Total level pool capacity at elevation 375.0 ft, top of gates, is 1,049,600 cfs-days, of which 742,000 cfs-days is controlled storage above 354.0 ft, ordinary minimum pool. Contents of 130,500 cfs-days between ordinary minimum pool elevation, 354.0 ft, and full pool elevation, 359.0 ft, is available for power during the spring-to-fall season. Minimum pool elevation in advance of floods is 346.0 ft, contents 171,000 cfs-days. Reservoir is used for navigation, flood control, power, and recreation. Barkley-Kentucky Canal opened June 13, 1966, for navigation and power use. Canal is 1.75 mi long and interconnects Lake Barkley and Kentucky Lake at a point 2.2 mi upstream from Barkley Dam. For daily discharges through the canal, see station 03438190, Kentucky reports.

COOPERATION.--Records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 370.04 ft, May 13, 1984; minimum after reaching permanent pool elevation, 353.20 ft, Dec. 20, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 518,800 cfs-days, Apr. 11, elevation, 361.63 ft; minimum contents, 317,900 cfs-days, Mar. 21, minimum elevation, 354.45 ft. Contents based on backwater profile.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03430050 J. PERCY PRIEST LAKE			03438210 LAKE BARKLEY‡		
Sept. 30.....	490.67	202,500	-	358.85	433,700	-
Oct. 31.....	487.54	180,600	-21,900	357.20	387,500	-46,200
Nov. 30.....	487.95	183,400	+2,800	355.90	353,300	-34,200
Dec. 31.....	486.45	173,500	-9,900	356.80	376,800	+23,500
CAL YR 1988	-	-	+8,700	-	-	-7,900
Jan. 31.....	483.07	152,700	-20,800	355.63	346,500	-30,300
Feb. 28.....	489.05	190,900	+38,200	358.00	409,500	+63,000
Mar. 31.....	488.15	184,700	-6,200	356.45	367,500	-42,000
Apr. 30.....	490.13	198,600	+13,900	359.20	443,900	+76,400
May 31.....	490.54	201,600	+3,000	359.17	443,100	-800
June 30.....	490.87	204,000	+2,400	359.10	441,000	-2,100
July 31.....	490.45	200,900	-3,100	357.50	395,600	-45,400
Aug. 31.....	490.23	199,300	-1,600	356.90	379,400	-16,200
Sept. 30.....	491.80	210,900	+11,600	354.46	318,600	-60,800
WTR YR 1989	-	-	+8,400	-	-	-115,100

‡ Contents based on backwater profile.

03455000 FRENCH BROAD RIVER NEAR NEWPORT, TN

LOCATION.--Lat 35°58'54", long 83°09'40", Cocke County, Hydrologic Unit 06010105, on left bank, 200 ft upstream from bridge on U.S. Highway 321, 1.0 mi northeast of Newport city limits, 3.7 mi upstream from Pigeon River, and at mile 77.5.

DRAINAGE AREA.--1,858 mi^2.

PERIOD OF RECORD.--September to December 1900, February to August 1901, October to November 1901, November 1902 to December 1905, September to December 1907, October 1920 to current year. Monthly discharge only October to November 1920, published in WSP 1306.

REVISED RECORDS.--WSP 783: 1933-34. WSP 823: Drainage area. WSP 893: 1928(M). WSP 1306: 1900-1908. WSP 1336: 1903(M), 1921-22(M), 1923, 1925(M), 1927(M), 1928, 1932. WSP 1706: 1901(M).

GAGE.--Water-stage recorder. Datum of gage is 1,011.61 ft above National Geodetic Vertical Datum of 1929. See WSP 1910 for history of changes prior to Mar. 31, 1934.

REMARKS.--No estimated daily discharges. Records good. Diurnal fluctuation during low flow caused by powerplants above station. Periodic observations of water temperature and specific conductance are published in this reort as miscellaneous water quality data.

AVERAGE DISCHARGE.--71 years (water years 1904-05, 1921-89), 2,933 ft^3/s, 21.44 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 76,300 ft^3/s, Aug. 30, 1940, gage height, 19.25 ft; minimum, 208 ft^3/s, Oct. 23, 1952, gage height, 0.97 ft; minimum daily, 240 ft^3/s, Sept. 9, 1925; minimum gage height, 0.86 ft, Aug. 4, 1986.

EXTREMES OUTSIDE PERIOD OF RECORD.--From reports of Tennessee Valley Authority, the flood of Mar. 7, 1867, gage height, 24 ft, present datum, discharge, estimated, 110,000 ft^3/s, has not been exceeded since that date. From the same reports, other outstanding floods occurred Feb. 28, 1902, gage height, 23.0 ft present datum, discharge, estimated, 101,000 ft^3/s; and July 17, 1916, gage height, 22.5 ft, present datum, discharge, estimated, 97,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Sept. 22	2130	*16,500	*8.24	No other peak greater than base discharge.			

Minimum discharge, 417 ft^3/s, Oct. 1; minimum daily, 463 ft^3/s, Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	463	654	1800	3300	1290	10900	2720	3600	1890	3580	4450	2160
2	620	721	1570	3500	1310	7020	2470	8840	1860	3670	4160	1940
3	1300	741	1430	2760	1260	4960	2370	5990	1960	3320	3610	1880
4	2740	702	1240	2170	1260	4380	2470	4230	2010	6230	2840	1740
5	2690	760	1210	1790	1320	4490	3720	3700	3380	8810	2390	1620
6	1720	1610	1210	1720	2330	5810	4320	11100	4580	8320	2340	1560
7	1300	2010	1100	1740	3630	7110	3790	9340	3920	9280	2290	1650
8	1060	1430	1070	1790	2960	6500	4680	6520	2830	10900	2060	1960
9	994	1150	1020	1850	2280	5070	6050	4920	2620	7430	1930	1770
10	927	1010	984	1820	1840	3930	5110	5460	4040	5690	1820	1720
11	889	1040	984	2160	1640	3400	4230	5250	3770	4520	1810	1720
12	831	962	962	3290	1550	3050	3650	4530	2830	4440	1740	2030
13	811	898	877	6550	1440	2860	3300	3910	2790	4380	2040	1930
14	825	850	877	5390	1300	2510	2970	3480	2790	3810	2130	2190
15	721	860	887	3720	1280	2450	2860	3290	3440	3540	2130	2680
16	717	814	909	3190	1280	2490	3030	3290	5590	3180	2380	3540
17	676	1030	915	2840	1670	2390	2990	2990	11000	3020	2320	3140
18	663	1210	849	2430	3630	2310	2560	2700	8530	2880	2350	2370
19	679	1140	793	2180	3430	2760	2400	2560	6850	2780	2580	1950
20	686	1080	757	1970	2820	2560	2280	2540	7910	2730	2790	1750
21	668	1100	829	1800	4210	3010	2170	2550	7480	2790	2370	1690
22	694	2150	918	1680	6740	3900	2070	2460	8510	3880	1990	5690
23	722	1750	955	1510	5300	3910	2030	3510	9650	4680	1840	9640
24	768	1440	1040	1400	3800	5860	1980	3520	10000	3770	1870	5200
25	772	1340	1300	1420	2950	6340	1950	2860	8510	3390	2380	3520
26	700	1240	1250	1420	2650	4820	1920	2460	6500	3350	2080	6580
27	700	1210	1200	1460	2880	3840	1860	2690	4890	3370	2450	7230
28	672	1770	1090	1350	9840	3350	1970	2520	4040	3810	2780	5020
29	656	2850	1100	1270	---	2990	2640	2220	3970	3100	3370	3820
30	621	2180	1130	1280	---	2900	3070	2090	3750	2720	3520	7520
31	624	---	1740	1320	---	2780	---	2030	---	4600	2660	---
TOTAL	28909	37702	33996	72070	77890	130650	89630	127150	151890	141970	77470	97210
MEAN	933	1257	1097	2325	2782	4215	2988	4102	5063	4580	2499	3240
MAX	2740	2850	1800	6550	9840	10900	6050	11100	11000	10900	4450	9640
MIN	463	654	757	1270	1260	2310	1860	2030	1860	2720	1740	1560
CFSM	.50	.68	.59	1.25	1.50	2.27	1.61	2.21	2.72	2.46	1.35	1.74
IN.	.58	.75	.68	1.44	1.56	2.62	1.79	2.55	3.04	2.84	1.55	1.95

CAL YR 1988 TOTAL 481894 MEAN 1317 MAX 8230 MIN 432 CFSM .71 IN. 9.65
WTR YR 1989 TOTAL 1066537 MEAN 2922 MAX 11100 MIN 463 CFSM 1.57 IN. 21.35

03465500 NOLICHUCKY RIVER AT EMBREEVILLE, TN

LOCATION.--Lat 36°10'35", long 82°27'27", Washington County, Hydrologic Unit 06010108, on left bank, at Embreeville, 1,000 ft upstream from bridge on State Highway 81, 3 mi northwest of Erwin, 5.2 mi downstream from North Indian Creek, and at mile 89.0.

DRAINAGE AREA.--805 mi^2.

PERIOD OF RECORD.--September 1900 to May 1901 (published as "near Chucky Valley"), October 1919 to current year. Monthly discharge only October 1919 to June 1920, published in WSP 1306.

REVISED RECORDS.--WSP 803: 1935(M). WSP 823: Drainage area. WSP 1336: 1921-24, 1931(M).

GAGE.--Water-stage recorder. Datum of gage is 1,519.30 ft above National Geodetic Vertical Datum of 1929. Sept. 1, 1900 to May 21, 1901, nonrecording gage at site 3 mi downstream at different datum, destroyed by flood of May 21, 1901. July 1, 1920 to Sept. 30, 1931, nonrecording gage at bridge 2,000 ft downstream at datum 6.33 ft lower.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--70 years (water years 1920-89), 1,349 ft^3/s, 22.76 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 110,000 ft^3/s, Nov. 6, 1977, gage height, 21.52 ft, from rating curve extended above 48,000 ft^3/s on basis of contracted-opening and slope-area measurements of peak flow; minimum, 85 ft^3/s, Sept. 8, 9, 1925.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 21, 1901, reached a stage of 24 ft, discharge, 120,000 ft^3/s, present site and datum, from reports of Tennessee Valley Authority.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
May 2	0400	10,500	5.27	Sept. 22	1830	*29,000	*9.27

Minimun discharge, 218 ft^3/s, Dec. 19, result of unknown upstream regulation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	231	314	716	2330	655	3670	1430	3070	820	1170	1500	926
2	322	332	638	1930	612	2690	1280	8620	786	1130	1430	771
3	748	322	576	1330	602	2400	1240	4420	782	1060	1040	676
4	758	300	536	1050	619	2810	1270	2930	794	2010	805	616
5	684	450	503	878	655	3550	1770	2700	805	4560	688	577
6	482	1690	467	871	1040	4470	1990	7090	1120	2810	832	570
7	401	853	447	997	1770	3940	1800	4600	1080	2370	739	623
8	372	628	429	975	1690	2810	2070	3330	901	2690	648	683
9	350	539	431	1030	1300	2240	2750	2820	943	1970	575	604
10	334	506	431	1010	1020	1900	2540	3610	1220	1640	541	619
11	321	543	411	1030	911	1670	2160	3210	980	1330	518	629
12	304	504	374	1990	898	1500	1890	2710	829	1180	502	1280
13	288	460	317	5090	807	1380	1720	2290	1030	1110	607	1300
14	277	435	331	4020	746	1280	1590	2000	1100	1180	670	1500
15	273	411	429	2630	717	1200	1640	1880	1470	974	745	1250
16	271	399	400	2170	692	1290	1880	1730	2150	899	930	1810
17	275	597	360	1690	933	1190	1620	1550	4660	884	801	1890
18	269	740	312	1400	1370	1320	1470	1410	2630	828	779	1300
19	267	589	271	1220	1250	1970	1370	1310	1830	782	987	1030
20	266	536	350	1070	1270	1740	1270	1260	1710	780	892	877
21	282	681	408	953	3630	2540	1180	1200	1810	934	761	854
22	341	666	394	853	5560	3050	1110	1140	1900	910	701	11300
23	371	552	390	793	3340	2660	1060	1470	1850	1270	613	8780
24	379	526	444	752	2340	3660	1050	1380	1760	1050	1030	3860
25	378	516	627	706	1800	3090	1090	1140	1440	922	1270	2620
26	357	475	619	677	1660	2420	984	1040	1270	943	1020	5580
27	334	527	513	741	1640	2020	952	1260	1500	946	1030	3710
28	331	1100	486	689	2690	1750	1360	1170	1920	1070	910	2650
29	312	1120	527	627	---	1580	1890	1010	1650	904	1510	2230
30	300	829	527	638	---	1590	2500	937	1280	745	1490	3010
31	299	---	918	699	---	1520	---	874	---	1250	1260	---
TOTAL	11177	18140	14582	42839	42217	70900	47926	75161	44020	42301	27824	64125
MEAN	361	605	470	1382	1508	2287	1598	2425	1467	1365	898	2137
MAX	758	1690	918	5090	5560	4470	2750	8620	4660	4560	1510	11300
MIN	231	300	271	627	602	1190	952	874	782	745	502	570
CFSM	.45	.75	.58	1.72	1.87	2.84	1.98	3.01	1.82	1.70	1.11	2.66
IN.	.52	.84	.67	1.98	1.95	3.28	2.21	3.47	2.03	1.95	1.29	2.96

CAL YR 1988 TOTAL 240424 MEAN 657 MAX 3430 MIN 176 CFSM .82 IN. 11.11
WTR YR 1989 TOTAL 501212 MEAN 1373 MAX 11300 MIN 231 CFSM 1.71 IN. 23.16

03466228 SINKING CREEK AT AFTON, TN

LOCATION.--Lat 36°11'55", long 82°44'31", Greene County, Hydrologic Unit 06010108, on left bank 300 ft upstream from bridge on county road, 0.4 mi northwest of Afton, and at mile 3.1.

DRAINAGE AREA.--13.7 mi^2.

PERIOD OF RECORD.--July 1977 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,459.36 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--12 years, 11.5 ft^3/s, 11.40 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,510 ft^3/s, July 21, 1979, gage height, 7.79 ft, from rating curve extended above 100 ft^3/s on basis of area-velocity study; minimum, 0.9 ft^3/s, July 9, 10, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 180 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
June 17	0545	*172	*3.17				

Minimum discharge, 1.1 ft^3/s, part of each day Oct. 13, 18, 20, Nov. 3 and all of each day Oct. 14-17, Oct. 21 to Nov. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.1	3.3	30	14	36	16	17	9.4	17	11	6.5
2	2.3	1.1	3.1	18	13	27	15	24	8.6	20	11	6.4
3	1.9	1.3	2.9	15	12	24	15	15	9.0	15	9.6	5.9
4	1.5	1.4	2.9	11	13	22	16	13	8.8	18	9.0	5.8
5	1.4	2.2	2.8	9.8	20	22	18	20	8.7	23	8.7	5.4
6	1.4	2.8	2.8	13	38	29	16	37	12	16	8.7	5.4
7	1.4	2.2	2.7	13	48	25	16	24	27	16	8.5	5.8
8	1.4	1.9	2.3	40	31	22	22	19	14	16	8.0	5.6
9	1.4	1.7	2.4	23	24	20	24	18	13	17	7.7	5.3
10	1.4	1.8	2.5	19	21	19	18	20	15	14	7.7	6.5
11	1.4	1.9	2.5	20	19	18	17	18	11	13	7.4	7.4
12	1.4	1.8	2.5	46	18	18	16	16	11	12	7.4	6.7
13	1.3	1.8	2.5	74	17	17	15	15	24	13	7.3	6.5
14	1.1	1.9	2.5	35	16	17	14	14	19	12	7.1	5.6
15	1.1	1.8	2.4	30	16	16	14	15	18	11	12	5.4
16	1.1	2.0	2.4	25	15	16	14	15	58	11	8.3	20
17	1.1	6.0	2.5	22	21	15	13	13	110	11	7.7	8.9
18	1.3	3.2	2.5	19	33	16	13	13	33	10	7.6	7.3
19	1.4	2.8	2.3	18	31	16	12	12	26	10	7.3	6.7
20	1.1	4.1	2.1	17	34	15	12	13	25	11	7.0	6.1
21	1.1	4.0	2.3	15	57	30	12	12	23	11	6.8	5.9
22	1.1	3.3	2.6	14	39	24	12	11	20	12	6.8	7.9
23	1.1	2.8	2.8	14	31	25	12	11	19	11	6.6	8.2
24	1.1	2.4	8.6	13	27	33	12	11	17	9.4	18	6.7
25	1.1	2.5	13	13	24	24	13	11	17	9.3	12	7.0
26	1.1	2.4	7.3	12	23	21	12	9.8	15	9.0	8.5	26
27	1.1	3.4	5.6	14	21	20	11	14	15	9.8	7.9	11
28	1.1	7.7	5.1	12	31	18	10	12	15	21	7.5	8.9
29	1.1	5.1	5.1	11	---	18	12	10	14	29	7.8	8.8
30	1.1	4.0	4.9	15	---	17	11	10	13	12	8.0	18
31	1.1	---	13	16	---	18	---	9.7	---	10	7.2	---
TOTAL	39.7	82.4	122.2	646.8	707	658	433	472.5	628.5	429.5	266.1	247.6
MEAN	1.28	2.75	3.94	20.9	25.2	21.2	14.4	15.2	20.9	13.9	8.58	8.25
MAX	2.3	7.7	13	74	57	36	24	37	110	29	18	26
MIN	1.1	1.1	2.1	9.8	12	15	10	9.7	8.6	9.0	6.6	5.3
CFSM	.09	.20	.29	1.52	1.84	1.55	1.05	1.11	1.53	1.01	.63	.60
IN.	.11	.22	.33	1.76	1.92	1.79	1.18	1.28	1.71	1.17	.72	.67

CAL YR 1988 TOTAL 1345.4 MEAN 3.68 MAX 91 MIN 1.1 CFSM .27 IN. 3.65
WTR YR 1989 TOTAL 4733.3 MEAN 13.0 MAX 110 MIN 1.1 CFSM .95 IN. 12.85

03469175 LITTLE PIGEON RIVER ABOVE SEVIERVILLE, TN

LOCATION.--Lat 35°51'55", long 83°32'01", Sevier County, Hydrologic Unit 06010107, on left bank of county road, 1.2 mi downstream from East Fork, 1.2 mi upstream from West Prong, 0.8 mi east of Sevierville, and at mi 7.5.

DRAINAGE AREA.-- 184 mi^2.

PERIOD OF RECORD.--August 1988 to September 1989.

GAGE.--Water-stage recorder. Datum of gage is 898.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. The town of Sevierville diverts an average of about 1.5 ft^3/s (1.0 MGD) for water supply, at the gage. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR CURRENT PERIOD.--August to September 1988: Maximum discharge, 1,690 ft^3/s, Sept. 4, gage height 4.33 ft; minimum recorded, 44 ft^3/s, Sept. 30, but may have been less during period of no gage height record Aug. 1-11.

Water year 1989: Maximum discharge, 7,040 ft^3/s, Sept. 22, gage height 15.22 ft, from rating curve extended above 3,000 ft^3/s; minimum, 39 ft^3/s, Oct. 19, 21, 22; minimum daily, 40 ft^3/s Oct. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1											e50	101
2											e45	87
3											e50	74
4											e120	628
5											e110	685
6											e150	282
7											e105	201
8											e90	156
9											e80	124
10											e105	105
11											e95	98
12											110	93
13											150	85
14											103	82
15											78	70
16											83	79
17											65	98
18											54	226
19											51	134
20											272	103
21											381	87
22											165	75
23											120	66
24											111	82
25											99	69
26											81	65
27											69	56
28											59	50
29											54	48
30											149	44
31											112	---
TOTAL											3366	4153
MEAN											109	138
MAX											381	685
MIN											45	44
CFSM											.59	.75
IN.											.68	.84

e Estimated

03469175 LITTLE PIGEON RIVER ABOVE SEVIERVILLE, TN--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	52	170	1260	163	1680	290	608	154	1220	585	167
2	84	51	143	587	147	1030	244	1670	146	822	598	168
3	186	47	125	390	142	735	262	731	142	585	387	142
4	203	44	114	301	177	829	512	451	140	834	281	128
5	166	518	101	235	421	1330	1160	1030	705	804	218	113
6	119	295	94	274	1640	1760	682	2240	754	647	211	103
7	97	172	87	254	1900	1040	672	1290	648	634	216	105
8	84	129	80	341	1030	669	947	748	383	509	163	99
9	76	119	80	399	556	516	980	577	317	397	141	89
10	70	107	82	372	393	426	684	1360	322	316	127	83
11	65	126	75	460	320	368	523	864	245	322	116	177
12	60	110	68	1110	272	325	430	599	205	492	105	172
13	55	99	62	2220	234	289	375	463	282	476	99	157
14	52	97	60	1320	213	264	345	378	277	335	92	305
15	51	84	59	882	201	250	377	329	970	280	109	360
16	49	82	59	594	185	244	424	289	1780	240	141	956
17	47	510	57	428	957	210	384	250	2070	225	113	453
18	45	286	53	339	1870	243	356	222	977	191	181	287
19	42	203	50	280	1100	394	305	201	579	174	145	218
20	42	609	53	238	674	298	268	326	805	172	118	180
21	40	432	65	202	1450	796	237	311	836	166	101	155
22	41	250	122	177	1460	813	218	263	611	190	94	2830
23	43	189	124	162	1070	712	205	563	593	215	90	1980
24	48	147	203	149	695	884	199	343	451	184	300	1080
25	60	119	377	137	536	649	185	261	362	158	330	708
26	53	113	206	129	489	494	171	222	299	146	188	1190
27	50	160	155	151	1040	398	160	376	269	145	170	765
28	47	354	136	135	2330	337	183	298	459	232	137	520
29	46	e255	197	122	---	298	287	231	434	196	129	662
30	44	e185	181	141	---	277	315	194	332	165	203	1550
31	42	---	742	188	---	289	---	174	---	1290	257	---
TOTAL	2150	5944	4180	13977	21665	18847	12380	17862	16547	12762	6145	15902
MEAN	69.4	198	135	451	774	608	413	576	552	412	198	530
MAX	203	609	742	2220	2330	1760	1160	2240	2070	1290	598	2830
MIN	40	44	50	122	142	210	160	174	140	145	90	83
CFSM	.38	1.08	.73	2.45	4.21	3.30	2.24	3.13	3.00	2.24	1.08	2.88
IN.	.43	1.20	.85	2.83	4.38	3.81	2.50	3.61	3.35	2.58	1.24	3.21

WTR YR 1989 TOTAL 148361 MEAN 406 MAX 2830 MIN 40 CFSM 2.21 IN. 29.99

e Estimated

03487550 REEDY CREEK AT OREBANK, TN

LOCATION.--Lat 36°33'42", long 82°27'36", Sullivan County, Hydrologic Unit 06010102, on right bank, 80 ft upstream from culvert, 0.1 mi south of U.S. Highway 11W, 0.3 mi north of Orebank, 1.0 mile upstream from Gaines Branch, and at mile 9.8.

DRAINAGE AREA.--36.3 mi^2.

PERIOD OF RECORD.--October 1963 to January 1988, July 1988 to September 1989 (discontinued).

REVISED RECORDS.--WRD TN 1973: 1971(P), 1972(M); WRD TN 1980: 1979(M), 1982(P)(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,232.61 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 4, 1975, at site 50 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. The Bloomingdale Utility District diverts an average of about 0.6 ft^3/s for water supply, 0.8 mi upstream from the gage. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--25 years (water years 1964-87, 1989), 44.1 ft^3/s, 16.50 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,940 ft^3/s, Oct. 2, 1977, gage height, 11.61 ft, from rating curve extended above 1,300 ft^3/s on basis of contracted-opening measurement of peak flow; minimum, 1.5 ft^3/s Aug. 18-19, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 30, 1927, reached a stage of 11.4 ft, discharge, about 11,000 ft^3/s, datum then in use and before flood plain development, from reports of Tennessee Valley Authority.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
June 17	0545	843	6.75	Sept. 12	0430	*885	*6.93

Minimum discharge, 2.3 ft^3/s, Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	4.6	19	108	28	56	42	95	16	40	19	13
2	9.1	5.5	16	73	25	50	36	180	17	45	20	15
3	9.9	5.1	14	47	26	46	39	77	17	31	13	10
4	7.0	5.6	13	34	36	42	57	50	16	36	12	9.3
5	6.6	19	12	27	68	40	74	100	17	31	12	8.4
6	5.9	24	11	59	131	53	57	244	75	27	16	8.4
7	4.2	16	11	71	163	48	50	153	60	28	12	9.3
8	2.7	12	10	65	114	42	65	94	28	31	11	8.4
9	2.9	10	11	59	78	38	83	94	34	41	10	8.4
10	2.9	7.8	11	48	59	35	63	117	33	26	10	8.7
11	2.7	8.0	10	43	49	33	51	88	23	22	9.6	44
12	2.7	6.8	9.4	183	42	31	43	70	20	21	9.6	319
13	2.7	7.4	9.3	287	38	32	37	56	58	26	9.6	42
14	2.5	7.4	9.0	145	38	30	33	47	42	27	16	81
15	2.3	6.9	9.2	141	37	28	36	43	40	20	10	124
16	2.7	7.8	9.2	108	36	28	32	39	236	18	11	303
17	2.5	41	8.8	75	63	26	28	34	532	18	9.3	75
18	3.1	23	8.4	61	100	33	26	30	162	16	9.8	42
19	2.9	22	8.1	50	95	39	25	28	103	18	9.4	30
20	2.7	54	8.3	39	110	38	23	28	84	26	9.3	24
21	5.8	33	10	33	222	120	22	27	68	20	9.0	21
22	8.1	22	17	28	191	99	20	24	56	29	8.6	56
23	6.1	17	17	26	131	81	19	23	48	17	8.5	60
24	8.1	14	75	24	92	103	18	22	42	15	28	37
25	7.0	12	104	22	72	82	18	21	38	14	15	30
26	6.3	11	44	21	63	65	17	21	34	13	13	263
27	3.9	15	29	23	58	53	19	28	32	15	11	89
28	5.5	50	26	19	60	45	23	20	32	15	9.6	53
29	5.6	32	23	18	---	41	32	18	30	14	8.8	41
30	4.6	23	21	31	---	40	36	17	27	12	21	81
31	4.5	---	26	33	---	46	---	17	---	13	13	---
TOTAL	150.1	522.9	609.7	2001	2225	1543	1124	1905	2020	725	384.1	1913.9
MEAN	4.84	17.4	19.7	64.5	79.5	49.8	37.5	61.5	67.3	23.4	12.4	63.8
MAX	9.9	54	104	287	222	120	83	244	532	45	28	319
MIN	2.3	4.6	8.1	18	25	26	17	17	16	12	8.5	8.4
CFSM	.13	.48	.54	1.78	2.19	1.37	1.03	1.69	1.85	.64	.34	1.76
IN.	.15	.54	.62	2.05	2.28	1.58	1.15	1.95	2.07	.74	.39	1.96

WTR YR 1989 TOTAL 15123.7 MEAN 41.4 MAX 532 MIN 2.3 CFSM 1.14 IN. 15.50

03491000 BIG CREEK NEAR ROGERSVILLE, TN

LOCATION.--Lat 36°25'34", long 82°57'07", Hawkins County, Hydrologic Unit 06010104, on left bank 300 ft upstream from county road bridge, 3 mi northeast of Rogersville, and at mile 2.0.

DRAINAGE AREA.--47.3 mi^2.

PERIOD OF RECORD.--April 1941 to June 1949; occasional low-flow measurements, water years 1950-55, 1957; annual maximum, water years 1955-57; October 1957 to current year.

REVISED RECORDS.--WSP 1436: 1945.

GAGE.--Water-stage recorder. Datum of gage is 1,128.9 ft above National Geodetic Vertical Datum of 1929 (levels based on City of Rogersville construction plans for pumping station). Dec. 7, 1954, to Sept. 30, 1957, crest-stage gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--39 years (water years 1942-48, 1958-89), 57.3 ft^3/s, 16.45 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,760 ft^3/s, Mar. 12, 1963, gage height, 9.40 ft, from rating curve extended above 3,000 ft^3/s on basis of contracted-opening measurement of peak flow; maximum gage height, 10.68 ft, Dec. 30, 1969, backwater from log jam; minimum discharge observed, 1.3 ft^3/s, Sept. 23, 1955; minimum gage height, 1.28 ft, Aug. 18, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
May 5	2315	*3,680	*7.34	No other peak greater than base discharge			

Minimum discharge, 2.4 ft^3/s, Oct. 14, 15, 19, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	4.2	23	216	35	76	56	126	36	124	48	37
2	3.5	4.1	19	129	33	70	47	229	33	78	45	34
3	3.7	3.9	16	83	32	66	50	121	46	66	38	31
4	3.9	3.9	14	61	68	60	115	83	36	67	35	27
5	3.7	16	13	48	127	60	215	712	43	62	32	24
6	3.5	41	12	79	210	79	122	1030	178	57	33	23
7	3.1	25	11	123	247	91	95	298	371	136	33	25
8	3.0	15	10	115	161	75	113	184	124	190	28	24
9	2.9	10	11	120	110	65	180	166	135	145	25	21
10	2.8	8.5	12	88	87	57	110	216	184	101	24	19
11	2.9	7.3	11	71	74	52	83	155	105	78	23	20
12	2.8	7.3	10	611	63	48	70	123	77	65	21	19
13	2.9	7.6	9.1	711	56	45	60	100	156	63	20	18
14	2.8	8.1	9.3	270	54	42	57	84	149	54	19	20
15	2.5	8.5	9.3	381	55	40	57	81	156	47	21	32
16	2.7	8.3	9.2	231	54	38	48	74	364	46	24	327
17	2.9	68	8.8	149	103	33	43	61	775	43	22	136
18	2.8	40	8.4	115	221	37	40	54	258	38	24	75
19	2.5	25	7.8	94	179	53	37	49	172	36	22	54
20	2.5	104	7.9	78	189	57	34	56	140	42	20	44
21	3.3	99	9.9	65	435	139	32	57	119	41	18	38
22	3.9	41	46	56	292	132	30	46	155	48	17	41
23	4.6	28	42	51	170	93	30	46	151	37	17	79
24	5.8	22	84	46	124	105	31	43	112	32	135	56
25	4.9	18	178	41	101	95	31	37	90	29	115	45
26	4.6	15	71	38	89	80	27	35	75	28	94	151
27	4.5	17	48	37	81	67	78	138	65	71	143	125
28	4.4	41	39	33	79	58	66	87	75	192	78	80
29	4.2	38	35	30	---	52	125	58	71	96	55	63
30	4.1	28	30	35	---	49	101	47	56	64	50	72
31	4.3	---	38	39	---	51	---	40	---	52	44	---
TOTAL	109.4	762.7	852.7	4244	3529	2065	2183	4636	4507	2228	1323	1760
MEAN	3.53	25.4	27.5	137	126	66.6	72.8	150	150	71.9	42.7	58.7
MAX	5.8	104	178	711	435	139	215	1030	775	192	143	327
MIN	2.5	3.9	7.8	30	32	33	27	35	33	28	17	18
CFSM	.07	.54	.58	2.89	2.66	1.41	1.54	3.16	3.18	1.52	.90	1.24
IN.	.09	.60	.67	3.34	2.78	1.62	1.72	3.65	3.54	1.75	1.04	1.38

CAL YR 1988 TOTAL 8788.8 MEAN 24.0 MAX 521 MIN 1.4 CFSM .51 IN. 6.91
WTR YR 1989 TOTAL 28199.8 MEAN 77.3 MAX 1030 MIN 2.5 CFSM 1.63 IN. 22.18

03491544 CROCKETT CREEK BELOW ROGERSVILLE, TN

LOCATION.--Lat 36°22'47", long 83°02'48", Hydrologic Unit 06010104, on right bank at Rogersville sewage treatment plant, 3.0 mi southwest of Rogersville, and at mile 1.2.

DRAINAGE AREA.--4.67 mi^2.

PERIOD OF RECORD.--October 1988 to September 1989.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1092.53 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good, except for period of no gage height record Oct. 1 to Nov. 9, which is fair. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, unknown, Sept. 15, 1989, gage height 5.10 ft; minimum observed, 0.31 ft^3/s, Oct. 20; minimum daily, 0.31 ft^3/s, Oct. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.42	e.80	2.0	19	2.8	6.9	4.8	5.4	1.7	3.4	4.4	2.4
2	e.45	e.78	1.7	8.5	2.5	6.2	4.4	3.6	6.4	3.3	1.8	1.8
3	e.48	e.77	1.5	7.0	3.0	5.6	5.3	2.6	2.5	3.9	1.6	1.5
4	e.47	e.76	1.4	5.5	2.6	5.1	16	2.6	2.1	5.3	1.3	1.3
5	e.46	e1.5	1.4	4.6	7.6	6.3	9.6	43	6.8	4.0	1.2	1.2
6	e.44	e3.5	1.4	9.4	14	9.5	7.3	38	7.5	3.4	1.5	1.5
7	e.41	e2.5	1.2	6.3	15	6.8	7.9	16	4.4	3.0	1.2	1.3
8	e.38	e1.7	1.1	11	10	6.0	14	10	3.5	2.9	1.1	1.2
9	e.37	e1.5	1.8	7.9	7.8	5.4	11	11	13	2.6	1.0	1.1
10	e.35	1.3	1.4	6.6	6.5	4.9	8.5	8.0	6.3	2.3	1.1	4.4
11	e.35	1.1	1.2	9.8	5.6	4.6	7.2	6.6	4.7	2.1	.97	1.9
12	e.35	1.0	1.2	36	5.0	4.2	6.3	5.7	15	2.8	.90	1.3
13	e.36	2.1	1.1	35	4.7	3.8	5.6	5.0	18	2.3	.86	1.3
14	e.34	1.2	1.1	19	4.5	3.5	5.1	4.5	10	2.0	.86	3.1
15	e.33	1.0	.99	24	3.9	6.2	5.7	5.6	17	1.8	1.0	e60
16	e.34	5.6	.99	14	4.8	4.0	4.4	3.5	46	4.4	1.0	48
17	e.36	5.0	.97	10	9.3	3.5	4.0	3.0	37	2.2	1.1	9.9
18	e.35	2.4	.93	8.5	13	12	3.7	2.7	16	1.7	.97	6.9
19	e.32	5.1	.93	7.2	12	7.5	3.5	2.5	11	2.6	.84	5.4
20	e.31	12	.90	6.3	15	6.6	3.2	5.3	10	1.7	.80	4.4
21	e.50	4.8	3.6	5.5	37	17	3.0	2.7	7.6	3.5	.79	3.7
22	e.60	3.4	1.9	4.8	19	11	2.8	2.5	7.0	1.9	.74	9.9
23	e.80	2.7	3.3	4.4	13	12	2.7	2.9	5.4	1.6	.96	5.3
24	e1.0	2.3	13	3.9	9.4	10	2.5	2.4	4.5	1.4	13	4.0
25	e.92	2.0	6.4	3.5	8.0	8.7	2.4	2.1	4.0	1.4	2.0	7.2
26	e.88	1.7	4.4	3.4	6.9	7.4	2.3	3.5	3.7	1.3	15	12
27	e.82	5.7	3.4	3.1	7.6	6.6	2.5	4.6	3.5	6.6	3.8	6.0
28	e.80	4.0	3.3	3.0	7.6	6.0	2.2	2.5	15	3.7	2.5	4.9
29	e.78	2.8	2.5	2.7	---	5.5	6.2	2.2	5.0	2.5	2.1	4.9
30	e.76	2.3	2.8	4.7	---	5.5	2.5	1.9	3.9	2.2	2.4	11
31	e.78	---	14	3.2	---	7.1	---	1.8	---	1.6	1.8	---
TOTAL	16.28	83.31	83.81	297.8	258.1	215.4	166.6	213.7	298.5	85.4	70.59	228.8
MEAN	.53	2.78	2.70	9.61	9.22	6.95	5.55	6.89	9.95	2.75	2.28	7.63
MAX	1.0	12	14	36	37	17	16	43	46	6.6	15	60
MIN	.31	.76	.90	2.7	2.5	3.5	2.2	1.8	1.7	1.3	.74	1.1
CFSM	.11	.59	.58	2.06	1.97	1.49	1.19	1.48	2.13	.59	.49	1.63
IN.	.13	.66	.67	2.37	2.06	1.72	1.33	1.70	2.38	.68	.56	1.82

WTR YR 1989 TOTAL 2018.29 MEAN 5.53 MAX 60 MIN .31 CFSM 1.18 IN. 16.08

e Estimated

03495500 HOLSTON RIVER NEAR KNOXVILLE, TN
(National stream-quality accounting network station)

LOCATION.--Lat 36°00'56", 83°49'54", Knox County, Hydrologic Unit 06010104, on right bank at bridge on U.S. Highway 70, at Knoxville city limits, and 5.5 mi upstream from confluence with French Broad River.

DRAINAGE AREA.--3,747 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1930 to June 1976, January 1978 to current year. Published as "at Strawberry Plains" 1930-48. Records published for both sites June 1945 to September 1948. Gage-height records collected at Strawberry Plains from December to March 1885-97 are contained in reports of the U.S. Weather Bureau.

REVISED RECORDS.--WSP 893: 1935(M). WSP 1336: 1939.

GAGE.--Water-stage recorder. Datum of gage is 815.84 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1930, to June 8, 1931, nonrecording gage, and June 9, 1931, to Sept. 30, 1948, water-stage recorder, at site 12 mi upstream at datum 22.55 ft higher. June 19, 1945, to Oct. 4, 1960, 300 ft upstream at present datum.

REMARKS.--Records fair. Flow regulated by five reservoirs (see p. 165).

AVERAGE DISCHARGE.--56 years (water years 1931-75, 1979-89), 4,639 ft^3/s, 16.81 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.-- Maximum discharge, 62,900 ft^3/s, Mar. 28, 1935, gage height, 20.20 ft, site and datum then in use; minimum, 44 ft^3/s, Dec. 12, 21, 22, 1941, gage height, -0.58 ft, site and datum then in use; minimum daily, 44 ft^3/s, Dec. 21, 22, 1941. Maximum discharge since closure of Cherokee Dam on Dec. 5, 1941, 31,400 ft^3/s, Mar. 22, 1963, gage height, 11.20 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1791, about 41 ft in March 1867, from profile by Tennessee Valley Authority. Flood in 1901 reached a stage of about 32 ft, from reports of Tennessee Valley Authority.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,800 ft^3/s, Sept. 26, gage height, 7.40 ft; minimum, 281 ft^3/s, Oct. 19; minimum daily, 499 ft^3/s, Oct. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	568	5790	1200	2990	e3900	3440	814	607	6710	5620	8380	8590
2	589	5690	1100	1600	e1700	3100	764	626	6410	5990	5270	8450
3	568	1770	1010	1130	1470	2980	848	568	5690	7140	5240	6630
4	567	911	996	983	1630	3050	1230	604	3570	6900	5130	6700
5	499	1010	2540	869	2060	3260	1270	844	804	5780	5290	8740
6	1010	1030	1560	991	5310	2260	1630	1460	3620	7200	5260	10100
7	2850	2880	1110	992	5970	3970	1830	1150	1450	7140	6260	10300
8	2360	2180	1910	1340	4260	7210	886	931	834	6620	7520	9970
9	745	773	2890	2100	3110	6700	897	872	1290	4880	1080	9370
10	559	729	4250	1790	2930	1080	813	901	1420	5940	4810	9720
11	587	720	1770	998	1720	919	755	785	1150	7490	3030	11700
12	840	726	2060	e7500	1340	940	746	730	1520	7270	7960	11800
13	2160	707	5880	e10000	1860	936	723	691	5020	7190	6960	12000
14	2380	692	4150	e3400	5120	1370	718	696	1410	6920	7780	8940
15	1660	1180	679	e4500	5110	1320	687	696	6750	6910	8530	6390
16	590	1020	543	e7400	5180	1110	674	2730	7520	6660	8310	7820
17	544	5940	1490	e9800	6770	2210	697	731	3210	5040	8570	2970
18	855	5140	715	e8800	8910	1960	654	662	2450	6820	8480	1020
19	947	3870	2080	e5300	2830	849	711	613	14000	7040	7850	8980
20	3460	946	1860	e5500	3930	789	634	738	11400	7070	7290	10500
21	4020	846	641	e5100	4120	1180	617	751	9410	7130	7740	10300
22	2980	1660	674	e5000	3390	3880	594	744	9100	6750	8730	10100
23	1060	1480	640	e2900	5350	2300	572	2390	9760	6120	8380	2630
24	2190	3780	730	e1700	5250	1560	582	754	9730	7310	8370	10800
25	5280	742	1030	e1700	3630	995	594	3080	9220	8640	8130	12700
26	6000	604	820	e1600	1170	896	573	3010	9400	8720	6830	11100
27	5910	590	710	e1600	1080	841	569	5320	7760	8740	6730	6860
28	1580	623	653	e1300	2120	825	543	771	7570	8320	7130	7530
29	1200	1890	2100	e1300	---	815	633	631	6630	7410	7570	8700
30	999	1520	4460	e3600	---	770	620	631	5810	4640	9320	7950
31	895	---	1180	e4900	---	799	---	5360	---	4520	9150	---
TOTAL	56452	57439	53431	108683	101220	64314	23878	41077	170618	209920	217080	259360
MEAN	1821	1915	1724	3506	3615	2075	796	1325	5687	6772	7003	8645
MAX	6000	5940	5880	10000	8910	7210	1830	5360	14000	8740	9320	12700
MIN	499	590	543	869	1080	770	543	568	804	4520	1080	1020

CAL YR 1988 TOTAL 708233 MEAN 1935 MAX 9120 MIN 212 MEAN‡ 2041 CFSM‡ 0.54 IN‡ 7.42
WTR YR 1989 TOTAL 1363472 MEAN 3736 MAX 14000 MIN 499 MEAN‡ 4920 CFSM‡ 1.31 IN‡ 17.83

e Estimated

‡Adjusted for change in contents in South Holston, Watauga, Boone, Fort Patrick Henry, and Cherokee Lakes.
NOTE.--Contents (cfs-days) for adjustments furnished by Tennessee Valley Authority.

03495500 HOLSTON RIVER NEAR KNOXVILLE, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965, 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1980 to September 1986.
WATER TEMPERATURE: February 1980 to September 1986.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 365 microsiemens, Mar. 1, 1981; minimum, 121 microsiemens, July 31, 1982.
WATER TEMPERATURE: Maximum, 27.0°C, Aug. 21, 1982, Sept. 2, 1985; minimum, 1.0°C, Jan. 27, 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)
OCT 25...	1010	3010	320	8.10	16.0	741	3.8	7.5	78	70	240	120
DEC 12...	1130	552	345	8.60	7.0	748	2.5	12.8	108	K5	K9	120
FEB 13...	1300	1120	360	8.70	7.5	743	2.0	13.4	115	37	K11	160
APR 17...	1230	735	310	8.50	16.0	745	1.2	11.4	118	K15	53	170
JUN 07...	1100	1540	285	7.50	16.0	739	27	8.8	92	3800	7800	130
AUG 15...	0900	10300	280	7.80	19.5	741	2.7	5.6	63	73	310	130

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
OCT 25...	2.2	94	36	19	0.20	1.5	175	179	0.24	1420	<0.010	0.260
DEC 12...	2.3	101	40	19	0.20	0.93	192	193	0.26	286	<0.010	0.280
FEB 13...	2.2	128	35	17	0.20	1.1	205	209	0.28	620	0.010	0.570
APR 17...	2.0	138	28	11	0.10	0.85	191	196	0.26	379	0.010	0.550
JUN 07...	2.5	106	27	11	0.10	3.1	179	169	0.24	744	<0.010	0.610
AUG 15...	2.1	111	23	12	0.10	4.1	168	166	0.23	4660	0.030	0.360

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 25...	--	0.010	<0.010	0.39	0.40	0.030	0.030	<0.010	17	141	56
DEC 12...	0.04	0.020	0.030	0.38	0.40	0.030	0.020	0.010	6	8.7	93
FEB 13...	0.01	0.010	0.010	0.29	0.30	0.020	0.010	<0.010	1	3.6	98
APR 17...	0.04	0.030	0.030	0.77	0.80	0.020	<0.010	<0.010	4	8.1	80
JUN 07...	0.03	0.040	0.020	0.36	0.40	0.040	0.010	0.010	40	166	95
AUG 15...	0.12	0.090	0.090	0.41	0.50	0.060	0.040	0.020	8	216	62

K--Results based on non-ideal colony count.

03495500 HOLSTON RIVER NEAR KNOXVILLE, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
OCT 25...	20	1	35	<0.5	<1	1	<3	1	8	<5
FEB 13...	<10	1	34	<0.5	<1	1	<3	1	5	<5
APR 17...	<10	<1	36	<0.5	<1	<1	<3	1	9	<5
JUN 07...	30	<1	34	<0.5	<1	<1	<3	<1	55	<1

DATE	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 25...	6	5	<0.1	<10	4	<1	<1.0	140	<6	<3
FEB 13...	6	14	<0.1	<10	<1	<1	<1.0	150	<6	5
APR 17...	7	22	0.1	<10	<1	<1	<1.0	120	<6	<3
JUN 07...	5	16	<0.1	<10	<1	<1	<1.0	110	<6	7

03497300 LITTLE RIVER ABOVE TOWNSEND, TN
(Hydrologic bench-mark station)

LOCATION.--Lat 35°39'52", long 83°42'41", Blount County, Hydrologic Unit 06010201, in Great Smoky Mountains National Park, on left bank along State Highway 73, 0.3 mi upstream from Rush Branch, 0.4 mi southeast of Park entrance, 2.2 mi southeast of Townsend, and at mile 35.3.

DRAINAGE AREA.--106 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder and crest stage gage. Datum of gage is 1,106.92 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--26 years, 278 ft^3/s, 35.61 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft^3/s, Mar. 16, 1973, gage height, 12.30 ft; minimum, 21 ft^3/s, Jan. 18, 1981, gage height, 1.13 ft, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
May 5	2100	3,720	6.16	June 16	2015	4,610	6.82
June 15	1630	4,000	6.37	Sept. 22	1245	*5,870	*7.65

Minimum discharge, 50 ft^3/s, Oct. 1, 2, gage height, 1.42 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	70	246	1190	205	1250	308	567	176	875	318	113
2	178	61	212	738	196	878	282	898	165	828	390	165
3	143	55	188	545	192	755	304	560	164	693	307	121
4	139	56	171	420	202	821	587	424	200	897	256	109
5	112	509	154	346	299	1170	987	1050	635	1020	214	100
6	94	326	142	382	820	1570	698	1680	578	779	205	99
7	85	236	134	338	1050	1040	653	963	506	667	186	127
8	78	195	126	533	735	751	715	691	391	556	159	101
9	74	173	126	545	524	582	749	744	401	440	146	93
10	70	165	116	521	414	474	598	1330	370	370	138	90
11	67	181	109	610	359	406	499	967	303	402	129	140
12	62	151	102	1070	315	360	437	730	270	384	123	156
13	58	150	99	2090	284	326	397	564	323	353	117	165
14	56	135	96	1200	266	298	384	462	355	314	136	233
15	57	124	95	1050	246	280	440	402	1800	262	151	408
16	55	128	92	791	225	282	447	347	2770	239	150	1130
17	53	503	85	610	430	240	413	305	2310	222	122	536
18	52	312	80	484	754	330	378	275	1070	199	115	351
19	58	267	82	400	591	364	338	251	721	187	109	275
20	53	580	81	343	510	344	302	347	779	200	100	228
21	54	519	100	296	1110	670	274	287	769	175	95	201
22	67	373	147	266	1030	668	248	289	675	179	91	2570
23	60	297	173	241	778	623	241	356	540	175	99	1480
24	82	246	320	221	586	647	222	311	442	164	200	819
25	73	207	428	203	474	555	203	282	370	146	148	617
26	66	182	281	192	437	468	188	256	394	137	117	713
27	60	258	231	223	753	400	177	312	474	144	120	579
28	58	400	263	183	1830	353	189	253	435	194	105	464
29	63	319	260	172	---	320	214	225	483	158	137	892
30	58	284	270	230	---	315	194	205	575	283	155	1700
31	56	---	564	227	---	349	---	189	---	573	128	---
TOTAL	2292	7462	5573	16660	15615	17889	12066	16522	19444	12215	4966	14775
MEAN	73.9	249	180	537	558	577	402	533	648	394	160	492
MAX	178	580	564	2090	1830	1570	987	1680	2770	1020	390	2570
MIN	51	55	80	172	192	240	177	189	164	137	91	90
CFSM	.70	2.35	1.70	5.07	5.26	5.44	3.79	5.03	6.11	3.72	1.51	4.65
IN.	.80	2.62	1.96	5.85	5.48	6.28	4.23	5.80	6.82	4.29	1.74	5.19

CAL YR 1988 TOTAL 60845 MEAN 166 MAX 2200 MIN 27 CFSM 1.57 IN. 21.35
WTR YR 1989 TOTAL 145479 MEAN 399 MAX 2770 MIN 51 CFSM 3.76 IN. 51.05

03497300 LITTLE RIVER ABOVE TOWNSEND, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to 1982, 1986.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1963 to September 1981.

INSTRUMENTATION.--Temperature recorder from October 1963 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 26.0°C June 23, 1964, July 3, 1970; minimum, 0.0°C on several days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)
OCT 24...	1210	91	21	7.20	10.0	729	0.80	10.6	98	24	96	7
DEC 13...	1130	99	15	6.70	1.0	733	0.50	13.7	100	K1	K1	5
FEB 27...	1045	509	10	6.60	4.0	730	0.50	12.8	102	21	K16	4
APR 19...	1200	342	10	6.50	12.0	732	0.20	10.8	104	K7	K6	5
JUN 08...	1100	378	12	7.00	15.0	729	1.0	9.8	102	57	130	5
AUG 16...	0800	160	--	6.70	18.0	731	1.1	8.8	--	K1000	360	6

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
OCT 24...	0.90	7	3.6	0.70	0.10	6.1	18	20	0.02	4.42	<0.010	<0.100
DEC 13...	0.50	4	2.7	0.60	<0.10	5.6	13	16	0.02	3.47	<0.010	0.100
FEB 27...	0.50	3	3.0	0.50	0.10	5.7	3	15	0.00	4.12	<0.010	0.160
APR 19...	0.50	6	2.0	0.40	0.10	5.2	11	14	0.02	10.2	<0.010	0.160
JUN 08...	0.40	4	2.0	0.40	0.10	5.6	26	14	0.03	26.5	<0.010	0.160
AUG 16...	0.60	6	2.0	0.70	<0.10	6.4	13	17	0.02	5.62	<0.010	0.140

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 24...	--	0.040	<0.010	0.96	1.0	0.010	0.010	<0.010	2	0.48	31
DEC 13...	0.01	<0.010	0.010	--	<0.20	0.020	0.020	<0.010	2	0.44	67
FEB 27...	--	0.030	<0.010	0.37	0.40	0.010	<0.010	<0.010	2	3.3	60
APR 19...	--	0.010	<0.010	0.29	0.30	<0.010	<0.010	<0.010	1	0.92	73
JUN 08...	--	0.010	<0.010	--	<0.20	0.010	<0.010	<0.010	8	8.2	32
AUG 16...	0.03	0.020	0.020	0.38	0.40	0.020	0.020	<0.010	2	0.98	56

K--Results based on non-ideal colony count.

03497300 LITTLE RIVER ABOVE TOWNSEND, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
OCT 24...	20	<1	13	2	<1	<1	<3	<1	23	<5
FEB 27...	20	<1	12	<0.5	<1	<1	<3	1	8	<5
APR 19...	20	<1	11	<0.5	<1	<1	<3	1	9	<5
JUN 08...	10	<1	12	<0.5	<1	<1	<3	6	8	3

DATE	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 24...	<4	7	<0.1	<10	2	<1	<1.0	11	<6	4
FEB 27...	<4	<1	<0.1	<10	<1	<1	<1.0	8	<6	10
APR 19...	<4	2	<0.1	10	<1	<1	<1.0	9	<6	<3
JUN 08...	<4	1	<0.1	<10	2	<1	<1.0	9	<6	<3

DATE	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DISSOLVED (UG/L AS U)
FEB 27...	<0.4	<0.4	0.6	<0.4	0.6	<0.4	<0.02	<0.01

03498500 LITTLE RIVER NEAR MARYVILLE, TN

LOCATION.--Lat 35°47'10", long 83°53'04", Blount County, Hydrologic Unit 06010201, on right bank on downstream side of bridge on U.S. Highway 411, 0.8 mi downstream from Crooked Creek, 5.0 mi east of Maryville, and at mile 17.3.

DRAINAGE AREA.--269 mi^2.

PERIOD OF RECORD.--July 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 850.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Diurnal fluctuations at low flow caused by small mills above station. The town of Maryville diverted an average of about 4.0 ft^3/s (2.6 MGD) for municipal supply 300 ft upstream from gage. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--38 years, 516 ft^3/s, 26.05 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,200 ft^3/s, Mar. 12, 1963, gage height, 24.20 ft, from rating curve extended above 20,000 ft^3/s, on basis of area-velocity study and road overflow computations; minimum, 32 ft^3/s, Aug. 27, 1956; minimum gage height, 6.07 ft, Oct. 19, 20, 1987; minimum daily, 43 ft^3/s, Oct 19, 1987, July 9, 10, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 25, 1875, reached a stage of 31 ft, discharge, 50,000 ft^3/s, and flood of April 1, 1896, reached a stage of 26 ft, discharge, 36,000 ft^3/s, from reports by Tennessee Valley Authority.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Jan. 13	1130	6,350	13.16	June 17	0030	9,810	15.68
May 6	0130	6,620	13.37	Sept. 22	1800	*10,800	*16.35

Minimum discharge, 68 ft^3/s, Oct. 1, 2; minimum daily , 70 ft^3/s, Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	98	350	2170	413	2560	593	734	359	1720	466	291
2	127	104	297	1230	387	1630	535	1410	338	1940	617	404
3	238	93	257	873	375	1240	548	900	332	1220	465	256
4	163	89	230	688	444	1160	975	719	372	1360	385	219
5	151	473	205	566	701	1430	2090	1560	1240	1480	342	198
6	126	493	184	686	2150	1860	1240	4020	1530	1220	317	189
7	114	358	169	620	2860	1440	1170	1860	1310	1040	333	235
8	107	286	160	945	1530	1100	1420	1210	788	884	283	193
9	100	256	161	999	1010	905	1440	1110	734	740	261	174
10	95	218	158	897	798	776	1110	2040	695	634	243	165
11	93	249	144	967	691	692	933	1460	573	576	236	177
12	90	217	136	2180	612	633	817	1130	506	718	224	304
13	83	201	125	4700	549	583	742	923	765	625	215	263
14	80	193	124	2490	510	543	696	789	641	798	209	787
15	81	170	123	1870	486	513	714	710	2090	526	251	1510
16	80	164	120	1340	451	526	721	636	4760	448	320	2690
17	79	533	113	1000	1090	461	675	566	5800	430	229	1140
18	76	448	107	820	2100	485	635	519	2190	380	212	663
19	77	387	103	696	1360	644	589	483	1370	369	203	484
20	83	720	104	611	1040	554	545	701	1360	392	184	395
21	79	746	115	541	2410	1170	506	604	1350	356	182	349
22	83	535	228	488	2140	1080	479	516	1320	371	169	4550
23	91	425	297	454	1470	1050	465	671	1250	383	163	3590
24	92	348	506	421	1110	1260	452	585	923	503	256	1690
25	123	293	735	394	915	999	421	527	760	326	260	1130
26	101	252	479	372	834	836	398	483	648	303	209	1680
27	96	341	377	400	1410	723	385	611	823	302	236	1180
28	94	595	362	356	3890	640	376	497	973	344	187	900
29	96	480	447	334	---	584	423	446	1030	323	216	1500
30	96	407	398	416	---	571	446	410	999	283	793	3270
31	95	---	1070	469	---	652	---	382	---	836	315	---
TOTAL	3159	10172	8384	30993	33736	29300	22539	29212	37829	21830	8981	30576
MEAN	102	339	270	1000	1205	945	751	942	1261	704	290	1019
MAX	238	746	1070	4700	3890	2560	2090	4020	5800	1940	793	4550
MIN	70	89	103	334	375	461	376	382	332	283	163	165
CFSM	.38	1.26	1.01	3.72	4.48	3.51	2.79	3.50	4.69	2.62	1.08	3.79
IN.	.44	1.41	1.16	4.29	4.67	4.05	3.12	4.04	5.23	3.02	1.24	4.23

CAL YR 1988 TOTAL 93269 MEAN 255 MAX 3060 MIN 43 CFSM .95 IN. 12.90
WTR YR 1989 TOTAL 266711 MEAN 731 MAX 5800 MIN 70 CFSM 2.72 IN. 36.88

03498850 LITTLE RIVER NEAR ALCOA, TN

LOCATION.--Lat 35°48'32", long 83°55'36", Blount County, Hydrologic Unit 06010201, at Singleton Bend on left bank, 3.0 mi northeast of Alcoa, and at mile 9.7.

DRAINAGE AREA.--300 mi^2.

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 814.22 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Diurnal fluctuations at low flow caused by small mills above station. The town of Maryville diverts an average of about 4.0 ft^3/s (2.6 MGD) for municipal supply 7.6 mi upstream from gage and the town of Alcoa at the gage diverts about 16.7 ft^3/s (10.8 MGD). Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,300 ft^3/s, Sept. 22, 1989 gage height, 14.16 ft.; minimum, 23 ft^3/s July 10, 1988; minimum daily 28 ft^3/s July 10, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,300 ft^3/s, Sept. 22, gage height, 14.16 ft; minimum, 67 ft^3/s several days in Oct.; minimum daily, 70 ft^3/s Oct. 18, 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	78	356	2480	412	2910	642	598	341	1850	501	261
2	93	87	304	1420	383	1820	557	1530	325	2470	646	511
3	237	79	267	951	363	1410	565	918	320	1390	488	284
4	159	77	246	736	440	1310	971	695	303	1530	403	231
5	159	343	222	575	650	1610	2490	1330	1210	1690	340	207
6	128	448	204	680	2320	2120	1410	4760	1710	1400	303	192
7	113	305	196	654	3580	1680	1260	2240	1600	1210	309	236
8	102	242	185	947	1910	1250	1560	1340	844	1010	268	204
9	95	221	186	1110	1180	1020	1640	1120	763	824	252	182
10	90	201	185	951	913	872	1230	2290	723	707	236	175
11	86	220	166	976	776	777	997	1640	592	630	226	172
12	82	203	153	2520	678	706	855	1210	519	770	218	328
13	79	188	145	4770	599	645	761	959	795	677	209	221
14	74	188	140	2960	547	597	699	806	669	869	203	808
15	74	169	139	2150	520	560	709	718	1860	570	246	1630
16	73	163	136	1590	467	563	727	642	4710	493	323	3390
17	72	460	129	1180	1110	488	669	557	6600	445	229	1350
18	70	431	123	939	2620	491	618	506	2520	365	208	764
19	70	353	115	782	1690	695	567	466	1490	369	199	581
20	72	634	120	671	1210	580	512	665	1460	414	187	473
21	71	821	124	577	2730	1330	471	642	1520	355	174	400
22	71	539	229	512	2680	1260	428	498	1430	350	163	3660
23	78	419	274	464	1760	1150	406	658	1400	361	162	4550
24	75	338	521	424	1290	1470	396	589	994	525	244	1960
25	96	287	782	394	1040	1140	366	518	805	337	261	1270
26	85	256	524	370	947	946	341	474	685	302	210	1930
27	77	306	394	392	1390	808	328	614	831	300	249	1340
28	79	603	354	350	4170	708	315	499	940	344	195	1010
29	76	500	471	324	---	631	356	434	1130	323	227	1490
30	78	418	390	388	---	606	377	390	957	286	838	3880
31	74	---	1090	489	---	696	---	362	---	848	418	---
TOTAL	2860	9577	8870	33726	38375	32849	23223	30668	40046	24014	9135	33690
MEAN	92.3	319	286	1088	1371	1060	774	989	1335	775	295	1123
MAX	237	821	1090	4770	4170	2910	2490	4760	6600	2470	838	4550
MIN	70	77	115	324	363	488	315	362	303	286	162	172

CAL YR 1988 TOTAL 93202 MEAN 255 MAX 3360 MIN 28
WTR YR 1989 TOTAL 287033 MEAN 786 MAX 6600 MIN 70

03528000 CLINCH RIVER ABOVE TAZEWELL, TN

LOCATION.--Lat 36°25'30", long 83°23'54", Claiborne County, Hydrologic Unit 06010205, on right bank 0.4 mi upstream from Grissom Island, 4.6 mi downstream from Big War Creek, 10 mi east of Tazewell, and at mile 159.8.

DRAINAGE AREA.--1,474 mi^2.

PERIOD OF RECORD.--October 1918 to current year. Published as "near Lone Mountain" October 1918 to September 1927; as "near Tazewell" August 1927 to December 1936; and as "above Tazewell" July 1935 to current year. Prior to April 1919 monthly discharge only, published in WSP 1306. Gage-height record "near Tazewell" January 1937 to July 1941.

REVISED RECORDS.--WSP 803: Drainage area at site "near Tazewell". WSP 1306: Drainage area at site "near Lone Mountain". WSP 1336: 1928.

GAGE.--Water-stage recorder. Datum of gage is 1,060.7 ft above National Geodetic Vertical Datum of 1929. April 1, 1919 to Sept. 30, 1927, nonrecording gage on railroad bridge 23.3 mi downstream at datum 102.7 ft lower. Aug. 8, 1927, to July 16, 1941, water-stage recorder at site 8.0 mi downstream at datum 47.2 ft lower. Water-stage recorder at present site and datum since July 29, 1935.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--71 years, 2,067 ft^3/s, 19.04 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 98,100 ft^3/s, Apr. 5, 1977, gage height, 29.32 ft, from floodmarks; minimum, 108 ft^3/s, Sept. 11, 1925; minimum gage height, at present site and datum, 0.33 ft, Sept. 20, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in February 1862 reached a stage of about 24 ft, present site and datum, from information by local resident; discharge, about 66,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 14,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
May 7	0300	*25,800	*13.77	June 18	0600	17,100	10.74

Minimum discharge, 168 ft^3/s, Oct. 20, 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	420	262	1100	2790	961	2490	2190	2310	1130	1830	1720	2120
2	358	247	1020	2990	929	2240	2240	5260	1010	1980	2850	1660
3	321	233	888	2800	900	2090	2170	8430	966	1520	2390	1330
4	304	227	781	2340	1020	1990	2670	6430	1020	1470	1670	1130
5	284	369	699	1890	2240	1960	5140	5150	1040	1470	1220	905
6	266	1850	634	1840	3620	2020	4920	19100	1720	1530	1020	770
7	258	2210	582	2430	4430	2280	3750	23600	4080	1940	960	703
8	248	1520	544	2680	5020	2440	3350	13400	5710	3380	813	648
9	235	1220	526	3100	4330	2330	3980	7420	3830	3350	812	610
10	222	945	513	2750	3360	2120	3920	5920	2970	2530	723	580
11	212	800	494	2280	2700	1930	3690	5330	2460	1840	636	557
12	201	698	469	5290	2280	1780	3240	4790	2010	1480	575	545
13	191	637	440	12300	1980	1650	2770	4250	2430	1610	534	638
14	184	608	411	11800	1820	1620	2380	3720	3880	1620	509	1380
15	177	603	398	9590	1940	1660	2140	3220	4590	1260	502	3300
16	173	577	385	9860	2120	1610	1990	2790	7480	1050	529	7350
17	173	940	405	6990	2670	1500	1810	2430	13400	924	565	11500
18	175	2040	410	4680	4310	1440	1640	2120	16000	1180	645	5470
19	174	2090	403	3460	4550	1440	1490	1870	8970	1280	738	3510
20	169	2490	397	2730	4290	1470	1370	1790	4850	1020	777	2520
21	175	2910	464	2240	5900	2380	1270	1780	3640	1040	1430	1960
22	186	2480	1120	1870	9450	3730	1200	1610	3550	1280	1030	1620
23	205	1730	1380	1610	8650	3750	1130	1460	4420	1070	773	3270
24	218	1300	2440	1420	6560	3620	1080	1420	3190	859	1450	8030
25	242	1040	4920	1280	4650	3460	1050	1350	2500	739	2470	5770
26	309	865	4990	1180	3590	3290	992	1290	2030	688	2030	4210
27	370	790	3430	1110	3060	2880	1010	2330	1720	751	2460	4740
28	349	865	2450	1020	2740	2480	1000	1730	1720	897	2050	4870
29	321	1050	1970	949	---	2160	1310	2290	1840	1670	1670	3530
30	295	1070	1660	931	---	1960	1900	1670	1780	1350	1330	2930
31	278	---	1540	979	---	2000	---	1340	---	1240	1800	---
TOTAL	7693	34666	37863	109179	100070	69770	68792	147600	115936	45848	38781	88156
MEAN	248	1156	1221	3522	3574	2251	2293	4761	3865	1479	1251	2939
MAX	420	2910	4990	12300	9450	3750	5140	23600	16000	3380	2850	11500
MIN	169	227	385	931	900	1440	992	1290	966	688	502	545
CFSM	.17	.78	.83	2.39	2.42	1.53	1.56	3.23	2.62	1.00	.85	1.99
IN.	.19	.87	.96	2.76	2.53	1.76	1.74	3.73	2.93	1.16	.98	2.22

CAL YR 1988 TOTAL 352575 MEAN 963 MAX 9920 MIN 132 CFSM .65 IN. 8.90
WTR YR 1989 TOTAL 864354 MEAN 2368 MAX 23600 MIN 169 CFSM 1.61 IN. 21.81

03535102 SCARBORO CREEK TRIBUTARY NEAR HAW RIDGE NEAR OAK RIDGE, TN

LOCATION.--Lat 35°58'45", long 84°14'16", Anderson County, Hydrologic Unit 06010207, on right bank, 2 mi southeast of Oak Ridge, and at mile 0.5.

DRAINAGE AREA.--0.41 mi^2.

PERIOD OF RECORD.--May to September 1989.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 861.40 ft above National Vertical Datum of 1929.

REMARKS.--Records fair. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR CURRENT PERIOD--May to September 1989: Maximum discharge during period, 33 ft^3/s, Aug. 1, gage height 3.00 ft; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								e.00	.00	.00	.73	.00
2								e.00	.00	.00	.00	.00
3								e.00	.00	.00	.00	.00
4								e.00	.00	.00	.00	.00
5								e.00	.00	.00	.00	.00
6								e.00	.00	.18	.00	.00
7								e.00	.00	.19	.00	.00
8								e.00	.00	.00	.00	.00
9								e.00	.88	.00	.00	.00
10								e.00	.31	.00	.00	.00
11								e.00	.00	.00	.00	.00
12								e.00	.00	.00	.00	.00
13								e.00	.00	.00	.00	.00
14								e.00	.00	.00	.00	.00
15								e.00	.61	.00	.00	.00
16								.00	1.4	.00	.00	.00
17								.00	.74	.00	.00	.00
18								.00	.02	.00	.00	.00
19								.00	.00	.00	.00	.00
20								.00	.00	.00	.00	.00
21								.00	.00	.00	.00	.00
22								.00	.00	.00	.00	.00
23								.00	.00	.00	.00	.00
24								.00	.00	.00	.00	.00
25								.00	.00	.00	.00	.00
26								.00	.00	.00	.00	.00
27								.00	.00	.00	.00	.00
28								.00	.36	.00	.00	.00
29								.00	.00	.00	.00	.00
30								.00	.00	.00	.00	e.50
31								.00	---	.00	.00	---
TOTAL								0.00	4.32	0.37	0.73	0.50
MEAN								.00	.14	.012	.024	.017
MAX								.00	1.4	.19	.73	.50
MIN								.00	.00	.00	.00	.00
CFSM								.00	.35	.03	.06	.04
IN.								.00	.39	.03	.07	.05

e Estimated

03535103 SCARBORO CREEK TRIBUTARY NEAR OAK RIDGE, TN

LOCATION.--Lat 35°58'44", long 84°14'15", Anderson County, Hydrologic Unit 06010207, on right bank, 2 mi southeast of Oak Ridge, and at mile 0.5.

DRAINAGE AREA.--0.41 mi^2.

PERIOD OF RECORD.--May to September 1989.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 856.38 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period May to September, 181 ft^3/s, Aug. 1, gage height 3.81 ft, from rating curve extended above 8 ft^3/s; minimum, 0.06 ft^3/s, gage height, 2.34 ft, Sept. 13, 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								.14	.19	.43	2.1	.10
2								.13	.18	.37	.57	.11
3								.12	.17	.45	.40	.10
4								.12	.16	.70	.30	.08
5								.33	.17	.68	.25	.08
6								.55	.35	e2.0	.22	.07
7								.45	.60	e1.8	.19	.07
8								.33	.53	e1.5	.18	.07
								.38	2.3	e1.0	.16	.07
10								.59	1.8	e.80	.14	.07
11								.50	.96	e.70	.13	.07
12								.40	.74	e.60	.13	.07
13								.32	1.1	e.50	.12	.07
14								.26	.95	e.40	.12	.07
15								.23	2.0	e.35	.12	.11
16								.21	3.1	e.30	.12	.13
17								.19	2.4	e.25	.11	.10
18								.17	1.3	e.20	.11	.09
19								.16	.85	e.25	.11	.09
20								.20	.93	e.20	.10	.08
21								.18	.90	e.22	.10	.08
22								.16	.72	e.20	.10	e.18
23								.16	.60	e.18	.10	.35
24								.15	.47	e.17	.12	.28
25								.13	e.40	e.16	.11	.23
26								.13	e.35	e.15	.10	.52
27								.40	e.30	e.15	.10	.40
28								.34	e1.0	.14	.09	.28
29								.28	.73	.13	.09	.24
30								.24	.57	.14	.08	1.2
31								.21	---	.13	.08	---
TOTAL								8.16	26.82	15.25	6.75	5.46
MEAN								.26	.89	.49	.22	.18
MAX								.59	3.1	2.0	2.1	1.2
MIN								.12	.16	.13	.08	.07
CFSM								.64	2.18	1.20	.53	.44
IN.								.74	2.43	1.38	.61	.50

e Estimated

03535912 CLINCH RIVER AT MELTON HILL DAM (TAILWATER), TN
(National stream-quality accounting network station)

LOCATION.--Lat 35°53'07", long 84°18'03", Loudon County, Hydrologic Unit 06010207, at downstream side of Melton Hill Dam, 1.9 mi downstream from Hope Creek, and at mile 23.1.

DRAINAGE AREA.--3,343 mi^2.

PERIOD OF RECORD.--September 1936 to January 1941 (published as "near Wheat"), February 1941 to September 1960 (published as "near Scarboro"), October 1960 to September 1964 (published as "at Melton Hill Dam"), October 1967 to September 1968 (published as "near Oak Ridge"), October 1978 to current year. Equivalent record for the period October 1964 to December 1978 published in annual reports of Tennessee Valley Authority entitled "Operation of TVA Reservoirs".

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to February 1941, at site 8.7 miles downstream at datum 717.36 ft higher. February 1941 to September 1962 at site 15.9 miles upstream at datum 753.35 ft higher. October 1962 to September 1964, headwater gage at upstream side of dam at present datum. October 1967 to September 1968, at site 8.6 miles downstream at datum 731.62 ft higher.

REMARKS.--Flow regulated by Melton Hill Lake (station 03535900) and Norris Lake (station 03532500) above site.

COOPERATION.--Records furnished by Tennessee Valley Authority.

AVERAGE DISCHARGE.--40 years, (1936-64, 1967-68, 1978-89), 4547 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 39,600 ft^3/s, Feb. 18, 1937; minimum daily, no flow, many days since closure of Melton Hill Dam in August 1962.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 19,100 ft^3/s, June 22; no flow, Nov. 12, 19, Mar. 12, Sept. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1250	5120	1230	8200	8480	10500	438	883	5430	9600	6600	8400
2	1380	4470	400	7500	4850	7050	400	883	4720	9760	7930	6050
3	1250	400	400	2870	4050	4870	467	1630	2920	10300	8190	5340
4	1250	417	400	2520	517	2170	400	1220	3680	10000	6790	4470
5	1200	400	400	2370	433	1700	400	833	5510	10900	3370	8600
6	2070	400	417	2480	3470	4520	1180	4850	4770	10600	4550	8970
7	2050	500	417	4790	7350	7480	1730	6670	2080	9600	4530	7930
8	1300	417	417	6680	6680	7380	1600	6920	1250	8980	1630	7220
9	1230	621	1270	5970	7640	1880	1600	8940	4170	8900	4150	4180
10	5000	467	3270	2700	6730	2550	2620	13000	317	9170	1270	5130
11	5140	400	4550	2070	5600	1740	5650	10400	1720	8850	4450	10300
12	4720	0	4740	9480	5800	0	4600	8600	7670	8780	3730	8070
13	1580	400	4580	10800	5570	3300	1250	7990	14700	4080	3700	8140
14	1130	1200	4430	6570	5850	4880	450	7600	11600	4740	8380	6690
15	467	43	1670	7200	7970	2500	417	8750	12600	3790	7370	3200
16	400	1870	1600	8920	6730	4750	417	7630	17600	2920	8220	7070
17	400	1620	1600	9250	8830	4450	1230	6870	9070	4950	6900	2220
18	438	1600	1620	8120	7900	833	1220	6550	11200	5870	7570	5220
19	438	0	1650	11600	8470	417	800	5720	10800	6650	3810	5800
20	821	2070	467	10700	9200	1200	800	4800	13200	5900	6240	7500
21	1720	1700	417	7680	14200	2830	833	2350	14000	5900	7220	7400
22	1670	1320	2130	7680	11800	5020	817	7080	19100	1780	7620	4870
23	1670	383	1880	7880	10900	6680	754	6940	19000	2980	6180	0
24	2500	383	417	6750	10600	417	2490	7280	18700	5290	7900	6100
25	4050	417	1670	6800	8770	417	5130	7320	17200	5850	7870	8720
26	3270	417	2500	8320	8230	417	3380	7380	17700	6390	6370	9100
27	1400	400	3350	7690	8970	3580	1630	3120	9340	6290	6290	10500
28	2030	4000	2370	3730	10800	2950	1690	1750	10400	5520	7570	8550
29	1730	4830	2430	2170	---	3630	1370	3100	11100	1250	7690	7520
30	1850	4630	1670	10100	---	900	1370	5530	10300	4250	7380	8830
31	4170	---	3720	8950	---	1250	---	3430	---	4950	7600	---
TOTAL	59574	40895	58082	208540	206390	102261	47133	176019	291847	204790	189070	202090
MEAN	1922	1363	1874	6727	7371	3299	1571	5678	9728	6606	6099	6736
MAX	5140	5120	4740	11600	14200	10500	5650	13000	19100	10900	8380	10500
MIN	400	0	400	2070	433	0	400	833	317	1250	1270	0

CAL YR 1988 TOTAL 766929 MEAN 2095 MAX 11700 MIN 0 MEAN‡ 2375 CFSM‡ 0.71 IN‡ 9.67
WTR YR 1989 TOTAL 1786691 MEAN 4895 MAX 19100 MIN 0 MEAN‡ 5827 CFSM‡ 1.74 IN‡ 23.66

‡ Adjusted for change in contents in Norris and Melton Hill lakes.
NOTE.--Contents (cfs-days) for adjustments furnished by Tennessee Valley Authority.

03535912 CLINCH RIVER AT MELTON HILL DAM (TAILWATER), TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1981 to current year.
WATER TEMPERATURES: March 1981 to current year.

INSTRUMENTATION.--Water-quality monitor since March 21, 1981.

REMARKS.--Flow regulated by Melton Hill and Norris Lakes.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 449 microsiemens, Oct. 28, 1981; minimum, 186 microsiemens, May 29, 1982.
WATER TEMPERATURES: Maximum, 23.5°C, May 17, 1982; minimum, 4.0°C, Jan. 27, 1983, Jan. 21, 22, 1984.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)
OCT												
26...	1030	9600	290	8.20	16.0	745	2.9	7.8	81	K7	K4	140
DEC												
14...	0930	18400	300	8.20	9.0	745	2.3	10.0	89	K1	K1	140
FEB												
14...	1045	9600	285	8.20	8.0	747	3.4	12.0	103	39	K9	140
APR												
18...	1215	9600	240	8.20	15.0	744	1.8	10.0	102	27	K3	140
JUN												
12...	1130	10400	260	8.60	17.0	748	3.0	9.6	101	38	48	130
AUG												
14...	1000	100	280	8.10	21.0	744	2.9	8.1	93	K3	K11	130

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
OCT												
26...	1.6	115	28	5.9	0.10	3.2	170	167	0.23	4410	0.010	0.290
DEC												
14...	1.8	122	26	5.6	0.10	3.2	164	169	0.22	8150	0.010	0.170
FEB												
14...	1.8	118	28	5.6	0.10	2.9	158	164	0.21	4100	<0.010	0.320
APR												
18...	1.6	122	21	4.4	0.10	1.0	149	152	0.20	3860	0.010	0.200
JUN												
12...	1.5	108	24	4.4	0.10	3.9	161	152	0.22	4520	<0.010	0.490
AUG												
14...	1.7	107	22	3.8	0.10	4.8	149	147	0.20	40.2	0.010	0.450

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT											
26...	0.04	0.030	0.030	0.37	0.40	0.010	0.010	<0.010	7	193	87
DEC											
14...	0.03	0.030	0.020	0.37	0.40	0.030	0.020	<0.010	5	226	88
FEB											
14...	--	0.010	<0.010	0.29	0.30	0.020	<0.010	<0.010	2	52	87
APR											
18...	0.03	0.030	0.020	3.4	3.4	0.020	<0.010	<0.010	5	130	71
JUN											
12...	0.04	0.020	0.030	--	<0.20	0.010	<0.010	<0.010	7	183	86
AUG											
14...	0.04	0.040	0.030	0.46	0.50	0.030	0.040	<0.010	3	0.80	82

K--Results based on non-ideal colony count.

03535912 CLINCH RIVER AT MELTON HILL DAM (TAILWATER), TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
OCT 26...	10	1	39	0.8	<1	1	<3	1	8	<5
FEB 14...	<10	<1	37	<0.5	<1	<1	<3	1	11	<5
APR 18...	20	<1	32	<0.5	<1	<1	<3	1	<3	<5
JUN 12...	<10	<1	35	<0.5	<1	<1	<3	5	3	1

DATE	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 26...	12	3	<0.1	<10	3	<1	2.0	110	<6	4
FEB 14...	9	5	<0.1	<10	2	<1	<1.0	110	<6	290
APR 18...	7	2	<0.1	<10	<1	<1	1.0	88	<6	<3
JUN 12...	7	<1	<0.1	<10	1	<1	<1.0	95	<6	<3

03536320 WHITEOAK CREEK NEAR MELTON HILL, TN

LOCATION.--Lat 35°55'56", long 84°18'20", Roane County, Hydrologic unit 06010207, on right bank 1.8 mi upstream from Melton Branch, 5.5 miles southwest of Oak Ridge, and at mile 3.4.

DRAINAGE AREA.--1.31 mi^2.

PERIOD OF RECORD.--April 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is 807.57 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 392 ft^3/s, Sept. 15, 1989, gage height, 3.32 ft, from rating curve extended above 50 ft^3/s; no flow part of each day, June 25, July 9-11, 1988, gage height, 0.30 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 392 ft^3/s, Sept. 15, gage height, 3.32 ft, from rating curve extended as explained above; minimum, 0.04 ft^3/s Oct. 1, gage height, 0.39 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.11	.17	9.3	.19	2.4	4.6	.52	.34	.71	2.0	8.1
2	.56	.09	.13	3.4	.16	2.2	3.0	.14	.20	.77	.53	.65
3	.08	.09	.11	2.2	.19	1.9	2.6	.11	.11	2.7	.22	.18
4	.06	1.6	.10	1.5	.15	1.7	7.6	.27	.24	1.9	.11	.11
5	.05	4.0	.10	1.0	1.4	7.7	5.4	6.3	.81	1.4	.08	.09
6	.06	.63	.09	3.2	2.9	12	3.6	3.5	.93	7.1	.09	.08
7	.06	.25	.09	1.7	2.8	5.4	2.9	2.3	.52	5.8	.08	.08
8	.05	.21	.08	11	2.2	3.4	3.0	1.7	.72	3.5	.07	.07
9	.05	.14	.38	3.9	1.7	2.4	2.2	5.3	7.1	2.3	.07	.06
10	.05	.40	.14	2.4	1.4	1.9	1.9	3.7	3.3	1.7	.07	.05
11	.05	.19	.11	5.4	1.2	1.6	1.6	2.4	2.0	1.3	.07	.31
12	.06	.13	.10	38	.91	1.3	1.4	1.8	3.5	1.1	.06	.09
13	.05	.23	.09	20	.70	1.1	1.2	1.4	4.9	.83	.06	.07
14	.06	.13	.09	11	.92	.91	1.0	1.1	3.0	.62	.07	.64
15	.06	.11	.08	12	.68	.75	1.1	.79	13	.43	.07	12
16	.06	.54	.08	5.6	.67	.54	.76	.55	15	.42	.07	2.4
17	.15	.31	.08	3.4	5.4	.40	.63	.37	7.7	.27	.58	1.1
18	.05	.17	.07	2.3	8.7	1.1	.53	.22	4.0	.15	.09	.57
19	.05	1.9	.07	1.7	5.2	.44	.47	.21	2.8	.38	.06	.22
20	.07	4.2	.07	1.3	5.0	.83	.39	2.6	12	.16	.06	.10
21	.33	.88	.93	.98	15	4.5	.31	.61	6.5	.26	.07	.09
22	.08	.33	.29	.74	6.0	2.3	.22	.41	11	.11	.06	3.5
23	.09	.18	.91	.53	3.5	3.2	.17	.37	4.7	.12	.89	6.0
24	.13	.14	2.7	.35	2.3	2.5	.18	.19	3.0	.10	.31	2.8
25	.12	.11	1.4	.22	1.8	2.2	.13	.12	2.2	.09	.13	4.1
26	.09	.11	.88	.19	1.6	1.8	.13	4.0	1.6	.08	3.2	4.4
27	.08	2.5	.48	.13	2.4	1.5	.13	3.3	1.2	.07	.20	2.2
28	.28	1.0	.86	.12	2.9	1.2	.12	1.5	3.6	.29	.13	1.5
29	.10	.52	.33	.11	---	1.0	.17	1.2	1.2	.10	.10	2.2
30	.10	.24	1.8	.81	---	9.9	.11	.80	.80	.18	.09	17
31	.15	---	10	.25	---	9.1	---	.54	---	.09	.08	---
TOTAL	3.28	21.44	22.81	144.73	77.97	89.17	47.55	48.32	117.97	35.03	9.77	70.76
MEAN	.11	.71	.74	4.67	2.78	2.88	1.58	1.56	3.93	1.13	.32	2.36
MAX	.56	4.2	10	38	15	12	7.6	6.3	15	7.1	3.2	17
MIN	.05	.09	.07	.11	.15	.40	.11	.11	.11	.07	.06	.05
CFSM	.08	.55	.56	3.56	2.13	2.20	1.21	1.19	3.00	.86	.24	1.80
IN.	.09	.61	.65	4.11	2.21	2.53	1.35	1.37	3.35	.99	.28	2.01

CAL YR 1988 TOTAL 188.49 MEAN .51 MAX 18 MIN .01 CFSM .39 IN. 5.35
WTR YR 1989 TOTAL 688.80 MEAN 1.89 MAX 38 MIN .05 CFSM 1.44 IN. 19.56

03536380 WHITEOAK CREEK NEAR WHEAT, TN

LOCATION.--Lat 35°55'30", long 84°18'52", Roane County, Hydrologic Unit 06010207, on left bank, 1.1 mi upstream from Melton Branch, 6.2 mi southwest of Oak Ridge, and at mile 2.7.

DRAINAGE AREA.--2.10 mi^2.

PERIOD OF RECORD.--December 1986 to current year.

GAGE.--Water-stage recorder and Parshall Flume. Datum of gage is 775.44 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Oak Ridge National Laboratory. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 204 ft^3/s, Sept. 1, 1989, gage height, 4.99 ft, from rating curve extended above 75 ft^3/s on basis of theoretical-weir formula; minimum, 1.6 ft^3/s, Oct. 9, 10, 1987, gage height, 0.28 ft; minimum daily, 1.7 ft^3/s, Oct. 10, 17, 18, 1987.

EXTREMES FOR CURRENT YEAR YEAR.--Maximum discharge, 204 ft^3/s, Sept. 1, gage height, 4.99 ft from rating curve extended as explained above; minimum, 2.4 ft^3/s, Oct. 1, 13, 19, 31, Nov. 1, gage height, 0.36 ft; minimum daily, 2.5 ft^3/s, Oct. 19, 30, Nov. 1, Dec. 16-20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	2.5	4.0	20	3.7	9.5	13	5.1	4.3	5.0	11	17
2	4.2	2.6	3.7	10	3.6	8.6	10	3.7	4.3	5.2	5.3	5.6
3	2.8	2.6	3.4	7.9	3.9	7.7	9.5	3.4	4.0	11	4.4	3.9
4	2.6	6.8	3.2	6.2	3.7	7.3	20	4.0	4.2	8.5	4.2	3.4
5	2.6	15	3.0	5.3	7.7	21	15	19	6.4	6.9	4.0	3.2
6	2.7	5.6	2.9	11	12	26	11	12	6.4	21	4.0	3.0
7	2.9	4.0	2.8	6.9	10	15	9.8	8.1	4.6	16	3.5	3.0
8	2.8	3.7	2.8	26	8.3	11	10	6.8	5.8	11	3.4	2.9
9	2.6	3.3	3.7	11	7.2	9.0	8.0	16	21	8.7	3.3	2.7
10	2.6	4.1	2.9	8.5	6.3	7.7	7.3	12	11	7.3	3.3	2.6
11	2.8	3.1	2.9	15	5.7	6.8	6.8	9.0	7.7	6.3	3.2	5.0
12	2.7	2.9	2.9	65	5.2	6.1	6.3	7.3	12	5.9	3.1	3.1
13	2.6	3.2	2.9	36	4.9	5.8	6.0	6.1	14	5.3	3.2	3.0
14	2.6	2.9	2.7	25	6.0	5.3	5.5	5.2	9.8	4.8	3.2	4.9
15	2.6	2.9	2.6	25	5.2	5.0	5.7	4.8	30	4.4	3.2	17
16	2.6	4.3	2.5	14	5.3	4.6	4.8	4.5	31	4.5	3.2	10
17	3.0	3.8	2.5	11	17	4.4	4.5	4.0	19	4.2	4.9	5.6
18	2.6	3.2	2.5	8.7	21	6.7	4.4	3.9	12	4.0	3.5	4.7
19	2.5	8.0	2.5	7.3	14	4.5	4.3	4.1	9.7	5.0	3.2	4.1
20	2.6	14	2.5	6.3	15	6.0	4.1	11	30	4.1	3.3	3.8
21	3.6	5.8	5.6	5.5	32	15	4.0	4.8	17	4.6	3.3	3.5
22	2.6	4.5	3.7	4.9	16	8.9	3.9	4.4	26	3.8	3.2	14
23	2.6	4.1	6.0	4.5	11	11	4.1	4.4	14	3.7	6.4	17
24	2.8	3.8	11	4.2	8.8	8.9	4.0	3.8	11	3.7	4.3	9.0
25	2.7	3.5	7.2	4.0	7.6	7.9	3.7	4.0	8.6	3.6	3.3	12
26	2.7	3.2	5.4	3.9	6.9	7.1	3.6	12	7.2	3.7	8.9	14
27	2.6	10	4.6	3.7	9.9	6.3	3.7	13	6.2	3.7	3.8	8.1
28	3.3	6.5	6.1	3.5	11	5.9	3.6	7.1	12	4.2	3.5	6.1
29	2.6	4.8	4.4	3.4	---	5.4	3.9	5.7	6.7	3.8	3.3	8.7
30	2.5	4.3	8.2	5.9	---	24	3.6	5.0	5.4	3.9	3.1	36
31	2.6	---	24	3.9	---	22	---	4.5	---	3.7	2.9	---
TOTAL	85.9	149.0	145.1	373.5	268.9	300.4	204.1	218.7	361.3	191.5	126.4	236.9
MEAN	2.77	4.97	4.68	12.0	9.60	9.69	6.80	7.05	12.0	6.18	4.08	7.90
MAX	4.2	15	24	65	32	26	20	19	31	21	11	36
MIN	2.5	2.5	2.5	3.4	3.6	4.4	3.6	3.4	4.0	3.6	2.9	2.6

CAL YR 1988 TOTAL 1484.9 MEAN 4.06 MAX 36 MIN 2.3
WTR YR 1989 TOTAL 2661.7 MEAN 7.29 MAX 65 MIN 2.5

03536440 NORTHWEST TRIBUTARY NEAR OAK RIDGE, TN

LOCATION.--Lat 35°55'18", long 84°19'13", Roane County, Hydrologic Unit 06010207, on left bank 750 ft upstream of Lagoon Road, 6 mi southwest of Oak Ridge, and at mile 0.2.

DRAINAGE AREA.--0.67 mi^2.

PERIOD OF RECORD.--May 1987 to current year.

GAGE.--Water-stage recorder and concrete V-notch weir. Datum of gage is 774.36 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated at times by Oak Ridge National Laboratory. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 85 ft^3/s, June 22, 1989, gage height, 2.94 ft, from rating curve extended above 22 ft^3/s based on theoretical-weir formula; minimum, 0.18 ft^3/s, June 1, 1988, gage height, 0.22 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 85 ft^3/s, June 22, gage height, 2.94 ft from rating curve extended as explained above; minimum, 0.41 ft^3/s, Oct. 8, 13-15, Nov. 2, gage height, 0.35 ft.

REVISIONS.--The maximum discharge for the water years 1987 and 1988 have been revised to 64 ft^3/s, June 22, 1987, gage height, 2.63 ft, from rating curve extended above 22 ft^3/s based on theoretical-weir formula, and 77 ft^3/s, Jan. 19, 1988, gage height, 2.83 ft, from rating curve extended as explained above, superseding figures published in reports for 1987 and 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.51	.50	.75	5.2	.78	2.3	2.7	.79	.65	.84	1.3	2.1
2	.65	.41	.70	2.2	.73	1.9	2.0	.64	.61	.82	.83	.82
3	.50	.45	.65	1.7	.77	1.6	1.7	.53	.58	2.4	.66	.60
4	.53	.96	.64	1.3	.72	1.3	5.5	.58	.60	1.9	.61	.54
5	.48	3.8	.64	1.1	1.6	6.0	3.6	5.4	.79	1.4	.58	.53
6	.48	1.2	.62	2.5	3.0	9.0	2.3	3.5	1.6	6.8	.57	.55
7	.50	.76	.61	1.5	2.7	3.7	1.8	1.8	1.1	4.6	.54	.53
8	.45	.71	.61	7.6	1.9	2.3	2.0	1.3	1.5	2.4	.51	.55
9	.47	.61	.70	2.6	1.4	1.7	1.6	3.5	7.5	1.7	.50	.54
10	.47	.74	.65	1.7	1.2	1.5	1.3	2.6	2.7	1.3	.50	.53
11	.49	.65	.64	3.7	1.1	1.3	1.2	1.7	1.7	1.0	.50	1.0
12	.46	.57	.61	22	.95	1.1	1.1	1.3	2.7	.97	.50	.65
13	.45	.60	.63	10	.90	1.0	.97	1.0	3.7	.91	.50	.55
14	.47	.57	.61	6.6	1.1	.93	.93	.91	2.0	.82	.50	.83
15	.46	.58	.61	7.3	1.3	.82	.94	.84	8.6	.76	.49	4.7
16	.47	.69	.62	3.3	1.0	.78	.83	.76	9.2	.70	.47	1.9
17	.52	.81	.61	2.1	4.2	.76	.82	.68	4.5	.65	.50	.92
18	.52	.68	.58	1.6	6.6	1.2	.80	.65	2.4	.62	.50	.73
19	.51	1.8	.57	1.3	3.5	.94	.73	.66	1.9	.72	.50	.66
20	.50	4.2	.61	1.1	3.7	1.1	.69	2.0	8.3	.62	.48	.58
21	.62	1.4	1.3	.95	10	4.0	.68	.97	4.9	.67	.47	.58
22	.50	.98	1.1	.85	3.9	2.1	.68	.76	11	.59	.50	2.3
23	.48	.84	1.7	.81	2.4	2.5	.73	.71	4.4	.58	.80	2.5
24	.55	.71	2.7	.78	1.8	2.2	.72	.63	2.5	.60	.66	1.1
25	.53	.65	1.7	.74	1.4	1.7	.73	.59	1.7	.61	.58	1.9
26	.55	.64	1.2	.74	1.2	1.4	.69	1.8	1.3	.57	.71	2.9
27	.53	2.4	1.0	.71	1.8	1.2	.65	3.2	1.1	.53	.57	1.2
28	.62	1.7	1.3	.60	2.9	1.1	.66	1.3	1.4	.59	.54	.87
29	.51	1.1	.99	.61	---	1.0	.64	.96	1.0	.57	.58	1.2
30	.50	.89	1.8	1.1	---	6.7	.61	.83	.90	.60	.58	11
31	.50	---	7.3	.91	---	5.4	---	.74	---	.54	.53	---
TOTAL	15.78	32.60	34.75	95.20	64.55	70.53	40.30	43.63	92.83	38.38	18.06	45.36
MEAN	.51	1.09	1.12	3.07	2.31	2.28	1.34	1.41	3.09	1.24	.58	1.51
MAX	.65	4.2	7.3	22	10	9.0	5.5	5.4	11	6.8	1.3	11
MIN	.45	.41	.57	.60	.72	.76	.61	.53	.58	.53	.47	.53

CAL YR 1988 TOTAL 323.21 MEAN .88 MAX 9.3 MIN .34
WTR YR 1989 TOTAL 591.97 MEAN 1.62 MAX 22 MIN .41

03536450 FIRST CREEK NEAR OAK RIDGE, TN

LOCATION.--Lat 35°55'21", long 84°19'10", Roane County, Hydrologic Unit 06010207, on left bank, 5.9 mi southwest of Oak Ridge, and at mile 0.1.

