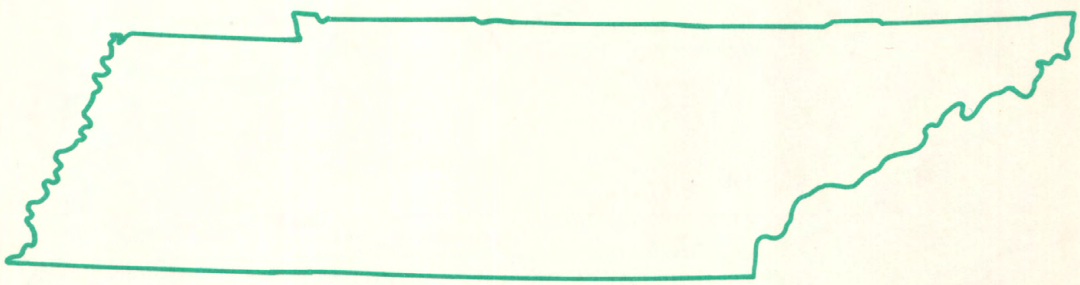
Water Resources Data Tennessee Water Year 1990



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TN-90-1
Prepared in cooperation with the State of Tennessee
and with other agencies

CALENDAR FOR WATER YEAR 1990

1989

OCTOBER

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1990

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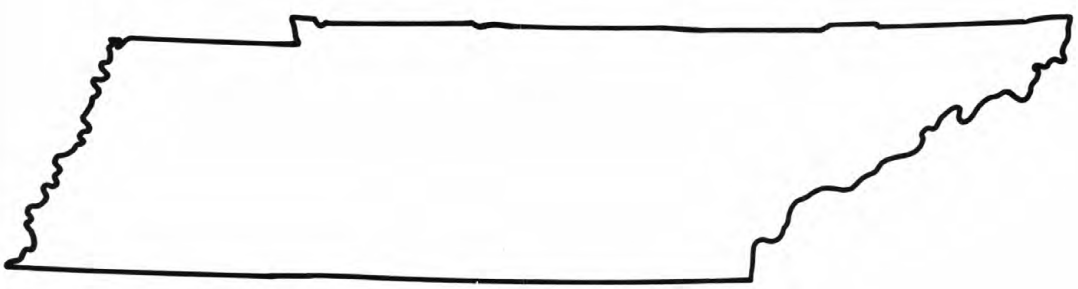
Water Resources Data Tennessee Water Year 1990

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TN-90-1
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
810 Broadway, Suite 500
Nashville, Tennessee 37203

1991

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:

Jess D. Weaver, Knoxville
W. Harry Doyle, Jr., Memphis
Jerry F. Lowery, Nashville

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

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J.C. Barnett
A.K. Brachmann
D. E. Butner
R.J. Connor
B.N. Fraley
J.T. Hamilton
A.C. Hickey
G.C. Johnson
W.K. Kelly
R.L. Kemp
J.G. Lewis
K.L. McCain
T.D. Phillips
P. Powers
G.B. Smith
R.W. Stogner
L.B. Thomas
R.T. Webber

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 1990 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 81 gaging stations; stage only records for 6 gaging stations; elevation and contents for 28 lakes and reservoirs; water quality for 17 stations and 12 wells; water levels for 22 observation wells; and 1 precipitation station. Also included are 93 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

c. COSATI Field/Group

18. Availability Statement	19. Security Class (This Report)	21. No. of Pages
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ILLUSTRATIONS

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

WATER RESOURCES DATA - TENNESSEE, 1990

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 81 gaging stations; stage only at 6 gaging stations; stage and contents at 28 lakes and reservoirs; water quality for 17 stations, and 12 wells; and water levels at 22 observation wells. Also included are data for 93 crest-stage partial-record stations. Locations of these sites are shown on figures 5 and 6. 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-90-1." 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 Cumberland Rivers. Natural runoff 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 River Basin, and Emory River at Oakdale (03400500) and Buffalo River below Lobelville (03604400) in the Tennessee River Basin (fig. 1). Comparisons of monthly average and yearly average discharge for the 1990 water year with the median discharge during the period 1951-80 are shown in figure 1 for these three gaging stations. These graphs indicate that the first 5 months of the 1990 water year were somewhat wetter than normal, with the exception of December. In general, the remainder of the water year was fairly normal. December runoff was deficient because of below-normal rainfall.

Another measure of hydrologic conditions is to compare the mean discharge for the entire water year with the period-of-record mean discharge for the same site. For the 1990 water year, the mean discharge for selected stations ranged from 86 to 268 percent of the period-of-record mean and averaged about 125 percent.

Very little significant flooding occurred in Tennessee during the 1990 water year. Peak discharges at most gaging stations were in the 2- to 5-year frequency range. A few sites had peak discharges in the 10- to 25-year range, but these were mostly scattered and isolated. Most gaging stations had three or four peaks above the peak base discharge, indicating fairly normal or average flood activity for the year.

Ground Water

In East and Middle Tennessee, ground-water levels were normal during much of 1990 as indicated by hydrographs for observation wells Hm:O-15 and Pm:C-1 (fig. 2). The water levels were at record high levels during October 1989 through March 1990 in well Pm:C-1 and, in February and March 1990, in well Hm:O-15. Ground-water levels for West Tennessee were below normal for the entire year as measured at well Ld:F-4. The water levels were near or below record lows in December 1989 and January 1990.

Hydrographs showing the lowest daily water level for all of the continuous-record wells are shown with the station description and water-level data in the body of the report. Water levels in wells in Middle and East Tennessee generally respond faster and have larger fluctuations than wells in the sand and gravel aquifers in West Tennessee.

Ground-water levels in observation wells in Shelby County are strongly affected by pumping for municipal water supplies in Memphis and the surrounding communities. The fluctuations throughout the year reflect the changes in pumping rates as well as natural fluctuations. The Memphis index well, Sh:Q-1, has shown a steady decline in water level since 1972 (fig. 3). The new low water levels are not indicative of the long-term decline in available water supply, but reflect the response of the aquifer system to additional pumping.

Water Quality

Water-quality data were collected at 16 surface-water sites during the 1990 water year. 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 (HBN). Basins gaged as part of this network are relatively undisturbed by mankind. The HBN sites are located on the Buffalo and Little Rivers. Other surface-water-quality activities in Tennessee 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 of Carter's Creek in Maury County in support of a water resources study in that area.

The data from these networks did not identify any significant water-quality 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.