DRAINAGE AREA.--0.33 mi^2.

PERIOD OF RECORD.--February 1987 to current year.

GAGE.--Water-stage recorder and concrete weir. Datum of gage is 772.78 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow regulated at times by Oak Ridge National Laboratory. Periodic observations of water temperature and specific condutance are published in this report as miscellaneous water quality data.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45 ft^3/s, June 22, 1989, gage height, 2.71 ft, from rating curve extended above 10 ft^3/s on basis of theoretical-weir formula; minimum, 0.13 ft^3/s, part of each day, Dec. 1-7, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 45 ft^3/s, June 22, gage height, 2.71 ft, from rating curve extended as explained above; minimum, 0.19 ft^3/s, Oct. 27, 28.

REVISIONS.--The maximum discharges for the water years 1987 and 1988 have been revised to 33 ft^3/s, June 22, 1987, gage height, 2.52 ft, from rating curve extended above 10 ft^3/s based on theoretical-weir formula, and 36 ft^3/s, Jan. 19, 1988, gage height, 2.59 ft, from rating curve extended as explained above. Superseding figures published in reports for 1987 and 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.25	.22	.68	3.2	.67	e1.6	2.3	.57	.56	.74	1.5	e1.1
2	.51	.21	.55	2.2	.60	e1.4	1.8	.35	.49	.77	.56	e.50
3	.28	.21	.47	1.8	.47	e1.3	1.7	.31	.44	1.9	.43	e.40
4	.26	.53	.43	1.4	.41	1.3	3.1	.37	.49	1.5	.38	e.35
5	.23	2.0	.39	1.2	1.2	3.7	2.6	2.1	.88	1.2	.35	e.30
6	.24	1.1	.38	2.2	2.1	5.0	2.0	2.0	.99	3.9	.36	e.30
7	.23	.67	.36	1.5	1.9	2.9	1.8	1.4	.79	2.9	.32	e.30
8	.23	.51	.36	4.3	1.6	2.0	1.8	1.2	1.3	2.1	.28	e.30
9	.23	.41	.44	2.3	1.4	1.7	1.4	1.9	4.2	1.6	.26	e.29
10	.23	.49	.41	1.9	1.2	1.4	1.3	2.0	2.1	1.3	.27	e.28
11	.23	.41	.35	3.3	1.1	1.2	1.2	1.5	1.5	1.1	.27	e.55
12	.23	.36	.33	11	1.0	1.1	1.1	1.2	2.3	.98	.27	e.40
13	.22	.37	.31	7.0	.86	1.0	1.0	1.0	2.3	.85	.26	e.33
14	.22	.35	.31	5.2	.97	e.85	.93	.90	1.6	.70	.26	e.45
15	.23	.33	.33	4.6	.86	e.80	.96	.74	5.0	.62	.26	e2.4
16	.23	.39	.30	3.0	.87	e.70	.79	.62	5.4	.60	e.23	e1.0
17	.28	.55	.29	2.3	3.0	e.65	.66	.54	3.3	.52	e.25	e.60
18	.24	.42	e.29	1.9	3.6	e1.3	.65	.51	2.2	.47	e.26	e.50
19	.23	.74	e.28	1.7	2.7	e.70	.63	.48	1.9	.63	e.26	e.45
20	.23	2.2	e.35	1.4	2.8	.87	.60	.96	5.0	.47	e.25	e.40
21	.36	1.6	e.70	1.2	5.5	2.5	.57	.65	3.2	.54	e.24	e.40
22	.24	1.1	e.64	1.0	3.1	1.6	.53	.57	5.4	.43	e.26	e1.3
23	.23	.81	.93	.90	2.2	2.0	.57	.52	3.0	.41	e.45	e1.4
24	.27	.62	e1.5	.82	1.7	1.7	.52	.43	2.1	.39	e.35	e1.0
25	.24	.50	e1.1	.74	1.5	1.5	.46	.41	1.6	.36	e.32	e1.2
26	.21	.44	e.90	.69	1.3	1.3	.46	.51	1.3	.36	e.40	e2.0
27	.19	1.2	e.80	.65	e1.5	1.2	.45	1.9	1.1	.36	e.32	e1.3
28	.30	1.4	e.90	.63	e2.0	1.1	.39	1.2	1.9	.41	e.28	e1.1
29	.21	1.1	.79	.59	---	1.0	.39	1.0	1.0	.35	e.30	1.5
30	.21	.86	1.6	1.0	---	3.2	.34	.84	.83	.38	e.30	6.5
31	.22	---	4.3	.70	---	3.3	---	.64	---	.33	e.29	---
TOTAL	7.71	22.10	21.77	72.32	48.11	51.87	33.00	29.32	64.17	29.17	10.79	28.90
MEAN	.25	.74	.70	2.33	1.72	1.67	1.10	.95	2.14	.94	.35	.96
MAX	.51	2.2	4.3	11	5.5	5.0	3.1	2.1	5.4	3.9	1.5	6.5
MIN	.19	.21	.28	.59	.41	.65	.34	.31	.44	.33	.23	.28

CAL YR 1988 TOTAL 210.01 MEAN .57 MAX 5.9 MIN .19
WTR YR 1989 TOTAL 419.23 MEAN 1.15 MAX 11 MIN .19

e Estimated

03536550 WHITEOAK CREEK BELOW MELTON VALLEY DRIVE NEAR OAK RIDGE, TN

LOCATION.--Lat 35°55'10", long 84°19'02", Roane County, Hydrologic Unit 06010207, on right bank 200 ft downstream of bridge on Melton Valley Drive at Oak Ridge National Laboratory, 6.7 mi southwest of Oak Ridge, and at mile 2.2.

DRAINAGE AREA.--3.28 mi^2.

PERIOD OF RECORD.--April 1985 to current year.

GAGE.--Water-stage recorder, crest-stage gage and sharp-crested weir. Datum of gage is 766.35 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Oak Ridge National Laboratory. The control structure's weir plate and dam was modified June 14, 1988.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 367 ft^3/s, Sept. 15, 1989, gage height, 5.55 ft from rating curve extended above 100 ft^3/s on basis of theoretical-weir formula; minimum discharge, 3.8 ft^3/s, Aug. 4, 1988, gage height, 2.57 ft; minimum gage height, 2.38 ft, Oct. 10, 17, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 367 ft^3/s, Sept. 15, gage height, 5.55 ft, from rating curve extended as explained above; minimum 4.3 ft^3/s, Oct. 13, 23, 27, gage height, 2.60 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	5.4	7.4	32	7.5	16	21	9.0	8.8	11	18	28
2	8.8	5.1	6.7	18	7.3	15	17	6.8	8.7	11	9.7	11
3	5.9	5.1	6.2	14	7.2	14	16	6.6	8.2	21	8.0	7.8
4	5.7	12	6.0	11	6.5	13	33	7.4	8.9	17	7.6	6.8
5	5.2	25	5.8	9.5	13	33	25	30	12	14	7.3	6.7
6	5.3	10	5.7	20	20	43	19	21	14	37	7.5	6.6
7	5.5	7.5	5.7	13	18	24	16	15	10	30	6.9	6.4
8	4.9	7.1	5.7	40	14	18	17	12	13	21	6.7	6.3
9	5.0	6.3	7.0	20	12	15	14	25	38	16	6.8	5.8
10	5.2	8.0	5.6	15	11	13	13	20	21	14	6.7	5.7
11	5.3	6.2	5.3	24	10	12	12	15	16	12	6.6	9.9
12	5.1	5.5	5.4	93	9.4	11	11	13	21	11	6.4	7.2
13	5.1	6.2	5.7	54	9.3	10	10	11	26	11	6.3	6.7
14	5.2	5.8	5.6	39	11	9.4	9.7	9.8	19	9.6	6.4	9.5
15	4.7	5.4	5.4	41	10	9.1	10	9.0	48	8.9	6.6	34
16	5.1	7.6	5.3	24	9.3	8.5	8.9	8.3	50	8.8	6.9	18
17	5.7	6.9	5.0	18	27	8.1	8.5	7.7	33	8.4	8.4	10
18	5.2	6.0	4.8	15	35	12	8.6	7.6	22	8.1	6.7	8.7
19	4.9	14	5.2	13	24	8.2	8.2	7.8	18	9.5	6.5	7.7
20	5.3	25	5.3	11	25	10	7.7	17	48	7.9	6.3	7.0
21	7.0	11	10	9.8	50	25	7.6	9.3	32	8.1	6.4	7.1
22	5.0	8.6	7.4	8.8	27	16	7.3	8.5	47	7.1	6.5	23
23	4.8	7.7	11	8.1	19	19	7.5	8.4	27	7.1	11	27
24	5.5	7.0	18	7.7	15	16	7.5	7.3	20	7.0	8.5	14
25	5.4	6.5	12	7.4	12	14	7.2	7.8	16	7.3	6.9	18
26	5.2	6.3	9.8	7.3	12	12	7.0	18	14	7.2	13	23
27	5.1	18	8.5	7.0	17	11	6.9	22	13	7.2	7.3	14
28	6.1	12	11	6.6	19	11	7.0	13	20	8.5	6.9	11
29	5.1	9.0	8.0	6.4	---	10	7.3	10	12	7.3	6.7	15
30	4.8	8.0	14	11	---	38	6.6	9.5	11	7.6	6.6	54
31	5.2	---	37	7.8	---	34	---	9.0	---	7.4	6.3	---
TOTAL	167.9	274.2	261.5	612.4	457.5	508.3	357.5	381.8	655.6	369.0	238.4	415.9
MEAN	5.42	9.14	8.44	19.8	16.3	16.4	11.9	12.3	21.9	11.9	7.69	13.9
MAX	8.8	25	37	93	50	43	33	30	50	37	18	54
MIN	4.7	5.1	4.8	6.4	6.5	8.1	6.6	6.6	8.2	7.0	6.3	5.7

CAL YR 1988 TOTAL 2898.7 MEAN 7.92 MAX 58 MIN 4.5
WTR YR 1989 TOTAL 4700.0 MEAN 12.9 MAX 93 MIN 4.7

03537050 MELTON BRANCH TRIBUTARY (EAST SEVEN) NEAR OAK RIDGE, TN

LOCATION.--Lat 35°55'07", long 84°17'43", Roane County, Hydrologic Unit 06010207, on left bank 125 ft upstream from mouth, 1.2 mi southeast of the Oak Ridge National Laboratory, and 5.8 mi southwest of Oak Ridge.

DRAINAGAE AREA.--0.24 mi^2.

PERIOD OF RECORD.--August 1987 to current year.

GAGE.--Water-stage recorder and fiberglass flume. Datum of gage is 800.70 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25 ft^3/s, Jan. 19, 1988, gage height, 3.69 ft, from rating curve extended above 12 ft^3/s, on basis of theoretical-flume formula; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 23 ft^3/s, Sept. 30, gage height, 3.64 ft, from rating curve extended as explained above; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	.00	.10	2.6	.16	.91	.72	.15	e.04	.08	.43	1.2
2	e.00	.00	.08	.65	.13	.50	.41	.09	e.03	.15	.19	.35
3	e.00	.00	.06	.43	.12	.34	.43	.05	e.02	.92	.05	.07
4	e.00	.11	.05	.25	.11	.30	2.5	.06	e.04	.90	.03	.03
5	e.00	1.0	.05	.19	.63	2.5	1.2	2.5	e.15	.36	.01	.02
6	e.00	.21	.04	1.2	1.6	3.0	.54	1.4	e.80	2.3	.01	.01
7	e.00	.08	.04	.55	1.2	.78	.46	.43	.23	1.2	.01	.01
8	e.00	.05	.03	4.2	.54	.43	.61	.22	.14	.43	.01	.01
9	e.00	.03	.07	.81	.32	.30	.46	1.5	2.2	.20	.01	e.00
10	e.00	.03	.09	.46	.25	.24	.32	.99	.49	.11	.01	e.00
11	e.00	.05	.07	1.5	.21	.21	.25	.37	.17	.07	.00	e.03
12	e.00	.03	.06	9.9	.17	.18	.21	.22	.76	.07	.00	e.01
13	e.00	.03	.05	3.4	.16	.16	.18	.14	1.9	.09	.00	e.01
14	e.00	.03	.05	1.8	.22	.14	.17	.11	.51	.05	.00	e.10
15	e.00	e.02	.04	2.5	.30	.13	.27	.09	3.9	.03	.00	e1.0
16	e.00	e.10	.04	.77	.27	.12	.17	.07	3.1	.04	.00	e.50
17	e.00	e.06	.03	.44	2.6	.10	.14	.05	1.1	.04	.01	e.20
18	e.00	e.03	.03	.30	3.0	.39	.12	.04	.38	.02	.01	e.10
19	.00	e.30	.03	.23	1.0	.25	.11	.05	.28	.04	.01	e.04
20	.00	e1.0	.03	.18	1.4	.37	.10	.88	2.9	.04	.00	e.02
21	.00	e.40	.41	.15	4.5	2.2	.08	.23	1.0	.05	.00	e.01
22	.00	e.20	.36	.13	.94	.67	.08	.11	2.1	.05	.00	e1.0
23	.00	e.10	.71	.12	.48	.91	.09	.13	.81	.03	.02	1.4
24	.00	.07	1.4	.11	.31	.71	.09	.07	.34	.02	.03	.35
25	.00	.05	.77	.10	.25	.44	.07	.04	.17	.01	.01	.74
26	.00	.06	.32	.09	.22	.31	.06	.40	.10	.01	.24	1.7
27	.00	.82	.21	.09	.58	.24	.05	1.8	.07	.01	.07	.31
28	.00	.57	.36	.08	1.4	.20	.04	.35	.30	.01	.02	.16
29	.00	.24	.26	.07	---	.18	.06	e.15	.18	.01	.01	.47
30	.00	.16	.69	.33	---	3.2	.05	e.10	.08	.01	.01	6.3
31	.00	---	4.4	.21	---	2.3	---	e.07	---	.01	.01	---
TOTAL	0.00	5.83	10.93	33.84	23.07	22.71	10.04	12.86	24.29	7.36	1.21	16.15
MEAN	.00	.19	.35	1.09	.82	.73	.33	.41	.81	.24	.039	.54
MAX	.00	1.0	4.4	9.9	4.5	3.2	2.5	2.5	3.9	2.3	.43	6.3
MIN	.00	.00	.03	.07	.11	.10	.04	.04	.02	.01	.00	.00
CFSM	.00	.81	1.47	4.55	3.43	3.05	1.39	1.73	3.37	.99	.16	2.24
IN.	.00	.90	1.69	5.25	3.58	3.52	1.56	1.99	3.76	1.14	.19	2.50

CAL YR 1988 TOTAL 59.49 MEAN .16 MAX 7.2 MIN .00 CFSM .68 IN. 9.22
WTR YR 1989 TOTAL 168.29 MEAN .46 MAX 9.9 MIN .00 CFSM 1.92 IN. 26.08

e Estimated

03537100 MELTON BRANCH NEAR MELTON HILL, NEAR OAK RIDGE, TN

LOCATION.--Lat 35°54'59", long 84°17'53", Roane County, Hydrologic Unit 06010207, on left bank 1.0 mi southeast of the Oak Ridge National Laboratory, 6.0 mi south of Oak Ridge, and at mile 1.2.

DRAINAGE AREA.--0.52 mi^2.

PERIOD OF RECORD.--April 1985 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 784.06 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good below 12 ft^3/s and poor above.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 212 ft^3/s, Jan. 19, 1988, gage height, 9.92 ft, from rating curve extended above 12 ft^3/s; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 54 ft^3/s, Sept. 30, gage height, 9.24 ft, from rating curve extended as explained above; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.16	4.4	.30	1.8	1.8	.23	.08	.18	.60	1.7
2	.00	.00	.11	1.4	.26	1.3	1.2	.12	.06	.29	.27	.55
3	.00	.00	.10	.99	.22	.99	1.2	.06	.05	1.4	.05	.07
4	.00	.03	.08	.57	.21	.84	4.3	.08	.05	1.5	.02	.02
5	.00	1.5	.07	.40	1.1	4.2	2.4	4.0	.17	.68	.01	.01
6	.00	.38	.06	1.9	2.5	5.8	1.5	2.3	.84	3.5	.00	.00
7	.00	.11	.06	1.1	2.1	2.0	1.3	.92	.43	1.9	.00	.00
8	.00	.06	.05	7.5	1.3	1.4	1.4	.47	.23	.95	.00	.00
9	.00	.05	.10	1.8	.83	1.0	1.1	2.4	3.1	.47	.00	.00
10	.00	.05	.12	1.1	.64	.81	.84	1.7	.94	.28	.00	.00
11	.00	.07	.08	2.8	.52	.67	.66	.88	.34	.19	.00	.01
12	.00	.05	.07	21	.42	.58	.56	.50	1.3	.18	.00	.00
13	.00	.05	.07	7.2	.38	.49	.49	.33	3.1	.19	.00	.00
14	.00	.04	.06	3.4	.49	.44	.44	.25	1.2	.12	.00	.02
15	.00	.03	.06	4.8	.62	.38	.83	.22	6.7	.08	.00	3.7
16	.00	.05	.05	1.9	.53	.33	.55	.16	5.5	.09	.00	1.8
17	.00	.26	.05	1.2	4.2	.31	.44	.11	2.3	.07	.00	.26
18	.00	.10	.04	.89	5.4	.86	.41	.11	1.2	.05	.00	.08
19	.00	.71	.04	.64	2.3	.61	.35	.13	.88	.10	.00	.04
20	.00	2.9	.04	.49	2.8	.87	.30	1.4	5.0	.07	.00	.02
21	.00	.72	.60	.38	8.7	3.7	.27	.42	2.0	.09	.00	.01
22	.00	.29	.61	.32	2.4	1.6	.25	.23	3.3	.07	e.00	1.5
23	.00	.17	1.1	.28	1.5	1.9	.27	.24	1.6	.05	e.04	2.1
24	.00	.11	2.0	.26	1.0	1.7	.26	.12	.91	.04	e.02	.58
25	.00	.09	1.4	.22	.79	1.3	.17	.08	.50	.02	.00	.96
26	.00	.07	.64	.22	.67	1.0	.09	.54	.30	.01	.32	2.8
27	.00	1.2	.38	.19	1.2	.79	.08	2.9	.20	.01	.06	.58
28	.00	1.0	.58	.17	2.5	.62	.07	.78	.52	.00	.01	.24
29	.00	.42	.44	.17	---	.46	.09	.32	.36	.01	.00	.75
30	.00	.26	.97	.62	---	5.4	.07	.17	.18	.01	.00	11
31	.00	---	7.6	.38	---	4.1	---	.10	---	.01	.00	---
TOTAL	0.00	10.77	17.79	68.69	45.88	48.25	23.69	22.27	43.34	12.61	1.40	28.80
MEAN	.00	.36	.57	2.22	1.64	1.56	.79	.72	1.44	.41	.045	.96
MAX	.00	2.9	7.6	21	8.7	5.8	4.3	4.0	6.7	3.5	.60	11
MIN	.00	.00	.04	.17	.21	.31	.07	.06	.05	.00	.00	.00
CFSM	.00	.69	1.10	4.26	3.15	2.99	1.52	1.38	2.78	.78	.09	1.85
IN.	.00	.77	1.27	4.91	3.28	3.45	1.69	1.59	3.10	.90	.10	2.06

CAL YR 1988 TOTAL 118.12 MEAN .32 MAX 17 MIN .00 CFSM .62 IN. 8.45
WTR YR 1989 TOTAL 323.49 MEAN .89 MAX 21 MIN .00 CFSM 1.70 IN. 23.14

e Estimated

03537200 MELTON BRANCH TRIBUTARY (CENTER SEVEN) NEAR OAK RIDGE, TN

LOCATION.--Lat 35°55'03", long 84°17'55", Roane County, Hydrologic Unit 06010207, on left bank 300 ft upstream of mouth, 1.1 mi southeast of the Oak Ridge National Laboratory, and 5.9 mi southwest of Oak Ridge.

DRAINAGE AREA.--0.07 mi^2.

PERIOD OF RECORD.--August 1987 to current year.

GAGE.--Water-stage recorder and fiberglass flume. Datum of gage is 794.74 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17 ft^3/s, Jan. 19, 1988, gage height, 3.38 ft from rating curve extended above 4 ft^3/s on basis of theoretical-flume formula; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12 ft^3/s Sept. 15, gage height, 3.03 ft from rating curve extended as explained above; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	.01	.04	.78	.06	.31	.24	.07	.03	.06	.17	.30
2	e.00	.01	.03	.20	.05	.17	.15	.04	.03	.08	.07	.10
3	e.00	.0	.03	.13	.05	.12	.15	.03	.03	.22	.03	.03
4	e.00	.08	.02	.08	.05	.11	.69	.04	.03	.24	.02	.02
5	e.00	.42	.02	.07	.16	.67	.39	.69	.07	.13	.02	.01
6	e.00	.09	.02	.30	.47	.90	.19	.42	.12	.64	.02	.01
7	e.00	.04	.02	.18	.38	.26	.16	.15	.07	.35	.02	.01
8	e.00	.02	.02	1.3	.18	.15	.18	.09	.07	.15	.01	.01
9	e.00	.01	.04	.26	.12	.11	.15	.41	.49	.09	.01	.01
10	e.00	.03	.03	.14	.09	.10	.13	.31	.15	.07	.01	.01
11	e.00	.02	.03	.41	.08	.09	.11	.14	.07	.06	.01	.03
12	e.00	.01	.02	3.3	.07	.08	.10	.09	.24	.06	.01	.02
13	e.00	e.02	.02	1.1	.06	.07	.09	.07	.52	.06	.01	.01
14	e.00	e.01	.02	.52	.08	.07	.08	.06	.17	e.05	.01	.04
15	e.00	e.01	.02	.79	.08	.06	.10	.05	1.1	e.04	.01	.68
16	e.00	e.03	.02	.25	.09	.05	.07	.04	.94	e.04	.01	.29
17	e.00	.05	.02	.14	.74	.05	.07	.04	.35	e.03	.02	.07
18	e.00	.03	.02	.11	.98	.12	.06	.04	.15	e.02	.02	.03
19	.00	.17	.01	.09	.33	.08	.06	.04	.11	e.05	.01	.02
20	.00	e.60	.01	.07	.40	.12	.05	.22	.85	e.04	.01	.02
21	.01	.12	.11	.06	1.4	.65	.05	.08	.34	e.05	.01	.02
22	.01	.06	.11	.06	.31	.23	.05	.06	.74	e.04	.01	.25
23	.01	.04	.19	.05	.17	.25	.05	.06	.30	e.04	.05	.36
24	.01	.03	.39	.05	.12	.23	.05	.04	.14	e.03	.05	.11
25	.00	.02	.23	.04	.10	.16	.04	.03	.09	e.02	.02	.20
26	.00	.02	.11	.04	.09	.12	.04	.13	.07	e.02	.10	.43
27	.00	.23	.07	.04	.15	.10	.03	.47	.05	e.02	.04	.11
28	.01	.17	.10	.04	.39	.08	.03	.13	.10	.02	.02	.06
29	.01	.09	.08	.04	---	.08	.04	.07	.07	.02	.01	.13
30	.01	.06	.19	.10	---	.92	.03	.05	.05	.03	.02	1.8
31	.01	---	1.2	.06	---	.70	---	.03	---	.03	.01	---
TOTAL	0.08	2.50	3.24	10.80	7.25	7.21	3.63	4.19	7.54	2.80	0.84	5.19
MEAN	.003	.083	.10	.35	.26	.23	.12	.14	.25	.090	.027	.17
MAX	.01	.60	1.2	3.3	1.4	.92	.69	.69	1.1	.64	.17	1.8
MIN	.00	.00	.01	.04	.05	.05	.03	.03	.03	.02	.01	.01
CFSM	.04	1.19	1.49	4.98	3.70	3.32	1.73	1.93	3.59	1.29	.39	2.47
IN.	.04	1.33	1.72	5.74	3.85	3.83	1.93	2.23	4.01	1.49	.45	2.76

CAL YR 1988 TOTAL 21.12 MEAN .058 MAX 2.3 MIN .00 CFSM .82 IN. 11.22
WTR YR 1989 TOTAL 55.27 MEAN .15 MAX 3.3 MIN .00 CFSM 2.16 IN. 29.37

e Estimated

03537300 MELTON BRANCH TRIBUTARY (WEST SEVEN) NEAR OAK RIDGE, TN

LOCATION.--Lat 35°55'11", long 84°18'08, Roane County, Hydrologic Unit 06010207, on left bank 1500 ft upstream of mouth, 0.8 mi southeast of the Oak Ridge National Laboratory, and 5.9 mi southwest of Oak Ridge.

DRAINAGE AREA.--0.15 mi^2.

PERIOD OF RECORD.--August 1987 to September 1989 (discontinued).

GAGE.--Water-stage recorder and sharp crested weir. Datum of gage is 798.20 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35 ft^3/s, Jan. 19, 1988, gage height, 2.59 ft, from rating curve extended above 7 ft^3/s on basis of theoretical-weir formula; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22 ft^3/s, September 15 gage height, 2.38 ft; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	e.05	2.8	.08	e.60	.58	.09	.01	.05	.22	.47
2	.00	.00	e.04	.85	.07	e.40	.37	.03	.01	.08	.09	.18
3	.00	.00	e.04	.61	.07	e.25	.36	.01	.01	.54	.02	.03
4	.00	.14	e.03	.41	.06	.22	.87	.03	.01	.67	.01	.01
5	.00	.85	e.02	.36	.39	1.2	.42	1.2	.09	.43	.00	.00
6	.00	.40	e.02	1.0	.92	1.8	.21	.90	.25	1.3	.00	.00
7	.00	.09	e.02	.69	.76	.58	.17	.37	.11	.84	.00	.00
8	.00	.01	e.02	3.1	.46	.38	.18	.16	.09	.43	.00	.00
9	.00	.01	e.07	.69	.29	.24	.17	.85	1.4	.17	.00	.00
10	.00	.03	e.04	.37	.18	.16	.13	.69	.44	.08	.00	.00
11	.00	.02	e.04	.84	.13	.13	.09	.34	.14	.05	.00	.01
12	.00	.01	e.03	6.5	.10	.11	.06	.16	.36	.05	.00	.01
13	.00	.01	e.02	2.2	.09	.09	.04	.08	1.1	.05	.00	.00
14	.00	.01	e.02	1.0	.16	.07	.04	.06	.46	.03	.00	.03
15	.00	.01	e.02	1.6	.18	.06	.07	.04	2.3	.01	.00	1.4
16	.00	.03	e.02	.58	.18	.05	.05	.02	1.9	.02	.00	.70
17	.00	.07	e.02	.38	1.4	.05	.05	.02	.78	.02	.00	.10
18	.00	.03	e.02	.23	2.0	.21	.05	.01	.34	.01	.00	.03
19	.00	.25	e.01	.14	.73	.12	.04	.02	.21	.03	.00	.01
20	.00	1.0	e.01	.11	.81	.24	.04	.42	1.7	.02	.00	.01
21	.00	.26	e.25	.08	2.7	1.3	.04	.12	.75	.02	.00	.00
22	.00	.09	e.25	.07	.68	.53	.03	.06	1.8	.01	.00	.55
23	.00	.05	e.40	.06	.41	.54	.03	.05	.70	.01	.01	.85
24	.00	.03	e.80	.05	.24	.53	.03	.02	.32	.01	.02	.30
25	.00	.02	e.40	.05	.17	.40	.02	.01	.13	.00	.00	.39
26	.00	e.02	e.25	.04	.14	.26	.01	.21	.06	.00	.13	1.0
27	.00	e.50	e.10	.04	.34	.17	.01	1.0	.04	.00	.02	.32
28	.00	e.40	e.20	.03	.77	.13	.01	.29	.21	.00	.00	.17
29	.00	e.20	.15	.03	---	.11	.03	.09	.10	.00	.00	.43
30	.00	e.10	.35	.20	---	1.8	.01	.04	.04	.00	.00	4.2
31	.00	---	3.1	.10	---	1.4	---	.02	---	.00	.00	---
TOTAL	0.00	4.64	6.81	25.21	14.51	14.13	4.21	7.41	15.86	4.93	0.52	11.20
MEAN	.00	.15	.22	.81	.52	.46	.14	.24	.53	.16	.017	.37
MAX	.00	1.0	3.1	6.5	2.7	1.8	.87	1.2	2.3	1.3	.22	4.2
MIN	.00	.00	.01	.03	.06	.05	.01	.01	.01	.00	.00	.00
CFSM	.00	1.03	1.46	5.42	3.45	3.04	.94	1.59	3.52	1.06	.11	2.49
IN.	.00	1.15	1.69	6.25	3.60	3.50	1.04	1.84	3.93	1.22	.13	2.78

CAL YR 1988 TOTAL 38.74 MEAN .11 MAX 4.3 MIN .00 CFSM .71 IN. 9.61
WTR YR 1989 TOTAL 109.43 MEAN .30 MAX 6.5 MIN .00 CFSM 2.00 IN. 27.14

e Estimated

03538225 POPLAR CREEK NEAR OAK RIDGE, TN

LOCATION.--Lat 35°59'55", long 84°20'23", Roane County, Hydrologic Unit 06010207, on right bank, 1,000 ft upstream from county road bridge, 0.4 mi downstream from Indian Creek, 8.2 mi southwest of intersection of State Highways 95 and 62 in Oak Ridge, and at mile 13.8.

DRAINAGE AREA.--82.5 mi^2.

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 743.50 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--29 years, 165 ft^3/s, 27.16 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft^3/s, Apr. 5, 1977, gage height, 27.93 ft, from floodmarks, from rating curve extended above 8,000 ft^3/s; minimum, 3.7 ft^3/s, July 31, Aug. 5, 6, 1986, Aug. 25, 26, 1987, July 10, 11, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 29, 1928, at site about 5.0 mi upstream, drainage area, 55.9 mi^2, discharge, about 14,000 ft^3/s, was the greatest known since at least 1900, from reports by Tennessee Valley Authority.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Jan. 1	0900	1,950	14.57	June 9	2100	2,100	15.01
Jan. 13	0300	*3,600	*19.00	June 16	0700	2,570	16.35
Mar. 6	1200	2,560	16.33	June 20	1730	1,920	14.50

Minimum discharge, 5.4 ft^3/s, Oct. 20, 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	12	84	1600	87	266	253	70	55	e300	415	49
2	19	10	69	569	84	240	211	68	49	e280	465	101
3	18	9.1	60	322	83	223	236	50	60	e340	156	51
4	13	15	54	222	85	202	610	45	68	e380	103	40
5	10	544	48	174	121	455	877	342	155	e450	81	33
6	8.6	208	44	372	196	2070	436	666	551	351	67	29
7	8.1	101	41	347	303	824	327	295	433	353	63	27
8	7.6	66	39	823	256	421	350	195	243	360	51	26
9	7.7	50	41	556	191	309	387	227	1340	234	44	24
10	7.3	46	42	324	157	246	302	296	976	171	39	24
11	7.0	55	37	290	140	209	241	210	330	147	35	35
12	6.2	42	34	2140	124	185	200	167	240	141	33	33
13	5.9	39	31	2930	111	162	173	134	438	151	31	28
14	5.7	36	30	910	108	145	149	111	374	122	29	24
15	5.8	30	29	1220	112	132	156	100	1040	98	30	108
16	5.8	30	27	666	100	117	134	86	2160	87	32	447
17	6.4	69	26	370	156	103	114	75	868	90	37	129
18	7.4	52	25	262	518	217	103	67	432	75	37	84
19	6.6	78	24	206	404	219	95	63	315	74	38	64
20	5.5	743	24	174	345	197	87	164	1350	84	29	51
21	8.0	358	58	151	1180	322	81	109	1020	70	27	44
22	11	160	126	134	809	292	76	79	e450	72	24	117
23	9.0	108	156	123	405	269	73	87	e700	62	65	505
24	9.4	85	560	111	298	257	70	71	e600	66	218	242
25	9.3	69	999	98	238	217	66	61	e500	56	77	155
26	9.9	60	284	92	213	193	60	55	e400	48	83	426
27	9.8	163	184	93	219	168	56	275	e350	44	94	231
28	16	174	196	82	252	149	53	135	e300	42	57	163
29	21	130	182	78	---	135	54	91	e350	44	44	148
30	16	103	170	98	---	162	55	74	e320	45	40	372
31	13	---	426	96	---	272	---	62	---	57	40	---
TOTAL	302.6	3645.1	4150	15633	7295	9378	6085	4530	16467	4894	2584	3810
MEAN	9.76	122	134	504	261	303	203	146	549	158	83.4	127
MAX	21	743	999	2930	1180	2070	877	666	2160	450	465	505
MIN	5.5	9.1	24	78	83	103	53	45	49	42	24	24
CFSM	.12	1.47	1.62	6.11	3.16	3.67	2.46	1.77	6.65	1.91	1.01	1.54
IN.	.14	1.64	1.87	7.05	3.29	4.23	2.74	2.04	7.43	2.21	1.17	1.72

CAL YR 1988 TOTAL 30147.8 MEAN 82.4 MAX 3260 MIN 3.9 CFSM 1.00 IN. 13.59
WTR YR 1989 TOTAL 78773.7 MEAN 216 MAX 2930 MIN 5.5 CFSM 2.62 IN. 35.52

e Estimated

035382672 BEAR CREEK TRIB ABOVE BEAR CREEK ROAD NEAR WHEAT, TN

LOCATION.--Lat 35°56'41", long 84°19'27", Roane County, Hydrologic Unit 06010207, on right bank 200 ft upstream from mouth, 1.2 mi northwest of the Oak Ridge National Laboratory, 1.2 mi northeast of intersection of Bear Creek Road and State Highway 95, 4.8 mi southwest of Oak Ridge.

DRAINAGE AREA.--0.30 mi^2.

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 830.47 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Periodic observation of water temperatures and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120 ft^3/s, Jan. 19, 1988, gage height, 2.57 ft, from rating curve extended above 7.5 ft^3/s; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 47 ft^3/s, Sept. 30, gage height, 2.25 ft, from rating curve extended above 7.5 ft^3/s; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	e.06	.21	1.5	.14	1.0	1.1	.14	.12	.12	.42	.20
2	.00	e.03	.14	.29	.13	.78	.72	.11	.12	.13	.22	.15
3	.00	e.03	.12	.25	.13	.57	.64	.09	.11	.34	.12	.08
4	.00	e.15	.11	.24	.13	.46	2.0	.09	.13	.26	.09	.05
5	.00	e.90	.08	.18	.28	4.2	2.0	2.4	.30	.17	.06	.04
6	.00	e.20	.06	.70	.87	7.6	1.0	2.4	.58	.60	.06	.03
7	.00	e.10	.05	.27	1.2	1.6	.76	.90	.51	.55	.04	.03
8	.00	.07	.04	1.9	.79	.88	.76	.52	.52	.35	.03	.02
9	.00	.04	.06	.92	.51	.59	.70	1.2	5.7	.23	.03	.02
10	.00	.08	.06	.46	.40	.44	.58	1.5	1.5	e.20	.02	.02
11	.00	.08	.05	.82	.33	.35	.47	.78	.61	e.17	.02	.03
12	.00	.07	.04	17	.27	.28	.39	.47	.97	e.15	.02	.01
13	.00	.06	.04	4.9	.23	.25	.32	.32	2.0	e.15	.02	.01
14	.00	.03	.04	2.2	.26	.21	.27	.23	1.0	e.09	.02	.02
15	.00	.02	.04	3.0	.35	.16	.29	.17	4.0	.09	.02	.25
16	.00	.03	.03	1.3	.33	.12	.23	e.15	5.1	.09	.02	.23
17	.00	.05	.03	.75	1.4	.13	.20	e.13	1.8	.08	.03	.08
18	.00	.03	.03	.50	3.5	.18	.18	e.12	.60	.06	.02	.04
19	.00	.24	.03	.36	1.6	.15	.16	e.14	.31	.09	.01	.03
20	.00	1.2	.03	.28	1.3	.19	.14	e.60	2.9	.08	.01	.01
21	e.00	.49	.11	.21	5.0	.65	.13	e.30	1.7	.08	.01	.01
22	e.00	.27	.15	.15	1.7	.60	.13	e.20	1.0	.06	.01	.33
23	e.00	.16	.30	.13	.90	.70	.13	e.15	.66	.05	.06	1.3
24	e.00	.12	.96	.10	.58	.72	.12	e.12	.39	.04	.07	.43
25	e.00	.10	.95	.10	.44	.60	.10	e.10	.22	.04	.03	.41
26	e.01	.09	.47	.10	.37	.47	.06	.27	.17	.03	.17	1.2
27	e.02	.67	.31	.10	.44	.38	.07	1.3	e.16	.02	.08	.37
28	e.05	.87	.31	.09	.82	.30	.07	.59	e.16	.03	.05	.19
29	e.04	.48	.25	.08	---	.26	.10	.34	.15	.04	.03	.28
30	e.02	.32	.37	.16	---	.80	.08	.22	.12	.03	.03	7.2
31	e.03	---	2.7	.14	---	1.8	---	.15	---	.03	.03	---
TOTAL	0.17	7.04	8.17	39.18	24.40	27.42	13.90	16.20	33.61	4.45	1.85	13.07
MEAN	.005	.23	.26	1.26	.87	.88	.46	.52	1.12	.14	.060	.44
MAX	.05	1.2	2.7	17	5.0	7.6	2.0	2.4	5.7	.60	.42	7.2
MIN	.00	.02	.03	.08	.13	.12	.06	.09	.11	.02	.01	.01
CFSM	.02	.78	.88	4.21	2.90	2.95	1.54	1.74	3.73	.48	.20	1.45
IN.	.02	.87	1.01	4.86	3.03	3.40	1.72	2.01	4.17	.55	.23	1.62

CAL YR 1988 TOTAL 62.03 MEAN .17 MAX 9.5 MIN .00 CFSM .56 IN. 7.69
WTR YR 1989 TOTAL 189.46 MEAN .52 MAX 17 MIN .00 CFSM 1.73 IN. 23.49

e Estimated

035382673 BEAR CREEK NEAR WHEAT, TN

LOCATION.--Lat 35°56'39", long 84°19'27", Roane County, Hydrologic Unit 06010207, on left bank 20 ft upstream from county road bridge, 1.2 mi northeast of intersection of Bear Creek Road and State Highway 95, 4.8 mi southwest of Oak Ridge, and at mile 3.9.

DRAINAGE AREA.--3.20 mi^2.

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 825.56 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 554 ft^3/s, Jan. 20, 1988, gage height, 6.33 ft, from rating curve extended above 70 ft^3/s; no flow part of each day, Sept. 3-5, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 340 ft^3/s, Sept. 30, gage height, 5.21 ft, from rating curve extended above 70 ft^3/s; minimum, 0.12 ft^3/s, Oct. 1, 12, 13, 14, 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.15	.29	2.1	33	2.1	8.5	12	3.5	1.8	2.5	26	3.8
2	.53	.23	1.5	9.5	2.1	6.6	8.4	1.9	1.9	2.8	7.7	2.9
3	.28	.22	1.3	6.6	1.9	5.6	7.5	1.4	1.6	9.9	3.4	1.5
4	.21	2.1	1.1	4.4	1.7	4.8	24	1.5	2.4	6.1	2.2	1.1
5	.20	15	.94	3.5	4.9	33	16	32	6.5	4.6	1.7	.86
6	.21	4.4	.91	12	10	64	10	18	11	16	1.4	.75
7	.18	2.0	.88	6.4	11	17	8.1	7.7	5.9	13	1.2	.73
8	.17	1.2	.78	35	6.9	10	9.7	5.3	6.8	7.5	1.0	.66
9	.14	.94	1.1	11	5.0	7.7	7.0	17	56	5.3	.92	.62
10	.14	1.1	1.2	7.0	4.3	6.1	5.7	12	14	3.9	.81	.66
11	.16	1.1	.94	14	3.8	5.1	5.0	7.5	7.5	3.7	.74	.84
12	.15	.79	.83	131	3.2	4.5	4.3	5.7	13	3.5	.71	.79
13	.13	.77	.84	49	3.0	4.0	3.8	4.3	23	3.5	.69	.63
14	.13	.70	.78	26	3.2	3.7	3.6	3.6	11	2.8	.64	.91
15	.14	.68	.77	32	4.3	3.3	4.4	3.1	44	2.0	.66	28
16	.14	.94	.75	14	3.4	2.8	3.6	2.4	56	2.0	.61	11
17	.16	2.4	.72	9.0	16	2.6	e3.0	2.1	24	1.8	.88	3.5
18	.14	1.1	.71	6.5	30	3.2	e2.6	2.0	12	1.4	.82	2.3
19	.16	5.7	.69	5.1	15	2.7	e2.4	1.9	8.3	2.2	.70	1.7
20	.20	15	.59	4.2	14	3.4	e2.2	10	39	1.8	.65	1.3
21	.34	4.7	2.5	3.5	48	14	2.1	3.6	18	1.7	.53	1.1
22	.25	2.7	2.1	2.9	17	7.4	1.9	2.5	13	1.6	.54	15
23	.20	1.9	4.0	2.6	9.9	8.8	2.0	2.2	8.9	1.3	6.0	35
24	.22	1.4	12	2.3	6.8	7.6	1.9	1.7	6.5	1.2	5.6	8.7
25	.23	1.1	7.4	2.1	5.3	6.3	1.6	1.5	5.3	.98	1.4	8.8
26	.25	1.0	4.0	2.1	4.7	5.3	1.5	4.3	4.0	.88	11	20
27	.21	8.6	3.0	1.7	6.1	4.6	1.4	21	3.5	.83	3.1	6.8
28	.30	7.8	3.8	1.5	10	4.1	1.4	5.6	6.4	.97	1.7	4.6
29	.33	3.7	2.7	1.4	---	3.8	1.6	3.6	4.0	1.4	1.2	6.9
30	.29	2.8	5.3	3.9	---	23	1.4	2.7	2.6	1.8	1.0	60
31	.28	---	36	2.5	---	23	---	2.2	---	1.2	.92	---
TOTAL	6.62	92.36	102.23	445.7	253.6	306.5	160.1	193.8	417.9	110.16	86.42	231.45
MEAN	.21	3.08	3.30	14.4	9.06	9.89	5.34	6.25	13.9	3.55	2.79	7.71
MAX	.53	15	36	131	48	64	24	32	56	16	26	60
MIN	.13	.22	.59	1.4	1.7	2.6	1.4	1.4	1.6	.83	.53	.62
CFSM	.07	.96	1.03	4.49	2.83	3.09	1.67	1.95	4.35	1.11	.87	2.41
IN.	.08	1.07	1.19	5.18	2.95	3.56	1.86	2.25	4.86	1.28	1.00	2.69

CAL YR 1988 TOTAL 759.74 MEAN 2.08 MAX 116 MIN .02 CFSM .65 IN. 8.83
WTR YR 1989 TOTAL 2406.84 MEAN 6.59 MAX 131 MIN .13 CFSM 2.06 IN. 27.98

e Estimated

035382677 BEAR CREEK TRIBUTARY NEAR WHEAT, TN

LOCATION.--Lat 35°56'28", long 84°19'55", Roane County, Hydrologic Unit 06010207, on right bank, 0.7 mi northeast of intersection of State Highway 95 and Bear Creek Valley Road, 4.7 mi southwest of Oak Ridge, and at mile 0.1.

DRAINAGE AREA.--0.14 mi^2.

PERIOD OF RECORD.--October 1986 to September 1989 (discontinued).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 817.99 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23 ft^3/s revised, Jan. 19, 1988, gage height, 2.51 ft, from rating curve extended above 4 ft^3/s; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11 ft^3/s, Jan. 12, gage height, 2.13 ft, from rating curve extended above 4 ft^3/s; no flow many days.

REVISIONS.--The maximum discharges for the water years 1987 and 1988 have been revised to 12 ft^3/s, Jan. 19, 1987, gage height, 2.19 ft, from rating curve extended above 4 ft^3/s, and 23 ft^3/s, Jan. 19, 1988, gage height, 2.51 ft, from rating curve extended as explained above, superseding figures published in reports for 1987 and 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.08	1.9	e.08	e.45	.63	.12	.03	.06	.33	.18
2	.00	.00	.05	.60	e.07	e.32	.42	.06	.02	.08	.14	.09
3	.00	.00	.04	.35	e.07	e.25	.39	.04	.02	.37	.05	.03
4	.00	.05	.03	.22	e.07	e.20	1.3	.05	.05	.23	.03	.01
5	.00	.49	.02	.18	e.15	1.5	1.0	1.5	.16	.11	.02	.01
6	.00	.16	.02	.64	e.40	2.9	.58	1.3	.38	.61	.02	.01
7	.00	.06	.02	.35	e.50	e.80	.44	.49	.31	.45	.02	.01
8	.00	.04	.02	1.8	e.35	e.50	.50	.26	.34	.28	.01	.00
9	.00	.03	.03	.64	e.23	e.35	.44	.82	2.8	.16	.01	.00
10	.00	.04	.03	.27	e.17	e.30	.36	.82	.91	.09	.01	e.00
11	.00	.03	e.02	.52	e.15	e.20	.28	.41	.71	.07	.01	e.02
12	.00	.02	e.02	5.5	e.13	e.15	.23	.25	.89	.07	.01	.01
13	.00	.02	e.02	2.4	e.11	e.12	.20	.16	1.4	.07	.01	.01
14	.00	.02	e.02	1.3	e.13	e.10	.16	.10	.80	.05	.0	.02
15	.00	.01	e.02	1.6	e.16	e.07	.20	.07	2.4	.04	.01	.22
16	.00	.04	e.02	.57	e.15	e.07	.12	.05	2.7	.05	.01	.20
17	.00	.05	e.02	.44	.78	.08	.10	.05	1.2	.04	.01	.05
18	.00	.02	e.02	.22	1.9	.14	.09	.03	.76	.03	.01	.02
19	.00	.19	e.02	e.18	.79	.09	e.09	.03	.70	.07	.01	.02
20	.00	.55	e.02	e.16	.66	.16	e.08	.44	2.0	.05	.01	.02
21	.01	.24	.11	e.13	2.4	.62	.08	.16	1.1	.05	.01	.01
22	.00	.09	.08	e.11	e.80	.44	.07	.07	.89	.04	.01	.36
23	.00	.06	.26	e.09	e.50	.50	.07	e.06	e.70	.03	.04	.91
24	.00	.05	.64	e.08	e.27	.52	.06	e.04	e.50	.03	.03	.31
25	.00	.03	.47	e.07	e.20	.39	.05	e.04	e.30	.02	.02	.34
26	.00	.03	.26	e.07	e.18	.30	.04	.21	e.20	.02	.08	.78
27	.00	.48	.20	e.06	e.22	.24	.04	.92	e.15	.02	.03	.27
28	.01	.44	.24	e.05	e.20	.21	.03	.35	e.12	.01	.02	.14
29	.00	.21	.19	e.05	---	.18	.05	.17	.10	.01	.01	.27
30	.00	.12	.31	e.10	---	.67	.04	.08	.06	.01	.01	2.2
31	.00	---	1.8	e.08	---	1.0	---	.05	---	.02	.01	---
TOTAL	0.02	3.57	5.10	20.73	11.82	13.82	8.14	9.20	22.70	3.24	1.00	6.52
MEAN	.001	.12	.16	.67	.42	.45	.27	.30	.76	.10	.032	.22
MAX	.01	.55	1.8	5.5	2.4	2.9	1.3	1.5	2.8	.61	.33	2.2
MIN	.00	.00	.02	.05	.07	.07	.03	.03	.02	.01	.00	.00
CFSM	.00	.85	1.18	4.78	3.02	3.18	1.94	2.12	5.40	.75	.23	1.55
IN.	.01	.95	1.36	5.51	3.14	3.67	2.16	2.44	6.03	.86	.27	1.73

CAL YR 1988 TOTAL 29.24 MEAN .080 MAX 4.1 MIN .00 CFSM .57 IN. 7.77
WTR YR 1989 TOTAL 105.86 MEAN .29 MAX 5.5 MIN .00 CFSM 2.07 IN. 28.13

e Estimated

03538270 BEAR CREEK AT STATE HIGHWAY 95 NEAR OAK RIDGE, TN

LOCATION.--Lat 35°56'17", long 84°20'29", Roane County, Hydrologic Unit 06010207, on right bank upstream from bridge on State Highway 95, in triangle formed by intersection of Highway 95 and Bear Creek Valley Road, 6.8 mi southwest of Oak Ridge, and at mile 2.8.

DRAINAGE AREA.--4.34 mi^2.

PERIOD OF RECORD.--April 1959 to June 1964 (discharge measurements only), March 1985 to current year.

REVISED RECORDS.--WDR-TN-87-1: Drainage Area.

GAGE.--Water-stage recorder and Cippolletti-weir. Datum of gage is 801.15 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 364 ft^3/s, Jan. 20, 1988, gage height, 3.12 ft, from rating curve extended above 120 ft^3/s; minimum, 0.18 ft^3/s, Sept. 3, 4, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 314 ft^3/s, Sept. 30, gage height, 2.95 ft, from rating curve extended as explained above; minimum, 0.34 ft^3/s, Oct. 1.

REVISIONS.--The maximum discharges for some water years have been revised, as shown in the following table. They supersede figures published in the reports for 1985, 1986, 1987, and 1988.

Water year	Date	Discharge (ft^3/s)	Gage height (ft)	Water year	Date	Discharge (ft^3/s)	Gage height (ft)
1985	Aug. 17, 1985	145	2.21	1987	Jan. 19, 1987	268	2.78
1986	Feb. 17, 1986	173	2.36	1988	Jan. 20, 1988	364	3.12

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	.79	4.3	62	4.4	16	19	4.9	3.3	4.7	26	4.6
2	.79	.73	3.2	24	4.0	13	14	3.4	3.2	4.8	11	5.3
3	.64	.68	2.6	18	3.7	11	12	2.7	2.9	13	5.3	2.7
4	.54	2.0	2.3	13	3.6	9.6	30	2.5	3.0	9.9	3.5	1.9
5	.51	22	2.0	10	7.2	37	27	33	7.0	7.4	2.7	1.4
6	.50	8.1	1.8	23	16	89	18	28	15	21	2.2	1.2
7	.43	4.3	1.7	16	19	29	14	14	9.0	20	2.0	1.1
8	.43	2.8	1.6	55	14	19	15	9.9	8.9	13	1.7	1.0
9	.43	2.0	1.7	27	11	14	13	21	64	9.1	1.5	.95
10	.38	1.8	2.2	19	8.7	11	10	20	23	7.0	1.3	.92
11	.38	2.2	1.8	23	8.0	9.6	9.1	13	13	6.3	1.2	1.1
12	.38	1.7	1.6	159	6.9	8.3	8.0	10	17	5.8	1.1	1.4
13	.38	1.5	1.6	76	6.2	7.4	7.1	7.8	32	5.7	1.1	1.1
14	.38	1.3	1.5	42	5.9	6.7	6.4	6.5	17	4.9	1.0	1.0
15	.38	1.3	1.4	52	8.2	6.0	6.6	5.7	53	3.6	1.0	18
16	.38	1.2	1.2	27	6.4	5.3	5.8	5.0	68	3.2	.97	19
17	.44	3.8	1.2	18	20	4.9	5.4	4.0	36	3.2	1.2	5.6
18	.51	2.2	1.1	13	48	5.2	4.9	3.6	20	2.7	1.3	3.6
19	.51	6.9	1.1	10	28	5.0	4.3	3.4	14	3.4	1.1	2.6
20	.51	23	1.1	8.6	24	5.2	3.8	13	48	3.4	.99	2.1
21	.74	9.2	3.0	7.0	69	19	3.6	6.3	29	3.4	.86	1.7
22	.72	5.7	4.2	6.0	31	12	3.5	4.9	21	3.3	.79	17
23	.61	4.1	6.1	5.6	20	13	3.4	3.9	16	2.8	2.8	42
24	.59	3.1	16	5.2	14	13	3.3	3.3	12	2.8	9.1	13
25	.59	2.4	14	4.5	11	11	3.1	2.8	9.7	2.4	2.4	11
26	.63	2.1	8.2	4.0	9.8	9.3	2.8	5.1	7.7	2.1	9.8	29
27	.64	11	6.2	3.8	10	8.1	2.6	27	6.4	1.9	4.8	11
28	.69	12	6.8	3.4	17	7.1	2.5	9.6	9.1	1.8	2.6	7.3
29	.79	6.8	5.6	3.2	---	6.5	2.7	6.6	7.0	2.4	1.9	9.3
30	.79	5.5	7.6	6.2	---	25	2.6	5.2	5.3	2.4	1.5	60
31	.79	---	43	5.2	---	31	---	4.0	---	2.2	1.4	---
TOTAL	16.82	152.20	157.7	749.7	435.0	467.2	263.5	290.1	580.5	179.6	106.11	277.87
MEAN	.54	5.07	5.09	24.2	15.5	15.1	8.78	9.36	19.3	5.79	3.42	9.26
MAX	.79	23	43	159	69	89	30	33	68	21	26	60
MIN	.34	.68	1.1	3.2	3.6	4.9	2.5	2.5	2.9	1.8	.79	.92
CFSM	.13	1.17	1.17	5.57	3.58	3.47	2.02	2.16	4.46	1.33	.79	2.13
IN.	.14	1.30	1.35	6.43	3.73	4.00	2.26	2.49	4.98	1.54	.91	2.38

CAL YR 1988 TOTAL 1187.68 MEAN 3.25 MAX 96 MIN .20 CFSM .75 IN. 10.18
WTR YR 1989 TOTAL 3676.30 MEAN 10.1 MAX 159 MIN .34 CFSM 2.32 IN. 31.51

03538272 BEAR CREEK TRIB AT HIGHWAY 95 NEAR WHEAT, TN

LOCATION.--Lat 35°56'26", long 84°20'32", Roane County, Hydrologic Unit 06010207, on left bank 100 ft upstream from bridge on State Highway 95, 0.4 mi north of intersection of Bear Creek and State Highway 95, 5.6 mi southwest of Oak Ridge, and 200 ft upstream from mouth.

DRAINAGE AREA.--0.14 mi^2.

PERIOD OF RECORD.--October 1986 to September 1989 (discontinued).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 794.24 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19 ft^3/s, Jan. 19, 1988 gage height, 1.99 ft, from rating curve extended above 3.6 ft^3/s; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11 ft^3/s, Mar. 5, gage height, 1.81 ft, from rating curve extended above 3.6 ft^3/s; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.03	.09	1.2	.08	.42	.38	.08	.05	.05	.16	e.08
2	.00	.02	.07	.44	.07	.31	.25	.05	.04	.06	.08	e.06
3	.00	.02	.06	.29	.07	.23	.23	.04	.04	.22	.03	e.03
4	.00	.07	.04	.19	.07	.19	.74	.04	.05	.16	.01	e.02
5	.00	.25	.04	.15	.15	1.5	.65	1.1	.09	.10	.01	e.01
6	.00	.10	.03	.47	.36	2.7	.37	.90	.20	.38	.02	e.00
7	.00	.04	.03	.34	.44	.62	.28	.35	.16	.31	.02	e.00
8	.00	.03	.03	1.1	.31	.38	.30	.20	.18	.18	.00	e.00
9	.00	.03	.04	.51	.21	.26	.26	.56	2.0	.11	.00	e.00
10	.00	.04	.04	.32	.17	.20	.20	.56	.56	.07	.00	e.00
11	.00	.04	.04	.46	.15	.16	.17	.31	.25	.06	.00	e.01
12	.00	.03	.03	4.8	.13	.14	.14	.19	.40	.06	.00	e.00
13	.00	.04	.03	1.8	.11	.12	.13	.14	.87	.06	.00	e.00
14	.00	.03	.03	.93	.13	.11	.11	.11	.43	.04	.00	e.00
15	.00	.03	.03	1.2	.16	.09	.13	.09	1.8	.02	.00	e.10
16	.00	.05	.03	.53	.15	.08	.10	.07	2.1	.03	.00	e.09
17	.00	.06	.03	.34	.57	.07	.08	.05	.83	.02	.00	e.03
18	.00	.03	.02	.24	1.4	.10	.07	.04	.37	.02	.00	e.01
19	.00	.11	.03	.18	.60	.07	.06	.05	.26	.04	.00	e.00
20	.00	.37	.02	.14	.50	.10	.06	.26	1.7	.02	.00	e.00
21	.00	.13	.08	.12	1.9	.29	.05	.13	.87	.02	.00	e.00
22	.00	.08	.09	.10	.66	.22	.05	.09	.58	.02	.00	e.10
23	.00	.06	.15	.09	.39	.28	.05	.07	.42	.01	.01	.30
24	.00	.05	.36	.08	.26	.31	.05	.05	.25	.01	.02	.09
25	.00	.04	.36	.07	.20	.24	.04	.04	.16	.0	.01	.13
26	.01	.03	.20	.07	.17	.18	.04	.12	.11	.0	.03	.33
27	.01	.21	.14	.06	.22	.14	.03	.52	.09	.0	.02	.12
28	.03	.26	.16	.05	.40	.13	.03	.23	.09	.0	e.01	.07
29	.02	.15	.13	.05	---	.11	.05	.13	.07	.0	e.00	.13
30	.01	.11	.20	.10	---	.33	.04	.09	.04	.0	e.00	1.9
31	.02	---	1.2	.08	---	.56	---	.07	---	.0	e.00	---
TOTAL	0.10	2.54	3.83	16.50	10.03	10.64	5.14	6.73	15.06	2.07	0.43	3.61
MEAN	.003	.085	.12	.53	.36	.34	.17	.22	.50	.067	.014	.12
MAX	.03	.37	1.2	4.8	1.9	2.7	.74	1.1	2.1	.38	.16	1.9
MIN	.00	.02	.02	.05	.07	.07	.03	.04	.04	.00	.00	.00
CFSM	.02	.60	.88	3.80	2.56	2.45	1.22	1.55	3.59	.48	.10	.86
IN.	.03	.67	1.02	4.38	2.67	2.83	1.37	1.79	4.00	.55	.11	.96

CAL YR 1988 TOTAL 26.37 MEAN .072 MAX 2.5 MIN .00 CFSM .51 IN. 7.01
WTR YR 1989 TOTAL 76.68 MEAN .21 MAX 4.8 MIN .00 CFSM 1.50 IN. 20.37

e Estimated

03538273 BEAR CREEK AT PINE RIDGE NEAR WHEAT, TN

LOCATION.--Lat 35°56'32", long 84°20'37", Roane County, Hydrologic Unit 06010207, on right bank, 0.6 mi north of intersection of Highway 95 and Bear Creek Road, 5.7 mi southwest of Oak Ridge, and at mile 2.3.

DRAINAGE AREA.--5.0 mi^2.

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 784.98 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 430 ft^3/s, Jan. 20, 1988, gage height, 5.30 ft, revised from rating curve extended above 141 ft^3/s: minimum, 0.23 ft^3/s, Sept. 1, 2, 4-6, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 368 ft^3/s, Sept. 30, gage height 4.98 ft, from rating curve extended above 141 ft^3/s; minimum, 0.28 ft^3/s, Oct. 12.

REVISIONS.--The maximum discharges for the water years 1987 and 1988 have been revised to 290 ft^3/s, Jan. 19, 1987 gage height 4.53 ft, from rating curve extended above 141 ft^3/s, and 430 ft^3/s Jan. 20, 1988 gage height 5.30 ft, from rating curve extended as explained above, superseding figures published in reports for 1987 and 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.36	.75	4.4	72	4.2	20	24	4.9	3.2	4.9	25	1.1
2	.76	.70	3.2	23	4.0	16	17	3.3	3.0	5.3	19	10
3	.58	.68	2.5	15	3.7	13	15	2.4	2.7	18	5.9	4.1
4	.45	2.2	2.2	9.5	3.5	10	42	2.2	2.9	13	4.0	2.5
5	.44	26	1.8	7.5	8.0	50	34	46	7.7	8.7	2.8	1.7
6	.43	8.4	1.6	21	19	110	23	38	19	29	2.2	1.2
7	.41	4.2	1.5	13	22	36	19	17	10	26	2.1	1.1
8	.40	2.4	1.3	58	15	23	20	11	11	17	1.7	1.1
9	.38	1.8	1.6	25	11	17	16	29	91	11	1.4	.93
10	.38	1.6	2.0	16	8.7	13	12	27	30	7.8	1.2	.86
11	.37	2.0	1.5	23	7.8	10	10	17	17	6.8	1.1	.88
12	.36	1.3	1.3	187	6.7	8.7	8.9	11	23	6.3	1.0	1.4
13	.37	1.2	1.2	93	5.9	7.7	7.9	8.4	45	6.2	.94	1.3
14	.38	1.0	1.2	54	6.0	6.9	7.1	6.8	23	5.1	.86	.94
15	.37	.94	1.1	66	8.6	6.1	7.6	5.8	81	3.8	.80	1.5
16	.37	1.0	1.0	32	6.8	5.2	6.4	4.7	99	3.5	.77	33
17	.38	3.6	.99	21	28	4.7	5.4	4.0	51	3.5	.74	14
18	.38	2.0	.91	16	61	5.6	4.9	3.4	27	2.8	1.2	5.4
19	.38	7.7	.90	11	32	4.9	4.5	3.3	20	3.8	.84	3.6
20	.40	29	.90	8.8	29	5.8	4.1	17	79	3.2	.77	2.5
21	.59	9.9	3.1	7.2	85	23	3.7	6.7	42	3.0	.73	1.8
22	.53	5.6	4.3	6.2	37	15	3.5	4.7	32	2.8	.64	7.0
23	.49	4.2	6.8	5.5	23	17	3.4	4.1	24	2.4	.64	51
24	.56	2.9	20	4.8	16	16	3.3	3.2	17	2.3	12	16
25	.57	2.2	17	4.5	12	13	2.9	2.7	12	1.7	3.0	13
26	.63	1.9	8.6	4.1	10	10	2.6	6.2	8.9	1.4	1.7	36
27	.63	13	6.4	3.8	13	8.8	2.3	37	7.3	1.3	15	13
28	.72	15	7.1	3.3	22	7.6	2.3	11	11	1.2	3.4	7.9
29	.78	7.4	5.7	2.9	---	6.8	2.5	7.0	7.9	2.3	2.1	12
30	.77	5.4	7.2	6.4	---	31	2.2	5.2	5.4	2.1	1.5	77
31	.75	---	47	4.9	---	39	---	4.0	---	2.0	1.3	---
TOTAL	15.37	165.97	166.30	825.4	508.9	560.8	317.5	354.0	813.0	208.2	116.33	323.81
MEAN	.50	5.53	5.36	26.6	18.2	18.1	10.6	11.4	27.1	6.72	3.75	10.8
MAX	.78	29	47	187	85	110	42	46	99	29	25	77
MIN	.36	.68	.90	2.9	3.5	4.7	2.2	2.2	2.7	1.2	.64	.86
CFSM	.10	1.11	1.07	5.33	3.63	3.62	2.12	2.28	5.42	1.34	.75	2.16
IN.	.11	1.23	1.24	6.14	3.79	4.17	2.36	2.63	6.05	1.55	.87	2.41

CAL YR 1988 TOTAL 1310.60 MEAN 3.58 MAX 150 MIN .26 CFSM .72 IN. 9.75
WTR YR 1989 TOTAL 4375.58 MEAN 12.0 MAX 187 MIN .36 CFSM 2.40 IN. 32.55

03540500 EMORY RIVER AT OAKDALE, TN

LOCATION.--Lat 35°58'59", long 84°33'29", Morgan County, Hydrologic Unit 06010208, on left bank, at Oakdale, 1,000 ft downstream from highway bridge, 1,100 ft downstream from Mud Lick Creek, and at mile 18.3.

DRAINAGE AREA.--764 mi^2.

PERIOD OF RECORD.--June 1927 to current year. Prior to October 1929, published as Emery River at Harriman and October 1929 to September 1934 as Emery River at Oakdale.

REVISED RECORDS.--WSP 823: Drainage area. WSP 923: 1940. WSP 1386: 1928-30(M), 1932, 1943, 1945(P).

GAGE.--Water-stage recorder. Datum of gage is 761.38 ft above National Geodetic Vertical Datum of 1929. Prior to Oct 1, 1929, nonrecording gage at site 5.8 mi downstream at datum 43.60 ft lower, and Oct. 1, 1929, to Dec. 29, 1969, water-stage recorder at present site at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--62 years, 1,456 ft^3/s, 25.87 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 195,000 ft^3/s, Mar. 23, 1929, gage height, 41.2 ft, present site and datum, 61.1 ft, site and datum then in use, from floodmarks and flood profile, from rating curve extended above 85,000 ft^3/s, confirmed by slope-area measurement of May 28, 1973, flood at gage height 38.68 ft; no flow at times in 1944, 1952-53.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1857, that of Mar. 23, 1929, from report of Tennessee Valley Authority.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 19,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Nov. 20	1400	26,500	18.84	June 15	2400	*64,800	*26.94
Jan. 12	2000	44,900	23.18	June 20	1300	49,800	24.15
Feb. 21	1230	36,000	21.30	June 23	1730	20,600	16.99
Mar. 6	0900	50,400	24.26				

Minimum discharge, 57 ft^3/s, Oct 22, 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	262	167	1890	11700	679	2300	1870	428	395	893	1960	173
2	233	150	1510	6270	632	2410	1620	657	310	869	2410	815
3	237	136	1260	4000	601	2330	1590	577	290	1010	1340	492
4	268	136	1100	2960	602	2100	4640	478	411	2220	835	353
5	226	3150	922	2300	694	3970	9670	646	2610	4130	580	251
6	184	4310	841	2830	1090	29000	5010	4330	5830	3140	423	186
7	147	2500	764	3420	1450	10300	3390	3030	7230	5860	344	147
8	143	1570	699	6750	1430	5000	2840	1980	3560	4950	278	120
9	130	1150	638	6300	1300	3360	3060	1620	10900	2760	228	100
10	118	953	601	3970	1130	2570	2510	2470	6920	1750	187	116
11	107	1100	570	3260	1070	2020	2040	2170	3370	1310	154	502
12	98	995	529	29200	984	1690	1660	1640	2120	3050	129	610
13	92	869	523	21200	899	1430	1400	1280	6690	3930	109	524
14	86	800	525	9050	885	1240	1200	1020	5450	2170	95	536
15	80	707	488	10600	1450	1060	1160	840	22400	1340	87	1640
16	75	654	427	6750	1460	902	1210	715	29700	951	83	7860
17	74	1570	396	4260	1990	781	1030	593	7730	796	84	3260
18	74	1860	372	3080	6600	821	903	493	3800	657	83	1620
19	73	4390	351	2410	5460	1290	806	423	2840	524	117	1030
20	68	22200	335	1950	5480	1310	728	546	26100	498	161	737
21	62	9410	393	1590	22700	3610	662	1100	11900	780	122	566
22	59	4200	1720	1370	10600	4270	600	818	6780	1270	96	486
23	57	2670	2310	1230	5200	2980	555	665	13500	851	122	3110
24	73	1940	6270	1110	3380	2870	511	564	8730	915	318	3610
25	81	1480	9520	1000	2510	2500	471	467	3970	802	219	2080
26	80	1230	4680	914	2110	2060	422	379	2390	581	390	4430
27	79	3000	3040	881	1900	1690	379	800	1670	428	813	3380
28	88	4800	2560	843	1860	1420	366	1600	1410	330	381	2000
29	106	3430	3050	775	---	1230	412	961	1730	275	259	1510
30	176	2460	2590	750	---	1160	378	667	1190	254	237	3090
31	188	---	3480	717	---	1410	---	508	---	387	172	---
TOTAL	3825	83987	54354	153440	86146	101084	53093	34465	201926	49681	12816	45334
MEAN	123	2800	1753	4950	3077	3261	1770	1112	6731	1603	413	1511
MAX	269	22200	9520	29200	22700	29000	9670	4330	29700	5860	2410	7860
MIN	57	136	335	717	601	781	366	379	290	254	83	100
CFSM	.16	3.66	2.29	6.48	4.03	4.27	2.32	1.46	8.81	2.10	.54	1.98
IN.	.19	4.09	2.65	7.47	4.19	4.92	2.59	1.68	9.83	2.42	.62	2.21

CAL YR 1988 TOTAL 384086.8 MEAN 1049 MAX 35700 MIN 4.8 CFSM 1.37 IN. 18.70
WTR YR 1989 TOTAL 880151 MEAN 2411 MAX 29700 MIN 57 CFSM 3.16 IN. 42.86

03543500 SEWEE CREEK NEAR DECATUR, TN

LOCATION.--Lat 35°34'53", long 84°44'53", Meigs County, Hydrologic Unit 06020001, on right bank, 0.3 mi downstream from bridge on State Highway 58, 0.5 mi downstream from Dry Fork, 5.0 mi north of Decatur, and at mile 5.7.

DRAINAGE AREA.--117 mi^2.

PERIOD OF RECORD.--May 1934 to current year. Prior to October 1935, published as Suee Creek near Decatur.

REVISED RECORDS.--WSP 1910: 1936(M), 1939(M), 1943(M), 1946, 1948(M), 1949, 1951, 1957, 1958(P). WSP 2110: 1951 (monthly runoff).

GAGE.--Water-stage recorder. Datum of gage is 694.32 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--55 years, 188 ft^3/s, 21.82 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,900 ft^3/s, Jan. 7, 1946, gage height, 23.97 ft, from floodmarks, from rating curve extended above 11,300 ft^3/s on basis of slope-area measurement at gage height 22.81 ft; minimum, 6.3 ft^3/s, June 28, 1988; minimum gage height, 0.12 ft, July 31, 1986 and June 28, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Jan. 12	2100	2,530	6.80	June 20	1630	*11,100	18.45
Mar. 6	0930	2,560	6.87	June 23	1730	3,220	8.17

Minimum discharge, 15 ft^3/s, Oct. 1, 6, 13, 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	23	92	959	102	581	334	103	65	397	127	64
2	25	23	80	399	98	446	264	100	62	410	385	97
3	23	22	71	286	93	368	239	84	60	806	140	69
4	20	31	65	204	88	309	735	77	60	1620	114	61
5	18	242	58	166	126	1040	839	507	231	772	100	56
6	17	82	54	392	462	2140	490	747	236	1430	90	54
7	17	52	51	277	721	839	521	322	160	1100	85	54
8	17	42	48	760	463	537	606	231	129	640	77	51
9	17	35	48	451	335	418	560	296	377	445	72	49
10	18	39	49	328	264	341	420	525	238	347	68	48
11	18	44	45	478	229	287	342	297	159	275	66	48
12	17	36	41	1920	198	248	285	234	127	373	62	48
13	17	34	39	2150	177	219	246	194	397	666	60	45
14	17	31	38	1220	168	196	217	170	283	283	57	43
15	18	29	38	936	198	178	210	150	1080	216	72	65
16	19	29	35	609	169	160	187	133	1450	187	65	138
17	21	34	33	451	530	144	165	118	819	171	57	62
18	22	33	32	356	1110	152	149	108	482	148	57	53
19	19	97	31	286	676	148	139	104	518	143	54	49
20	18	787	31	237	502	145	129	154	8080	141	51	46
21	21	269	36	198	1610	419	121	136	3950	130	48	45
22	23	151	46	175	906	284	112	105	1020	127	48	62
23	21	114	82	155	536	476	108	109	1980	233	62	225
24	24	93	170	143	400	554	103	96	1060	379	216	100
25	23	80	203	130	324	392	98	88	594	182	151	116
26	23	71	129	118	279	312	93	83	436	146	321	588
27	23	212	106	112	501	256	90	93	370	127	187	188
28	25	185	124	103	969	222	89	83	387	111	96	129
29	27	132	129	97	---	197	90	74	343	102	80	1080
30	27	108	136	126	---	320	87	69	236	96	72	1330
31	24	---	568	116	---	450	---	66	---	95	68	---
TOTAL	635	3160	2708	14338	12234	12778	8068	5656	25389	12298	3208	5063
MEAN	20.5	105	87.4	463	437	412	269	182	846	397	103	169
MAX	27	787	568	2150	1610	2140	839	747	8080	1620	385	1330
MIN	16	22	31	97	88	144	87	66	60	95	48	43
CFSM	.18	.90	.75	3.95	3.73	3.52	2.30	1.56	7.23	3.39	.88	1.44
IN.	.20	1.00	.86	4.56	3.89	4.06	2.57	1.80	8.07	3.91	1.02	1.61

CAL YR 1988 TOTAL 27157.4 MEAN 74.2 MAX 3650 MIN 8.1 CFSM .63 IN. 8.63
WTR YR 1989 TOTAL 105535 MEAN 289 MAX 8080 MIN 16 CFSM 2.47 IN. 33.55

03560500 DAVIS MILL CREEK AT COPPERHILL, TN

LOCATION.--Lat 34°59'43", long 84°22'56", Polk County, Hydrologic Unit 06020203, on right bank 100 ft upstream from bridge on State Highway 68, 0.1 mi upstream from mouth, 0.4 mi northwest of Louisville and Nashville Railroad station, and 0.8 mi northwest of Post Office at Copperhill.

DRAINAGE AREA.--5.16 mi^2.

PERIOD OF RECORD.--July 1940 to September 1941 (published as Mill Creek at Copperhill), December 1948 to December 1977, July 1986 to current year.

REVISED RECORDS.--WSP 1206: Drainage area. WSP 2110: 1949-65 (M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,451.06 ft above National Geodetic Vertical Datum of 1929. July 16, 1940, to Sept. 30, 1941, water-stage recorder and sharp-crested weir at site 145 ft upstream at datum of 1.58 ft higher. Oct. 1, 1941, to Aug. 12, 1971, water-stage recorder and concrete San Dimas flume and dam at present site and datum.

REMARKS.--No estimated daily discharges. Records fair, except those above 150 ft^3/s which are poor. Flow is predominately process water for Tennessee Chemical Company plant that is withdrawn from Ocoee River upstream from Davis Mill Creek and discharged to Davis Mill Creek upstream from the gage. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--30 years (water years 1941, 1950-77, 1987-1989), 57.2 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,520 ft^3/s, Oct. 6, 1949, gage height, 6.02 ft in gage well, 8.5 ft, from floodmarks, from rating curve extended above 150 ft^3/s on basis of critical depth measurement of peak flow; minimum daily, 3.1 ft^3/s, July 30, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,250 ft^3/s, May 5, gage height, 2.41 ft from rating curve extended above 150 ft^3/s on basis of slope conveyance of peak flow at gage heights 2.44 ft, 2.38 ft and 1.78 ft; minimum daily, 36 ft^3/s, Jan. 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	57	45	63	39	60	45	65	61	65	68	52
2	81	55	42	61	47	52	46	46	58	65	68	53
3	75	53	41	60	50	50	47	45	62	76	59	58
4	73	120	41	54	50	56	78	45	73	72	57	51
5	75	73	50	52	56	85	52	220	68	67	55	51
6	69	50	53	53	65	131	46	77	73	74	54	50
7	67	49	49	52	57	61	67	58	63	67	57	51
8	66	50	48	52	53	51	62	59	62	59	59	54
9	64	50	50	48	52	50	51	76	62	58	59	47
10	66	49	49	51	49	49	48	63	58	58	58	47
11	67	49	50	57	47	49	46	58	65	55	59	49
12	68	47	51	54	47	49	46	58	63	58	58	47
13	66	50	48	60	47	49	45	58	65	62	58	50
14	64	50	47	51	47	47	45	57	64	64	60	54
15	61	50	52	51	52	68	48	57	145	62	59	54
16	60	52	54	52	48	50	45	57	142	61	59	50
17	60	52	52	48	50	48	46	57	88	61	58	48
18	63	51	51	48	51	47	46	57	66	58	58	49
19	61	52	53	48	50	47	45	57	70	62	56	48
20	58	79	49	47	51	50	45	59	72	60	57	49
21	59	53	54	48	62	52	45	60	86	60	58	48
22	57	53	55	48	51	46	44	62	126	62	59	73
23	58	53	56	48	51	61	43	69	79	63	58	53
24	57	52	57	47	48	50	45	63	70	57	59	54
25	57	52	57	47	45	48	45	62	67	56	59	78
26	57	54	57	49	42	48	45	63	83	54	58	62
27	58	67	58	49	70	48	44	63	60	53	54	58
28	57	51	59	48	172	49	43	64	63	54	55	56
29	58	37	59	48	---	48	45	64	66	61	53	422
30	58	45	69	47	---	50	45	64	63	59	53	270
31	57	---	68	36	---	46	---	63	---	58	53	---
TOTAL	1974	1655	1624	1577	1549	1695	1443	2026	2243	1901	1795	2186
MEAN	63.7	55.2	52.4	50.9	55.3	54.7	48.1	65.4	74.8	61.3	57.9	72.9
MAX	81	120	69	63	172	131	78	220	145	76	68	422
MIN	57	37	41	36	39	46	43	45	58	53	53	47

CAL YR 1988 TOTAL 22731 MEAN 62.1 MAX 183 MIN 37
WTR YR 1989 TOTAL 21668 MEAN 59.4 MAX 422 MIN 36

03563000 OCOEE RIVER AT EMF, TN

LOCATION.--Lat 35°05'48", long 84°32'07", Polk County, Hydrologic Unit 06020203, on left bank 700 ft downstream from Tennessee Valley Authority powerplant, 0.8 mi upstream from former village of Emf, 2.0 mi downstream from Goforth Creek, and at mile 19.6.

DRAINAGE AREA.--524 mi^2.

PERIOD OF RECORD.--October 1912 to current year. Prior to January 1913, monthly discharge only, published in WSP 1306.

REVISED RECORDS.--WSP 783: 1913-34. WSP 853: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 837.88 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow regulated by Blue Ridge Lake (station 03558500) in Water Resources Data for Georgia, Ocoee No. 3 Lake (station 03562500), and by powerplant above station. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--77 years, 1,223 ft^3/s, 31.70 in/yr unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,400 ft^3/s, July 10, 1916, gage height, 13.7 ft, from rating curve extended above 17,000 ft^3/s; minimum, 3.4 ft^3/s, Sept. 20, 1962, gage height, 2.12 ft; minimum daily, 4.6 ft^3/s, Sept. 14, 1962.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 19, 1906, discharge, 62,000 ft^3/s, was the greatest known since at least 1840, from reports of Tennessee Valley Authority.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,350 ft^3/s, Sept. 29, gage height, 8.24 ft; minimum, 7.8 ft^3/s, Oct. 27, gage height, 2.19 ft; minimum daily, 8.0 ft^3/s, Oct. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1270	13	1090	e1300	802	1980	1410	1380	1150	2480	1430	1410
2	1330	10	634	e1050	87	1470	1400	1620	1120	2110	1500	1370
3	1310	240	529	e50	204	1140	1230	1600	1190	2170	1670	1380
4	1380	28	495	e300	813	1140	1490	1970	1170	2220	1440	1370
5	1350	1460	466	e500	870	1730	2360	2340	1320	1470	1380	1360
6	1320	840	518	632	1160	4020	2050	3710	1160	2010	1390	1360
7	1180	549	504	589	1240	2070	1920	1690	1130	2710	1390	1380
8	1260	1230	485	678	1230	1630	2110	1690	1190	2730	1180	1350
9	1280	993	454	813	1180	1150	2120	1670	965	2650	1400	1350
10	1310	260	e50	1090	1030	1120	1930	1900	1300	2640	1410	1350
11	1300	40	e170	1200	471	1120	2280	2860	1250	2170	1400	1370
12	1350	23	e170	1620	474	1120	2360	2790	1170	2350	1410	1370
13	1370	25	e50	1880	780	1090	1980	2480	1370	1760	1410	1150
14	1320	564	e50	1480	819	1090	1410	2440	1480	1800	1390	1110
15	1210	1000	e50	1270	839	903	1320	2180	2640	2030	1720	1100
16	1230	485	e50	1200	744	910	1360	1320	4320	1980	1400	1230
17	1310	664	e50	140	688	1080	1290	1430	3670	1760	1400	1220
18	800	531	e50	740	849	1080	1410	1420	2810	835	1410	272
19	279	417	e50	639	903	1080	1400	1410	2280	1430	1260	39
20	24	823	e50	645	1130	1090	1430	1000	3100	1580	1220	354
21	377	1120	e50	809	1550	1150	1390	985	4040	1450	1170	628
22	524	654	e750	786	1500	1190	1330	1450	4930	1310	1110	1710
23	525	507	e50	340	1200	1240	1330	1460	4750	1250	1120	1760
24	48	1250	e50	42	1210	1410	1360	1400	3170	1310	1430	1240
25	18	1340	e50	158	1120	1090	1360	845	2720	1410	1450	1150
26	9.3	1320	e120	431	1120	999	1130	1220	2690	1410	1210	2070
27	8.0	1450	e480	836	1210	1010	1090	1210	2680	1350	1220	1410
28	105	1560	e480	815	4350	1370	1100	1190	2400	1400	1110	1350
29	478	1380	e690	443	---	1360	1110	1160	2430	1410	1100	4400
30	495	1380	e460	43	---	1390	1170	1090	1910	1410	1110	4700
31	63	---	e380	602	---	1420	---	1100	---	1400	1410	---
TOTAL	25833.3	22156	9525	23121	29573	41642	46630	52010	67505	55995	41650	43313
MEAN	833	739	307	746	1056	1343	1554	1678	2250	1806	1344	1444
MAX	1380	1560	1090	1880	4350	4020	2360	3710	4930	2730	1720	4700
MIN	8.0	10	50	42	87	903	1090	845	965	835	1100	39
(†)	-13100	+2900	+8000	+18400	+12700	+22700	+5200	+300	+1700	-1500	-8200	-1700
MEAN‡	411	835	565	1339	1510	2076	1728	1687	2307	1758	1079	1387
CFSM‡	0.78	1.59	1.08	2.56	2.88	3.96	3.30	3.22	4.40	3.35	2.06	2.65
IN‡	0.90	1.78	1.24	2.95	3.00	4.57	3.68	3.71	4.91	3.87	2.37	2.95

CAL YR 1988 TOTAL 230783.3 MEAN 631 MAX 3500 MIN 8.0 MEAN‡ 571 CFSM‡ 1.09 IN‡ 14.83
WTR YR 1989 TOTAL 458953.3 MEAN 1257 MAX 4930 MIN 8.0 MEAN‡ 1387 CFSM‡ 2.65 IN‡ 35.94

e Estimated
† Change in contents, in cfs-days, in Blue Ridge Lake (Georgia).
‡ Adjusted for change in contents in lakes and reservoirs listed above.
NOTE.--Contents (cfs-days) for adjustment furnished by Tennessee Valley Authority.

03564500 OCOEE RIVER AT PARKSVILLE, TN

LOCATION.--Lat 35°05'48", long 84°39'15", Polk County, Hydrologic Unit 06020203, on right bank 0.4 mi downstream from Lake Ocoee Dam and Ocoee No. 1 powerplant of Tennessee Valley Authority at Parksville, and at mile 11.5.

DRAINAGE AREA.--595 mi^2.

PERIOD OF RECORD.--January 1911 to September 1916, March 1921 to current year.

REVISED RECORDS.--WSP 823: Drainage area. WSP 1306: 1916, 1921-36 (adjusted runoff). WSP 1386: 1926.

GAGE.--Water-stage recorder. Datum of gage is 716.96 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good, except those for period of no gage height record Aug. 14 to Sept. 13 which are fair. Flow regulated by Blue Ridge Lake (station 03558500) in water Resources Data for Georgia, Ocoee No. 3 Lake (station 03562500), and Lake Ocoee (station 03564000). Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--73 years, 1,308 ft^3/s, 29.85 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,700 ft^3/s, Mar. 29, 1951, gage height, 20.22 ft; minimum daily, 10 ft^3/s, Oct. 28, 1925.

EXTREMES OUTSIDE PERIOD OF RECORD.-- Flood of Nov. 19, 1906, discharge, 65,000 ft^3/s, was the greatest known flood since at least 1840, from reports of Tennessee Valley Authority.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,830 ft^3/s, Sept. 30, gage height, 9.54 ft; minimum, 76 ft^3/s, May 26, 27, 28, 30, gage height, 2.71 ft; minimum daily, 84 ft^3/s, Sept. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1240	126	1660	1050	966	2700	1470	1230	1100	1930	1540	e1750
2	1350	127	1700	452	108	2720	1400	1460	1220	940	1730	e1450
3	1550	128	915	1150	340	1960	1510	2210	1320	2050	1700	e1200
4	1250	127	976	1160	580	2560	1480	2610	1010	2520	1590	e1200
5	1240	1420	620	1170	806	1750	1390	1920	1200	2530	1600	e1500
6	1240	1460	536	1060	861	2550	1650	5000	1150	1770	1600	e1600
7	1360	1210	337	625	1040	2690	2060	2770	1290	1740	1650	e1600
8	1390	1220	385	614	1460	2650	2700	2380	1070	2540	1370	e1600
9	1360	550	432	656	1940	2440	2700	2670	1560	2460	1290	e1200
10	1360	562	106	709	2090	2300	2690	1620	935	2470	1290	e1200
11	1360	513	104	1350	1210	1910	2720	2310	929	2270	1270	e1450
12	1240	461	104	1360	1160	1760	2700	2640	1790	2190	1360	e1350
13	1210	463	316	2090	1260	1690	2700	2670	1520	3230	908	e1150
14	1210	488	304	2070	1130	1180	2640	2680	2120	2770	e1200	1030
15	1270	366	307	2050	817	1400	1390	2280	1850	1950	e1300	1160
16	1300	368	345	2040	499	1380	1340	1540	5380	1910	e2350	1190
17	1280	495	104	2060	503	1350	1140	1650	5380	1520	e1350	1220
18	927	691	104	1270	869	992	1630	1450	3410	1300	e1300	403
19	282	459	293	625	1170	539	1530	1390	3270	1240	e1300	86
20	229	739	91	741	1190	1410	1260	1400	4170	1490	e1250	84
21	130	701	91	975	1390	1290	1460	1230	5110	1470	e1150	770
22	592	1190	91	952	1500	1390	1300	1320	5250	1420	e1200	1370
23	577	1160	91	106	1540	1510	1390	1300	5490	1520	e1200	1310
24	170	1490	91	104	1760	1760	1500	1540	4140	1490	e1200	1370
25	171	1810	91	526	1650	1300	1480	1280	2110	1430	e1200	1940
26	126	1510	91	657	1580	1140	1170	1220	2270	1400	e1200	2450
27	126	1580	90	639	1140	1180	1170	1290	2380	1610	e1200	2350
28	126	1350	298	624	1920	1160	1170	1170	2430	1470	e1200	1450
29	524	1570	587	252	---	1310	852	1300	2510	1490	e1200	3030
30	502	1650	1140	617	---	1390	959	1220	2540	1380	e1150	6290
31	126	---	744	467	---	1440	---	1180	---	1450	e2050	---
TOTAL	26818	25984	13144	30221	32479	52801	50551	57930	75904	56950	42898	45753
MEAN	865	866	424	975	1160	1703	1685	1869	2530	1837	1384	1525
MAX	1550	1810	1700	2090	2090	2720	2720	5000	5490	3230	2350	6290
MIN	126	126	90	104	108	539	852	1170	929	940	908	84

CAL YR 1988 TOTAL 238327 MEAN 651 MAX 2320 MIN 90 MEAN‡ 595 CFSM‡ 1.00 IN‡ 13.60
WTR YR 1989 TOTAL 511433 MEAN 1401 MAX 6290 MIN 84 MEAN‡ 1535 CFSM‡ 2.58 IN‡ 35.03

e Estimated
‡ Adjusted for changes in contents in Blue Ridge Lake (Georgia) and Lake Ocoee.
NOTE.-- Contents (cfs-days) for adjustments furnished by Tennessee Valley Authority.

03565500 OOSTANAULA CREEK NEAR SANFORD, TN

LOCATION.--Lat 35°19'39", long 84°42'19", McMinn County, Hydrologic Unit 06020002, on right bank 20 ft downstream from highway bridge, 1.3 mi southeast of Sanford, 3.5 mi northeast of Calhoun, and at mile 5.7.

DRAINAGE AREA.--57.0 mi^2.

PERIOD OF RECORD.--October 1954 to current year.

GAGE.--Water-stage recorder. Datum of gage is 716.51 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--35 years, 90.8 ft^3/s, 21.63 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft^3/s, Mar. 16, 1973, gage height, 13.43 ft, from rating curve extended above 4,000 ft^3/s on basis of slope-area measurement of peak flow; minimum, 10 ft^3/s, Sept. 30, Nov. 7, 1985, result of bridge construction upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 918 ft^3/s, Sept. 30, stage rising, peak occured Oct. 1, 1989; peak discharge above base of 600 ft^3/s, 892 ft^3/s, June 21, gage height, 6.21 ft, no other peak greater than base discharge; minimum discharge 11 ft^3/s, Oct. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	17	28	180	71	446	150	76	58	206	86	51
2	16	15	27	127	66	255	131	79	56	176	101	53
3	22	15	26	82	63	210	122	71	54	169	108	54
4	18	15	25	70	61	183	203	68	56	201	87	50
5	15	18	26	60	67	226	454	75	56	161	80	49
6	14	32	26	62	185	331	333	133	67	212	79	48
7	14	27	23	80	352	316	349	102	71	349	78	46
8	13	22	23	95	267	225	357	83	60	270	74	45
9	13	18	23	134	171	190	296	77	96	192	70	45
10	15	17	24	106	141	170	229	171	117	161	68	45
11	16	17	23	124	126	156	193	128	81	144	66	45
12	13	18	24	253	119	147	172	96	72	135	64	44
13	13	18	23	409	108	137	157	87	84	168	63	42
14	12	22	21	441	99	127	146	85	117	153	63	60
15	13	21	21	266	99	120	140	81	271	124	61	71
16	13	18	20	225	92	115	137	75	376	116	63	207
17	15	18	20	165	135	108	125	71	303	110	61	136
18	17	20	20	140	368	104	116	69	200	101	58	74
19	15	21	22	126	301	108	110	67	161	98	64	65
20	14	52	21	114	208	104	105	70	385	121	59	59
21	14	100	19	103	308	124	99	101	776	159	57	56
22	14	49	20	95	436	134	95	75	600	235	55	61
23	15	35	24	88	247	145	95	88	291	169	52	144
24	15	31	45	82	193	227	91	101	273	148	54	117
25	16	29	67	77	165	166	86	79	206	131	75	89
26	16	27	46	73	151	147	82	72	171	110	64	199
27	15	27	38	70	159	132	80	72	151	101	76	152
28	15	37	34	67	407	121	77	81	154	95	63	104
29	15	40	38	66	---	114	76	67	332	90	57	282
30	16	32	36	75	---	121	76	64	225	89	54	582
31	17	---	68	91	---	159	---	60	---	85	52	---
TOTAL	463	828	901	4146	5165	5368	4882	2624	5920	4779	2112	3075
MEAN	14.9	27.6	29.1	134	184	173	163	84.6	197	154	68.1	102
MAX	22	100	68	441	436	446	454	171	776	349	108	582
MIN	12	15	19	60	61	104	76	60	54	85	52	42
CFSM	.26	.48	.51	2.35	3.24	3.04	2.85	1.49	3.46	2.70	1.20	1.80
IN.	.30	.54	.59	2.71	3.37	3.50	3.19	1.71	3.86	3.12	1.38	2.01

CAL YR 1988 TOTAL 12043 MEAN 32.9 MAX 464 MIN 12 CFSM .58 IN. 7.86
WTR YR 1989 TOTAL 40263 MEAN 110 MAX 776 MIN 12 CFSM 1.94 IN. 26.28

03566000 HIWASSEE RIVER AT CHARLESTON, TN

LOCATION.--Lat 35°17'16", long 84°45'07", Bradley County, Hydrologic Unit 06020002, on left bank 250 ft upstream from Southern Railway bridge, 0.3 mi upstream from bridge on U.S. Highway 11 at Charleston, and at mile 18.9.

DRAINAGE AREA.--2,298 mi^2.

PERIOD OF RECORD.--November 1898 to April 1899, November 1899 to April 1903, October 1919 to January 1940, January 1963 to January 1977, September 1979 to December 1981 (vane lost), August 1987 to current year. Gage-height records collected at this station during the period December 1884 to December 1889 are contained in the United States War Department Stages of Ohio River and Principal Tributaries, 1858-89, Part 1, and during period January 1890 to December 1943 in reports of the U.S. Weather Bureau.

REVISED RECORDS.--WSP 853: Drainage area. WSP 1436: 1902, 1922(M), 1928, 1936(M).

GAGE.--Water-stage recorder and velocity recorder. Datum of gage is 665.56 ft above National Geodetic Vertical Datum of 1929. Prior to July 18, 1925, nonrecording gages, and July 18, 1925, to Sept. 6, 1926, water-stage recorder, at Southern Railway bridge, 250 ft downstream at datum 1.50 ft higher. Auxiliary nonrecording gages at several sites and datums used periodically.

REMARKS.--Records fair. Some diversions above gage for industrial and municipal water supplies. Flow regulated by seven reservoirs (see p. 165 and Water Resources Data for Georgia and North Carolina). Daily discharge figures computed using areas as determined from a stage-area curve and velocities as determined from a velocity curve. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--39 years, (water years 1901-02, 1920-39, 1964-76, 1980-81, 1988-89), 4,721 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,000 ft^3/s, Mar. 17, 1973, gage height, 29.39 ft; minimum daily, 275 ft^3/s, Sept. 8, 1925; reverse flow has occurred for short periods each year since closure of Chickamauga Dam on Tennessee River in 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 31, 1886, reached a stage of 34.0 ft, present datum, discharge about 70,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge 27,000 ft^3/s, June 22; maximum gage height, 22.35, ft June 21; minimum daily discharge, 725 ft^3/s, Nov. 4; minimum gage height, 9.74 ft, Dec. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1480	818	5040	5730	4300	9510	5630	2580	3540	6790	4230	3840
2	1880	891	5210	5000	3430	8330	4740	2750	3630	6600	5470	2270
3	1930	739	4110	3960	2440	7710	4500	3120	3230	7690	4830	2550
4	1480	725	3250	4570	2930	7930	6180	3380	2910	8320	4550	2640
5	1370	1530	3940	3980	2890	7640	8960	4400	3560	8160	4450	3700
6	1460	1920	3350	3410	5890	10300	7600	9810	3500	7350	4340	3610
7	1550	2260	3150	3620	9030	10200	8400	5870	3500	7850	4480	3730
8	1680	2100	2740	3210	7400	8660	8910	4660	3590	10900	4020	3780
9	1550	1220	3260	4550	7610	8120	8520	6110	4070	6740	4180	3280
10	1640	824	2880	5300	7240	7680	7250	5800	2980	7640	4330	3010
11	1490	1180	2680	6500	6060	7070	7230	5830	3060	7600	4340	3500
12	1570	1260	2720	8280	4920	5900	6600	6030	4240	7600	4150	3380
13	2080	808	2890	12000	5030	6090	6080	6000	4830	8460	3810	3390
14	2380	1230	2930	5710	5050	5750	5670	5960	5930	7930	3950	3660
15	1820	1070	2860	6800	4650	6000	4360	5580	6590	6040	3550	3740
16	1410	922	3370	7410	4340	8100	3220	4900	11400	5610	5150	4760
17	1580	2050	2920	7320	4140	6660	3290	4790	19500	5290	4300	4270
18	1240	2220	2890	5900	6030	5500	3160	4680	16000	4610	4110	3540
19	1450	1920	3070	5240	6600	4280	3110	4540	12400	4390	4030	2910
20	1380	2200	1890	4950	6450	3630	2770	4550	13100	4810	3800	2660
21	1250	3580	2030	4990	8310	4770	2830	4040	e25000	5000	3840	3130
22	1370	4040	2300	5050	8720	6420	2440	4490	e27000	4190	3770	4230
23	927	4810	2520	4240	5750	6760	2650	4790	e17000	3770	3690	5580
24	1150	4110	2740	3910	5360	7610	2480	4820	14100	4290	4000	4620
25	1730	4230	3090	4150	6520	6560	3040	4700	10500	4390	3870	4710
26	1370	4330	2700	4740	5800	5060	3000	4620	9920	4430	3630	6530
27	1160	4750	2470	4250	6000	4890	3060	3590	9750	4420	3450	5420
28	771	4980	2410	3550	11400	4870	2990	3230	7520	4310	3790	4670
29	1040	5230	3560	2570	---	4870	2590	3300	7610	4070	3430	7410
30	772	5160	3160	3280	---	4500	2080	3690	6940	3930	3420	16400
31	734	---	4330	4000	---	5730	---	3830	---	4260	4000	---
TOTAL	44694	73107	96460	158170	164290	207100	143340	146440	266900	187440	126960	130920
MEAN	1442	2437	3112	5102	5867	6681	4778	4724	8897	6046	4095	4364
MAX	2380	5230	5210	12000	11400	10300	8960	9810	27000	10900	5470	16400
MIN	734	725	1890	2570	2440	3630	2080	2580	2910	3770	3420	2270

CAL YR 1988 TOTAL 727003 MEAN 1986 MAX 8970 MIN 725
WTR YR 1989 TOTAL 1745821 MEAN 4783 MAX 27000 MIN 725

e Estimated

03566420 WOLFTEVER CREEK NEAR OOLTEWAH, TN

LOCATION.--Lat 35°03'43", long 85°03'59", Hamilton County, Hydrologic Unit 06020001, on right downstream wingwall of county road bridge, 0.6 mi downstream from Southern Railway bridge, 0.9 mi south of Ooltewah, 1.6 mi upstream from Little Wolftever Creek, and at mile 16.1.

DRAINAGE AREA.--18.8 mi^2.

PERIOD OF RECORD.--January 1964 to September 1989 (discontinued as a continuous-record station; converted to crest-stage partial record station).

GAGE.--Water-stage recorder. Datum of gage is 755.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--25 years, 31.7 ft^3/s, 22.90 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,300 ft^3/s, Mar. 16, 1973, gage height, 9.75 ft; minimum, 0.94 ft^3/s, July 28, 30, 31, Aug. 5, 6, 7, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 28	0615	732	5.01	July 23	0615	882	5.64
June 20	1330	*1,790	*7.32				

Minimum discharge, 2.7 ft^3/s, Oct. 12, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	5.8	9.9	134	14	101	36	15	7.1	18	14	6.5
2	6.5	5.5	9.1	47	13	66	30	12	13	25	15	7.5
3	4.2	5.6	8.3	36	13	52	30	10	10	112	11	6.0
4	3.8	8.5	7.7	26	13	63	274	10	7.9	172	10	5.5
5	3.5	15	7.2	22	45	191	156	40	9.4	99	9.5	5.2
6	3.3	10	7.0	34	252	170	69	38	17	100	8.8	5.6
7	3.2	7.0	6.8	25	120	73	207	19	13	132	8.7	5.3
8	3.2	5.8	6.4	118	64	53	146	15	12	105	8.1	5.2
9	3.0	5.6	6.8	58	45	42	91	56	45	49	7.8	5.2
10	3.0	6.5	6.9	132	36	35	61	85	17	33	7.6	5.7
11	3.2	6.7	6.0	141	32	31	47	30	11	26	7.2	6.5
12	2.9	5.6	5.6	200	27	27	38	22	9.4	57	7.0	6.1
13	3.0	7.9	5.6	377	24	24	32	17	21	73	7.0	5.6
14	3.2	6.9	5.6	103	22	22	28	15	96	34	7.1	5.7
15	3.2	6.1	5.6	81	20	133	38	14	450	24	7.5	31
16	3.3	6.5	5.4	54	18	69	27	12	282	23	6.5	11
17	3.5	9.8	5.2	41	36	42	22	11	100	20	6.5	6.4
18	4.2	7.3	5.2	34	79	40	20	9.9	52	15	6.5	5.7
19	5.2	8.9	5.2	29	72	36	18	9.8	51	21	6.5	5.2
20	4.1	97	5.2	26	63	59	17	30	723	17	6.2	5.2
21	5.5	22	5.9	22	240	162	16	16	166	23	6.1	5.3
22	5.5	14	6.1	20	82	74	15	12	86	42	5.8	56
23	5.4	12	16	18	55	158	14	36	58	380	5.8	26
24	5.5	9.7	18	17	41	100	13	15	41	64	6.7	10
25	5.2	8.5	18	16	35	66	12	12	31	38	7.5	80
26	5.3	7.8	12	15	32	50	12	10	24	27	11	45
27	5.2	28	10	16	198	40	11	12	20	21	10	18
28	6.5	20	18	14	446	33	13	9.4	19	18	6.5	12
29	5.6	13	15	13	---	29	12	8.4	23	15	6.0	310
30	5.6	11	111	18	---	43	11	7.7	19	14	6.5	367
31	5.6	---	210	15	---	56	---	7.4	---	13	6.4	---
TOTAL	134.4	384.0	570.7	1902	2137	2140	1516	616.6	2433.8	1810	246.8	1075.4
MEAN	4.34	12.8	18.4	61.4	76.3	69.0	50.5	19.9	81.1	58.4	7.96	35.8
MAX	6.5	97	210	377	446	191	274	85	723	380	15	367
MIN	2.9	5.5	5.2	13	13	22	11	7.4	7.1	13	5.8	5.2
CFSM	.23	.68	.98	3.26	4.06	3.67	2.69	1.06	4.32	3.11	.42	1.91
IN.	.27	.76	1.13	3.76	4.23	4.23	3.00	1.22	4.82	3.58	.49	2.13

CAL YR 1988 TOTAL 4981.0 MEAN 13.6 MAX 400 MIN 1.1 CFSM .72 IN. 9.86
WTR YR 1989 TOTAL 14966.7 MEAN 41.0 MAX 723 MIN 2.9 CFSM 2.18 IN. 29.61

03567500 SOUTH CHICKAMAUGA CREEK NEAR CHICKAMAUGA, TN

LOCATION.--Lat 35°00'51", long 85°12'35", Hamilton County Hydrologic Unit 06020001, on left bank 0.1 mi upstream from bridge on U.S. Highway 11, 1.5 mi south of Chickamauga, 6.0 mi east of the city hall in Chattanooga, and at mile 12.2.

DRAINAGE AREA.--428 mi^2.

PERIOD OF RECORD.--October 1928 to September 1978, October 1980 to current year. Monthly discharge only for December 1930, published in WSP 1306. Gage-height records collected October 1978 to September 1980 (fragmentary). Prior to October 1937, published as Chickamauga Creek near Chickamauga.

REVISED RECORDS.--WSP 823: Drainage area. WSP 853: 1937. WSP 1386: 1932.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 644.12 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 7, 1930, nonrecording gage. Oct. 7, 1930, to Oct. 29, 1980, water-stage recorder at site 1,000 ft upstream at datum 7.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--59 years (water years 1929-78, 1981-89), 687 ft^3/s, 21.80 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft^3/s, Mar. 17, 1973, gage height, 28.70 ft; maximum gage height, 30.75 ft, Mar. 17, 1973, present datum from floodmarks (backwater from Tennessee River); minimum discharge, 61 ft^3/s, Oct. 8, 1941.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 13	1800	6,190	15.62	June 21	0400	7,150	16.58
Mar. 1	0700	9,040	18.11	July 4	0530	6,380	16.23
June 16	0330	5,720	15.13	July 5	0600	*10,100	*19.24

Minimum discharge, 78 ft^3/s Oct. 17, 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	101	89	270	2690	294	8080	799	274	170	823	399	194
2	149	91	235	1430	270	4630	634	283	161	833	326	238
3	131	101	207	930	260	1830	570	257	182	3370	291	294
4	122	97	188	884	251	1330	1930	241	183	6420	255	201
5	105	200	174	713	417	3350	5090	363	191	8400	239	178
6	96	290	164	781	2460	4880	3450	793	298	4940	227	171
7	94	210	157	868	3360	3520	3570	446	351	2730	224	164
8	91	175	152	1320	1770	1830	3990	319	259	2460	215	159
9	90	144	154	1580	1160	1290	3740	304	359	1330	197	155
10	88	136	145	2070	879	1050	2300	395	414	996	192	172
11	88	138	140	2420	744	882	1440	310	271	782	187	757
12	85	127	137	3870	642	775	1160	271	231	672	188	673
13	87	131	132	5680	555	685	956	247	275	839	182	285
14	83	144	126	4990	497	609	812	238	525	632	175	212
15	94	144	124	2900	437	772	853	232	2580	507	185	363
16	82	139	121	1570	398	770	911	228	5440	437	181	1260
17	78	149	117	1150	434	575	697	212	5260	402	179	443
18	83	171	116	931	806	548	603	199	2480	360	175	272
19	114	156	114	781	1180	650	538	195	1350	333	172	230
20	109	1170	111	669	1080	789	493	288	3890	327	162	204
21	105	1380	111	565	2900	1660	445	326	6130	362	153	190
22	104	639	113	480	3440	1480	405	254	4290	374	157	305
23	106	399	153	432	1630	1640	373	493	2520	2410	156	1680
24	95	306	219	394	1090	2590	351	660	1230	1320	156	493
25	88	250	340	362	864	1580	335	296	1020	740	196	623
26	86	215	227	334	752	1170	313	240	788	491	267	2190
27	84	407	179	331	1410	949	298	227	617	390	614	987
28	88	534	177	320	6840	801	290	211	508	338	258	550
29	89	428	181	291	---	696	275	199	925	310	193	3720
30	81	323	447	297	---	825	267	186	680	343	203	8540
31	82	---	2410	328	---	1090	---	176	---	351	254	---
TOTAL	2978	8883	7641	42361	36820	53326	37888	9363	43578	45022	6958	25903
MEAN	96.1	296	246	1366	1315	1720	1263	302	1453	1452	224	863
MAX	149	1380	2410	5680	6840	8080	5090	793	6130	8400	614	8540
MIN	78	89	111	291	251	548	267	176	161	310	153	155
CFSM	.22	.69	.58	3.19	3.07	4.02	2.95	.71	3.39	3.39	.52	2.02
IN.	.26	.77	.66	3.68	3.20	4.63	3.29	.81	3.79	3.91	.60	2.25

CAL YR 1988 TOTAL 108293 MEAN 296 MAX 8560 MIN 64 CFSM .69 IN. 9.41
WTR YR 1989 TOTAL 320721 MEAN 879 MAX 8540 MIN 78 CFSM 2.05 IN. 27.88

03568000 TENNESSEE RIVER AT CHATTANOOGA, TN

LOCATION.--Lat 35°05'12", long 85°16'43", Hamilton County, Hydrologic Unit 06020001, on right bank at Rivermont Golf and Country Club, 0.5 mi downstream from South Chickamauga Creek, 3.0 mi downstream from Chickamauga Dam, 3.5 mi upstream from Walnut Street Bridge in Chattanooga, and at mile 467.6.

DRAINAGE AREA.--21,400 mi^2, approximately.

PERIOD OF RECORD.--April 1874 to current year. Monthly discharges only for some periods, published in WSP 1306. July 1930 to December 1935, published as "at Hales Bar, near Chattanooga." Gage-height records collected in this vicinity since 1874 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 353: 1874-1912. WSP 783: 1917. WSP 823: 1875(M). WSP 973: 1942. WSP 1306: 1916(M). WSP 1386: 1932-34 (station at Hales Bar near Chattanooga).

GAGE.--Water-stage recorder. Datum of gage is 621.12 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 1, 1939, nonrecording or recording gages at several sites from 7.0 mi upstream from Chattanooga to Hales Bar Dam 33 mi downstream at or within 0.2 ft of present datum, except nonrecording gage at Bridgeport, AL, 49.9 mi downstream at different datum Oct. 22, 1913, to Feb. 28, 1915, and Oct. 1, 1918, to Jan. 5, 1921. Auxiliary gages at several sites parts of periods since Feb. 28, 1915. Present auxiliary gage at site 2.2 mi downstream from base gage at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1936 by many upstream reservoirs (see p. 165 and Water Resources Data for adjoining states). Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--115 years, 36,550 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 410,000 ft^3/s, Mar. 1, 1875, gage height, 53.8 ft, present datum, at Walnut Street, from rating curve extended above 250,000 ft^3/s; minimum daily, 1,200 ft^3/s, Nov. 1, 1953; minimum gage height, 0.0 ft, Sept. 11-14, 1881, Sept. 19, 1883.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 57.9 ft, Mar. 11, 1867, present datum at Walnut Street, discharge about 459,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 173,000 ft^3/s, June 21; maximum gage height, 30.12 ft, June 21; minimum daily discharge, 6,280 ft^3/s, Apr. 29; minimum gage height, 11.22 ft, Nov. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9260	21500	32700	15600	20200	66700	15900	7430	24400	52300	37100	40700
2	9440	15500	34000	34400	13100	63500	9510	7810	24800	55700	40400	35200
3	15700	15900	10100	29700	26700	60200	14000	16600	18800	60700	40200	33800
4	14600	12400	8350	32900	25200	59200	15100	23200	14300	58500	39500	34500
5	16300	10700	22000	35500	12400	66400	11600	29600	21500	63400	40800	40900
6	21900	16000	21200	34000	31600	77500	9760	23100	21400	74900	40600	39600
7	21700	25300	17100	38000	35900	77100	9650	31700	28900	82500	40600	41000
8	16100	23400	21500	36100	40300	74800	24800	32800	29700	81600	32100	41400
9	9710	23100	33000	33800	35000	73500	31700	47900	30800	74300	17800	27500
10	14200	21500	21400	43700	39300	63400	35000	65600	29100	59000	17200	28400
11	15700	22500	20300	44800	42200	42900	33900	53400	30200	52500	23600	40700
12	16500	16000	34000	51600	42300	43100	33500	42400	33200	52300	28100	40600
13	23500	11600	37300	76600	42500	37900	33000	41500	45300	52900	21900	40800
14	20600	22900	15800	85800	42600	36200	25300	40800	55300	51400	35900	40900
15	14700	10600	11700	78400	42900	37100	12900	40900	57600	49500	40900	32900
16	14900	18400	28000	76400	42300	38400	13300	38100	75900	48700	41300	37600
17	13400	29700	20300	75300	42600	35500	16200	36600	108000	45700	38600	41700
18	14400	29300	10900	75300	44500	31600	18400	39200	103000	41000	38900	41100
19	20100	17100	21000	74900	44900	14300	17000	36200	99800	40900	28000	41100
20	21200	16400	8500	62700	49700	20400	15400	21900	104000	41400	26700	41400
21	18000	29600	7320	42800	64900	26500	20000	20100	165000	41800	37700	42200
22	15600	31100	7470	42700	66200	37100	9060	33600	151000	31100	40200	42900
23	13100	32600	11600	36700	63900	39300	9340	32700	122000	22900	40900	43900
24	19100	31900	7780	39600	61100	29300	16400	33300	103000	39500	38000	42900
25	21400	31800	12400	42600	58600	41300	16500	32100	95700	40900	39500	43500
26	25500	26500	27200	42700	58200	43300	23800	37600	85300	39000	28900	44300
27	18200	28600	36100	37400	58600	37400	13800	24000	79800	34500	29900	43800
28	16300	25600	35300	26500	64200	26500	13900	15900	69100	35400	40500	43400
29	15900	32600	29200	14200	---	23900	6280	26300	68400	38900	41300	51700
30	12800	31600	16300	37100	---	26800	6910	28500	63100	39900	40500	82000
31	18400	---	15200	29300	---	37000	---	28500	---	36800	40200	---
TOTAL	518210	681700	635020	1427100	1211900	1388100	531910	989340	1958400	1539900	1087800	1242400
MEAN	16720	22720	20480	46040	43280	44780	17730	31910	65280	49670	35090	41410
MAX	25500	32600	37300	85800	66200	77500	35000	65600	165000	82500	41300	82000
MIN	9260	10600	7320	14200	12400	14300	6280	7430	14300	22900	17200	27500

CAL YR 1988 TOTAL 5802500 MEAN 15850 MAX 72200 MIN 5740
WTR YR 1989 TOTAL 13211780 MEAN 36200 MAX 165000 MIN 6280

03571000 SEQUATCHIE RIVER NEAR WHITWELL, TN

LOCATION.--Lat 35°12'22", long 85°29'48", Marion County, Hydrologic Unit 06020004, on right bank 250 ft upstream from county road bridge, 1.5 mi east of Whitwell, 3.0 mi upstream from bridge on State Highway 27, 4.5 mi downstream from Griffith Creek, and at mile 25.1.

DRAINAGE AREA.--402 mi^2, includes 18 mi^2 without surface drainage.

PERIOD OF RECORD.--October 1920 to current year. Prior to December 1920, monthly discharges only, published in WSP 1306.

REVISED RECORDS.--WSP 603: 1922(M). WSP 758: 1929(M). WSP 1033: 1943(M). WSP 1386: 1921-22, 1923-25(M), 1927-28(M), 1930(M), 1933(M). WSP 1910: Drainage area. WDR TN-76-1: 1973-75(P).

GAGE.--Water-stage recorder. Datum of gage is 632.73 ft above National Geodetic Vertical datum of 1929 (levels by Tennessee Valley Authority). Prior to Sept. 18, 1927, nonrecording gage at same site at datum 0.03 ft higher. Sept. 18, 1927, to Sept. 30, 1930, nonrecording gage at bridge 15 ft upstream at present datum.

REMARKS.--No estimated daily discharges. Records good. Prior to 1950, some diurnal fluctuation caused by small mills above station. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--69 years, 740 ft^3/s, 25.00 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft^3/s, Mar. 16, 1973, gage height, 17.65 ft; minimum, 16 ft^3/s, Sept. 6-21, 27, 28, 1925.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1867 reached a stage of about 19 ft from reports of Tennessee Valley Authority.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 13	1830	9,360	13.97	June 16	1600	*13,100	*14.69
Feb. 22	0430	8,830	13.85	July 5	1500	6,320	13.15
Mar. 6	2200	11,800	14.46				

Minimum discharge, 39 ft^3/s, Oct. 30, 31. Nov. 1,2,3,4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	40	757	2910	545	3010	1630	334	238	2150	1080	282
2	122	40	617	2580	522	2250	1490	334	215	2530	1870	338
3	128	40	519	2020	492	1840	1300	320	204	4690	1530	329
4	120	48	447	1480	462	1570	2130	302	196	5940	1090	278
5	113	285	392	1140	478	3170	4470	484	481	6080	838	253
6	103	519	353	1200	738	8820	3440	1040	1320	4190	675	231
7	96	666	324	1300	1160	9210	3590	914	1170	2400	573	211
8	90	475	300	1990	1180	5350	3520	737	938	2360	504	198
9	84	335	283	2320	1060	2720	2910	672	1070	2010	446	189
10	80	276	264	2010	953	1950	2440	2050	1380	1590	396	183
11	74	271	248	1940	876	1600	1950	1570	1140	1260	359	234
12	70	277	232	5040	802	1370	1600	1140	872	1080	326	400
13	64	268	220	8750	727	1200	1360	897	810	1560	302	300
14	59	247	210	9010	687	1080	1180	735	905	1290	280	1650
15	55	223	201	7700	691	979	1080	627	3470	1030	263	2130
16	55	211	191	4610	684	884	992	549	11000	879	250	3050
17	54	230	183	2800	1360	795	891	470	10100	789	245	2200
18	51	246	176	2030	3540	790	804	410	6900	684	244	1430
19	48	306	170	1610	3410	745	738	360	3530	649	225	970
20	46	1680	165	1360	2550	1050	676	605	2680	1200	211	745
21	47	1850	167	1160	5340	1300	618	821	2410	1230	200	608
22	46	1450	173	1020	7850	1270	568	658	3040	985	192	558
23	45	1060	266	927	5050	1350	529	617	3750	1120	186	776
24	44	745	687	841	2720	1810	488	525	3170	1340	194	928
25	43	586	1270	764	1930	1760	455	436	2200	1220	276	995
26	42	488	1310	696	1550	1500	423	373	1550	994	718	1770
27	42	1340	1040	654	1790	1270	392	387	1190	838	1280	1540
28	41	1550	833	603	3370	1110	365	390	1070	821	566	1220
29	41	1210	858	554	---	996	343	337	1420	752	398	1330
30	40	953	856	571	---	1020	326	303	1210	624	329	3420
31	39	---	1370	566	---	1300	---	269	---	588	293	---
TOTAL	2082	17915	15082	72156	52517	65069	42698	19666	69629	54873	16339	28746
MEAN	67.2	597	487	2328	1876	2099	1423	634	2321	1770	527	958
MAX	128	1850	1370	9010	7850	9210	4470	2050	11000	6080	1870	3420
MIN	39	40	165	554	462	745	326	269	196	588	186	183
CFSM	.17	1.49	1.21	5.79	4.67	5.22	3.54	1.58	5.77	4.40	1.31	2.38
IN.	.19	1.66	1.40	6.68	4.86	6.02	3.95	1.82	6.44	5.08	1.51	2.66

CAL YR 1988 TOTAL 145729 MEAN 398 MAX 9790 MIN 37 CFSM .99 IN. 13.49
WTR YR 1989 TOTAL 456772 MEAN 1251 MAX 11000 MIN 39 CFSM 3.11 IN. 42.27

03580995 EAST FORK MULBERRY CREEK BELOW JACK DANIEL DISTILLERY AT LYNCHBURG, TN

LOCATION.--Lat 35°16'56", long 86°22'17", Moore County, Hydrologic Unit 06030003, on right bank 160 ft above county road bridge, 0.2 mi below State Highway 55 bridge, 1.4 mi above Price Branch, and at mile 13.2

DRAINAGE AREA.--23.4 mi^2.

PERIOD OF RECORD.--October 1987 to current year. Miscellaneous low-flow measurements made in vicinity since 1932.

GAGE.--Water-stage encoder and crest-stage gage. Elevation of the gage is 774.31 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for periods of estimated daily discharges, which are fair. Natural flow of stream affected by periodic transbasin diversion of water from the Elk River basin into the East Fork Mulberry Creek basin. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,520 ft^3/s, Feb. 21, 1989, gage height, 7.95 ft; minimum, 1.6 ft^3/s, July 10, 11, 19, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 850 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 4	2130	1,060	6.43	Apr. 4	1400	851	5.10
Jan. 11	2330	1,110	6.53	June 9	0300	1,690	6.98
Feb. 21	0100	*2,520	*7.95	July 11	1000	876	5.18
Mar. 5	0930	1,610	6.86	Sept. 14	0245	2,040	7.43

Minimum discharge, 2.1 ft^3/s, Oct. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	5.2	29	197	22	136	35	18	12	104	21	12
2	10	4.9	23	108	21	96	33	18	14	103	21	11
3	8.0	4.7	20	75	20	75	45	16	15	94	19	9.5
4	6.8	101	17	51	18	68	390	16	13	74	18	9.3
5	6.4	136	16	41	24	e660	232	23	13	57	18	8.8
6	5.8	48	15	65	30	e445	125	22	e86	46	18	8.8
7	5.3	27	14	55	31	179	263	17	e46	39	17	8.5
8	4.5	20	13	113	29	108	170	16	112	35	16	8.6
9	3.7	15	12	89	27	76	107	18	e567	30	15	9.6
10	4.9	16	10	67	26	62	84	19	e150	27	15	18
11	4.8	14	9.8	348	26	55	66	16	e84	258	14	13
12	4.3	12	9.3	708	25	48	57	16	63	157	14	11
13	4.3	14	9.4	444	24	43	49	16	e105	87	14	124
14	4.5	13	9.3	229	30	39	44	16	84	62	13	401
15	4.2	12	8.7	203	36	36	40	14	e305	48	14	70
16	3.0	20	7.8	135	35	31	36	13	e271	41	13	44
17	4.7	30	7.3	94	131	28	33	13	114	35	13	33
18	4.9	23	6.9	71	265	27	30	13	86	30	13	26
19	4.4	28	7.2	56	152	24	28	12	e363	121	12	22
20	4.7	270	7.7	46	173	32	26	e41	e273	106	12	19
21	5.3	91	33	38	993	60	24	21	141	61	11	18
22	4.4	51	33	33	231	46	23	18	93	63	12	27
23	3.2	35	103	30	126	44	22	19	70	46	12	49
24	4.1	26	135	27	86	43	22	16	56	40	18	36
25	4.0	21	108	25	69	41	21	15	46	35	15	73
26	3.8	48	65	25	62	39	20	14	38	31	13	93
27	4.0	97	47	23	213	37	19	25	34	32	12	61
28	7.5	71	89	21	239	35	18	16	34	32	12	45
29	5.9	50	73	21	---	34	17	13	29	28	11	42
30	4.2	38	68	25	---	34	17	13	34	27	11	136
31	5.5	---	169	23	---	40	---	12	---	26	11	---
TOTAL	157.2	1341.8	1175.4	3486	3164	2721	2096	535	3351	1975	448	1447.1
MEAN	5.07	44.7	37.9	112	113	87.8	69.9	17.3	112	63.7	14.5	48.2
MAX	10	270	169	708	993	660	390	41	567	258	21	401
MIN	3.0	4.7	6.9	21	18	24	17	12	12	26	11	8.5
CFSM	.22	1.91	1.62	4.81	4.83	3.75	2.99	.74	4.77	2.72	.62	2.06
IN.	.25	2.13	1.87	5.54	5.03	4.33	3.33	.85	5.33	3.14	.71	2.30

CAL YR 1988 TOTAL 7782.7 MEAN 21.3 MAX 276 MIN 1.7 CFSM .91 IN. 12.37
WTR YR 1989 TOTAL 21897.5 MEAN 60.0 MAX 993 MIN 3.0 CFSM 2.56 IN. 34.81

e Estimated

03584500 ELK RIVER NEAR PROSPECT, TN

LOCATION.--Lat 35°01'39", long 86°56'52", Giles County, Hydrologic Unit 06030004, on right bank 50 ft upstream from county road bridge, 1.1 mi downstream from Richland Creek, 3.2 mi east of Prospect, 5.4 mi upstream from Ford Creek, 7.9 mi upstream from Tennessee-Alabama State line, and at mile 41.5.

DRAINAGE AREA.--1,784 mi^2.

PERIOD OF RECORD.--July 1904 to February 1908, January 1919 to current year. Published as "near Elkmont, Ala." 1904-8, 1919-34. Record for both sites published January to March 1934.

REVISED RECORDS.--WSP 523: 1904-8, 1919-20. WSP 823: Drainage area. WSP 1436: 1920-22, 1923(M), 1924, 1927, 1929, 1931-32(M).

GAGE.--Water-stage recorder. Datum of gage is 563.29 ft above National Geodetic Vertical Datum of 1929. July 1, 1904, to Feb. 2, 1908, and Jan. 20, 1919, to Mar. 31, 1934, nonrecording gage 11.9 mi downstream at datum 13.52 ft lower.

REMARKS.--Records good. Flow regulated by Woods Reservoir (station 03579000) since May 1952, and Tims Ford Lake (station 03580740) since December 1970. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--73 years (water years 1905-7, 1920-89), 3,041 ft^3/s, 23.15 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 117,000 ft^3/s, Mar. 17, 1973, gage height, 40.12 ft, from rating curve extended above 63,000 ft^3/s on basis of slope-area measurement at gage height 38.17 ft and contracted-opening measurement at gage height 38.96 ft; minimum, 78 ft^3/s, Sept. 29, 1961 (caused by highway construction upstream).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1902 reached a stage of 40.9 ft, discharge, 130,000 ft^3/s, and may have been equaled by a flood in March 1897, from reports of Tennessee Valley Authority.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 46,700 ft^3/s, at 1300 hours Mar. 6, gage height, 32.19 ft; minimum, 155 ft^3/s, Oct. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	270	420	4530	14600	3080	11400	2580	987	684	7670	2000	707
2	746	447	4260	9870	2780	8870	2280	1000	551	12400	3010	534
3	656	395	4080	6080	2230	7850	2280	971	1730	11400	2870	507
4	578	426	2630	5360	1990	7130	13400	777	1540	13300	2750	460
5	423	4340	1100	5130	1760	17900	22000	943	846	9330	2680	379
6	e345	3930	2170	5350	2240	42300	17500	1600	911	7070	2030	340
7	e320	2030	3190	5690	4040	34100	13100	1510	2830	6210	907	319
8	e290	1370	2900	7200	4780	19500	13800	1080	2630	6570	874	314
9	e260	1040	2870	7140	4560	10200	10800	1910	14100	5550	1540	287
10	e230	901	2960	6040	4380	8800	8560	2270	15400	4650	651	268
11	e205	1040	2260	10100	4260	7900	7340	1190	7250	9980	549	293
12	186	2060	953	25100	2780	6420	6620	935	4300	19200	626	303
13	175	1900	608	38200	1760	5950	6170	805	9100	18000	1210	374
14	165	878	1780	35700	2440	5690	4790	738	7980	9370	539	2250
15	159	1360	3210	24500	4340	4820	3900	713	10900	5890	449	3210
16	160	1760	2610	13700	3990	4520	2640	754	15900	4040	1000	2570
17	170	2020	2600	10100	5910	4290	1950	1490	12200	2560	1070	1490
18	185	2450	1390	9000	15600	3880	2790	893	8090	2820	1100	986
19	186	2310	527	8050	15400	2720	2950	1430	17800	3410	1040	899
20	173	8690	1130	7440	9420	1800	2550	2120	19300	3740	962	2560
21	177	9560	1800	6360	29200	2940	2660	2080	15500	3120	441	3030
22	178	4700	3100	5580	36500	3470	2470	1300	15700	4240	360	2440
23	175	4270	6100	5020	23600	3230	1550	2370	9050	3310	888	3230
24	173	4190	8840	4480	10700	2900	1120	1770	7670	1750	1020	2560
25	165	3910	7620	4680	9740	2770	1170	1180	6580	2130	1160	3080
26	164	3510	4410	4580	8680	2100	1420	922	5980	3020	994	7280
27	294	4540	3060	4560	10200	1820	1490	1310	4580	2920	1930	6920
28	392	4520	5150	4470	16000	1680	1770	1970	9020	2860	978	5580
29	499	4280	7150	3450	---	1550	1190	903	7310	2780	580	3210
30	556	4460	7520	1960	---	1690	1120	697	4900	2590	451	6450
31	762	---	9950	2940	---	2220	---	605	---	2170	687	---
TOTAL	9417	87707	112458	302430	242360	242410	163960	39223	240332	194050	37346	62830
MEAN	304	2924	3628	9756	8656	7820	5465	1265	8011	6260	1205	2094
MAX	762	9560	9950	38200	36500	42300	22000	2370	19300	19200	3010	7280
MIN	159	395	527	1960	1760	1550	1120	605	551	1750	360	268

CAL YR 1988 TOTAL 594157 MEAN 1623 MAX 19000 MIN 147 MEAN‡ 1637 CFSM‡ 0.92 IN.‡ 12.49
WTR YR 1989 TOTAL 1734523 MEAN 4752 MAX 42300 MIN 159 MEAN‡ 4810 CFSM‡ 2.70 IN.‡ 36.60

e Estimated
‡ Adjusted for change in contents in Woods Reservoir and Tims Ford Lake.
NOTE.--Contents (cfs-days) for adjustments furnished by Tennessee Valley Authority.

03588000 SHOAL CREEK AT LAWRENCEBURG, TN

LOCATION.--Lat 35°14'40", long 87°21'02", Lawrence County, Hydrologic Unit 06030005, on left bank at Lawrenceburg municipal water-supply intake, 500 ft downstream from Little Shoal Creek, 0.5 mi upstream from Crowson Creek, 0.9 mi west of courthouse in Lawrenceburg, and at mile 55.9.

DRAINAGE AREA.--55.4 mi.

PERIOD OF RECORD.--June 1932 to March 1934, March 1967 to current year.

REVISED RECORDS.--WSP 1306: Drainage area. WSP 2110: 1933.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 784.41 ft above National Geodetic Vertical Datum of 1929. June 7, 1932, to Mar. 31, 1934, nonrecording gage at site 500 ft downstream at datum 4.01 ft lower. Mar. 22, 1967, to Sept. 30, 1970, at site 1,300 ft downstream at datum 7.71 ft lower.

REMARKS.--Records good. About 6 ft^3/s were diverted by Lawrenceburg water plant, some of which was returned to the stream through sewage treatment plant 0.6 mi downstream. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--23 years (water years 1933, 1968-89), 103 ft^3/s, 25.25 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,200 ft^3/s, Mar. 15, 1973, gage height, 18.71 ft, from rating curve extended above 6,700 ft^3/s on basis of computation of peak flow over dam; minimum 11 ft^3/s, Aug. 30, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1846, 20.0 ft present site and datum, Mar. 28, 1902, discharge, 23,000 ft^3/s; flood of Mar. 21, 1955, reached a stage of 17.2 ft, present site and datum, discharge 18,000 ft^3/s, from report of Tennessee Valley Authority.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	0415	1,940	5.37	Apr. 4	0545	4,290	7.84
Dec. 31	1745	2,030	5.48	Apr. 4	1345	4,710	8.26
Jan. 12	unknown	7,030	10.39	May 20	1030	4,500	8.05
Jan. 14	1945	2,000	5.44	June 21	1445	4,480	8.03
Feb. 21	0200	7,730	10.98	July 2	0100	3,670	7.18
Mar. 5	0830	*8,600	*11.68				

Minimum discharge, 13 ft^3/s, Oct. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	18	36	268	72	179	80	67	43	347	75	58
2	23	17	35	141	68	154	73	63	70	1690	68	52
3	19	17	35	146	69	138	245	61	53	932	63	50
4	19	285	33	96	70	180	2620	73	46	419	60	46
5	19	150	31	70	95	3400	355	82	43	302	59	46
6	18	31	30	99	85	635	196	70	43	316	57	46
7	18	27	30	78	73	247	531	65	42	425	55	45
8	19	24	27	177	69	179	195	64	62	240	54	45
9	18	24	29	90	65	153	154	67	76	138	54	46
10	18	30	29	78	58	137	130	59	50	144	52	48
11	17	25	28	e2180	53	126	119	57	49	276	53	45
12	18	26	27	e3330	51	116	112	57	46	220	51	46
13	17	25	27	910	50	111	107	58	70	169	51	54
14	18	23	27	784	278	103	104	59	315	116	49	124
15	18	22	27	513	176	94	105	57	403	101	49	155
16	19	36	25	258	124	86	97	56	141	93	48	61
17	18	26	26	171	417	84	91	55	96	91	47	50
18	19	24	25	120	606	82	89	55	136	86	49	44
19	18	62	25	108	196	81	82	52	705	99	48	41
20	18	579	23	97	1060	116	80	1140	279	87	48	40
21	19	62	58	90	2450	96	79	110	1000	79	46	41
22	18	44	36	84	295	83	78	93	401	78	46	41
23	18	38	260	71	197	79	76	201	246	81	43	51
24	17	35	332	60	161	75	75	68	174	96	46	41
25	18	33	146	59	150	73	71	60	163	83	44	100
26	17	165	78	65	138	71	71	54	151	70	46	92
27	17	144	46	65	541	70	69	82	195	65	46	53
28	30	59	338	58	355	69	67	55	460	63	45	47
29	18	46	91	62	---	78	67	50	152	64	42	91
30	18	41	98	103	---	79	74	46	213	170	94	880
31	18	---	666	74	---	109	---	45	---	157	58	---
TOTAL	594	2138	2724	10505	8022	7283	6292	3181	5923	7297	1646	2579
MEAN	19.2	71.3	87.9	339	286	235	210	103	197	235	53.1	86.0
MAX	35	579	666	3330	2450	3400	2620	1140	1000	1690	94	880
MIN	17	17	23	58	50	69	67	45	42	63	42	40
CFSM	.35	1.29	1.59	6.12	5.17	4.24	3.79	1.85	3.56	4.25	.96	1.55
IN.	.40	1.44	1.83	7.05	5.39	4.89	4.22	2.14	3.98	4.90	1.11	1.73

CAL YR 1988 TOTAL 19409 MEAN 53.0 MAX 1580 MIN 15 CFSM .96 IN. 13.03
WTR YR 1989 TOTAL 58184 MEAN 159 MAX 3400 MIN 17 CFSM 2.88 IN. 39.07

e Estimated

03588500 SHOAL CREEK AT IRON CITY, TN

LOCATION.--Lat 35°01'27", long 87°34'44", Lawrence County, Hydrologic Unit 06030005, near center of span on downstream side of bridge on county road, 400 ft downstream from Holly Creek, 1,350 ft upstream from Louisville and Nashville Railroad bridge, 1,350 ft northeast of Iron City Post Office, and at mile 22.3.

DRAINAGE AREA.--348 mi^2.

PERIOD OF RECORD.--July 1925 to current year.

REVISED RECORDS.--WSP 823: Drainage area. WSP 1113: 1927(M). WSP 1436: 1926(M), 1927-29, 1930(M), 1932, 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 534.22 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 25, 1931, nonrecording gage at railroad bridge, 1,350 ft downstream at datum 0.85 ft lower. Feb. 25, 1931, to Sept. 30, 1933, nonrecording gage at site 825 ft downstream and Oct. 1, 1933, to Sept. 30, 1957, water-stage recorder at site 750 ft downstream at datum 0.69 ft higher.

REMARKS.--Records good. Prior to January 1951, diurnal fluctuation at low flow caused by powerplant near Lawrenceburg. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--64 years, 641 ft^3/s, 25.01 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 132,000 ft^3/s, Mar. 21, 1955, gage height, 27.25 ft, site and datum then in use, present site and datum, 28.4 ft from high water profile, rating curve extended above 50,000 ft^3/s on basis of slope-area measurement made 1,500 ft downstream; minimum, 38 ft^3/s, Aug. 31, 1943.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1902 reached a stage about 3 ft higher than that of Mar. 21, 1955, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,500 ft^3/s, and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 12	0930	16,900	15.95	Mar. 5	2020	15,100	15.87
Jan. 15	0600	6,580	10.86	Apr. 4	2300	14,500	15.61
Feb. 21	1100	*22,100	*18.13				

Minimum discharge, 88 ft^3/s, Oct. 13, 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	178	127	369	3220	634	1590	502	481	308	843	e350	226
2	313	119	319	1550	582	1270	461	405	373	2320	310	247
3	224	113	282	1140	558	1080	644	370	576	3900	289	222
4	146	157	259	887	538	984	7520	403	400	4260	270	198
5	117	1670	236	693	565	8650	5990	633	377	1870	260	188
6	105	655	217	703	600	6980	2120	675	358	1670	264	183
7	102	359	209	645	578	2350	2160	546	320	1460	297	182
8	99	261	199	961	541	1540	1750	480	402	1850	260	182
9	97	212	189	931	501	1220	1460	466	837	1110	244	180
10	99	197	187	800	470	1020	1230	505	579	904	237	189
11	97	235	179	2370	453	902	1060	425	476	1240	234	188
12	94	201	169	14600	430	810	939	388	507	1280	228	182
13	91	244	163	9430	411	738	849	366	837	1040	221	176
14	90	250	160	3580	741	682	782	360	1480	811	218	334
15	92	211	156	4860	1960	625	765	427	3080	665	214	290
16	97	208	149	2200	1460	561	702	365	2670	593	213	347
17	111	340	145	1490	1460	520	647	331	1480	549	223	248
18	116	286	143	1140	3560	504	605	311	1080	480	257	210
19	120	261	143	933	2170	478	572	306	2170	471	225	193
20	115	1380	143	793	2430	563	541	1160	2120	471	212	183
21	112	946	255	680	15100	600	517	1280	1510	411	206	178
22	111	555	480	603	3340	529	496	603	2250	392	200	186
23	105	413	931	544	1810	513	478	816	1310	426	195	237
24	107	338	1200	487	1350	503	459	603	913	376	198	225
25	105	292	1330	446	1110	485	440	471	733	390	356	263
26	100	310	882	442	960	465	426	403	617	344	240	410
27	97	1090	655	465	1420	449	413	671	533	319	230	291
28	210	742	1310	406	2380	434	401	547	962	304	215	231
29	275	545	1500	424	---	424	389	429	1190	295	201	254
30	168	440	1040	626	---	461	386	374	800	e285	195	1030
31	137	---	1340	671	---	524	---	335	---	e500	273	---
TOTAL	4030	13157	14939	58720	48112	38454	35704	15935	31248	31829	7535	7653
MEAN	130	439	482	1894	1718	1240	1190	514	1042	1027	243	255
MAX	313	1670	1500	14600	15100	8650	7520	1280	3080	4260	356	1030
MIN	90	113	143	406	411	424	386	306	308	285	195	176
CFSM	.37	1.26	1.38	5.44	4.94	3.56	3.42	1.48	2.99	2.95	.70	.73
IN.	.43	1.41	1.60	6.28	5.14	4.11	3.82	1.70	3.34	3.40	.81	.82

CAL YR 1988 TOTAL 131579 MEAN 360 MAX 8260 MIN 65 CFSM 1.03 IN. 14.07
WTR YR 1989 TOTAL 307316 MEAN 842 MAX 15100 MIN 90 CFSM 2.42 IN. 32.85

e Estimated

03593005 TENNESSEE RIVER AT PICKWICK LANDING DAM (LL), TN
(National stream-quality accounting network station)

LOCATION.--Lat 35°03'54", long 88°15'08", Hardin County, Hydrologic Unit 06040001, at downstream end of lockwall in lower pool at Pickwick Landing Dam, 16.8 mi upstream from Savannah, and at mile 206.7.

DRAINAGE AREA.--32,820 mi^2, approximately.

PERIOD OF RECORD.--Water years 1975 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1976 to September 1981.
WATER TEMPERATURE: April 1976 to September 1981.

REMARKS.--Flow regulated by Pickwick Landing Dam and many other reservoirs above the station. Continuous discharge records are published under station 03593500 Tennessee River at Savannah, TN.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 326 microsiemens, Sept. 18, 19, 1978; minimum, 116 microsiemens, Apr. 27, 1979.
WATER TEMPERATURES: Maximum, 31.5°C, July 7, 1978; minimum, 2.0°C, Feb. 8, 9, 1978.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV											
03...	1115	24900	190	7.89	15.5	761	3.5	8.8	88	35	44
FEB											
02...	1300	50400	180	7.67	10.5	766	7.4	11.2	100	K16	K1
APR											
20...	1145	28600	155	8.10	15.0	767	3.4	8.9	88	K4	--
JUL											
13...	1045	94900	125	7.35	26.5	764	6.7	4.7	58	1000	--

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV											
03...	77	22	5.4	14	28	0.7	2.1	61	20	14	0.10
FEB											
02...	66	21	3.3	6.0	16	0.3	1.6	43	16	7.4	0.10
APR											
20...	66	21	3.3	4.4	12	0.2	1.3	54	11	5.1	0.10
JUL											
13...	61	19	3.2	3.5	11	0.2	1.5	--	10	4.3	0.10

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)
NOV											
03...	3.9	129	123	0.18	8670	0.300	0.010	0.03	0.310	0.070	0.01
FEB											
02...	4.9	96	95	0.13	13100	--	<0.010	--	0.510	0.070	0.08
APR											
20...	4.2	91	86	0.12	7030	0.400	0.010	0.03	0.410	0.030	0.04
JUL											
13...	5.3	69	80	0.09	17700	0.290	0.020	0.07	0.310	0.030	0.03

K--Results based on non-ideal colony count.

03593005 TENNESSEE RIVER AT PICKWICK LANDING DAM (LL), TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
NOV 03...	0.010	0.53	0.60	0.050	0.050	0.040	0.12	<10	1	27
FEB 02...	0.060	0.33	0.40	0.060	0.040	0.030	0.09	100	<1	24
APR 20...	0.030	0.37	0.40	0.060	0.040	0.020	0.06	20	<1	22
JUL 13...	0.020	0.27	0.30	0.040	0.030	0.020	0.06	20	1	23

DATE	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)
NOV 03...	<0.5	<1	<1	<3	4	9	<5	<4	2	<0.1
FEB 02...	<0.5	<1	<1	<3	3	72	<5	<4	18	<0.1
APR 20...	<0.5	<1	<1	<3	1	29	<5	<4	5	0.1
JUL 13...	<0.5	<1	1	<3	4	20	<1	<4	5	<0.1

DATE	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 03...	<10	--	<1	<1.0	79	<6	4	8	538	--
FEB 02...	<10	2	<1	<1.0	60	<6	6	5	680	--
APR 20...	<10	2	<1	<1.0	56	<6	4	3	263	91
JUL 13...	<10	2	<1	<1.0	100	<6	6	15	3840	62

03593500 TENNESSEE RIVER AT SAVANNAH, TN

LOCATION.--Lat 35°13'29", long 88°15'26", Hardin County, Hydrologic Unit 06040001, on right bank at upstream side of bridge on U.S. Highway 64, at Savannah, 16.8 mi downstream from Pickwick Landing Dam, and at mile 189.9.

DRAINAGE AREA.--33,140 mi^2 approximately.

PERIOD OF RECORD.--September 1930 to current year. Gage-height records collected in this vicinity since June 1905, are in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 853: Drainage area. WSP 1306: 1936 (monthly runoff). WSP 2110: 1966. WRD Tenn. 1974: 1973. WRD TN-85-1: 1973.

GAGE.--Water-stage recorder. Datum of gage is 300.00 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 7, 1945, at datum 41.61 ft higher. Oct. 1, 1948, to Apr. 13, 1978, auxiliary water-stage recorder on downstream end of lockwall in lower pool at Pickwick Landing Dam. Since Apr. 13, 1978, auxiliary water-stage recorder over the tailwater elevation well adjacent to the powerhouse which is an integral part of Pickwick Landing Dam, 16.8 mi upstream from base gage at same datum. Apr. 5, 1937, to Jan. 31, 1939, auxiliary nonrecording gage 4.0 mi downstream and Feb. 1, 1939, to Sept. 30, 1948, water-stage recorder 4.3 mi downstream from base gage at same datum.

REMARKS.--No estimated daily discharges. Records fair. Slight regulation since 1924 by Wilson Lake and increasing regulation since 1936 as other reservoirs have been built above station (see p. 165 and Water Resources Data for adjoining states).

AVERAGE DISCHARGE.--59 years, 53,714 ft^3/s unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 507,000 ft^3/s, Mar. 18, 1973; maximum gage height, 96.11 ft, Mar. 20, 1973; minimum discharge 60 ft^3/s, Apr. 23, 1966; minimum gage height, 41.20 ft present datum, Oct. 20, 1931; minimum gage height since Kentucky Lake reached minimum pool elevation on Apr. 7, 1945, 53.40 ft, Jan. 12, 1948.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1867, 101.2 ft, Mar. 21, 1897, present datum, from floodmarks, discharge, 450,000 ft^3/s, from rating curve extended above 320,000 ft^3/s. Flood of Jan. 2, 1927, reached a stage of 92.7 ft present datum, discharge, 349,000 ft^3/s. Minimum stage since 1905, 38.8 ft present datum, Sept. 8, 1925.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 249,000 ft^3/s, Jan. 14; maximum gage height, 83.39 ft, Mar. 9; minimum daily discharge, 7,670 ft^3/s, Oct. 22; minimum gage height 54.73 ft, Dec. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8320	31400	64700	50000	49700	167000	43700	11800	34500	108000	50000	52200
2	8630	27900	64100	70400	44500	168000	37100	15500	37100	122000	54700	48300
3	26100	13100	39400	80300	58900	153000	44300	21000	32300	129000	54800	52100
4	28900	10800	26400	79800	51200	134000	51700	42700	39000	125000	55700	58300
5	30400	10500	47000	80300	29600	153000	74100	56100	30700	125000	55400	56600
6	35000	19600	37300	80700	48700	185000	79400	33200	31200	120000	48000	51600
7	35800	40100	34700	80800	65000	189000	88200	50300	49300	115000	46900	51900
8	8840	40200	37400	80800	65900	187000	100000	64200	53000	115000	36900	53100
9	10000	45300	55200	80800	66300	176000	99400	74600	53800	112000	34600	43800
10	18000	37700	35400	84000	66400	153000	97500	56900	53800	107000	34100	42100
11	18100	37300	32300	100000	66800	130000	97900	50300	52800	115000	32800	50900
12	21100	31900	48500	141000	66600	123000	91600	53000	53400	106000	35300	50000
13	27900	20700	50600	207000	65900	108000	69600	54000	69800	95300	33400	44100
14	17500	44400	26900	233000	71700	94100	67200	46800	102000	92000	40200	43500
15	8370	19200	19800	214000	81300	79000	50100	47200	113000	88100	42700	55500
16	8560	21500	49700	207000	81500	66600	22800	52000	142000	87700	44200	56000
17	16800	47400	27500	187000	75100	62900	32000	63100	153000	71900	42100	56100
18	20300	47700	10600	158000	68600	48000	37000	53500	143000	69100	39900	57500
19	24900	23400	26500	140000	79200	21500	38800	55400	168000	68700	41900	58000
20	28000	40100	10200	125000	118000	38600	35400	49500	180000	69000	40400	43700
21	25900	63800	11000	116000	150000	48500	35100	36200	179000	68500	45100	61900
22	7670	63300	10600	111000	162000	51800	15600	46900	186000	60600	46000	61700
23	7950	62300	37600	83200	173000	48400	11100	45700	199000	40300	47500	59600
24	24700	61300	40300	62500	168000	49600	37600	51200	192000	49700	44000	56900
25	24000	60800	47700	61300	148000	49700	38400	46500	170000	53000	41100	57100
26	31900	58600	57700	58100	142000	49600	36900	52300	132000	56300	42800	63000
27	12500	67600	62100	60400	137000	50100	21300	51600	112000	58100	43100	67500
28	28800	56400	64700	63200	150000	49300	24700	34600	112000	55700	46400	67400
29	8150	64900	66500	65200	---	62400	8970	45200	111000	48000	48900	69800
30	8570	64700	56600	63800	---	62000	10600	40800	108000	48000	49300	85600
31	23900	---	44900	60100	---	46700	---	38200	---	50100	52400	---
TOTAL	605560	1233900	1243900	3284700	2550900	3004800	1498070	1440300	3092700	2629100	1370600	1675800
MEAN	19530	41130	40130	106000	91100	96930	49940	46460	103100	84810	44210	55860
MAX	35800	67600	66500	233000	173000	189000	100000	74600	199000	129000	55700	85600
MIN	7670	10500	10200	50000	29600	21500	8970	11800	30700	40300	32800	42100

CAL YR 1988 TOTAL 9262990 MEAN 25310 MAX 124000 MIN 3860
WTR YR 1989 TOTAL 23630330 MEAN 64740 MAX 233000 MIN 7670

03594164 BANJO BRANCH NEAR WAYNESBORO, TN

LOCATION.--Lat 35°15'26", long 47°48'22", Wayne County, Hydrologic Unit 06040001, on left bank beside Banjo Branch County road, 5.0 mi. southwest of Waynesboro, and at mile 1.6.

DRAINAGE AREA.--2.14 mi^2.

PERIOD OF RECORD.--May to November 1988, April to September 1989 (discontinued).

GAGE.--Water-stage recorder.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 112 ft^3/s, Apr. 4, 1989, gage height, 2.69 ft, from rating curve extended above 6.8 ft^3/s on basis of step-backwater computations; minimum 0.10 ft^3/s, July 7, Aug. 8, 1988.

EXTREMES FOR CURRENT PERIOD.--October to November 1988; April to September 1989: Maximum discharge during period, 112 ft^3/s, Apr. 4, gage height 2.69 ft from rating curve extended as explained above; minimum 0.19 ft^3/s, Nov. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.56	.26					1.1	.84	.50	2.8	.89	4.2
2	.40	.26					1.0	.67	.57	14	.77	5.2
3	.28	.23					2.2	.66	.53	7.5	.61	2.1
4	.25	.81					44	1.2	.52	3.7	.58	1.2
5	.23	1.1					9.7	2.8	.58	2.1	.56	.87
6	.23	.40					5.4	1.5	.55	1.4	.93	.71
7	.24	.33					5.8	.96	.50	3.6	.73	.67
8	.23	.34					4.7	.86	.54	4.0	.57	.67
9	.22	.30					3.4	1.0	.57	1.8	.52	.67
10	.25	1.1					2.4	1.0	.48	2.2	.52	.70
11	.27	.46					1.8	.81	.78	7.5	.52	.67
12	.26	.44					1.5	.73	.71	8.8	.50	.65
13	.28	.59					1.4	.71	2.9	4.4	.50	1.0
14	.28	.39					1.3	.92	4.2	2.2	.51	1.4
15	.32	.35					1.3	1.2	22	1.4	.50	.74
16	.39	1.0					1.1	.76	5.6	1.2	.50	.71
17	.36	.57					1.1	.69	2.1	1.0	1.2	.68
18	.46	.41					1.0	.64	1.2	.83	.71	.67
19	.53	1.4					.98	.65	1.3	1.2	.57	.63
20	.52	6.3					.91	.70	.99	.87	.54	.63
21	.62	.94					.88	.70	.81	.75	.51	.64
22	.59	.50					.86	.63	.69	.68	.52	.89
23	.72	.41					.84	.74	.60	.66	.56	.88
24	.74	.36					.79	.59	.56	.78	.58	.66
25	.77	.36					.77	.57	.52	.76	.64	1.1
26	.86	15					.74	.56	.49	.62	.77	.90
27	.93	6.8					.73	1.7	.47	.58	.62	.72
28	1.3	2.0					.72	.66	4.4	.58	.54	.89
29	.35	.94					.68	.58	3.1	.57	.53	1.6
30	.26	.68					.74	.53	3.1	.55	3.4	7.9
31	.26	---					---	.51	---	.62	2.0	---
TOTAL	13.96	45.03					99.84	27.07	61.86	79.65	23.40	40.95
MEAN	.45	1.50					3.33	.87	2.06	2.57	.75	1.36
MAX	1.3	15					44	2.8	22	14	3.4	7.9
MIN	.22	.23					.68	.51	.47	.55	.50	.63
CFSM	.21	.70					1.56	.41	.96	1.20	.35	.64
IN.	.24	.78					1.74	.47	1.08	1.38	.41	.71

03598000 DUCK RIVER NEAR SHELBYVILLE, TN

LOCATION.--Lat 35°28'49", long 86°29'57", Bedford County, Hydrologic Unit 06040002, on right bank 150 ft downstream from Sims Bridge, 2.1 mi upstream from Sugar Creek, 2.2 mi west of Shelbyville, 2.9 mi downstream from Flat Creek, and at mile 216.2.

DRAINAGE AREA.--481 mi^2.

PERIOD OF RECORD.--October 1933 to current year. Prior to April 1934, monthly discharge only, published in WSP 1306.

REVISED RECORDS.--WSP 783: 1934. WSP 853: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 683.51 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 2, 1966, at datum 2.0 ft higher.

REMARKS.--No estimated daily discharges. Records good. Prior to 1948, diurnal fluctuation caused by powerplant upstream. Flow regulated by Normandy Reservoir (station 03596460) since January 1976. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--56 years, 806 ft^3/s, 22.76 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,900 ft^3/s, Feb. 13, 1948, gage height, 38.40 ft, present datum, from floodmarks, from rating curve extended above 35,000 ft^3/s on basis of slope-area measurement of peak flow; minimum, 5.0 ft^3/s, Aug. 23, 1936; minimum daily, 20 ft^3/s, Sept. 2, 1945.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1929 reached a stage of 39.6 ft present datum, discharge, about 70,000 ft^3/s, from high water profile by Tennessee Valley Authority. Flood in March 1902 reached a stage about 2.0 ft higher than that in March 1929, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,800 ft^3/s at 0330 hours Mar. 6, gage height, 25.41 ft; minimum, 99 ft^3/s, Dec. 20, 21; minimum daily, 100 ft^3/s, Dec. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	170	173	961	4670	239	3240	898	280	189	4320	328	204
2	192	161	864	2380	222	2730	660	254	1180	4050	334	183
3	185	156	290	1880	214	1600	925	190	1690	3530	273	187
4	180	188	196	1560	228	1410	4960	160	635	2130	244	181
5	171	898	170	1360	367	7820	5620	575	457	1640	223	175
6	163	506	155	1350	640	12600	3470	643	562	987	202	174
7	159	248	147	915	576	4290	4190	510	2300	870	199	172
8	158	173	139	1980	510	3180	3020	426	2460	853	184	191
9	158	144	136	1590	435	2720	2530	399	8110	624	167	200
10	157	145	135	1660	372	2400	2170	697	4260	534	163	215
11	155	155	126	2580	345	1240	1970	831	2850	3340	153	247
12	154	144	120	11300	313	1070	1700	732	2330	4100	156	298
13	163	143	119	10000	282	987	581	413	1010	2030	162	226
14	171	137	112	5400	430	923	463	358	823	1560	162	623
15	172	132	112	5710	1910	573	451	336	2540	958	174	887
16	175	154	106	4050	1760	461	399	310	4740	833	187	550
17	175	270	103	3280	2360	423	333	294	2440	766	189	380
18	173	283	103	2870	5330	291	294	280	1790	521	186	294
19	173	314	101	2580	3180	262	268	262	4490	2500	185	253
20	173	3070	100	2210	3130	263	247	209	3900	2830	175	231
21	164	1360	143	1070	11200	1330	227	209	2960	2850	172	196
22	148	912	426	966	5520	1890	213	154	2860	2140	196	274
23	147	738	1780	882	3370	1610	200	150	2270	1560	199	2550
24	147	651	2660	505	2790	768	187	181	1970	1540	202	1370
25	145	597	2430	454	2480	625	175	152	1700	1270	221	1290
26	145	594	1540	435	2280	538	166	150	1020	1070	220	1950
27	145	1370	1230	434	2790	468	159	235	511	478	264	1320
28	246	1340	1770	255	3550	413	151	316	443	464	230	985
29	177	1220	1810	200	---	371	145	236	460	478	209	540
30	177	1070	1420	240	---	463	145	209	1590	429	197	1310
31	176	---	2310	276	---	1150	---	196	---	515	198	---
TOTAL	5194	17446	21814	75042	56823	58109	36917	10347	64540	51770	6354	17656
MEAN	168	582	704	2421	2029	1874	1231	334	2151	1670	205	589
MAX	246	3070	2660	11300	11200	12600	5620	831	8110	4320	334	2550
MIN	145	132	100	200	214	262	145	150	189	429	153	172
(†)	-3300	-600	-300	+900	+3700	+6100	+5000	+1400	-400	-1500	-300	+1200
MEAN ‡	61.1	562	694	2450	2162	2071	1397	379	2138	1622	195	629
CFSM ‡	.13	1.17	1.44	5.09	4.49	4.31	2.90	.79	4.44	3.37	.41	1.31
IN. ‡	.15	1.30	1.66	5.87	4.68	4.96	3.24	.91	4.96	3.89	.47	1.46

CAL YR 1988 TOTAL 137266 MEAN 375 MAX 6670 MIN 100 MEAN‡ 384 CFSM‡ .80 IN.‡ 10.87
WTR YR 1989 TOTAL 422012 MEAN 1156 MAX 12600 MIN 100 MEAN‡ 1189 CFSM‡ 2.47 IN.‡ 33.55

† Change in contents, in cfs-days, in Normandy Lake.
‡ Adjusted for change in contents.
NOTE.--Contents (cfs-days) for adjustments furnished by Tennessee Valley Authority.

03599500 DUCK RIVER AT COLUMBIA, TN

LOCATION.--Lat 35°37'05", long 87°01'56", Maury County, Hydrologic Unit 06040003, on right bank 4 ft downstream from bridge on former U.S. Highway 31, 2 blocks north of public square in Columbia, 0.7 mi downstream from Columbia hydroelectric plant, 2.4 mi upstream from Rutherford Creek, and at mile 132.8.

DRAINAGE AREA.--1,208 mi^2.

PERIOD OF RECORD.--October 1904 to December 1908, April 1920 to current year. Monthly discharge only for some periods, published in WSP 1306. Gage-height records collected at same site, 1887-95, 1911 (fragmentary), 1947-71, published in reports of U.S. Weather Bureau.

REVISED RECORD.--WSP 783: 1929(M). WSP 853: Drainage area. WSP 1306: 1905-9, 1920-22, 1923(M).

GAGE.--Water-stage recorder. Datum of gage is 535.33 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 9, 1925, nonrecording gages near this site; all gages at datum 2.37 ft higher prior to Oct. 1, 1933.

REMARKS.--Flow regulated by Normandy Lake (station 03596460) since Jan. 1976.

COOPERATION.--Records of daily discharge since January 1982 furnished by Tennessee Valley Authority.

AVERAGE DISCHARGE.--72 years, (water years 1905-8, 1921-88), 1,977 ft^3/s, 22.22 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,500 ft^3/s, March 17, 1973; maximum gage height, 51.75 ft February 14, 1948; no flow October 22, 1922.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 30, 1902, reached a stage of 48.0 ft, present datum, discharge, 50,700 ft^3/s.

NOTE.--Records for 1989 water year were not available in time for inclusion in this report. These records will be published in a subsequent report.

03600085 CARTERS CREEK AT PETTY LANE NEAR CARTERS CREEK, TN

LOCATION.--Lat 35°43'39", long 86°59'19", Maury County, Hydrologic Unit 06040003, at bridge on Petty Lane, 0.8 mile north of Carters Creek, and at mile 4.7.

DRAINAGE AREA.--16.6 mi^2.

PERIOD OF RECORD.--October 1986 to current year

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	PH (STAND-ARD UNITS)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT									
13...	0900	0.65	440	9.0	7.85	760	8.5	74	K1400
JAN									
09...	1030	47	265	9.0	7.80	758	11.8	103	300
APR									
18...	1300	16	320	18.0	8.35	750	13.4	144	140
JUL									
12...	0830	25	370	20.0	8.10	750	8.1	91	550

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)
OCT									
13...	K920	<1	<100	1	2	7	<5	<0.10	3
JAN									
09...	180	<1	<100	1	2	7	<5	<0.10	1
APR									
18...	78	<1	<100	<1	2	1	<5	<0.10	3
JUL									
12...	300	--	--	--	--	--	--	--	--

DATE	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT								
13...	<1	<1	40	<0.010	--	4	0.01	80
JAN								
09...	<1	<1	10	<0.010	<1	9	1.1	89
APR								
18...	<1	<1	<10	<0.010	<1	1	0.05	85
JUL								
12...	--	--	--	--	1	13	0.88	66

K--Results based on non-ideal colony count.

03600086 CARTERS CREEK TRIBUTARY NEAR CARTERS CREEK, TN

LOCATION.--Lat 35°43'34", long 86°59'19", Maury County, Hydrologic Unit 06040003, at culvert on Carters Creek Road, 0.7 mile north of Carters Creek.

DRAINAGE AREA.--2.94 mi^2.

PERIOD OF RECORD.--October 1986 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	PH (STAND-ARD UNITS)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT									
13...	1030	0.75	>1000	13.0	7.72	760	8.9	85	64
JAN									
09...	1200	7.0	600	9.5	7.95	758	10.7	94	K36
APR									
18...	1200	3.0	580	18.0	8.30	750	12.4	133	K5
JUL									
12...	1030	1.8	710	23.5	7.70	750	7.3	88	140

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)
OCT									
13...	440	<1	<100	<1	2	80	14	0.10	3
JAN									
09...	77	<1	100	<1	3	6	<5	0.10	1
APR									
18...	26	<1	<100	1	2	3	<5	<0.10	3
JUL									
12...	360	<1	100	<1	2	1	<1	<0.10	<1

DATE	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT								
13...	<1	<1	180	<0.010	<1	6	0.01	81
JAN								
09...	<1	<1	<10	<0.010	<1	19	0.36	97
APR								
18...	<1	1	<10	<0.010	<1	3	0.03	62
JUL								
12...	<1	<1	<10	<0.010	2	10	0.05	88

K--Results based on non-ideal colony count.

03600088 CARTERS CREEK AT BUTLER ROAD AT CARTERS CREEK, TN

LOCATION.--Lat 35°43'02", long 86°59'45", Maury County, Hydrologic Unit 06040003, on left bank at end of Butler road bridge, 0.1 mi west of Carters Creek, 0.3 mi upstream from Terrell Branch, 3.7 mi upstream from Rutherford Creek, and at mile 3.7.

DRAINAGE AREA.--20.1 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1986 to current year. Occasional low-flow measurements, water year 1986.

GAGE.--Water-stage recorder, crest-stage gage and concrete weir. Datum of gage is 605.94 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,640 ft^3/s, Nov. 26, 1986, gage height, 13.67 ft; minimum, 0.11 ft^3/s, Aug. 15, 16, 1987, June 26, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 19	1230	1,570	9.91	Feb. 21	0215	2,280	12.37
Nov. 20	0400	*2,310	*12.46	Mar. 5	0715	2,300	12.44
Dec. 23	0245	1,840	10.80	May 27	0300	1,450	9.51
Dec. 24	1000	1,790	10.63	June 15	0500	1,790	10.65
Jan. 12	1245	2,110	11.72	July 5	1745	1,550	9.83
Feb. 14	0915	2,190	11.98	Sept. 30	1345	1,380	9.27

Minimum discharge, 0.73 ft^3/s, Aug. 25, 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	1.3	29	109	32	61	39	9.9	8.5	18	18	9.7
2	7.2	1.2	25	76	29	54	33	8.0	8.8	101	11	7.9
3	4.6	1.0	22	60	56	48	68	6.9	8.6	185	7.3	5.0
4	3.5	24	19	48	48	46	301	10	7.7	102	5.3	3.8
5	3.0	86	16	42	45	1060	113	27	7.0	227	4.3	3.1
6	2.5	39	15	69	40	276	80	20	6.4	108	4.5	2.6
7	2.5	25	14	53	37	130	112	12	5.6	133	4.2	2.3
8	1.9	17	13	81	33	94	87	9.8	12	80	3.4	2.1
9	1.9	12	12	56	29	73	70	19	48	53	2.9	1.8
10	1.6	13	11	46	27	60	56	17	20	43	2.5	1.7
11	1.5	9.6	10	280	26	50	47	11	12	38	2.5	1.6
12	1.4	8.1	9.6	691	23	43	41	8.6	22	31	2.1	1.5
13	1.3	8.7	9.4	228	23	38	37	7.5	64	48	1.8	1.4
14	1.2	7.0	8.7	226	579	36	34	6.9	65	29	1.7	2.9
15	1.1	6.7	8.1	153	224	32	33	6.9	458	21	1.5	21
16	1.2	26	7.3	102	152	27	29	6.2	102	18	1.4	10
17	1.4	27	6.9	78	226	26	26	5.7	61	15	1.3	5.2
18	1.2	17	6.3	62	221	32	23	5.5	44	12	1.3	3.6
19	1.2	461	6.3	52	127	27	20	5.0	40	18	1.2	3.0
20	1.1	559	6.0	44	289	32	18	11	37	15	1.1	2.5
21	1.4	97	89	37	679	67	16	7.0	30	20	1.0	2.2
22	1.3	64	58	33	151	45	15	5.7	24	12	.95	40
23	1.1	49	342	30	103	39	14	13	19	9.7	.95	53
24	1.4	40	351	28	78	34	12	7.5	15	10	.83	20
25	1.3	34	106	25	64	30	11	5.7	13	8.2	.78	21
26	1.2	94	68	29	55	26	10	8.5	11	6.9	11	22
27	1.0	84	55	27	54	23	9.7	219	28	6.0	8.1	15
28	6.2	53	184	23	61	21	8.9	36	37	5.3	3.0	11
29	2.8	41	89	31	---	21	7.8	21	26	4.7	2.0	18
30	1.8	35	73	39	---	28	7.5	14	18	12	64	314
31	1.6	---	113	36	---	60	---	10	---	22	17	---
TOTAL	67.8	1940.6	1782.6	2894	3511	2639	1378.9	561.3	1258.6	1411.8	188.91	608.9
MEAN	2.19	64.7	57.5	93.4	125	85.1	46.0	18.1	42.0	45.5	6.09	20.3
MAX	7.2	559	351	691	679	1060	301	219	458	227	64	314
MIN	1.0	1.0	6.0	23	23	21	7.5	5.0	5.6	4.7	.78	1.4
CFSM	.11	3.22	2.86	4.64	6.24	4.24	2.29	.90	2.09	2.27	.30	1.01
IN.	.13	3.59	3.30	5.36	6.50	4.88	2.55	1.04	2.33	2.61	.35	1.13

CAL YR 1988 TOTAL 8561.57 MEAN 23.4 MAX 850 MIN .12 CFSM 1.16 IN. 15.85
WTR YR 1989 TOTAL 18243.41 MEAN 50.0 MAX 1060 MIN .78 CFSM 2.49 IN. 33.76

03600088 CARTERS CREEK AT BUTLER RD AT CARTERS CREEK, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1986 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	PH (STAND-ARD UNITS)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT 13...	1215	1.3	725	11.0	7.80	760	9.9	90	88
JAN 09...	1430	54	360	9.0	7.90	756	11.9	104	210
APR 18...	1100	22	360	15.0	8.15	750	10.8	109	64
JUL 12...	1200	31	400	22.0	8.15	749	8.2	96	410

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)
OCT 13...	230	<1	<100	<1	1	5	<5	<0.10	<1
JAN 09...	140	<1	<100	<1	2	2	<5	<0.10	<1
APR 18...	48	<1	100	<1	2	2	<5	<0.10	1
JUL 12...	270	<1	100	<1	2	2	1	<0.10	1

DATE	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 13...	<1	<1	<10	<0.010	<1	10	0.03	75
JAN 09...	<1	<1	<10	<0.010	<1	8	1.1	86
APR 18...	<1	<1	<10	<0.010	<1	5	0.32	80
JUL 12...	<1	<1	<10	<0.010	1	2	0.17	95

03600500 BIG BIGBY CREEK AT SANDY HOOK, TN

LOCATION.--Lat 35°29'19", long 87°13'59", Maury County, Hydrologic Unit 06040003, on right bank 45 ft west of Louisville and Nashville Railroad track, 0.2 mi downstream from bridge on U.S. Highway 43, 0.4 mi northeast of Sandy Hook, 0.5 mi upstream from Dry Creek, 3.5 mi southwest of Mount Pleasant, and at mile 17.9.

DRAINAGE AREA.--17.5 mi^2.

PERIOD OF RECORD.--September 1953 to November 1987, July 1988 to September 1989 (discontinued).

REVISED RECORDS.--WRD TN 1974: 1954(P), 1955, 1956-57(P), 1958(M), 1961(M), 1962-65(P), 1966 (M), 1967-68(P), 1969(M), 1970(P), 1971(M), 1972-73(P).

GAGE.--Water-stage recorder. Datum of gage is 670.44 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good above 10 ft^3/s and fair below. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--35 years (water years 1954-1987, 1989), 28.1 ft^3/s, 21.81 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,700 ft^3/s, Mar. 15, 1973, gage height, 11.55 ft, from rating curve extended above 1,400 ft^3/s on basis of contracted-opening measurement of peak flow; minimum, 1.0 ft^3/s, Sept. 10, 1958, and July 9, 1959, caused by removal of gravel 0.2 mi upstream; minimum natural discharge, 1.1 ft^3/s, Aug. 5, 6, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharges of 600 ft^3/s, and maximum (*).

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 11	2145	908	5.57	Mar. 5	0715	1,080	5.97
Jan. 12	1330	*1,670	*7.06	May 20	0800	760	5.16
Feb. 21	0200	1,490	6.77	July 2	1730	713	5.03

Minimum daily discharge, 2.6 ft^3/s, Oct. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	3.3	11	85	25	70	55	37	15	26	13	8.2
2	6.5	3.1	9.9	41	22	59	51	26	20	235	12	9.6
3	5.1	3.1	8.9	27	28	50	120	23	18	275	12	7.9
4	4.4	41	8.0	20	28	46	329	26	16	126	11	7.4
5	3.9	43	7.2	17	30	540	163	36	17	91	10	7.0
6	3.6	13	6.8	21	29	215	100	38	17	87	10	6.8
7	3.4	7.9	6.5	19	26	96	131	30	16	58	9.8	6.5
8	3.1	6.4	6.0	54	23	68	101	26	19	44	9.2	6.3
9	3.1	5.6	5.8	34	20	55	80	26	19	35	9.0	6.2
10	3.1	6.2	5.6	26	19	48	66	23	17	31	8.9	7.0
11	3.0	5.7	5.5	248	19	45	57	20	16	32	8.8	6.6
12	2.8	5.8	5.0	687	17	42	51	18	20	28	8.5	6.4
13	2.8	7.8	4.8	217	17	40	46	16	43	26	8.4	6.8
14	2.8	6.9	4.6	136	105	38	43	15	44	23	8.2	20
15	2.7	6.9	4.5	122	153	36	42	15	149	20	8.1	14
16	2.6	16	4.5	67	85	34	39	13	73	21	8.1	12
17	2.9	16	4.2	46	138	33	36	12	44	19	8.2	9.3
18	2.8	12	4.2	35	209	34	34	12	33	17	8.0	8.2
19	2.9	19	4.2	29	92	33	34	12	38	28	7.5	7.5
20	2.9	123	4.2	24	148	38	32	180	36	22	7.4	7.1
21	3.6	29	27	21	493	41	30	65	32	20	7.2	6.8
22	3.4	18	21	19	112	38	29	40	35	18	7.1	8.1
23	3.7	14	117	18	69	38	27	32	30	17	7.1	8.5
24	4.1	12	62	16	52	37	26	26	25	16	7.0	7.4
25	4.1	10	37	15	44	37	25	23	22	16	7.3	12
26	4.0	38	23	17	40	37	24	21	20	14	8.9	13
27	3.7	47	17	17	66	36	23	25	21	14	8.6	9.5
28	6.5	24	88	16	82	36	22	20	30	13	7.0	8.6
29	4.7	17	45	17	---	37	21	18	28	12	6.8	14
30	4.1	14	33	29	---	39	29	17	26	12	11	111
31	3.6	---	74	27	---	65	---	16	---	12	8.7	---
TOTAL	115.3	574.7	665.4	2167	2191	2061	1866	907	939	1408	272.8	369.7
MEAN	3.72	19.2	21.5	69.9	78.2	66.5	62.2	29.3	31.3	45.4	8.80	12.3
MAX	6.5	123	117	687	493	540	329	180	149	275	13	111
MIN	2.6	3.1	4.2	15	17	33	21	12	15	12	6.8	6.2
CFSM	.21	1.09	1.23	3.99	4.47	3.80	3.55	1.67	1.79	2.60	.50	.70
IN.	.25	1.22	1.41	4.61	4.66	4.38	3.97	1.93	2.00	2.99	.58	.79

WTR YR 1989 TOTAL 13536.9 MEAN 37.1 MAX 687 MIN 2.6 CFSM 2.12 IN. 28.78

03602219 PINEY RIVER AT CEDAR HILL, TN

LOCATION.--Lat 35°59'43", long 87°26'22", Dickson County, Hydrologic Unit 06040003, on right bank 300 ft upstream of Interstate Highway 40 bridge, 0.2 mi southeast of Cedar Hill, 0.5 mi upstream from Double Branch, and at mile 22.

DRAINAGE AREA.--46.6 mi^2.

PERIOD OF RECORD.--October 1987 to current year, discharge for stage of 7.00 ft and below only.

GAGE.--Water-stage encoder. Datum of gage is 552.20 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. The City of Dickson diverts water for municipal water supply at confluence of West Piney River, 1.6 mi upstream from gage. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, not determined; maximum gage height, 15.74 ft, Feb . 20, 1989; minimum, 8.4 ft^3/s, Oct. 15, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, not determined; maximum gage height, 15.74 ft, Feb. 20, minimum 10 ft^3/s, Oct. 12, 13, 21, 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	12	29	113	89	116	270	54	72	68	38	32
2	15	12	26	90	83	109	197	50	---	243	37	30
3	14	12	25	79	114	104	335	48	115	250	35	25
4	13	13	24	69	112	102	---	52	91	235	32	23
5	12	20	23	64	102	---	435	62	94	178	31	24
6	12	17	22	80	91	---	278	58	104	139	32	22
7	12	15	22	79	84	429	272	54	90	110	31	20
8	12	14	21	226	78	294	254	52	---	93	28	19
9	12	14	20	122	72	231	216	53	309	90	26	19
10	12	17	20	94	69	195	181	50	161	102	26	24
11	11	16	20	---	67	173	155	46	119	88	25	22
12	11	15	19	---	65	152	137	45	---	83	24	21
13	11	15	20	---	66	138	123	44	---	80	24	19
14	11	14	20	---	---	126	112	43	---	71	24	45
15	11	13	19	---	---	114	103	42	---	65	25	30
16	11	20	19	269	484	102	95	40	---	60	24	26
17	11	18	19	182	396	95	88	39	276	54	26	26
18	12	16	19	142	382	96	85	38	205	51	25	23
19	12	40	17	116	279	88	78	37	178	58	25	22
20	12	142	18	101	---	108	71	45	148	49	24	21
21	11	45	140	90	---	283	68	38	144	45	24	20
22	11	34	96	83	---	218	64	38	120	45	23	23
23	12	28	---	78	274	181	62	41	103	43	23	27
24	12	24	---	74	200	156	59	37	89	40	32	24
25	12	22	167	69	167	139	55	36	82	37	29	28
26	12	47	105	71	147	125	53	44	75	38	27	26
27	12	65	82	69	136	119	51	---	94	37	25	24
28	23	46	---	66	123	115	55	182	141	36	23	23
29	15	38	179	86	---	---	72	123	87	35	22	22
30	14	33	115	100	---	401	57	96	73	43	28	100
31	13	---	101	94	---	---	---	81	---	45	26	---
TOTAL	388	837	---	---	---	---	---	---	---	2611	844	810
MEAN	12.5	27.9	---	---	---	---	---	---	---	84.2	27.2	27.0
MAX	23	142	---	---	---	---	---	---	---	250	38	100
MIN	11	12	---	---	---	---	---	---	---	35	22	19
CFSM	.27	.60	---	---	---	---	---	---	---	1.81	.58	.58
IN.	.31	.67	---	---	---	---	---	---	---	2.08	.67	.65

03602500 PINEY RIVER AT VERNON, TN

LOCATION.--Lat 35°52'16", long 87°30'05", Hickman County, Hydrologic Unit 06040003, on right bank at county highway bridge, 40 ft upstream from Pretty Creek, 0.2 mi northwest of Vernon, 2.3 mi downstream from Mill Creek, 6.5 mi north of Centerville, and at mile 8.3.

DRAINAGE AREA.--193 mi^2.

PERIOD OF RECORD.--July 1925 to current year.

REVISED RECORDS.--WSP 758: 1927(M). WSP 823: Drainage area. WSP 1306: Drainage area at site used Feb. 9, 1931, to May 10, 1934. WSP 1436: 1926(M), 1927, 1929, 1930-31(M), 1932, 1934(M).

GAGE.--Water-stage recorder. Datum of gage is 461.72 ft above National Geodetic Vertical Datum of 1929. Prior to May 11, 1934, nonrecording gage; July 3, 1925, to Feb. 8, 1931, at site 350 ft upstream at datum 3.17 ft higher; Feb. 9, 1931, to May 10, 1934, at site 0.4 mi downstream at datum 0.40 ft higher. May 11, 1934, to Sept. 30, 1970, water-stage recorder at site 350 ft upstream; prior to June 29, 1965, at datum 3.17 ft higher, and 2.17 ft higher thereafter.

REMARKS.--Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--64 years, 315 ft^3/s, 22.17 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft^3/s, Dec. 21, 1926, gage height, 16.5 ft, site and datum then in use; minimum, 35 ft^3/s, Sept. 19, 20, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1897 reached a stage of 17.5 ft, original site and datum, discharge, 37,000 ft^3/s, from reports by Tennessee Valley Authority.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 23	0745	5,180	10.92	Mar. 5	2300	8,010	12.85
Jan. 12	1715	6,990	12.25	Mar. 29	1115	5,670	11.32
Jan. 14	2300	5,640	11.30	Apr. 4	1030	6,590	11.99
Feb. 14	1115	*21,200	*17.79	June 15	0645	4,740	10.49
Feb. 21	0415	19,400	17.28				

Minimum discharge, 59 ft^3/s, Oct. 13, 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	71	177	613	307	677	1460	256	312	247	164	139
2	77	69	158	509	281	630	1160	241	482	564	160	146
3	70	69	146	445	333	606	1480	231	708	1140	154	133
4	66	72	134	383	392	584	3900	245	422	598	151	129
5	64	102	125	345	366	5210	2040	296	350	430	148	126
6	64	91	119	391	328	3810	1440	270	369	373	155	124
7	64	83	114	361	288	1760	1380	248	312	332	150	123
8	64	79	109	736	254	1280	1270	239	363	300	142	121
9	63	74	106	595	220	1050	1140	250	1020	276	140	120
10	65	81	101	481	200	910	1010	254	553	259	142	133
11	64	82	99	988	189	794	897	231	403	326	140	126
12	63	79	95	3980	175	689	783	222	404	295	137	122
13	61	81	94	2340	170	627	691	217	1970	270	136	121
14	63	77	93	2540	9910	568	626	210	1180	250	134	165
15	64	75	90	2950	3350	509	578	210	3120	230	134	164
16	62	86	87	1350	2030	445	520	197	1420	222	133	141
17	65	98	85	860	1650	410	476	190	814	212	132	133
18	63	85	84	638	1770	398	440	183	553	201	133	127
19	62	186	85	492	1340	368	411	180	478	226	130	124
20	62	727	85	394	2590	401	379	228	420	211	129	121
21	64	324	335	321	9740	1030	359	227	374	194	127	120
22	64	225	455	274	2310	960	340	200	377	187	127	124
23	65	181	2590	238	1540	823	327	250	321	181	128	143
24	66	155	2080	211	1200	699	311	210	293	176	130	130
25	67	139	1150	190	1030	625	295	199	272	173	138	132
26	69	187	667	195	931	549	281	220	253	167	138	138
27	68	430	503	190	861	490	271	1320	250	162	151	127
28	89	291	1440	171	740	448	262	812	329	159	131	124
29	83	233	1020	223	---	2910	302	561	271	158	127	132
30	74	202	675	320	---	1830	267	429	246	159	155	397
31	72	---	549	319	---	1960	---	360	---	173	165	---
TOTAL	2080	4734	13650	24043	44495	34050	25096	9386	18639	8851	4361	4205
MEAN	67.1	158	440	776	1589	1098	837	303	621	286	141	140
MAX	89	727	2590	3980	9910	5210	3900	1320	3120	1140	165	397
MIN	61	69	84	171	170	368	262	180	246	158	127	120
CFSM	.35	.82	2.28	4.02	8.23	5.69	4.33	1.57	3.22	1.48	.73	.73
IN.	.40	.91	2.63	4.63	8.58	6.56	4.84	1.81	3.59	1.71	.84	.81

CAL YR 1988 TOTAL 79828 MEAN 218 MAX 2590 MIN 56 CFSM 1.13 IN. 15.39
WTR YR 1989 TOTAL 193590 MEAN 530 MAX 9910 MIN 61 CFSM 2.75 IN. 37.31

03603000 DUCK RIVER ABOVE HURRICANE MILLS, TN

LOCATION.--Lat 35°55'48", long 87°44'35", Humphreys County, Hydrologic Unit 06040003, on left bank 0.4 mi downstream from Tumbling Creek, 1.3 mi upstream from bridge on State Highway 13, 3.6 mi southeast of Hurricane Mills, and at mile 26.0.

DRAINAGE AREA.--2,557 mi^2.

PERIOD OF RECORD.--July 1925 to current year. Prior to October 1951, published as "near Hurricane Mills."

REVISED RECORDS.--WSP 803: 1935. WSP 823: 1927(M). WSP 853: Drainage area. WSP 1436: 1926-28, 1938(M).

GAGE.--Water-stage recorder. Datum of gage is 370.53 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 21, 1934, nonrecording gage and Feb. 21, 1934, to Sept. 30, 1951, water-stage recorder at bridge 5.6 mi downstream at datum 8.80 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since January 1976 by Normandy Lake (station 03596460). Prior to 1953 occasional regulation at low flow from small dams upstream. Minor diversions for irrigation. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--64 years, 4,082 ft^3/s, 21.68 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 122,000 ft^3/s, Feb. 14, 1948, gage height, 30.70 ft, from floodmark in gage house, present site and datum; minimum, 185 ft^3/s, Sept. 11, 12, 1925.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 44,500 ft^3/s, at 1700 hours Jan. 15, gage height, 22.22 ft; minimum, 562 ft^3/s, Oct 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	856	695	4660	9440	3590	10200	7060	1720	1800	3450	2810	1750
2	844	731	3800	13900	3630	12400	7280	1770	1730	4510	2730	1470
3	808	716	3200	16100	3580	10700	7950	1770	1880	11100	2370	1420
4	1020	700	2780	10900	3830	9070	13800	1700	1870	15200	2040	1470
5	1220	832	2470	7680	4170	15700	20900	1880	2890	14100	1790	1240
6	1050	1900	2060	6400	4170	34200	24200	2080	3250	11200	1620	1050
7	916	4470	1740	5920	4360	39500	23900	2240	2300	9180	1500	926
8	814	3420	1550	6400	4800	40500	17300	2280	2010	7460	1340	860
9	745	2310	1450	7600	4540	39900	15600	2480	2420	6940	1220	824
10	708	1730	1370	8730	4070	28400	12800	2300	4570	5770	1130	842
11	677	1390	1290	8220	3700	11000	10200	2200	11800	4680	1070	803
12	644	1210	1220	16100	3400	8920	8450	2130	10600	4990	1010	772
13	616	1120	1160	32100	3150	7330	7330	2200	7690	15400	966	759
14	594	1080	1110	39200	18100	6080	6550	2240	6790	22200	919	883
15	573	1050	1060	44000	27700	5390	5600	2160	8680	16100	879	1130
16	572	1050	1020	42200	21200	4830	4590	1970	12100	6850	839	1490
17	577	1120	977	34900	16600	4340	4060	1730	11000	5080	811	2820
18	586	1380	938	18100	17200	3810	3720	1610	12100	3990	807	3070
19	603	2260	915	11700	22900	3470	3400	1530	8660	3630	801	2170
20	604	10400	896	9370	25900	3330	3120	1600	7050	4130	805	1690
21	613	18100	1260	7910	38100	5180	2870	4250	11900	5640	801	1400
22	616	16100	2700	6880	39300	6300	2640	3600	13600	7350	779	1250
23	629	9720	8850	5720	37000	6270	2480	2650	10500	5880	763	1220
24	641	5590	15200	4650	34400	6330	2340	2320	8010	5190	764	1420
25	633	3990	21900	4150	22100	5920	2210	2040	6430	4350	775	3490
26	621	3290	17900	3760	11300	5370	2090	1800	5270	3650	786	4290
27	595	5280	12000	3370	9380	4490	1990	2590	4610	3260	925	4070
28	644	7250	10300	3190	8640	3970	1920	3610	4420	2830	1360	5120
29	669	6760	13100	3130	---	7960	1890	2970	4650	2490	1050	4390
30	721	5800	12300	3510	---	7630	1790	2200	3660	2000	944	4140
31	717	---	10200	3570	---	6830	---	1940	---	2000	1040	---
TOTAL	22126	121444	161376	398800	400810	365320	230030	69560	194240	220600	37444	58229
MEAN	714	4048	5206	12860	14310	11780	7668	2244	6475	7116	1208	1941
MAX	1220	18100	21900	44000	39300	40500	24200	4250	13600	22200	2810	5120
MIN	572	695	896	3130	3150	3330	1790	1530	1730	2000	763	759

CAL YR 1988 TOTAL 976761 MEAN 2669 MAX 33200 MIN 428 CFSM 1.04 IN. 14.21 MEAN‡ 2678 CFSM‡ 1.05 IN.‡ 14.25
WTR YR 1989 TOTAL 2279979 MEAN 6247 MAX 44000 MIN 572 CFSM 2.44 IN. 33.17 MEAN‡ 6279 CFSM‡ 2.46 IN.‡ 33.33

‡ Adjusted for change in contents in Normandy Lake.
NOTE.--Contents (cfs-days) for adjustments furnished by Tennessee Valley Authority.

03604000 BUFFALO RIVER NEAR FLAT WOODS, TN
(Hydrologic bench-mark station)

LOCATION.--Lat 35°29'45", long 87°49'58", Perry County, Hydrologic Unit 06040004, on right bank 0.4 mi downstream from Little Opossum Creek, 0.5 mi downstream from bridge on State Highway 13, 1.3 mi north of Flat Woods, 3.9 mi upstream from Sinking Creek, and at mile 58.7.

DRAINAGE AREA.--447 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1920 to current year.

REVISED RECORDS.--WSP 758: 1933. WSP 803: 1935. WSP 823: Drainage area. WSP 1436: 1921(M), 1922-24, 1925(M), 1927(M), 1934(M), WRD TN 1971: 1970.

GAGE.--Water-stage recorder. Datum of gage is 513.58 ft above National Geodetic Vertical Datum of 1929. Prior to May 27, 1934, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--69 years, 751 ft^3/s, 22.82 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90,000 ft^3/s, Feb. 13, 1948, gage height, 32.0 ft, from high-water mark in gage house, from rating curve extended above 50,000 ft^3/s on basis of slope-area and contracted-opening measurements of peak flow and rainfall-runoff study; minimum, 65 ft^3/s, Sept. 9, 1925.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1897, that of Feb. 13, 1948.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 13	0530	*20,300	*21.56	Mar. 6	0600	13,400	17.33
Jan. 15	0800	8,010	13.76	Apr. 5	0500	9,030	14.08
Feb. 16	1330	8,330	12.95	Apr. 7	0845	4,720	9.82
Feb. 19	1715	7,910	12.62	May 21	0230	6,580	11.82
Feb. 21	2100	13,300	17.22	July 3	2100	5,140	10.29

Minimum discharge, 140 ft^3/s, Oct. 13-15, 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	186	185	589	3050	1840	2060	802	415	482	1420	667	469
2	206	177	515	2440	1750	1660	741	439	451	2080	571	467
3	217	173	460	1580	1740	1410	1280	407	716	4210	479	470
4	194	181	419	1220	1770	1260	5030	397	631	3590	421	360
5	171	512	386	997	1750	4890	7810	475	529	2330	390	322
6	157	810	359	956	1690	11600	3170	590	497	2240	371	303
7	151	471	339	938	1640	4390	2330	545	461	1780	366	291
8	147	338	321	1120	1580	2370	2130	502	435	2470	354	286
9	146	283	312	1320	1500	1820	1710	493	432	1600	332	282
10	146	254	305	1090	1440	1490	1320	502	432	1160	319	318
11	146	255	294	1390	1390	1290	1080	474	407	1440	316	315
12	143	249	283	9750	1350	1150	965	443	438	2060	309	292
13	140	250	274	16500	1320	1050	876	426	765	1500	302	310
14	140	264	268	6030	4340	959	804	419	892	1130	295	504
15	140	251	262	7060	6080	891	770	445	2990	883	291	533
16	141	261	255	3540	7360	823	718	440	3310	779	287	476
17	145	356	248	2140	5420	763	658	406	1800	743	285	437
18	150	377	244	1600	5440	734	608	392	1240	642	316	377
19	150	579	228	1940	7010	717	585	392	1100	633	302	341
20	150	2340	219	2300	6090	713	567	2250	1170	802	286	316
21	150	1650	366	2050	10400	746	539	4100	1010	662	278	296
22	150	889	741	1870	8180	738	520	1510	1310	574	271	293
23	156	624	1690	1730	2830	698	510	1190	1040	535	267	306
24	162	506	2800	1610	1960	703	503	1040	841	514	271	327
25	163	448	2720	1520	1550	709	478	835	671	500	267	323
26	164	570	1590	1470	1300	690	447	727	593	478	265	390
27	163	2640	1150	1500	1330	678	434	806	569	446	274	421
28	184	1490	2020	1490	2150	643	420	740	699	425	345	397
29	234	933	2700	1570	---	619	409	619	1480	409	298	382
30	215	710	1710	1830	---	617	399	559	1120	396	292	672
31	196	---	1460	1860	---	728	---	517	---	400	514	---
TOTAL	5103	19026	25527	85461	92200	49609	38613	23495	28511	38831	10601	11276
MEAN	165	634	823	2757	3293	1600	1287	758	950	1253	342	376
MAX	234	2640	2800	16500	10400	11600	7810	4100	3310	4210	667	672
MIN	140	173	219	938	1300	617	399	392	407	396	265	282
CFSM	.37	1.42	1.84	6.17	7.37	3.58	2.88	1.70	2.13	2.80	.77	.84
IN.	.42	1.58	2.12	7.11	7.67	4.13	3.21	1.96	2.37	3.23	.88	.94

CAL YR 1988 TOTAL 180733 MEAN 494 MAX 11900 MIN 109 CFSM 1.10 IN. 15.04
WTR YR 1989 TOTAL 428253 MEAN 1173 MAX 16500 MIN 140 CFSM 2.62 IN. 35.64

03604000 BUFFALO RIVER NEAR FLAT WOODS, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: June 1964 to January 1978.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 31.0°C, July 13-15, 1966; minimum, 0.0°C, many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)
OCT										
11...	1100	146	108	7.80	15.0	752	2.1	9.3	94	88
JAN										
10...	1200	1080	80	7.25	9.0	760	16	10.3	89	620
APR										
19...	1030	581	80	7.60	16.0	753	1.5	8.8	90	41
JUL										
11...	1000	1580	85	7.70	22.5	755	13	7.5	88	160

DATE	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
OCT										
11...	53	52	3	0.90	48	4.0	1.9	0.10	6.8	67
JAN										
10...	360	35	5	1.1	26	7.4	2.4	<0.10	6.6	54
APR										
19...	31	37	5	0.80	32	4.0	1.7	0.10	4.1	45
JUL										
11...	530	37	3	1.2	33	4.0	1.8	0.10	7.5	54

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
OCT									
11...	64	0.09	26.4	<0.010	<0.100	--	0.020	<0.010	0.18
JAN									
10...	53	0.07	157	<0.010	0.470	0.04	0.020	0.030	0.38
APR									
19...	45	0.06	70.6	<0.010	0.110	0.03	<0.010	0.020	--
JUL									
11...	52	0.07	230	<0.010	0.320	0.04	0.020	0.030	0.28

03604000 BUFFALO RIVER NEAR FLAT WOODS, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	PHOSPHORUS ORGANIC TOTAL (MG/L AS P)	PHOSPHORUS ORGANIC DISSOLVED (MG/L AS P)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 11...	0.20	0.030	0.010	<0.010	0.03	0.01	4	1.7	83
JAN 10...	0.40	0.030	0.030	0.020	0.03	0.01	17	50	93
APR 19...	0.20	0.020	0.010	<0.010	0.02	0.01	1	2.2	95
JUL 11...	0.30	0.040	0.020	0.030	0.04	0.0	34	145	86

DATE	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
OCT 11...	<10	<1	18	<0.5	<1	1	<3	1	29	<5
JAN 10...	130	<1	16	<0.5	<1	<1	<3	1	91	<5
APR 19...	20	<1	16	<0.5	<1	<1	<3	1	30	<5
JUL 11...	30	<1	19	<0.5	<1	1	<3	2	110	2

DATE	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 11...	<4	7	<0.1	<10	<1	<1	<1.0	61	<6	<3
JAN 10...	<4	7	<0.1	<10	1	<1	<1.0	51	<6	5
APR 19...	<4	8	<0.1	10	<1	<1	<1.0	42	<6	5
JUL 11...	<4	7	---	<10	1	<1	<1.0	48	<6	4

DATE	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DISSOLVED (UG/L AS U)
OCT 11...	<0.4	<0.4	1.0	<0.4	0.9	<0.4	0.05	0.05
APR 19...	<0.4	<0.4	1.4	<0.4	1.3	<0.4	0.05	0.02

03604500 BUFFALO RIVER NEAR LOBELVILLE, TN

LOCATION.--Lat 35°48'46", long 87°47'51", Perry County, Hydrologic Unit 06040004, on right bank 30 ft upstream from Standing Rock Bridge, 1.4 mi downstream from bridge on State Highway 13, 3.0 mi north of Lobelville, 13 mi downstream from Cane Creek, and at mile 17.7.

DRAINAGE AREA.--707 mi^2.

PERIOD OF RECORD.--October 1927 to current year. Monthly discharge only for October 1927, published in WSP 1306.

REVISED RECORDS.--WSP 803: 1935. WSP 823: Drainage area. WSP 853: 1928-37. WSP 1436: 1932(M).

GAGE.--Water-stage recorder. Datum of gage 403.02 ft above National Geodetic Vertical Datum of 1929. Nov. 1, 1927, to May 31, 1934, nonrecording gage 40 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--62 years, 1,185 ft^3/s, 22.76 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 100,000 ft^3/s, Feb. 14, 1948, gage height, 23.76 ft, from high-water mark in gage house, from rating curve extended above 40,000 ft^3/s, on basis of slope-area measurement of peak flow; minimum, 135 ft^3/s, Aug. 18, 1953, caused by regulation; minimum natural, 142 ft^3/s, Oct. 1-8, 1931.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1897, that of Feb. 14, 1948. Flood of March 1902 reached a stage of about 21.8 ft, discharge not determined, from flood profile by Tennessee Valley Authority.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,200 ft^3/s, and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	1700	8,280	11.87	Feb. 19	1930	7,010	11.07
Dec. 24	2100	6,780	10.89	Feb. 22	2300	13,200	14.19
Jan. 14	0630	*20,100	*15.92	Mar. 7	0530	13,400	14.25
Feb. 14	2330	6,150	10.33	Apr. 6	0400	9,890	12.70
Feb. 16	1440	7,660	11.49	May 22	0300	5,700	9.91

Minimum discharge, 302 ft^3/s, Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	374	388	1480	2650	1470	2760	2100	847	1010	1960	773	906
2	389	372	1260	3750	1390	2540	1830	848	969	2660	1070	948
3	402	362	1100	2990	1390	2200	1970	870	903	4260	1020	947
4	398	361	990	2240	1420	1990	3940	850	1060	6030	876	864
5	378	420	899	1870	1410	5590	7460	912	1120	4910	744	748
6	358	573	821	1660	1340	11100	8690	1000	1020	3670	657	660
7	340	986	760	1560	1290	12400	4230	1070	940	3400	605	613
8	327	842	709	1620	1230	5580	3510	1040	911	3060	566	584
9	321	677	671	1780	1160	3300	3100	993	919	3310	539	561
10	316	581	640	1830	1090	2620	2600	979	856	2260	506	562
11	314	529	615	1750	1040	2230	2190	961	830	1870	492	573
12	311	499	592	4180	994	1980	1930	928	822	2140	485	585
13	309	500	566	13000	960	1780	1750	885	946	2630	480	556
14	306	495	556	18900	4080	1620	1610	857	1220	2110	474	705
15	305	493	540	12900	5740	1500	1520	862	2000	1760	468	878
16	306	521	525	9720	7090	1380	1440	869	3830	1520	463	904
17	306	640	511	4890	5030	1290	1360	859	3820	1370	460	847
18	308	639	498	3160	4880	1220	1280	816	2510	1280	460	768
19	309	1740	491	2440	6530	1170	1250	783	1980	1350	468	680
20	313	7290	482	2020	5790	1160	1210	1450	1790	1340	469	612
21	320	4690	700	1740	10400	1670	1150	3640	1770	1340	460	568
22	319	2710	1230	1540	11500	1600	1100	4330	1660	1220	453	551
23	317	1840	3150	1390	9490	1460	1070	2310	1800	1090	449	569
24	323	1440	4840	1270	3830	1340	1040	1910	1600	1020	453	568
25	329	1180	5090	1170	2860	1280	1010	1690	1410	991	457	596
26	329	1120	3630	1120	2350	1230	977	1480	1230	922	464	635
27	328	2700	2450	1150	2080	1180	932	1530	1110	860	836	634
28	356	3560	3160	1140	2160	1140	906	1470	1180	791	581	681
29	379	2370	4290	1210	---	2040	898	1360	1230	728	503	689
30	384	1810	3710	1460	---	1950	863	1200	1830	698	507	918
31	413	---	2670	1490	---	2200	---	1090	---	829	1130	---
TOTAL	10487	42328	49626	109590	99994	82500	64916	40689	44276	63379	18368	20910
MEAN	338	1411	1601	3535	3571	2661	2164	1313	1476	2044	593	697
MAX	413	7290	5090	18900	11500	12400	8690	4330	3830	6030	1130	948
MIN	305	361	482	1120	960	1140	863	783	822	698	449	551
CFSM	.48	2.00	2.26	5.00	5.05	3.76	3.06	1.86	2.09	2.89	.84	.99
IN.	.55	2.23	2.61	5.77	5.26	4.34	3.42	2.14	2.33	3.33	.97	1.10

CAL YR 1988 TOTAL 329985 MEAN 902 MAX 10700 MIN 200 CFSM 1.28 IN. 17.36
WTR YR 1989 TOTAL 647063 MEAN 1773 MAX 18900 MIN 305 CFSM 2.51 IN. 34.05

RESERVOIRS IN TENNESSEE RIVER BASIN

03468500 DOUGLAS LAKE.--Lat 35°57'40", long 83°32'20", Sevier County, Hydrologic Unit 06010107, at Douglas Dam on French Broad River, 6.5 mi north of Sevierville, and at mile 32.3. DRAINAGE AREA, 4,541 mi^2. PERIOD OF RECORD, February 1943 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir formed by concrete main dam and 10 saddle dams. Spillway equipped with 11 radial gages, each 32 ft high by 40 ft wide and 8 sluice gates 10 ft high by 5.67 ft wide. Closure of dam was made Feb. 19, 1943; water in reservoir first reached minimum pool elevation Feb. 25, 1943. Revised capacity table put into use Jan. 1, 1971. Total capacity at elevation 1,002.00 ft, top of gates, is 743,600 cfs-days, of which 631,200 cfs-days is controlled storage above elevation 940.00 ft, normal minimum pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 760,000 cfs-days, July 25, 1949, elevation, 1,001.79 ft; minimum after first filling, 1,000 cfs-days, Jan. 16, 1956, elevation, 883.7 ft, estimated.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 723,300 cfs-days, June 24, elevation, 1001.14 ft; minimum, 119,000 cfs-days, Dec. 22, elevation, 942.58 ft.

03476000 SOUTH HOLSTON LAKE.--Lat 36°31'15", long 82°05'11", Sullivan County, Hydrologic Unit 06010102, 470 ft upstream from South Holston Dam on South Fork Holston River, 7.0 mi southeast of Bristol, Virginia-Tennessee, and at mile 49.8. DRAINAGE AREA, 703 mi^2. PERIOD OF RECORD, November 1950 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 11, 1951, non-recording gage at same site and datum.

REMARKS.--Reservoir is formed by rock and rolled earthfill dam. Spillway is uncontrolled morning-glory type, 128 ft in diameter with six piers, each 3 ft wide to guide flow spilling into a concrete-lined shaft and tunnel 34 ft in diameter. Closure of dam was made Nov. 20, 1950; water in reservoir first reached minimum pool elevation Jan. 25, 1951. Revised capacity table put into use Jan. 1, 1971. Total capacity at elevation 1,742.00 ft, spillway crest, is 385,200 cfs-days, of which 220,800 cfs-days is controlled storage above elevation 1,675.00 ft, normal minimum pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 363,800 cfs-days, May 10, 1984, elevation, 1,736.86 ft; minimum after first filling, 57,700 cfs-days, Jan. 13, 1956, elevation, 1,614.15 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 344,700 cfs-days, June 22, elevation, 1,732.34 ft; minimum, 185,200 cfs-days, Oct. 23, elevation, 1,683.25 ft.

03483500 WATAUGA LAKE.--Lat 36°19'20", long 82°07'16", Carter County, Hydrologic Unit 06010103, at Watauga Dam on Watauga River, 5 mi east of Elizabethton, and at mile 36.7. DRAINAGE AREA, 468 mi^2. PERIOD OF RECORD, December 1948 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by rock and rolled earthfill dam. Spillway is uncontrolled morning-glory type, 128 ft in diameter with six piers, each 3 ft wide to guide flow spilling into a concrete-lined shaft and tunnel 34 ft in diameter. Closure of dam was made Dec. 1, 1948; water in reservoir first reached minimum pool elevation Dec. 31, 1948. Revised capacity table put into use Jan. 1, 1971. Total capacity at elevation 1,975.00 ft, spillway crest, is 341,300 cfs-days, of which 178,500 cfs-days is controlled storage above elevation 1,915.00 ft, normal minimum pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 300,800 cfs-days, Apr. 19, 1987, elevation, 1,963.28 ft; minimum after first filling, 25,100 cfs-days, Jan. 13, 1956, elevation, 1,813.47 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 299,800 cfs-days, July 6, elevation, 1,962.99 ft; minimum, 180,600 cfs-days, Oct. 1, elevation, 1,922.09 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03468500 DOUGLAS LAKE			03476000 SOUTH HOLSTON LAKE			03483500 WATAUGA LAKE		
Sept. 30...	959.75	235,900	-	1,684.50	188,500	-	1,922.09	180,600	-
Oct. 31...	952.96	183,600	-52,300	1,683.45	185,800	-2,700	1,922.34	181,300	+700
Nov. 30...	952.80	182,500	-1,100	1,686.00	192,600	+6,800	1,925.44	189,200	+7,900
Dec. 31...	944.90	131,800	-50,700	1,688.37	199,100	+6,500	1,927.56	194,700	+5,500
CAL YR 1988	-	-	-19,500	-	-	+8,400	-	-	+4,300
Jan. 31...	948.58	154,100	+22,300	1,699.21	230,400	+31,300	1,935.26	215,500	+20,800
Feb. 28...	959.14	230,900	+76,800	1,711.23	268,300	+37,900	1,942.98	237,400	+21,900
Mar. 31...	974.56	376,500	+145,600	1,720.86	301,500	+33,200	1,953.10	267,700	+30,300
Apr. 30...	986.70	517,800	+141,300	1,727.30	325,300	+23,800	1,958.17	283,900	+16,200
May 31...	994.62	625,800	+108,000	1,728.29	329,000	+3,700	1,957.91	283,100	-800
June 30...	1,000.21	709,000	+83,200	1,730.61	337,900	+8,900	1,960.40	291,200	+8,100
July 31...	997.18	663,300	-45,700	1,727.34	325,400	-12,500	1,955.18	274,300	-16,900
Aug. 31...	988.37	539,400	-123,900	1,718.26	292,300	-33,100	1,947.29	250,000	-24,300
Sept. 30...	987.29	525,400	-14,000	1,715.19	281,700	-10,600	1,947.42	250,400	+400
WTR YR 1989	-	-	+289,500	-	-	+93,200	-	-	+69,800

RESERVOIRS IN TENNESSEE RIVER BASIN--Continued

03486800 BOONE LAKE.--Lat 36°26'26", long 82°26'16", Sullivan County, Hydrologic Unit 06010102, at Boone Dam on South Fork Holston River, 0.7 mi northeast of Spurgeon, 1.3 mi downstream from Watauga River, and at mile 18.6. DRAINAGE AREA, 1,840 mi^2. PERIOD OF RECORD, December 1952 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by gravity nonover-flow type concrete dam. Spillway is equipped with five radial gates, each 35 ft high by 35 ft wide. Storage began Dec. 16, 1952; water in reservoir first reached minimum pool elevation Jan. 5, 1953. Revised capacity table put into use Jan. 1, 1971. Total capacity at elevation 1,385.0 ft, top of gates, is 97,500 cfs-days, of which 74,800 cfs-days is controlled storage above elevation 1,330 ft, normal minimum pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 99,100 cfs-days, May 19, 1964, elevation 1,384.99 ft; minimum after first filling, 21,300 cfs-days, Jan. 23, 1956, elevation, 1,327.06 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 96,000 cfs-days, June 17, elevation, 1,384.31 ft; minimum, 49,400 cfs-days, Dec. 19, elevation, 1,356.77 ft.

03487000 FORT PATRICK HENRY LAKE.--Lat 36°29'53", long 82°30'32", Sullivan County, Hydrologic Unit 06010102, at Fort Patrick Henry Dam on South Fork Holston River, 0.2 mi upstream from bridge on U. S. Highway 23, 4.5 mi southeast of Kingsport, and at mile 8.2. DRAINAGE AREA, 1,903 mi^2. PERIOD OF RECORD, October 1953 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by gravity nonover-flow type concrete dam. Spillway is equipped with five radial gates, each 35 ft high by 35 ft wide. Storage began Oct. 27, 1953; water in reservoir first reached minimum pool elevation Dec. 8, 1953. Revised capacity table put into use Jan. 1, 1971. Total capacity at elevation 1,263 ft, top of gates, is 13,600 cfs-days, of which 2,200 cfs-days is controlled storage above elevation 1,258 ft, normal minimum pool. Reservoir is used for navigation, flood control and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 14,000 cfs-days, Feb. 11, 1954, elevation, 1,263.80 ft, minimum after first filling, 2,690 cfs-days, Sept. 19, 1986, elevation, 1,226.33 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 13,600 cfs-days, Oct. 6, elevation, 1,263.00 ft; minimum, 11,200 cfs-days, Oct. 31, elevation, 1,257.51 ft.

03493500 CHEROKEE LAKE.--Lat 36°10'00", long 83°29'55", Jefferson County, Hydrologic Unit 06010104, at Cherokee Dam on Holston River, 0.3 mi upstream from bridge on State Highway 92, 2.7 mi upstream from Mill Spring Creek, 2.8 mi north of Jefferson City, and at mile 52.3. DRAINAGE AREA, 3,429 mi^2. PERIOD OF RECORD, December 1941 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with riprapped earth embankments. Spillway equipped with nine radial gates, each 32 ft high by 40 ft wide. Storage began Dec. 5, 1941; water in reservoir first reached minimum pool elevation Jan. 6, 1942. Revised capacity table put into use Jan. 1, 1971. Total capacity at elevation 1,075.0 ft, top of gates, is 778,400 cfs-days, of which 580,300 cfs-days is controlled storage above elevation 1,020.0 ft, normal minimum pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 779,400 cfs-days, May 11, 1944, maximum elevation, 1,074.47 ft May 30, 1973; minimum after first filling, 48,400 cfs-days, Jan. 7, 1954, elevation, 980.77 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 769,000 cfs-days, June 19, elevation, 1,074.48 ft; minimum, 251,100 cfs-days, Dec. 19, elevation, 1,027.90 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03486800 BOONE LAKE			03487000 FORT PATRICK HENRY LAKE			03493500 CHEROKEE LAKE		
Sept. 30...	1,375.63	78,500	-	1,261.36	12,800	-	1,033.90	297,700	-
Oct. 31...	1,368.53	66,300	-12,200	1,258.93	11,800	-1,000	1,030.51	270,700	-27,000
Nov. 30...	1,361.35	55,500	-10,800	1,261.23	12,800	+1,000	1,029.98	266,600	-4,100
Dec. 31...	1,357.33	50,100	-5,400	1,261.27	12,800	0	1,030.50	270,600	+4,000
CAL YR 1988	-	-	-2,100	-	-	+300	-	-	+28,000
Jan. 31...	1,362.06	56,500	+6,400	1,261.28	12,800	0	1,037.62	329,400	+58,800
Feb. 28...	1,371.16	70,600	+14,100	1,259.49	12,000	-800	1,041.48	364,700	+35,300
Mar. 31...	1,377.47	81,900	+11,300	1,261.62	13,000	+1000	1,048.40	434,200	+69,500
Apr. 30...	1,380.18	87,200	+5,300	1,261.75	13,000	0	1,055.44	513,200	+79,000
May 31...	1,381.51	90,000	+2,800	1,261.47	12,900	-100	1,070.04	703,500	+190,300
June 30...	1,381.59	90,100	+100	1,261.08	12,700	-200	1,072.68	742,000	+38,500
July 31...	1,381.48	89,900	-200	1,260.89	12,600	-100	1,069.96	702,400	-39,600
Aug. 31...	1,381.84	90,700	+800	1,262.62	13,400	+800	1,064.37	625,200	-77,200
Sept. 30...	1,378.54	84,000	-6,700	1,261.14	12,800	-600	1,059.44	561,700	-63,500
WTR YR 1989	-	-	+5,500	-	-	0	-	-	+264,000

RESERVOIRS IN TENNESSEE RIVER BASIN--Continued

03499500 FORT LOUDOUN LAKE.--Lat 35°47'30", long 84°14'35", Loudon County, Hydrologic Unit 06010201, at Fort Loudoun Dam on Tennessee River, 1 mi northeast of Lenoir City, and at mile 602.3. DRAINAGE AREA, 9,550 mi^2. PERIOD OF RECORD, July 1943 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir formed by concrete dam with earth embankment. Spillway equipped with 14 radial gates, each 32 ft high by 40 ft wide. Closure of dam was made Aug. 2, 1943; water in reservoir first reached ordinary minimum pool elevation Sept. 4, 1943. Revised capacity table put into use Jan. 19, 1980. Total level pool capacity at elevation 815.00 ft, top of gates, is 424,000 cfs-days, of which 120,000 cfs-days is controlled flood storage above elevation 807.00 ft, minimum navigation pool. Reservoir is used for navigation, flood control, and power. Tellico-Fort Loudoun canal was opened Jan. 19, 1980. Canal is 1,000 ft long, and interconnects Tellico and Fort Loudoun Lakes at the dam. Spillway gates of Tellico Dam were closed Feb. 7, 1980, diverting all flow from Little Tennessee River.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 815.14 ft, May 8, 1984; minimum first filling, 805.54 ft, Jan 18, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum midnight contents, 196,000 cfs-days,June 16; maximum elevation, 814.72 ft June 17; minimum midnight contents, 145,000 cfs-days, Feb. 16, minimum elevation, 807.36 ft Feb. 16. Contents based on backwater profile.

03518200 CHILHOWEE LAKE.--Lat 35°32'43", long 84°03'02", Monroe County, Hydrologic Unit 06010204, at Chilhowee Dam on Little Tennessee River, 2.4 mi southwest of Chilhowee, 2.6 mi upstream from Citico Creek, 10.1 mi downstream from Calderwood Dam, and at mile 33.6. DRAINAGE AREA, 1,977 mi^2. PERIOD OF RECORD, August 1957 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with rockfill end abutments. Spillway controlled by six radial gates, each 38 ft high by 35 ft wide. Closure of dam was made June 9, 1957; storage began Aug. 1, 1957; water in reservoir first reached minimum pool elevation Aug. 9, 1957. Total capacity at elevation 874.0 ft, top of gates, is 24,800 cfs-days, of which 3,400 cfs-days is controlled storage above elevation 870.0 ft, normal minimum pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Gage-height record furnished by Aluminum Co. of America; level storage records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 25,400 cfs-days, May 28, 1973, elevation, 874.60 ft; minimum after first filling, 18,100 cfs-days, May 18, 1963, elevation, 865.94 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 24,800 cfs-days, June 16, elevation, 874.02 ft; minimum, 20,300 cfs-days, April 24, elevation, 868.61 ft.

03519800 TELLICO LAKE.--Lat 35°46'53", long 84°15'10", Loudon County, Hydrologic Unit 06010201, at Tellico Dam on Little Tennessee River, 1.1 mi south of Lenoir City, and at mile 0.4. DRAINAGE AREA, 2,627 mi^2. PERIOD OF RECORD, December 1979 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir formed by concrete dam with earth embankment. Spillway equipped with 3 radial gates, each 42 ft high by 40 ft wide. Closure of dam was made Nov. 29, 1979; water in reservoir first reached ordinary minimum pool elevation Dec. 24, 1979. Total capacity at elevation 815.00 ft, top of gates, is 225,500 cfs-days, of which 63,800 cfs-days is controlled storage above elevation 807.00 ft, minimum navigation pool. Reservoir is used for navigation, flood control, and indirectly, power. Tellico-Fort Loudoun canal was opened Jan. 19, 1980. Canal is 1,000 ft long, and interconnects Tellico and Fort Loudoun Lakes at the dam. Spillway gates of Tellico Dam were closed Feb. 7, 1980, diverting all flow from Little Tennessee River.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 228,700 cfs-days, May 8, 1984, elevation, 815.37 ft; minimum after first filling, 155,400 cfs-days, Jan. 11, 1985, elevation, 807.31 ft; minimum elevation, 806.96 ft, Jan. 14, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 212,200 cfs-days, June 17, elevation, 814.93 ft; minimum, 156,400 cfs-days, Feb. 17, elevation, 807.46 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03499500 FORT LOUDOUN LAKE‡			03518200 CHILHOWEE LAKE			03519800 TELLICO LAKE		
Sept. 30...	812.73	181,000	-	873.51	24,400	-	812.80	196,100	-
Oct. 31...	812.54	180,000	-1,000	873.79	24,600	+200	812.60	194,500	-1,600
Nov. 30...	809.30	157,000	-23,000	873.68	24,600	0	809.35	169,900	-24,600
Dec. 31...	808.61	153,000	-4,000	873.68	24,600	0	808.67	165,000	-4,900
CAL YR 1988	-	-	+2,000	-	-	+400	-	-	+1,900
Jan. 31...	808.34	151,000	-2,000	873.22	24,200	-400	808.37	162,900	-2,100
Feb. 28...	810.33	165,000	+14,000	872.94	23,900	-300	810.44	178,000	+15,100
Mar. 31...	807.77	147,000	-18,000	869.95	21,400	-2,500	807.86	159,300	-18,700
Apr. 30...	812.73	181,000	+34,000	873.34	24,300	+2,900	812.82	196,200	+36,900
May 31...	812.01	176,000	-5,000	872.80	23,800	-500	812.10	190,600	-5,600
June 30...	813.10	184,000	+8,000	872.21	23,300	-500	813.20	199,200	+8,600
July 31...	812.74	182,000	-2,000	871.90	23,000	-300	812.83	196,300	-2,900
Aug. 31...	812.81	182,000	0	870.69	22,000	-1,000	812.92	197,000	+700
Sept. 30...	813.76	190,000	+8,000	872.25	23,300	+1,300	813.90	204,800	+7,800
WTR YR 1989	-	-	+9,000	-	-	-1,100	-	-	+8,700

‡ Contents based on backwater profile.

RESERVOIRS IN TENNESSEE RIVER BASIN--Continued

03532500 NORRIS LAKE.--Lat 36°13'29", long 84°05'29", Anderson County, Hydrologic Unit 06010205, at Norris Dam on Clinch River, 2.5 mi northwest of Norris, and at mile 79.8. DRAINAGE AREA, 2,912 mi^2. PERIOD OF RECORD, June 1935 to current year. GAGE, water-stage recorder. Datum of gage is 0.11 ft above National Geodetic Vertical Datum of 1929. Gage readings have been reduced to National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete gravity dam with three drum gates, each 100 ft wide by 14 ft high. Some storage began in June 1935; dam was completely closed and placed in operation Mar. 4, 1936; water in reservoir first reached minimum pool elevation Mar. 24, 1936. Revised capacity table put into use Jan. 1, 1971. Total capacity at elevation 1,034.11 ft, top of gates, is 1,286,600 cfs-days, of which 969,000 cfs-days is controlled storage above elevation 960.11 ft, normal minimum pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,236,700 cfs-days, Feb. 11, 1937, elevation, 1,031.21 ft; minimum after first filling, 75,500 cfs-days, Jan. 24, 1956, elevation, 909.46 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,160,500 cfs-days, June 19, elevation, 1027.53 ft; minimum, 479,100 cfs-days, Nov. 4, elevation, 978.87 ft.

03535900 MELTON HILL LAKE.--Lat 35°53'04", 84°18'01", Loudon-Roane County line, Hydrologic Unit 06010207, 9 mi southwest of Oak Ridge, 19 mi west of Knoxville, 57 mi downstream from Norris Dam on Clinch River, and at mile 23.1. DRAINAGE AREA, 3,343 mi^2. PERIOD OF RECORD, August 1962 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete gravity dam. Spillway is equipped with three radial gates, each 42 ft high by 40 ft wide. Dam completed and storage began May 1, 1963; water in reservoir first reached minimum pool elevation May 23, 1963. Revised capacity table put into use Jan. 1, 1971. Total capacity at elevation 796 ft, top of gates, is 63,500 cfs-days, of which 16,100 cfs-days is controlled storage above elevation 790.0 ft, normal minimum pool. Reservoir is used for navigation, power, and recreation.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 64,900 cfs-days, Mar. 16, 1973, elevation, 796.45 ft; minimum after first filling, 35,100 cfs-days, Feb. 9, 1966, elevation, 784.10 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 60,900 cfs-days, Aug. 31, elevation, 795.13 ft; minimum, 48,400 cfs-days, Dec. 16, elevation, 790.40 ft.

03543000 WATTS BAR LAKE.--Lat 35°37'13", long 84°47'00", Rhea County, Hydrologic Unit 06010201, at Watts Bar Dam on Tennessee River, 6.5 mi southeast of Spring City, 72.4 mi downstream from Fort Loudoun Dam, and at mile 529.9. DRAINAGE AREA, 17,310 mi^2, approximately. PERIOD OF RECORD, October 1941 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with riprapped earth embankments. Spillway equipped with 20 radial gates, each 32 ft high by 40 ft wide, also one 2-section leaf trashway gate 16.3 ft high by 24 ft wide. Storage began with partial closure Dec. 12, 1941, and final closure Jan. 1, 1942; water in reservoir first reached minimum navigation pool elevation Feb. 17, 1942. Revised capacity table put into use Jan. 1, 1971. Total level pool capacity at elevation 745.0 ft, top of gates, is 592,400 cfs-days, of which 191,000 cfs-days is controlled flood storage above elevation 735.0 ft, minimum navigation pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 745.40 ft, Mar. 17, 1973; minimum after first filling, 733.44 ft, Mar. 20, 1945.

EXTREMES FOR CURRENT YEAR.--Maximum midnight contents, 591,000 cfs-days, June 20; maximum elevation, 745.03 ft, June 20; minimum midnight contents, 409,000 cfs-days, Dec. 29; minimum elevation, 735.13 ft, Dec. 30. Contents based on backwater profile.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03532500 NORRIS LAKE			03535900 MELTON HILL LAKE			03543000 WATTS BAR LAKE‡		
Sept. 30...	983.27	524,300	-	793.65	56,600	-	741.08	511,000	-
Oct. 31...	979.20	482,400	-41,900	793.30	55,700	-900	739.08	472,000	-39,000
Nov. 30...	984.17	533,900	+51,500	790.99	49,800	-5,900	738.16	456,000	-16,000
Dec. 31...	986.53	559,700	+25,800	794.57	59,200	+9,400	736.34	424,000	-32,000
CAL YR 1988	-	-	+100,500	-	-	+2,000	-	-	+6,000
Jan. 31...	996.19	674,500	+114,800	792.07	52,500	-6,700	736.24	422,000	-2,000
Feb. 28...	999.47	717,000	+42,500	794.07	57,800	+5,300	738.19	458,000	+36,000
Mar. 31...	1007.38	827,100	+110,100	791.34	50,700	-7,100	735.70	413,000	-45,000
Apr. 30...	1014.43	934,800	+107,700	794.23	58,300	+7,600	740.81	505,000	+92,000
May 31...	1020.50	1,035,100	+100,300	794.42	58,800	+500	740.61	502,000	-3,000
June 30...	1023.76	1,092,100	+57,000	793.56	56,400	-2,400	740.91	509,000	+7,000
July 31...	1018.67	1,004,100	-88,000	794.07	57,800	+1,400	740.36	498,000	-11,000
Aug. 31...	1012.34	901,900	-102,200	794.00	57,600	-200	740.49	500,000	+2,000
Sept. 30...	1009.78	862,700	-39,200	794.22	58,200	+600	742.47	541,000	+41,000
WTR YR 1989	-	-	+338,400	-	-	+1,600	-	-	+30,000

‡ Contents based on backwater profile.

RESERVOIRS IN TENNESSEE RIVER BASIN--Continued

03564000 **LAKE OCOEE.**--Lat 35°05'40", long 84°38'53", Polk County, Hydrologic Unit 06020003, at Lake Ocoee Dam on Ocoee River at Parksville, 13.8 mi east of Cleveland, and at mile 11.9. **DRAINAGE AREA**, 595 mi^2. **PERIOD OF RECORD**, June 1914 to current year. Prior to October 1953, published as "Parksville (Ocoee No. 1) Reservoir," and October 1953 to September 1968, as "Parksville Lake." **GAGE**, nonrecording gage. Datum of gage is 6.89 ft above National Geodetic Vertical Datum of 1929. Gage readings have been reduced to National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with 347 ft of spillway. Spillway is equipped with four floodgates, each 6 ft high by 20 ft wide and 265 ft of flashboards about 5.7 ft high. Crest of spillway under gates is at elevation 830.82 ft; remainder of spillway is 1.0 ft higher. Dam completed and storage began in 1911. Capacity of reservoir has been considerably reduced by silting. Revised capacity table put into use Jan. 1, 1979. Total capacity at elevation 837.55 ft, about top of flashboards, is 42,300 cfs-days, of which 15,600 cfs-days is controlled storage above elevation 817.9 ft, normal minimum pool. Reservoir is used for power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum midnight contents observed, 53,300 cfs-days, July 9, 1916; maximum midnight elevation observed, 840.2 ft, Feb. 10, 1946; minimum contents observed, 27,300 cfs-days, Jan. 27, 1956, elevation, 817.7 ft; minimum midnight elevation observed, 814.8 ft, Dec. 14, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 41,700 cfs-days, July 11 , elevation, 837.4 ft; minimum contents observed, 32,600 cfs-days, Feb. 14, elevation, 827.2 ft.

03566500 **CHICKAMAUGA LAKE.**--Lat 35°06'07", long 85°13'42", Hamilton County, Hydrologic Unit 06020001, at Chickamauga Dam on Tennessee River, 5.8 mi northeast of Chattanooga, 58.9 mi downstream from Watts Bar Dam, and at mile 471.0. **DRAINAGE AREA**, 20,790 mi^2, approximately. **PERIOD OF RECORD**, October 1939 to current year. **GAGE**, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with riprapped earth embankments. Spillway equipped with eighteen 2-section lift gates, each 40.44 ft high by 40 ft wide. Storage began Feb. 6, 1940; water in reservoir first reached minimum navigation pool elevation Mar. 10, 1940. Revised capacity table put into use Jan. 1, 1971. Total level pool capacity at elevation 685.44 ft, top of gates, is 372,600 cfs-days, of which 175,000 cfs-days is controlled flood storage above elevation 675.0 ft, minimum navigation pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 686.10 ft, Mar. 18, 1973; minimum after first filling, 673.27 ft, Jan. 21, 1942.

EXTREMES FOR CURRENT YEAR.--Maximum midnight contents, 388,000 cfs-days, June 20 ; maximum elevation, 685.50 ft, June 20; minimum midnight contents, 205,000 cfs-days, Dec. 19; minimum elevation, 675.14 ft, Dec. 19. Contents based on backwater profile.

03570520 **NICKAJACK LAKE.**--Lat 35°00'07", long 85°37'14", Marion County, Hydrologic Unit 06020001, at Nickajack Dam on Tennessee River, 2 mi upstream from Sequatchie River, 5 mi south of Jasper, 46.3 mi downstream from Chickamauga Dam, and at mile 424.7. **DRAINAGE AREA**, 21,870 mi^2, approximately. **PERIOD OF RECORD**, December 1967 to current year. **GAGE**, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with earth embankments on each side. The spillway, with crest at elevation 595.0 ft, is equipped with 10 radial gates, each 40 ft high by 40 ft wide. A trash gate, 5.5 ft high by 15 ft wide, is located between the spillway and powerhouse. Dam was completed and storage began on Dec. 14, 1967. Revised capacity table put into use Jan. 1, 1971. Total level pool capacity at elevation 635.0 ft, top of gates, is 127,200 cfs-days, of which 16,200 cfs-days is controlled storage above elevation 632.0 ft, ordinary minimum. Reservoir is used for navigation and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 634.99 ft, Apr. 19, 1969; minimum after first filling, 630.82 ft, Feb. 20, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum midnight contents, 153,000 cfs-days, June 21; maximum elevation, 634.45 ft, July 25; minimum midnight contents, 116,000 cfs-days, May 20 ; minimum elevation, 631.85 ft, June 24. Contents based on backwater profile.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03564000 LAKE OCOEE			03566500 CHICKAMAUGA LAKE‡			03570520 NICKAJACK LAKE‡		
Sept. 30...	835.5	39,900	-	682.29	310,000	-	633.62	121,000	-
Oct. 31...	835.2	39,600	-300	679.83	268,000	-42,000	633.46	120,000	-1,000
Nov. 30...	834.1	38,500	-1,100	677.24	228,000	-40,000	633.46	122,000	+2,000
Dec. 31...	829.9	34,800	-3,700	677.18	227,000	-1,000	633.49	120,000	-2,000
CAL YR 1988	-	-	+1,100	-	-	+18,000	-	-	-1,000
Jan. 31...	828.5	33,700	-1,100	676.30	215,000	-12,000	633.71	120,000	0
Feb. 28...	835.2	39,600	+5,900	678.42	252,000	+37,000	632.15	122,000	+2,000
Mar. 31...	831.8	36,400	-3,200	676.19	213,000	-39,000	634.07	125,000	+3,000
Apr. 30...	835.2	39,600	+3,200	682.01	305,000	+92,000	633.83	120,000	-5,000
May 31...	834.9	39,300	-300	681.75	301,000	-4,000	633.78	122,000	+2,000
June 30...	836.2	40,600	+1,300	682.00	309,000	+8,000	632.22	118,000	-4,000
July 31...	835.8	40,200	-400	682.81	322,000	+13,000	633.62	122,000	+4,000
Aug. 31...	835.3	39,700	-500	682.39	316,000	-6,000	633.68	123,000	+1,000
Sept. 30...	836.7	41,100	+1,400	683.38	337,000	+21,000	632.43	123,000	0
WTR YR 1989	-	-	+1,200	-	-	+27,000	-	-	+2,000

‡ Contents based on backwater profile.

RESERVOIRS IN TENNESSEE RIVER BASIN--Continued

03579000 WOODS RESERVOIR.--Lat 35°17'54", long 86°05'48", Franklin County, Hydrologic Unit 06030003, at Elk River Dam on Elk River, 1.2 mi upstream from Spring Creek, 2.5 mi northeast of Estill Springs, 6.8 mi upstream from bridge on U.S. Highway 41-A, and at mile 170.0. DRAINAGE AREA, 263 mi^2. PERIOD OF RECORD, May 1952 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete gravity and earthfill-type dam with riprapped embankments. Spillway equipped with three radial gates, each 25 ft high by 50 ft wide, and two sluice gates, each 6 ft high by 4 ft wide. Closure of dam was made May 1, 1952; water in reservoir first reached minimum pool elevation Feb. 6, 1953. Total capacity at elevation 962.0 ft, surcharge pool, is 44,400 cfs-days, of which 9,900 cfs-days is controlled storage above elevation 957.0 ft, normal minimum pool. Reservoir is used for cooling water, flood control, and recreational purposes.

COOPERATION.--Twice-daily gage readings (0600 and 2400 hours) furnished by U.S. Air Force.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 42,300 cfs-days, April 21 and 22, 1956, elevation, 960.98 ft; minimum after first filling, 26,300 cfs-days, Nov. 8-11, 1953, elevation, 951.93 ft.

EXTREMES FOR CURRENT YEAR.--Maximum midnight contents, 40,300 cfs-days, Sept. 14, elevation, 960.00 ft; minimum midnight contents, 36,600 cfs-days, Nov. 9, elevation, 958.10 ft.

03580740 TIMS FORD LAKE.--Lat 35°11'51", long 86°16'41", Franklin County, Hydrologic Unit 06030003, in intake tower near left bank at Tims Ford Dam on Elk River, 0.4 mi upstream from bridge on State Highway 50, 9.5 mi west of Winchester, and at mile 133.4. DRAINAGE AREA, 529 mi^2. PERIOD OF RECORD, December 1970 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with compacted rockfill impervious earth core embankments. Spillway equipped with three radial gates, each 42 ft high by 40 ft wide. Storage began Dec. 1, 1970; water in reservoir first reached minimum pool elevation Feb. 23, 1971, and first filling was completed June 3, 1971. Total capacity at elevation 895 ft, top of gates, is 306,500 cfs-days, of which 142,400 cfs-days is controlled storage above elevation 865 ft, normal minimum pool. Reservoir is used for flood control, power, and recreation.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 296,300 cfs-days, Mar. 17, 1973, elevation, 893.24 ft; minimum after first filling 154,000 cfs-days, Oct. 15, 1972, elevation, 862.24 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 278,400 cfs-days, June 16 , elevation, 890.05 ft; minimum, 208,500 cfs-days, Dec. 22, elevation, 875.96 ft.

03593000 PICKWICK LAKE.--Lat 35°04'16", long 88°15'04", Hardin County, Hydrologic Unit 06040001, at Pickwick Landing Dam on Tennessee River, 1.5 mi north of town of Pickwick Dam, 6.1 mi upstream from Lick Creek, 52.7 mi downstream from Wilson Dam, and at mile 206.7. DRAINAGE AREA, 38,820 mi^2, approximately. PERIOD OF RECORD, October 1937 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with riprapped earth embankments. Spillway equipped with twenty-two 2-section lift gates, each 40 ft high by 40 ft wide, one of which is used as a trash gate. Dam completed and storage began Feb. 8, 1938; water in reservoir first reached minimum pool elevation Feb. 18, 1938. Revised capacity table put into use Jan. 1, 1971. Total level pool capacity at elevation 418.0 ft, top of gates, is 557,100 cfs-days, of which 210,200 cfs-days is controlled flood storage above elevation 408.0 ft, minimum navigation pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 419.49 ft, Mar. 30, 1944; minimum after first filling, 407.12 ft, Dec. 18, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum midnight contents, 792,000 cfs-days, June 23 ; maximum elevation, 417.78 ft, June 20; minimum midnight contents, 526,000 cfs-days, Dec. 25, minimum elevation, 408.38 ft, Dec. 26. Contents based on backwater profile.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03579000 WOODS RESERVOIR			03580740 TIMS FORD LAKE			03593000 PICKWICK LAKE‡		
Sept. 30...	959.42	39,100	-	882.89	240,800	-	412.87	627,000	-
Oct. 31...	958.49	37,300	-1,800	883.04	241,600	+800	411.78	598,000	-29,000
Nov. 30...	958.32	37,000	-300	881.24	232,800	-8,800	410.64	573,000	-25,000
Dec. 31...	958.55	37,400	+400	876.88	212,600	-20,200	409.61	541,000	-32,000
CAL YR 1988	-	-	-2,200	-	-	+7,200	-	-	-3,000
Jan. 31...	958.40	37,100	-300	877.68	216,200	+3,600	410.50	563,000	+22,000
Feb. 28...	958.46	37,300	+200	883.11	241,900	+25,700	411.18	600,000	+37,000
Mar. 31...	959.56	39,400	+2,100	884.02	246,500	+4,600	413.93	655,000	+55,000
Apr. 30...	959.44	39,200	-200	885.56	254,300	+7,800	413.48	647,000	-8,000
May 31...	959.51	39,300	+100	887.75	265,900	+11,600	413.33	640,000	-7,000
June 30...	959.56	39,400	+100	887.80	266,100	+200	414.85	693,000	+53,000
July 31...	959.46	39,200	-200	887.30	263,500	-2,600	413.02	631,000	-62,000
Aug. 31...	959.34	39,000	-200	885.21	252,500	-11,000	411.90	602,000	-29,000
Sept. 30...	959.70	39,700	+700	886.92	261,400	+8,900	411.25	592,000	-10,000
WTR YR 1989	-	-	+600	-	-	+20,600	-	-	-35,000

‡ Contents based on backwater profile.

RESERVOIRS IN TENNESSEE RIVER BASIN--Continued

03596460 NORMANDY LAKE.--Lat 35°27'55", long 86°14'48", Coffee County, Hydrologic Unit 06040002, at Normandy Dam on Duck River, 1.5 mi northeast of Normandy, 2.6 mi downstream from Riley Creek, 8 mi north of Tullahoma, and at mile 248.6. DRAINAGE AREA, 195 mi^2. PERIOD OF RECORD, January 1976 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete gravity dam with riprapped and rolled earthfill embankment on left side. Spillway is equipped with two radial gates, each 40 ft high by 36 ft wide. Storage began Jan. 5, 1976; water in reservoir first reached minimum pool elevation Mar. 22, 1976. Revised capacity table put into use Jan. 1, 1977. Total capacity at elevation 880 ft, top of gates, is 64,000 cfs-days, of which 30,400 cfs-days is controlled storage above elevation 859 ft, normal minimum pool. Reservoir is used for flood control, water supply, water quality control, recreation, and shoreline development.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 63,500 cfs-days, May 19, 1983, elevation, 879.70 ft; minimum after first filling, 26,800 cfs-days, Nov. 27, 1981, elevation, 853.12 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 59,400 cfs-days, July 20, elevation, 877.54 ft; minimum, 39,200 cfs-days, Dec. 30, elevation, 863.89 ft.

03609000 KENTUCKY LAKE.--Lat. 37°00'49", long 88°16'06", Marshall County, KY, Hydrologic Unit 06040006, at Kentucky Dam on Tennessee River at Gilbertsville, KY, and at mile 22.4. DRAINAGE AREA, 40,200 mi^2, approximately. PERIOD OF RECORD, July 1944 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with 24 lift gates 50 ft high by 40 ft wide. Storage began Aug. 16, 1944, and final closure was Aug. 30, 1944. Water in reservoir reached minimum pool elevation Apr. 7, 1945. Revised capacity table put into use Jan. 1, 1971. Total level pool capacity at elevation 375.0 ft, top of gates, is 3,090,000 cfs-days, of which 2,020,700 cfs-days is controlled storage above 354.0 ft, ordinary minimum pool. Reservoir is used for navigation, flood control, and power. Barkley-Kentucky Canal opened July 13, 1966, for navigation and power use. Canal is 1.75 miles long and interconnects Lake Barkley and Kentucky Lake at a point 2.2 mi upstream from Barkley Dam. For daily discharges through the canal, see Kentucky reports.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 369.87 ft, May 24, 1983; minimum after first filling, 348.02 ft, Mar. 11, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum midnight contents, 1,783,000 cfs-days, Jan. 15; maximum elevation, 361.54 ft, Apr. 11; minimum midnight contents, 1,128,000 cfs-days , Mar. 20, minimum elevation , 354.29 ft, Mar. 21.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	03596460 NORMANDY LAKE Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	03609000 KENTUCKY LAKE‡ Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
Sept. 30...	867.91	44,700	-	358.84	1,400,000	-
Oct. 31...	865.33	41,400	-3,300	357.14	1,277,000	-123,000
Nov. 30...	865.08	40,800	-600	356.07	1,230,000	-47,000
Dec. 31...	864.83	40,500	-300	356.72	1,276,000	+46,000
CAL YR 1988	-	-	+3,300	-	-	-30,000
Jan. 31...	865.50	41,400	+900	355.75	1,199,000	-77,000
Feb. 28...	868.23	45,100	+3,700	358.01	1,562,000	+363,000
Mar. 31...	872.36	51,200	+6,100	356.42	1,242,000	-320,000
Apr. 30...	875.58	56,200	+5,000	359.20	1,442,000	+200,000
May 31...	876.45	57,600	+1,400	359.06	1,440,000	-2,000
June 30...	876.22	57,200	-400	359.02	1,518,000	+78,000
July 31...	875.23	55,700	-1,500	357.50	1,321,000	-197,000
Aug. 31...	875.08	55,400	-300	356.87	1,268,000	-53,000
Sept. 30...	875.80	56,600	+1,200	355.19	1,206,000	-62,000
WTR YR 1989	-	-	+11,900	-	-	-194,000

OTHER RESERVOIRS.--The following small reservoirs in the Tennessee River basin are described below, but records of contents are not published herein.

03466400 DAVY CROCKETT LAKE on Nolichucky River at Nolichucky Dam, with a total capacity of 1,300 cfs-days, none of which is controlled storage.

03517900 CALDERWOOD LAKE on Little Tennessee River at Calderwood, with a total capacity of 20,800 cfs-days of which 840 cfs-days is controlled storage.

03562500 OCOEE NO. 3 LAKE on Ocoee River at Ocoee No. 3 Dam, 5.0 miles west of Ducktown, with a total capacity of 1,660 cfs-days, of which 1,550 cfs-days is controlled storage. Records of contents previous to 1971 water year published as Ocoee No. 3 Lake near Ducktown, TN.

‡ Contents based on backwater profile.

07024300 BEAVER CREEK AT HUNTINGDON, TN

LOCATION.--Lat 35°59'56", long 88°26'01", Carroll County, Hydrologic Unit 08010203, on left bank on downstream end of bridge pier on U.S. Highway 70, 0.3 mi southwest of Huntingdon, 0.6 mi downstream from Brier Creek, and at mile 5.6.

DRAINAGE AREA.--55.5 mi^2.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1946, 1948, 1952-54, 1958-61 and annual maximum, water years 1954-62. October 1962 to February 1988, July 1988, (discontinued as a continuous-record station; converted to a crest-stage partial-record station).

REVISED RECORDS.--WSP 1920: 1956(M).

GAGE.--Water-stage recorder. Datum of gage is 364.20 ft above National Geodetic Vertical Datum of 1929 (Tennessee State Highway Department bench mark). Dec. 21, 1945, to Oct. 3, 1962, nonrecording gage at site 30 ft downstream at same datum; Jan. 6, 1954, to Oct. 3, 1962, crest-stage gage at same site at datum 1.17 ft higher.

REMARKS.--Records poor. Periodic observations of water temperature are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--27 years (water year 1963-87, 1989) 115 ft^3/s, 28.14 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,350 ft^3/s, Sept. 9, 1970 from rating curve extended above 3,600 ft^3/s, on basis of contracted opening measurement of peak flow; maximum gage height, 15.20 ft, Sept. 13, 1982; minimum discharge, 19 ft^3/s, May 17, 1965, part of each day Aug. 23-31, 1986.

EXTREMES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 1,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	Unknown	Unknown	Unknown	Jan. 15	0045	*5,560	*14.28
Dec. 24	2145	2,870	12.39	Feb. 14	2230	3,800	13.12
Dec. 28	2030	2,240	11.80	Feb. 21	1100	2,240	11.80

Minimum discharge, 20 ft^3/s, Aug. 10, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	446	38	e110	130	70	78	e122	30	30	52	27	43
2	1460	38	e94	89	68	69	e72	29	30	991	26	49
3	440	35	e84	80	383	e68	e425	28	30	1290	25	38
4	82	51	e70	68	529	e66	e980	38	28	406	24	32
5	40	288	e62	89	170	e350	e760	60	100	90	23	30
6	31	267	e57	185	86	e1100	e310	41	76	93	22	27
7	29	129	52	148	74	e700	e143	34	37	99	22	27
8	28	e105	49	482	71	e990	e120	32	37	55	22	26
9	27	e94	52	291	66	e420	e99	38	49	45	21	25
10	26	e84	52	106	62	e190	e84	37	38	40	20	38
11	26	e73	50	200	67	e120	e68	32	34	52	20	32
12	24	e66	47	1050	67	e94	e66	29	81	40	22	30
13	24	e61	48	1420	89	e65	65	28	377	37	27	61
14	25	e58	48	1910	2250	e62	63	28	264	34	21	288
15	26	e56	46	3540	2810	e59	79	30	181	31	26	232
16	30	e170	43	719	1780	e59	66	28	80	32	28	77
17	33	117	44	174	797	e56	59	27	62	31	33	53
18	30	86	43	102	447	e72	56	26	92	29	29	43
19	29	647	46	86	309	e59	57	27	166	318	24	37
20	30	e1200	46	76	342	e101	51	36	70	293	22	33
21	32	e500	356	69	1830	e399	48	33	56	71	21	32
22	33	e800	394	66	741	e240	45	33	49	44	21	32
23	39	e1600	676	65	173	e380	43	43	45	39	21	38
24	47	e450	1990	64	86	e259	40	32	43	37	40	34
25	38	e241	1740	61	79	e101	40	29	39	35	47	34
26	39	e400	391	78	77	e78	37	31	38	32	32	35
27	34	e1100	124	78	94	e70	35	153	98	30	29	32
28	82	e290	1460	66	96	e68	33	51	250	28	28	32
29	67	e180	1240	100	---	e190	33	35	103	27	27	41
30	49	e130	302	111	---	e142	32	30	59	27	90	386
31	43	---	121	79	---	e320	---	28	---	35	89	---
TOTAL	3389	9354	9937	11782	13713	7025	4131	1156	2642	4463	929	1917
MEAN	109	312	321	380	490	227	138	37.3	88.1	144	30.0	63.9
MAX	1460	1600	1990	3540	2810	1100	980	153	377	1290	90	386
MIN	24	35	43	61	62	56	32	26	28	27	20	25
CFSM	1.97	5.62	5.78	6.85	8.82	4.08	2.48	.67	1.59	2.59	.54	1.15
IN.	2.27	6.27	6.66	7.90	9.19	4.71	2.77	.77	1.77	2.99	.62	1.28

WTR YR 1989 TOTAL 70438 MEAN 193 MAX 3540 MIN 20 CFSM 3.48 IN. 47.21

e Estimated

07024500 SOUTH FORK OBION RIVER NEAR GREENFIELD, TN

LOCATION.--Lat 36°07'05", long 88°48'39", Weakley County, Hydrologic Unit 08010203, on left bank 75 ft downstream from bridge on U.S. Highway 45E, 1.1 mi downstream from Mosley Branch, 2.5 mi south of Greenfield, and 9.7 mi upstream from confluence with Middle Fork.

DRAINAGE AREA.--383 mi^2.

PERIOD OF RECORD.--July 1929 to February 1988, July 1988 to April 1989 (discontinued).

REVISED RECORDS.--WSP 1311: 1936(M). WSP 1920: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 300.36 ft above National Geodetic Vertical Datum of 1929. Prior to June 22, 1939, recording gage at site 75 ft upstream at same datum.

REMARKS.--Records poor. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--58 years (water years 1930-87) 582 ft^3/s, 20.64 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,600 ft^3/s, Jan. 22, 1937, gage height, 17.82 ft, from floodmarks, from rating curve extended above 14,000 ft^3/s; minimum, 61 ft^3/s, Aug. 21, 1944.

EXTREMES FOR CURRENT PERIOD.--October 1988 to April 1989: Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 19	2400	4,320	14.10	Feb. 3	0900	3,440	12.63
Nov. 26	1500	3,710	13.10	Feb. 16	1700	*11,200	*16.93
Dec. 28	0700	6,680	15.73	Mar. 5	1500	4,110	13.81
Jan. 16	1700	8,590	16.35	Apr. 6	0500	5,560	15.19

Minimum discharge, 117 ft^3/s Oct. 21, 22, 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	233	155	1170	3300	342	483	2520					
2	361	150	686	1660	324	416	2290					
3	401	152	523	866	2200	379	3520					
4	489	350	439	623	1470	359	4580					
5	626	562	383	530	1420	2950	5070					
6	439	482	343	589	e1100	3540	5440					
7	305	420	312	624	e690	3570	4650					
8	256	425	288	1310	e500	3620	3110					
9	215	382	271	1230	e390	2850	1690					
10	192	350	258	1370	e380	1310	1090					
11	176	303	248	1610	342	677	801					
12	162	275	240	3050	318	489	631					
13	150	254	233	2610	381	403	539					
14	140	235	222	4070	4520	347	478					
15	133	221	212	6290	5490	306	467					
16	129	286	204	8290	9870	275	433					
17	127	257	198	7980	9690	253	405					
18	124	345	193	5770	6580	363	374					
19	122	2570	192	2960	4620	285	366					
20	120	2910	191	1110	3890	736	333					
21	118	2630	585	701	3980	1710	311					
22	117	3050	600	548	4100	1350	e300					
23	118	3400	1330	462	4300	1610	e285					
24	120	3110	2960	407	3790	1480	e275					
25	122	1800	3560	372	2120	777	e265					
26	123	2070	4400	361	907	499	e250					
27	155	2410	5050	354	682	400	e235					
28	157	1890	6510	336	572	400	e222					
29	152	1820	5880	327	---	2260	e223					
30	159	1780	5040	336	---	1800	e212					
31	160	---	4430	345	---	2430	---					
TOTAL	6401	35044	47151	60391	74968	38327	41365					
MEAN	206	1168	1521	1948	2677	1236	1379					
MAX	626	3400	6510	8290	9870	3620	5440					
MIN	117	150	191	327	318	253	212					
CFSM	.54	3.05	3.97	5.09	6.99	3.23	3.60					
IN.	.62	3.40	4.58	5.87	7.28	3.72	4.02					

e Estimated

07025500 NORTH FORK OBION RIVER NEAR UNION CITY, TN

LOCATION.--Lat 36°23'59", long 88°59'43", Obion County, Hydrologic Unit 08010202, at bridge on State Highway 22, 0.3 mi downstream from Harris Fork Creek, 0.8 mi southeast of Gibbs, 3.9 mi southeast of Union City, 4.5 mi upstream from Hoosier Creek, and 10 mi upstream from confluence with South Fork.

DRAINAGE AREA.--480 mi^2 approximately.

PERIOD OF RECORD.--July 1929 to November 1966, April 1967 to January 1971. February 1989 to September 1989.

GAGE.--Water-stage recorder. Datum of gage is 285.80 ft above National Geodetic Vertical Datum of 1929. Prior to May 20, 1939 and from Aug. 26 to Dec. 9, 1959, staff gage at same site 1.08 ft lower, May 21, 1939 to Aug. 25, and Dec. 10, 1959 to Jan. 1971, water-stage recorder at same site 1.08 ft lower.

REMARKS.--Records good. Periodic observation of water temperature are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--41 years, 614 cfs, 17.37 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,200 ft^3/s, Jan. 22, 1937, gage height 22.0 ft from flood marks; minimum, 82 ft^3/s, Oct. 5, 1943.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period February to September 1989, 15,700 ft^3/s, Feb. 16, gage height 20.89 ft; minimum, 133 ft^3/s, Sept. 20, 21, 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					504	551	1110	170	168	323	222	333
2					514	483	645	163	832	6040	202	416
3					8200	450	3740	157	373	7210	194	257
4					8460	1340	7630	177	272	4400	188	228
5					6190	7250	6820	249	353	1370	182	212
6					1820	7710	4910	262	287	593	192	208
7					894	4090	2050	229	236	643	193	219
8					737	1390	1190	200	209	451	180	212
9					648	699	902	239	205	378	171	203
10					573	542	576	257	198	341	165	204
11					567	459	466	224	199	340	165	207
12					569	401	415	194	6410	585	163	201
13					2550	360	384	179	7820	465	161	194
14					11000	334	358	171	5610	362	161	217
15					13800	302	427	164	3700	298	159	247
16					15200	247	420	162	1070	279	157	181
17					12600	220	370	157	553	265	158	166
18					10000	388	330	158	1710	256	167	157
19					3390	483	313	157	4980	845	156	149
20					3460	1210	292	163	1530	583	156	144
21					7330	4440	280	180	595	395	208	139
22					4450	1750	268	182	428	314	172	139
23					1710	742	259	287	368	269	161	147
24					822	501	249	288	323	284	203	148
25					684	390	232	224	299	472	169	144
26					639	329	222	196	277	274	156	144
27					596	295	210	303	1300	233	151	146
28					608	322	215	220	3080	216	147	143
29					---	1700	238	183	766	206	237	155
30					---	1250	192	180	391	206	467	197
31					---	2800	---	162	---	201	289	---
TOTAL					118515	43428	35713	6237	44542	29097	5852	5857
MEAN					4233	1401	1190	201	1485	939	189	195
MAX					15200	7710	7630	303	7820	7210	467	416
MIN					504	220	192	157	168	201	147	139
CFSM					8.82	2.92	2.48	.42	3.09	1.96	.39	.41
IN.					9.18	3.37	2.77	.48	3.45	2.26	.45	.45

07026000 OBION RIVER AT OBION, TN
(National stream-quality accounting network station)

LOCATION.--Lat 36°15'04", long 89°11'33", Obion County, Hydrologic Unit 08010202, near left bank on downstream end of bridge pier on old U.S. Highway 51, 0.5 mi upstream from Richland Creek, 0.6 mi south of Obion, 14.5 mi downstream from North Fork, and at mile 62.4.

DRAINAGE AREA.--1,852 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1929 to September 1958, October 1966 to current year. Gage height and discharge records at this site from 1964 to 1975 are in reports of U.S. Army Corps of Engineers.

REVISED RECORD.--WSP 1211: 1930, 1943. WSP 2120: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 246.48 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1932, nonrecording gage at present site at datum 5.00 ft higher; Oct. 1, 1932, to Aug. 2, 1939, nonrecording gage, and Aug. 3, 1939, to Sept. 1958, water-stage recorder at present site at datum 15.00 ft higher.

REMARKS.--Records fair.

COOPERATION.--Seventeen discharge measurements furnished by the U.S. Army Corps of Engineers.

AVERAGE DISCHARGE.--52 years (water years 1930-58, 1967-89), 2,732 ft^3/s, 20.03 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 99,500 ft^3/s, Jan. 24, 1937, gage height, 40.4 ft present datum; minimum, under conditions of no backwater, 230 ft^3/s, Oct. 7-9, 1943; minimum daily discharge, 15 ft^3/s, backwater from Mississippi River, Feb. 4, 1937; reverse flow of 57 ft^3/s measured by current meter on that date.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 47,800 ft^3/s, Feb. 17; minimum discharge, 436 ft^3/s, Nov. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4480	464	8000	17300	1400	6400	8970	909	1030	1020	1030	915
2	3350	441	5600	12000	1340	5520	6430	891	2280	8100	993	1310
3	1900	439	3800	8000	12500	4320	9560	880	1800	12900	918	727
4	1200	466	2600	4700	15900	3920	14700	888	1170	14300	869	656
5	1130	3210	1700	3000	16600	11900	17300	960	1070	14200	843	630
6	979	2740	1190	2500	14500	15400	18700	977	1260	11300	826	618
7	782	1430	1020	1700	10700	16600	18200	947	1050	8830	820	609
8	694	1090	925	4920	7660	15800	16800	916	958	6540	801	607
9	654	1010	859	3720	5480	14300	15200	934	1010	4430	789	596
10	618	1130	818	2420	3760	e10100	12400	1030	946	2610	782	595
11	587	1120	785	2140	2290	e5800	9290	993	1030	2290	775	596
12	565	953	755	10100	1620	e3900	7020	920	11200	2240	768	592
13	542	905	737	14000	3500	e3150	5390	867	14500	2210	761	585
14	529	877	725	16600	16400	e2500	4110	828	15300	1460	756	694
15	518	849	708	19700	24400	e2000	3130	789	15100	1180	758	956
16	516	952	687	20800	35300	e1600	2250	759	11700	1080	756	710
17	516	1180	672	20800	46000	e1300	1680	726	8010	1010	754	687
18	508	1820	665	19700	e46100	e1020	1430	694	6080	993	772	674
19	492	15100	656	18000	e40700	e1800	1330	668	8190	4620	753	645
20	482	20400	656	15600	33500	e3500	1240	664	5960	4040	749	620
21	482	26400	1570	12200	27000	e6800	1160	668	3520	1740	847	602
22	474	28800	2620	9080	22000	e5000	1110	854	1580	1310	826	590
23	490	28300	3530	6740	19000	e5300	1080	1310	879	1150	767	577
24	503	25000	7390	4970	16000	e5000	1050	857	806	1170	770	572
25	494	20800	9590	3450	13000	e3500	1020	718	718	1780	765	566
26	476	18300	9560	2780	11000	e2200	998	803	660	1120	759	567
27	463	19800	8840	2440	9000	e1150	981	4630	1830	996	758	563
28	623	19400	14900	1740	7400	e900	967	2650	4080	947	751	558
29	641	16800	17600	1630	---	e1700	1020	1280	2100	914	752	566
30	515	13600	19800	1670	---	8410	944	1130	1210	889	1120	1030
31	481	---	19300	1580	---	9730	---	1080	---	1020	1050	---
TOTAL	26684	273776	148258	265980	464050	180520	185460	33220	127027	118389	25438	20213
MEAN	861	9126	4783	8580	16570	5823	6182	1072	4234	3819	821	674
MAX	4480	28800	19800	20800	46100	16600	18700	4630	15300	14300	1120	1310
MIN	463	439	656	1580	1340	900	944	664	660	889	749	558
CFSM	.46	4.93	2.58	4.63	8.95	3.14	3.34	.58	2.29	2.06	.44	.36
IN.	.54	5.50	2.98	5.34	9.32	3.63	3.73	.67	2.55	2.38	.51	.41

CAL YR 1988 TOTAL 1040013 MEAN 2842 MAX 35000 MIN 439 CFSM 1.53 IN. 20.89
WTR YR 1989 TOTAL 1869015 MEAN 5121 MAX 46100 MIN 439 CFSM 2.76 IN. 37.54

e Estimated

07026000 OBION RIVER AT OBION, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1975 to September 1981.
WATER TEMPERATURE: June 1975 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 488 microsiemens, Dec. 14, 1976; minimum, 35 microsiemens, July 21, 22, 1975.
WATER TEMPERATURES: Maximum, 33.5°C, June 18, 1978; minimum, -0.5°C, several days in Jan. and Feb. 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 01...	1230	467	80	7.24	12.0	764	14	--	--	9000	120
JAN 31...	1200	1580	102	6.77	10.0	764	41	11.2	99	210	750
JUL 11...	1230	1950	78	7.12	26.5	773	280	--	--	6800	--

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
NOV 01...	23	5.5	2.2	6.9	37	0.6	2.5	23	7.9	5.0	0.10
JAN 31...	31	7.7	2.8	5.1	25	0.4	2.5	20	11	5.3	0.10
JUL 11...	25	6.5	2.1	3.7	21	0.3	3.6	32	4.0	4.4	0.20

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS NO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)
NOV 01...	13	60	60	0.08	75.7	0.430	0.010	0.03	0.440	0.110	0.19
JAN 31...	9.8	64	63	0.09	273	0.470	0.040	0.13	0.510	0.150	0.18
JUL 11...	8.4	57	50	0.08	300	0.500	0.020	0.07	0.520	0.130	0.14

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
NOV 01...	0.150	0.29	0.40	0.160	0.120	0.100	0.31	40	1	22
JAN 31...	0.140	0.45	0.60	0.180	0.070	0.060	0.18	180	<1	42
JUL 11...	0.110	0.77	0.90	0.200	0.070	0.060	0.18	140	2	38

07026000 OBION RIVER AT OBION, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)
NOV 01...	<0.5	<1	<1	<3	1	150	<5	<4	150	<0.1
JAN 31...	<0.5	<1	1	<3	3	320	<5	<4	100	<0.1
JUL 11...	<0.5	<1	1	<3	17	270	1	<4	280	<0.1

DATE	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 01...	<10	16	<1	1.0	34	<6	<3	39	49	92
JAN 31...	<10	1	<1	<1.0	46	<6	9	80	341	--
JUL 11...	<10	4	<1	<1.0	72	<6	9	612	3220	96

07026370 NORTH REELFOOT CREEK AT STATE HIGHWAY 22, NEAR CLAYTON, TN

LOCATION.--Lat 36°27'50", long 89°15'13", Obion County, Hydrologic Unit 08010202, on left bank on upstream side of bridge on State Highway 22, 0.9 mi northwest of Clayton, 9.9 mi west of intersection of State Highways 22 and 5, and 11.8 mi northeast of the spillway at Reelfoot Lake.

DRAINAGE AREA.--56.3 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1980 to October 1983, April 1984 to September 1989 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 290.78 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--8 years (water years 1981-83, 1985-89), 67.6 ft^3/s, 16.31 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,140 ft^3/s, Feb. 15, 1989, gage height, 20.26 ft; no flow several days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	0915	3,270	19.90	Feb. 15	1230	*4,140	*20.26
Nov. 26	1515	1,270	17.43	Feb. 20	1630	1,370	17.74
Dec. 28	0415	1,690	18.48	Mar. 5	1945	1,390	17.82
Jan. 7	2330	773	14.72	Apr. 4	0100	1,720	18.55
Jan. 12	1030	1,810	18.73	June 12	0245	1,340	17.64
Feb. 3	0800	1,840	18.78				

No flow several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	188	.09	38	268	36	62	143	5.3	6.6	30	e.27	e.61
2	181	.05	23	147	97	48	81	4.7	28	100	e.24	e.57
3	88	.03	16	59	1360	44	493	3.5	43	202	e.22	1.8
4	33	4.9	11	32	462	78	1200	3.7	18	102	e.20	1.4
5	17	29	8.6	123	380	1060	453	4.5	9.3	39	e.17	e.66
6	9.4	13	6.9	202	338	650	412	3.6	5.2	18	e16.1	e.57
7	5.6	9.0	5.8	167	302	406	409	2.7	2.6	13	4.3	e.43
8	3.1	8.0	4.8	279	241	353	325	2.7	1.4	10	3.6	e.30
9	1.9	6.7	4.2	122	103	311	151	5.4	.86	8.1	2.4	e.17
10	1.7	26	3.5	63	54	228	85	5.8	.40	6.8	1.7	e.00
11	1.5	13	3.3	82	38	100	60	3.6	3.0	37	1.3	e.00
12	1.2	12	2.9	1150	31	65	48	2.3	725	9.5	e1.0	e.00
13	.63	13	2.6	527	950	50	38	1.6	342	4.7	e.80	e.00
14	.50	12	2.7	e838	1880	43	32	1.3	264	3.7	e.63	e3.0
15	.35	12	2.6	503	3090	35	49	1.2	145	2.9	e.48	2.0
16	.20	e147	2.5	402	2260	30	39	.83	68	2.2	e.38	e1.4
17	.14	46	2.7	361	760	28	32	.65	35	1.5	e.30	e.90
18	.07	e441	2.7	321	450	37	27	.52	71	1.3	e.22	e.58
19	.02	2080	3.0	191	409	33	24	.54	141	1.4	e.20	e.35
20	.01	2570	2.9	85	780	148	21	.64	105	1.1	e.18	e.22
21	.00	1080	3.1	39	578	318	16	.73	46	1.1	e.17	e.18
22	.00	459	4.5	26	417	137	14	2.5	22	1.0	e.16	e.15
23	.00	399	23	21	370	74	11	4.1	22	.86	e.16	e.12
24	.01	353	46	18	330	52	10	2.7	23	1.1	e.15	e.10
25	.05	313	32	16	269	41	8.5	1.8	9.4	.80	e.15	e.00
26	.13	674	18	82	135	35	7.8	2.6	7.6	.67	e.14	e.00
27	.13	403	e125	58	94	29	7.1	13	9.0	.59	e.14	e.00
28	.31	291	e1110	40	75	31	6.6	6.1	85	.54	e.13	e.00
29	.30	189	416	84	---	123	6.8	4.3	157	e.46	e.13	e.00
30	.17	78	348	76	---	183	6.3	2.4	83	e.38	e4.7	e.00
31	.11	---	305	51	---	353	---	1.4	---	e.31	2.6	---
TOTAL	534.53	9681.77	2580.3	6433	16289	5185	4216.1	96.71	2478.36	602.01	43.32	15.51
MEAN	17.2	323	83.2	208	582	167	141	3.12	82.6	19.4	1.40	.52
MAX	188	2570	1110	1150	3090	1060	1200	13	725	202	16	3.0
MIN	.00	.03	2.5	16	31	28	6.3	.52	.40	.31	.13	.00
CFSM	.31	5.73	1.48	3.69	10.3	2.97	2.50	.06	1.47	.34	.02	.01
IN.	.35	6.40	1.70	4.25	10.76	3.43	2.79	.06	1.64	.40	.03	.01

CAL YR 1988 TOTAL 24541.08 MEAN 67.1 MAX 2570 MIN .00 CFSM 1.19 IN. 16.22
WTR YR 1989 TOTAL 48155.61 MEAN 132 MAX 3090 MIN .00 CFSM 2.34 IN. 31.82

e Estimated

07026370 NORTH REELFOOT CREEK AT STATE HIGHWAY 22, NEAR CLAYTON, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1979 to October 1983, April 1984 to September 1989 (discontinued).

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: October 1982 to October 1983, April 1984 to September 1989.

INSTRUMENTATION.-- Sediment pumping sampler October 1982 to October 1983, April 1984 to September 1989.

EXTREMES FOR PERIOD OF RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 6,010 mg/L, June 11, 1985; minimum daily mean, 0 mg/L, many days each year.
SEDIMENT LOADS: Maximum daily, 12,800 tons, June 11, 1985; minimum daily, 0 ton, many days each year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,940 mg/L, February 13; minimum daily mean, 0 mg/L, several days.
SEDIMENT LOADS: Maximum daily, 8,980 tons, February 13; minimum 0 ton, several days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE WATER (DEG C)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS NO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
OCT												
01...	0615	126	--	--	0.190	0.010	0.03	0.200	0.300	0.45	0.350	1.7
01...	0715	212	--	--	0.510	0.010	0.03	0.520	0.580	0.70	0.540	2.6
01...	0815	304	--	--	0.460	0.030	0.10	0.490	0.510	0.61	0.470	2.2
01...	1215	366	100	20.0	0.700	0.030	0.10	0.730	0.220	0.18	0.140	1.4
01...	1345	285	120	21.0	--	<0.010	--	0.450	0.080	0.12	0.090	2.1
NOV												
10...	0925	70	180	14.5	--	--	--	--	--	--	--	--
15...	0755	349	80	15.0	0.370	0.020	0.07	0.390	0.270	0.09	0.070	1.5
16...	0945	298	--	--	0.240	0.010	0.03	0.250	0.120	0.06	0.050	3.3
16...	1115	223	--	--	0.350	0.010	0.03	0.360	0.130	0.05	0.040	2.1
16...	1440	110	--	--	0.240	0.010	0.03	0.250	0.070	0.04	0.030	2.3
18...	1545	358	--	--	0.210	0.020	0.07	0.230	0.390	0.39	0.300	1.7
18...	1635	752	--	--	0.260	0.020	0.07	0.280	0.240	0.18	0.140	1.6
18...	1800	1130	--	--	0.310	0.020	0.07	0.330	0.250	0.12	0.090	1.0
18...	1930	1330	--	--	0.230	0.020	0.07	0.250	0.150	0.09	0.070	1.3
19...	0815	2050	55	9.0	0.190	0.030	0.10	0.220	0.130	0.06	0.050	1.5
19...	1145	2210	60	10.0	0.200	0.020	0.07	0.220	0.110	0.08	0.060	0.89
21...	1445	827	--	--	0.190	0.010	0.03	0.200	0.110	0.05	0.040	0.89
22...	1430	440	--	--	0.190	0.010	0.03	0.200	0.120	0.10	0.080	1.1
26...	1250	914	--	--	0.180	0.010	0.03	0.190	0.180	0.12	0.090	2.2
26...	1530	1290	--	--	0.130	0.010	0.03	0.140	0.190	0.09	0.070	1.8
27...	0920	405	--	--	0.170	0.010	0.03	0.180	0.210	0.19	0.150	1.1
DEC												
20...	1520	3.0	--	7.5	0.420	0.030	0.10	0.450	1.10	1.3	1.00	0.80
28...	1235	950	--	5.5	--	<0.010	--	0.330	0.260	0.22	0.170	1.4
JAN												
05...	1845	161	--	--	0.290	0.060	0.20	0.350	0.170	0.21	0.160	1.8
05...	2045	568	--	--	0.410	0.020	0.07	0.430	0.490	0.44	0.340	3.6
05...	2300	568	--	--	0.360	0.030	0.10	0.390	0.220	0.13	0.100	3.3
06...	1300	169	179	7.0	--	<0.010	--	0.460	0.270	0.28	0.220	1.0
07...	2400	766	--	--	0.370	0.040	0.13	0.410	0.470	0.43	0.330	0.73
08...	0200	591	--	--	0.070	0.130	0.43	0.200	0.150	0.14	0.110	1.3
08...	0400	391	--	--	0.200	0.050	0.16	0.250	0.150	0.26	0.200	1.0
12...	0740	1600	--	--	0.130	0.010	0.03	0.140	0.190	0.06	0.050	2.3
12...	0840	1720	--	--	0.120	0.020	0.07	0.140	0.210	0.08	0.060	0.89
12...	1015	1750	--	--	0.100	0.040	0.13	0.140	0.210	0.14	0.110	1.8
12...	1200	1780	--	11.0	0.170	0.020	0.07	0.190	0.190	0.09	0.070	1.4
12...	1525	1670	--	10.0	0.190	0.020	0.07	0.210	0.180	0.10	0.080	1.2
FEB												
02...	1515	24	--	10.5	0.510	0.020	0.07	0.530	0.320	0.39	0.300	0.88
02...	2215	459	--	--	0.340	0.010	0.03	0.350	0.220	0.28	0.220	3.1
03...	0115	1450	--	--	0.210	0.010	0.03	0.220	0.120	0.13	0.100	2.5
03...	0600	1790	--	--	--	<0.010	--	0.170	0.120	0.14	0.110	1.9
08...	1230	249	95	3.0	--	--	--	--	--	--	--	--
13...	1350	1400	--	--	0.420	0.010	0.03	0.430	0.190	0.13	0.100	1.3
13...	1545	1720	--	--	0.360	0.020	0.07	0.380	0.170	0.18	0.140	1.6
14...	1500	1690	--	--	0.320	0.010	0.03	0.330	0.180	0.15	0.120	1.0
21...	0740	587	--	--	--	<0.010	--	0.230	0.130	0.10	0.080	1.3
21...	1435	483	110	7.0	--	--	--	--	--	--	--	--
22...	0915	422	110	5.0	--	--	--	--	--	--	--	--
MAR												
09...	1500	307	120	3.0	--	--	--	--	--	--	--	--
22...	1705	116	240	8.5	0.520	0.020	0.07	0.540	0.530	0.57	0.440	0.97
23...	1049	76	300	10.5	--	--	--	--	--	--	--	--
29...	1545	123	320	18.0	--	--	--	--	--	--	--	--

07026370 NORTH REELFOOT CREEK AT STATE HIGHWAY 22, NEAR CLAYTON, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
APR												
03...	0145	296	--	--	0.370	0.030	0.10	0.400	0.260	0.30	0.230	1.0
03...	0445	731	--	--	0.390	0.020	0.07	0.410	0.220	0.21	0.160	1.4
03...	2045	280	--	--	0.420	0.030	0.10	0.450	0.270	0.31	0.240	1.5
04...	0815	1670	--	--	0.300	0.020	0.07	0.320	0.170	0.17	0.130	1.3
04...	1445	935	130	16.5	0.320	0.020	0.07	0.340	0.190	0.18	0.140	1.4
05...	1825	446	--	--	0.280	0.020	0.07	0.300	0.190	0.21	0.160	0.91
06...	1215	407	180	13.5	--	--	--	--	--	--	--	--
21...	1430	14	--	--	0.270	0.040	0.13	0.310	0.050	0.09	0.070	0.95
MAY												
05...	1040	5.1	420	17.5	--	--	--	--	--	--	--	--
26...	1715	1.3	--	--	0.550	0.040	0.13	0.590	0.090	0.14	0.110	0.81
JUN												
01...	2230	36	--	--	2.35	0.050	0.16	2.40	0.260	0.32	0.250	0.74
02...	0555	26	--	--	3.48	0.120	0.39	3.60	0.550	0.66	0.510	0.55
11...	2330	35	--	--	0.750	0.040	0.13	0.790	0.080	0.13	0.100	0.72
12...	0015	349	--	--	0.620	0.030	0.10	0.650	0.760	0.82	0.640	0.74
12...	0045	651	--	--	0.650	0.030	0.10	0.680	0.500	0.43	0.330	1.2
12...	0130	1070	--	--	1.06	0.040	0.13	1.10	0.430	0.43	0.330	0.97
12...	0300	1340	--	--	2.07	0.030	0.10	2.10	0.200	0.21	0.160	1.2
12...	0500	1190	--	--	2.47	0.030	0.10	2.50	0.230	0.21	0.160	1.1
12...	0815	733	--	--	1.97	0.030	0.10	2.00	0.200	0.24	0.190	1.1
12...	1230	440	--	--	1.74	0.060	0.20	1.80	0.350	0.41	0.320	1.2
12...	1615	410	--	23.0	2.01	0.090	0.30	2.10	0.290	0.48	0.370	1.1
12...	1825	620	--	--	1.55	0.050	0.16	1.60	0.500	0.59	0.460	1.2
12...	2025	650	--	23.0	1.55	0.050	0.16	1.60	0.270	0.30	0.230	1.2
13...	1010	311	--	--	1.24	0.060	0.20	1.30	0.350	0.43	0.330	0.65
15...	1300	136	--	23.0	1.51	0.090	0.30	1.60	0.260	0.36	0.280	0.64
27...	1845	7.2	--	--	0.670	0.100	0.33	0.770	0.190	0.22	0.170	1.1
28...	0915	94	--	--	0.390	0.080	0.26	0.470	0.260	0.30	0.230	1.7
29...	1425	174	--	--	0.350	0.060	0.20	0.410	0.200	0.21	0.160	1.2
SEP												
07...	1515	0.43	--	--	--	0.020	0.07	<0.100	0.530	0.68	0.530	0.97
21...	1215	0.22	240	20.0	--	0.020	0.07	<0.100	1.60	2.1	1.60	0.90

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	PHOS-PHORUS ORGANIC TOTAL (MG/L AS P)	PHOS-PHORUS ORGANIC DIS-SOLVED (MG/L AS P)	ALA-CHLOR TOTAL RECOVER (UG/L)	AME-TRYNE TOTAL	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)
OCT											
01...	2.0	0.270	0.170	0.190	0.58	0.27	0.0	--	--	--	--
01...	3.2	0.830	0.480	0.500	1.5	0.83	0.0	--	--	--	--
01...	--	--	--	--	--	--	--	<0.10	--	0.60	--
01...	2.7	0.590	0.220	0.240	0.74	0.59	0.0	--	--	--	--
01...	--	--	--	--	--	--	--	<0.10	<0.10	0.30	<0.10
01...	--	--	--	--	--	--	--	<0.10	<0.10	0.40	<0.10
01...	--	--	--	--	--	--	--	<0.10	<0.10	0.40	<0.10
01...	1.6	0.690	0.690	0.440	1.3	0.69	0.25	<0.10	<0.10	0.50	<0.10
01...	2.2	0.500	0.460	0.450	1.4	0.50	0.01	--	--	--	--
01...	--	--	--	--	--	--	--	<0.10	0.10	0.60	0.10
NOV											
16...	1.8	0.800	0.350	0.310	0.95	0.80	0.04	0.10	<0.10	0.30	<0.10
16...	3.4	0.660	0.260	0.220	0.67	0.66	0.04	--	--	--	--
16...	2.2	0.770	0.400	0.330	1.0	0.77	0.07	--	--	--	--
16...	2.4	0.670	0.270	0.220	0.67	0.67	0.05	--	--	--	--
18...	2.1	0.790	0.400	0.360	1.1	0.79	0.04	<0.10	<0.10	0.60	<0.10
18...	1.8	0.630	0.270	0.240	0.74	0.63	0.03	<0.10	<0.10	0.40	<0.10
18...	1.3	0.770	0.330	0.310	0.95	0.77	0.02	<0.10	<0.10	0.30	<0.10
18...	1.5	0.730	0.360	0.330	1.0	0.73	0.03	--	--	--	--
18...	--	--	--	--	--	--	--	<0.10	<0.10	0.20	<0.10
19...	1.6	0.610	0.350	0.320	0.98	0.61	0.03	<0.10	<0.10	0.20	<0.10
19...	1.0	0.620	0.320	0.300	0.92	0.62	0.02	--	--	--	--
21...	1.0	0.720	0.360	0.300	0.92	0.72	0.06	--	--	--	--
22...	1.2	0.460	0.270	0.250	0.77	0.46	0.02	--	--	--	--
26...	2.4	1.10	0.300	0.270	0.83	1.1	0.03	<0.10	<0.10	0.30	<0.10
26...	2.0	0.940	0.390	0.350	1.1	0.94	0.04	<0.10	<0.10	0.30	<0.10
27...	1.3	0.720	0.290	0.250	0.77	0.72	0.04	<0.10	<0.10	0.20	<0.10
DEC											
20...	1.9	0.450	0.170	0.150	0.46	0.45	0.02	--	--	--	--
28...	1.7	0.390	0.180	0.150	0.46	0.39	0.03	--	--	--	--

07026370 NORTH REELFOOT CREEK AT STATE HIGHWAY 22, NEAR CLAYTON, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4)	PHOSPHORUS ORGANIC TOTAL (MG/L AS P)	PHOSPHORUS ORGANIC DISSOLVED (MG/L AS P)	ALACHLOR TOTAL RECOVER (UG/L)	AMETRYNE TOTAL	ATRAZINE, TOTAL (UG/L)	CYANAZINE TOTAL (UG/L)
JAN											
05...	2.0	0.490	0.480	0.360	1.1	0.49	0.12	--	--	--	--
05...	4.1	0.540	0.230	0.200	0.61	0.54	0.03	--	--	--	--
05...	3.5	0.530	0.270	0.210	0.64	0.53	0.06	--	--	--	--
06...	1.3	0.330	0.140	0.120	0.37	0.33	0.02	--	--	--	--
07...	1.2	0.650	0.350	0.240	0.74	0.65	0.11	--	--	--	--
08...	1.5	0.730	0.730	0.530	1.6	0.73	0.20	--	--	--	--
08...	1.2	0.640	0.420	0.290	0.89	0.64	0.13	--	--	--	--
12...	2.5	0.680	0.180	0.160	0.49	0.68	0.02	--	--	--	--
12...	1.1	0.570	0.240	0.190	0.58	0.57	0.05	--	--	--	--
12...	2.0	0.540	0.370	0.270	0.83	0.54	0.10	--	--	--	--
12...	1.6	0.440	0.200	0.170	0.52	0.44	0.03	--	--	--	--
12...	1.4	0.400	0.200	0.160	0.49	0.40	0.04	--	--	--	--
FEB											
02...	1.2	0.270	0.070	0.060	0.18	0.27	0.01	--	--	--	--
02...	3.3	1.70	0.190	0.180	0.55	1.7	0.01	--	--	--	--
03...	2.6	1.20	0.210	0.180	0.55	1.2	0.03	--	--	--	--
03...	2.0	1.20	0.220	0.190	0.58	1.2	0.03	--	--	--	--
13...	1.5	0.680	0.190	0.150	0.46	0.68	0.04	--	--	--	--
13...	1.8	0.610	0.340	0.180	0.55	0.61	0.16	--	--	--	--
14...	1.2	0.440	0.150	0.120	0.37	0.44	0.03	--	--	--	--
21...	1.4	0.570	0.100	0.080	0.25	0.57	0.02	--	--	--	--
MAR											
22...	1.5	0.320	0.090	0.070	0.21	0.32	0.02	--	--	--	--
APR											
03...	1.3	0.300	0.090	0.070	0.21	0.30	0.02	--	--	--	--
03...	1.6	1.10	0.080	0.060	0.18	1.1	0.02	--	--	--	--
03...	1.8	0.380	0.100	0.080	0.25	0.38	0.02	--	--	--	--
04...	1.5	0.340	0.100	0.070	0.21	0.34	0.03	--	--	--	--
04...	1.6	0.460	0.090	0.070	0.21	0.46	0.02	--	--	--	--
05...	1.1	0.290	0.080	0.060	0.18	0.29	0.02	--	--	--	--
21...	1.0	0.110	0.080	0.050	0.15	0.11	0.03	--	--	--	--
MAY											
26...	0.90	0.130	0.060	0.080	0.25	0.13	0.0	--	--	--	--
JUN											
01...	1.0	0.100	0.090	0.080	0.25	0.10	0.01	0.10	<0.10	58	0.10
02...	1.1	0.110	0.130	0.090	0.28	0.11	0.04	--	--	--	--
11...	0.80	0.160	0.050	0.070	0.21	0.16	0.0	0.10	<0.10	4.8	1.2
12...	1.5	0.430	0.120	0.140	0.43	0.43	0.0	0.10	<0.10	6.8	0.30
12...	1.7	0.660	0.100	0.100	0.31	0.66	0.0	<0.10	<0.10	22	<0.10
12...	1.4	0.510	0.130	0.120	0.37	0.51	0.01	--	--	--	--
12...	1.4	0.570	0.240	0.220	0.67	0.57	0.02	--	--	--	--
12...	1.3	0.520	0.200	0.210	0.64	0.52	0.0	--	--	--	--
12...	1.3	0.400	0.170	0.190	0.58	0.40	0.0	1.10	<0.10	7.5	0.40
12...	1.6	0.330	0.100	0.120	0.37	0.33	0.0	--	--	--	--
12...	1.4	0.290	0.270	0.200	0.61	0.29	0.07	--	--	--	--
12...	1.7	0.400	0.100	0.130	0.40	0.40	0.0	--	--	--	--
12...	1.5	0.450	0.120	0.140	0.43	0.45	0.0	0.90	<0.10	6.6	0.50
13...	1.0	0.180	0.140	0.120	0.37	0.18	0.02	--	--	--	--
15...	0.90	0.130	0.100	0.110	0.34	0.13	0.0	--	--	--	--
27...	1.3	0.300	0.070	0.070	0.21	0.30	0.0	--	--	--	--
28...	2.0	0.390	0.050	0.050	0.15	0.39	0.0	--	--	--	--
29...	1.4	0.390	0.090	0.070	0.21	0.39	0.02	--	--	--	--
SEP											
07...	1.5	0.180	0.110	0.090	0.28	0.18	0.02	--	--	--	--
21...	2.5	0.420	0.150	0.110	0.34	0.42	0.04	--	--	--	--

07026370 NORTH REELFOOT CREEK AT STATE HIGHWAY 22, NEAR CLAYTON, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	METOLA-CHLOR WATER WHOLE TOT.REC UG/L)	METRI-BUZIN WATER WHOLE TOT.REC (UG/L)	PROME-TONE TOTAL (UG/L)	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	TRI-FLURA-LIN TOTAL RECOVER (UG/L)
OCT								
01...	--	--	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
01...	--	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
01...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
01...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
01...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
01...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
NOV								
16...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
18...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
18...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
18...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
18...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
19...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
26...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
26...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
27...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
JUN								
01...	0.5	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	0.10
11...	0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
12...	0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	0.10
12...	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.10	1.6
12...	0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	0.40
12...	0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	0.20

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	188	1040	880	.09	17	.00	38	110	11
2	181	339	166	.05	17	.00	23	91	5.7
3	88	215	51	.03	16	.00	16	88	3.8
4	33	110	9.8	4.9	59	.78	11	87	2.6
5	17	58	2.7	29	170	13	8.6	85	2.0
6	9.4	50	1.3	13	120	4.2	6.9	80	1.5
7	5.6	46	.70	9.0	110	2.7	5.8	75	1.2
8	3.1	46	.39	8.0	100	2.2	4.8	70	.91
9	1.9	46	.24	6.7	95	1.7	4.2	68	.77
10	1.7	45	.21	26	337	36	3.5	67	.63
11	1.5	44	.18	13	200	7.0	3.3	65	.58
12	1.2	41	.13	12	100	3.2	2.9	65	.51
13	.63	40	.07	13	52	1.8	2.6	61	.43
14	.50	40	.05	12	40	1.3	2.7	56	.41
15	.35	36	.03	12	29	.94	2.6	49	.34
16	.20	35	.02	e147	1550	1020	2.5	49	.33
17	.14	32	.01	46	461	59	2.7	50	.36
18	.07	30	.01	e441	1100	2500	2.7	51	.37
19	.02	25	.00	2080	716	3870	3.0	54	.44
20	.01	12	.00	2570	739	5500	2.9	56	.44
21	.00	0	.00	1080	350	1020	3.1	57	.48
22	.00	0	.00	459	300	372	4.5	110	3.0
23	.00	0	.00	399	240	259	23	514	33
24	.01	10	.00	353	230	219	46	795	103
25	.05	17	.00	313	220	186	32	396	36
26	.13	20	.01	674	661	1440	18	229	11
27	.13	21	.01	403	360	392	e125	684	1200
28	.31	20	.02	291	300	236	e1110	921	3320
29	.30	21	.02	189	225	115	416	375	421
30	.17	20	.01	78	153	32	348	320	301
31	.11	16	.00	---	---	---	305	315	259
TOTAL	534.53	---	1112.91	9681.77	---	17294.82	2580.3	---	5721.80

e Estimated

07026370 NORTH REELFOOT CREEK AT STATE HIGHWAY 22, NEAR CLAYTON, TN--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	268	310	224	36	200	19	62	83	14
2	147	250	99	97	506	545	48	71	9.2
3	59	150	24	1360	1030	4200	44	63	7.5
4	32	115	9.9	462	390	486	78	365	130
5	123	459	89	380	360	369	1060	1960	5790
6	202	310	169	338	320	292	650	521	1000
7	167	370	442	302	300	245	406	350	384
8	279	1330	1600	241	260	169	353	310	295
9	122	275	94	103	240	67	311	250	210
10	63	200	33	54	200	29	228	190	117
11	82	1970	444	38	150	15	100	140	38
12	1150	786	2420	31	120	10	65	130	23
13	527	647	926	950	2940	8980	50	117	16
14	e838	1490	3320	1880	935	4910	43	92	11
15	503	612	838	3090	718	5720	35	87	8.2
16	402	456	497	2260	397	2500	30	75	6.1
17	361	344	336	760	346	697	28	66	5.0
18	321	270	234	450	339	413	37	175	17
19	191	250	129	409	282	312	33	130	12
20	85	218	50	780	891	2410	148	543	317
21	39	195	21	578	475	809	318	553	547
22	26	178	12	417	260	293	137	210	78
23	21	162	9.2	370	250	250	74	130	26
24	18	148	7.2	330	200	178	52	96	13
25	16	135	5.8	269	190	138	41	90	10
26	82	785	216	135	130	47	35	83	7.8
27	58	421	67	94	92	23	29	82	6.4
28	40	261	29	75	82	17	31	220	31
29	84	717	177	---	---	---	123	849	385
30	76	320	66	---	---	---	183	642	567
31	51	315	43	---	---	---	353	614	750
TOTAL	6433	---	12631.1	16289	---	34143	5185	---	10831.2
		APRIL			MAY			JUNE	
1	143	356	139	5.3	57	.82	6.6	494	43
2	81	273	60	4.7	55	.70	28	1500	131
3	493	1490	3390	3.5	51	.48	43	490	57
4	1200	1040	4200	3.7	59	.59	18	210	10
5	453	500	612	4.5	62	.75	9.3	138	3.5
6	412	400	445	3.6	61	.59	5.2	110	1.5
7	409	250	276	2.7	61	.44	2.6	85	.60
8	325	270	237	2.7	62	.45	1.4	64	.24
9	151	140	57	5.4	72	1.0	.86	55	.13
10	85	130	30	5.8	65	1.0	.40	48	.05
11	60	122	20	3.6	65	.63	3.0	470	65
12	48	114	15	2.3	63	.39	725	1900	3850
13	38	109	11	1.6	62	.27	342	664	625
14	32	98	8.5	1.3	60	.21	264	348	255
15	49	131	17	1.2	60	.19	145	128	51
16	39	92	9.7	.83	60	.13	68	109	20
17	32	97	8.4	.65	60	.11	35	99	9.3
18	27	92	6.7	.52	59	.08	71	1040	450
19	24	87	5.6	.54	59	.09	141	661	249
20	21	87	4.9	.64	56	.10	105	350	99
21	16	85	3.7	.73	52	.10	46	300	37
22	14	80	3.0	2.5	59	.40	22	250	15
23	11	78	2.3	4.1	60	.66	22	413	61
24	10	75	2.0	2.7	50	.36	23	606	51
25	8.5	72	1.7	1.8	40	.50	9.4	262	6.7
26	7.8	68	1.4	2.6	42	.5	7.6	159	3.3
27	7.1	62	1.2	13	106	4.6	9.0	124	4.1
28	6.6	57	1.0	6.1	63	1.0	85	288	62
29	6.8	60	1.1	4.3	60	.70	157	650	276
30	6.3	58	.99	2.4	56	.36	83	250	56
31	---	---	---	1.4	53	.20	---	---	---
TOTAL	4216.1	---	9571.19	96.71	---	18.40	2478.36	---	6492.42

e Estimated

07026370 NORTH REELFOOT CREEK AT STATE HIGHWAY 22, NEAR CLAYTON, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	30	150	12	e.27	16	.01	e.61	109	.18
2	100	575	155	e.24	20	.01	e.57	110	.17
3	202	775	423	e.22	15	.01	1.8	120	.58
4	102	275	76	e.20	14	.01	1.4	100	.38
5	39	210	22	e.17	13	.01	e.66	70	.12
6	18	145	7.0	e16.1	525	59	e.57	36	.06
7	13	93	3.3	4.3	325	3.8	e.43	18	.02
8	10	77	2.1	3.6	175	1.7	e.30	10	.01
9	8.1	60	1.3	2.4	93	.60	e.17	10	.00
10	6.8	38	.70	1.7	78	.36	e.00	0	.00
11	37	994	280	1.3	63	.22	e.00	0	.00
12	9.5	530	14	e1.0	50	.13	e.00	0	.00
13	4.7	125	1.6	e.80	39	.08	e.00	0	.00
14	3.7	90	.90	e.63	27	.05	e3.0	97	.79
15	2.9	63	.49	e.48	20	.03	2.0	43	.23
16	2.2	58	.34	e.38	13	.01	e1.4	27	.10
17	1.5	50	.20	e.30	15	.01	e.90	21	.05
18	1.3	43	.15	e.22	15	.01	e.58	18	.03
19	1.4	33	.12	e.20	16	.01	e.35	13	.01
20	1.1	23	.07	e.18	17	.01	e.22	10	.01
21	1.1	13	.04	e.17	14	.01	e.18	10	.00
22	1.0	13	.04	e.16	12	.01	e.15	10	.00
23	.86	15	.03	e.16	10	.00	e.12	10	.00
24	1.1	34	.10	e.15	12	.00	e.10	11	.00
25	.80	42	.09	e.15	11	.00	e.00	0	.00
26	.67	25	.05	e.14	9	.00	e.00	0	.00
27	.59	20	.03	e.14	10	.00	e.00	0	.00
28	.54	19	.03	e.13	10	.00	e.00	0	.00
29	e.46	17	.02	e.13	9	.00	e.00	0	.00
30	e.38	14	.01	e4.7	262	15	e.00	0	.00
31	e.31	15	.01	2.6	200	1.4	---	---	---
TOTAL	602.01	---	1000.72	43.32	---	82.49	15.51	---	2.74

TOTAL LOAD FOR YEAR: 98902.72 TONS

e Estimated

07026400 SOUTH REELFOOT CREEK NEAR CLAYTON, TN

LOCATION.--Lat 36°26'20", long 89°15'37", Obion County, Hydrologic Unit 08010202, at county road bridge, 1.7 mi above confluence with North Reelfoot Creek, and 2 mi southwest of Clayton.

DRAINAGE AREA.--38.6 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Miscellaneous measurements, water years 1955, 1956, 1964, 1983. May 1984 to September 1989 (discontinued).

REVISED RECORDS.--WRD TN-85-1: 1984.

GAGE.--Water-stage recorder. Datum of gage is 289.50 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records poor.

AVERAGE DISCHARGE.--5 years, 51.3 ft^3/s, 18.05 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,550 ft^3/s, Dec. 9, 1986, gage height, 22.94 ft; no flow several days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 1	0745	1,040	17.03	Feb. 15	0700	3,370	21.94
Nov. 19	0615	*3,530	*22.05	Feb. 20	1530	1,660	19.69
Nov. 26	1430	1,220	18.54	Apr. 4	0115	2,250	20.82
Dec. 28	0130	2,340	20.96	June 12	0315	2,220	20.77
Jan. 12	0845	2,370	21.01	June 18	1730	1,170	18.41
Feb. 3	0400	2,440	21.09				

No flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	175	7.8	20	69	21	61	91	9.4	4.4	12	3.0	2.9
2	44	8.0	16	52	53	57	76	9.1	21	61	2.8	2.7
3	23	7.3	14	43	996	56	251	8.5	7.9	36	2.6	1.8
4	14	8.4	11	35	221	105	695	10	6.7	23	1.7	.70
5	10	84	9.7	87	158	508	208	12	7.3	17	3.3	.30
6	8.7	33	9.0	72	83	318	136	9.0	5.7	17	4.2	.10
7	8.4	24	8.8	88	51	203	116	8.1	4.6	16	3.3	.00
8	9.2	23	8.3	117	35	142	88	8.4	6.0	12	2.0	.00
9	11	24	7.8	48	25	112	62	10	7.0	10	2.5	.00
10	11	21	7.8	32	21	93	49	8.8	7.0	9.2	1.1	.00
11	11	16	7.7	49	21	79	40	7.8	14	112	.94	.00
12	11	16	8.3	779	19	69	35	7.4	718	115	.79	.00
13	9.7	18	10	244	634	65	31	7.3	249	56	.54	.00
14	9.1	17	11	452	1030	62	30	7.3	220	28	.51	2.7
15	8.5	16	11	205	1750	56	52	7.3	160	16	.48	.72
16	8.4	80	9.8	102	663	51	36	7.0	95	12	.45	.00
17	8.5	24	11	68	325	51	30	6.6	61	8.6	.43	.00
18	8.3	577	10	51	259	57	26	7.3	252	8.9	.40	.00
19	8.0	1880	12	37	245	53	23	7.4	122	37	.66	.00
20	8.0	831	12	27	559	103	20	8.0	62	21	.70	.00
21	8.2	371	13	22	300	137	18	7.1	37	14	2.7	.00
22	8.1	254	16	20	233	90	17	24	26	11	1.0	.00
23	9.4	232	40	19	215	72	15	17	18	8.0	.85	.00
24	8.2	216	45	18	190	64	14	11	15	7.9	.70	.00
25	9.1	194	21	17	127	58	13	9.2	12	8.5	.55	.00
26	8.7	429	17	44	92	54	12	9.5	10	6.5	.45	.00
27	8.7	185	219	26	79	52	11	9.4	13	6.2	.33	.00
28	13	76	737	21	69	71	11	6.3	26	5.4	.17	.00
29	8.1	43	213	57	---	166	14	5.4	21	4.9	.10	.00
30	10	28	132	31	---	130	11	4.7	14	4.2	.60	.50
31	9.6	---	87	24	---	148	---	3.9	---	3.7	2.7	---
TOTAL	505.9	5743.5	1755.2	2956	8474	3343	2231	274.2	2222.6	708.0	42.55	12.42
MEAN	16.3	191	56.6	95.4	303	108	74.4	8.85	74.1	22.8	1.37	.41
MAX	175	1880	737	779	1750	508	695	24	718	115	4.2	2.9
MIN	8.0	7.3	7.7	17	19	51	11	3.9	4.4	3.7	.10	.00
CFSM	.42	4.96	1.47	2.47	7.84	2.79	1.93	.23	1.92	.59	.04	.01
IN.	.49	5.54	1.69	2.85	8.17	3.22	2.15	.26	2.14	.68	.04	.01

CAL YR 1988 TOTAL 18320.62 MEAN 50.1 MAX 1880 MIN .00 CFSM 1.30 IN. 17.66
WTR YR 1989 TOTAL 28268.37 MEAN 77.4 MAX 1880 MIN .00 CFSM 2.01 IN. 27.24

07026400 SOUTH REELFOOT CREEK NEAR CLAYTON, TN--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964, 1983 to September 1989 (discontinued).

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: May 1984 to September 1987, October 1988 to September 1989.

INSTRUMENTATION.--Sediment pumping sampler May 1984 to September 1987, October 1988 to September 1989.

EXTREMES FOR PERIOD OF RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 7,460 mg/L, May 27, 1984; minimum daily mean, 0 mg/L, many days most years.
SEDIMENT LOADS: Maximum daily, 18,500 tons, May 27, 1984; minimum, 0 ton, many days most years.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean 5,520 mg/L, February 13; minimum daily mean, 0 ton many days in September.
SEDIMENT LOADS: Maximum daily, 17,100 tons, February 15, minimum 0 ton, many days in September.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
OCT												
01...	0630	282	--	--	0.230	0.020	0.07	0.250	0.200	0.17	0.130	1.2
01...	0730	973	--	--	0.280	0.010	0.03	0.290	0.310	0.15	0.120	2.2
01...	0830	762	--	--	0.290	0.020	0.07	0.310	0.170	0.15	0.120	1.9
01...	0930	498	--	--	0.360	0.020	0.07	0.380	0.120	0.15	0.120	2.2
01...	1245	172	140	21.0	0.300	0.010	0.03	0.310	0.150	0.18	0.140	0.85
06...	0915	8.8	180	13.5	--	--	--	--	--	--	--	--
NOV												
10...	1310	22	260	15.0	--	--	--	--	--	--	--	--
16...	0445	113	--	--	0.240	0.020	0.07	0.260	0.100	0.09	0.070	3.0
16...	0545	229	--	--	0.290	0.020	0.07	0.310	0.140	0.05	0.040	2.0
16...	0645	261	--	--	0.280	0.020	0.07	0.300	0.140	0.15	0.120	2.1
16...	0745	215	--	--	0.320	0.020	0.07	0.340	0.140	0.15	0.120	1.9
16...	0830	176	140	15.0	--	--	--	--	--	--	--	--
16...	1030	110	--	--	0.330	0.020	0.07	0.350	0.090	0.08	0.060	2.2
18...	1510	50	--	--	0.170	0.020	0.07	0.190	0.120	0.12	0.090	1.6
18...	1615	444	--	--	0.240	0.030	0.10	0.270	0.150	0.13	0.100	1.4
18...	1700	838	--	--	0.240	0.030	0.10	0.270	0.160	0.14	0.110	1.0
18...	1830	1850	--	--	0.180	0.030	0.10	0.210	0.120	0.13	0.100	1.2
18...	2000	2050	--	--	0.190	0.020	0.07	0.210	0.130	0.13	0.100	0.97
19...	0515	3190	--	--	0.170	0.020	0.07	0.190	0.110	0.12	0.090	1.5
19...	0845	2810	65	9.5	0.190	0.030	0.10	0.220	0.120	0.10	0.080	1.3
19...	1440	703	100	10.5	0.200	0.020	0.07	0.220	0.140	0.15	0.120	1.3
19...	1900	834	--	--	0.210	0.020	0.07	0.230	0.090	0.12	0.090	1.4
19...	2300	2370	--	--	0.100	0.020	0.07	0.120	0.110	0.05	0.040	0.29
20...	0300	1750	--	--	0.150	0.020	0.07	0.170	0.070	0.06	0.050	0.93
20...	0930	595	--	--	0.210	0.020	0.07	0.230	0.110	0.10	0.080	0.89
21...	1500	365	--	--	0.150	0.020	0.07	0.170	0.090	0.10	0.080	0.91
26...	1230	636	--	--	0.260	0.010	0.03	0.270	0.140	0.12	0.090	2.2
26...	1455	1200	--	--	0.180	0.010	0.03	0.190	0.150	0.08	0.060	1.6
DEC												
20...	1235	12	--	7.5	0.330	0.010	0.03	0.340	0.160	0.19	0.150	0.34
28...	1125	418	--	5.5	--	<0.010	--	0.300	0.170	0.26	0.200	1.0
JAN												
05...	1930	250	--	--	--	<0.010	--	0.430	0.170	0.08	0.060	1.0
05...	2035	344	--	--	--	<0.010	--	0.370	0.150	0.06	0.050	1.2
05...	2245	250	--	--	0.280	0.030	0.10	0.310	0.180	0.18	0.140	1.2
06...	1230	57	150	7.5	0.360	0.010	0.03	0.370	0.190	0.21	0.160	0.81
12...	0705	2100	--	--	--	<0.010	--	0.150	0.260	0.09	0.070	2.8
12...	0820	2340	--	--	0.140	0.010	0.03	0.150	0.270	0.09	0.070	2.2
12...	0940	2200	--	--	0.160	0.010	0.03	0.170	0.160	0.12	0.090	1.5
12...	1130	1280	--	9.5	--	--	--	--	--	--	--	--
12...	1610	449	--	10.0	0.260	0.010	0.03	0.270	0.230	0.14	0.110	1.3
FEB												
02...	1620	18	--	--	0.380	0.010	0.03	0.390	0.140	0.17	0.130	0.76
02...	2330	370	--	--	--	<0.010	--	0.270	0.140	0.12	0.090	2.5
03...	0230	2230	--	--	--	<0.010	--	0.150	0.150	0.08	0.060	3.1
03...	0530	2160	--	--	--	<0.010	--	0.200	0.120	0.12	0.090	1.8
08...	1400	34	215	4.0	--	--	--	--	--	--	--	--
13...	1310	607	--	--	0.450	0.030	0.10	0.480	0.270	0.30	0.230	1.6
13...	1520	1040	--	--	0.360	0.020	0.07	0.380	0.210	0.17	0.130	1.5
14...	0855	628	--	--	--	<0.010	--	0.290	0.130	0.10	0.080	1.2
14...	1125	470	100	6.5	--	--	--	--	--	--	--	--
15...	0930	850	50	6.5	--	--	--	--	--	--	--	--
21...	0710	286	--	--	--	<0.010	--	0.240	0.110	0.13	0.100	1.3
22...	1130	232	120	5.5	--	--	--	--	--	--	--	--
MAR												
09...	1600	110	220	5.0	--	--	--	--	--	--	--	--
22...	1330	89	240	10.5	0.350	0.010	0.03	0.360	0.130	0.14	0.110	0.57
29...	1430	153	220	18.0	--	--	--	--	--	--	--	--
29...	1615	236	230	18.0	--	--	--	--	--	--	--	--

07026400 SOUTH REELFOOT CREEK NEAR CLAYTON, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER	SPE-CIFIC CON-DUCT-ANCE SECOND	TEMPER-ATURE WATER (US/CM)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L (DEG C)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
APR												
03...	2030	109	--	--	0.250	0.020	0.07	0.270	0.230	0.19	0.150	1.1
03...	2200	378	--	--	0.210	0.010	0.03	0.220	0.280	0.13	0.100	1.2
04...	0835	437	--	--	0.200	0.010	0.03	0.210	0.130	0.10	0.080	0.87
04...	1530	350	160	17.0	--	<0.010	--	0.210	0.110	0.09	0.070	0.19
05...	1850	184	--	--	--	<0.010	--	0.200	0.090	0.08	0.060	--
06...	1125	127	180	13.5	--	--	--	--	--	--	--	--
20...	1715	20	300	19.5	--	--	--	--	--	--	--	--
21...	1240	18	--	--	--	<0.010	--	<0.100	0.020	0.04	0.030	--
MAY												
26...	1650	8.8	360	25.0	0.140	0.020	0.07	0.160	0.040	0.08	0.060	0.66
26...	1800	13	300	24.0	1.73	0.070	0.23	1.80	0.210	0.35	0.270	0.59
JUN												
11...	2300	66	--	--	0.530	0.020	0.07	0.550	0.120	0.13	0.100	0.58
11...	2345	142	--	--	0.730	0.020	0.07	0.750	0.370	0.44	0.340	0.93
12...	0030	349	--	--	1.08	0.020	0.07	1.10	0.210	0.19	0.150	0.69
12...	0115	1140	--	--	1.57	0.030	0.10	1.60	0.260	0.26	0.200	1.2
12...	0315	2190	--	--	0.790	0.020	0.07	0.810	0.280	0.15	0.120	0.82
12...	0615	999	--	--	0.660	0.020	0.07	0.680	0.120	0.12	0.090	0.98
12...	0745	614	--	23.0	0.540	0.020	0.07	0.560	0.120	0.14	0.110	0.68
12...	1200	350	--	23.0	0.570	0.020	0.07	0.590	0.150	0.14	0.110	0.55
12...	1555	300	--	23.0	0.420	0.020	0.07	0.440	0.110	0.12	0.090	0.59
12...	1810	450	--	23.0	0.670	0.020	0.07	0.690	0.130	0.21	0.160	0.77
12...	2000	423	--	23.0	0.540	0.010	0.03	0.550	0.120	0.13	0.100	0.58
13...	1115	234	--	--	0.280	0.010	0.03	0.290	0.090	0.14	0.110	0.41
15...	1555	143	--	--	0.310	0.020	0.07	0.330	0.120	0.19	0.150	0.38
27...	1750	12	--	--	0.260	0.020	0.07	0.280	0.040	0.04	0.030	1.9
28...	0830	26	--	--	0.200	0.030	0.10	0.230	0.150	0.17	0.130	1.0

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	PHOS-PHORUS ORGANIC TOTAL (MG/L AS P)	PHOS-PHORUS ORGANIC DIS-SOLVED (MG/L AS P)	ALA-CHLOR TOTAL RECOVER (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AME-TRYNE TOTAL (UG/L)	METRI-BUZIN, TOTAL (UG/L)
OCT											
01...	1.4	0.380	0.140	0.170	0.52	0.38	0.0	--	--	--	--
01...	--	--	--	--	--	--	--	<0.10	<0.10	0.10	<0.10
01...	2.5	0.430	0.140	0.120	0.37	0.43	0.02	--	--	--	--
01...	--	--	--	--	--	--	--	<0.10	<0.10	0.10	<0.10
01...	2.1	0.460	0.270	0.270	0.83	0.46	0.0	--	--	--	--
01...	--	--	--	--	--	--	--	<0.10	<0.10	0.10	<0.10
01...	2.3	0.540	0.390	0.370	1.1	0.54	0.02	--	--	--	--
01...	--	--	--	--	--	--	--	<0.10	<0.10	0.30	<0.10
01...	1.0	0.430	0.270	0.220	0.67	0.43	0.05	<0.10	<0.10	0.30	<0.10
01...	--	--	--	--	--	--	--	<0.10	<0.10	0.30	<0.10
NOV											
16...	3.1	0.640	0.300	0.240	0.74	0.64	0.06	--	--	--	--
16...	2.1	0.730	0.350	0.300	0.92	0.73	0.05	--	--	--	--
16...	2.2	0.810	0.330	0.260	0.80	0.81	0.07	--	--	--	--
16...	2.0	0.720	0.430	0.360	1.1	0.72	0.07	--	--	--	--
16...	--	--	--	--	--	--	--	<0.10	<0.10	0.10	<0.10
16...	2.3	0.840	0.490	0.390	1.2	0.84	0.10	--	--	--	--
18...	1.7	0.690	0.170	0.150	0.46	0.69	0.02	--	--	--	--
18...	1.6	0.580	0.300	0.260	0.80	0.58	0.04	<0.10	<0.10	0.10	<0.10
18...	1.2	0.600	0.330	0.290	0.89	0.60	0.04	<0.10	<0.10	0.10	<0.10
18...	1.3	0.740	0.310	0.280	0.86	0.74	0.03	<0.10	<0.10	0.10	<0.10
18...	1.1	0.570	0.340	0.310	0.95	0.57	0.03	--	--	--	--
19...	1.6	0.690	0.280	0.230	0.71	0.69	0.05	--	--	--	--
19...	1.4	0.550	0.250	0.220	0.67	0.55	0.03	<0.10	<0.10	0.10	<0.10
19...	1.4	0.550	0.230	0.210	0.64	0.55	0.02	--	--	--	--
19...	1.5	0.460	0.230	0.210	0.64	0.46	0.02	--	--	--	--
19...	0.40	0.520	0.260	0.230	0.71	0.52	0.03	--	--	--	--
20...	1.0	0.490	0.290	0.270	0.83	0.49	0.02	--	--	--	--
20...	1.0	0.370	0.170	0.160	0.49	0.37	0.01	--	--	--	--
21...	1.0	0.490	0.200	0.180	0.55	0.49	0.02	--	--	--	--
26...	2.3	0.790	0.250	0.220	0.67	0.79	0.03	<0.10	<0.10	0.10	<0.10
26...	1.8	0.770	0.370	0.320	0.98	0.77	0.05	<0.10	<0.10	0.20	<0.10
DEC											
20...	0.50	0.150	0.030	0.030	0.09	0.15	0.0	--	--	--	--
28...	1.2	0.260	0.190	0.150	0.46	0.26	0.04	--	--	--	--
JAN											
05...	1.2	0.380	0.080	0.070	0.21	0.38	0.01	--	--	--	--
05...	1.4	0.550	0.110	0.100	0.31	0.55	0.01	--	--	--	--
05...	1.4	0.460	0.370	0.250	0.77	0.46	0.12	--	--	--	--
06...	1.0	0.330	0.200	0.140	0.43	0.33	0.06	--	--	--	--
12...	3.1	0.530	0.120	0.100	0.31	0.53	0.02	--	--	--	--
12...	2.5	0.490	0.140	0.130	0.40	0.49	0.01	--	--	--	--
12...	1.7	0.440	0.160	0.140	0.43	0.44	0.02	--	--	--	--
12...	1.5	0.400	0.170	0.140	0.43	0.40	.03	--	--	--	--

07026400 SOUTH REELFOOT CREEK NEAR CLAYTON, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	PHOS-PHORUS ORGANIC TOTAL (MG/L AS P)	PHOS-PHORUS ORGANIC DIS-SOLVED (MG/L AS P)	ALA-CHLOR TOTAL RECOVER (UG/L)	AME-TRYNE TOTAL	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)
FEB											
02...	0.90	0.370	0.050	0.040	0.12	0.37	0.01	--	--	--	--
02...	2.6	1.10	0.120	0.100	0.31	1.1	0.02	--	--	--	--
03...	3.3	1.90	0.130	0.100	0.31	1.9	0.03	--	--	--	--
03...	1.9	0.950	0.180	0.140	0.43	0.95	0.04	--	--	--	--
13...	1.9	0.520	0.210	0.120	0.37	0.52	0.09	--	--	--	--
13...	1.7	0.610	0.170	0.120	0.37	0.61	0.05	--	--	--	--
14...	1.3	0.420	0.100	0.080	0.25	0.42	0.02	--	--	--	--
21...	1.4	0.740	0.090	0.070	0.21	0.74	0.02	--	--	--	--
MAR											
22...	0.70	0.230	0.050	0.040	0.12	0.23	0.01	--	--	--	--
APR											
03...	1.3	0.550	0.080	0.060	0.18	0.55	0.02	--	--	--	--
03...	1.5	0.910	0.060	0.040	0.12	0.91	0.02	--	--	--	--
04...	1.0	0.490	0.070	0.050	0.15	0.49	0.02	--	--	--	--
04...	0.30	0.310	0.060	0.050	0.15	0.31	0.01	--	--	--	--
05...	<0.20	0.260	0.060	0.040	0.12	0.26	0.02	--	--	--	--
21...	<0.20	0.050	0.080	0.060	0.18	0.05	0.02	--	--	--	--
MAY											
26...	0.70	0.090	0.080	0.070	0.21	0.09	0.01	--	--	--	--
26...	0.80	0.150	0.120	0.120	0.37	0.15	0.0	10.0	<0.10	38	<0.10
JUN											
11...	0.70	0.260	0.050	0.040	0.12	0.26	0.01	1.40	<0.10	8.8	<0.10
11...	1.3	0.260	0.050	0.070	0.21	0.26	0.0	--	--	--	--
12...	0.90	0.420	0.080	0.060	0.18	0.42	0.02	0.80	<0.10	5.5	<0.10
12...	1.5	0.530	0.080	0.070	0.21	0.53	0.01	0.40	<0.10	7.2	<0.10
12...	1.1	0.550	0.100	0.080	0.25	0.55	0.02	--	--	--	--
12...	1.1	0.400	0.180	0.150	0.46	0.40	0.03	--	--	--	--
12...	0.80	0.290	0.090	0.080	0.25	0.29	0.01	0.10	<0.10	1.6	0.10
12...	0.70	0.260	0.080	0.060	0.18	0.26	0.02	0.10	<0.10	1.8	0.10
12...	0.70	0.180	0.050	0.050	0.15	0.18	0.0	--	--	--	--
12...	0.90	0.260	0.070	0.060	0.18	0.26	0.01	0.20	<0.10	3.0	<0.10
12...	0.70	0.230	0.060	0.080	0.25	0.23	0.0	--	--	--	--
13...	0.50	0.080	0.080	0.060	0.18	0.08	0.02	--	--	--	--
15...	0.50	0.100	0.090	0.080	0.25	0.10	0.01	--	--	--	--
27...	1.9	0.210	0.050	0.050	0.15	0.21	0.0	--	--	--	--
28...	1.2	0.380	0.050	0.050	0.15	0.38	0.0	--	--	--	--

DATE	METOLA-CHLOR WATER WHOLE TOT.REC UG/L)	METRI-BUZIN WATER WHOLE TOT.REC (UG/L)	PROME-TONE TOTAL (UG/L)	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	TRI-FLURA-LIN TOTAL RECOVER (UG/L)
OCT								
01...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
01...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
01...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
01...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
01...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
01...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
NOV								
16...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
18...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
18...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
18...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
19...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
18...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
26...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
26...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
MAY								
26...	<0.1	<0.1	0.2	<0.1	0.20	<0.1	<0.10	<0.10
JUN								
11...	<0.1	<0.1	0.1	<0.1	0.10	<0.1	0.10	0.20
12...	<0.1	0.1	<0.1	<0.1	<0.10	<0.1	<0.10	0.50
12...	0.7	0.2	<0.1	<0.1	<0.10	<0.1	<0.10	0.70
12...	0.1	0.1	<0.1	<0.1	<0.10	<0.1	<0.10	0.10
12...	0.1	0.1	<0.1	<0.1	<0.10	<0.1	<0.10	0.20
12...	0.2	0.1	<0.1	<0.1	<0.10	<0.1	<0.10	0.20

07026400 SOUTH REELFOOT CREEK NEAR CLAYTON, TN--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	175	1790	1890	7.8	120	2.5	20	70	3.8
2	44	350	42	8.0	123	2.7	16	55	2.4
3	23	180	11	7.3	111	2.2	14	51	1.9
4	14	132	5.0	8.4	115	2.6	11	48	1.4
5	10	78	2.1	84	1020	335	9.7	45	1.2
6	8.7	45	1.1	33	290	26	9.0	41	1.0
7	8.4	32	.73	24	163	11	8.8	38	.90
8	9.2	32	.79	23	108	6.7	8.3	37	.83
9	11	31	.92	24	79	5.1	7.8	35	.74
10	11	34	1.0	21	70	4.0	7.8	33	.69
11	11	32	.95	16	52	2.2	7.7	32	.67
12	11	31	.92	16	59	2.5	8.3	46	1.0
13	9.7	30	.79	18	65	3.2	10	72	1.9
14	9.1	29	.71	17	50	2.3	11	72	2.1
15	8.5	29	.67	16	30	1.3	11	68	2.0
16	8.4	28	.64	80	946	308	9.8	59	1.6
17	8.5	24	.55	24	425	28	11	52	1.5
18	8.3	20	.45	577	1050	3260	10	54	1.5
19	8.0	18	.39	1880	1880	9490	12	43	1.4
20	8.0	14	.30	831	1450	4540	12	31	1.0
21	8.2	12	.27	371	700	701	13	30	1.1
22	8.1	11	.24	254	560	384	16	41	3.0
23	9.4	60	1.5	232	310	194	40	1450	207
24	8.2	82	1.8	216	250	146	45	1290	207
25	9.1	79	1.9	194	210	110	21	700	40
26	8.7	78	1.8	429	661	1440	17	400	18
27	8.7	80	1.9	185	510	255	219	364	920
28	13	221	9.2	76	340	70	737	1630	5630
29	8.1	130	2.8	43	200	23	213	680	391
30	10	128	3.5	28	90	6.8	132	510	182
31	9.6	127	3.3	---	---	---	87	430	101
TOTAL	505.9	---	1989.22	5743.5	---	21365.1	1755.2	---	7729.63
		JANUARY			FEBRUARY			MARCH	
1	69	360	67	21	500	28	61	175	29
2	52	290	41	53	1160	483	57	110	17
3	43	210	24	996	1750	6130	56	60	9.1
4	35	180	17	221	725	433	105	1200	629
5	87	841	478	158	590	252	508	2750	3930
6	72	317	75	83	390	87	318	1320	1170
7	88	797	642	51	250	34	203	610	334
8	117	576	237	35	200	19	142	350	134
9	48	175	23	25	280	19	112	250	76
10	32	130	11	21	220	12	93	175	44
11	49	600	79	21	190	11	79	107	23
12	779	2300	6410	19	200	10	69	120	22
13	244	900	593	634	5520	15500	65	137	24
14	452	1700	2560	1030	3800	10900	62	125	21
15	205	820	454	1750	2950	17100	56	108	16
16	102	650	179	663	1550	2770	51	90	12
17	68	450	83	325	1050	921	51	72	9.9
18	51	275	38	259	825	577	57	100	15
19	37	180	18	245	700	463	53	63	9.0
20	27	138	10	559	1680	3540	103	693	334
21	22	132	7.8	300	1210	980	137	492	193
22	20	125	6.7	233	700	440	90	275	67
23	19	119	6.1	215	590	342	72	196	38
24	18	113	5.5	190	500	256	64	162	28
25	17	109	5.0	127	400	137	58	133	21
26	44	573	79	92	310	77	54	104	15
27	26	220	15	79	240	51	52	75	11
28	21	204	12	69	220	41	71	459	263
29	57	996	194	---	---	---	166	1020	512
30	31	600	50	---	---	---	130	622	257
31	24	530	34	---	---	---	148	837	440
TOTAL	2956	---	12454.1	8474	---	61613	3343	---	8703.0

07026400 SOUTH REELFOOT CREEK NEAR CLAYTON, TN--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	91	220	54	9.4	49	1.2	4.4	150	5.2
2	76	290	60	9.1	46	1.1	21	776	62
3	251	2680	3270	8.5	43	.99	7.9	270	5.8
4	695	1530	4330	10	53	1.4	6.7	188	3.4
5	208	1180	663	12	58	1.9	7.3	176	3.5
6	136	800	294	9.0	44	1.1	5.7	148	2.3
7	116	490	153	8.1	42	.92	4.6	118	1.5
8	88	300	71	8.4	45	1.0	6.0	94	1.5
9	62	125	21	10	62	1.7	7.0	79	1.5
10	49	98	13	8.8	55	1.3	7.0	65	1.2
11	40	90	9.7	7.8	50	1.1	14	546	90
12	35	83	7.8	7.4	48	.96	718	2520	7000
13	31	72	6.0	7.3	45	.89	249	955	650
14	30	87	7.0	7.3	42	.83	220	520	309
15	52	300	42	7.3	40	.79	160	200	86
16	36	250	24	7.0	39	.74	95	120	31
17	30	95	7.7	6.6	37	.66	61	110	18
18	26	86	6.0	7.3	35	.69	244	2630	4410
19	23	78	4.8	7.4	34	.68	122	690	227
20	20	69	3.7	8.0	40	.86	62	450	75
21	18	60	2.9	7.1	35	.67	37	225	22
22	17	58	2.7	24	560	54	26	139	9.8
23	15	56	2.3	17	340	17	18	122	5.9
24	14	55	2.1	11	157	4.4	15	110	4.5
25	13	53	1.9	9.2	93	2.2	12	91	2.9
26	12	52	1.7	9.5	192	6.1	11	78	2.3
27	11	50	1.5	9.4	175	4.4	13	175	6.1
28	11	51	1.5	6.3	120	2.0	26	175	12
29	14	60	2.3	5.4	93	1.4	21	50	2.8
30	11	50	1.5	4.7	78	.99	14	50	1.9
31	---	---	---	3.9	65	.68	---	---	---
TOTAL	2231	---	9068.1	274.2	---	114.65	2215.6	---	13054.1
		JULY			AUGUST			SEPTEMBER	
1	12	48	1.6	3.0	33	.27	2.9	32	.25
2	61	1290	329	2.8	23	.17	2.7	55	.40
3	36	300	29	2.6	20	.14	1.8	63	.31
4	23	80	5.0	1.7	18	.08	.70	45	.09
5	17	45	2.1	3.3	17	.15	.30	35	.03
6	17	100	4.6	4.2	15	.17	.10	29	.01
7	16	115	5.0	3.3	12	.11	.00	0	.00
8	12	55	1.8	2.0	12	.06	.00	0	.00
9	10	42	1.1	2.5	12	.08	.00	0	.00
10	9.2	28	.70	1.1	11	.03	.00	0	.00
11	112	1520	1130	.94	10	.03	.00	0	.00
12	115	910	283	.79	10	.02	.00	0	.00
13	56	325	49	.54	10	.01	.00	0	.00
14	28	210	16	.51	10	.01	2.7	63	.46
15	16	130	5.6	.48	7	.01	.72	40	.08
16	12	95	3.1	.45	5	.01	.00	0	.00
17	8.6	60	1.4	.43	5	.01	.00	0	.00
18	8.9	220	5.3	.40	6	.01	.00	0	.00
19	37	670	84	.66	29	.05	.00	0	.00
20	21	130	7.4	.70	20	.04	.00	0	.00
21	14	90	3.4	2.7	19	.14	.00	0	.00
22	11	75	2.2	1.0	16	.04	.00	0	.00
23	8.0	62	1.3	.85	16	.04	.00	0	.00
24	7.9	65	1.4	.70	15	.03	.00	0	.00
25	8.5	61	1.4	.55	11	.02	.00	0	.00
26	6.5	50	.88	.45	10	.01	.00	0	.00
27	6.2	40	.67	.33	10	.01	.00	0	.00
28	5.4	40	.58	.17	8	.00	.00	0	.00
29	4.9	50	.66	.10	8	.00	.00	0	.00
30	4.2	50	.57	.60	21	.03	.50	50	.07
31	3.7	43	.43	2.7	32	.23	---	---	---
TOTAL	708.0	---	1978.19	42.55	---	2.01	12.42	---	1.70

TOTAL LOAD FOR YEAR: 138072.80 TONS

07026640 RUNNING SLOUGH NEAR LEDFORD, KY

LOCATION.--Lat 36°32'28", long 89°18'59", Fulton County, Hydrologic Unit 08010202, on county road on right bank, 1.1 mi northwest of Ledford.

DRAINAGE AREA.--10.8 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1982 to October 1983, April 1984 to September 1989 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 279.14 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--6 years, 12.3 ft^3/s, 15.50 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 278 ft^3/s, May 7, 1984, gage height, 8.86 ft; maximum gage height, 8.98 ft May 19, 1983; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 90 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	1000	173	8.20	Mar. 6	0345	163	8.38
Feb. 3	2330	91	6.93	Apr. 4	1100	120	7.66
Feb. 15	1145	*249	*9.13				

No flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	17	4.5	1.8	49	41	.13	.00	.01	.00	.00
2	.00	.00	13	2.7	1.3	46	28	.04	5.2	.49	.00	.00
3	.00	.00	12	1.8	72	44	39	.02	7.9	1.2	.00	.00
4	.00	.00	7.9	.92	88	46	114	.00	6.5	.64	.00	.00
5	.00	.00	6.0	.85	64	124	100	.00	1.7	.17	.00	.00
6	e.00	.00	5.0	2.6	39	158	68	.00	.05	.00	.00	.00
7	e.00	.00	3.3	6.5	25	126	55	.00	.00	.00	.00	.00
8	e.00	.00	1.8	23	17	93	48	.00	.00	.00	.00	.00
9	e.00	.00	1.1	29	12	73	42	.00	.00	.00	.00	.00
10	e.00	.00	.67	14	11	61	36	.00	.00	.00	.00	.00
11	e.00	.00	.10	4.0	9.4	53	32	.01	.01	.00	.00	.00
12	e.00	.00	.0	46	8.2	46	30	.02	28	.00	.00	.00
13	e.00	.00	.00	68	57	40	28	.00	54	.00	.00	.00
14	e.00	.00	.00	65	185	36	27	.00	44	.00	.00	.00
15	e.00	.00	.00	58	237	31	28	.00	31	.00	.00	.00
16	e.00	.00	.00	39	217	27	29	.00	16	.00	.00	.00
17	e.00	.00	.00	22	169	24	27	.00	5.5	.00	.00	.00
18	e.00	.00	.00	13	129	22	25	.00	6.7	.00	.00	.00
19	e.00	108	.00	7.4	98	21	21	.00	21	.00	.00	.00
20	e.00	169	.00	4.4	91	22	18	.00	6.9	.00	.00	.00
21	.00	142	.00	2.6	102	36	15	.00	1.3	.00	.00	.00
22	.00	99	.00	2.0	86	35	11	.00	.08	.00	.00	.00
23	.00	61	.00	1.3	71	26	6.9	.00	.0	.00	.00	.00
24	.00	37	.00	1.1	64	19	4.7	.00	.02	.00	.00	.00
25	.00	27	.00	.68	60	13	2.6	.00	.03	.00	.00	.00
26	.00	34	.00	.85	57	9.0	2.0	.00	.00	.00	.00	.00
27	.00	46	.12	1.3	53	7.5	1.5	.0	.0	.00	.00	.00
28	.00	43	13	1.9	52	6.7	1.7	.00	3.7	.00	.00	.00
29	.00	31	34	1.9	---	8.2	1.6	.03	8.4	.00	.00	.00
30	.00	23	27	2.0	---	17	.86	.05	.50	.00	.00	.00
31	.00	---	11	2.4	---	44	---	.00	---	.00	.00	---
TOTAL	0.00	820.00	152.99	430.70	2076.7	1363.4	883.86	0.30	248.49	2.51	0.00	0.00
MEAN	.00	27.3	4.94	13.9	74.2	44.0	29.5	.010	8.28	.081	.00	.00
MAX	.00	169	34	68	237	158	114	.13	54	1.2	.00	.00
MIN	.00	.00	.00	.68	1.3	6.7	.86	.00	.00	.00	.00	.00
CFSM	.00	2.53	.46	1.29	6.87	4.07	2.73	.00	.77	.01	.00	.00
IN.	.00	2.82	.53	1.48	7.15	4.70	3.04	.00	.86	.01	.00	.00

CAL YR 1988 TOTAL 2258.30 MEAN 6.17 MAX 169 MIN .00 CFSM .57 IN. 7.78
WTR YR 1989 TOTAL 5978.95 MEAN 16.4 MAX 237 MIN .00 CFSM 1.52 IN. 20.59

e Estimated

07026640 RUNNING SLOUGH NEAR LEDFORD, KY--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--July 1982 to October 1983, April 1984 to September 1989 (discontinued).

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: JULY 1982 to October 1983, April 1984 to September 1987, October 1988 to September 1989.

INSTRUMENTATION.--Sediment pumping sampler July 1982 to October 1983, April 1984 to September 1987.

EXTREMES FOR PERIOD OF RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,300 mg/L, May 15, 1986; minimum daily mean, 0 mg/L, many days each year.
SEDIMENT LOADS: Maximum daily, 764 tons, May 15, 1986; minimum daily, 0 ton, many days each year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean 959 mg/L, April 4; minimum daily mean 0 mg/L, many days.
SEDIMENT LOADS: maximum daily, 296 tons, April 4; minimum 0 ton, many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
NOV												
19...	1300	127	--	--	0.600	0.030	0.10	0.630	0.210	0.06	0.050	1.5
20...	0810	171	--	--	0.460	0.030	0.10	0.490	0.150	0.10	0.080	1.4
21...	1800	132	--	--	0.280	0.030	0.10	0.310	0.100	0.14	0.110	1.1
22...	1350	94	--	--	0.200	0.010	0.03	0.210	0.090	0.04	0.030	0.61
23...	1330	62	278	8.0	0.240	0.020	0.07	0.260	0.120	0.06	0.050	0.68
27...	0805	46	--	--	0.210	0.010	0.03	0.220	0.260	0.05	0.040	1.8
27...	1655	46	--	--	0.200	0.010	0.03	0.210	0.180	0.08	0.060	1.6
DEC												
28...	1325	32	--	5.5	--	<0.010	--	0.640	0.060	0.04	0.030	0.84
JAN												
12...	1100	85	--	--	0.320	0.020	0.07	0.340	0.200	0.09	0.070	1.9
12...	1430	65	--	11.0	0.460	0.040	0.13	0.500	0.210	0.14	0.110	1.1
FEB												
13...	1640	92	--	--	0.830	0.050	0.16	0.880	0.650	0.73	0.570	3.1
14...	1625	190	--	--	0.510	0.010	0.03	0.520	0.150	0.08	0.060	1.2
15...	1200	249	--	--	0.450	0.020	0.07	0.470	0.120	0.10	0.080	0.98
21...	0855	105	--	--	0.530	0.010	0.03	0.540	0.130	0.14	0.110	1.2
21...	1515	100	160	7.0	0.590	0.010	0.03	0.600	0.130	0.10	0.080	1.3
MAR												
22...	1800	33	60	8.5	0.600	0.020	0.07	0.620	0.150	0.17	0.130	1.2
23...	1405	26	420	10.0	--	--	--	--	--	--	--	--
APR												
04...	1315	122	140	16.0	0.500	0.020	0.07	0.520	0.270	0.12	0.090	--
04...	1650	120	--	--	0.520	0.020	0.07	0.540	0.250	0.10	0.080	1.2
05...	1750	95	--	--	0.370	0.010	0.03	0.380	0.120	0.12	0.090	1.1
21...	1555	14	--	--	0.230	0.020	0.07	0.250	0.100	0.14	0.110	0.30
JUN												
12...	0945	27	--	--	0.270	0.020	0.07	0.290	0.330	0.41	0.320	0.67
12...	1650	29	--	--	0.370	0.030	0.10	0.400	0.290	0.36	0.280	0.71
12...	2110	42	--	--	0.460	0.030	0.10	0.490	0.260	0.30	0.230	0.54
15...	1145	34	--	--	0.390	0.040	0.13	0.430	0.270	0.35	0.270	0.63
28...	1005	1.2	--	--	--	0.020	0.07	<0.100	0.210	0.27	0.210	0.89

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	PHOS-PHORUS ORGANIC TOTAL (MG/L AS P)	PHOS-PHOROUS ORGANIC DIS-SOLVED (MG/L AS P)	ALA-CHLOR TOTAL RECOVER (UG/L)	AME-TRYNE TOTAL	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)
NOV											
19...	1.7	0.630	0.240	0.200	0.61	0.63	0.04	<0.10	<0.10	0.20	<0.10
20...	1.6	0.740	0.220	0.200	0.61	0.74	0.02	<0.10	<0.10	0.20	<0.10
21...	1.2	0.630	0.380	0.350	1.1	0.63	0.03	<0.10	<0.10	0.10	0.10
22...	0.70	0.600	0.350	0.300	0.92	0.60	0.05	--	--	--	--
23...	0.80	0.610	0.380	0.340	1.0	0.61	0.04	0.10	<0.10	0.20	0.10
27...	2.1	0.930	0.220	0.190	0.58	0.93	0.03	0.10	<0.10	0.40	<0.10
27...	1.8	0.740	0.220	0.200	0.61	0.74	0.02	<0.10	<0.10	0.10	<0.10
DEC											
28...	0.90	0.260	0.090	0.070	0.21	0.26	0.02	--	--	--	--
JAN											
12...	2.1	0.500	0.120	0.100	0.31	0.50	0.02	--	--	--	--
12...	1.3	0.670	0.200	0.160	0.49	0.67	0.04	--	--	--	--

07026640 RUNNING SLOUGH NEAR LEDFORD, KY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4)	PHOSPHORUS ORGANIC TOTAL (MG/L AS P)	PHOSPHORUS ORGANIC DISSOLVED (MG/L AS P)	ALACHLOR TOTAL RECOVER (UG/L)	AMETRYNE TOTAL	ATRAZINE, TOTAL (UG/L)	CYANAZINE TOTAL (UG/L)
FEB											
13...	3.8	0.590	0.180	0.120	0.37	0.59	0.06	--	--	--	--
14...	1.4	0.490	0.100	0.080	0.25	0.49	0.02	--	--	--	--
15...	1.1	0.570	0.190	0.160	0.49	0.57	0.03	--	--	--	--
21...	1.3	0.460	0.110	0.090	0.28	0.46	0.02	--	--	--	--
21...	1.4	0.450	0.090	0.070	0.21	0.45	0.02	--	--	--	--
MAR											
22...	1.4	0.180	0.080	0.060	0.18	0.18	0.02	--	--	--	--
APR											
04...	<0.20	0.610	0.060	0.050	0.15	0.61	0.01	--	--	--	--
04...	1.4	0.520	0.070	0.060	0.18	0.52	0.01	--	--	--	--
05...	1.2	0.380	0.140	0.110	0.34	0.38	0.03	--	--	--	--
21...	0.40	0.130	0.150	0.140	0.43	0.13	0.01	--	--	--	--
JUN											
12...	1.0	0.190	0.110	0.110	0.34	0.19	0.0	<0.10	<0.10	9.5	0.10
12...	1.0	0.170	0.080	0.090	0.28	0.17	0.0	0.10	<0.10	9.1	<0.10
12...	0.80	0.180	0.140	0.120	0.37	0.18	0.02	0.30	<0.10	10	<0.10
15...	0.90	0.120	0.110	0.100	0.31	0.12	0.01	--	--	--	--
28...	1.1	0.310	0.060	0.050	0.15	0.31	0.01	--	--	--	--

DATE	METOLACHLOR WATER WHOLE TOT.REC UG/L)	METRIBUZIN WATER WHOLE TOT.REC (UG/L)	PROMETONE TOTAL (UG/L)	PROMETRYNE TOTAL (UG/L)	PROPAZINE TOTAL (UG/L)	SIMETRYNE TOTAL (UG/L)	SIMAZINE TOTAL (UG/L)	TRIFLURALIN TOTAL RECOVER (UG/L)
NOV								
19...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	0.10
20...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
21...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
23...	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
27...	0.3	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
27...	0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.10	<0.10
JUN								
12...	0.3	0.7	0.1	<0.1	0.10	<0.1	0.10	0.10
12...	0.7	0.4	0.1	<0.1	0.10	<0.1	0.10	0.20
12...	0.4	0.5	<0.1	<0.1	0.10	<0.1	0.10	0.10

07026640 RUNNING SLOUGH NEAR LEDFORD, KY--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	.00	0	.00	.00	0	.00	17	110	5.0
2	.00	0	.00	.00	0	.00	13	88	3.1
3	.00	0	.00	.00	0	.00	12	83	2.7
4	.00	0	.00	.00	0	.00	7.9	78	1.7
5	.00	0	.00	.00	0	.00	6.0	73	1.2
6	e.00	0	.00	.00	0	.00	5.0	63	.85
7	e.00	0	.00	.00	0	.00	3.3	54	.48
8	e.00	0	.00	.00	0	.00	1.8	45	.22
9	e.00	0	.00	.00	0	.00	1.1	38	.11
10	e.00	0	.00	.00	0	.00	.67	22	.04
11	e.00	0	.00	.00	0	.00	.10	10	.00
12	e.00	0	.00	.00	0	.00	.0	0	.00
13	e.00	0	.00	.00	0	.00	.00	0	.00
14	e.00	0	.00	.00	0	.00	.00	0	.00
15	e.00	0	.00	.00	0	.00	.00	0	.00
16	e.00	0	.00	.00	0	.00	.00	0	.00
17	e.00	0	.00	.00	0	.00	.00	0	.00
18	e.00	0	.00	.00	0	.00	.00	0	.00
19	e.00	0	.00	108	493	156	.00	0	.00
20	e.00	0	.00	169	274	125	.00	0	.00
21	.00	0	.00	142	143	55	.00	0	.00
22	.00	0	.00	99	100	27	.00	0	.00
23	.00	0	.00	61	70	12	.00	0	.00
24	.00	0	.00	37	60	6.0	.00	0	.00
25	.00	0	.00	27	59	4.3	.00	0	.00
26	.00	0	.00	34	338	37	.00	0	.00
27	.00	0	.00	46	307	60	.12	10	.00
28	.00	0	.00	43	240	28	13	148	5.3
29	.00	0	.00	31	170	14	34	307	27
30	.00	0	.00	23	140	8.7	27	140	10
31	.00	0	.00	---	---	---	11	75	2.2
TOTAL	0.00	---	0.00	820.00	---	533.00	152.99	---	59.80
		JANUARY			FEBRUARY			MARCH	
1	4.5	67	.81	1.8	29	.14	49	49	6.5
2	2.7	58	.42	1.3	30	.11	46	45	5.6
3	1.8	49	.24	72	647	135	44	41	4.9
4	.92	45	.11	88	410	99	46	65	8.1
5	.85	56	.13	64	310	54	124	601	207
6	2.6	82	.58	39	230	24	158	315	136
7	6.5	115	2.0	25	190	13	126	140	48
8	23	152	9.4	17	150	6.9	93	110	28
9	29	125	9.8	12	125	4.0	73	75	15
10	14	83	3.1	11	110	3.3	61	58	9.6
11	4.0	78	.84	9.4	100	2.5	53	42	6.0
12	46	535	87	8.2	90	2.0	46	40	5.0
13	68	433	80	57	599	151	40	35	3.8
14	65	300	53	185	582	288	36	31	3.0
15	58	180	28	237	460	294	31	28	2.3
16	39	120	13	217	360	211	27	20	1.5
17	22	103	6.1	169	100	46	24	17	1.1
18	13	82	2.9	129	80	28	22	16	.95
19	7.4	65	1.3	98	70	19	21	15	.85
20	4.4	58	.69	91	141	37	22	21	1.2
21	2.6	52	.37	102	159	44	36	152	15
22	2.0	49	.26	86	80	19	35	55	5.2
23	1.3	45	.16	71	80	15	26	40	2.8
24	1.1	41	.12	64	100	17	19	38	1.9
25	.68	40	.07	60	84	14	13	35	1.2
26	.85	39	.09	57	75	12	9.0	32	.78
27	1.3	38	.13	53	65	9.3	7.5	30	.61
28	1.9	35	.18	52	55	7.7	6.7	27	.49
29	1.9	32	.16	---	---	---	8.2	28	.62
30	2.0	31	.17	---	---	---	17	83	4.3
31	2.4	30	.19	---	---	---	44	220	26
TOTAL	430.70	---	301.32	2076.7	---	1555.95	1363.4	---	553.30

e Estimated

07026640 RUNNING SLOUGH NEAR LEDFORD, KY--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	41	151	17	.13	37	.01	.00	0	.00
2	28	77	6	.04	41	.00	5.2	81	1.1
3	39	268	33	.02	45	.00	7.9	59	1.3
4	114	959	296	.00	48	.00	6.5	43	.75
5	100	190	51	.00	42	.00	1.7	32	.15
6	68	100	18	.00	40	.00	.05	23	.00
7	55	70	10	.00	34	.00	.00	15	.00
8	48	53	6.9	.00	30	.00	.00	0	.00
9	42	51	5.8	.00	35	.00	.00	0	.00
10	36	49	4.8	.00	48	.00	.00	0	.00
11	32	48	4.1	.01	56	.00	.01	21	.00
12	30	45	3.6	.02	70	.00	28	222	17
13	28	41	3.1	.00	66	.00	54	91	13
14	27	40	2.9	.00	62	.00	44	115	14
15	28	50	3.8	.00	59	.00	31	150	13
16	29	97	7.6	.00	55	.00	16	146	6.3
17	27	98	7.1	.00	58	.00	5.5	132	2.0
18	25	93	6.3	.00	62	.00	6.7	161	4
19	21	95	5.4	.00	60	.00	21	144	8.2
20	18	96	4.7	.00	46	.00	6.9	115	2.1
21	15	97	3.9	.00	35	.00	1.3	98	.34
22	11	98	2.9	.00	25	.00	.08	82	.02
23	6.9	80	1.5	.00	27	.00	.0	70	.00
24	4.7	70	.89	.00	28	.00	.02	78	.00
25	2.6	63	.44	.00	22	.00	.03	77	.01
26	2.0	56	.30	.00	25	.00	.00	60	.00
27	1.5	43	.17	.0	27	.00	.0	50	.00
28	1.7	38	.17	.00	22	.00	3.7	114	1.7
29	1.6	43	.19	.03	27	.00	8.4	111	2.7
30	.86	40	.09	.05	24	.00	.50	83	.68
31	---	---	---	.00	20	.00	---	---	---
TOTAL	883.86	---	507.65	0.30	---	0.01	248.49	---	88.35
		JULY			AUGUST			SEPTEMBER	
1	.01	72	.00	.00	0	.00	.00	0	.00
2	.49	80	.11	.00	0	.00	.00	0	.00
3	1.2	78	.25	.00	0	.00	.00	0	.00
4	.64	50	.09	.00	0	.00	.00	0	.00
5	.17	30	.01	.00	0	.00	.00	0	.00
6	.00	0	.00	.00	0	.00	.00	0	.00
7	.00	0	.00	.00	0	.00	.00	0	.00
8	.00	0	.00	.00	0	.00	.00	0	.00
9	.00	0	.00	.00	0	.00	.00	0	.00
10	.00	0	.00	.00	0	.00	.00	0	.00
11	.00	0	.00	.00	0	.00	.00	0	.00
12	.00	0	.00	.00	0	.00	.00	0	.00
13	.00	0	.00	.00	0	.00	.00	0	.00
14	.00	0	.00	.00	0	.00	.00	0	.00
15	.00	0	.00	.00	0	.00	.00	0	.00
16	.00	0	.00	.00	0	.00	.00	0	.00
17	.00	0	.00	.00	0	.00	.00	0	.00
18	.00	0	.00	.00	0	.00	.00	0	.00
19	.00	0	.00	.00	0	.00	.00	0	.00
20	.00	0	.00	.00	0	.00	.00	0	.00
21	.00	0	.00	.00	0	.00	.00	0	.00
22	.00	0	.00	.00	0	.00	.00	0	.00
23	.00	0	.00	.00	0	.00	.00	0	.00
24	.00	0	.00	.00	0	.00	.00	0	.00
25	.00	0	.00	.00	0	.00	.00	0	.00
26	.00	0	.00	.00	0	.00	.00	0	.00
27	.00	0	.00	.00	0	.00	.00	0	.00
28	.00	0	.00	.00	0	.00	.00	0	.00
29	.00	0	.00	.00	0	.00	.00	0	.00
30	.00	0	.00	.00	0	.00	.00	0	.00
31	.00	0	.00	.00	0	.00	---	---	---
TOTAL	2.51	---	0.46	0.00	---	0.00	0.00	---	0.00

TOTAL LOAD FOR YEAR: 3599.94 TONS

07027000 REELFOOT LAKE NEAR TIPTONVILLE, TN

LOCATION.--Lat 36°21'09", long 89°25'07", Lake County, Hydrologic Unit 08010202, at Middle Landing in Reelfoot Lake State Park, 0.4 mi east of Blue Bank, 0.8 mi west of the spillway, and 3.3 mi southeast of Tiptonville.

DRAINAGE AREA.--240 mi^2.

PERIOD OF RECORD.--July 1940 to current year.

GAGE.--Water-stage recorder. Datum of gage is 270.22 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No record Nov. 15-18. Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 15.65 ft, from recorded range in stage, about Apr. 26, 1973; minimum, 9.59 ft, July 6, 7, 8, 1985.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of January 1937 reached a stage of about 17.0 ft, at spillway, present datum, from information by local resident. Minimum stage at spillway, 9.30 ft, Nov. 20, 21, 1953 at a datum of 270.29 ft above National Geodetic Vertical Datum of 1929.

EXTREMES FOR CURRENT PERIOD OF RECORD.--Maximum gage height, 14.84 ft, Feb. 17, 18; minimum 10.82 ft, Oct. 27.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	11.21	11.14	11.19	10.95	10.87	10.92	13.11	13.07	13.10	12.75	12.70	12.74
2	11.24	11.21	11.22	10.94	10.90	10.91	13.06	12.97	13.01	12.70	12.69	12.69
3	11.26	11.22	11.23	10.93	10.89	10.90	12.98	12.86	12.91	12.69	12.64	12.66
4	11.25	11.22	11.23	11.05	10.90	10.93	12.91	12.85	12.89	12.64	12.57	12.61
5	11.24	11.22	11.23	10.98	10.90	10.93	12.83	12.72	12.77	12.58	12.50	12.53
6	11.22	11.22	11.22	11.01	10.85	10.93	12.75	12.61	12.68	12.56	12.45	12.52
7	11.22	11.20	11.21	11.09	10.90	10.97	12.64	12.61	12.63	12.55	12.43	12.50
8	11.20	11.19	11.19	11.09	10.91	11.01	12.64	12.59	12.62	12.56	12.55	12.55
9	11.19	11.17	11.18	11.03	10.92	10.98	12.58	12.46	12.51	12.56	12.56	12.56
10	11.18	11.13	11.15	11.10	10.91	11.00	12.46	12.38	12.41	12.56	12.51	12.54
11	11.20	11.15	11.17	11.21	11.07	11.13	12.40	12.37	12.38	12.55	12.48	12.52
12	11.17	11.14	11.15	11.09	10.90	11.00	12.37	12.15	12.27	12.80	12.44	12.66
13	11.14	11.12	11.13	11.16	10.98	11.05	12.21	12.15	12.17	12.90	12.80	12.85
14	11.12	11.08	11.10	11.16	10.98	11.05	12.25	12.01	12.14	13.03	12.90	12.98
15	11.09	11.06	11.07	---	---	---	12.23	12.23	12.23	13.13	13.03	13.09
16	11.11	11.05	11.08	---	---	---	12.23	12.15	12.20	13.16	13.13	13.14
17	11.11	11.00	11.07	---	---	---	12.18	12.15	12.16	13.16	13.06	13.11
18	11.13	11.03	11.10	---	---	---	12.18	12.04	12.13	13.10	13.04	13.08
19	11.10	10.87	11.00	12.16	11.79	11.85	12.12	12.02	12.10	13.07	13.00	13.03
20	10.89	10.84	10.86	12.67	12.19	12.40	12.15	12.03	12.09	13.00	13.00	13.00
21	10.95	10.84	10.88	13.01	12.70	12.86	12.21	12.17	12.19	13.00	12.87	12.92
22	10.93	10.84	10.86	13.15	13.02	13.09	12.21	12.12	12.18	12.87	12.77	12.81
23	10.95	10.83	10.90	13.19	13.15	13.16	12.25	12.21	12.22	12.79	12.71	12.74
24	10.95	10.85	10.88	13.19	13.11	13.16	12.26	12.20	12.22	12.71	12.62	12.66
25	10.92	10.85	10.88	13.13	13.05	13.10	12.29	12.26	12.27	12.62	12.57	12.60
26	10.96	10.84	10.89	13.20	13.01	13.13	12.29	12.24	12.28	12.59	12.55	12.57
27	10.94	10.82	10.88	13.24	13.20	13.22	12.53	12.13	12.26	12.57	12.49	12.53
28	11.09	10.94	11.01	13.24	13.21	13.22	12.64	12.53	12.58	12.52	12.43	12.47
29	11.11	10.97	11.04	13.21	13.10	13.17	12.74	12.64	12.69	12.46	12.43	12.45
30	11.08	10.99	11.03	13.16	13.12	13.15	12.75	12.74	12.74	12.42	12.32	12.38
31	11.04	10.89	10.96	---	---	---	12.75	12.75	12.75	12.38	12.29	12.35
MONTH	11.26	10.82	11.06	---	---	---	13.11	12.01	12.44	13.16	12.29	12.70

07027000 REELFOOT LAKE NEAR TIPTONVILLE, TN--Continued

GAGE HEIGHT, (FEET ABOVE DATUM), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	12.44	12.32	12.36	14.09	13.97	14.05	12.45	12.37	12.42	12.32	12.26	12.29
2	12.58	12.42	12.45	13.97	13.80	13.89	12.41	12.24	12.35	12.31	12.20	12.25
3	12.84	12.63	12.76	13.78	13.66	13.71	12.63	12.28	12.40	12.22	12.20	12.21
4	12.94	12.84	12.89	13.76	13.63	13.66	12.83	12.63	12.71	12.29	12.18	12.22
5	12.95	12.94	12.95	14.00	13.77	13.87	12.97	12.83	12.90	12.34	12.24	12.28
6	12.95	12.95	12.95	14.04	13.96	14.00	13.00	12.96	12.97	12.29	12.23	12.27
7	12.96	12.89	12.92	14.04	14.04	14.04	13.00	12.97	12.99	12.26	12.24	12.26
8	12.89	12.86	12.87	14.04	13.98	14.02	13.02	12.94	12.97	12.26	12.18	12.24
9	12.86	12.74	12.81	13.97	13.88	13.92	12.95	12.84	12.91	12.35	12.22	12.27
10	12.74	12.69	12.72	13.87	13.76	13.81	12.84	12.77	12.81	12.33	12.24	12.28
11	12.70	12.64	12.68	13.75	13.66	13.70	12.77	12.69	12.73	12.27	12.22	12.25
12	12.67	12.60	12.64	13.66	13.56	13.62	12.72	12.62	12.67	12.23	12.19	12.21
13	12.98	12.59	12.70	13.56	13.38	13.45	12.65	12.58	12.62	12.21	12.13	12.17
14	13.49	13.02	13.19	13.37	13.20	13.26	12.59	12.53	12.55	12.21	12.16	12.17
15	14.31	13.52	13.91	13.23	13.16	13.21	12.53	12.51	12.53	12.19	12.17	12.18
16	14.75	14.37	14.59	13.15	13.00	13.08	12.51	12.40	12.45	12.18	12.15	12.16
17	14.84	14.77	14.82	12.99	12.82	12.89	12.40	12.30	12.35	12.17	12.13	12.15
18	14.84	14.77	14.82	12.99	12.83	12.90	12.44	12.30	12.36	12.14	12.09	12.11
19	14.77	14.70	14.73	12.87	12.67	12.76	12.45	12.41	12.42	12.11	12.04	12.08
20	14.78	14.67	14.71	12.72	12.57	12.65	12.41	12.37	12.40	12.14	12.09	12.11
21	14.80	14.79	14.80	12.72	12.61	12.68	12.40	12.36	12.39	12.14	12.03	12.12
22	14.80	14.80	14.80	12.61	12.54	12.57	12.40	12.32	12.36	12.21	12.06	12.15
23	14.80	14.66	14.75	12.56	12.49	12.53	12.37	12.22	12.32	12.20	12.18	12.20
24	14.65	14.53	14.58	12.49	12.40	12.44	12.35	12.25	12.30	12.20	12.14	12.16
25	14.52	14.31	14.44	12.42	12.34	12.39	12.32	12.25	12.29	12.14	12.02	12.08
26	14.34	14.30	14.33	12.39	12.34	12.37	12.32	12.28	12.31	12.19	12.04	12.13
27	14.34	14.21	14.30	12.36	12.30	12.34	12.32	12.27	12.30	12.20	12.18	12.19
28	14.21	14.09	14.14	12.37	12.21	12.30	12.30	12.25	12.28	12.19	12.15	12.17
29	---	---	---	12.42	12.34	12.38	12.30	12.28	12.29	12.16	12.06	12.12
30	---	---	---	12.63	12.38	12.43	12.33	12.31	12.33	12.12	12.05	12.09
31	---	---	---	12.53	12.41	12.49	---	---	---	12.10	12.05	12.08
MONTH	14.84	12.32	13.66	14.09	12.21	13.14	13.02	12.22	12.52	12.35	12.02	12.18

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	12.11	12.03	12.08	12.30	12.24	12.27	12.16	12.14	12.15	11.61	11.52	11.58
2	12.11	12.07	12.09	12.36	12.31	12.35	12.15	12.11	12.13	11.60	11.58	11.59
3	12.07	12.01	12.05	12.35	12.33	12.34	12.12	12.06	12.09	11.60	11.56	11.59
4	12.07	12.05	12.06	12.34	12.31	12.33	12.08	12.01	12.05	11.56	11.50	11.55
5	12.07	12.03	12.06	12.31	12.27	12.30	12.05	12.00	12.03	11.57	11.50	11.52
6	12.07	12.06	12.07	12.29	12.24	12.26	12.07	12.03	12.05	11.51	11.47	11.49
7	12.06	12.03	12.05	12.24	12.21	12.23	12.08	12.02	12.06	11.57	11.43	11.49
8	12.05	12.03	12.04	12.22	12.19	12.21	12.02	11.99	12.01	11.57	11.57	11.57
9	12.04	12.02	12.03	12.21	12.17	12.19	11.99	11.96	11.98	11.57	11.57	11.57
10	12.03	11.92	11.98	12.19	12.15	12.17	11.98	11.95	11.97	11.57	11.57	11.57
11	12.05	11.90	11.96	12.18	12.12	12.15	11.97	11.93	11.95	11.57	11.57	11.57
12	12.34	12.12	12.20	12.56	12.15	12.25	11.94	11.90	11.92	11.57	11.57	11.57
13	12.35	12.21	12.28	12.45	12.41	12.44	11.92	11.88	11.90	11.57	11.57	11.57
14	12.30	12.23	12.27	12.40	12.34	12.37	11.90	11.87	11.88	11.57	11.57	11.57
15	12.40	12.23	12.30	12.34	12.26	12.30	11.88	11.85	11.86	11.57	11.57	11.57
16	12.50	12.25	12.36	12.26	12.24	12.24	11.88	11.82	11.85	11.57	11.57	11.57
17	12.47	12.39	12.43	12.24	12.21	12.22	11.85	11.82	11.84	11.57	11.18	11.52
18	12.47	12.34	12.41	12.24	12.19	12.21	11.84	11.80	11.82	11.51	11.47	11.50
19	12.47	12.46	12.46	12.26	12.21	12.23	11.80	11.76	11.78	11.50	11.45	11.49
20	12.46	12.42	12.44	12.23	12.20	12.22	11.77	11.69	11.74	11.48	11.45	11.47
21	12.42	12.36	12.39	12.22	12.19	12.21	11.75	11.72	11.74	11.47	11.43	11.46
22	12.35	12.32	12.33	12.21	12.19	12.20	11.75	11.71	11.73	11.46	11.42	11.45
23	12.32	12.29	12.31	12.20	12.18	12.19	11.74	11.69	11.72	11.59	11.44	11.50
24	12.30	12.28	12.29	12.20	12.16	12.19	11.72	11.68	11.70	11.43	11.39	11.42
25	12.28	12.23	12.25	12.18	12.16	12.18	11.72	11.67	11.69	11.38	11.35	11.37
26	12.24	12.19	12.21	12.18	12.15	12.17	11.70	11.66	11.68	11.40	11.35	11.37
27	12.25	12.21	12.23	12.17	12.13	12.15	11.67	11.64	11.66	11.40	11.35	11.37
28	12.26	12.24	12.25	12.22	12.11	12.14	11.66	11.63	11.64	11.34	11.30	11.32
29	12.28	12.25	12.26	12.19	12.15	12.17	11.64	11.59	11.62	11.34	11.30	11.32
30	12.27	12.25	12.26	12.18	12.06	12.14	11.67	11.61	11.62	11.40	11.34	11.38
31	---	---	---	12.17	12.14	12.15	11.62	11.59	11.60	---	---	---
MONTH	12.50	11.90	12.21	12.56	12.06	12.23	12.16	11.59	11.85	11.61	11.18	11.50

07027500 SOUTH FORK FORKED DEER RIVER AT JACKSON, TN

LOCATION.--Lat 35°35'38", long 88°48'52", Madison County, Hydrologic Unit 08010205, on right bank 20 ft downstream from bridge on U.S. Highway 45, 0.6 mi downstream from Meridian Creek, and 1.4 mi south of the post office in Jackson, and at mile 55.4.

DRAINAGE AREA.--495 mi^2.

PERIOD OF RECORD.--July 1929 to September 1973, May 1988 to current year.

REVISED RECORDS.--WSP 1147: 1935(M). WSP 1211: 1930(M), 1932, 1934. WSP 1561: 1957. WSP 1631: 1936, 1945. WSP 1920: Drainage area. WRD Tenn. 1971: 1967.

GAGE.--Water-stage recorder. Datum of gage is 330.76 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 4, 1939, nonrecording gage at same site and datum.

REMARKS.--Records poor. Periodic observations of water temperature and specific condutance are published in this report as miscellaneuos water quality data.

AVERAGE DISCHARGE.--45 years, 717 ft^3/s, 19.68 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,600 ft^3/s Jan. 21, 1935, gage height, 24.0 ft from floodmarks, from rating curve extended above 16,000 ft^3/s; minimum, 67 ft^3/s Oct. 9, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 25, 1987 reached a stage of 22.45 ft, from high water marks flagged at the gage.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0215	13,900	19.66	Feb. 16	Unknown	*14,200	*19.74
Jan. 16	Unknown	Unknown	Unknown	Mar. 30	Unknown	6,230	17.90

Minimum discharge, 125 ft^3/s Aug. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2010	269	837	2850	1080	1560	e4860	463	217	393	215	222
2	3360	262	523	1680	686	1590	3390	383	205	3770	197	236
3	2740	259	443	1420	2060	1100	3200	288	201	4480	174	223
4	2100	282	383	949	2210	767	3800	278	211	4170	158	212
5	1420	904	e351	632	1300	2540	4040	415	258	3530	146	203
6	481	545	e330	1060	1000	e4200	3540	390	282	3390	139	196
7	273	371	317	962	586	e4200	2930	334	246	3170	142	190
8	217	322	304	3260	458	e4400	1690	298	294	2480	133	186
9	201	302	302	2060	374	e3400	1070	341	871	1080	131	186
10	194	314	304	1150	320	1110	813	345	575	665	127	197
11	188	326	293	1420	321	764	667	297	568	547	128	203
12	180	313	280	3790	312	657	586	263	1000	522	129	196
13	169	426	275	e4880	317	596	534	248	2160	708	128	218
14	164	379	274	e6020	e5400	561	502	243	1330	537	131	320
15	166	344	270	e8400	e6500	520	526	344	3220	369	130	326
16	168	666	247	e8470	e11500	474	494	339	2810	318	131	269
17	184	567	241	e6480	e11000	458	461	307	2140	297	153	245
18	175	376	236	e4030	e8000	561	435	269	2220	254	169	229
19	168	3340	240	2220	e5400	591	456	250	3400	350	154	217
20	164	10200	244	943	e4600	648	413	262	1930	285	148	214
21	170	12200	1350	636	e4700	1900	378	477	e905	242	144	217
22	171	7270	1020	519	e4800	882	355	370	e667	212	142	216
23	176	4200	3270	459	e5200	639	330	522	e685	193	140	272
24	237	2430	4070	402	e4500	558	304	419	e428	180	305	256
25	209	931	4310	360	2610	513	286	338	e368	181	572	244
26	190	2480	3520	745	1210	480	273	278	e321	173	296	258
27	182	3940	2470	887	1380	462	267	567	e303	163	285	241
28	551	3570	3920	624	1600	480	270	396	374	156	255	226
29	394	2610	4440	1410	---	e3820	583	308	369	173	253	249
30	300	1630	3920	1590	---	e5910	456	264	353	156	282	2670
31	272	---	3220	1210	---	e6040	---	235	---	212	248	---
TOTAL	17574	62028	42204	71518	89424	52381	37909	10531	28911	33356	5885	9337
MEAN	567	2068	1361	2307	3194	1690	1264	340	964	1076	190	311
MAX	3360	12200	4440	8470	11500	6040	4860	567	3400	4480	572	2670
MIN	164	259	236	360	312	458	267	235	201	156	127	186
CFSM	1.15	4.18	2.75	4.66	6.45	3.41	2.55	.69	1.95	2.17	.38	.63
IN.	1.32	4.66	3.17	5.37	6.72	3.94	2.85	.79	2.17	2.51	.44	.70

WTR YR 1989 TOTAL 461058 MEAN 1263 MAX 12200 MIN 127 CFSM 2.55 IN. 34.65

e Estimated

07029500 HATCHIE RIVER AT BOLIVAR, TN
(National stream-quality accounting network station)

LOCATION.--Lat 35°16'31", long 88°58'36", Hardeman County, Hydrologic Unit 08010208, on left bank 25 ft upstream from bridge on State Highway 18, 250 ft upstream from Illinois Central Gulf Railroad bridge, 0.6 mi downstream from Spring Creek, 1.5 mi northeast of Bolivar, and at mile 135.1.

DRAINAGE AREA.--1,480 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1929 to current year.

GAGE.--Water-stage recorder. Datum of gage is 323.49 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--60 years, 2,417 ft^3/s, 22.18 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,600 ft^3/s, Mar. 18, 1973, gage height, 21.66 ft from rating curve extended above 34,000 ft^3/s; minimum, 78 ft^3/s, Sept. 2, 1943.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 15	2400	*38,000	*19.69	Mar. 8	1200	12,700	16.31
Feb. 21	2400	24,600	18.09	June 16	1600	16,700	16.93

Minimum discharge, 216 ft^3/s, Oct. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	695	642	5280	7990	4940	8660	5990	2360	1180	1480	1340	762
2	1460	557	5230	8050	4790	7870	5420	2510	838	5220	1600	730
3	1750	492	5180	7960	5020	7270	5020	2160	749	6560	1890	664
4	1770	447	4930	7340	5170	6980	5930	1610	731	6560	2060	649
5	1030	441	4460	6840	5000	7570	6020	1460	780	6990	1970	592
6	616	477	3620	6410	4550	9500	5800	1720	1060	6990	1560	529
7	457	519	2320	5870	4040	11700	5630	1960	1450	6490	1100	489
8	365	495	1360	5600	3520	12500	5600	2060	1710	6340	965	460
9	317	458	944	5010	2900	11800	5680	2040	2070	6160	882	439
10	297	456	814	4510	2410	10300	5800	2020	2470	5950	779	442
11	277	434	765	4180	2090	8780	5640	2020	2750	5700	716	449
12	260	430	731	6120	1830	7640	5390	1890	3810	5870	670	445
13	246	487	698	8610	1660	6720	5040	1640	5250	6100	628	448
14	233	505	670	16400	3880	6000	4630	1340	7000	5710	591	502
15	222	544	644	33600	5860	5290	4180	1360	13800	5280	559	792
16	218	582	618	36600	6250	4660	3470	1510	16000	4870	533	1000
17	228	631	599	30600	6900	3970	2670	1450	15500	4480	524	1220
18	236	668	585	24300	8650	3020	2120	1160	13100	3910	535	1160
19	278	1060	567	18300	10300	2220	1720	969	11600	3390	549	830
20	335	3350	558	13400	12100	1780	1440	1010	10200	3780	546	670
21	366	5030	835	10300	22800	1860	1270	1750	8870	5030	520	577
22	350	5160	1590	8640	23200	2090	1170	2590	7710	4360	495	525
23	321	4910	3880	7610	19400	2200	1080	3150	6820	4260	470	582
24	337	4850	5160	6870	16400	2230	1020	3410	6110	4480	493	936
25	376	4760	5550	6240	13300	2180	955	3600	5570	4660	674	1210
26	406	5240	5050	5740	10800	1950	901	3810	5060	4560	969	1350
27	378	6220	4810	5200	9750	1690	866	3980	4560	4240	1050	1440
28	401	6190	6360	4460	9420	1500	824	4050	3820	3610	1110	1440
29	576	5860	6840	3670	---	5610	1130	3930	2620	2560	882	1290
30	803	5470	7410	3940	---	7310	1810	3380	1760	1720	667	1970
31	756	---	7540	4740	---	6370	---	2190	---	1320	637	---
TOTAL	16360	67365	95598	325100	226930	179220	104216	70089	164948	148630	27964	24592
MEAN	528	2245	3084	10490	8105	5781	3474	2261	5498	4795	902	820
MAX	1770	6220	7540	36600	23200	12500	6020	4050	16000	6990	2060	1970
MIN	218	430	558	3670	1660	1500	824	969	731	1320	470	439
CFSM	.36	1.52	2.08	7.09	5.48	3.91	2.35	1.53	3.72	3.24	.61	.55
IN.	.41	1.69	2.40	8.17	5.70	4.50	2.62	1.76	4.15	3.74	.70	.62

WTR YR 1989 TOTAL 1451012 MEAN 3975 MAX 36600 MIN 218 CFSM 2.69 IN. 36.47

07029500 HATCHIE RIVER AT BOLIVAR, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Water years 1964, 1968, 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1980 to September 1982, October 1983 to September 1986.
WATER TEMPERATURE: June 1980 to September 1982, October 1983 to September 1986.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 380 microsiemens, Sept. 5, 6, 1985; minimum, 28 microsiemens, Apr. 18, 1982.
WATER TEMPERATURE: Maximum, 31.5°C, July 15, 16, 1980; minimum recorded, 0.0°C, Dec. 23, 1983 to Jan. 3, 1984, several days in 1985, minimum observed, -0.5°C, Jan. 3, 1984.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV											
02...	1030	570	--	7.22	12.5	763	18	--	--	110	63
FEB											
01...	1030	4990	70	6.65	10.5	762	40	10.2	91	550	750
APR											
19...	1030	1770	70	6.90	17.5	769	13	6.5	67	88	--
JUL											
12...	1030	5810	60	--	26.0	762	16	5.9	73	260	--

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
NOV											
02...	29	7.9	2.3	24	59	2	5.2	20	41	15	0.30
FEB											
01...	19	5.1	1.4	2.3	20	0.2	1.6	10	12	2.9	<0.10
APR											
19...	23	6.5	1.6	2.9	21	0.3	1.1	21	6.6	3.5	0.10
JUL											
12...	23	7.0	1.4	1.9	14	0.2	1.8	--	4.0	3.0	0.10

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS NO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)
NOV											
02...	11	131	128	0.18	202	0.210	0.020	0.07	0.230	0.310	0.39
FEB											
01...	8.1	42	42	0.06	566	--	<0.010	--	0.150	0.060	0.05
APR											
19...	7.3	51	42	0.07	244	--	<0.010	--	0.110	0.070	0.09
JUL											
12...	7.2	48	40	0.06	753	--	<0.010	--	0.150	0.040	0.04

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
NOV										
02...	0.300	1.5	1.8	0.110	0.080	0.050	0.15	70	<1	28
FEB										
01...	0.040	0.34	0.40	0.080	0.030	0.020	0.06	200	<1	29
APR										
19...	0.070	0.53	0.60	0.050	0.010	0.020	0.06	30	<1	29
JUL										
12...	0.030	0.66	0.70	0.070	0.030	0.020	0.06	50	1	31

07029500 HATCHIE RIVER AT BOLIVAR, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)
NOV 02...	<0.5	<1	160	<3	83	330	<5	6	79	<0.1
FEB 01...	<0.5	<1	<1	<3	4	340	<5	<4	51	<0.1
APR 19...	<0.5	<1	1	<3	2	440	<5	<4	180	<0.1
JUL 12...	0.9	<1	<1	<3	3	480	1	<4	99	<0.1

DATE	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 02...	10	1	<1	1.0	93	<6	26	22	34	79
FEB 01...	<10	<1	<1	<1.0	40	<6	30	37	499	--
APR 19...	<10	3	<1	<1.0	54	<6	8	20	96	91
JUL 12...	<10	1	<1	<1.0	85	<6	5	27	424	71

07030240 LOOSAHATCHIE RIVER NEAR ARLINGTON, TN

LOCATION.--Lat 35°18'37", long 89°38'23", Shelby County, Hydrologic Unit 08010209, on left bank 20 ft downstream from bridge on U.S. Highways 70 and 79, 1.5 mi upstream from Beaver Creek, 1.5 mi northeast of Arlington, and at mile 30.4.

DRAINAGE AREA.--262 mi^2.

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Datum of the gage is 246.43 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--20 years, 374 ft^3/s, 19.37 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,400 ft^3/s, Dec. 25, 1987, gage height, 25.27 ft; minimum, 66 ft^3/s, Apr. 6, 7, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 1	1130	6,610	16.89	Feb. 15	0515	*16,500	*22.72
Nov. 20	1715	11,700	21.12	Feb. 21	1930	10,500	20.31
Nov. 26	2000	8,950	19.12	Mar. 30	0345	8,040	18.31
Dec. 24	1215	8,210	18.47	Apr. 4	0800	5,500	15.40
Dec. 28	1345	9,180	19.30	July 2	2330	16,300	22.67
Jan. 15	1645	10,700	20.49	July 19	1000	6,540	16.79

Minimum discharge, 84 ft^3/s, Aug. 22-24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3920	179	203	1060	246	445	502	104	89	532	112	114
2	1630	177	188	356	203	276	294	103	155	10400	112	168
3	477	176	183	261	1590	226	937	102	126	11400	e103	101
4	244	176	177	208	982	213	4420	105	991	1010	e98	93
5	212	174	171	311	332	2300	995	110	2550	370	e96	92
6	203	174	169	1230	225	1740	340	106	340	314	e94	91
7	199	172	168	728	189	584	340	102	134	274	e93	91
8	196	171	165	3180	181	307	337	100	590	415	e92	91
9	194	171	164	523	172	232	274	106	535	238	e92	92
10	192	172	162	292	163	201	193	105	162	214	e91	210
11	191	173	159	538	163	184	170	98	129	204	e91	118
12	189	171	158	7580	164	170	161	97	1400	222	e91	104
13	186	189	157	6560	161	160	152	97	2770	3170	e91	105
14	186	178	156	5560	9390	151	149	112	515	573	e91	609
15	186	173	154	6560	13000	142	159	161	799	196	e91	408
16	192	256	151	1610	4930	129	148	100	297	157	e92	1110
17	190	237	150	461	2540	125	139	96	193	144	e100	211
18	186	184	150	333	2490	124	132	94	166	129	e110	163
19	193	6410	150	279	836	131	126	94	320	3710	e100	149
20	186	11000	149	245	2720	130	123	121	175	571	e92	142
21	186	4930	2060	216	9480	575	120	253	162	224	e89	137
22	184	570	840	204	3160	238	119	172	145	161	e85	135
23	226	305	2120	198	472	158	118	510	183	137	84	131
24	235	249	5740	194	309	135	115	130	313	128	85	128
25	188	227	2340	188	274	123	112	104	166	123	278	127
26	182	4480	630	781	257	119	112	99	135	117	332	127
27	182	6840	478	560	1670	116	109	96	213	113	383	124
28	425	1390	6400	263	1470	130	108	92	435	110	105	124
29	229	366	1850	1480	---	6640	108	92	161	108	127	150
30	187	240	605	903	---	4950	107	91	397	141	153	2150
31	182	---	761	350	---	2280	---	90	---	197	93	---
TOTAL	11758	40310	27108	43212	57769	23434	11219	3842	14746	35802	3746	7595
MEAN	379	1344	874	1394	2063	756	374	124	492	1155	121	253
MAX	3920	11000	6400	7580	13000	6640	4420	510	2770	11400	383	2150
MIN	182	171	149	188	161	116	107	90	89	108	84	91
CFSM	1.45	5.13	3.34	5.32	7.87	2.89	1.43	.47	1.88	4.41	.46	.97
IN.	1.67	5.72	3.85	6.14	8.20	3.33	1.59	.55	2.09	5.08	.53	1.08

CAL YR 1988 TOTAL 169150 MEAN 462 MAX 11000 MIN 85 CFSM 1.76 IN. 24.02
WTR YR 1989 TOTAL 280541 MEAN 769 MAX 13000 MIN 84 CFSM 2.93 IN. 39.83

e Estimated

07031660 WOLF RIVER AT WALNUT GROVE ROAD AT MEMPHIS, TN

LOCATION.--Lat 35°07'58", long 89°51'18", Shelby County, Hydrologic Unit 08010210, on right bank at upstream end of bridge on Walnut Grove Road, 0.5 mi east of Interstate Highway 240, and at mile 15.4.

DRAINAGE AREA.--709 mi.^{2}

PERIOD OF RECORD.--October 1969 to current year. Prior to September 1977 published as "near Germantown" and Oct. 1978 to Sept. 1986 "at Germantown".

GAGE.--Water-stage recorder. Datum of gage is 225.82 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 21, 1986 water-stage recorder at site 2.1 mi upstream at datum 9.94 ft higher.

REMARKS.--Records fair. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--20 years, 1,015 ft^3/s, 19.44 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,400 ft^3/s, Mar. 14, 1975, gage height, 27.98 ft, site and datum then in use; minimum, 184 ft^3/s, Oct. 8, 9, 12, 13, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	0130	8,680	16.51	Feb. 14	1200	12,500	20.28
Nov. 26	1830	10,000	17.92	Feb. 21	0130	11,000	18.85
Dec. 28	0545	10,500	18.36	Mar. 31	0615	8,670	16.50
Jan. 14	2230	*18,700	*22.67	July 2	0745	12,400	20.19

Minimum discharge, 248 ft^3/s, Oct. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1410	448	2340	3760	1310	2560	5900	392	354	1850	631	414
2	1030	407	1500	3190	1130	2280	4070	397	381	10700	592	1340
3	953	382	942	2780	2890	2030	3020	469	355	10700	527	452
4	586	364	671	2300	2030	1750	3960	540	509	8540	498	387
5	439	349	536	1680	1990	3580	2820	551	658	5950	483	371
6	403	338	485	1500	1470	3220	2600	527	769	4560	501	e362
7	393	328	442	1420	992	4140	2440	492	721	3670	523	e355
8	370	323	418	2620	694	3990	2190	465	743	3030	487	e352
9	338	323	405	2320	578	3200	1700	483	852	2370	403	e351
10	313	361	393	1930	506	2750	1280	493	866	2270	e385	e370
11	293	329	387	1390	465	1980	975	482	802	1360	e375	e380
12	280	402	381	e7990	447	1120	778	452	1040	1080	e372	e360
13	269	427	369	e8050	439	784	672	430	2720	991	e370	441
14	264	430	363	13700	8900	664	611	441	2710	1030	e362	998
15	256	419	363	14900	6330	595	579	423	3190	1180	e355	1030
16	266	534	360	10700	6610	546	561	408	3120	1530	e350	1510
17	256	503	355	7530	6140	513	538	397	3420	1360	e480	732
18	337	557	340	5340	5840	499	518	386	3430	694	e450	599
19	343	4730	334	3650	4950	515	502	383	3220	1140	e415	495
20	334	5120	329	2580	5660	537	490	470	2660	1770	e400	456
21	311	4390	1980	1720	8810	872	478	442	2160	4020	e385	427
22	289	4450	1540	988	9560	713	460	597	1490	5550	e395	415
23	402	3670	2190	701	9380	616	444	662	920	4580	391	410
24	379	2780	4360	583	6730	566	432	633	1270	3400	406	407
25	335	2050	2870	523	4260	546	421	590	1040	2540	460	404
26	307	5880	3270	727	2930	517	407	552	942	1750	507	405
27	291	4260	3430	694	3480	510	379	501	630	1000	719	417
28	877	4160	7770	643	2890	688	390	454	543	738	540	430
29	814	3360	5040	1110	---	6080	391	413	897	617	462	569
30	739	3050	4450	1560	---	e6540	392	382	844	735	434	1340
31	545	---	4360	1560	---	8060	---	362	---	1440	410	---
TOTAL	14422	55124	52973	110139	107411	62961	40398	14669	43256	92145	14068	16979
MEAN	465	1837	1709	3553	3836	2031	1347	473	1442	2972	454	566
MAX	1410	5880	7770	14900	9560	8060	5900	662	3430	10700	719	1510
MIN	256	323	329	523	439	499	379	362	354	617	350	351
CFSM	.66	2.59	2.41	5.01	5.41	2.86	1.90	.67	2.03	4.19	.64	.80
IN.	.76	2.89	2.78	5.78	5.64	3.30	2.12	.77	2.27	4.83	.74	.89

CAL YR 1988 TOTAL 306442 MEAN 837 MAX 7770 MIN 222 CFSM 1.18 IN. 16.08
WTR YR 1989 TOTAL 624545 MEAN 1711 MAX 14900 MIN 256 CFSM 2.41 IN. 32.77

e Estimated

07032000 MISSISSIPPI RIVER AT MEMPHIS, TN
(National stream-quality accounting network station)

LOCATION.--Lat 35°07'37", long 90°04'25", Shelby County, Hydrologic Unit 08010100, on left bank 50 ft downstream from Harahan Bridge at Memphis, 1.3 mi downstream from Beale Street gage, 3.5 mi downstream from Wolf River, 62.4 mi upstream from St. Francis River, and at mile 734.8.

DRAINAGE AREA.--932,800 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--
Discharge: January 1933 to current year. Monthly discharge only for some periods, published in WSP 1311.
Gage heights: October 1934 to September 1951 and October 1952 to current year in reports of Geological Survey. Since November 1871, at Beale Street gage, in reports of Mississippi River Commission, December 1890 to August 1932 at Beale Street gage, September 1932 to December 1934 at nonrecording gage 1,000 ft downstream, and since December 1934 water-stage recorder at present site, in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 183.91 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 16, 1934, Beale Street nonrecording gage 1.3 mi upstream at present datum. Apr. 16 to Dec. 21, 1934, nonrecording gage 1,000 ft downstream at present datum.

REMARKS.--Flow regulated by many locks, dams, and reservoirs.

COOPERATION.--Records furnished by U.S. Army Corps of Engineers.

AVERAGE DISCHARGE.--56 years, 483,100 ft^3/s, 350,000,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,980,000 ft^3/s, Feb. 8, 1937; maximum gage height, 48.69 ft, Feb. 10, 1937; minimum discharge, 79,200 ft^3/s, Aug. 26, 1936; minimum gage height, -10.70 ft, July 10-11, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage prior to 1937, 46.55 ft, Apr. 9, 1913, at Beale Street gage or about 45.2 ft at present site.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,160,000 ft^3/s, Feb. 28; maximum gage height, 30.51 ft Mar. 1; minimum daily discharge, 125,000 ft^3/s Oct. 17; minimum gage height, -9.70 ft Oct. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	188000	156000	601000	701000	415000	1150000	751000	390000	547000	736000	294000	366000
2	192000	152000	561000	711000	406000	1150000	760000	401000	564000	722000	296000	360000
3	199000	145000	521000	707000	409000	1160000	770000	425000	573000	690000	300000	348000
4	192000	141000	489000	685000	430000	1150000	790000	451000	571000	682000	302000	345000
5	181000	141000	449000	657000	471000	1150000	816000	480000	560000	698000	299000	355000
6	169000	147000	418000	630000	537000	1130000	861000	508000	528000	708000	289000	368000
7	159000	152000	391000	600000	582000	1100000	917000	538000	500000	697000	273000	371000
8	153000	158000	369000	586000	606000	1070000	973000	571000	485000	685000	260000	359000
9	151000	167000	342000	579000	622000	1040000	1020000	597000	488000	667000	258000	344000
10	152000	179000	304000	592000	624000	1020000	1050000	596000	500000	644000	258000	329000
11	154000	194000	269000	611000	616000	1000000	1080000	590000	511000	612000	263000	316000
12	154000	208000	251000	661000	594000	988000	1080000	590000	527000	581000	268000	309000
13	150000	223000	247000	698000	563000	977000	1090000	597000	551000	548000	254000	326000
14	141000	226000	243000	757000	549000	967000	1090000	609000	563000	517000	230000	362000
15	132000	230000	244000	830000	561000	966000	1090000	620000	579000	488000	211000	395000
16	127000	235000	238000	890000	641000	965000	1080000	622000	605000	468000	196000	426000
17	125000	235000	221000	943000	769000	963000	1050000	623000	628000	452000	189000	461000
18	127000	233000	199000	983000	882000	954000	1020000	623000	651000	441000	186000	486000
19	133000	238000	183000	1020000	945000	926000	965000	626000	688000	432000	187000	484000
20	139000	301000	168000	1030000	978000	885000	879000	628000	712000	406000	193000	484000
21	143000	316000	158000	1040000	1010000	827000	769000	623000	727000	369000	199000	492000
22	144000	360000	155000	1030000	1030000	758000	661000	613000	743000	339000	205000	500000
23	140000	448000	155000	1010000	1040000	714000	572000	597000	759000	326000	211000	498000
24	139000	543000	166000	976000	1070000	696000	513000	582000	773000	325000	220000	477000
25	138000	604000	189000	923000	1100000	708000	474000	577000	787000	328000	239000	448000
26	149000	636000	221000	824000	1120000	724000	456000	571000	797000	334000	262000	431000
27	156000	672000	260000	716000	1150000	739000	438000	561000	799000	336000	281000	422000
28	156000	670000	362000	620000	1160000	738000	424000	547000	793000	332000	296000	423000
29	155000	664000	461000	530000	---	760000	408000	531000	779000	322000	313000	439000
30	155000	639000	600000	457000	---	761000	394000	516000	759000	314000	338000	456000
31	159000	---	690000	428000	---	755000	---	532000	---	303000	357000	---
TOTAL	4752000	9413000	10125000	23425000	20880000	28891000	24241000	17335000	19047000	15502000	7927000	12180000
MEAN	153300	313800	326600	755600	745700	932000	808000	559200	634900	500100	255700	406000
MAX	199000	672000	690000	1040000	1160000	1160000	1090000	628000	799000	736000	357000	500000
MIN	125000	141000	155000	428000	406000	696000	394000	390000	485000	303000	186000	309000

CAL YR 1988 TOTAL 121934000 MEAN 333200 MAX 1010000 MIN 110000
WTR YR 1989 TOTAL 193718000 MEAN 530700 MAX 1160000 MIN 125000

07032000 MISSISSIPPI RIVER AT MEMPHIS, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1973 to current year.

PERIOD OF DAILY RECORD--
SPECIFIC CONDUCTANCE: February 1973 to September 1981.
WATER TEMPERATURES: February 1973 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 571 microsiemens, July 30, 1977; minimum daily, 174 microsiemens, Feb. 7, 1979.
WATER TEMPERATURES: Maximum daily, 32.0°C, July 22, 24, 1981; minimum daily, 0.0°C, Jan. 12-14, 17, 18, 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
11...	1130	154000	490	8.20	18.5	765	17	8.7	93	220	44
FEB											
22...	0815	1000000	236	7.70	5.0	768	140	11.2	87	K900	2200
APR											
24...	1330	538000	350	7.90	16.0	762	34	8.6	87	K23	1200
JUL											
24...	1230	325000	335	8.10	26.0	763	22	7.6	94	29	K300

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT											
11...	180	42	17	38	32	1	3.8	114	86	21	0.30
FEB											
22...	93	26	6.7	8.5	16	0.4	2.4	56	32	11	0.10
APR											
24...	140	38	12	14	17	0.5	2.8	116	47	14	0.20
JUL											
24...	130	37	10	17	21	0.6	3.2	88	50	11	0.20

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS NO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)
OCT											
11...	3.2	286	282	0.39	119000	--	<0.010	--	0.450	0.070	0.06
FEB											
22...	5.3	136	130	0.18	368000	0.830	0.010	0.03	0.840	0.130	0.12
APR											
24...	6.2	205	212	0.28	298000	1.66	0.040	0.13	1.70	0.040	0.05
JUL											
24...	5.0	193	189	0.26	169000	--	<0.010	--	0.650	0.010	--

K--Results based on non-ideal colony count.

07032000 MISSISSIPPI RIVER AT MEMPHIS, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
OCT 11...	0.050	0.53	0.60	0.110	0.060	0.070	0.21	<10	2	71
FEB 22...	0.090	0.97	1.1	0.270	0.050	0.040	0.12	100	<1	46
APR 24...	0.040	0.96	1.0	0.160	0.050	0.040	0.12	30	<1	50
JUL 24...	<0.010	0.49	0.50	0.130	0.050	0.050	0.15	10	1	49

DATE	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)
OCT 11...	<0.5	<1	<1	<3	4	9	<5	19	3	<0.1
FEB 22...	<0.5	1	<1	<3	12	160	<5	<4	11	<0.1
APR 24...	<0.5	<1	<1	<3	8	40	<5	6	2	<0.1
JUL 24...	<0.5	<1	<1	<3	9	22	<1	7	6	<0.1

DATE	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 11...	<10	<1	<1	<1.0	250	<6	14	97	40300	62
FEB 22...	<10	6	<1	<1.0	110	<6	61	313	848000	83
APR 24...	<10	5	<1	<1.0	150	<6	9	141	205000	71
JUL 24...	<10	1	<1	<1.0	170	<6	13	99	86900	80

07032200 NONCONNAH CREEK NEAR GERMANTOWN, TN

LOCATION.--Lat 35°02'59", long 89°49'08", Shelby County, Hydrologic Unit 08010211, on left bank at downstream side of bridge on Winchester Road, 2.6 mi south of Germantown, and at mile 17.3.

DRAINAGE AREA.--68.2 mi^2.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1959-1964, 1969; October 1969 to May 1985, October 1985 to current year.

REVISED RECORDS.--WRD TN 1974: Drainage area, WRD TN 1987 (P).

GAGE.--Water-stage recorder. Datum of gage is 262.92 ft above National Geodetic Vertical Datum of 1929 (levels by Soil Conservation Service).

REMARKS.--Records poor. Periodic observations of water temperature are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--19 years (water years 1970-84, 1986-89), 106 ft^3/s, 21.07 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,100 ft^3/s, July 2, 1989, gage height 24.23 ft, maximum gage height 27.11 ft, Mar. 12, 1975; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 19	1245	5,680	16.29	Feb. 14	0815	8,660	20.18
Nov. 26	1630	9,100	20.68	Feb. 20	2130	9,260	20.86
Dec. 27	2315	4,810	15.02	Mar. 29	0400	8,690	20.22
Jan. 7	2315	3,830	13.53	June 13	0215	3,890	13.61
Jan. 12	1145	11,100	22.67	July 2	0200	*13,100	*24.23
Jan. 14	1315	7,740	18.69				

Minimum discharge, .45 ft^3/s, Aug. 8, 9, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	658	e5.2	e4.0	327	41	79	72	e1.6	1.9	2080	5.0	6.9
2	32	e4.4	e3.0	64	25	36	33	e1.5	9.6	5900	2.4	11
3	13	e3.7	e2.7	35	1220	24	30	e1.4	36	1220	1.3	e13
4	e9.4	e3.0	e2.5	21	234	47	851	e1.5	194	103	1.3	e3.0
5	e7.8	e2.6	e2.3	71	60	1480	137	e1.7	38	39	.91	e1.3
6	e5.4	e2.2	e2.1	334	29	463	36	e1.5	27	22	.70	1.3
7	e4.3	e1.9	e2.0	631	21	89	33	e1.4	8.4	173	.67	1.3
8	e3.7	e1.8	e1.9	914	19	38	160	e1.3	49	63	.50	1.2
9	e3.4	e1.8	e1.8	91	16	23	59	14	72	19	.51	4.4
10	e3.3	e1.8	e1.8	37	13	18	21	5.0	19	293	.52	8.5
11	e3.2	e1.8	e1.7	228	14	15	13	e2.2	76	311	.52	4.2
12	e3.2	e1.7	e1.7	5010	13	13	10	e1.2	495	39	1.6	1.3
13	e3.2	e1.7	e1.7	955	15	11	7.7	e1.2	1290	18	1.5	59
14	e3.1	e1.7	e1.7	3710	4590	11	8.8	e1.4	218	20	1.2	409
15	e3.1	e1.7	e1.7	769	747	9.3	11	e1.8	441	10	1.4	43
16	e3.9	92	e1.7	134	1070	7.2	6.7	e1.3	55	21	1.4	27
17	e3.3	4.1	e1.7	63	1100	6.3	5.2	e1.2	20	8.4	1.4	7.0
18	e3.1	8.6	e1.6	42	814	10	4.7	2.7	20	4.5	2.0	2.9
19	e3.8	3100	e1.6	29	159	9.1	4.2	3.4	39	348	4.0	2.4
20	e3.3	1580	e1.6	21	2630	24	4.4	52	13	149	1.4	1.9
21	e3.1	123	911	15	2280	101	e3.8	20	6.2	22	1.1	1.2
22	e3.1	14	132	13	220	27	e3.3	75	4.0	12	.93	.93
23	e34	4.4	556	12	57	15	e2.9	52	461	19	1.1	2.3
24	e13	3.8	1070	11	31	12	e2.6	15	242	11	42	2.0
25	e6.4	3.7	188	12	23	9.8	e2.3	6.6	19	7.8	18	1.5
26	e5.1	3720	37	128	18	8.3	e2.1	2.3	7.7	4.9	21	1.6
27	e4.1	871	670	93	999	12	e2.0	2.8	5.8	3.3	9.7	1.6
28	e62	105	2090	32	466	336	e1.8	3.8	13	1.5	3.2	2.4
29	e28	22	256	720	---	3970	e1.7	1.9	444	2.1	2.2	77
30	e13	5.3	57	349	---	561	e1.6	2.4	96	36	4.7	230
31	e7.7	---	747	89	---	500	---	2.0	---	22	20	---
TOTAL	953.0	9693.9	6754.8	14960	16924	7965.0	1531.8	283.1	4420.6	10982.5	154.16	930.13
MEAN	30.7	323	218	483	604	257	51.1	9.13	147	354	4.97	31.0
MAX	658	3720	2090	5010	4590	3970	851	75	1290	5900	42	409
MIN	3.1	1.7	1.6	11	13	6.3	1.6	1.2	1.9	1.5	.50	.93
CFSM	.45	4.74	3.19	7.08	8.86	3.77	.75	.13	2.16	5.19	.07	.45
IN.	.52	5.29	3.68	8.16	9.23	4.34	.84	.15	2.41	5.99	.08	.51

CAL YR 1988 TOTAL 35985.12 MEAN 98.3 MAX 4520 MIN .00 CFSM 1.44 IN. 19.63
WTR YR 1989 TOTAL 75552.99 MEAN 207 MAX 5900 MIN .50 CFSM 3.04 IN. 41.21

e Estimated

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage partial-record stations are presented in the following table. Discharge measurements made at miscellaneous sites are given in seperate tables.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from current meter or indirect measurements of peak flow. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1989

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Annual Maximum Date	Annual Maximum Gage height (ft)	Annual Maximum Discharge (ft^3/s)
		CUMBERLAND RIVER BASIN					
03409000	White Oak Creek at Sunbright, TN	Lat 36°14'38", long 84°40'14", Morgan County, Hydrologic Unit 05130104, at bridge on U.S. Highway 27 in Sunbright. Datum of gage is 1,294.05 ft above National Geodetic Vertical Datum of 1929.	13.5	1934, 1955-82, 1985-89	1-20-89	8.14	-
03418201	Doe Creek at Gainesboro, TN	Lat 36°21'23", long 85°39'20", Jackson County, Hydrologic Unit 05130106, at bridge on Highway 56, at Gainesboro. Datum of gage is 519.37 ft above National Geodetic Vertical Datum of 1929.	5.72	1978-89	2-14-89	5.62	-
03420360	Mud Creek tributary No. 2 near Summitville, TN	Lat 35°36'10", long 86°01'33", Coffee County, Hydrologic Unit 05130107, at culvert under county road, 3.5 miles northwest of Summitville, and 0.7 mile upstream from mouth.	2.28	1967-89	6- 6-89	4.74	409
03420600	Owen Branch near Centertown, TN	Lat 35°42'30", long 85°53'05", Warren County, Hydrologic Unit 05130107, at bridge on U.S. Highway 70-S, 2.4 miles southeast of Centertown.	4.60	1955-89	6-22-89	-	e7,500
03421200	Charles Creek near McMinnville, TN	Lat 35°43'00", long 85°46'05", Warren County, Hydrologic Unit 05130107, at bridge on county road at Faulkner Springs, 2.7 miles north of McMinnville.	31.1	1955-89	6-22-89	17.03	24,800
03424900	Mulherrin Creek near Gordonsville, TN	Lat 36°11'28", long 85°57'11", Smith County, Hydrologic Unit 05130108, at bridge on State Highway 53, 1.3 miles upstream from mouth, 1.5 miles northwest of Gordonsville.	26.9	1982, 1986-89	2-14-89	23.85	-
03425045	Peyton Creek at Monoville, TN	Lat 36°18'37", long 85°59'21", Smith County, Hydrologic Unit 05130201, at county road bridge 0.9, mile northwest of Monoville. Datum of gage is 459.39 ft above National Geodetic Vertical Datum of 1929.	44.7	1986-89	3- 6-89	40.41	-
03425357	Darwin Branch tributary at Hartsville, TN	Lat 36°23'54", long 86°09'08", Trousdale County, Hydrologic Unit 05130201, at culvert on New Hall Town Road, 0.9 miles northwest of Hartsville.	.66	1986-89	9-23-89	23.97	-

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1989--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Annual Maximum Date	Annual Maximum Gage height (ft)	Annual Maximum Discharge (ft^3/s)
		CUMBERLAND RIVER BASIN--CONTINUED					
03425365	Second Creek near Walnut Grove, TN	Lat 36°24'01", long 86°12'48", Trousdale County, Hydrologic Unit 05130201, at culvert on State Highways 10 and 25, 2.6 miles west of Hartsville.	3.47	1986-89	9-23-89	29.24	-
03425500	Spring Creek near Lebanon, TN	Lat 36°10'49", long 86°14'29", Wilson County, Hydrologic Unit 05130201, at bridge on Eastover Road, 3.4 miles southeast of Lebanon. Datum of gage is 556.08 ft above National Geodetic Vertical Datum of 1929.	35.3	1955-61†, 1962-89	2-14-89	10.07	-
03425700	Spencer Creek near Lebanon, TN	Lat 36°14'20", long 86°24'03", Wilson County, Hydrologic Unit 05130201, at bridge on county road, 100 ft north of junction of county road and U.S. Highway 70, 6.5 miles west of square in Lebanon.	3.32	1955-89	2-14-89	6.83	1,020
03426874	Brawleys Fork below Bradyville, TN	Lat 35°44'44", long 86°10'14", Cannon County, Hydrologic Unit 05130203, at bridge on Bradyville Pike, 0.5 mile northwest of Bradyville.	15.4	1983-89	3- 5-89	27.01	2,630
034269424	Reed Creek near Bradyville, TN	Lat 35°44'44", long 86°12'31", Rutherford County, Hydrologic Unit 05130203, at bridge on Bradyville Pike, 2.4 miles northwest of Bradyville.	3.52	1983-89	3- 5-89	3.32	-
03428043	Lytle Creek at Sanbyrne Drive at Murfreesboro, TN	Lat 35°49'38", long 86°23'28", Rutherford County, Hydrologic Unit 05130203, at bridge on Sanbyrne Drive, 1 mile south of intersection of Highways 41 and 231 in Murfreesboro. Datum of gage is 591.91 ft above National Geodetic Vertical Datum of 1929.	17.6	1978-89	3- 5-89	1.88	-
03430118	McCrory Creek at Ironwood Drive at Donelson, TN	Lat 36°09'07", long 86°39'02", Davidson County, Hydrologic Unit 05130203, at bridge under Ironwood Drive, 1.3 miles southeast of intersection of U.S. Highway 70 (Lebanon Road) and Donelson Pike in Donelson. Datum of gage is 430.63 ft above National Geodetic Vertical Datum of 1929.	7.31	1977-89a	2-14-89	9.71	2,810
03430400	Mill Creek at Nolensville, TN	Lat 35°57'32", long 86°40'31", Williamson County, Hydrologic Unit 05130202, at bridge on Sunset Road, 0.6 mile northwest of Nolensville. Datum of gage is 586.18 ft above National Geodetic Vertical Datum of 1929.	12.0	1965-89	2-14-89	7.82	5,690
03431000	Mill Creek near Antioch, TN	Lat 36°04'54", long 86°40'50", Davidson County, Hydrologic Unit 05130202, at bridge on Franklin-Limestone Road, 1.6 miles north of Antioch. Datum of gage is 472.93 ft above National Geodetic Vertical Datum of 1929.	64.0	1954-61†, 1962-63, 1964-75†, 1976-89	2-14-89	14.34	6,630
03431040	Sevenmile Creek at Blackman Road, at Nashville, TN	Lat 36°04'21", long 86°44'00", Davidson County, Hydrologic Unit 05130202, at bridge on Blackman Road, 7.0 miles southeast of State capitol in Nashville. Datum of gage is 499.08 ft above National Geodetic Vertical Datum of 1929.	12.2	1965-89	2-14-89	8.55	-

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1989--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Annual Maximum Date	Annual Maximum Gage height (ft)	Annual Maximum Discharge (ft^3/s)
		CUMBERLAND RIVER BASIN--CONTINUED					
03431060	Mill Creek at Thompson Lane, near Woodbine, TN	Lat 36°07'04", long 86°43'08", Davidson County, Hydrologic Unit 05130202, at bridge on Thompson Lane, 1.5 miles northeast of intersection of Thompson Lane and Nolensville Road (U.S. Highway 31-A, 41-A) in Woodbine. Datum of gage is 432.55 ft above National Geodetic Vertical Datum of 1929.	93.4	1965-89	2-14-89	16.88	16,000
03431062	Mill Creek tributary at Glenrose Avenue, at Woodbine, TN	Lat 36°07'02", long 86°43'37", Davidson County, Hydrologic Unit 05130202, at culvert under Glenrose Avenue, 1.1 miles northeast of intersection of Nolensville Road and Thompson Lane in Woodbine, and 750 ft upstream from mouth. Datum of gage is 443.52 ft above National Geodetic Vertical Datum of 1929.	1.17	1977-89	11-25-86b 7-13-88b 2-14-89	4.96 4.34 5.69	325 242 432
03431120	West Fork Browns Creek at General Bates Drive, at Nashville, TN	Lat 36°06'29", long 86°47'07", Davidson County, Hydrologic Unit 05130202, at bridge on General Bates Drive, 4.0 miles south of State capitol in Nashville. Datum of gage is 499.94 ft above National Geodetic Vertical Datum of 1929.	3.30	1965-89	2-14-89	6.50	1,710
03431240	East Fork Browns Creek at Baird-Ward Printing Company, at Nashville, TN	Lat 36°06'33", long 86°46'00", Davidson County, Hydrologic Unit 05130202, at bridge on access road to Baird-Ward Printing Co., Plant No. 1, 500 ft west of 100-Oaks Shopping Center, and 4.0 miles southeast of State capitol in Nashville. Datum of gage is 497.91 ft above National Geodetic Vertical Datum of 1929.	1.58	1965-89	6-19-89	4.07	362
03431340	Browns Creek at Factory Street, at Nashville, TN	Lat 36°08'26", long 46°45'31", Davidson County, Hydrologic Unit 05130202, at bridge on Factory Street, 800 ft downstream from Louisville and Nashville Railroad bridge, and 2.3 miles southeast of State capitol in Nashville. Datum of gage is 420.66 ft above National Geodetic Vertical Datum of 1929.	13.2	1965-89	2-14-89	8.67	-
03431490	Pages Branch at Avondale, TN	Lat 36°12'22", long 86°46'24", Davidson County, Hydrologic Unit 05130202, at culvert under Trinity Lane, 900 ft east of intersection of Interstate 65 and Trinity Lane at Avondale, 0.9 mile upstream from mouth.	2.01	1977-89	6-12-81b 9-13-82b 2-14-89	3.66 5.27 4.88	207 768 990
03431550	Earthman Fork at Whites Creek, TN	Lat 36°15'55", long 86°49'51", Davidson County, Hydrologic Unit 05130202, at bridge on Whites Creek Pike in town of Whites Creek, 1,800 ft upstream from mouth.	6.29	1965-89	2-14-89	7.86	1,670
03431573	Ewing Creek at Richmond Hill Drive at Parkwood, TN	Lat 36°13'50", long 86°46'28", Davidson County, Hydrologic Unit 05130202, at bridge on Richmond Hill Drive, 1.0 mile southeast of Parkwood. Datum of gage is National Geodetic Vertical Datum of 1929.	2.17	1976-89	2-14-89	495.17	-

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1989--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Annual Maximum Date	Annual Maximum Gage height (ft)	Annual Maximum Discharge (ft^3/s)
		CUMBERLAND RIVER BASIN--CONTINUED					
03431575	Ewing Creek at Brick Church Pike at Parkwood, TN	Lat 36°13'58", long 86°46'54", Davidson County, Hydrologic Unit 05130202, at bridge on Brick Church Pike, 0.4 mile upstream from North Fork, 0.8 mile south of Parkwood. Datum of gage is National Geodetic Vertical Datum of 1929.	3.02	1976-89	2-14-89	476.79	-
03431578	Ewing Creek at Gwynwood Drive near Jordania, TN	Lat 36°13'58", long 86°47'32" Davidson County, Hydrologic Unit 05130202, at bridge on county road, 0.3 mile downstream from North Fork, 3.4 miles northeast of Bordeaux, 4.5 miles northeast of Jordonia, and at mile 2.1. Datum of gage is National Geodetic Vertical Datum of 1929.	9.98	1976-89	2-14-89	462.82	-
03431581	Ewing Creek below Knight Road, near Bordeaux, TN	Lat 36°13'55", long 86°48'14", Davidson County, Hydrologic Unit 05130202, at downstream side of bridge on Knight Road, 3.0 miles northeast of Bordeaux. Datum of gage is National Geodetic Vertical Datum of 1929.	13.3	1976-89	2-14-89	448.13	-
03431677	Sugartree Creek at YMCA Access Road, at Green Hills, TN	Lat 36°06'13", long 86°49'12", Davidson County, Hydrologic Unit 05130202, at bridge on YMCA Access Road, 0.5 mile southwest of Hillsboro High School, at Green Hills. Datum of gage is National Geodetic Vertical Datum of 1929.	1.51	1976-89	2-14-89	544.73	-
03431679	Sugartree Creek at Abbott Martin Road, at Green Hills, TN	Lat 36°06'23", long 86°49'17", Davidson County, Hydrologic Unit 05130202, at bridge on Abbott Martin Road, at intersection of Bedford Avenue and Abbott Martin Road, at Green Hills. Datum of gage is National Geodetic Vertical Datum of 1929.	2.19	1976-89	2-14-89	530.80	-
03431795	Bednigo Branch tributary at Chestnut Grove, TN	Lat 36°25'10", long 86°54'11", Robertson County, Hydrologic Unit 05130206, at culvert on Coopertown Road, 0.6 mile southwest of Crunk, 0.6 mile northeast of Chestnut Grove.	0.47	1986-89	3- 5-89	20.40	-
03432470	Murfrees Fork above Burwood, TN	Lat 35°48'58", long 86°57'20", Williamson County, Hydrologic Unit 05130204, at county road bridge, just downstream from Cayce Branch, 1.6 miles east of Burwood.	7.43	1986-89	11-20-88	20.26	-
03432925	Little Harpeth River at Granny White Pike, at Brentwood, TN	Lat 36°01'30", long 86°49'09", Williamson County, Hydrologic Unit 05130204, at bridge on Granny White Pike, 2.0 miles southwest of Brentwood. Datum of gage is 618.29 ft above National Geodetic Vertical Datum of 1929.	22.0	1978-89	1-12-89	14.15	4,750
03434590	Jones Creek near Burns, TN	Lat 36°06'15", long 87°19'05", Dickson County, Hydrologic Unit 05130204, at bridge on Rock Church Road, 3.5 miles north of Burns and at mile 21.9.	13.3	1984-89	2-14-89	8.21	2,330
03434616	Hall Branch near Charlotte, TN	Lat 36°11'48", long 87°20'30", Dickson County, Hydrologic Unit 05130204, at Culvert under State Highway 48, 1.4 miles north of Charlotte and at mile 2.6.	0.50	1984-89		c	-

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1989--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Annual Maximum Date	Annual Maximum Gage height (ft)	Annual Maximum Discharge (ft^3/s)
		CUMBERLAND RIVER BASIN--CONTINUED					
034350021	Bartons Creek near Cumberland Furnace, TN	Lat 36°15'02", long 87°20'00", Dickson County, Hydrologic Unit 05130205, at bridge on Stayton road, 1.9 miles southeast of Cumberland Furnace.	22.29	1984-89	6-13-89	13.53	-
0343500213	Bartons Creek tributary near Stayton, TN	Lat 36°15'19", long 87°19'12", Dickson County, Hydrologic Unit 05130205, at Culvert under Jackson Lane road, 1.5 miles southeast of Stayton, 2.5 miles southeast of Cumberland Furnace.	0.51	1984-89	6-13-89	11.77	-
034351113	Honey Run Creek below Cross Plains, TN	Lat 36°32'31", long 86°42'14", Robertson County, Hydrologic Unit 05130206, at Empson Bridge on county road, 0.4 mile above mouth of Empson branch, 0.6 mile southwest of Cross Plains.	25.8	1986-89	2-21-89	22.99	-
03435770	Sulphur Fork Red River above Springfield, TN	Lat 36°30'47", long 86°51'44", Robertson County, Hydrologic Unit 05130206, on left bank 150 ft downstream from new bridge on State Highway 49, 1.2 miles downstream from Beaver Dam Creek, 1.3 miles northeast of Springfield. Datum of gage is 538.17 ft above National Geodetic Vertical Datum of 1929.	65.6	1975-89†	2-21-89	14.29	11,200
03435930	Spring Creek tributary near Cedar Hill, TN	Lat 36°32'08", long 86°59'26", Robertson County, Hydrologic Unit 05130206, at culvert on Kinney Road, 1.2 miles southeast of Cedar Hill.	1.40	1986-89	2-21-89	21.05	-
03436505	Cummings Creek nr Dotsonville, TN	Lat 36°29'18", long 87°28'06", Montgomery County, Hydrologic Unit 05130205, at bridge on Dotsonville Road, 1.1 miles northeast of Dotsonville.	2.65	1984-89	1-14-89	8.37	-
03436700	Yellow Creek near Shiloh, TN	Lat 36°20'55", long 87°32'20", Montgomery County, Hydrologic Unit 05130205, at bridge on State Highway 13, 2.6 miles west of Shiloh, 3.0 miles downstream from Leatherwood Creek, 9.0 miles east of Erin. Datum of gage is 390.13 ft above National Geodetic Vertical Datum of 1929.	124	1957-80†, 1982-89	6-13-89	17.61	15,800
		TENNESSEE RIVER BASIN					
03461230	Caney Creek near Cosby, TN	Lat 35°47'03", long 83°12'11", Cocke County, Hydrologic Unit 06010106, at culvert under State Highway 32, 3.3 miles southeast of Cosby.	1.62	1967-89	9-22-89	4.18	90
03465607	Cherokee Creek near Embreeville, TN	Lat 36°12'24", long 82°29'23", Washington County, Hydrologic Unit 06010108, at culvert on county road, 0.5 mile southeast of Mayday, 1.4 miles northwest of Kansas City, and at mile 1.3.	22.9	1984-89	7- 7-89	13.50	-
03465780	Clear Fork near Fairview, TN	Lat 36°19'33", long 82°33'47", Washington County, Hydrologic Unit 06010108, at culvert on State Highway 81, 2.0 miles southwest of Sulfur Springs, and at mile 3.8.	10.5	1983-89	6-17-89	4.63	-

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1989--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Annual Maximum Date	Annual Maximum Gage height (ft)	Annual Maximum Discharge (ft^3/s)
		TENNESSEE RIVER BASIN--CONTINUED					
03466890	Lick Creek near Albany, TN	Lat 36°14'54", long 82°55'34", Greene County, Hydrologic Unit 06010108, at State Highway 70 bridge, 0.3 mile downstream from Puncheon Camp Creek, 1.0 mile northwest of Albany, and at mile 33.7.	172	1984-89	6-17-89	13.63	-
03467480	Bent Creek at Taylor Gap, TN	Lat 36°14'08", long 83°06'41", Hamblen County, Hydrologic Unit 06010108, at bridge on county road (Mountain Valley Road), 2.1 miles southwest of Bulls Gap, 5.0 miles southeast of Russellville.	2.18	1986-89	9-15-89	15.55	-
03467992	Carter Branch near White Pine, TN	Lat 36°07'05", long 83°18'55", Jefferson County, Hydrologic Unit 06010108, at bridge on county road, 1.6 miles northeast of Kimbrough Crossroad, 1.8 miles northwest of White Pine.	4.25	1986-89	5- 5-89	6.13	-
03467993	Cedar Creek near Valley Home, TN	Lat 36°08'03", long 83°18'47", Jefferson County, Hydrologic Unit 06010108, at culvert on county road, 1.7 miles southeast of Valley Home, 1.9 miles southeast of Witt, 2.2 miles northwest of White Pine.	2.01	1986-89	5- 5-89	12.37	-
03467998	Sinking Fork at White Pine, TN	Lat 36°07'21", long 83°17'44", Jefferson County, Hydrologic Unit 06010108, at culvert on county road, 0.9 mile northwest of White Pine, 2.7 miles northeast of Kimbrough Crossroad.	6.38	1986-89	1- 1-89	6.02	-
03470215	Dumplin Creek at Mt. Hareb, TN	Lat 36°04'59", long 83°25'51", Jefferson County, Hydrologic Unit 06010107, at culvert on county road, 0.8 mile southeast of Mt. Hareb, 4.3 miles southeast of Jefferson City, 4.6 miles north of Dandridge.	3.65	1986-89	5- 5-89	9.92	-
03476960	Indian Creek at Childress, TN	Lat 36°25'38", long 82°15'54", Sullivan County, Hydrologic Unit 06010102, at bridge on U.S. Highway 19, 3.3 miles south of Bluff City, and at mile 4.6.	6.79	1983-89	6-17-89	7.55	-
03478615	Evans Creek near Blountville, TN	Lat 36°31'19", long 82°18'12", Sullivan County, Hydrologic Unit 06010102, at State Highway 37 bridge, 1.5 miles southeast of Blountville. Datum of gage is 1500.00 ft above National Geodetic Vertical Datum of 1929.	2.50	1983-89	9-12-89	12.31	90
03481600	Corn Creek at Mountain City, TN	Lat 36°29'23", long 81°48'52", Johnson County, Hydrologic Unit 06010103, at bridge on county road, 600 ft north of junction of county road and U.S. Highway 421, 1.0 mile northwest of Mountain City.	5.34	1959-61, 1963-89	1989	<2.14	<47
03487507	Horse Creek above Sullivan Gardens, TN	Lat 36°28'13", long 82°35'52", Sullivan County, Hydrologic Unit 06010102, at bridge on county road, 2.5 miles southwest of Vernon Heights, and at mile 7.3.	26.0	1983-89	6-17-89	12.26	821
03490522	Forgey Creek at Zion Hill, TN	Lat 36°29'12", long 82°53'08", Hawkins County, Hydrologic Unit 06010104, at culvert on county road (Carter Valley Road), 0.9 mile north of Zion Hill, 7.8 miles northeast of Rogersville.	0.86	1986-89	7- 7-89	21.03	-

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1989--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Annual Maximum Date	Annual Maximum Gage height (ft)	Annual Maximum Discharge (ft^3/s)
		TENNESSEE RIVER BASIN--CONTINUED					
03491490	Dodson Creek tributary near Rogersville, TN	Lat 36°21'19", long 82°57'03", Hawkins County, Hydrologic Unit 06010104, at bridge on county road, 1.4 miles northwest of Enterprise, and at mile 0.5.	0.32	1983-89	9-16-89	8.05	-
03491540	Robertson Creek near Persia, TN	Lat 36°20'24", long 83°02'27", Hawkins County, Hydrologic Unit 06010104, at bridge on State Highway 113, 0.25 mile below Mooney Branch, and at mile 3.0.	14.6	1986-89	9-16-89	12.16	663
03494714	Dry Land Creek tributary near New Market, TN	Lat 36°03'33", long 83°34'13", Jefferson County, Hydrologic Unit 06010104, at culvert on county road (Rocky Valley Road), 3.0 miles south of New Market, 3.3 miles northwest of Piedmont.	0.20	1986-89	5- 5-89	12.42	-
03494990	Flat Creek at Luttrell, TN	Lat 36°11'45", long 83°44'44", Union County, Hydrologic Unit 06010104, at bridge on State Highway 61, 0.3 mile southwest of Luttrell, 3.5 miles northwest of Blaine.	22.4	1986-89	1- 1-89	10.28	-
03519610	Baker Creek tributary near Binfield, TN	Lat 35°41'56", long 84°02'46", Blount County, Hydrologic Unit 06010204, at culvert under county road, 1.5 miles east of Binfield.	2.10	1966-77, 1979-89	5- 5-89	3.36	39
03519640	Baker Creek near Greenback, TN	Lat 35°40'21", long 84°06'28", Blount County, Hydrologic Unit 06010204, at county road bridge, 1.0 mile upstream from Little Baker Creek, 3.4 miles east of Greenback, and at mile 15.0. Datum of gage is 845.01 ft above National Geodetic Vertical Datum of 1929.	16.0	1965-75†, 1976-89	6-16-89	6.37	371
03527800	Big War Creek at Luther, TN	Lat 36°27'18", long 83°14'29", Hancock County, Hydrologic Unit 06010205, at bridge on county road, 0.4 mile south of Luther 0.8 mile northwest of Yount Town, 6.0 miles southwest of Sneedville.	22.3	1986-89	5- 5-89	7.40	-
03528390	Crooked Creek near Maynardville, TN	Lat 36°15'56", long 83°50'25", Union County, Hydrologic Unit 06010205, at culvert on State Highway 170, 2.5 miles northwest of Maynardville, 5.5 miles northeast of Paulette.	2.23	1986-89	6-16-89	2.82	-
03534000	Coal Creek at Lake City, TNd	Lat 36°13'14", long 84°09'27" Anderson County, Hydrologic Unit 06010207, at bridge on U.S. Highway 25-W, at Lake City. Datum of Gage is 842.76 ft above National Geodetic Vertical Datum of 1929.	24.5	1932-34†, 1955-89	6-15-89	7.12	4420
03535180	Willow Fork near Halls Crossroads, TN	Lat 36°05'59", long 83°54'27", Knox County, Hydrologic Unit 06010207, at culvert under Quarry Road, 1.7 miles northeast of Halls Crossroads. Datum of gage is 1,027.82 ft above National Geodetic Vertical Datum of 1929.	3.23	1967-89	1-13-89	5.72	99
03555900	Coker Creek near Ironsburg, TN	Lat 35°13'05", long 84°20'28", Monroe County, Hydrologic Unit 06020002, at bridge on State Highway 68, 4.2 miles southwest of Coker Creek.	22.4	1983-89	2-28-89	3.00	-

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1989--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Annual Maximum Date	Annual Maximum Gage height (ft)	Annual Maximum Discharge (ft^3/s)
		TENNESSEE RIVER BASIN--CONTINUED					
03566599	North Chickamauga Creek at Greens Mill, near Hixson, TN	Lat 35°10'30", long 85°13'40", Hamilton County, Hydrologic Unit 06020001, at bridge on Boy Scout Road, 2.3 miles north of Hixson.	99.5	1925,1944, 1953-56, 1980-89	3- 6-89	29.63	-
03569168	Stringers Branch at Leawood Drive, at Red Bank, TN	Lat 35°07'00", long 85°17'28", Hamilton County, Hydrologic Unit 06020001, at bridge on Leawood Drive at Red Bank.	1.54	1980-89	3- 6-89	22.63	-
03571500	Little Sequatchie River at Sequatchie, TN	Lat 35°07'47", long 85°35'10", Marion County, Hydrologic Unit 06020004, at Highway 27 bridge, 1.0 mile northeast of Sequatchie.	116	1925,1929, 1930, 1932-34†, 1944,1951-54, 1965,1979-89	3- 6-89	9.72	-
03571730	Standifer Branch at Jasper, TN	Lat 35°04'22", long 85°36'56", Marion County, Hydrologic Unit 06020004, at bridge on U.S. Highways 41, 64, and 72, 0.6 mile east of courthouse, 0.8 mile above Town Creek, at Jasper.	15.3	1982-89	3- 6-89	15.62	-
03571800	Battle Creek near Monteagle, TN	Lat 35°08'03", long 85°46'15", Marion County, Hydrologic Unit 06030001, at bridge on former U.S. Highways 41 and 64, 9.2 miles southeast of Monteagle. Datum of gage is 621.51 ft above National Geodetic Vertical Datum of 1929.	50.4	1955-89	3- 6-89	7.90	3,450
03583200	Chicken Creek at McBurg, TN	Lat 35°11'03", long 86°48'47", Lincoln County, Hydrologic Unit 06030003, at bridge on county highway R7374 in McBurg.	7.66	1955-89	3- 6-89	6.67	3,680
03583300	Richland Creek near Cornersville, TN	Lat 35°19'10", long 86°52'20", Marshall County, Hydrologic Unit 06030004, at bridge on U.S. Highway 31-A, 3.4 miles southwest of Cornersville. Datum of gage is 754.28 ft above National Geodetic Vertical Datum of 1929.	47.5	1962-68†, 1969-89	7-11-89	16.58	11,400
035944242	Owl Creek at Lexington, TN	Lat 35°38'26", long 88°22'13", Henderson County, Hydrologic Unit 06040001, on State Highway 20, 1.37 miles east of Lexington, and at mile 1.3.	2.50	1984-89	1-14-89	f25.85	-
03597300	Wartrace Creek above Bell Buckle, TN	Lat 35°37'45", long 86°21'22", Bedford County, Hydrologic Unit 06040002, at culvert under county road, 2.7 miles north of Bell Buckle.	4.99	1966-89	6-13-89	9.23	1,720
03599200	East Rock Creek at Farmington, TN	Lat 35°30'05", long 86°42'50", Marshall County, Hydrologic Unit 06040002, at culvert, on old State Highway 64, 0.2 mile west of Farmington.	43.1	1954-89	3- 6-89	14.77	11,700
035999716	Rutherford Creek tributary at Moores Lane near Kedron, TN	Lat 35°42'03", long 86°55'03", Maury County, Hydrologic Unit 06040003, at culvert under Moores Lane, 1.1 miles southwest of Kedron.	0.25	1987-89	3- 6-89	26.72	-
03602170	West Piney River at Hwy 70 near Dickson, TN	Lat 36°05'21", long 87°28'12", Dickson County, Hydrologic Unit 06040003, at U.S. Highway 70 bridge, 4.0 miles west of Dickson.	2.16	1984-89	2-14-89	25.42	633

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1989--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Annual Maximum Date	Annual Maximum Gage height (ft)	Annual Maximum Discharge (ft^3/s)
		TENNESSEE RIVER BASIN--CONTINUED					
03604070	Coon Creek tributary near Hohenwald, TN	Lat 35°34'07", long 87°40'02", Perry County, Hydrologic Unit 06040004, at culvert under State Highway 20, 7.0 miles northwest of Hohenwald.	0.51	1967-89	2-14-89	3.72	78
03604080	Hugh Hollow Branch near Hohenwald, TN	Lat 35°34'59", long 87°40'36", Perry County, Hydrologic Unit 06040004, at culvert under State Highway 20, 8.0 miles northwest of Hohenwald.	1.52	1967-89	2-14-89	1.74	14
03604090	Coon Creek above Chop Hollow, near Hohenwald, TN	Lat 35°35'19", long 87°41'09", Perry County, Hydrologic Unit 06040004, at bridge on State Highway 20, 9.0 miles northwest of Hohenwald.	6.02	1967-89	6-13-89	3.84	366
03604580	Blue Creek near New Hope, TN	Lat 36°03'52", long 87°38'58", Humphreys County, Hydrologic Unit 06040003, at county road bridge, 1.8 miles northwest of New Hope, 3.1 miles southeast of McEwen, and at mile 3.9.	13.2	1984-89	6-13-89	18.82	-
03604595	Little Blue Creek tributary near Gorman, TN	Lat 36°19'44", long 87°42'13", Humpherys County, Hydrologic Unit 06040003, at culvert under county road, 1.8 miles south of Gorman, 4.4 miles southwest of McEwen, and at mile 0.3.	0.62	1984-89	6-13-89	21.62	-
03605555	Trace Creek above Denver, TN	Lat 36°03'08", long 87°54'27", Humphreys County, Hydrologic Unit 06040005, on left bank at bridge on U.S. Highway 70, 1.0 mile northeast of New Johnsonville. Datum of gage is 377.05 ft above National Geodetic Vertical Datum of 1929.	31.9	1963-88†, 1989	6-13-89	10.24	5,260
03605880	Cane Creek at Stewart, TN	Lat 36°19'09", long 87°50'21", Houston County, Hydrologic Unit 06040005, at bridge on county road, 200 ft north of intersection of county road and State Highway 147, and at mile 7.0.	4.12	1984-89	1-12-89	g17.94	-
		OBION RIVER BASIN					
07024225	Neil Ditch near Henry, TN	Lat 36°10'19", long 88°23'33", Henry County, Hydrologic Unit 08010203, located on county road, 2.7 miles southeast of Henry, 1.6 miles north of Henry-Carroll county line.	4.07	1984-89	4-03-89	13.56	-
07024370	Little Reedy Creek near Huntingdon, TN	Lat 35°55'44", long 88°29'50", Carroll County, Hydrologic Unit 08010203, located on U.S. Highway 70, 0.6 mile southwest of Leach, 5.6 miles northeast of Cedar Grove.	0.91	1984-89	1-14-89	14.33	-
07027010	Running Reelfoot Bayou nr Owl City, TN	Lat 36°19'53", long 89°24'02", Obion County, Hydrologic Unit 08010202, located at bridge on county road, 1.5 miles downstream from the spillway a Reelfoot Lake, and 1.6 miles east of Owl City.	247	1982-83, 1984-89	2-21-89	h18.25	2400
07028505	North Fork Forked Deer River at U. S. Highway 45W Bypass at Trenton, TN	Lat 35°58'58", long 88°55'49", Gibson County, Hydrologic Unit 08010204, at bridge on U. S. Highway 45W Bypass, 0.25 mile north of intersection of U. S. Highway 45W Bypass and State Highways 77 and 104 in Trenton.	73.9	1987-89	1-17-89	9.26	-

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1989--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Annual Maximum Date	Gage height (ft)	Discharge (ft^3/s)
		OBION RIVER BASIN--CONTINUTED					
07029090	Lewis Creek near Dyersburg, TN	Lat 36°03' 14", long 89 °21'42", Dyer County, Hydrologic Unit 08010204, at bridge on U.S. Highway 51(Business Route), 2.1 miles northeast of square in Dyersburg. Datum of gage is 276.52 ft above National Geodetic Vertical Datum of 1929.	25.5	1955-78, 1980-83, 1985-89	6-11-89	18.86	
07029840	Richland Creek at Cedar Chapel, TN	Lat 35°24'12", long 89°10'26", Hardeman County, Hydrologic Unit 08010208, at culvert on Brownsville-Whiteville Road at Cedar Chapel.	2.17	1987-89i	11-18-89	-	-
07030100	Cane Creek at Ripley, TN	Lat 35°45'25", long 89°33'05", Lauderdale County, Hydrologic Unit 08010208, at bridge on State Highway 19, 1.3 miles upstream from Hyde Creek, 1.5 miles northwest of Ripley.	33.9	1957-62,† 1963-70,j 1986-88,† 1989	7-01-89	23.16	6360

† Operated as a continuous-record gaging station.
a Operated as a flood hydrograph station.
b Revised record.
c No record, vandalized.
d Published as at Coal Creek prior to 1935.
e Estimated.
f Gage destroyed due to bridge construction, re-installed at different datum.
g Peak recorded, vandalized.
h Observed.
i Peak unknown, gage washed out on Nov. 18 (station discontinued).
j Operated as crest-stage partial-record station.

Miscellaneous Sites

Measurements of streamflow at points other than gaging stations are given in the following table. Measurements of base flow are designated by an asterisk (*); measurements of peak flow by a dagger(†).

Discharge measurements made at miscellaneous sites during water year 1989

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements Date	Measurements Discharge (ft^3/s)
		TENNESSEE RIVER BASIN				
035664074 Wolftever Creek	Tennessee River	Lat 35°03'02", long 85°02'23", Hamilton County, Hydrologic Unit, 06020001, 0.7 mile east of Collegedale, 1.9 miles north of Apison.	8.33	1987	4-26-89	9.3
035664085 Wolftever Creek	Tennessee River	Lat 35°03'15", long 85°02'59", Hamilton County, Hydrologic Unit 06020001, 0.05 mile north of Collegedale, at Tucker Road, 2.6 miles northwest of Apison.	15.0	1987	4-26-89	8.8
03566428 Wolftever Creek	Tennessee River	Lat 35°04'44", long 85°04'06", Hamilton County, Hydrologic Unit 06020001, 0.4 mile west of Ooltewah, 2.0 miles northwest of Collegedale.	24.5	1987	4-27-89	13
03580988 East Fork Mulberry Creek	Elk River to Tennessee River	Lat 35°17'06", long 86°22'14", Moore County, Hydrologic Unit 06030003, near bridge on State Highway 55 at Lynchburg.	23.1	1950,1962 1964	10- 7-88 11- 3-88	*3.2 *3.5
03605805 Little Richland Creek	Big Richland Creek to Tennessee River	Lat 36°07'58", long 87°49'44", Humphreys County, Hydrologic Unit 06040005, at bridge on county road, 100 feet below Hemby Branch, 4.0 miles south of Halls Creek.		1988	7-25-89 8-23-89	*6.9 *3.8
03600085 Carters Creek	Duck River to Tennessee River	Lat 35°43'39", long 86°59'19", Maury County, Hydrologic Unit 06040003, at bridge on Petty Lane, 0.8 mile north of Carters Creek, and at mile 4.7.	16.6	1986-88	10-13-88 1- 9-89 4-18-89 7-12-89	*.65 47 16 25
03600086 Carters Creek Tributary	Carters Creek to Duck River to Tennessee River	Lat 35°43'34", long 86°59'19", Maury County, Hydrologic Unity 06040003, at culvert on Carters Creek Road, 0.7 mile north of Carters Creek.	2.94	1986-88	10-13-88 1- 9-89 4-18-89 7-12-89	*.75 7.0 3.0 *1.8
03602209 Piney River	Duck River to Tennessee River	Lat 36°00'36", long 87°26'38", Dickson County, Hydrologic Unit 06040003, 2.2 miles east of Oak Grove.	44.1	1984-88	10-14-88 11- 4-88 12-12-88	*8.3 *9.4 18
		OBION RIVER BASIN				
07027540 South Fork Forked Deer	Forked Deer River to Obion River	Lat 35°37'03", long 88°51'07", Madison County, Hydrologic Unit 08010205, at bridge on Old Highway 70 in Jackson city limits.	516	1923, ǂ1982-88	4-24-89	*311
07027650 South Fork Forked Deer	Forked Deer River to Obion River	Lat 35°39'03", long 88°53'23", Madison County, Hydrologic Unit 08010205, at bridge on Interstate 40, 5.0 miles northwest of Jackson.	567	1969	4-25-89	*337
07028920 Middle Fork Forked Deer	North Fork Forked Deer to Forked Deer to Obion River	Lat 35°44'16", long 88°55'42", Madison County, Hydrologic Unit 08010204, at bridge on county road, two miles north of Oakfield.	172	ǂ1969-88	4-25-89	*125
07028505 North Fork Forked Deer	Forked Deer River to Obion River	Lat 35°58'58", long 88°55'49", Gibson County, Hydrologic Unit 08010204, at bridge on U.S. Highway 45 Bypass, 0.25 mile north of intersection of U.S. Highway 45 Bypass and State Highways 77 and 104 in Trenton.	73.9	1987-88	2-21-89	2350

ǂ Operated as a continuous-record gaging station by U.S. Army Corp of Engineers.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
CUMBERLAND RIVER BASIN									
03408500 - NEW RIVER AT NEW RIVER, TN									
OCT					MAR				
06...	1110	42	360	16.5	06...	1518	24800	90	10.0
NOV					07...	1510	3520	140	7.0
15...	1145	201	285	9.5	APR				
DEC					18...	1150	471	200	14.5
20...	1030	113	330	3.0	JUN				
JAN					15...	1151	5760	190	18.5
25...	1330	383	240	5.0	AUG				
					07...	1610	365	240	24.0
03409500 - CLEAR FORK NEAR ROBBINS, TN									
NOV					MAR				
15...	1400	208	60	8.5	08...	1730		42	6.0
DEC					APR				
20...	1230	102	70	1.5	11...	1300	662	47	8.0
JAN					MAY				
25...	1635	280	50	4.5	16...	1500	228	55	15.0
					JUL				
					18...	1330	179	65	21.5
03414500 - EAST FORK OBEY RIVER NEAR JAMESTOWN, TN									
OCT					APR				
04...	0945	30	320	17.0	05...	1830	2030	95	12.0
NOV					MAY				
09...	1620	160	200	11.0	18...	1245	140	150	15.0
DEC					JUN				
13...	1121	104	200	5.5	29...	1455	267	--	20.0
JAN					JUL				
24...	1625	305	140	7.0	25...	0935	54	--	22.0
FEB					SEP				
22...	0830	2520	130	8.5	13...	1150	37	--	23.0
03416000 - WOLF RIVER NEAR BYRDSTOWN, TN									
OCT					MAY				
04...	1335	14	325	19.5	18...	0935	92	240	16.0
NOV					JUN				
09...	1038	47	260	11.0	29...	0955	222	--	18.0
DEC					JUL				
14...	1030	30	240	5.5	26...	1255	46	--	25.0
JAN					SEP				
24...	0830	130	190	8.5	12...	1200	90	--	20.0
FEB									
21...	1345	4920	--	10.0					
03417500 - CUMBERLAND RIVER AT CELINA, TN									
DEC					MAY				
12...	1125	9150	240	7.0	19...	1200	12000	180	10.0
15...	1000	12800	240	7.0	JUL				
JAN					27...	1245	17900	--	17.0
23...	1600	19800	180	9.0					
MAR									
09...	0915	30200	180	8.0					
03418070 - ROARING RIVER ABOVE GAINESBORO, TN									
NOV					APR				
10...	0900	2.3	220	11.0	04...	1345	3600	140	14.0
DEC					MAY				
15...	0900	13	270	4.0	17...	1445	23	240	18.0
JAN					JUN				
25...	0915	160	185	7.5	22...	1045	364	220	18.0
MAR					JUL				
08...	1645	1010	175	9.5	27...	0755	0.14	--	22.0
03421000 - COLLINS RIVER NEAR MCMINNVILLE, TN									
OCT					APR				
02...	1200	124	240	21.0	10...	1500	3460	130	11.5
NOV					JUN				
08...	1245	832	--	19.0	23...	1135	8640	160	21.0
DEC					AUG				
15...	1250	257	125	7.0	04...	1300	711	190	26.5
JAN					SEP				
13...	1130	19000	260	11.0	19...	1515	872	170	20.0
30...	1400	765	45	11.5					
MAR									
06...	1050	21500	105	11.0					

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
CUMBERLAND RIVER BASIN--Continued									
03422500 - CANEY FORK NEAR ROCK ISLAND, TN									
DEC					AUG				
16...	1230	439	120	8.0	07...	1500	1810	185	22.0
03426800 - EAST FORK STONES RIVER AT WOODBURY, TN									
OCT					APR				
06...	1130	5.3	350	16.0	07...	1130	206	260	13.0
NOV					JUN				
04...	1200	7.9	200	14.5	26..	1415	60	290	19.5
DEC					JUL				
08...	1115	16	130	10.0	31...	1145	20	300	21.0
JAN					SEP				
13...	1345	562	230	10.5	12...	1240	11	300	22.5
26...	1120	33	290	11.5					
MAR									
02...	1220	108	280	11.5					
03431517 - CUMMINGS BRANCH AT LICKTON, TN									
OCT					APR				
24...	1055	0.05	490	10.5	13...	0820	3.8	260	10.0
NOV					MAY				
28...	1045	4.5	235	11.5	09...	1430	0.99	300	15.0
DEC					JUN				
27...	0925	4.5	240	11.0	01...	1300	0.60	330	19.5
JAN					15...	1110	50	190	15.0
11...	1355	30	185	10.0	JUL				
11...	1415	24	185	10.0	14...	1105	1.5	325	18.0
FEB					AUG				
01...	1006	2.5	300	11.0	08...	1155	0.40	375	17.5
14...	1220	96	162	9.5	SEP				
MAR					20...	1645	0.14	420	19.5
09...	1145	11	220	10.5					
03431700 - RICHLAND CREEK AT CHARLOTTE AVE, AT NASHVILLE,									
OCT					MAY				
24...	1455	1.6	575	16.0	08...	1045	13	500	14.5
26...	1400	1.1	540	13.5	11...	1350	8.7	500	18.0
NOV					19...	1430	4.0	440	22.0
28...	1630	44	140	12.0	JUN				
DEC					02...	1110	14	450	20.5
23...	0940	233	--	12.0	08...	1000	5.9	520	20.0
FEB					JUL				
01...	1300	23.7	560	12.5	14...	1530	15	250	24.0
14...	1000	2560	300	11.5	AUG				
MAR					08...	1535	3.0	480	24.0
10...	1150	73	475	11.5	SEP				
APR					20...	1645	3.9	525	21.5
12...	1125	43	500	11.0					
03431800 - SYCAMORE CREEK NEAR ASHLAND CITY, TN									
OCT					MAY				
06...	0915	16	318	13.0	15...	1000	42	290	17.0
NOV					JUN				
07...	1100	40	300	10.0	28...	0830	133	240	21.0
DEC					AUG				
07...	0950	38	290	4.5	07...	1120	61	260	23.0
JAN					SEP				
18...	1330	223	160	8.0	05...	1120	22	300	22.5
MAR									
01...	1050	170	170	4.5					
03432350 - HARPETH RIVER AT FRANKLIN, TN									
NOV					MAY				
07...	0930	271	260	10.0	12...	1045	49	380	15.0
21...	1000	2530	260	12.5	JUN				
JAN					27...	1135	131	340	22.0
13...	1040	5810	185	9.0	JUL				
MAR					28...	0845	42	320	24.5
03...	1000	592	340	7.5	SEP				
31...	1120	1050	260	14.0	08...	0845	17	390	22.5
APR									
25...	1330	72	380	22.5					

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
CUMBERLAND RIVER BASIN--Continued									
03432400 - HARPETH RIVER BELOW FRANKLIN, TN									
NOV					JUN				
07...	1130	297	400	10.5	27...	1255	190	400	22.0
DEC					JUL				
08...	0850	115	430	8.0	28...	1010	58	360	25.0
JAN					SEP				
24...	0945	280	350	8.0	08...	1110	28	440	23.0
MAY									
15...	0850	55	410	16.0					
03433500 - HARPETH RIVER AT BELLEVUE, TN									
OCT					APR				
07...	0940	53	380	14.0	03...	1220	1280	300	14.0
NOV					MAY				
09...	1300	217	460	12.0	19...	0930	75	350	20.0
21...	1310	6150	205	13.0	JUN				
DEC					26...	1000	402	--	22.5
08...	1040	207	460	7.5	AUG				
JAN					04...	0950	131	380	25.0
13...	1630	9920	--	9.0	SEP				
27...	1300	495	400	9.0	15...	1035	74	320	22.0
MAR									
02...	1255	1110	280	8.5					
03434500 - HARPETH RIVER NEAR KINGSTON SPRINGS, TN									
OCT					APR				
06...	1420	146	340	16.5	13...	1300	1380	300	10.0
NOV					MAY				
09...	1010	349	355	11.0	18...	1325	210	280	21.0
DEC					JUN				
15...	1415	224	380	6.0	26...	1100	608	--	24.0
JAN					AUG				
26...	1300	765	340	10.0	03...	1500	377	260	27.5
MAR					SEP				
14...	1145	1290	300	14.5	15...	0830	579	180	21.0
03435000 - CUMBERLAND RIVER BELOW CHEATHAM DAM, TN									
FEB					JUL				
09...	1155	18600	260	6.0	26...	1300	15300	205	26.5
03436000 - SULPHUR FORK RED RIVER NEAR ADAMS, TN									
OCT					JUN				
03...	1400	27	425	20.5	26...	1500	185	360	21.5
NOV					JUL				
14...	0930	43	430	10.0	03...	1245	10300	90	19.0
DEC					AUG				
07...	1245	92	390	7.0	08...	0700	80	370	20.0
JAN					SEP				
17...	1250	790	240	9.0	06...	1225	32	430	24.0
MAY									
16...	1500	65	350	21.0					
03436100 - RED RIVER AT PORT ROYAL, TN									
OCT					MAY				
04...	0850	173	405	17.0	16...	0645	520	319	17.0
NOV					JUN				
14...	1320	364	440	12.5	27...	0850	924	338	23.5
DEC					AUG				
07...	1500	662	400	7.0	07...	1310	1280	360	25.0
JAN					SEP				
12...	1430	11000	170	11.0	06...	0735	248	--	22.5
FEB									
15...	0935	29300	158	9.5					
03436690 - YELLOW CREEK AT ELLIS MILLS, TN									
OCT					MAR				
11...	1030	20	290	15.0	02...	1500	228	160	8.5
NOV					MAY				
10...	1210	34	285	10.5	17...	1015	64	245	17.0
DEC					JUN				
14...	1630	37	280	9.5	20...	1030	430	185	17.0
JAN					AUG				
31...	1230	154	50	11.0	08...	1745	51	260	22.5
FEB					SEP				
14...	1230	7400	15	9.0	07...	0940	34	280	22.5

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
TENNESSEE RIVER BASIN									
03455000 - FRENCH BROAD RIVER NEAR NEWPORT, TN									
NOV					MAR				
02...	1340	687	--	9.0	28...	1400	3400	75	16.0
DEC					MAY				
27...	1600	1180	95	6.5	12...	1245	4600	70	11.5
JAN					JUN				
19...	1500	2160	85	5.5	29...	1000	3700	75	22.5
FEB									
16...	1408	1300	95	11.0					
03465500 - NOLICHUCKY RIVER AT EMBREEVILLE, TN									
OCT					FEB				
04...	1409	683	80	18.0	16...	1420	651	70	10.0
NOV					21...	1540	4080	60	9.0
02...	1530	328	85	10.5	AUG				
DEC					11...	1405	493	70	22.0
06...	1600	453	65	3.5					
JAN									
19...	1030	1330	60	4.0					
03466228 - SINKING CREEK AT AFTON, TN									
OCT					JUN				
04...	1230	1.4	--	16.0	14...	1050	19	--	18.0
NOV					JUL				
03...	1110	1.3	--	8.5	18...	1300	9.9	--	20.5
DEC					AUG				
16...	0900	2.5	460	3.0	23...	1200	6.1	--	20.0
27...	1300	5.6	450	8.5					
JAN									
12...	1345	41	330	9.5					
03469175 - LITTLE PIGEON RIVER ABOVE SEVIERVILLE, TN									
NOV					MAR				
04...	1200	42	90	10.5	28...	1045	320	105	14.5
21...	1055	358	45	10.5	MAY				
JAN					15...	1130	312	80	13.5
13...	1230	2680	61	8.5	JUL				
FEB					17...	1550	215	110	22.0
08...	1609	901	70	6.5	SEP				
13...	1614	244	105	7.5	21...	0910	162	88	18.0
03487550 - REEDY CREEK AT OREBANK, TN									
OCT					MAR				
06...	1033	5.8	440	12.0	22...	1030	100	340	8.0
NOV					MAY				
01...	1700	4.8	490	10.0	03...	0944	82	355	12.0
02...	0900	4.6	490	7.5	JUN				
DEC					07...	0845	62	370	17.5
06...	0915	10	460	2.0	JUL				
JAN					06...	0810	26	430	20.5
04...	0930	35	430	5.5	AUG				
18...	1345	63	400	6.0	17...	1020	9.7	--	20.0
FEB					SEP				
15...	1600	37	420	12.5	12...	1835	79	395	20.5
03491000 - BIG CREEK NEAR ROGERSVILLE, TN									
OCT					MAY				
05...	1506	3.5	385	15.5	02...	1630	194	208	15.0
NOV					JUN				
01...	1415	4.2	430	10.5	06...	1330	137	230	19.0
DEC					JUL				
07...	1130	11	360	2.5	05...	1445	62	320	21.0
JAN					07...	1015	59	330	21.0
03...	1545	78	295	9.0	AUG				
18...	1100	114	310	6.0	09...	1612	24	380	21.0
FEB					SEP				
15...	1300	55	320	12.0	12...	1515	19	390	23.0
MAR									
23...	0915	86	250	9.5					

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

TENNESSEE RIVER BASIN--Continued

03491544 - CROCKETT CREEK BELOW ROGERSVILLE, TN

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
NOV				
01...	1130	0.80	540	11.0
14...	1434	1.1	--	12.0
21...	1050	4.8	540	11.0
DEC				
05...	1600	1.6	520	7.0
JAN				
03...	1315	6.5	480	10.5
12...	1000	33	280	10.0
12...	1020	32	280	10.0
18...	0845	8.8	460	7.5
FEB				
15...	0955	4.0	500	11.0
MAR				
21...	1150	14	370	11.0
MAY				
02...	1118	3.3	460	16.0
JUN				
06...	0955	5.4	430	18.5
JUL				
05...	1135	4.1	500	19.5
AUG				
09...	1300	0.98	480	19.0
SEP				
12...	1145	1.3	525	21.0

03498500 - LITTLE RIVER NEAR MARYVILLE, TN

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
NOV				
01...	1452	92	103	12.0
DEC				
02...	1515	284	--	6.5
FEB				
15...	1050	454	115	11.5
28...	1611	4180	50	12.5
APR				
10...	1330	1180	80	9.5
MAY				
15...	1345	681	90	14.0
JUL				
07...	1406	1020	100	18.5
17...	1110	440	125	19.5
20...	1330	420	126	21.0
SEP				
11...	1315	177	--	23.0

03498850 - LITTLE RIVER NEAR ALCOA, TN

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
NOV				
01...	1124	710	125	11.0
DEC				
01...	1435	351	65	6.0
JAN				
13...	1620	6080	370	12.0
MAR				
17...	1117	468	160	13.0
APR				
24...	1130	396	125	17.0
MAY				
25...	1120	497	115	17.5
JUL				
17...	1320	455	145	20.5
SEP				
11...	1035	160	--	23.0

03535102 - SCARBORO CRK TRIB NR HAW RIDGE NR OAK RIDGE, TN

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
JUN				
09...	1035	3.5	110	18.5
09...	1833	1.3	110	15.0
15...	1054	0.62	110	15.0
JUL				
07...	1226	0.16	100	16.5

03535103 - SCARBORO CREEK TRIB NEAR OAK RIDGE, TN

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
JUN				
05...	0920	0.15	171	13.0
09...	1142	4.1	171	15.5
AUG				
31...	1511	0.08	250	15.5

03536320 - WHITEOAK CREEK NEAR MELTON HILL, TN

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
JAN				
12...	1150	50	102	9.5
JUN				
06...	1400	1.3	237	20.0
15...	1756	9.6	140	17.0
16...	1402	24	142	18.0
SEP				
28...	1120	1.5	292	15.0

03536380 - WHITEOAK CREEK NEAR WHEAT, TN

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
JAN				
06...	1552	7.8	262	14.0
12...	1055	75	130	10.0
MAR				
30...	1613	20	208	16.0
SEP				
28...	1525	5.9	270	19.5

03536440 - NORTHWEST TRIBUTARY NEAR OAK RIDGE, TN

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
MAR				
14...	1505	0.89	265	15.5
30...	1002	22	--	14.5
JUN				
09...	1440	7.2	220	18.0
16...	1201	23	160	18.0
AUG				
15...	1450	0.44	270	23.5

03536450 - FIRST CREEK NEAR OAK RIDGE, TN

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
MAR				
30...	1721	3.0	229	15.0
APR				
14...	1142	2.8	228	15.0
SEP				
28...	1749	1.1	250	17.5

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
TENNESSEE RIVER BASIN--Continued									
03537050 - MELTON BRANCH TRIB (EAST SEVEN) NR OAK RIDGE, TN									
DEC					JUN				
28...	1240	0.69	170	8.0	06...	1454	0.87	196	18.0
JAN					13...	1146	2.3	120	18.5
12...	1249	11	65	8.5					
03537100 - MELTON BRANCH NR MELTON HILL NR OAK RIDGE, TN									
JUN					JUN				
06...	1632	2.9	226	18.0	09...	1554	2.9	163	19.0
					16...	1249	12	137	18.0
03537200 - MELTON BRANCH TRIB (CENTER SEVEN) NR OAK RIDGE, TN									
DEC					JUN				
28...	1414	0.15	190	9.0	09...	1624	0.40	148	19.0
JAN					15...	1641	0.66	126	18.5
12...	1324	3.4	68	9.0					
03537300 - MELTON BRANCH TRIB (WEST SEVEN) NR OAK RIDGE, TN									
JAN					JUN				
12...	1341	6.9	65	6.0	06...	1533	0.58	158	18.0
					09...	1707	1.2	111	19.5
					15...	1554	1.5	100	18.5
03538225 - POPLAR CREEK NEAR OAK RIDGE, TN									
OCT					APR				
03...	1215	17	360	18.5	20...	1445	89	250	15.5
NOV					MAY				
17...	1316	70	300	11.0	10...	1300	302	190	13.5
DEC					JUL				
30...	1230	155	215	5.5	06...	1840	469	140	15.0
JAN					AUG				
24...	1038	111	255	6.0	14...	1430	28	315	21.0
MAR									
09...	1200	318	200	9.0					
09...	1400	306	200	9.0					
27...	0955	159	210	12.5					
035382672 - BEAR CREEK TRIB ABOVE BEAR CREEK ROAD NR WHEAT, TN									
DEC					MAR				
19...	1419	0.02	168	1.5	06...	1020	4.9	47	10.0
035382673 - BEAR CREEK NEAR WHEAT, TN									
DEC					JUN				
20...	1535	0.43	580	6.5	05...	1345	2.2	336	18.0
FEB					SEP				
14...	1453	3.0	360	11.5	27...	1223	6.6	320	16.0
MAR									
06...	1110	43	180	11.0					
035382677 - BEAR CREEK TRIB NEAR WHEAT, TN									
MAR					JUN				
06...	1250	2.5	48	10.0	13...	1325	1.2	57	18.5
09...	1416	0.34	75	11.5	15...	1306	1.8	50	17.0
28...	1110	0.20	90	14.5					
APR									
04...	1249	1.2	62	14.0					
03538270 - BEAR C AT ST HWY 95 NR OAK RIDGE, TN									
MAR					SEP				
15...	1443	5.3	300	14.0	27...	1436	9.4	290	15.5
30...	1245	57	195	15.5					
JUN									
16...	1608	120	139	18.0					
03538272 - BEAR CREEK TRIB AT HWY 95 NEAR WHEAT, TN									
DEC					APR				
19...	1526	0.02	115	2.5	04...	1416	1.1	57	13.0
MAR					JUN				
06...	1455	1.3	45	9.5	15...	1401	3.7	52	17.0

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

TENNESSEE RIVER BASIN--Continued

03538273 - BEAR CREEK AT PINE RIDGE, NEAR WHEAT, TN

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
APR					JUN				
25...	1500	2.9	329	18.5	09...	1324	141	135	18.5
MAY					SEP				
05...	1818	117	157	14.5	27...	1601	11	290	16.0

03540500 - EMORY RIVER AT OAKDALE, TN

OCT					FEB				
31...	1140	192	145	9.5	21...	1155	33800	37	8.5
NOV					MAR				
30...	1205	2560	60	6.5	31...	1345	1380	63	14.0
DEC					JUN				
30...	1505	2330	70	5.5	01...	1200	397	76	23.0
JAN					AUG				
31...	1200	714	82	6.5	01...	1130	2660	85	23.0
					31...	1200	161	135	26.0

03543500 - SEWEE CREEK NEAR DECATUR, TN

OCT					MAR				
13...	1320	14	280	11.0	23...	1320	346	178	11.0
NOV					APR				
17...	1150	36	300	12.0	26...	1430	90	260	19.5
DEC					JUN				
14...	1135	37	280	4.0	08...	1145	110	218	17.5
JAN					JUL				
26...	1146	117	250	9.5	14...	1555	275	220	19.5
FEB					AUG				
21...	1705	2120	90	11.0	10...	1428	69	260	18.0
24...	1215	391	180	8.0					

03560500 - DAVIS MILL CREEK AT COPPERHILL, TN

OCT					APR				
03...	1400	75	400	26.5	03...	1130	47	650	18.5
NOV					JUN				
02...	1225	54	500	17.0	01...	1345	65	600	24.0
DEC					JUL				
01...	1150	42	290	9.5	03...	1455	122	570	21.0
JAN					AUG				
03...	1355	67	510	15.0	01...	1602	58	500	24.5
FEB					SEP				
01...	1400	41	480	11.0	01...	1240	51	365	25.0
MAR									
01...	1345	64	600	13.0					

03563000 - OCOEE RIVER AT EMF, TN

OCT					JUN				
14...	1224	1350	55	16.5	07...	1606	1050	100	19.0
MAR					JUL				
22...	1152	1180	90	10.0	12...	1500	3240	--	19.5
APR					AUG				
25...	1642	1350	72	17.0	09...	1356	1440	75	20.5

03564500 - OCOEE RIVER AT PARKSVILLE, TN

NOV					JUL				
16...	1445	110	95	14.0	13...	1216	3270	60	20.5
MAR					AUG				
22...	1642	1320	90	11.5	10...	0920	120	70	23.0
APR					SEP				
25...	1242	113	80	15.5	14...	1013	128	62	23.5

03565500 - OOSTANAULA CREEK NEAR SANFORD, TN

OCT					MAR				
13...	1610	11	450	13.0	21...	1324	115	280	13.0
NOV					APR				
16...	1220	19	550	12.5	26...	1107	82	310	19.5
23...	1340	35	345	11.0	JUN				
DEC					06...	1255	78	300	19.0
14...	1406	20	440	5.5	JUL				
JAN					14...	1031	154	295	19.5
19...	1342	129	--	9.0	AUG				
FEB					10...	1137	67	335	18.5
21...	1148	255	225	11.0	SEP				
23...	1610	230	235	8.5	12...	1508	44	330	22.0

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

TENNESSEE RIVER BASIN--Continued

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
03566000 - HIWASSEE RIVER AT CHARLESTON, TN									
DEC					FEB				
15...	1340	2010	52	10.5	22...	1747	8730	70	8.5
					JUN				
					30...	1403	6690	110	18.5
03566420 - WOLFTEVER CREEK NEAR COLTEWAH, TN									
OCT					APR				
04...	1345	3.9	380	17.5	05...	1315	127	120	14.0
NOV					27...	1015	12	--	19.5
09...	1720	4.8	210	14.0	JUN				
DEC					28...	1730	22	265	21.0
13...	1140	5.7	120	4.5	AUG				
JAN					02...	1500	15	275	23.0
24...	1230	15	290	9.0	31...	1730	6.1	360	24.5
FEB									
28...	1645	249	45	10.5					
03567500 - SOUTH CHICKAMAUGA CREEK NEAR CHICKAMAUGA, TN									
OCT					MAY				
05...	1100	103	340	18.0	16...	1120	227	265	19.5
NOV					JUN				
09...	1515	140	310	14.0	28...	1100	501	240	23.0
DEC					JUL				
14...	1035	120	125	5.0	05...	1500	7730	120	23.0
JAN					AUG				
25...	1100	360	280	7.5	03...	1115	294	245	24.5
FEB					SEP				
28...	1145	7030	95	9.0	05...	1315	177	250	25.5
APR									
05...	1700	4680	130	15.5					
03568000 - TENNESSEE RIVER AT CHATTANOOGA, TN									
APR					APR				
26...	1315	47700	155	19.0	26...	1530	48200	155	19.0
03571000 - SEQUATCHIE RIVER NEAR WHITWELL, TN									
OCT					MAY				
03...	1620	126	225	19.5	15...	1730	622	175	16.0
NOV					JUN				
15...	1450	216	150	12.5	27...	1715	1140	185	20.0
DEC					JUL				
12...	1530	237	25	6.0	06...	1215	4120	110	19.0
JAN					AUG				
23...	1630	927	195	8.5	01...	1300	978	185	17.0
FEB					SEP				
27...	1600	2050	20	8.0	07...	1315	216	240	22.0
APR									
03...	1730	1360	145	14.0					
03580995 - E F MULBERRY CR BL JACK DAN DIST. AT LYNCHBURG, TN									
OCT					MAR				
04...	0850	6.7	360	14.0	06...	0945	444	175	11.0
NOV					28...	1140	34	250	7.0
02...	0850	4.8	260	12.5	MAY				
03...	1115	4.8	275	16.5	16...	0930	12	280	17.0
20...	1030	310	270	15.5	JUN				
DEC					15...	1040	284	270	18.0
13...	0900	9.1	260	5.5	AUG				
JAN					01...	0950	21	290	22.5
12...	1045	778	180	12.0	SEP				
FEB					12...	0820	11	300	22.5
03...	1005	19	330	13.0					
21...	0945	974	160	12.0					
03584500 - ELK RIVER NEAR PROSPECT, TN									
OCT					DEC				
04...	1300	542	280	20.5	13...	1250	612	240	7.0
NOV					JAN				
02...	1300	458	255	13.5	13...	1130	38900	200	12.0

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
TENNESSEE RIVER BASIN--Continued									
03588000 - SHOAL CREEK AT LAWRENCEBURG, TN									
OCT					APR				
04...	1600	19	210	16.0	06...	0850	178	130	11.0
NOV					MAY				
03...	0900	16	200	12.0	17...	0825	57	180	15.5
DEC					JUN				
13...	1530	25	260	8.0	29...	0800	146	140	19.5
JAN					AUG				
12...	1000	2690	85	11.0	01...	1645	84	160	21.0
MAR					SEP				
02...	0800	150	140	9.0	13...	0820	44	190	19.0
03588500 - SHOAL CREEK AT IRON CITY, TN									
OCT					APR				
05...	1300	116	140	16.5	06...	1300	2090	170	11.0
NOV					MAY				
03...	1340	113	150	13.5	17...	1250	330	110	19.0
DEC					JUN				
14...	1300	167	140	6.0	29...	1200	1140	160	19.0
JAN					AUG				
12...	1530	16300	40	12.0	02...	1215	313	160	23.0
MAR					SEP				
01...	1700	1570	180	9.0	13...	1110	178	140	24.5
03598000 - DUCK RIVER NEAR SHELBYVILLE, TN									
OCT					MAR				
03...	1440	182	200	19.0	06...	1500	12200	160	9.5
NOV					APR				
08...	0910	184	300	12.0	04...	1740	7500	260	14.0
DEC					MAY				
12...	1340	122	260	4.0	15...	1500	335	220	17.5
JAN					JUL				
24...	1530	478	200	8.5	31...	1345	550	360	24.0
FEB					SEP				
28...	1600	3240	240	7.0	11...	1240	245	180	22.5
03600500 - BIG BIGBY CREEK AT SANDY HOOK, TN									
OCT					APR				
05...	0945	3.8	200	13.0	05...	1445	142	140	13.0
NOV					MAY				
03...	1105	3.0	195	13.0	16...	1500	13	140	21.0
20...	1030	115	160	15.5	JUN				
DEC					28...	1445	41	170	22.0
14...	0930	4.8	185	5.0	AUG				
JAN					01...	1400	15	150	26.0
25...	1300	15	150	11.0	SEP				
MAR					12...	1600	6.5	160	25.5
01...	1235	69	160	9.0					
03602219 - PINEY RIVER AT CEDAR HILL, TN									
OCT					APR				
14...	1015	11	300	11.0	12...	900	139	170	9.5
NOV					28...	915	50	228	17.0
04...	1330	12	285	15.0	MAY				
DEC					11...	1230	45	225	15.0
12...	1230	21	285	5.5	JUL				
JAN					11...	1230	74	--	21.0
23...	0925	75	221	6.0	AUG				
MAR					11...	0920	27	280	19.0
03...	1350	108	165	11.0	SEP				
					08...	1035	17	280	21.0
03602500 - PINEY RIVER AT VERNON, TN									
OCT					APR				
14...	1400	65	250	14.0	11...	1530	887	160	13.0
NOV					MAY				
04...	0900	67	255	14.0	19...	1015	181	195	17.5
DEC					JUN				
14...	1250	96	235	7.5	30...	1610	240	190	19.0
JAN					AUG				
13...	1340	2180	100	11.0	09...	1725	133	190	20.0
FEB					SEP				
21...	1215	9600	80	10.0	08...	0625	122	240	22.5

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
TENNESSEE RIVER BASIN--Continued									
03603000 - DUCK RIVER ABOVE HURRICANE MILLS, TN									
NOV					APR				
08...	1320	3280	260	13.5	06...	0940	24200	210	14.0
20...	1200	9490	250	13.5	MAY				
DEC					18...	1500	1590	240	20.5
14...	1045	1200	290	6.5	JUN				
JAN					30...	0645	3690	240	24.0
23...	1320	5490	260	8.0	AUG				
FEB					09...	1000	1220	280	23.0
22...	1400	41500	85	9.0	SEP				
					13...	0720	759	240	24.5
03604500 - BUFFALO RIVER NEAR LOBELVILLE, TN									
OCT					APR				
11...	1600	310	140	18.0	11...	0830	2310	98	10.5
NOV					MAY				
09...	1015	639	120	14.0	18...	0700	779	110	19.0
DEC					JUL				
13...	1600	569	130	6.5	03...	1045	3720	110	21.5
JAN					AUG				
19...	0930	2340	98	8.0	10...	0840	505	110	22.5
OBION RIVER BASIN									
07024300 - BEAVER CREEK AT HUNTINGDON, TN									
OCT					MAY				
06...	1415	32	80	13.0	10...	1530	34	58	16.0
NOV					JUN				
16...	1245	151	98	15.0	27...	1405	38	70	22.5
JAN					AUG				
06...	1015	198	70	18.5	03...	0815	26	57	22.0
FEB					SEP				
16...	1430	1530	--	7.5	07...	0845	27	56	20.5
MAR									
29...	0900	750	70	19.0					
07024500 - SOUTH FORK OBION RIVER NEAR GREENFIELD, TN									
OCT					MAR				
07...	1030	374	68	15.0	29...	1300	2530	65	18.5
NOV									
17...	0900	245	190	13.0					
19...	1615	2200	--	14.0					
07025500 - NORTH FORK OBION RIVER NEAR UNION CITY, TN									
FEB					MAY				
17...	1200	14100	--	5.5	11...	0940	238	80	18.0
MAR					AUG				
09...	1100	717	80	5.0	03...	0900	198	--	25.0
30...	0740	1320	70	17.0	SEP				
APR					07...	0900	216	--	22.5
21...	0900	281	60	17.0					
07027500 - SOUTH FORK FORKED DEER RIVER AT JACKSON, TN									
OCT					MAY				
06...	0945	457	75	14.5	10...	0930	355	68	16.5
NOV					JUN				
19...	1120	4260	--	15.0	27...	1010	270	60	24.5
20...	1145	10500	--	13.5	AUG				
JAN					02...	1330	205	82	26.0
10...	1430	1140	80	7.5	SEP				
FEB					06...	1340	187	72	23.5
28...	1245	1500	70	5.5					
MAR									
28...	1330	452	90	19.0					
LOOSAHATCHIE RIVER BASIN									
07030240 - LOOSAHATCHIE RIVER NEAR ARLINGTON, TN									
OCT					MAY				
13...	0945	186	60	13.0	10...	1347	104	65	19.0
JAN					JUN				
05...	1300	177	69	10.0	22...	1230	140	62	23.5
FEB					JUL				
16...	1030	5560	60	7.0	28...	1100	110	--	24.0
APR					SEP				
05...	1330	625	60	16.0	05...	1345	91	44	22.0

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
WOLF RIVER BASIN									
07031660 - WOLF RIVER AT WALNUT GROVE ROAD AT MEMPHIS, TN									
OCT					FEB				
13...	1400	265	50	17.0	15...	1045	6780	340	9.0
NOV					MAY				
18...	1130	518	70	12.0	11...	1145	496	50	18.0
NONCONNAH CREEK BASIN									
07032200 - NONCONNAH CREEK NEAR GERMANTOWN, TN									
NOV					MAY				
15...	1445	1.6	228	16.5	12...	1000	1.2	210	18.0
JAN					JUN				
09...	1400	75	48	7.0	22...	1130	4.4	--	28.0
12...	1040	10700	117	14.0	JUL				
12...	1145	11200	235	13.5	28...	1345	1.8	--	31.5
12...	1415	9550	220	13.5	SEP				
MAR					05...	1515	1.3	--	32.0
10...	1220	18	100	9.5					
28...	1150	100	90	21.0					

CARTER COUNTY

361738082132900. Local number, Ct:H-1.

LOCATION.--Lat 36°17'38", long 82°13'29", Hydrologic Unit 06010103, 3.5 mi south of Elizabethton, 0.8 mi north of Gap Creek.
Owner: Gap Creek community.

AQUIFER.--Honaker dolomite of middle Cambrian age.

WELL CHARACTERISTICS.--Dug unused water-table well, diameter 24 in., depth 31 ft, casing information not available.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 1,820 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of concrete tile, 2.50 ft above land-surface datum.

REMARKS.--Highest water level readings may be influenced for short periods by surface inflow.

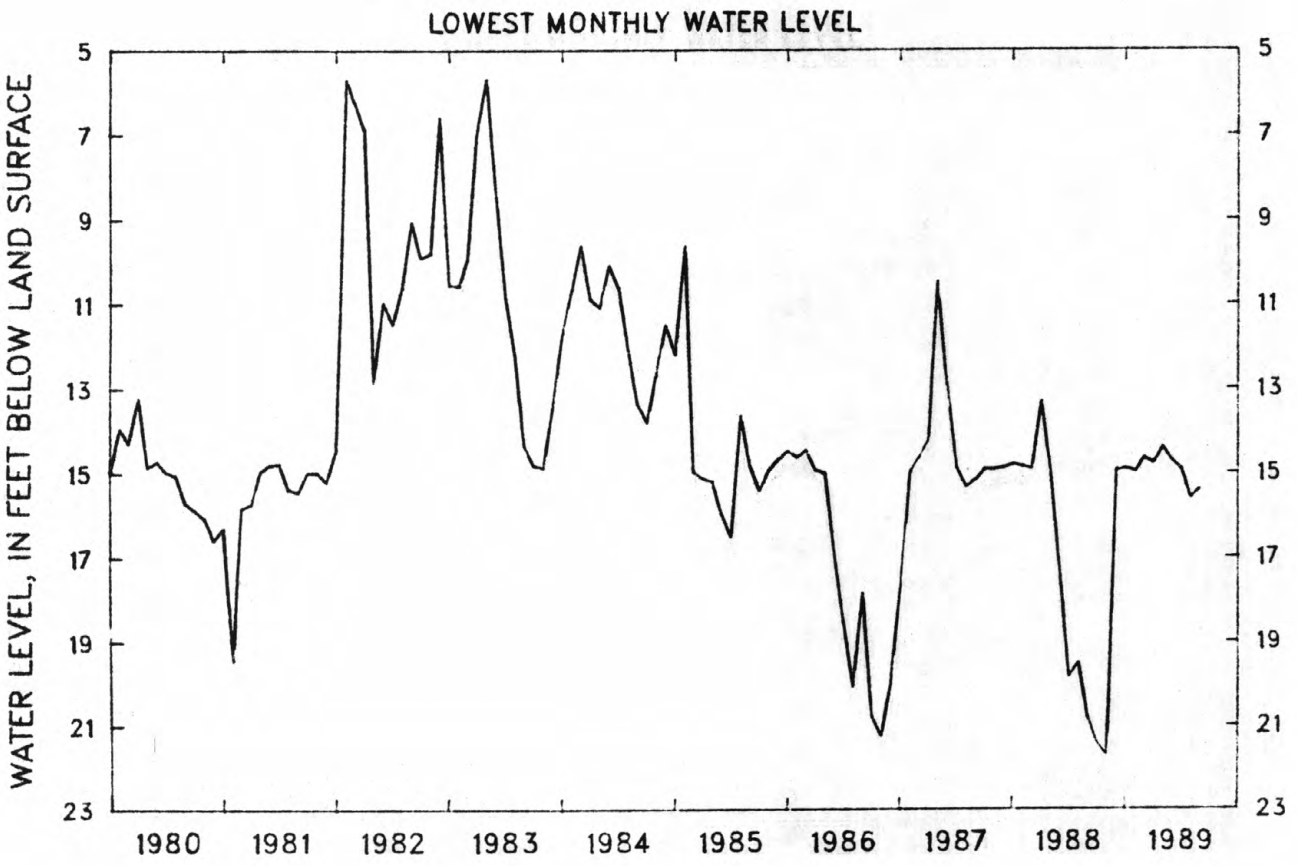
PERIOD OF RECORD.--April 1964 to September 1989 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.17 ft below land-surface datum, Apr. 23, 1987; lowest, 26.01 ft below land-surface datum Dec. 22, 23, 1970.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	19.45	21.73	12.76	14.90	14.89	9.78	12.43	10.23	14.73	13.98	14.81	14.89
10	19.91	21.31	13.75	14.66	11.94	13.62	13.04	8.34	10.26	14.70	14.92	15.01
15	20.42	20.79	14.75	5.76	14.74	14.45	14.22	12.33	7.74	14.80	15.02	14.94
20	20.90	9.45	14.84	13.35	11.83	11.09	14.68	13.96	6.22	14.89	15.35	15.24
25	21.16	12.27	14.79	14.90	4.91	4.88	14.75	13.93	12.61	14.92	14.44	14.79
EOM	21.45	11.18	14.74	14.90	7.53	10.79	14.04	14.41	14.20	14.91	14.30	14.75

WTR YR 1989 HIGHEST 1.24 JUNE 16, 1989 LOWEST 21.73 NOV 5, 1988



DAVIDSON COUNTY

360835086441100. Local number, Dv:L-10.

LOCATION.--Lat 36°08'35", long 86°44'11", Hydrologic Unit 05130202, 220 ft south of Elm Hill Pike, 0.3 mi west of Louisville and Nashville Railroad crossing, 0.4 mi east of Fesslers Lane in Nashville.
Owner: U.S. Geological Survey.

AQUIFER.--Carters and Lebanon Limestones of middle Ordovician age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in., depth 262 ft, cased to 40 ft, open end.

INSTRUMENTAION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 515 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing 2.5 ft above land-surface datum.

REMARKS.--Records good.

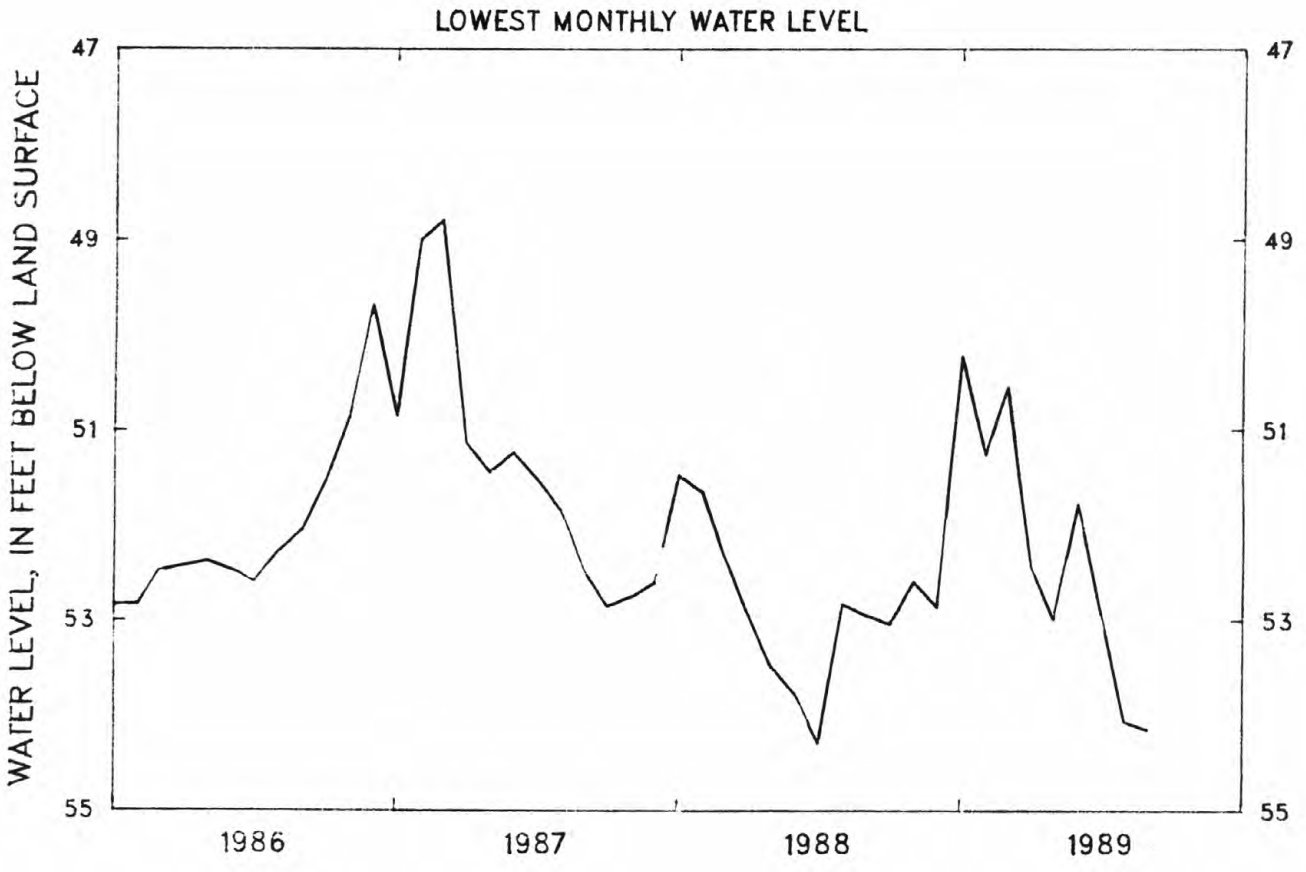
PERIOD OF RECORD.--June 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 36.52 ft below land-surface datum, Feb. 21, 1989; lowest water level 54.15 ft below land-surface datum, Sept. 13, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	51.59	47.49	51.02	48.62	49.10	38.09	44.11	48.05	50.31	47.79	52.62	53.89
5	51.87	50.81	51.22	49.11	49.63	47.41	45.42	49.98	50.75	48.36	52.87	53.95
10	52.51	51.37	51.70	47.76	51.18	46.84	47.55	51.22	48.38	50.22	53.37	54.04
15	52.88	51.51	52.46	45.13	38.63	47.90	49.01	52.57	46.64	49.58	53.65	50.84
20	53.01	46.17	52.86	47.55	45.20	49.27	50.89	52.99	47.64	51.09	53.87	52.99
25	53.00	48.79	46.50	49.64	46.45	49.26	51.65	50.63	50.09	52.29	53.90	47.69
EOM	52.01	48.96	47.39	48.37	47.12	48.04	52.44	50.31	50.45	52.92	54.02	50.07

WTR YR 1989 HIGHEST 36.52 FEB 21, 1989 LOWEST 54.15 SEPT 13, 1989



HAMILTON COUNTY

350234085181200. Local number, Hm:G-36.

LOCATION.--Lat 35°02'34", long 85°18'12", Hydrologic Unit 06020001, in Tennessee Valley Authority parking lot, Douglas Street in Chattanooga.
Owner: Tennessee Valley Authority.

AQUIFER.--Knox Dolomite of Cambrian and Ordovician age.

WELL CHARACTERISTICS.--Drilled artesian test well, diameter 16 in. to 120 ft, 6 in. to 250 ft, cased to 27 ft, open end.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 670.3 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of instrument shelf, 1.5 ft above land-surface datum.

REMARKS.--No record Feb. 1 to Mar. 1, and July 8 to Aug. 2. Records good. The well has been pumped at rates up to 1,200 gal/min over a 68 hour period indicating a specific capacity of 20.4 [(gal/min)/ft].

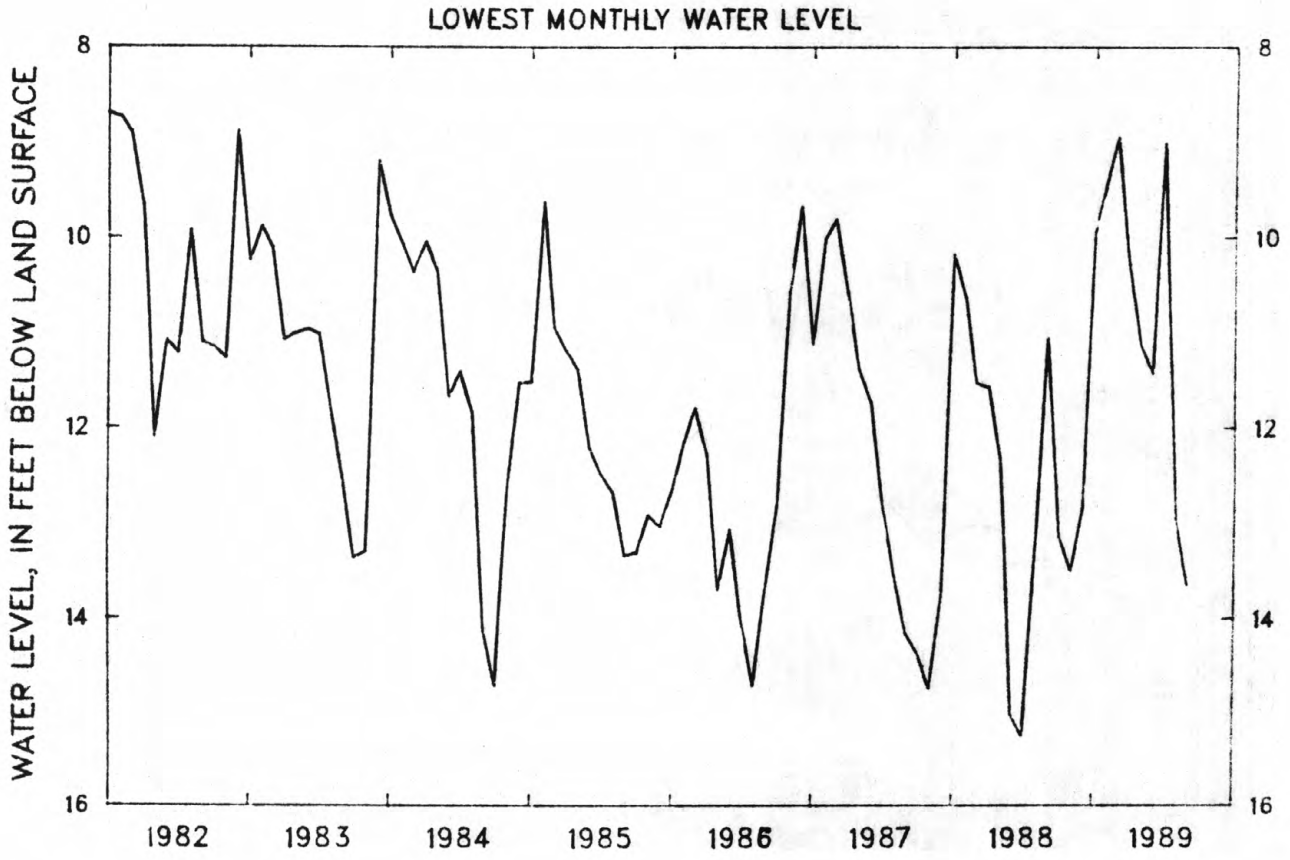
PERIOD OF RECORD.--April 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.14 ft below land-surface datum, Sept. 30, 1989; lowest, 15.25 ft below land-surface datum, July 9, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.75	12.85	10.85	9.40	---	6.53	6.15	10.41	11.43	3.90	10.71	13.08
10	11.37	12.16	11.40	8.35	---	7.04	5.93	9.65	10.37	---	11.60	13.45
15	12.02	12.28	12.19	5.52	---	8.46	7.66	10.03	9.49	---	11.79	12.29
20	12.56	12.27	12.68	7.79	---	8.74	9.04	10.56	7.72	---	12.10	10.74
25	12.60	10.65	12.17	9.24	---	6.98	9.76	10.36	7.44	---	12.44	10.72
EOM	13.14	10.27	11.22	9.94	---	7.92	10.29	11.09	9.08	---	12.96	4.89

WTR YR 1989 HIGHEST 2.14 SEPT 30, 1989 LOWEST 13.66 SEPT 8, 1989



HAMILTON COUNTY--Continued

351428085003600. Local number, Hm:O-15.

LOCATION.--Lat 35°14'28", long 85°00'36", Hydrologic Unit 06020001, at Smith Road and State Highway 58, near Snow Hill.
Owner: Savannah Valley Utility District.

AQUIFER.--Knox Dolomite of Cambrian and Ordovician age.

WELL CHARACTERISTICS.--Drilled artesian test well, diameter 10 in., depth 262 ft, cased to 50 ft, open end.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 735 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of back shelter panel, 8.00 ft above land-surface datum.

REMARKS.--No record Sept. 22-30. Record goods. Well previously published as "at Savannah Valley". Water level affected intermittently by pumping from municipal supply well 300 ft south.

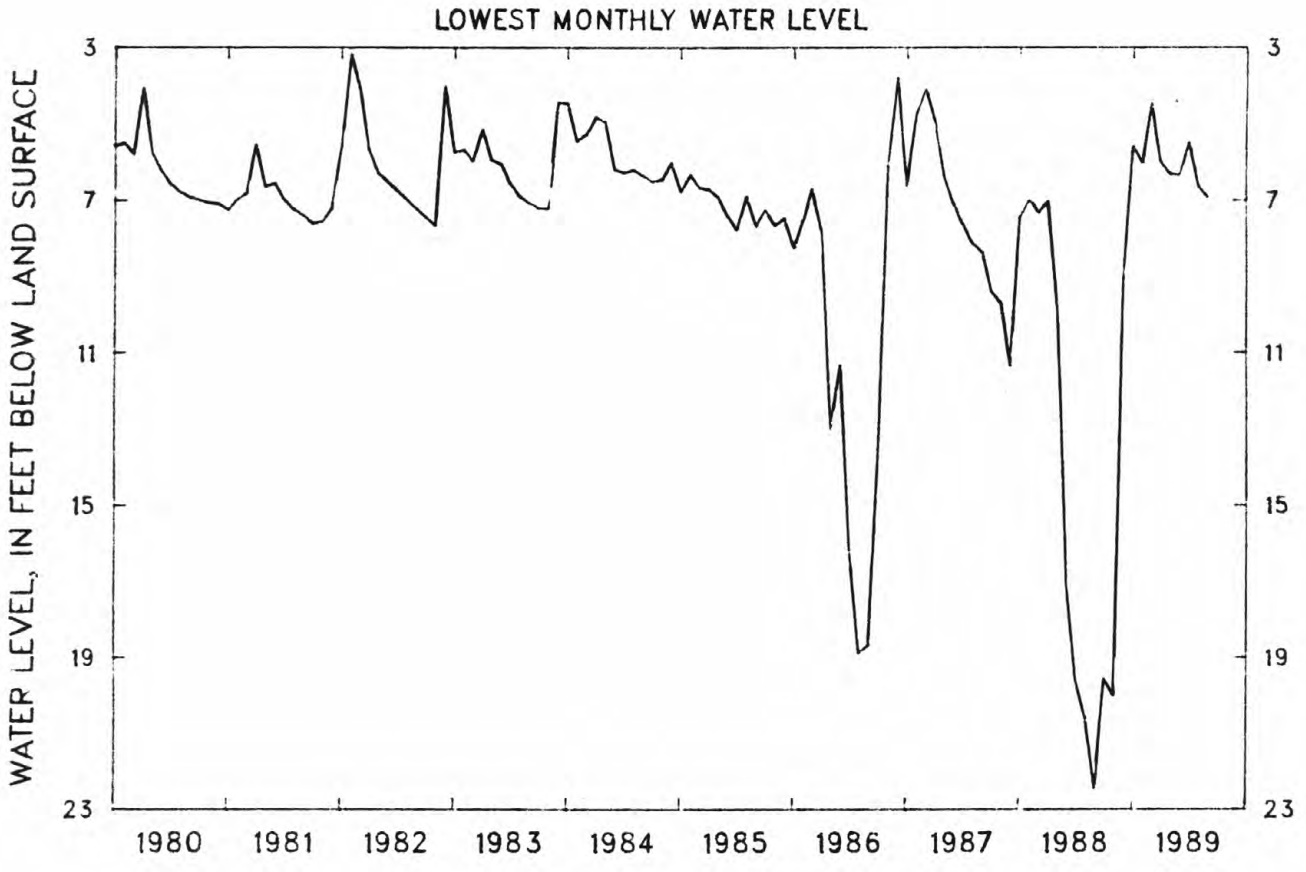
PERIOD OF RECORD.--May 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.40 ft above land-surface datum, May 31, 1979; lowest, 22.45 ft below land-surface datum, Sept. 3, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	12.50	19.49	7.19	3.81	6.02	.06	.48	6.16	6.36	2.59	4.12	6.66
10	14.20	17.11	7.49	2.31	1.56	.46	-.27	5.76	1.74	2.33	5.56	6.65
15	18.04	16.05	7.86	-.56	3.81	2.66	1.53	6.15	1.15	4.08	5.99	6.93
20	18.34	15.05	8.71	1.58	-.49	4.45	3.60	6.22	-2.16	5.05	6.34	5.22
25	18.89	7.13	7.10	4.29	.66	2.46	5.21	5.29	.01	2.94	6.46	---
EOM	19.58	6.63	6.15	5.48	-.29	3.52	6.00	6.00	2.32	4.44	6.57	---

WTR YR 1989 HIGHEST -3.61 JUNE 20, 1989 LOWEST 20.00 NOV 4, 1988



HUMPHREYS COUNTY

360020087573300. Local number, Hs:H-1.

LOCATION.--Lat 36°00'20", long 87°57'33", Hydrologic Unit 06040005, 100 ft north of Woodland Drive, at New Johnsonville.
Owner: A. M. Powers.

AQUIFER.--Camden Chert of early Devonian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 187 ft, cased to 72 ft, open end.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 470 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.00 ft above land-surface datum.

REMARKS.--Records good.

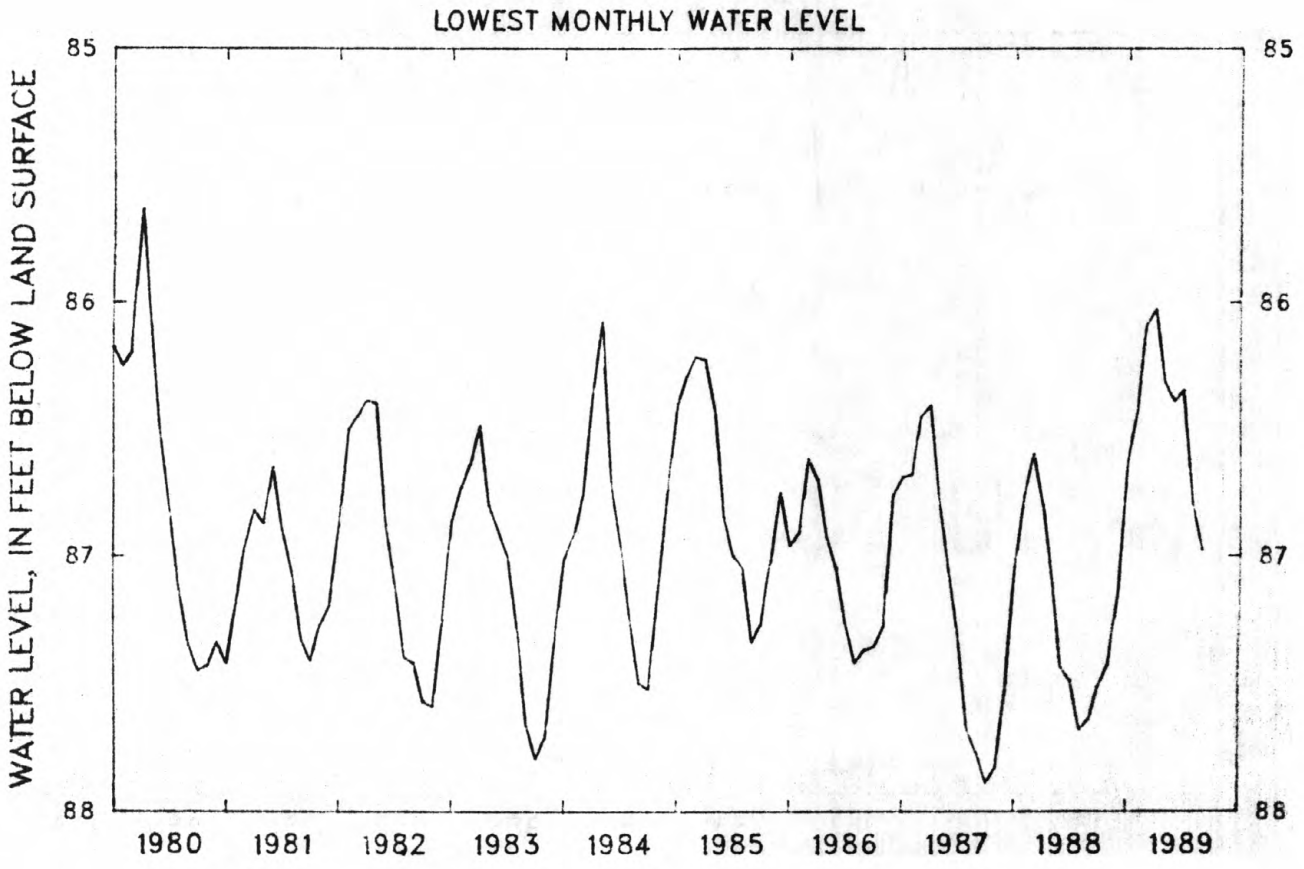
PERIOD OF RECORD.--February 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 84.31 ft below land-surface datum, May 25, 1983; lowest, 90.20 ft below land-surface datum, Nov. 25, 1968.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	87.42	87.31	87.01	86.58	86.31	85.86	85.49	86.02	86.24	85.75	86.42	86.81
10	87.36	87.39	87.04	86.50	86.34	85.85	85.57	86.17	86.39	85.91	86.59	86.88
15	87.45	87.31	87.16	86.02	86.04	85.99	85.57	86.23	85.93	85.97	86.71	86.80
20	87.47	86.99	87.11	86.25	85.79	85.99	85.76	86.30	85.99	85.98	86.74	86.90
25	87.48	86.97	86.66	86.34	85.76	85.90	85.89	86.24	86.04	86.22	86.75	86.90
EOM	87.44	86.90	86.46	86.30	85.88	85.70	86.03	86.24	86.13	86.35	86.77	86.91

WTR YR 1989 HIGHEST 85.33 APR 8, 1989 LOWEST 87.51 OCT 13, 1988



LAUDERDALE COUNTY

353839089493500. Local number, Ld:F-4.

LOCATION.--Lat 35°38'39", long 89°49'35", Hydrologic Unit 08010208, 1.1 mi north of State Highway 87, at Fort Pillow State Park.
Owner: Tennessee Division of Geology and U.S. Geological Survey.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 8 to 6 to 3 in., depth 879 ft, cased to 869 ft, screened 869 to 879 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 437.05 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.80 ft above land-surface datum.

REMARKS.--No record Oct. 1-7, Feb. 7-8, Feb. 18 to March 6, June 20 to July 9. Records poor.

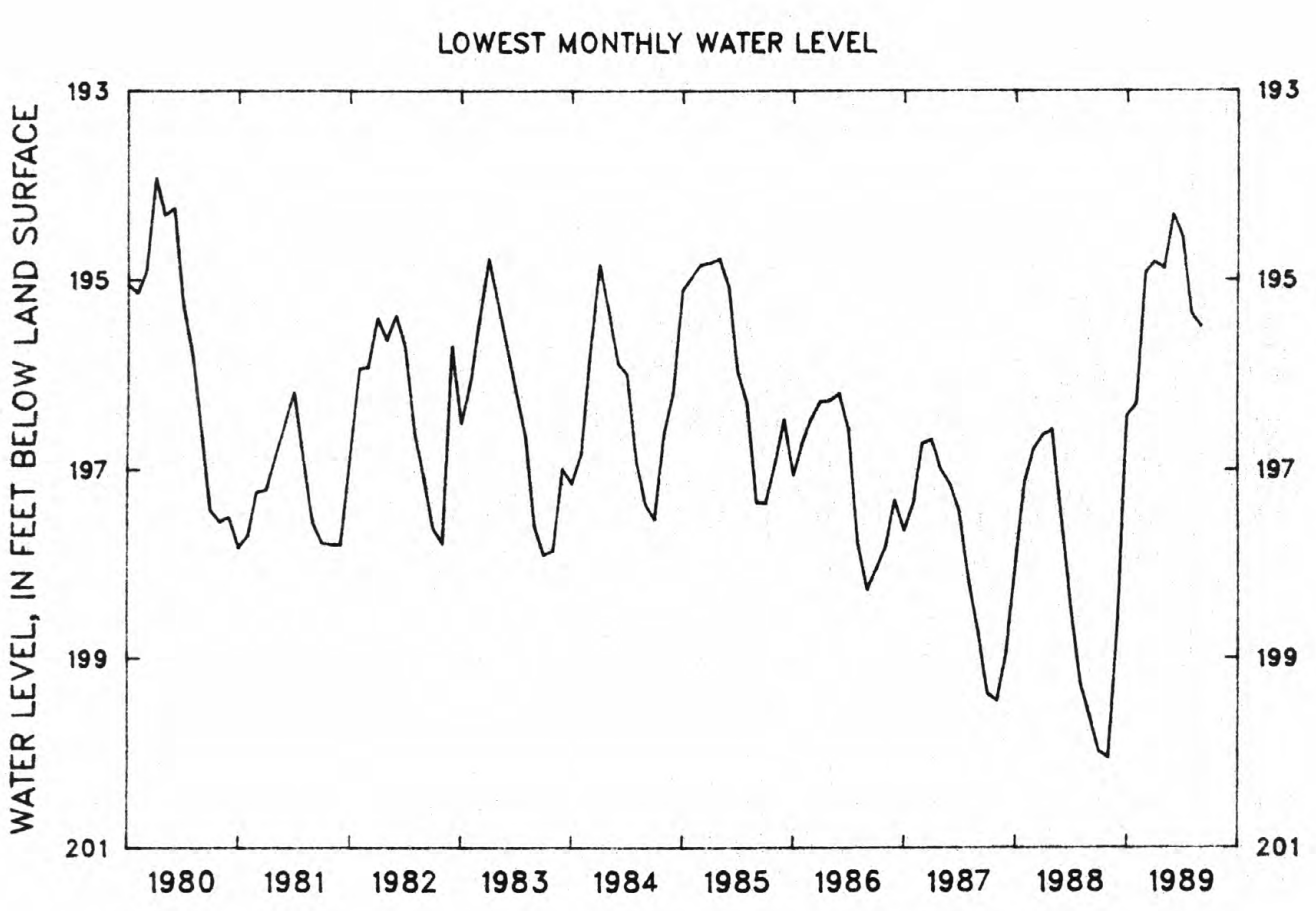
PERIOD OF RECORD.--April 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 187.76 ft below land-surface datum, Apr. 7, 1975; lowest, 200.05 ft below land-surface datum, November 11, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	199.82	197.09	196.37	196.23	---	193.96	194.68	194.06	---	194.61	195.34
10	199.71	200.01	197.33	196.40	196.02	194.12	193.30	194.46	194.28	193.96	194.89	195.38
15	199.89	199.91	197.61	195.59	195.51	194.11	193.08	194.33	194.08	194.10	195.00	195.41
20	199.95	199.26	197.65	194.61	---	194.46	194.09	194.21	---	194.09	195.22	195.31
25	199.91	198.96	197.62	195.67	---	194.87	194.62	194.13	---	---	195.35	195.31
EOM	199.99	198.64	196.66	196.17	---	194.50	194.81	194.29	---	194.55	195.32	195.37

WTR YR 1989 HIGHEST 193.04 APR 14, 1989 LOWEST 200.05 NOV 11, 1988



LAUDERDALE COUNTY--Continued

354158089384300. Local number, Ld:G-12.

LOCATION.--Lat 35°41'58", long 89°38'43", Hydrologic Unit 08010208, 130 ft west of Glimp-Ripley Road, 0.1 mi northeast of State Highway 87 at Glimp.
Owner: Tennessee Division of Geology and U.S. Geological Survey.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 440 ft, cased to 420 ft, screened 420 to 440 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 360 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Inside top of shelter base plate, 2.70 ft above land-surface datum.

REMARKS.--No record July 11-25 and September 23-30. Records fair.

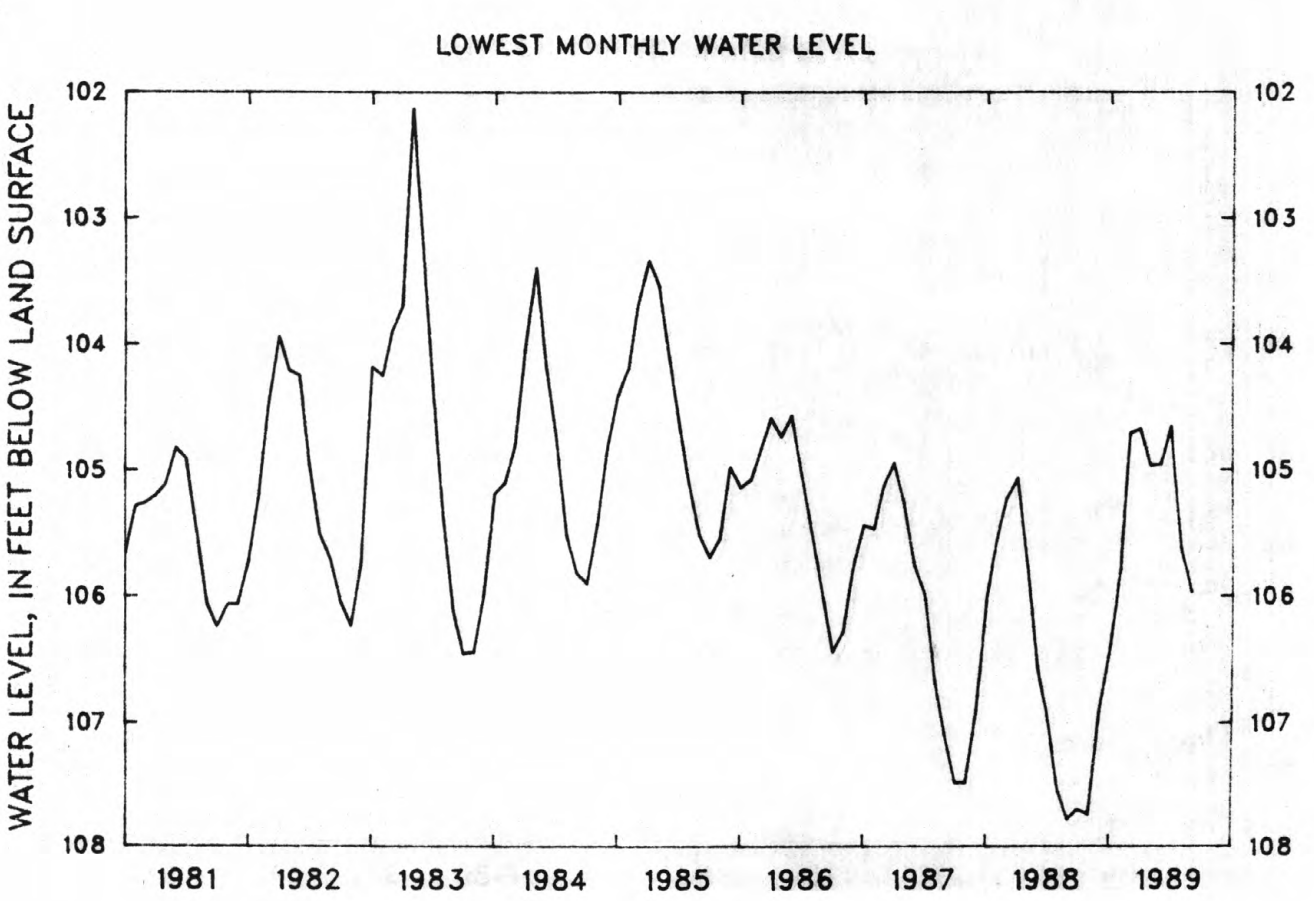
PERIOD OF RECORD.--October 1980 to 1989 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 101.02 ft below land-surface datum, May 29, 1983; lowest, 107.78 ft below land-surface datum, Sept. 16, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	107.65	107.49	106.87	106.35	105.59	104.47	104.54	104.76	104.83	104.41	104.73	105.76
10	107.53	107.72	106.78	106.21	105.69	104.54	104.61	104.88	104.93	104.52	104.98	105.78
15	107.61	107.65	106.88	105.88	105.51	104.53	104.37	104.92	104.92	---	105.10	105.81
20	107.63	107.48	106.84	105.61	105.13	104.52	104.38	104.96	104.53	---	105.29	105.94
25	107.61	107.10	106.87	105.49	104.97	104.63	104.44	104.84	104.30	---	105.47	---
EOM	107.67	106.91	106.47	105.42	104.69	104.66	104.65	104.94	104.36	104.66	105.62	---

WTR YR 1989 HIGHEST 104.23 JUNE 24, 1989 LOWEST 107.74 NOV 11, 17, 1988



LAUDERDALE COUNTY--Continued

354357089271701. Local number, Ld:J-5.

LOCATION.--Lat 35°43'57", long 89°27'17", Hydrologic Unit 08010208, 50 ft southeast of Conner Church Road, 1.7 mi north of State Highway 19 and 2.5 mi northwest of Nutbush.
Owner: Tennessee Division of Geology and U.S. Geological Survey.

AQUIFER.--Cockfield Formation of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 277 ft, cased to 257 ft, screened 257 to 277 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 469 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Inside top of shelter base plate, 2.80 ft above land-surface datum.

REMARKS.--Records good.

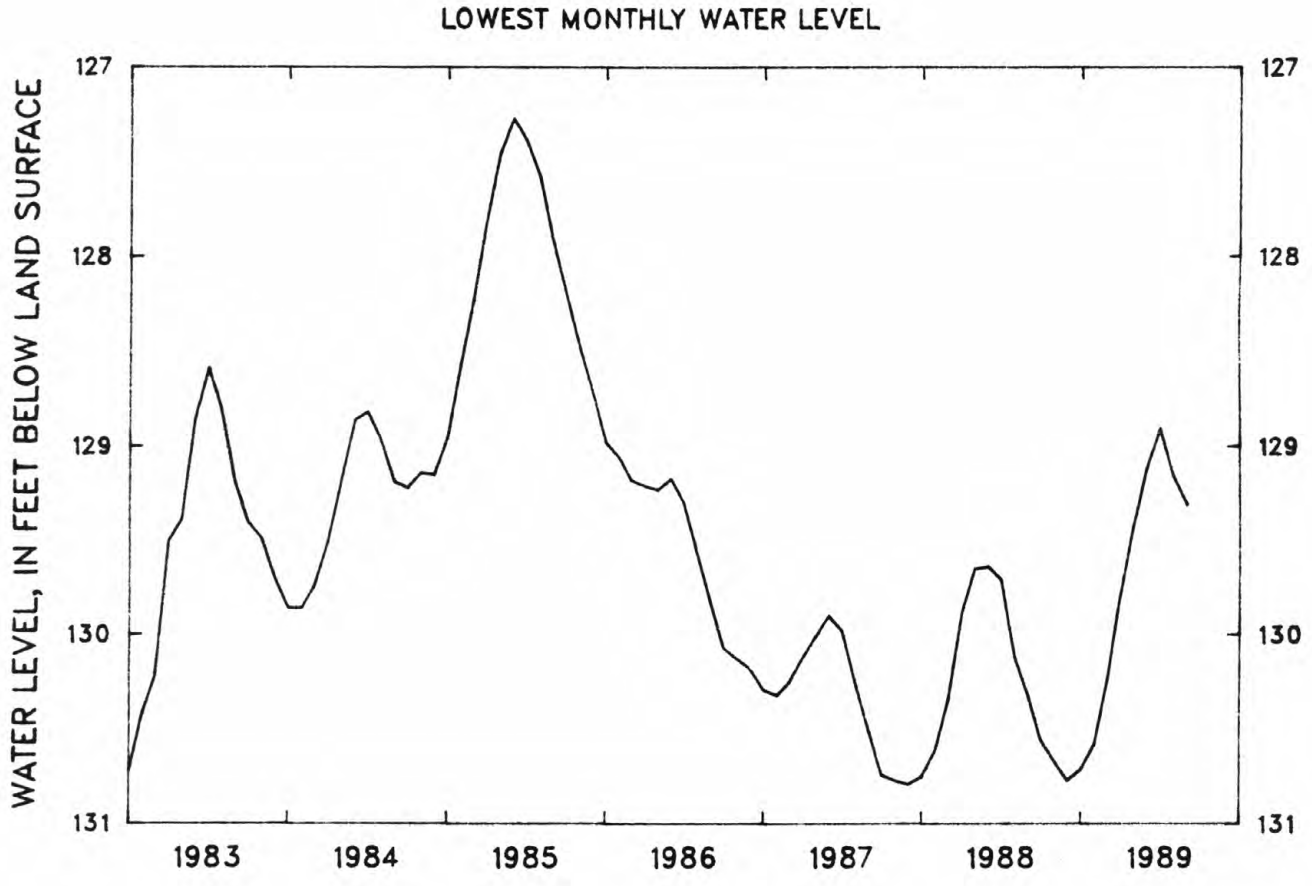
PERIOD OF RECORD.--March 1982 to 1989 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 127.14 ft below land-surface datum, July 6, 1985; lowest, 130.89 ft below land-surface datum, Nov. 15, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	130.29	130.50	130.68	130.70	130.54	130.15	129.71	129.32	129.01	128.79	128.95	129.19
10	130.32	130.63	130.69	130.68	130.55	130.14	129.68	129.26	128.99	128.86	129.03	129.19
15	130.41	130.63	130.77	130.60	130.39	130.08	129.58	129.22	128.92	128.89	129.07	129.16
20	130.47	130.53	130.76	130.66	130.31	130.01	129.55	129.20	128.88	128.81	129.12	129.22
25	130.49	130.55	130.72	130.62	130.31	129.94	129.49	129.10	128.92	128.84	129.16	129.27
EOM	130.56	130.58	130.66	130.55	130.24	129.78	129.42	129.10	128.92	128.91	129.15	129.22

WTR YR 1989 HIGHEST 128.73 JULY 2, 1989 LOWEST 130.77 DEC 15-18, 1988



LAUDERDALE COUNTY--Continued

354552089455900. Local number, Ld:L-2.

LOCATION.--Lat 35°45'52", long 89°45'59", Hydrologic Unit 08010100, 70 ft south of State Highway 19, 1.2 mi east of Ashport.
Owner: Tennessee Division of Geology and U.S. Geological Survey.

AQUIFER.--Cockfield Formation of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 245 ft, cased to 225 ft, screened 225 to 245 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 239 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Inside top of shelter base plate, 2.00 ft above land-surface datum.

REMARKS.--No record June 14 to September 30. Records poor.

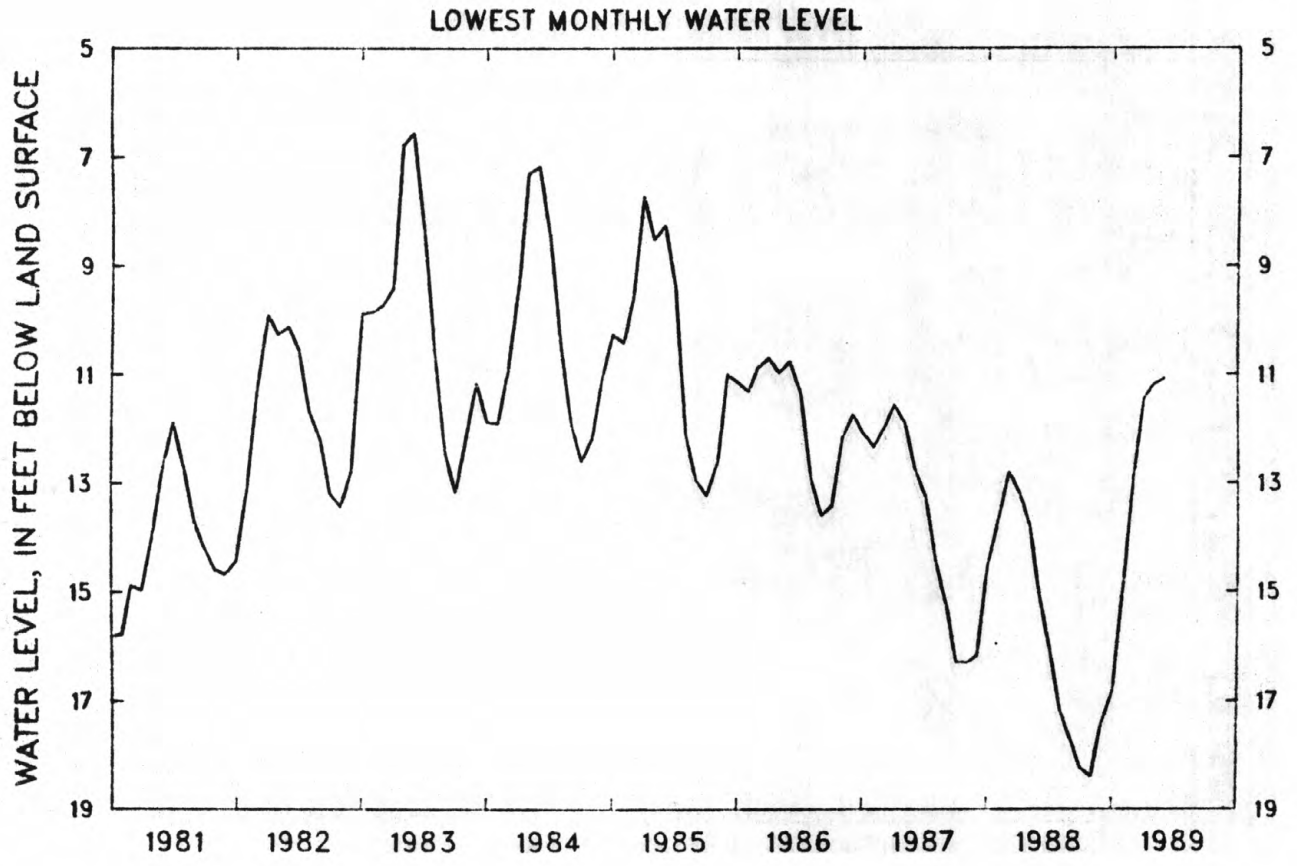
PERIOD OF RECORD.--October 1980 to 1989 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.02 ft below land-surface datum, May 12, 1983; lowest, 18.39 ft below land-surface datum, Nov. 10, 11, 12, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	17.72	18.25	16.86	16.49	14.80	12.41	11.25	11.13	10.93	---	---	---
10	17.80	18.39	16.91	16.19	14.66	12.13	10.99	11.11	11.07	---	---	---
15	17.96	18.31	17.12	15.64	14.32	11.84	10.62	11.09	---	---	---	---
20	18.07	17.87	17.31	15.20	13.86	11.65	10.52	11.05	---	---	---	---
25	18.14	17.55	17.40	14.76	13.34	11.62	10.73	10.97	---	---	---	---
EOM	18.24	16.98	16.95	14.77	12.92	11.44	11.05	11.03	---	---	---	---

WTR YR 1989 HIGHEST 10.48 APR 18, 1989 LOWEST 18.39 NOV 10-12, 1988



LAUDERDALE COUNTY--Continued

355251089350500. Local number, Ld:S-2.

LOCATION.--Lat 35°52'51", long 89°35'05", Hydrologic Unit 08010100, about 0.7 mi east of Old Bed Forked Deer River, 3 mi west of Knob Creek.
Owner: Tennessee Division of Geology and U.S. Geological Survey.

AQUIFER.--Alluvial sand and gravel of Holocene and Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in., depth 100 ft, cased to 80 ft, screened 80 to 100 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 254 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Inside top of shelter base plate, 3.20 ft above land-surface datum.

REMARKS.--Records good. Negative values indicate water levels above land surface.

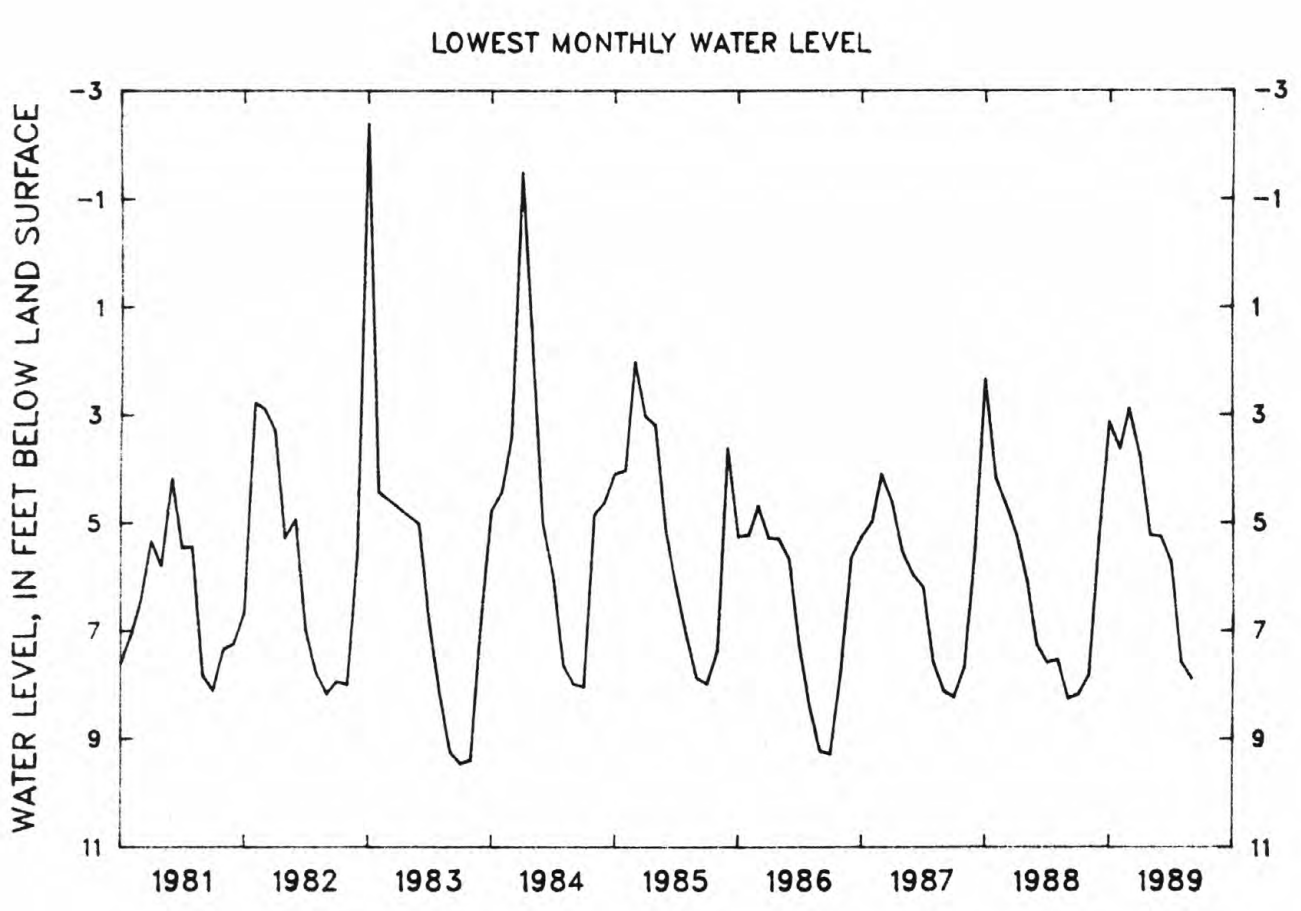
PERIOD OF RECORD.--October 1980 to 1989 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.06 ft above land-surface datum, Dec. 11, 1982 and Mar. 6, 1985; lowest, 9.45 ft below land-surface datum, Oct. 16, 17, 1983.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.63	7.66	2.94	2.41	2.80	-2.15	2.22	4.32	4.42	2.71	6.06	7.73
10	7.73	7.80	4.09	3.11	3.39	-.33	.13	4.65	5.01	3.45	6.49	7.84
15	7.93	7.69	4.93	2.16	1.95	.43	-.89	4.89	2.55	4.38	6.77	7.66
20	8.03	3.97	5.22	.78	-.12	1.24	.92	5.01	2.92	4.85	7.08	7.72
25	8.05	3.95	3.39	.20	-2.44	2.55	2.73	4.87	3.26	5.29	7.33	7.78
EOM	7.76	2.17	2.78	2.20	-2.56	2.29	3.76	5.24	3.60	5.73	7.58	7.60

WTR YR 1989 HIGHEST -2.75 FEB 27, 1989 LOWEST 8.18 OCT 1, 1988



LAWRENCE COUNTY

352610087182401. Local number, LN:R-014.

LOCATION.--Lat 35°26'10", long 87°18'24", Hydrologic Unit 06040004, 0.1 mile north of U.S. Post Office, at Summertown.
Owner: Summertown Utility District.

AQUIFER.--Fort Payne Formation of Early Mississippian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 147 ft, cased to 135 ft, open end.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 1,014.9 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of instrument shelf, 1.0 ft above land-surface datum.

REMARKS.--Records good. Water levels are affected by pumping from municipal supply well.

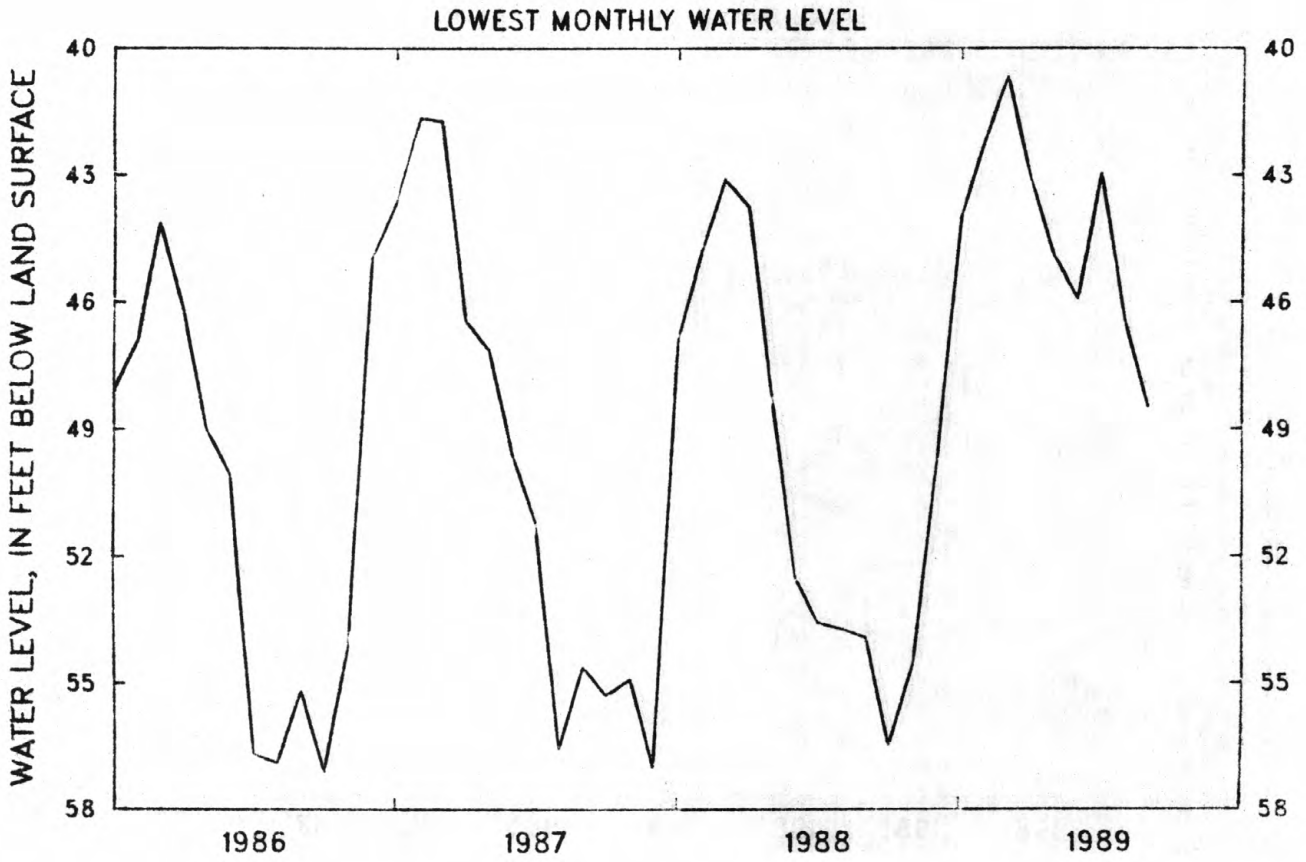
PERIOD OF RECORD.--July 1985 to September 1989 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 33.37 ft below land-surface datum, Feb. 28, 1987; lowest, 57.10 ft below land-surface datum, Oct. 11, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	54.07	51.86	47.04	43.04	41.62	37.59	38.84	41.51	43.24	38.94	43.61	47.51
10	53.61	51.58	47.75	42.40	41.56	37.16	37.94	42.47	45.93	38.83	43.72	47.66
15	54.84	51.93	48.31	40.08	40.20	40.26	38.44	43.05	42.78	40.08	44.51	47.71
20	53.83	48.79	49.55	41.04	38.65	39.33	39.92	42.91	41.68	39.74	45.53	48.38
25	54.49	48.96	45.52	41.31	38.31	40.67	41.87	42.61	43.89	41.01	45.78	48.28
EOM	53.85	47.14	43.59	41.29	40.29	40.52	42.99	43.86	41.27	42.18	46.00	47.27

WTR YR 1989 HIGHEST 34.03 FEB 21, MAR 5, 1989 LOWEST 56.48 OCT 21, 1988



LINCOLN COUNTY

350035086423100. Local number, Li:G-2.

LOCATION.--Lat 35°00'35", long 86°42'31", Hydrologic Unit 06030002, on west side of Pepper Road at Taft well field, 0.8 mi south of State Highway 110, at Taft.
Owner: Lincoln County Board of Public Utilities.

AQUIFER.--Fort Payne Formation of early Mississippian age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in, depth 85 ft, cased to 40 ft, open end.

INSTRUMENTATION.--Water-level recorder since March 1988.

DATUM.--Altitude of land-surface datum is 904.08. Measuring point: Top of casing, 2.48 ft above land-surface datum.

REMARKS.--Water levels affected by pumpage from Taft well field for municipal water supply. Records good.

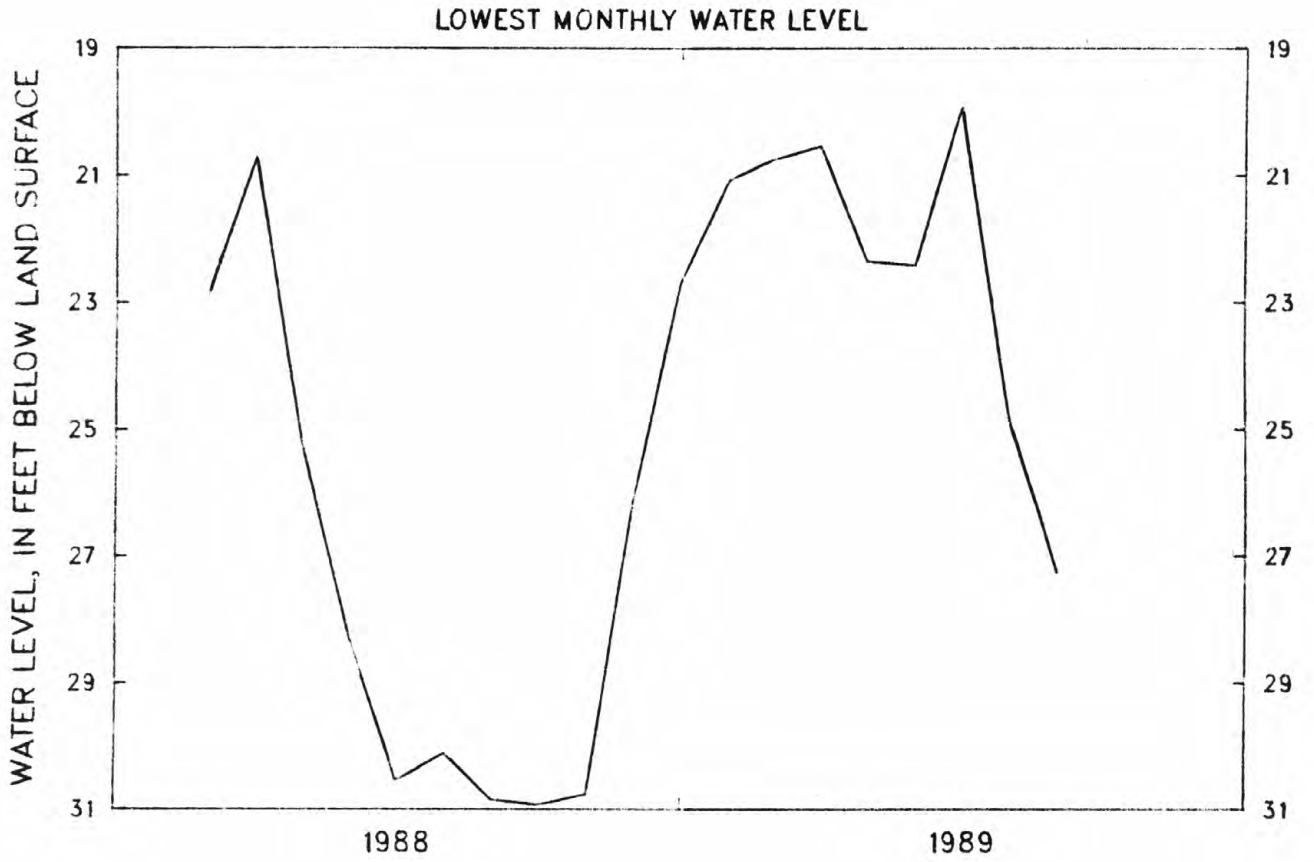
PERIOD OF RECORD.--March 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 13.56 ft below land-surface datum, July 21, 1989; lowest, 30.93 ft below land-surface datum, Oct. 27, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	30.59	29.59	25.54	21.57	19.76	17.83	19.39	21.03	21.16	16.50	20.17	26.89
10	30.62	29.66	24.25	21.17	20.57	18.85	18.43	21.40	20.40	17.52	20.62	26.74
15	30.15	29.47	24.26	20.44	20.32	18.05	19.16	19.81	19.98	19.73	22.53	25.58
20	29.76	29.12	25.22	19.77	18.81	20.01	18.43	20.21	19.05	18.44	22.58	23.52
25	30.78	27.57	23.23	20.80	19.17	20.75	20.54	21.58	16.56	18.28	22.60	23.29
EOM	30.70	25.99	22.73	19.72	19.40	18.68	19.48	22.36	19.35	19.93	24.32	22.15

WTR YR 1989 HIGHEST 13.56 JULY 21, 1989 LOWEST 30.93 OCT 27, 1988



MADISON COUNTY

354223088380200. Local number, Md:N-1.

LOCATION.--Lat 35°42'23", long 88°38'02", Hydrologic Unit 08010205, about 0.4 mi east of Claybrook. Owner: Tennessee Division of Geology and U.S. Geological Survey.

AQUIFER.--McNairy Sand of late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 to 4 in., depth 659 ft, cased to 639 ft, screened 639 to 659 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 562.70 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.80 ft above land-surface datum.

REMARKS.--No record August 13 to September 04. Records fair.

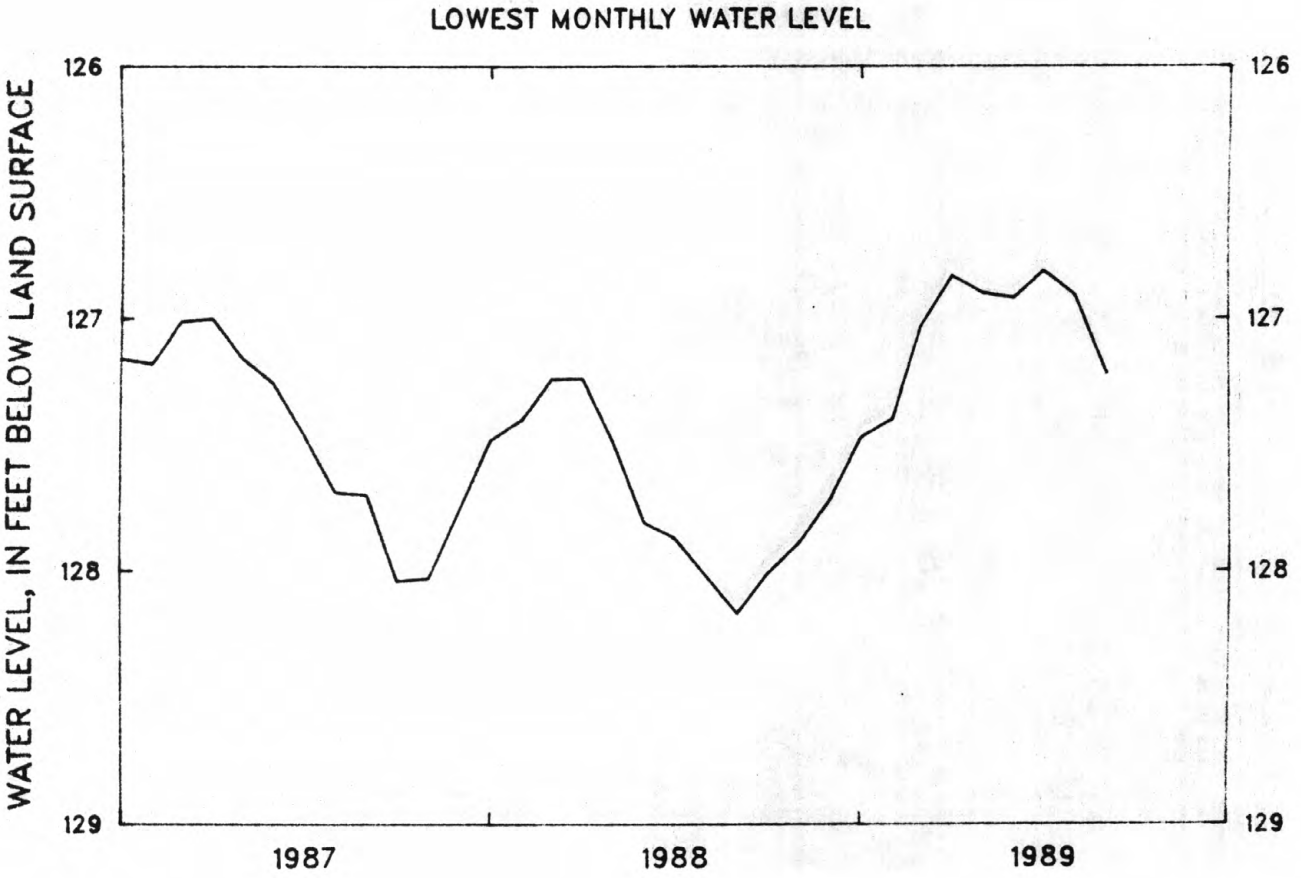
PERIOD OF RECORD.--June 1949 to current year. Analog record June 1949 to February 1971, periodic tape measurements or monthly maximum-minimum recorder March 1971 to April 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 124.50 ft below land-surface datum, Mar. 10, 1952; lowest recorded, 129.13 ft below land-surface datum, Nov. 15, 1963; highest water level measured, 124.98 ft below land-surface datum, Apr. 8, 1980; lowest measured, 131.17 ft below land-surface datum, June 20, 1979.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	127.95	127.64	127.66	127.37	127.25	126.90	126.74	126.77	126.88	126.64	126.82	---
10	127.86	127.80	127.62	127.43	127.33	127.01	126.80	126.83	126.90	126.73	126.85	127.13
15	127.95	127.79	127.68	127.18	127.11	126.94	126.72	126.83	126.75	126.73	---	127.12
20	127.93	127.52	127.62	127.31	126.92	126.91	126.75	126.85	126.72	126.69	---	127.14
25	127.88	127.59	127.51	127.29	127.05	126.90	126.76	126.82	126.77	126.78	---	127.18
EOM	127.91	127.58	127.36	127.19	126.98	126.75	126.81	126.89	126.81	126.80	---	126.98

WTR YR 1989 HIGHEST 126.56 JUL 2, 1989 LOWEST 128.01 OCT 1, 1988



MORGAN COUNTY

360543084343101. Local number, Mg:F-5.

LOCATION.--Lat 36°05'43", long 84°34'31", Hydrologic Unit 06010208, 1.0 mi southeast of Wartburg.
Owner: Plateau Utility District.

AQUIFER.--Sandstone of Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 394 ft, cased to 20 ft, open end.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 1,265 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of recorder shelter, 2.4 ft above land-surface datum.

REMARKS.--Highest water level readings may be influenced for short periods by surface inflow.

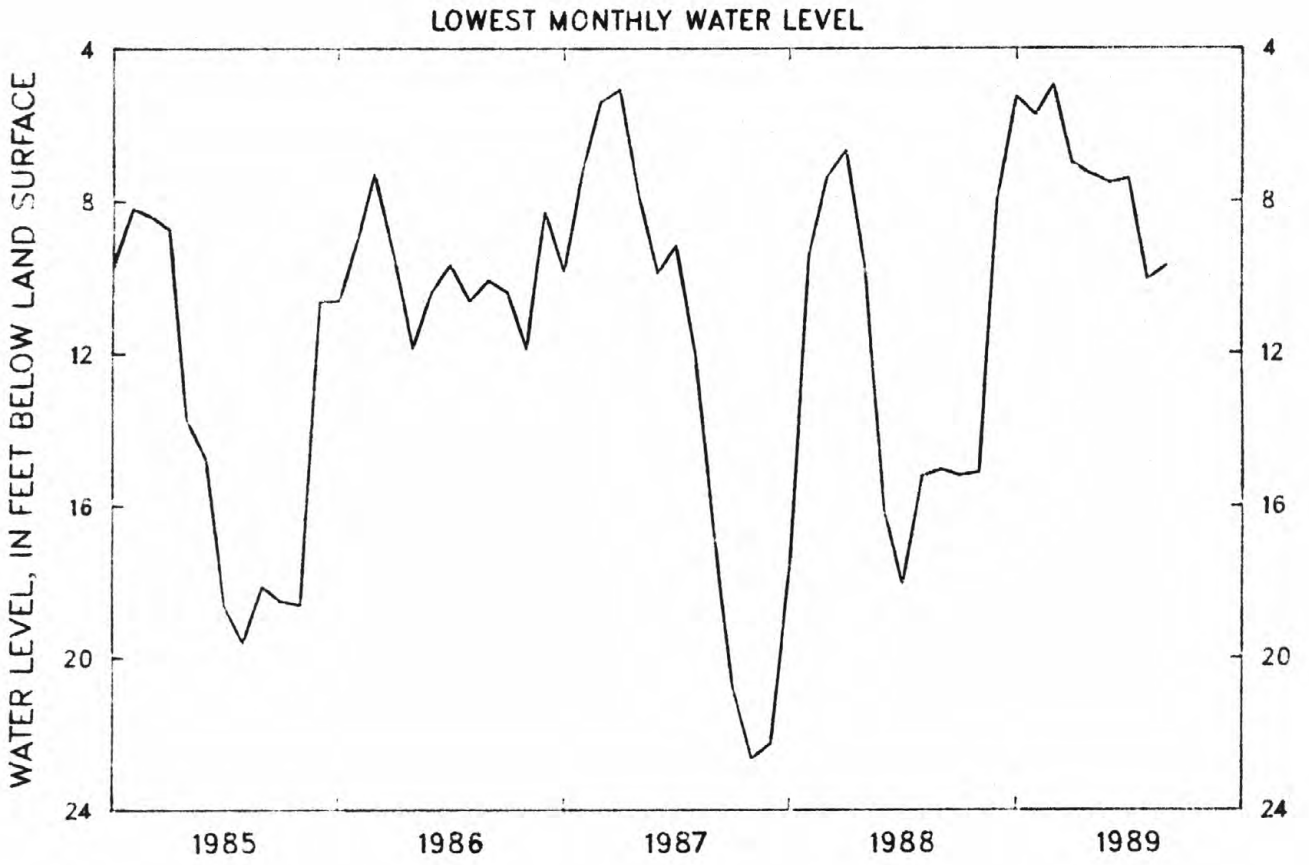
PERIOD OF RECORD.--November 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.48 ft below land-surface datum, June 15, 1989; lowest recorded, 22.75 ft below land-surface datum, Nov. 18, 1987, but may have been lower during period of no water level record Oct. 21 to Nov. 18, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	13.27	14.48	6.24	4.16	5.70	3.73	2.88	7.25	4.95	5.44	6.03	9.14
10	13.59	11.52	6.75	3.65	4.99	3.53	3.92	5.76	3.55	3.86	7.49	9.70
15	14.24	10.48	7.36	2.47	5.42	4.65	4.66	6.45	2.71	3.91	8.63	6.84
20	14.73	5.57	7.89	4.13	3.16	4.65	5.34	7.23	2.78	5.09	9.51	5.61
25	15.06	6.25	4.17	4.84	3.52	3.56	6.10	6.84	3.98	6.08	10.02	4.60
EOM	15.17	5.42	4.35	5.27	3.82	4.43	7.01	6.87	5.16	7.42	9.57	4.50

WTR YR 1989 HIGHEST 0.48 JUNE 15, 1989 LOWEST 15.20 OCT 29, 1988



PUTNAM COUNTY

360521085432600. Local number, Pm:C-1.

LOCATION.--Lat 36°05'21", long 85°43'26", Hydrologic Unit 05130108, at Interstate 40 and State Highway 56, at Silver Point.
Owner: Tennessee Department of Transportation.

AQUIFER.--Fort Payne Formation of early Mississippian age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 6 in., depth 175 ft, cased to 60 ft, open end.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 1,030 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of instrument shelf, 2.88 ft above land surface datum.

REMARKS.--Records good.

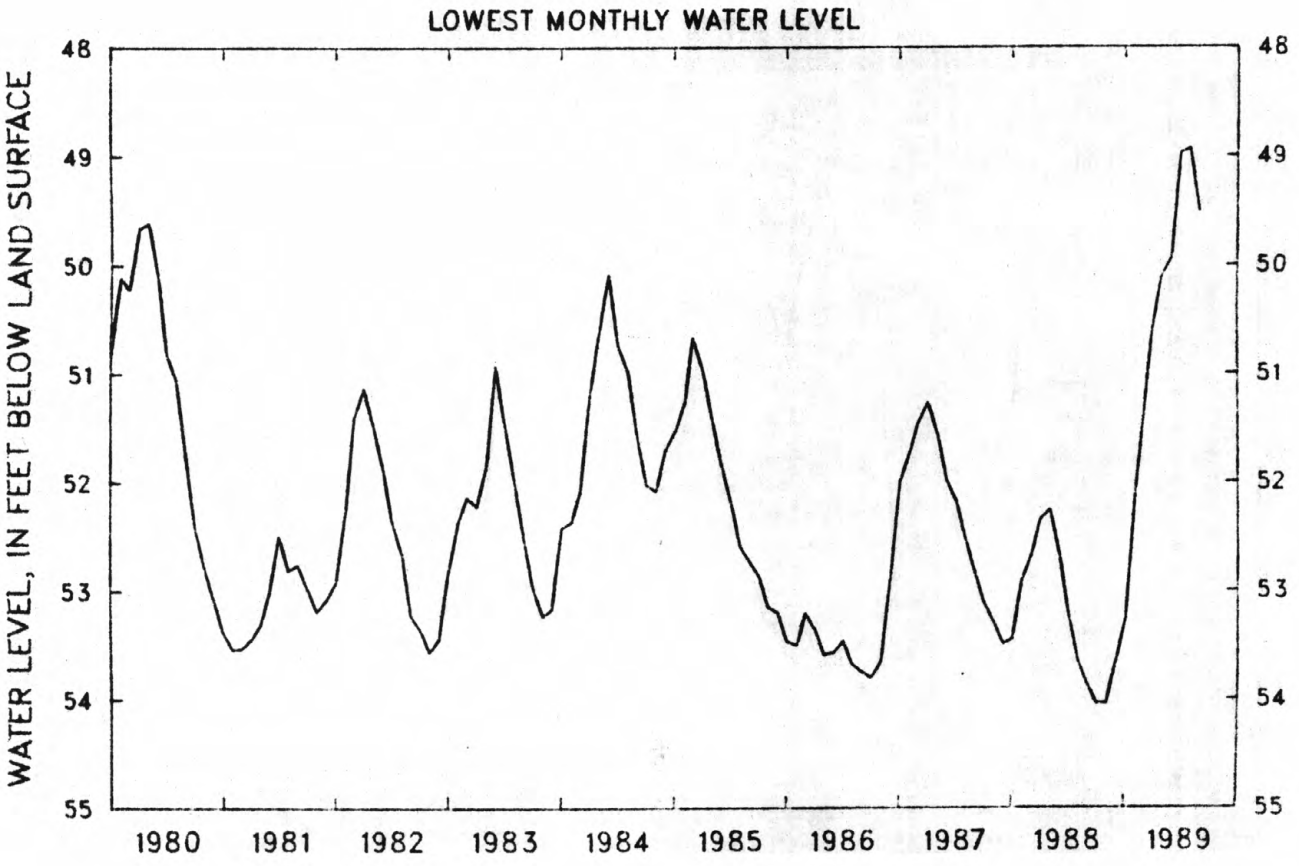
PERIOD OF RECORD.--March 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 48.17 ft below land-surface datum, July 19, 1989; lowest, 54.04 ft below land-surface datum, Oct. 28, Nov. 10, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	53.89	54.03	53.54	53.04	52.04	51.13	50.40	50.03	49.80	48.86	48.29	49.12
10	53.87	54.04	53.49	52.90	52.03	50.87	50.27	50.04	49.88	48.66	48.45	49.18
15	53.90	53.95	53.51	52.50	52.04	50.79	50.02	49.96	49.55	48.43	48.46	49.26
20	53.90	53.96	53.48	52.30	51.71	50.56	49.99	49.96	49.34	48.32	48.63	49.39
25	53.97	53.78	53.46	52.12	51.46	50.59	49.99	49.93	49.12	48.46	48.78	49.41
EOM	53.99	53.67	53.23	52.03	51.42	50.58	50.07	49.96	49.00	48.42	48.94	49.35

WTR YR 1989 HIGHEST 48.17 JULY 19, 1989 LOWEST 54.04 OCT 28, NOV 10, 1988



SEVIER COUNTY

353922083345600. Local number, Sv:E-2.

LOCATION.--Lat 35°39'22", long 83°34'56", Hydrologic Unit 06010201, 3.3 mi southwest of Great Smoky Mountains National Park Headquarters, near Gatlinburg.

AQUIFER.--Elkmont Sandstone of Precambrian age.

WELL CHARACTERISTICS.--Drilled unused water-table well in phyllite, sandstone, diameter 6 in., depth 220 ft, cased to 27 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 2,150 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of recorder shelter 1.5 ft above land-surface datum.

REMARKS.--Highest water level readings may be influenced for short periods by surface inflow. No missing record.

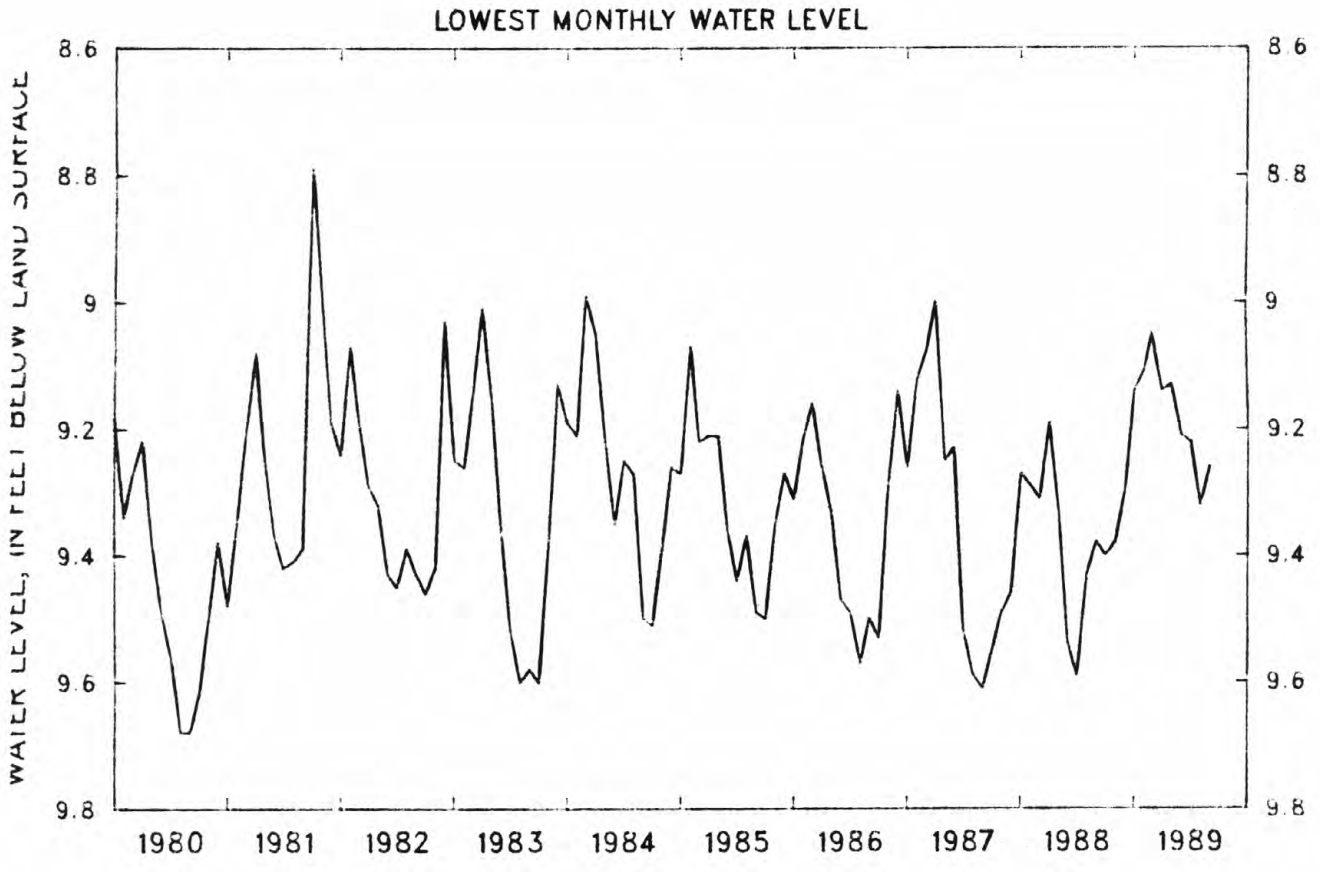
PERIOD OF RECORD.--May 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.58 ft below land-surface datum, Feb. 1, 1985; lowest, 9.68 ft below land-surface datum, Aug. 10, Sept. 16, 17, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.16	9.21	9.10	8.83	9.10	8.33	8.27	8.69	8.73	8.27	8.93	9.22
10	9.32	9.05	9.20	8.63	8.79	8.69	8.60	7.87	8.77	8.76	9.13	9.24
15	9.38	9.13	9.26	8.15	9.06	8.98	8.86	8.77	8.49	8.92	9.18	9.08
20	9.40	8.87	9.30	8.88	8.67	8.85	8.91	9.03	8.39	9.09	9.28	8.98
25	9.34	8.97	8.83	9.10	8.66	8.57	9.09	8.98	8.78	9.17	8.99	8.54
EOM	9.37	8.85	8.75	9.03	8.03	8.93	9.11	9.13	8.78	8.66	9.19	8.04

WTR YR 1989 HIGHEST 6.72 JUNE 16, 1989 LOWEST 9.40 OCT 20, 21 1988



SHELBY COUNTY

350514089553700. Local number, Sh:K-75.

LOCATION.--Lat 35°05'14", long 89°55'37", Hydrologic Unit 08010211, at Willowview Avenue and Getwell Road, at Memphis.
Owner: Memphis Light, Gas and Water Division, City of Memphis.

AQUIFER.--Fluvial sand and gravel of Pleistocene age and possibly sand of Eocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in., depth 91 ft, cased to 81 ft, screened 81 to 91 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 260 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.20 ft above land-surface datum.

REMARKS.--Water levels affected by pumpage for Memphis municipal water supply. Records good.

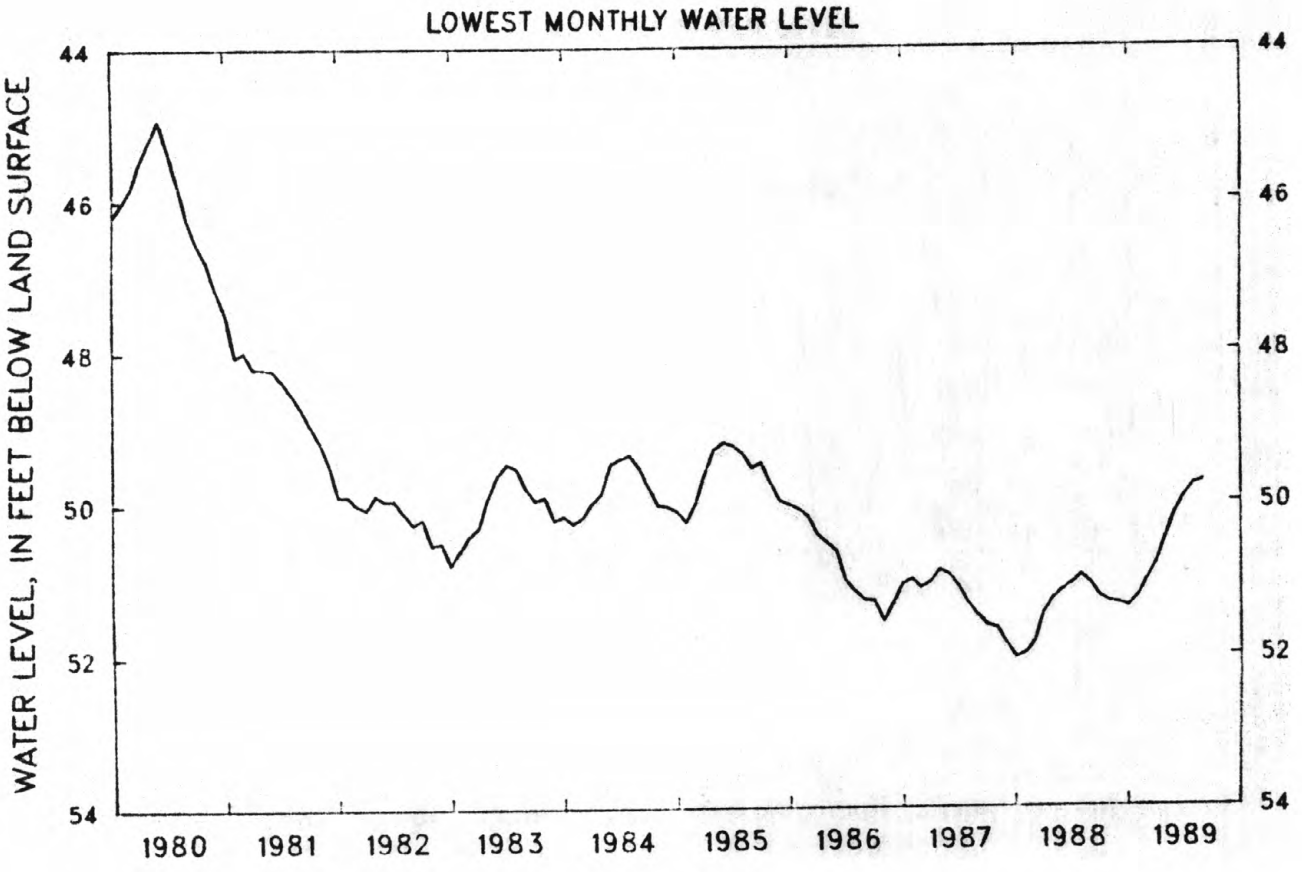
PERIOD OF RECORD.--August 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.28 ft below land-surface datum, April 2, 1950; lowest, 52.03 ft below land-surface datum, January 13, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	51.05	51.18	51.06	50.96	50.96	50.93	50.81	50.38	50.10	49.92	49.72	49.65
10	51.01	51.24	51.03	51.09	50.87	50.76	50.75	50.43	50.15	49.91	49.74	49.64
15	51.03	51.04	51.24	51.08	51.10	51.01	50.49	50.31	50.06	49.85	49.67	49.60
20	51.06	51.32	51.06	51.20	50.66	50.71	50.49	50.33	49.97	49.78	49.67	49.59
25	51.10	51.09	51.22	51.02	50.79	50.69	50.48	50.16	49.94	49.81	49.68	49.54
EOM	51.07	51.16	51.09	50.92	51.04	50.92	50.49	50.15	49.93	49.77	49.64	49.49

WTR YR 1989 HIGHEST 49.45 SEP 15, 1989 LOWEST 51.38 JAN 8, 1989



SHELBY COUNTY--Continued

351435090005200. Local number, Sh:O-1.

LOCATION.--Lat 35°14'35", long 90°00'52", Hydrologic Unit 08010209, west side of O.K. Robertson Road, 0.4 mi north of U.S. Highway 51, at Memphis.
Owner: Memphis Light, Gas and Water Division, City of Memphis.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 434 ft, cased to 424 ft, screened 424 to 434 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 228.70 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 4.30 ft above land-surface datum.

REMARKS.--Water levels affected by pumpage for municipal and industrial water supply in the Memphis area. No record April 21 to May 31. Records fair.

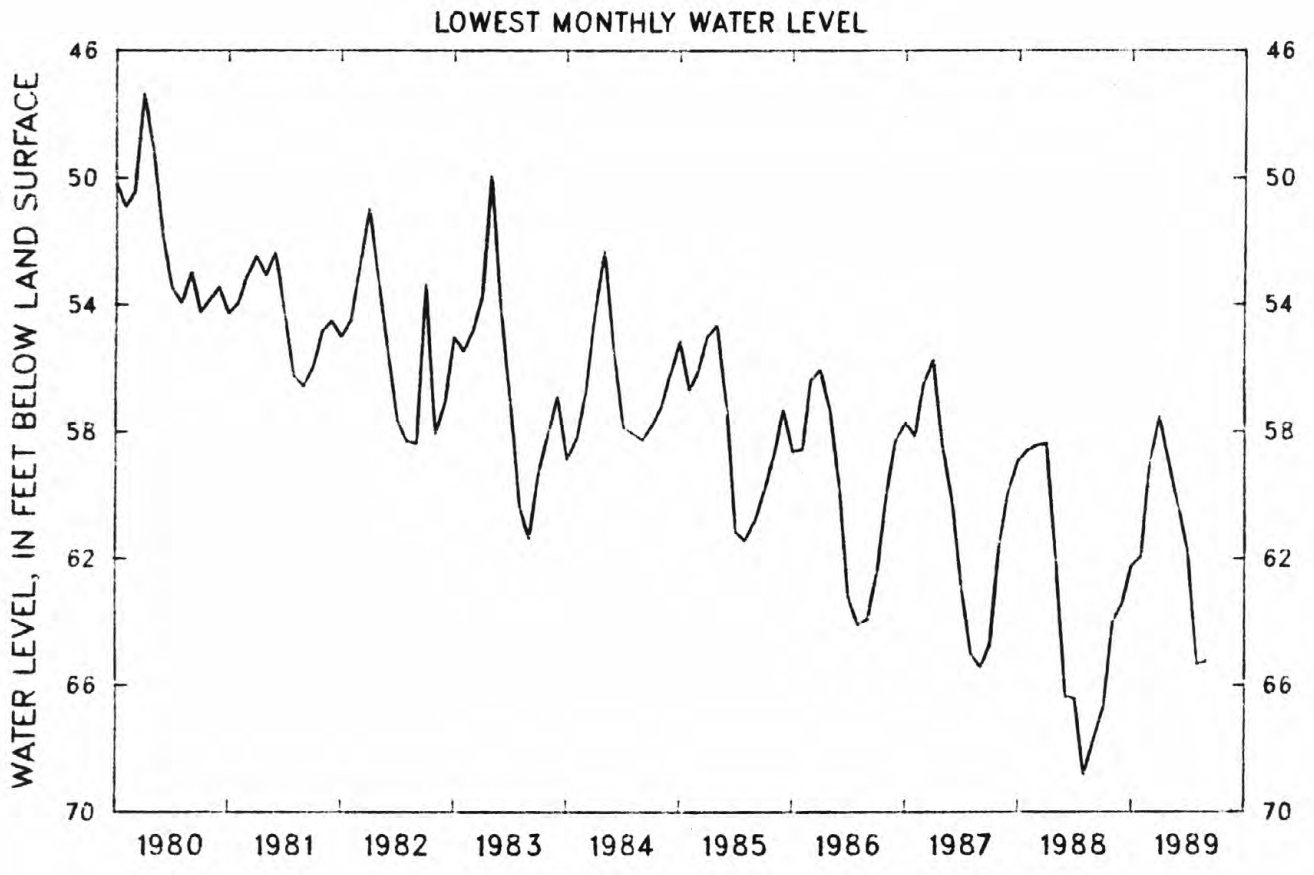
PERIOD OF RECORD.--September 1940 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.65 ft below land-surface datum, September 3, 1940; lowest, 68.82 ft bleow land-surface datum, August 24, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	66.75	63.28	62.11	61.98	61.96	58.66	57.53	---	60.07	58.33	62.35	65.21
10	66.23	63.99	62.16	61.95	61.74	58.89	57.49	---	60.13	58.94	63.07	65.22
15	65.78	63.94	62.78	61.76	61.30	58.75	56.96	---	60.31	60.04	63.74	65.20
20	64.66	63.84	63.35	61.65	60.88	58.93	56.94	---	59.70	60.53	64.84	64.11
25	63.75	63.83	63.37	61.60	60.02	58.83	---	---	58.96	61.14	65.34	63.25
EOM	63.34	62.78	62.47	61.58	59.19	57.45	---	---	58.75	61.76	65.07	63.05

WTR YR 1989 HIGHEST 56.91 APR 15-18, 1989 LOWEST 66.75 OCT 5, 6, 1988



SHELBY COUNTY--Continued

350735089593300. Local number, Sh:P-76.

LOCATION.--Lat 35°07'35", long 89°59'33", Hydrologic Unit 08010210, at Central Avenue and Tanglewood Street, at Memphis.
Owner: Memphis Light, Gas and Water Division, City of Memphis.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 12 in., depth 488 ft, cased to 428 ft, screened 428 to 488 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 286.70 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.30 ft above land-surface datum.

REMARKS.--Water levels affected by pumpage for municipal and industrial water supply in the Memphis area. Records good.

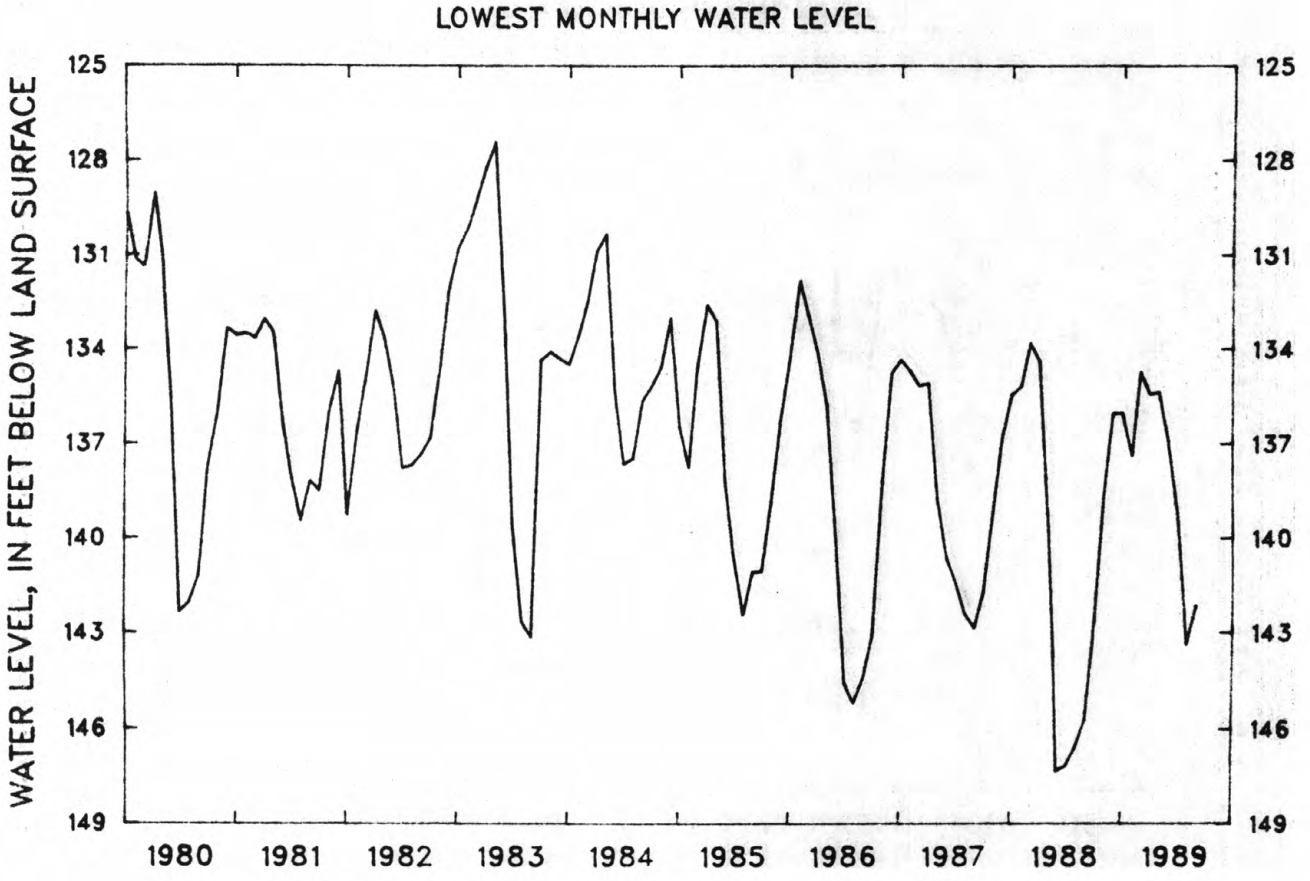
PERIOD OF RECORD.--October 1928 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 58.65 ft below land-surface datum, Apr. 3, 1933; lowest, 147.31 ft below land-surface datum, June 30, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUMN WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	141.18	138.09	135.48	135.76	135.50	133.94	134.26	135.07	134.63	135.50	139.26	140.66
10	140.10	137.92	135.38	135.90	137.38	134.21	133.10	135.16	136.47	136.09	140.11	141.67
15	140.71	137.43	135.67	134.66	134.62	133.35	133.28	133.83	135.43	137.39	141.50	141.33
20	140.58	136.61	135.41	135.61	133.55	133.14	134.08	134.53	134.63	136.86	142.20	140.13
25	139.15	135.13	135.24	135.61	134.57	133.10	134.33	134.82	135.85	137.85	143.36	140.22
EOM	138.29	135.76	135.74	135.12	134.60	133.99	134.92	135.38	136.86	138.99	142.22	139.31

WTR YR 1989 HIGHEST 131.90 APR 17, 1989 LOWEST 143.36 AUG 24, 25, 1989



SHELBY COUNTY--Continued

350900089482300. Local number, Sh:Q-1.

LOCATION.--Lat 35°09'00", long 89°48'23", Hydrologic Unit 08010210, south of Macon Road, 0.6 mi west of Germantown Road, near Memphis.
Owner: Memphis Light, Gas and Water Division, City of Memphis.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 384 ft, cased to 375 ft, screened 375 to 384 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 330.40 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.40 ft above land-surface datum.

REMARKS.--Water levels affected by pumpage for municipal and industrial water supply in the Memphis area. Records good.

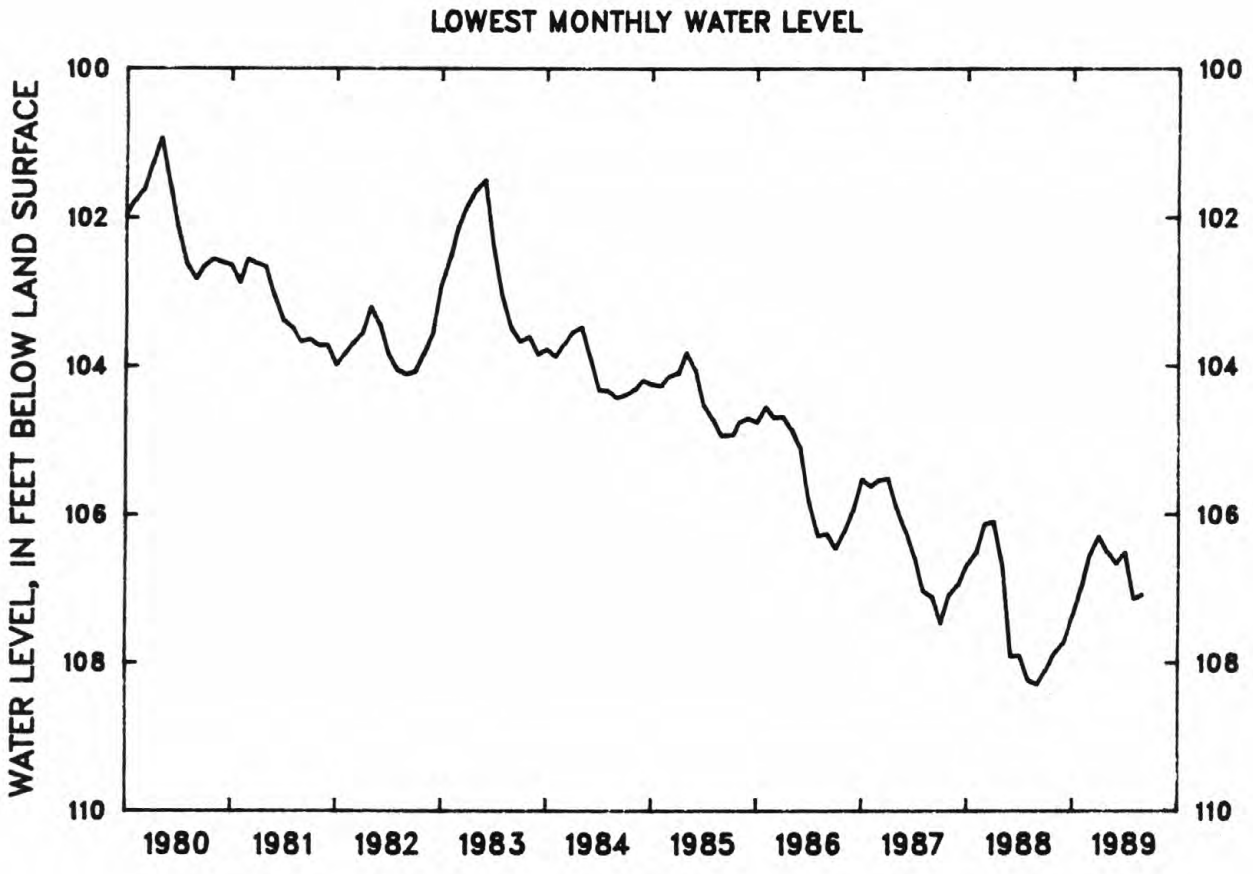
PERIOD OF RECORD.--October 1940 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 74.08 ft below land-surface datum, December 27, 1940; lowest 108.29 ft below land-surface datum, September 2, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	108.06	107.55	107.70	107.22	106.90	106.22	106.25	106.10	106.36	106.37	106.41	106.99
10	107.84	107.82	107.53	107.29	106.82	106.48	106.30	106.33	106.66	106.28	106.72	106.97
15	107.98	107.64	107.62	106.99	106.69	106.22	105.99	106.35	106.47	106.30	106.75	106.97
20	107.87	107.69	107.36	107.01	106.37	106.21	106.00	106.42	106.43	106.19	106.98	106.96
25	107.79	107.52	107.50	106.77	106.57	106.17	106.07	106.25	106.50	106.46	107.09	107.02
EOM	107.82	107.62	107.14	106.64	106.35	106.24	106.24	106.40	106.58	106.46	107.02	106.88

WTR YR 1989 HIGHEST 105.84 MAR 14, 1989 LOWEST 108.10 OCT 13, 1989



CRITTENDEN COUNTY, AR

350958090173800. Local number, Ar:C-1.

LOCATION.--Lat 35°09'58", long 90°17'38", Hydrologic Unit 08020203, 450 ft west of Highway 147, 1.3 mi north of Lehi.
Owner: Memphis Light, Gas, and Water Division, City of Memphis, and U.S. Geological Survey.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 622 ft, cased to 602 ft, screened 602 to 622 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 209 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Inside top of shelter base plate, 3.30 ft above land-surface datum.

REMARKS.--Well affected by pumpage in the Memphis, Tenn. area. Records good.

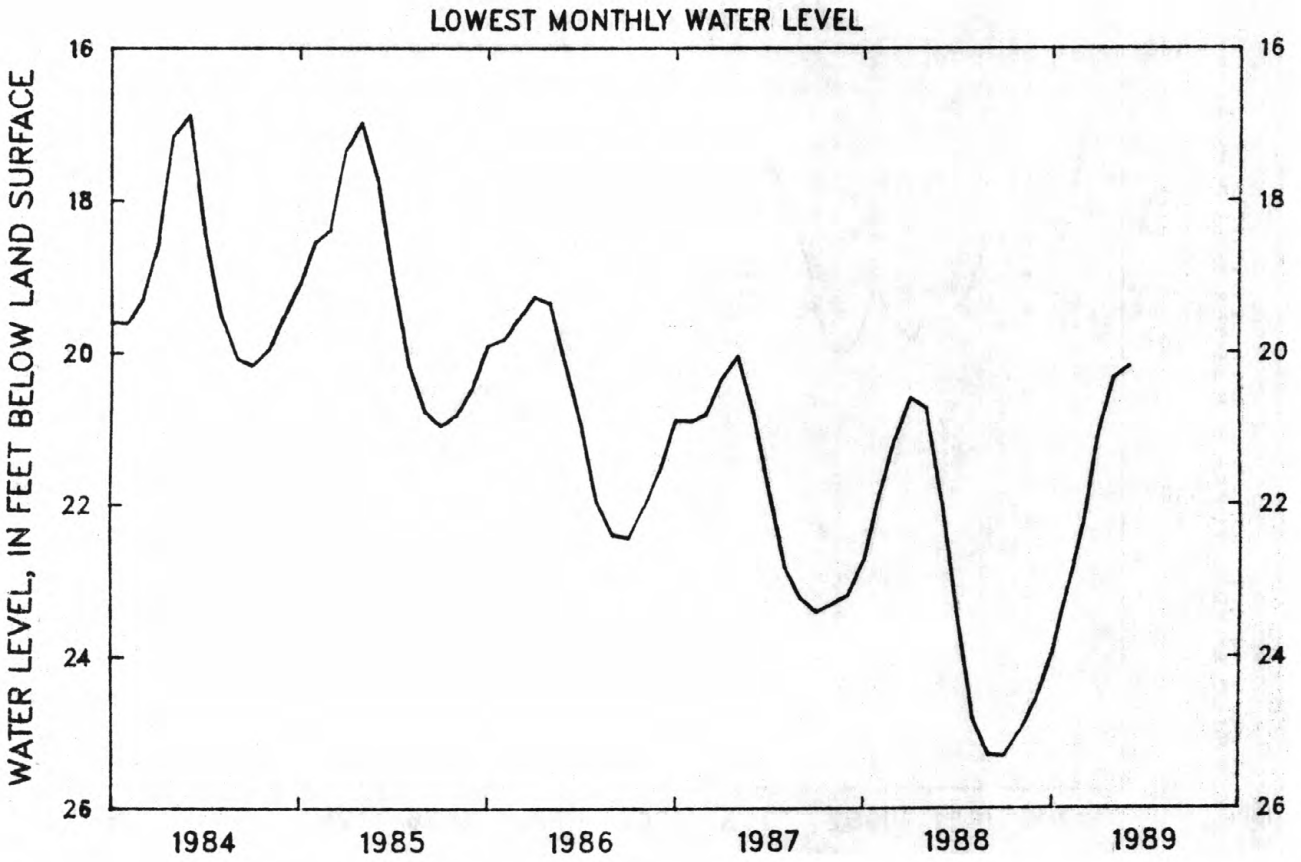
PERIOD OF RECORD.--May 1983 to current year. Analog record May 1983 to June 1989, periodic tape measurements thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.29 ft below land-surface datum, June 11, 12, 13, 1983; lowest, 25.31 ft below land-surface datum, October 5, 6, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	25.31	24.84	24.49	23.88	22.96	21.98	20.97	20.23	19.98	---	---	---
10	25.17	24.99	24.27	23.80	22.95	21.90	20.93	20.28	20.08	---	---	---
15	25.19	24.85	24.24	23.54	22.74	21.61	20.63	20.24	20.03	---	---	---
20	25.09	24.75	24.08	23.51	22.49	21.37	20.53	20.24	20.02	---	---	---
25	25.00	24.58	24.07	23.26	22.50	21.24	20.33	20.05	20.07	---	---	---
EOM	24.99	24.53	23.89	22.94	22.27	21.04	20.29	20.17	---	---	---	---

WTR YR 1989 HIGHEST 19.90 JUNE 8, 1989 LOWEST 25.31 OCT 5, 6, 1988



CRITTENDEN COUNTY, AR--Continued

350344090130000. Local number, Ar:H-2.

LOCATION.--Lat 35°03'44", long 90°13'00", Hydrologic Unit 08020203, 0.7 mi east of Millers.
Owner: Memphis Light, Gas, and Water Division, City of Memphis, and U.S. Geological Survey.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 502 ft, cased to 482 ft, screened 482 to 502 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 211 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Inside top of shelter base plate, 3.30 ft above land-surface datum.

REMARKS.--Well affected by pumpage in the Memphis, Tenn. area. Records good.

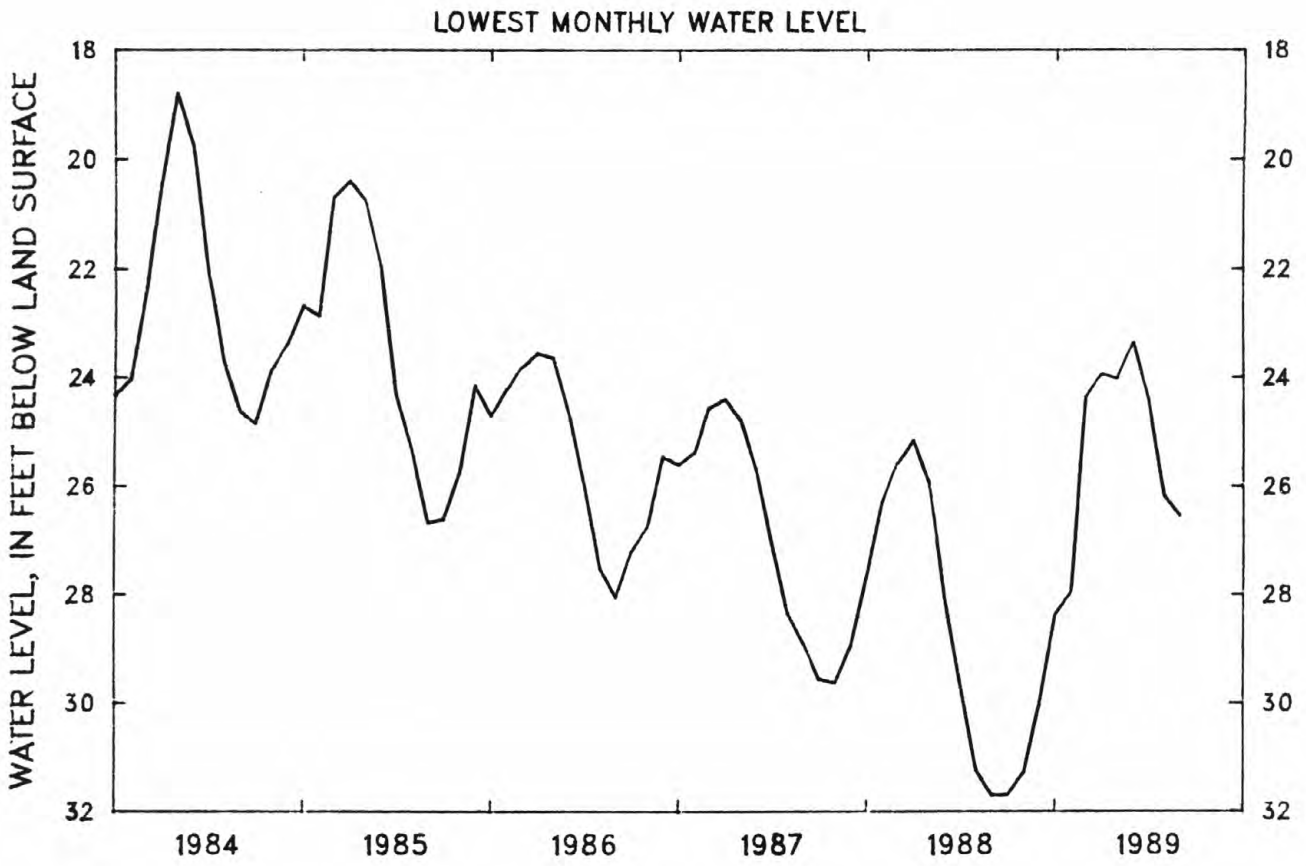
PERIOD OF RECORD.--May 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.28 ft below land-surface datum, May 30, 31, 1983; lowest, 31.71 ft below land-surface datum, September 21, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	31.59	31.20	29.47	27.82	27.77	23.92	23.31	23.58	23.02	22.71	24.62	26.20
10	31.62	31.18	29.87	28.36	26.84	24.20	22.54	23.19	23.37	22.91	25.16	26.35
15	31.66	30.83	30.06	27.53	26.69	24.00	22.03	23.14	23.03	23.37	25.49	26.34
20	31.55	30.29	30.06	26.76	25.19	23.86	22.48	23.02	22.69	23.65	26.00	25.91
25	31.41	29.15	29.97	26.77	24.75	24.33	23.64	23.00	22.48	24.25	26.20	26.07
EOM	31.31	28.78	28.14	27.91	24.15	23.66	23.95	23.30	22.59	24.40	26.00	26.06

WTR YR 1989 HIGHEST 21.99 APR 16, 1989 LOWEST 31.70 OCT 13, 1988



CRITTENDEN COUNTY, AR--Continued

351349090062800. Local number, Ar:O-1.

LOCATION.--Lat 35°13'49", long 90°06'28", Hydrologic Unit 08020203, 0.3 mi east of blacktop road, 0.8 mi north of St. Claire.
Owner: Memphis Light, Gas, and Water Division, City of Memphis, and U.S. Geological Survey.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 497 ft, cased to 477 ft, screened 477 to 497 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 217 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Inside top of shelter base plate, 3.60 ft above land-surface datum.

REMARKS.--Well affected by pumpage in the Memphis, Tenn. area. Records good.

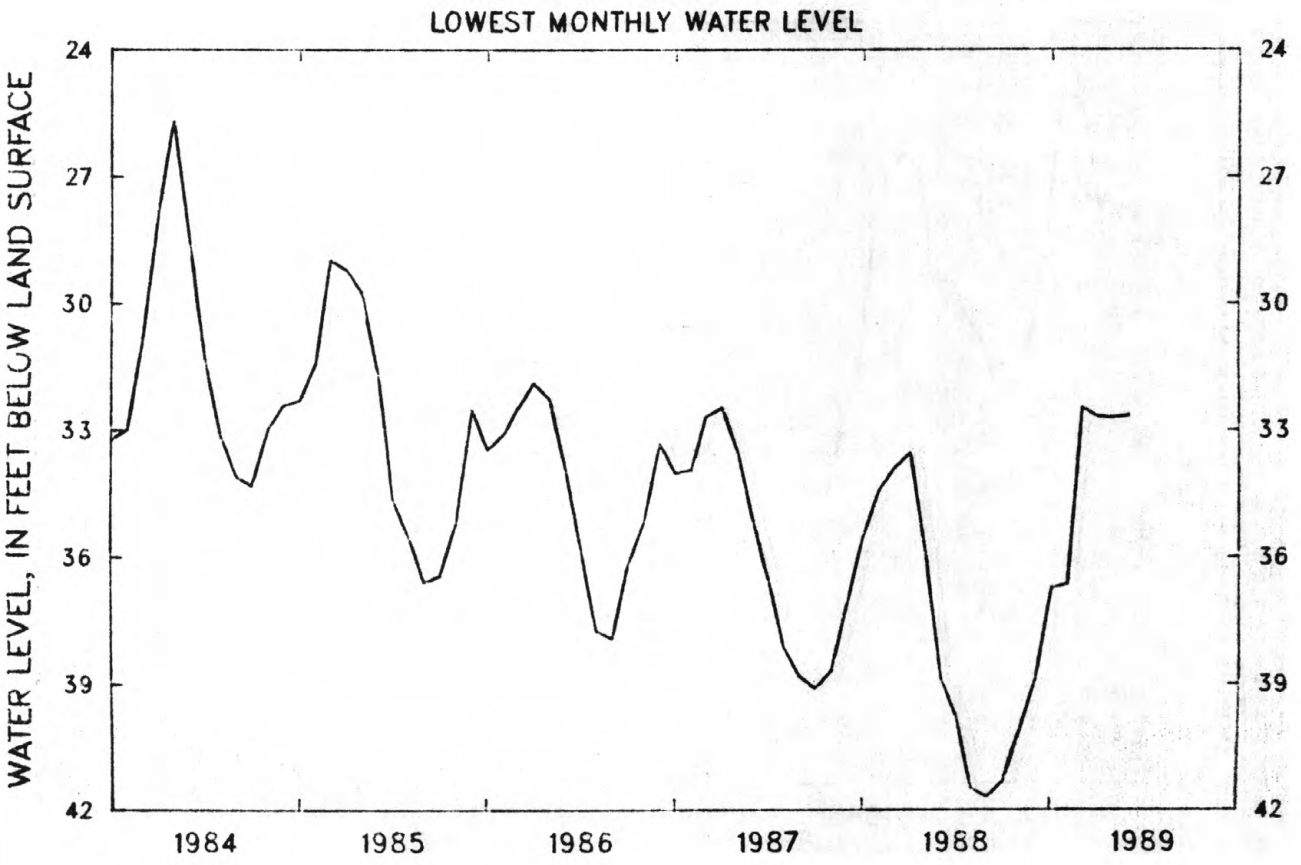
PERIOD OF RECORD.--May 1983 to current year. Analog record May 1983 to June 1989, periodic tape measurements thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.42 ft below land surface datum, May 29, 30, 31, 1983; lowest, 41.68 ft below land-surface datum, Sept. 06, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	41.21	39.96	37.89	35.91	36.25	31.21	30.84	32.05	32.21	---	---	---
10	41.20	39.75	38.46	36.39	35.18	31.86	29.59	31.77	32.66	---	---	---
15	41.23	39.48	38.59	35.33	35.20	31.51	29.31	31.57	32.28	---	---	---
20	40.94	38.67	38.90	34.39	32.94	31.74	30.72	31.50	31.76	---	---	---
25	40.66	36.96	38.63	35.01	32.18	32.38	32.25	31.73	31.46	---	---	---
EOM	40.22	36.95	35.78	36.71	31.29	31.42	32.69	32.23	---	---	---	---

WTR YR 1989 HIGHEST 29.23 APR 15, 1989 LOWEST 41.33 OCT 7, 1988



BRADLEY COUNTY

350503084505000. Local number, Br:E-1.

LOCATION.--Lat 35°05'03", long 84°50'50", Hydrologic Unit 03150101, on Trewhitt Road, 0.5 mi north of Goodwill Road, Cleveland.
Owner: F. G. Trewhitt.

AQUIFER.--Shale of Conasauga Group of middle and late Cambrian age.

WELL CHARACTERISTICS.--Dug unused water-table well, diameter 36 in., depth 25 ft, casing information not available.

INSTRUMENTATION.--Periodic measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 850 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of concrete casing at land-surface datum.

PERIOD OF RECORD.--February 1950 to November 1955, April 1964 to September 1989 (discontinued). Analog record February 1950 to November 1955, April 1964 to February 1971, periodic tape measurements thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 7.38 ft below land-surface datum, Dec. 19, 1967; lowest recorded, 24.97 ft below land-surface datum, Dec. 7, 8, 1954; highest water level measured, 8.22 ft below land-surface datum, Apr. 5, 1977; lowest measured, 24.10 ft below land-surface datum, Dec. 13, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	23.20	DEC 13	24.10	MAR 1	13.03	JUNE 28	9.79

CANNON COUNTY

354823086104400. Local number, Cn:D-1.

LOCATION.--Lat 35°48'23", long 86°10'44", Hydrologic Unit 05130203, on county road on Cannon County and Rutherford County lines, 1.5 mi south of Readyville.
Owner: Ray Barker.

AQUIFER.--Lebanon Limestone of middle Ordovician age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter, 6 in., depth 30 ft, cased with steel to unknown depth, open end.

INSTRUMENTATION.--Periodic measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 715 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing 1.00 ft above land-surface datum.

PERIOD OF RECORD.--April 1967 to September 1989 (discontinued). Analog record April 1967 to February 1971, periodic tape measurements thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.91 ft below land-surface datum, Mar. 11, 1968; lowest recorded, 19.38 ft below land-surface datum, Dec. 9, 10, 1968; highest water level measured, 12.14 ft below land-surface datum, Jan. 8, 1974; lowest measured, 19.59 ft below land-surface datum, Oct. 8, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	19.18	DEC 8	18.47	MAR 2	16.20	JUNE 26	16.20

DYER COUNTY

360200089280100. Local number, Dy:H-1.

LOCATION.--Lat 36°02'00", long 89°28'01", Hydrologic Unit 08010206, 4.0 mi west of Dyersburg on State Highway 20 at Finley.
Owner: U.S. Geological Survey.

AQUIFER.--Fluvial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 4 in., depth 70 ft, cased to 60 ft, screened 60 to 70 ft.

INSTRUMENTATION.--Periodic measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 278 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--April 1955 to September 1989 (discontined). Analog record April 1955 to February 1971, periodic tape measurements or monthly maximum-minimum recorder thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 3.69 ft below land-surface datum, Feb. 28, 1962; lowest recorded, 18.93 ft below land-surface datum, Jan. 18-21, 1957; highest water level measured, 4.18 ft below land-surface datum, Apr. 13, 1979; lowest measured, 17.24 ft below land-surface datum, Jan. 27, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 9	15.25	DEC 1	10.90	JAN 4	9.24	FEB 2	6.10	FEB 8	6.19	MAR 1	4.31
MAR 28	5.71	MAY 10	8.95	JUN 27	9.52	AUG 1	11.70	SEP 6	14.31		

360147089230700. Local number, Dy:H-7.

LOCATION.--Lat 36°01'47", long 89°23'07", Hydrologic Unit 08010204, 500 ft east of U.S. Highway 51 and on south side of Illinois Central railroad, at Dyersburg.
Owner: City of Dyersburg.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 24 to 10 in., depth 656 ft, cased to 605 ft, screened 605 to 655 ft.

INSTRUMENTATION.--Periodic measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 270.07 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 3.10 ft above land-surface datum.

PERIOD OF RECORD.--February 1954 to September 1989 (discontinued). Analog record February 1954 to February 1971, periodic measurement or monthly maximum-minimum recorder thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 2.69 ft above land-surface datum, Mar. 1, 2, Apr. 19, 1962; lowest recorded, 17.1 ft below land-surface datum, Aug. 10, 1956; highest water level measured, 0.20 ft above land-surface datum, Mar. 20, 1975, lowest measured, 11.31 ft below land-surface datum, Oct. 2, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 9	8.92	DEC 1	7.06	JAN 4	6.28	FEB 2	6.16	FEB 8	7.05	MAR 1	6.60
MAR 28	6.70	MAY 10	5.68	JUN 27	7.09	AUG 1	6.42	SEP 6	8.82		

FAYETTE COUNTY

352226089330101. Local number, Fa:R-1.

LOCATION.--Lat 35°22'26", long 89°33'01", Hydrologic Unit 08010209, 80 ft south of State Highway 59, 1.2 mi southeast of U.S. Highway 70, near Braden.
Owner: Tennessee Division of Geology and U.S. Geological Survey.

AQUIFER.--Fort Pillow Sand of Wilcox Group of early Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 to 4 in., depth 1,025 ft, cased to 1,008 ft, screened 1,008 to 1,025 ft.

INSTRUMENTATION.--Periodic measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 317.50 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.70 ft above land-surface datum.

PERIOD OF RECORD.--August 1949 to current year. Analog record August 1949 to December 1970, periodic tape measurements or monthly maximum-minimum recorder thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 64.89 ft below land-surface datum, Aug. 31, 1949; lowest recorded, 76.26 ft below land-surface datum, Dec. 5, 1970; highest water level measured, 73.61 ft below land-surface datum, Apr. 28, 1976; lowest measured, 83.62 ft below land-surface datum, Nov. 30, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	82.83	OCT 26	83.00	NOV 30	83.62	DEC 29	83.07	FEB 1	82.71	MAR 2	82.58
MAR 29	82.22	APR 28	82.20	MAY 31	82.30	JUN 27	82.15	JUL 25	82.21	AUG 29	82.34
SEP 28	82.54										

352226089330102. Local number, Fa:R-2.

LOCATION.--Lat 35°22'26", long 89°33'01", Hydrologic Unit 08010209, 80 ft south of State Highway 59, 1.1 mi southeast of U.S. Highway 70, near Braden.
Owner: Tennessee Division of Geology and U.S. Geological Survey.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 to 4 in., depth 365 ft, cased to 345 ft, screened 345 to 365 ft.

INSTRUMENTATION.--Periodic measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 317.20 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 4.20 ft above land-surface datum.

PERIOD OF RECORD.--October 1949 to current year. Analog record October 1949 to December 1970, periodic tape measurements or monthly maximum-minimum recorder thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 37.25 ft below land-surface datum, Mar. 10, 1952; lowest recorded, 42.12 ft below land-surface datum, Nov. 30, 1967; highest water level measured, 39.33 ft below land-surface datum, Mar. 29, 1989; lowest measured, 41.75 ft below land-surface datum, October 4, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	41.75	OCT 26	41.40	NOV 30	41.60	DEC 29	41.50	FEB 1	40.70	MAR 2	40.40
MAR 29	39.33	APR 28	40.36	MAY 31	40.55	JUN 27	40.41	JUL 25	40.41	AUG 29	40.51
SEP 28	40.71										

SHELBY COUNTY

352112089571200. Local number, Sh:U-1.

LOCATION.--Lat 35°21'12", long 89°57'12", Hydrologic Unit 08010209, 3 mi west of Millington at Shelby Road and Shake Rag Road, Sloanville.
Owner: Mrs. T. S. Welch

AQUIFER.--Fort Pillow Sand of Wilcox Group of early Eocene age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 24 to 16 in., depth 1,558 ft, cased to 1,497 ft, screened 1,497 to 1,558 ft.

INSTRUMENTATION.--Periodic measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 264.20 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.60 ft above land-surface datum.

REMARKS.--Water levels affected by pumpage at Millington and Memphis.

PERIOD OF RECORD.--August 1946 to current year. Analog record March 1948 to January 1971, periodic tape measurements or monthly maximum-minimum recorder thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 35.5 ft below land-surface datum, Apr. 11, 1948; lowest recorded, 60.42 ft below land-surface datum, Dec. 20, 1970; highest water level measured, 33.20 ft, Apr. 21, 1947; lowest measured, 77.63 ft below land-surface datum, May 1, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	70.48	OCT 24	72.79	NOV 30	71.49	DEC 29	73.88	JAN 31	70.55	MAR 2	70.17
MAR 3	70.06	MAR 30	69.98	MAY 1	77.63	MAY 31	70.67	JUN 27	70.75	JUL 25	72.16
AUG 31	71.82	SEP 29	70.76								

352112089571300. Local number, Sh:U-2.

LOCATION.--Lat 35°21'12", long 89°57'13", Hydrologic Unit 08010209, 3 mi west of Millington at Shelby Road and Shake Rag Road, Sloanville.
Owner: Mrs. F. E. Byrd

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 18 to 12 in., depth 440 ft, cased to 360 ft, screened 360 to 440 ft.

INSTRUMENTATION.--Periodic measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 268.76 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.60 ft above land-surface datum.

REMARKS.--Water levels affected by pumpage for Memphis municipal water supply.

PERIOD OF RECORD.--June 1953 to current year. Analog record June 1953 to December 1970, periodic tape measurements or monthly maximum-minimum recorder thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 39.59 ft below land-surface datum, June 29, 1953; lowest, 63.74 ft below land-surface datum, Sept. 1, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	63.41	OCT 24	62.94	NOV 30	62.28	DEC 29	62.42	JAN 31	61.22	MAR 2	60.09
MAR 30	58.48	MAY 1	59.04	MAY 31	59.30	JUN 27	59.17	JUL 25	59.72	AUG 31	61.41
SEP 29	61.49										

WILLIAMSON COUNTY

355505086541100. Local number, Wm:M-1.

LOCATION.--Lat 35°55'05", long 86°54'11", Hydrologic Unit 05130204, on Horton Lane, 0.8 mi west of Carter's Creek Road, near Franklin.
Owner: Tennessee Division of Geology and U.S. Geological Survey.

AQUIFER.--Knox Dolomite of late Cambrian and early Ordovician age.

WELL CHARACTERISTICS.--Drilled artesian test well, diameter 6 in., depth 1,160 ft, cased to 473 ft, open end.

INSTRUMENTATION.--Periodic measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 712 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing 2.80 ft above land-surface datum.

REMARKS.--Period of record low resulted from water-level measurements on the well during a 72 hour aquifer test.

PERIOD OF RECORD.--January 1950 to current year. Water-level recorder December 1951 to February 1971, periodic tape measurements thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 84.21 ft below land-surface datum, Mar. 10, 1952; lowest recorded 87.11 ft below land-surface datum, Sept. 10, 1970; highest water level measured, 85.43 ft below land-surface datum, Feb. 19, 1974; lowest measured, 114.81 ft below land-surface datum, Jan. 31, 1950.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 7	91.38	DEC 12	91.73	JAN 24	91.62	FEB 28	91.21	APR 3	91.07	MAY 15	91.08

CRITTENDEN COUNTY, AR

350958090173800. Local number, Ar:C-1.

LOCATION.--Lat 35°09'58", long 90°17'38", Hydrologic Unit 08020203, 450 ft west of Highway 147, 1.3 mi north of Lehi.
Owner: Memphis Light, Gas, and Water Division, City of Memphis, and U.S. Geological Survey.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 622 ft, cased to 602 ft, screened 602 to 622 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 209 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Inside top of shelter base plate, 3.30 ft above land-surface datum.

REMARKS.--Well affected by pumpage in the Memphis, Tenn. area. Records good.

PERIOD OF RECORD.--May 1983 to current year. Analog record May 1983 to June 1989, periodic tape measurements thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.29 ft below land-surface datum, June 11, 12, 13, 1983; lowest, 25.31 ft below land-surface datum, October 5, 6, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JULY 26	20.64	AUG 30	22.19	SEPT 26	22.40

CRITTENDEN COUNTY, AR--Continued

351349090062800. Local number, Ar:O-1.

LOCATION.--Lat 35°13'49", long 90°06'28", Hydrologic Unit 08020203, 0.3 mi east of blacktop road, 0.8 mi north of St. Claire.
Owner: Memphis Light, Gas, and Water Division, City of Memphis, and U.S. Geological Survey.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 497 ft, cased to 477 ft, screened 477 to 497 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 217 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Inside top of shelter base plate, 3.60 ft above land-surface datum.

REMARKS.--Well affected by pumpage in the Memphis, Tenn. area. Records good.

PERIOD OF RECORD.--May 1983 to current year. Analog record May 1983 to June 1989, periodic tape measurements thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.42 ft below land surface datum, May 29, 30, 31, 1983; lowest, 41.68 ft below land-surface datum, Sept. 06, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 26	33.95	AUG 30	36.44	SEPT 26	36.32

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

SHELBY COUNTY

350540090061700 - SH: J-84

DATE	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)
SEP 08...	172	6.43	18.0	81	19	8.1	8.6	19	0.4	0.90

DATE	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
SEP 08...	86	2.0	2.8	0.20	10	103	108	<1	66

DATE	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)
SEP 09...	1	<1	<3	<10	2500	<1	11	<0.1	6

350114090071701 - SH:J-146 MLGW-DAVIS

DATE	DEPTH OF WELL, TOTAL (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO
AUG 22...	446.00	158	6.40	18.0	59	13	6.5	8.3	23	0.5

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
AUG 22...	0.90	84	3.0	3.2	0.10	15	93	94	<1	50

DATE	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)
AUG 22...	2	<1	<3	<10	300	6	4	<0.1	8

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

SHELBY COUNTY--Continued

350446090013500 - SH:J-154 MLGW-ALLEN

DATE	DEPTH OF WELL, TOTAL (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO
AUG 21...	370.00	145	6.34	18.0	52	12	5.4	8.6	26	0.5

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
AUG 21...	1.1	74	2.0	3.4	0.10	13	93	86	<1	76

DATE	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)
AUG 21...	3	<1	<3	<10	730	<1	18	<0.1	9

350642089555000 - SH:K-142 MLGW 99 SHEAHAN WELL FIELD

DATE	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO
AUG 22...	278	92	6.16	18.0	29	6.7	3.0	8.8	39	0.7

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
AUG 22...	0.60	40	4.0	4.2	0.10	15	66	65	<1	25

DATE	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)
AUG 22...	<1	<1	<3	<10	180	1	5	<0.1	4

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

SHELBY COUNTY--Continued

350218089511701 - SH:L-36

DATE	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)
AUG 24...	85	6.45	18.0	35	8.9	3.2	3.6	18	0.3	0.50

DATE	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
AUG 24...	39	3.0	1.4	0.10	11	57	55	<1	22

DATE	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)
AUG 24...	<1	<1	<3	<10	190	<1	4	<0.1	9

350917090012000 - SH:Q-231 MLGW-MALLORY

DATE	DEPTH OF WELL, TOTAL (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO
AUG 24...	518.00	143	6.32	18.0	54	12	5.8	8.4	25	0.5

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
AUG 24...	0.80	67	3.0	2.4	0.10	15	90	88	<1	64

DATE	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)
AUG 24...	2	2	<3	<10	830	<1	12	<0.1	20

351440089572301 - SH:P-134 MORTON WELL FIELD

DATE	DEPTH OF WELL, TOTAL (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT
AUG 23...	460.00	301	126	6.48	18.0	47	11	4.7	5.4	20

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	ARSENIC DIS-SOLVED (UG/L AS AS)
AUG 23...	0.3	1.2	50	3.0	2.0	0.10	10	71	71	<1

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	ZINC, DIS-SOLVED (UG/L AS ZN)
AUG 23...	83	1	<1	<3	<10	1400	<1	24	<0.1	10

351104089513001 - SH:Q-029 MCCORD WELL FIELD MLGW 201

DATE	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
AUG 25...	152	6.07	17.5	40	9.2	4.1	13	41	0.9	1.0

DATE	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
AUG 25...	54	12	9.8	0.10	12	100	89	<1	82

DATE	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	ZINC, DIS-SOLVED (UG/L AS ZN)
AUG 25...	<1	<1	<3	<10	1600	<1	23	<0.1	<3

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

SHELBY COUNTY--Continued

350835089434100 - SH:R-29

DATE	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO
AUG 25...	315	50	5.99	18.5	16	4.0	1.4	4.0	35	0.4

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
AUG 25...	0.40	20	<1.0	1.8	<0.10	10	39	<1	21

DATE	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	ZINC, DIS-SOLVED (UG/L AS ZN)
AUG 25...	<1	<1	<3	<10	83	1	3	<0.1	21

351703089575301 - SH:U- 20 GRACE CHEMICAL

DATE	DEPTH OF WELL, TOTAL (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO
AUG 23...	551.00	303	6.61	18.5	130	29	15	9.5	13	0.4

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
AUG 23...	2.2	168	3.0	2.1	0.10	9.7	144	166	<1	330

DATE	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	ZINC, DIS-SOLVED (UG/L AS ZN)
AUG 23...	<1	<1	<3	<10	5400	<1	98	0.1	9

00441400 HATCHIE NATIONAL WILDLIFE REFUGE RAIN GAGE AT HILLVILLE, TN (NATIONAL TRENDS NETWORK)

LOCATION.--Lat 35°28'08", long 89°10'14", Haywood County, Hydrologic Unit 08010208, 0.9 mi north of Hillville, 12 mi southeast of Brownsville.

PERIOD OF RECORD.--October 1984 to current year.

INSTRUMENTATION.--An automatic wet-dry precipitation collector is used to collect 7-day accumulations. The collector is equipped with a precipitation sensor which activates a motor to operate the sample bucket cover. The sample bucket remains uncovered for the duration of each precipitation event and covered during dry periods. Dryfall samples are not collected. A standard 8.0-inch recording rain gage is used to obtain on-site precipitation records.

REMARKS.--These data are part of the data for this site verified by the National Atmospheric Deposition Program/ National Trends Network (NADP/NTN) Coordinator. Additional data are available from the NADP/NTN Coordinator, Natural Resource Ecology Laboratory, Fort Collins, Co. 80523. Data for all sites in the network are published quarterly by the NADP/NTN Coordinator's Office. Laboratory analyses were performed by the Central Analytical Laboratory of the Illinois State Water Survey. Data for the 1989 water year will be published in "Water Resources Data for Tennessee, Water Year 1990."

PRECIPITATION QUALITY, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TOTAL PRECIP-ITATION FOR DEFINED PERIOD (IN)	SPEC. CONDUC-TANCE FIELD ATM DEP WET TOT (US/CM)	PH FIELD ATM DEP WET T (UNITS)
OCT			
06-13	0.0	--	--
13-20	0.59	26.6	4.34
20-27	2.38	10.9	4.63
OCT 27-			
NOV 10	2.88	14.8	4.46
10-17	1.19	--	--
10-17	1.19	--	--
17-24	0.94	--	--
NOV 24-			
DEC 08	3.72	13.6	4.63
08-15	0.90	--	--
15-29	>12	--	--
DEC 29 1987-			
JAN 05 1988	0.54	--	--
05-12	0.54	6.8	4.82
12-26	4.23	--	--
JAN 26-			
FEB 16	--	12.7	4.70
16-23	0.79	21.2	4.43
FEB 23-			
MAR 01	0.0	--	--
01-08	0.64	15.0	4.59
08-15	1.23	12.0	4.93
15-22	0.10	72.9	3.90
22-29	--	7.6	4.95
MAR 29-			
APR 05	1.78	14.9	4.66
05-12	0.67	44.7	4.12
12-19	1.20	14.5	4.63
19-26	0.0	--	--
APR 26-			
MAY 03	0.04	--	--
03-10	0.49	30.1	4.44
10-17	0.0		
17-24	1.76	37.7	4.17
24-31	0.14	56.4	3.94
MAY 31-			
JUN 07	--	--	--
07-14	0.01	--	--
14-21	--	--	--
21-28	--	--	--
JUN 28-			
JUL 05	0.40	58.4	3.97
05-12	0.38	--	--
12-19	4.51	6.9	4.96
19-26	3.54	--	--
JUL 26-			
AUG 02	0.43	22.9	4.39
02-09	0.0	--	--
09-16	0.10	38.9	4.16
16-23	0.54	17.1	5.11
23-30	0.01	--	--
AUG 30-			
SEP 06	1.31	6.8	4.91
06-13	0.0	--	--
13-20	1.93	6.6	4.97
20-27	4.10	9.8	4.77
SEP 27-			
OCT 04	1.51	7.4	4.88

00441400 HATCHIE NATIONAL WILDLIFE REFUGE RAIN GAGE AT HILLVILLE, TN--Continued
(NATIONAL TRENDS NETWORK)

PRECIPITATION QUALITY, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	CALCIUM ATM DEP WET DIS (MG/L)	MAG-NESIUM ATM DEP WET DIS (MG/L)	SODIUM ATM DEP WET DIS (MG/L)	POTAS-SIUM ATM DEP WET DIS (MG/L)	SULFATE ATM DEP WET DIS AS SO4 (MG/L)	CHLO-RIDE ATM DEP WET DIS (MG/L)	NI-TROGEN NITRATE ATM DEP WET DIS AS NO3 (MG/L)	NI-TROGEN AMMON. ATM DEP WET DIS AS NH4 (MG/L)	PHOS-PHOROUS ORTHO ATM DEP WET DIS AS PO4 (MG/L)
OCT 13-20	0.080	0.014	0.098	0.032	2.84	0.15	1.82	0.540	<0.020
OCT 20-27	0.030	0.014	0.107	0.009	1.00	0.15	0.71	0.200	<0.020
OCT 27-NOV 10	0.030	0.029	0.219	0.015	1.34	0.38	0.64	0.110	<0.020
NOV 17-24	0.090	0.054	0.450	0.007	1.67	0.74	1.02	0.110	0.050
NOV 24-DEC 08	0.030	0.021	0.156	0.012	1.16	0.27	0.58	0.090	<0.020
DEC 08-15	0.150	0.041	0.276	0.029	2.27	0.44	0.91	0.280	<0.020
DEC 15-29	0.020	0.009	0.082	0.004	0.71	0.11	<0.03	<0.020	<0.020
DEC 29 1987-JAN 05 1988	0.050	0.017	0.188	0.003	2.54	0.26	1.41	0.220	0.030
JAN 05-12	0.120	0.011	0.028	<0.003	0.30	0.09	0.81	<0.020	<0.020
JAN 12-26	0.090	0.015	0.108	0.016	0.86	0.18	0.40	0.040	<0.020
JAN 26-FEB 16	0.060	0.020	0.161	0.003	1.11	0.28	0.78	0.100	<0.020
FEB 16-23	0.220	0.028	0.125	0.005	2.07	0.19	1.20	0.120	0.060
MAR 01-08	0.050	0.007	0.052	0.010	1.42	0.07	0.75	0.150	<0.020
MAR 08-15	0.260	0.031	0.167	0.020	1.54	0.26	0.88	0.140	<0.020
MAR 15-22	1.55	0.115	0.118	0.038	5.45	0.39	8.16	0.410	0.140
MAR 22-29	0.080	0.013	0.073	<0.003	0.68	0.11	0.27	<0.020	<0.020
MAR 29-APR 05	0.070	0.023	0.167	0.014	1.29	0.26	0.78	0.040	<0.020
APR 05-12	0.530	0.060	0.106	0.069	4.22	0.20	3.37	0.590	0.020
APR 12-19	0.140	0.015	0.060	0.012	1.18	0.10	0.98	0.040	<0.020
APR 19-26	0.010	0.003	0.040	<0.003	0.08	<0.03	<0.03	<0.020	0.080
APR 26-MAY 03	1.04	0.112	0.189	0.115	10.5	0.65	6.96	1.44	0.050
MAY 03-10	0.630	0.077	0.258	0.082	3.63	0.38	2.30	0.360	<0.020

00441400 HATCHIE NATIONAL WILDLIFE REFUGE RAIN GAGE AT HILLVILLE, TN--Continued
(NATIONAL TRENDS NETWORK)

PRECIPITATION QUALITY, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	CALCIUM ATM DEP WET DIS (MG/L)	MAG-NESIUM ATM DEP WET DIS (MG/L)	SODIUM ATM DEP WET DIS (MG/L)	POTAS-SIUM ATM DEP WET DIS (MG/L)	SULFATE ATM DEP WET DIS AS SO4 (MG/L)	CHLO-RIDE ATM DEP WET DIS (MG/L)	NI-TROGEN NITRATE ATM DEP WET DIS AS NO3 (MG/L)	NI-TROGEN AMMON. ATM DEP WET DIS AS NH4 (MG/L)	PHOS-PHOROUS ORTHO ATM DEP WET DIS AS PO4 (MG/L)
MAY 17-24	0.140	0.017	0.039	0.038	3.60	0.14	1.96	0.540	<0.020
MAY 24-31	0.100	0.019	0.125	0.024	5.25	0.13	2.27	0.250	0.130
MAY 31-JUN 07	0.020	0.004	0.027	0.017	0.06	<0.03	<0.03	<0.020	0.050
JUN 07-14	0.970	0.118	0.403	0.049	7.79	0.63	<0.21	<0.140	<0.140
JUN 14-21	0.030	<0.003	0.057	0.008	0.09	<0.03	<0.03	<0.020	0.140
JUN 21-28	0.030	0.004	0.051	0.020	0.05	0.04	<0.03	<0.020	0.060
JUN 28-JUL 05	0.420	0.040	0.091	0.003	5.66	0.23	3.79	<0.020	<0.020
JUL 05-12	0.070	0.010	0.072	<0.003	0.50	0.07	0.79	<0.020	0.040
JUL 12-19	0.050	0.016	0.109	0.111	0.58	0.15	<0.03	<0.020	0.030
JUL 19-26	0.090	0.010	0.023	0.003	1.58	0.07	1.12	0.040	<0.020
JUL 26-AUG 02	0.190	0.020	0.271	<0.003	1.55	0.16	1.16	<0.020	<0.020
AUG 09-16	0.460	0.061	0.348	0.048	4.03	0.37	2.62	0.100	0.140
AUG 16-23	0.250	0.046	0.049	0.296	2.86	0.16	1.68	1.30	<0.020
AUG 23-30	0.320	<0.074	0.744	0.074	1.74	<0.74	<0.74	<0.500	1.49
AUG 30-SEP 06	0.030	0.004	0.046	0.027	0.49	0.05	<0.03	<0.020	<0.020
SEP 13-20	0.010	0.011	0.059	0.006	0.66	0.08	0.31	0.060	<0.020
SEP 20-27	0.040	0.009	0.055	0.009	0.89	0.11	0.72	0.100	<0.020
SEP 27-OCT 04	0.030	0.014	0.107	0.007	0.68	0.12	0.43	0.050	<0.020

DISCONTINUED STREAMFLOW STATIONS

The following continuous-record streamflow stations in Tennessee have been discontinued or converted to partial-record stations. Daily streamflow or stage records were collected and published for the period of record shown for each station.

[Agency designations: USGS, U.S. Geological Survey; TVA, Tennessee Valley Authority]

Station number	Station name	Drainage area (mi^2)	Agency	Period of record
03312250	Red Boiling Spring at Red Boiling Springs		USGS	1986
03403718	Crabapple Branch near La Follette	1.07	USGS	1981-84
03407804	Indian Fork above Braytown	4.32	USGS	1975-78
03407874	Green Branch near Hembree	1.38	USGS	1976-78
034078745	Smoky Creek above Hembree (361240084245800)	8.07	USGS	1982-83
03407875	Bills Branch near Hembree	0.67	USGS	1975-83
034078755	Shack Creek at Hembree (361341084253900)	5.08	USGS	1982-84
03407876	Smoky Creek at Hembree	17.2	USGS	1977-84
03407877	Bowling Branch above Smoky Junction	2.19	USGS	1976-81
03407881	Anderson Branch near Montgomery	0.69	USGS	1976-80
03407882	Lowe Branch near Montgomery	0.92	USGS	1975-80
03407908	New River at Cordell	198	USGS	10/75-77 5/77-12/87
03408000	New River near New River	314	USGS	1923-35
03408600	Long Branch near Grimsley	1.11	USGS	1976-81
03408810	Crooked Creek tributary near Allardt	0.25	USGS	1976-79
03408815	Crooked Creek near Allardt	3.62	USGS	1976-81
03409000	White Oak Creek at Sunbright	13.5	USGS	1932-33
03409400	White Oak Creek at Rugby	98.0	USGS	1980-82
03410000	Pine Creek tributary at Oneida	1.21	USGS	1932-33
03410210	South Fork Cumberland River at Leatherwood Ford	806	USGS	1983-87
03415000	West Fork Obey River near Alpine	115	USGS	1943-71, 1980-81
03415500	Obey River near Byrdstown	445	USGS	1919-43
03417000	Obey River below Dale Hollow Dam	936	USGS	1939-42, 1945-58
03418000	Roaring River near Hilham	78.7	USGS	1932-75
03418188	Roaring River near Gainesboro	276	USGS	1975
03418500	Caney Fork at Clifty	111	USGS	1931-49
03419000	Bee Creek at Herbert	101	USGS	1931-37
03419500	Calfkiller River at Sparta	157	USGS	1932-41
03420000	Calfkiller River below Sparta	175	USGS	1940-71
03420500	Barren Fork near Trousdale	126	USGS	1932-57
03421500	Collins River near Rowland	755	USGS	1916-24
03423000	Falling Water River near Cookeville	67.0	USGS	1932-56
03424500	Caney Fork below Center Hill Dam, near Lancaster	2,183	USGS	1923-58
03425500	Spring Creek near Lebanon	35.3	USGS	1955-61
03425646	Town Creek at Maple Street at Gallatin	4.74	USGS	1984
03426000	Drakes Creek above Hendersonville	19.2	USGS	1955-61
03426210	Cumberland River at Dam3, near Old Hickory	11,688	USGS	1931-42, 1947-53
03427000	Bradley Creek at Lascassas	37.0	USGS	1955-61
03428000	West Fork Stones River near Murfreesboro	128	USGS	1932-69
03428047	Fox Camp Spring at Mankinville		USGS	1978-80
03428070	West Fork Stones River at Manson Pike, at Murfreesboro	165	USGS	1973-81
03429000	Stones River near Smyrna	571	USGS	1925-67
03429500	Stewart Creek near Smyrna (Smyrna Airport)	69.7	USGS	1953-58
03430100	Stones River below J. Percy Priest Dam	892	USGS	1939-67
03430800	Collins Creek at Bell Road, near Antioch	3.61	USGS	1976-77
03431000	Mill Creek near Antioch	64.0	USGS	1954-61, 1964-75
03431300	Browns Creek at State Fairgrounds, at Nashville	11.8	USGS	1964-75
03431500	Cumberland River at Nashville	12,856	USGS	1893-54
03431600	Whites Creek at Tucker Road, near Bordeaux	51.6	USGS	1965-75
03432500	West Harpeth River near Leipers Fork	66.9	USGS	1955-61

DISCONTINUED STREAMFLOW STATIONS--Continued

Station number	Station name	Drainage area (mi^2)	Agency	Period of record
03435030	Red River near Portland	15.1	USGS	1967-75
03435500	Red River near Adams	706	USGS	1920-69
03436500	Cumberland River at Clarksville (lock C)	15,897	USGS	1925-44
03436700	Yellow Creek near Shiloh	124	USGS	1958-80
03437000	Cumberland River at Dover (gaging station)	16,437	USGS	1938-65
03461000	Pigeon River at Hartford	547	USGS	1925-48
03461200	Cosby Creek above Cosby	10.1	USGS	1967-87
03461500	Pigeon River at Newport	666	USGS	1900-29, 1945-46, 1948-82
			TVA	1982-83
03465000	North Indian Creek near Unicoi	15.9	USGS	1944-57
03466500	Nolichucky River below Nolichucky Dam	1,184	USGS	1902-09, 1919-26, 1946-73
03467000	Lick Creek at Mohawk	220	USGS	1946-71
03467500	Nolichucky River near Morristown	1,679	USGS	1921-57
03468050	Long Creek near White Pine	30.8	TVA	1964-81
03469000	French Broad River below Douglas Dam	4,543	USGS	1919-74
03469010	Millican Creek near Douglas Dam	4.22	TVA	1942-62
03469282	Roaring Fork Creek at HWY 441, at Gatlinburg	7.23	TVA	1977-82
03469390	Dudley Creek at Gatlinburg	8.84	TVA	1977-82
03469500	West Prong Little Pigeon River near Pigeon Forge	76.2	USGS	1946-49
			TVA	1967-69
03470000	Little Pigeon River at Sevierville	353	USGS	1921-82
03476500	South Fork Holston River below South Holston Dam	703	USGS	1951-74
03477000	South Fork Holston River at Bluff City	813	USGS	1900-53
03478500	Beaver Creek at Bristol	44.8	USGS	1932-34
03478620	Beaver Creek at Buffalo School, near Bluff City	108	TVA	1934-38
03479500	Watauga River at North Carolina-Tennessee State Line	152	USGS	1943-55
03480000	Watauga River at Stump Knob	171	USGS	1928-31, 1934-45
03482000	Roan Creek near Neva	102	USGS	1942-55
03482500	Roan Creek at Butler	166	USGS	1901-02, 1934-48
03483000	Watauga River at Butler	427	USGS	1900-02, 1921-48
03484000	Watauga River below Wilbur Dam	471	USGS	1903-09, 1948-82
03484110	Watauga River at Siam	480	TVA	1946
03484490	Doe River at Old Hopson School	59.3	TVA	1967-69
03484500	Doe River at Blevins	60.8	USGS	1912-15
03484900	Laurel Fork above Braemar	23.0	TVA	1948-51
03484910	Laurel Fork above Hampton	25.3	TVA	1948-52
03485500	Doe River at Elizabethton	137	USGS	1912-16, 1921-82
03486000	Watauga River at Elizabethton	692	USGS	1926-49, 1953-82
03486200	Buffalo Creek at Milligan College	28.1	TVA	1965-81
03486490	Brush Creek at Johnson City (Tennessee Street)	6.78	TVA	1969-73
03486495	Brush Creek at Johnson City (Elm Street)	9.58	TVA	1969-72
03486500	Brush Creek at Johnson City	10.3	USGS	1932-34
03486900	Fall Creek near Fort Patrick Henry Dam	13.1	TVA	1953-56
03487500	South Fork Holston River at Kingsport	1,935	USGS	1926-77
03487501	South Fork Holston River at Kingsport (auxiliary channel)	1.0	USGS	1953-77
03487640	South Fork Holston River near Ridgefields Bridge, at Kingsport	2,047	TVA	1968-69
03490500	Holston River at Surgoinsville	2,874		1941-88
03491500	Holston River near Rogersville	3,035	USGS	1901-42
03491800	Poor Valley Creek near Mooresburg (near Spruce Pine School)	32.3	USGS	1958-61
03491820	Poor Valley Creek near Mooresburg (TVA)	43.3	TVA	1959-60

DISCONTINUED STREAMFLOW STATIONS--Continued

Station number	Station name	Drainage area (mi^2)	Agency	Period of record
03492000	Holston River near Morristown	3,244	USGS	1937-42
03492500	Mossy Spring near Jefferson City		USGS	1950-59
03493000	Mossy Creek at Jefferson City	30.8	USGS	1932-34
03494000	Holston River near Jefferson City	3,429	USGS	1937-74
03494500	Mill Spring near Jefferson City		TVA	1941-48
			USGS	1951-59
03496000	First Creek at Mineral Springs Avenue, at Knoxville	15.7	USGS	1945-63
03496200	First Creek above Powers Avenue, at Knoxville	17.2	USGS	1964-70
03496500	First Creek at Fifth Avenue, at Knoxville	21.1	USGS	1932-34, 1945-59
03497000	Tennessee River at Knoxville (Gay Street Bridge)	8,934	USGS	1900-82
03497110	Fourth Creek at Knoxville	9.65	TVA	1942-43
03497500	Little River at Walland	175	USGS	1925-31
03498000	Little River near Walland	192	USGS	1931-52
03499000	Pistol Creek at Maryville	13.5	USGS	1932-33
03499100	Little River below Rockford Dam, at Rockford	346	TVA	1940-44
03499110	Little River near Rockford	352	TVA	1936-37
03499200	Ten Mile Creek near Ebenezer	13.2	TVA	1941-45
03499600	Muddy Creek near Fort Loudon Dam	10.7	TVA	1941-59
03518000	Little Tennessee River at Calderwood	1,862	USGS	1912-19, 1921-57
03518300	Little Tennessee River below Chilhowee Dam	1,987	USGS	1958-79
03518400	North Fork Citico Creek near Tellico Plains	7.04	TVA	1960-71
03518500	Tellico River at Tellico Plains	118	USGS	1925-82
03519500	Little Tennessee River at McGhee	2,443	USGS	1905-69
03519640	Baker Creek near Greenback	16.0	USGS	1966-75
03520000	Tennessee River at Loudon	12,220	USGS	1923-55
03520045	Sweetwater Creek below Sweetwater	26.4	TVA	1970-81
03520050	Sweetwater Creek near Sweetwater	28.2	TVA	1964-70
03528100	Big Sycamore Creek near Sneedville	5.49	TVA	1935-45
03528300	Big Barren Creek near New Tazewell	22.5	TVA	1935-45
03528400	White Creek near Sharps Chapel	2.68	TVA	1935-72
03532000	Powell River near Arthur	685	USGS	1920-82
03532100	Davis Creek near Speedwell	31.2	TVA	1936-37
03532220	Big Creek near La Follette	26.2	TVA	1936-38
03533000	Clinch River below Norris Dam	2,913	USGS	1904-74
03533100	Clear Creek near Norris	2.83	TVA	1934-38
03534000	Coal Creek at Lake City	24.5	USGS	1932-34
03534500	Buffalo Creek at Norris	9.92	USGS	1947-51
03535000	Bullrun Creek near Halls Crossroads	68.5	USGS	1957-86
03536500	Whiteoak Creek at ORNL, near Oak Ridge	2.08	USGS	1950-55
03537000	Whiteoak Creek below ORNL, near Oak Ridge	3.62	USGS	1950-53, 1955-64
03537500	Melton Branch near Oak Ridge	1.48	USGS	1955-64
03538000	Whiteoak Creek at Whiteoak Dam, near Oak Ridge	6.01	USGS	1953-55, 1960-64
03538150	Clinch River near Oak Ridge	3,385	USGS	1937-64, 1968
03538275	Bear Creek near Oak Ridge	7.15	USGS	1960-64
03538500	Emory River near Wartburg	83.2	USGS	1934-57, 1966-68
03539000	Daddys Creek near Grassy Cove	51.2	USGS	1925-30
03539500	Daddys Creek near Crab Orchard	93.5	USGS	1931-58
03539600	Daddys Creek near Hebbertsburg	139	USGS	1957-68
03539750	Clear Creek near Lancing	153	USGS	1966-68
03539800	Obed River near Lancing	518	USGS	1956-68, 1973-88
03539860	Crooked Fork near Wartburg	50.3	USGS	1966-68
03540000	Emory River at Deermont	704	USGS	1920-28
03540100	Crab Orchard Creek near Deermont	33.7	USGS	1966-68
03541300	Bitter Creek near Oakdale	12.6	USGS	1967-75

DISCONTINUED STREAMFLOW STATIONS--Continued

Station number	Station name	Drainage area (mi^2)	Agency	Period of record
03541400	Kingston Creek at Kingston	0.74	TVA	1940-41
03541500	Whites Creek near Glen Alice	108	USGS	1934-55
03542000	Whites Creek at Glen Alice	120	USGS	1931-34
03542500	Piney River at Spring City	95.9	USGS	1927-31
03544000	Tennessee River at Breedenton	17,440	USGS	1934-40
03544500	Richland Creek near Dayton	50.2	USGS	1927-31, 1934-55, 1979-82
03556000	Turtletown Creek at Turtletown	26.9	USGS	1934-71
03556500	Hiwassee River near McFarland	1,136	USGS	1943-81
03557000	Hiwassee River near Reliance	1,233	USGS	1900-14, 1918-48
03559500	Ocoee River at Copperhill	352	USGS	1903-14, 1943-70
03560700	North Potato Creek tributary, Copper Basin area 6, near Ducktown	0.01	TVA	1940-51
03560800	Burra-burra Creek tributary, Copper Basin area 5, near Ducktown	0.02	TVA	1940-51
03561000	North Potato Creek near Ducktown	13.0	USGS	1934-70
03561200	North Potato Creek tributary No. 2, Copper Basin area 1-W, near Ducktown	0.01	TVA	1942-52
03561300	North Potato Creek tributary No. 3, Copper Basin area 1-E, near Ducktown	0.01	TVA	1942-52
03561500	Ocoee River at McHarg	447	USGS	1917-43
03561700	Walkertown Branch tributary, Copper Basin area 4, near Ducktown	0.01	TVA	1940-45
03561800	Ocoee River tributary, Copper Basin area 3, near Ducktown	0.01	TVA	1940-51
03562000	Brush Creek near Ducktown	14.4	USGS	1934-42
03565000	Hiwassee River above Charleston	2,001	USGS	1954-76
03565040	Chestuee Creek above Englewood (TVA)	14.8	TVA	1944-57
03565080	Little Chestuee Creek below Wilson Station	8.54	TVA	1947-57
03565120	Chestuee Creek at Zion Hill (TVA)	37.8	TVA	1944-62
03565160	Middle Creek below Highway 39 near Englewood	32.7	TVA	1944-62
03565200	Chestuee Creek near Athens (TVA)	77.9	TVA	1944-54
03565250	Chestuee Creek at Dentville	114	TVA	1944-62
03565300	South Chestuee Creek near Benton	31.8	USGS	1957-86
03565700	Oostanaula Creek near Calhoun	67.0	TVA	1940-44
03566450	Long Savannah Creek near Snow Hill	28.3	TVA	1939-44
03566600	North Chickamauga Creek at Upper Mill, near Hixson	99.5	TVA	1937-43
03566630	North Chickamauga Creek near Hixson	114	TVA	1937-43
03567600	South Chickamauga Creek near McCarty	458	TVA	1937-45
03570650	Sequatchie River near College Station	154	USGS	1966-68
03571500	Little Sequatchie River at Sequatchie	116	USGS	1932-34
03571850	Tennessee River at South Pittsburg	22,640	USGS	1930-87
03578000	Elk River near Pelham	65.6	USGS	1952-88
03578500	Bradley Creek near Prairie Plains	41.3	USGS	1952-60
03579100	Elk River near Estill Springs	275	USGS	1921-81
03580000	Boiling Fork Creek south of Cowan	20.2	USGS	1932
03580300	Boiling Fork Creek above Winchester	55.9	USGS	1962-70
03580500	Boiling Fork Creek at Winchester	77.1	USGS	1932-34
03580750	Elk River below Tims Ford Dam	534	USGS	1966-76
03580990	Jack Daniel Spring at Lynchburg		USGS	1970-78
03581000	East Fork Mulberry Creek at Lynchburg	23.1	USGS	1932
03581100	East Fork Mulberry Creek near Lynchburg	29.5	TVA	1967-69
03581200	East Fork Mulberry Creek near Mulberry	49.4	TVA	1967-69
03581400	West Fork Mulberry Creek near Booneville at Mt. Herman	17.4	TVA	1967-69
03581500	West Fork Mulberry Creek at Mulberry	41.2	USGS	1954-62, 1966-68
03582000	Elk River above Fayetteville	827	USGS	1934-82
03582140	Union Branch below Belleville	2.37	USGS	1977
03582500	Elk River near Fayetteville	897	USGS	1926-34

DISCONTINUED STREAMFLOW STATIONS--Continued

Station number	Station name	Drainage area (mi^2)	Agency	Period of record
03583000	Bradshaw Creek at Frankewing	36.5	USGS	1955-61, 1966-68
03583300	Richland Creek near Cornersville	47.5	USGS	1961-68
03583330	Factory Creek (head of Big Creek) near Campbellsville	38.2	USGS	1966-68
03583360	Yokley Creek near Campbellsville	20.2	USGS	1966-68
03583500	Weakley Creek near Bodenham	24.4	USGS	1955-61, 1966-68
03584000	Richland Creek near Pulaski	366	USGS	1934-75
03588400	Chisholm Creek at Westpoint	43.0	USGS	1962-88
03593300	Snake Creek near Adamsville	49.4	TVA	1940-59
03593700	Holland Creek near Lowryville	14.9	TVA	1965-78
03594000	Horse Creek near Savannah	114	USGS	1929-34
03594040	Turkey Creek near Savannah	53.7	TVA	1940-59
03594058	White Oak Creek near Milledgeville	46.1	TVA	1940-59
03594110	White Oak Creek at Milledgeville	49.2	TVA	1961-65
03594120	Middleton Creek near Milledgeville	45.5	TVA	1940-59
03594160	Indian Creek near Cerro Gordo	201	TVA	1940-59
03594164	Banjo Branch near Waynesboro	2.14	USGS	1988-89
03594415	Beech River near Lexington	15.9	TVA	1953-63
03594420	Wolf Creek at Graper Springs	11.7	TVA	1953-55
03594425	Pine Tree Branch near Lexington	0.14	TVA	1941-78
03594430	Harmon Creek near Lexington	6.87	TVA	1953-73
03594435	Piney Creek at Highway 104 near Lexington	19.2	TVA	1953-55, 1957-73
03594437	Cane Creek near Shady Hill	20.7	TVA	1966-73
03594441	Haley Creek near Chesterfield	8.30	TVA	1953-55
03594445	Beech River near Chesterfield (old channel before channelization)	115	TVA	1940-54, 1960-65
03594450	Browns Creek near Chesterfield	20.2	TVA	1953-63
03594455	Cane Creek near Shady Hill	16.8	TVA	1953-64
03594460	Cane Creek near Chesterfield (old channel before channelization)	22.2	TVA	1940-54
03594465	Beech River near Darden (old channel before channelization)	165	TVA	1954-60
03594470	Flat Creek near Middleburg	13.8	TVA	1953-55
03594475	Big Creek near Darden	10.6	TVA	1953-55, 1966-73
03594480	Turkey Creek near Decaturville	8.40	TVA	1953-63
03594482	Turkey Creek at Middleburg Road, near Decaturville	11.5	TVA	1964-73
03594485	Rushing Creek near Decaturville	17.0	TVA	1953-55
03594500	Tennessee River at Perryville	34,550	USGS	1931-32
03595000	Duck River near Manchester	55.2	USGS	1932-34
03595500	Little Duck River at Manchester	40.4	USGS	1932-34
03596000	Duck River below Manchester	107	USGS	1934-88
03596500	Duck River at Normandy	208	USGS	1920-31, 1972-75
03597000	Garrison Fork at Fairfield	66.3	USGS	1953-58, 1966-68
03597500	Wartrace Creek at Bell Buckle	16.3	USGS	1953-61, 1966-75
03597600	Wartrace Creek at Wartrace	36.4	USGS	1966-68
03599000	Big Rock Creek at Lewisburg	24.9	USGS	1953-61, 1966-68
03599430	Fountain Creek near Culleoka	26.9	USGS	1966-68
03599450	Fountain Creek near Fountain Heights	74.0	USGS	1966-68
03600000	Rutherford Creek near Carters Creek	68.8	USGS	1953-58
03600100	Rutherford Creek (No. 4) near Columbia	112	TVA	1948-53
03600200	Rutherford Creek (No. 3) near Columbia	116	TVA	1948-49
03601000	Big Bigby Creek near Mount Pleasant	25.8	USGS	1953-57
03601500	Big Bigby Creek at Cross Bridges	112	USGS	1938-39
03602000	Duck River at Centerville	2,048	USGS	1919-55

DISCONTINUED STREAMFLOW STATIONS--Continued

Station number	Station name	Drainage area (mi^2)	Agency	Period of record
03603500	Hurricane Creek at Hurricane Mills	75.1	USGS	1932-33
03604100	Coon Creek near Hohenwald	10.1	USGS	1967-74
03604600	Blue Creek at State Highway 13 near Waverly	24.8	TVA	1964-71
03604800	Birdsong Creek near Holladay	44.9	TVA	1940-68
03605500	Trace Creek at Waverly	20.1	USGS	1932-33
03606400	Cotton Creek near Camden	0.43	TVA	1941-45
03607000	Big Sandy River at Big Sandy	379	USGS	1935-44
03607500	Tennessee River near Buchanan	39,730	USGS	1930-43
07025000	Rutherford Fork Obion River near Bradford	201	USGS	1929-57
07025500	North Fork Obion River near Union City	480	USGS	1929-71
07026500	Reelfoot Creek near Samburg	110	USGS	1951-73
07026690	Reelfoot Lake near Phillippy	240	USGS	1984-88
07026795	Indian Creek near Samburg	8.01	USGS	1982-86
07027500	South Fork Forked Deer River at Jackson	495	USGS	1929-73
07028000	South Fork Forked Deer River at Chestnut Bluff	1,003	USGS	1929-57
07028500	North Fork Forked Deer River at Trenton	73.5	USGS	1950-71
07029000	Middle Fork Forked Deer River near Alamo	369	USGS	1929-73
07030000	Hatchie River near Stanton	1,975	USGS	1929-58
07030137	Cane Creek at Three Point	79.8	USGS	1985-87
07030245	Kelly Branch near Clopton	7.79	USGS	1975-76
07030295	Loosahatchie River trib at New Allen Rd at Memphis	1.26	USGS	1977-83
07030500	Wolf River at Rossville	503	USGS	1929-72
07031500	Marys Creek at Pisgah Road, near Fisherville	13.6	USGS	1955-57
07031680	Fletcher Creek near Cordova	1.45	USGS	1974-83
07031683	Fletcher Creek at Whitten Rd at Memphis	21.4	USGS	1978-82
07031685	Unnamed tributary at Charles Bryan Road, near Cordova	3.18	USGS	1975-77
07031777	Lick Creek at Dickinson Street, at Memphis	2.96	USGS	1975-83
07032222	Johns Creek trib at Holmes Road, near Memphis	5.83	USGS	1975-85
07032224	Johns Creek at Raines Road, at Memphis	19.4	USGS	1975-82, 1985
07032241	Black Bayou at Southern Avenue, at Memphis	0.59	USGS	1975-83
07032248	Cane Creek at East Person Avenue, at Memphis	4.98	USGS	1975-85
07032260	Cypress Creek at Neely Road, at Memphis	3.18	USGS	1975-85

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

The following surface-water-quality stations in Tennessee have been discontinued or converted to partial-record stations. Water-quality data (daily or periodic samples with collection frequency not less than quarterly) were collected and published for the period of record shown for each station. Discontinued project stations with less than three years of record have not been included. Information regarding these stations may be obtained from the District Chief at the address given on the back of the title page of this report.

[Agency designations: USGS, U.S. Geological Survey; TVA, Tennessee Valley Authority. Type of record: (B) biological, (C) chemical, (S) sediment, (T) temperature]

Station number	Station name	Drainage area (mi^2)	Agency	Period of record	Type of record
03403718	Crabapple Branch near La Follette	1.07	USGS	1981-84	C,T
03407804	Indian Fork above Braytown	4.32	USGS	1975-81	C
03407850	New River at Stainville	66.0	USGS	1975-77, 1979-81	C,S
03407874	Green Branch near Hembree	1.38	USGS	1975-81	C,S
034078745	Smoky Creek above Hembree (361240084245800)	8.07	USGS	1982-83	S
03407875	Bills Branch near Hembree	0.67	USGS	1975-83	C,S
				1980-83	C,S,T
034078755	Shack Creek at Hembree (361341084253900)	5.08	USGS	1982-84	C,S,T
03407876	Smoky Creek at Hembree	17.2	USGS	1978-84	S
				1980-84	C,T
03407877	Bowling Branch above Smoky Junction	2.19	USGS	1975-83	C,S
03407879	Smoky Creek at Smoky Junction	32.8	USGS	1975-77, 1979-81	C,S
03407881	Anderson Branch near Montgomery	0.69	USGS	1975-81	C
03407882	Lowe Branch near Montgomery	0.92	USGS	1975-81	C
03407908	New River at Cordell	198	USGS	1976-77, 1979-82	C,S
03408500	New River at New River	382	USGS	1977-86	C,T
			USGS	1965-67, 1975-77, 1979-81	C,S
03409500	Clear Fork near Robbins	272	USGS	1982-86	T
			USGS	1982, 1984-86	C
			USGS	1964-65, 1976-77, 1979-82, 1984	C,S
03410210	South Fork Cumberland River at Leatherwood Ford	806	USGS	1986	C,S,T
			USGS	1979-80, 1984-85	C,S
03418000	Roaring River near Hilham	78.7	USGS	1969-71	T
03418070	Roaring River above Gainesboro	210	USGS	1980-83	C,S
03421000	Collins River near McMinnville	640	USGS	1964-67, 1979-82	C,S
03425000	Cumberland River at Carthage	10,690	USGS	1975-81	C,T
03428000	West Fork Stones River near Murfreesboro	128	USGS	1964-68	C
03428070	West Fork Stones River at Manson Pike, at Murfreesboro	165	USGS	1973-82	C,T
03431700	Richland Creek at Charlotte Avenue, at Nashville	24.3	USGS	1901, 1979-83	C,S
03434500	Harpeth River near Kingston Springs	681	USGS	1979-83	C,S
03435637	Sulphur Fork Red River near Greenbrier	34.9	USGS	1976-78	T
03435700	Sulphur Fork Red River above Beaverdam Creek, near Springfield	49.1	USGS	1975-77	T
03435770	Sulphur Fork Red River above Springfield	65.6	USGS	1976-83	C,S
03436000	Sulphur Fork Red River near Adams	186	USGS	1964, 1979-83	C,S
03436100	Red River at Port Royal	935	USGS	1979-83	C,S
03436700	Yellow Creek near Shiloh	124	USGS	1964-65, 1979-81	C,S
03454757	French Broad River below Hot Springs, NC	1,712	USGS	1970-73	C
03455000	French Broad River near Newport	1,858	TVA	1946-47, 1960-61, 1969-70, 1974-75, 1979-80	C
03465500	Nolichucky River at Embreeville	805	USGS	1979-82	C,S
03466500	Nolichucky River below Nolichucky Dam	1,184	TVA	1974-79	C
			TVA	1962	T
03468510	French Broad River at Douglas Dam (tailwater)	4,541	TVA	1975-80	C
03470000	Little Pigeon River at Sevierville	353	TVA	1967-68, 1970	C
			TVA	1969-74	T
			USGS	1979-82	C,S

DISCONTINUED SURFACE-WATER-QUALITY STATIONS--Continued

Station number	Station name	Drainage area (mi^2)	Agency	Period of record	Type of record
03470500	French Broad River near Knoxville	5,101	USGS	1975-82	C,T
			USGS	1975-86	B,C,S,T
03476010	South Fork Holston River at South Holston Dam	703	TVA	1975-80	C
03480000	Watauga River at Stump Knob	171	TVA	1962	T
03481450	Elk River at Elk Mills	74.0	TVA	1975-76	C
03482100	Roan Creek near Doeville	110	TVA	1962, 1971-74	T
			TVA	1975-76	C
03483950	Watauga River below Watauga Dam	468	TVA	1973, 1975-80	C
03484800	Doe River at Hampton	100	TVA	1968-73	T
03485500	Doe River at Elizabethton	137	TVA	1967-68, 1971	C
			TVA	1954-63	T
			USGS	1979-82	C,S
03486810	South Fork Holston River at Boone Dam (tailwater)	1,840	TVA	1975-78	C
03487010	South Fork Holston River at Ft. Patrick Henry Dam	1,903	TVA	1975-80	C
03487550	Reedy Creek at Orebank	36.3	TVA	1964-66	T
			TVA	1964-67	C
			USGS	1979-82	C,S
03490350	Holston River near Church Hill	2,819	TVA	1974-78	C
03490500	Holston River at Surgoinsville	2,874	USGS	1975-82	T
			TVA	1974-80	C
03491000	Big Creek near Rogersville	47.3	USGS	1972-75, 1977-79	T
03491300	Beech Creek at Kepler	47.0	TVA	1966-68	T
03491500	Holston River near Rogersville	3,035	TVA	1966-75	T
03493510	Holston River at Cherokee Dam (tailwater)	3,428	TVA	1975-80	C
03496200	First Creek above Powers Avenue, at Knoxville	17.2	USGS	1969-71	T
03497100	Tennessee River below Knoxville	8,963	TVA	1970-80	T
03497300	Little River above Townsend	106	USGS	1964-82	T
			USGS	1982	C
03498500	Little River near Maryville	269	TVA	1967-68	C
			USGS	1979-82	C,S
03499510	Tennessee River at Fort Loudon Dam (tailwater)	9,550	TVA	1975-80	C
03518210	Little Tennessee River at Calderwood Dam	1,977	TVA	1977-80	C
03518300	Little Tennessee River below Chilhowee Dam	1,987	TVA	1964-78	T
03518500	Tellico River at Tellico Plains	118	TVA	1964-78	T
			TVA	1969-70, 1973-76	C
			USGS	1979-82	C,S
03519500	Little Tennessee River at McGhee	2,443	TVA	1963	T
03519740	Little Tennessee River near Centersville		TVA	1976-79	T
03528000	Clinch River above Tazewell	1,474	TVA	1962-66, 1971-75	T
			TVA	1971-80	C
03532000	Powell River near Arthur	685	TVA	1965, 1969-72, 1974-82	C,S
			TVA	1963-66, 1971-75	T
03532190	Ollis Creek at Ivydell	13.3	TVA	1974-78	C
03533000	Clinch River below Norris Dam	2,913	TVA	1968-70, 1972-80	C
03533500	Clinch River at Coal Creek	2,921	TVA	1976-79	T
03534100	Clinch River near Clinton	2,980	TVA	1971-74, 1977	C
03534900	Clinch River at Edgemoor	3,089	TVA	1969-78	C
03535000	Bullrun Creek near Halls Crossroads	68.5	USGS	1967-74	T
03535915	Clinch River near Eaton Crossroads	3,346	TVA	1963-79	T
03538225	Poplar Creek near Oak Ridge	82.5	USGS	1961-65, 1979-81	C,S
			USGS	1962-65	T
03538250	East Fork Poplar Creek near Oak Ridge	19.5	USGS	1962-68	T
03538275	Bear Creek near Oak Ridge	7.15	USGS	1962-63	T
03538500	Emory River near Wartburg	83.2	TVA	1965-68, 1975-76	C
03539800	Obed River near Lancing	518	TVA	1965-66	T
			TVA	1965-68	C
03539860	Crooked Fork nearWartburg	50.3	TVA	1965-68	C
			USGS	1979-81	C,S

DISCONTINUED SURFACE-WATER-QUALITY STATIONS--Continued

Station number	Station name	Drainage area (mi^2)	Agency	Period of record	Type of record
03540100	Crab Orchard Creek near Deermont	33.7	TVA	1966-68	C
			TVA	1967-68	T
			USGS	1979-81	C,S
03540500	Emory River at Oakdale	764	TVA	1965-67, 1974-81	C,S
03543005	Tennessee River at Watts Bar Dam (tailwater)	17,310	USGS	1975-86	B,C,S,T
			USGS	1976-81	T,C
03544500	Richland Creek near Dayton	50.2	TVA	1966-67	C
			USGS	1979-82	C,S
03557050	Hiwassee River near Wetmore	1,233	TVA	1973-74, 1976	C
03557400	Hiwassee River at Patty	1,358	TVA	1976-78	T
03557405	Hiwassee River near Benton	1,362	TVA	1978-80	C
03564500	Ocoee River at Parksville	595	TVA	1971-72, 1976-80	C
03565500	Oostanaula Creek near Sanford	57.0	USGS	1979-82	C,S
03566404	Tennessee River at Sequoyah Nuclear Plant	20,630	TVA	1975-78	C
03566405	Tennessee River near Harrison Bay State Park	20,650	TVA	1969-73	C
03566510	Tennessee River at Chickamauga Dam (tailwater)	20,790	TVA	1975-80	C
03570525	Tennessee River at Nickajack Dam (tailwater gage)	21,849	TVA	1975-78	C
03570835	Sequatchie River near Dunlap	292	TVA	1975-78	C
03571000	Sequatchie River near Whitwell	402	TVA	1962-71	T
			TVA	1965, 1970, 1974-75	C
			USGS	1979-82	C,S
03571200	Sequatchie River at Whitwell Waterworks near Whitwell	410	TVA	1975-79	C
03571850	Tennessee River at South Pittsburg	22,640	USGS	1975-82	T
			USGS	1975-79, 1981	C
			USGS	1974-86	B,C,S,T
03579100	Elk River near Estill Springs	275	TVA	1974-78	C
			TVA	1971-77	T
03580110	Boiling Fork Creek near Decherd	37.7	TVA	1975-77	T
03580750	Elk River below Tims Ford Dam	534	TVA	1971-79	T
			TVA	1966-67, 1973, 1975-80	C
03582000	Elk River above Fayetteville	827	TVA	1974, 1977-80	C
			USGS	1961-64	T
03582400	Elk River at Fayetteville	895	TVA	1976-78	T
03582600	Cane Creek near Fayetteville	106	TVA	1969-73	T
03584000	Richland Creek near Pulaski	366	TVA	1965-73	T
03584500	Elk River near Prospect	1,784	TVA	1961-64	T
03588500	Shoal Creek at Iron City	348	TVA	1974-80	C,S
			USGS	1980-83	C,S
03593005	Tennessee River at Pickwick Landing Dam	32,820	USGS	1976-82	C,T
03594439	Beech River near Chesterfield	121	TVA	1969-71, 1976	C
03596000	Duck River below Manchester	107	TVA	1967-68, 1970-71	C
			TVA	1976-80	T
			USGS	1975, 1979-83	C,S
03596500	Duck River at Normandy	208	TVA	1969-75	T
03597850	Duck River at Shelbyville Waterworks	425	TVA	1975-80	C
03598000	Duck River near Shelbyville	481	TVA	1961-64, 1976-78	T
03599460	Duck River near Columbia	1,176	TVA	1974-82	T
03599482	Duck River at Columbia Waterworks	1,195	TVA	1975-80	C
03602500	Piney River at Vernon	193	TVA	1964-67	T
03603000	Duck River above Hurricane Mills	2,557	TVA	1966-67, 1974-80	C
			TVA	1961-64	T
03604000	Buffalo River near Flat Woods	447	TVA	1964-78	T
03604500	Buffalo River near Lobelville	707	TVA	1961-64	T
			TVA	1967-68, 1973-76	C
03605555	Trace Creek above Denver	31.9	USGS	1979-83	C
03606500	Big Sandy River at Bruceton	205	TVA	1971-78	T
			TVA	1968,1970-72	C
			USGS	1976,1979-83	C,S

DISCONTINUED SURFACE-WATER-QUALITY STATIONS--Continued

Station number	Station name	Drainage area (mi^2)	Agency	Period of record	Type of record
07026360	North Reelfoot Creek at Clayton	54.7	USGS	1982-84	C,S
07026640	Running Slough near Leadford, KY	10.8	USGS	1982-87	S
07026695	Bayou Du Chien near Walnut Log	27.8	USGS	1986-88	C,T
07026795	Indian Creek near Samburg	8.01	USGS	1982-84	C,S
07027002	Reelfoot Lake Spillway near Tiptonville	240	USGS	1975-76, 1986-88	C,T
07029410	Mosses Creek near Pocahontas	47.6	USGS	1961, 1963, 1977-78	C,S
07029425	Hatchie River near Lacy	1033	USGS	1977-78	C,S
07030010	Big Muddy Creek at Stanton	84.4	USGS	1977-78	C,S
07030100	Cane Creek at Ripley	33.9	USGS	1985-87	S
07030137	Cane Creek at Three Point	79.8	USGS	1985-87	S
07030240	Loosahatchie River near Arlington	262	USGS	1979-82	C,S
07030500	Wolf River at Rossville	503	USGS	1961, 1963-68	C
07032200	Nonconnah Creek near Germantown	68.2	USGS	1979-82	C,S

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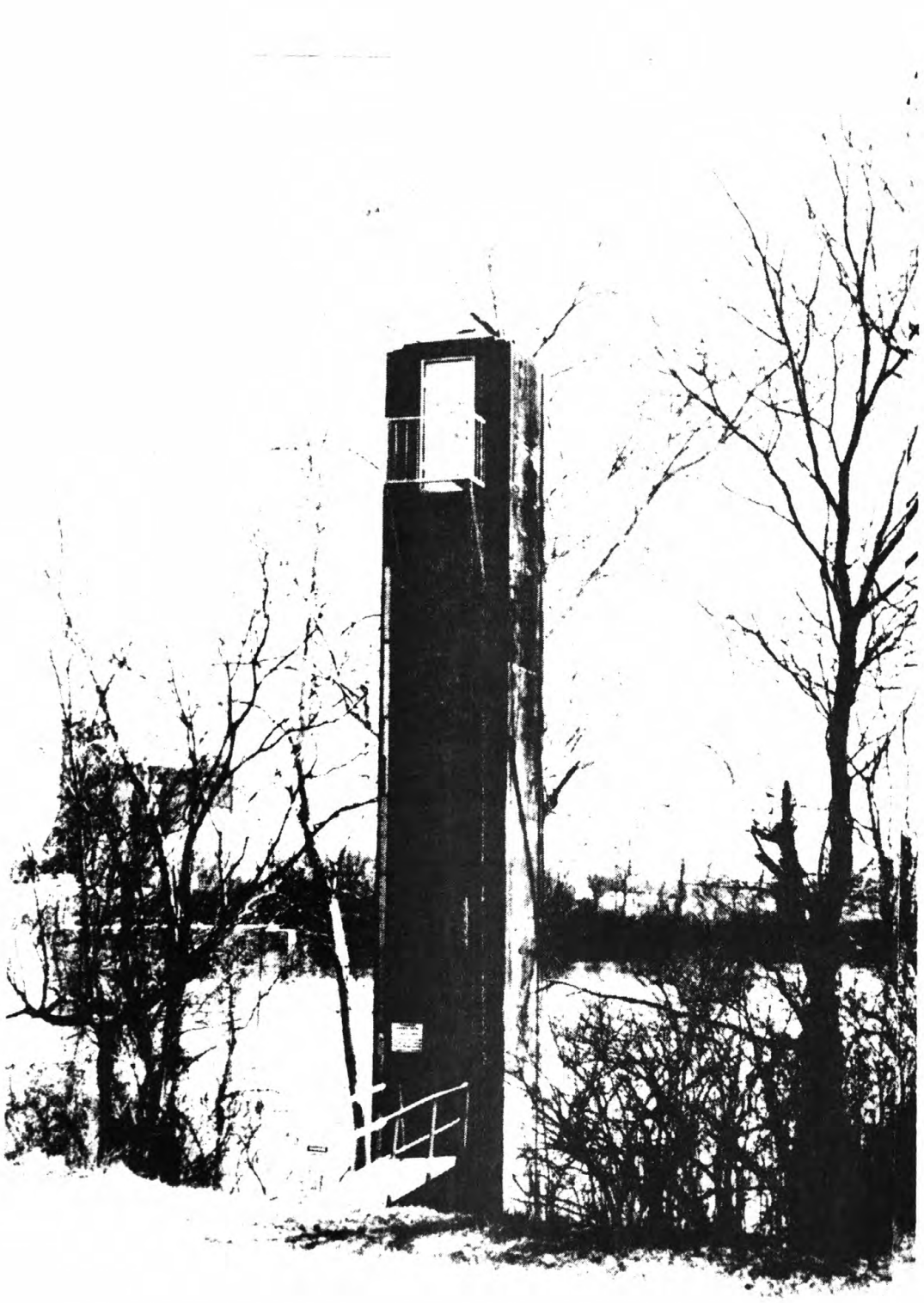

GAGING STATION TENNESSEE RIVER AT CHATTANOOGA,
period of record 1874 to present.

October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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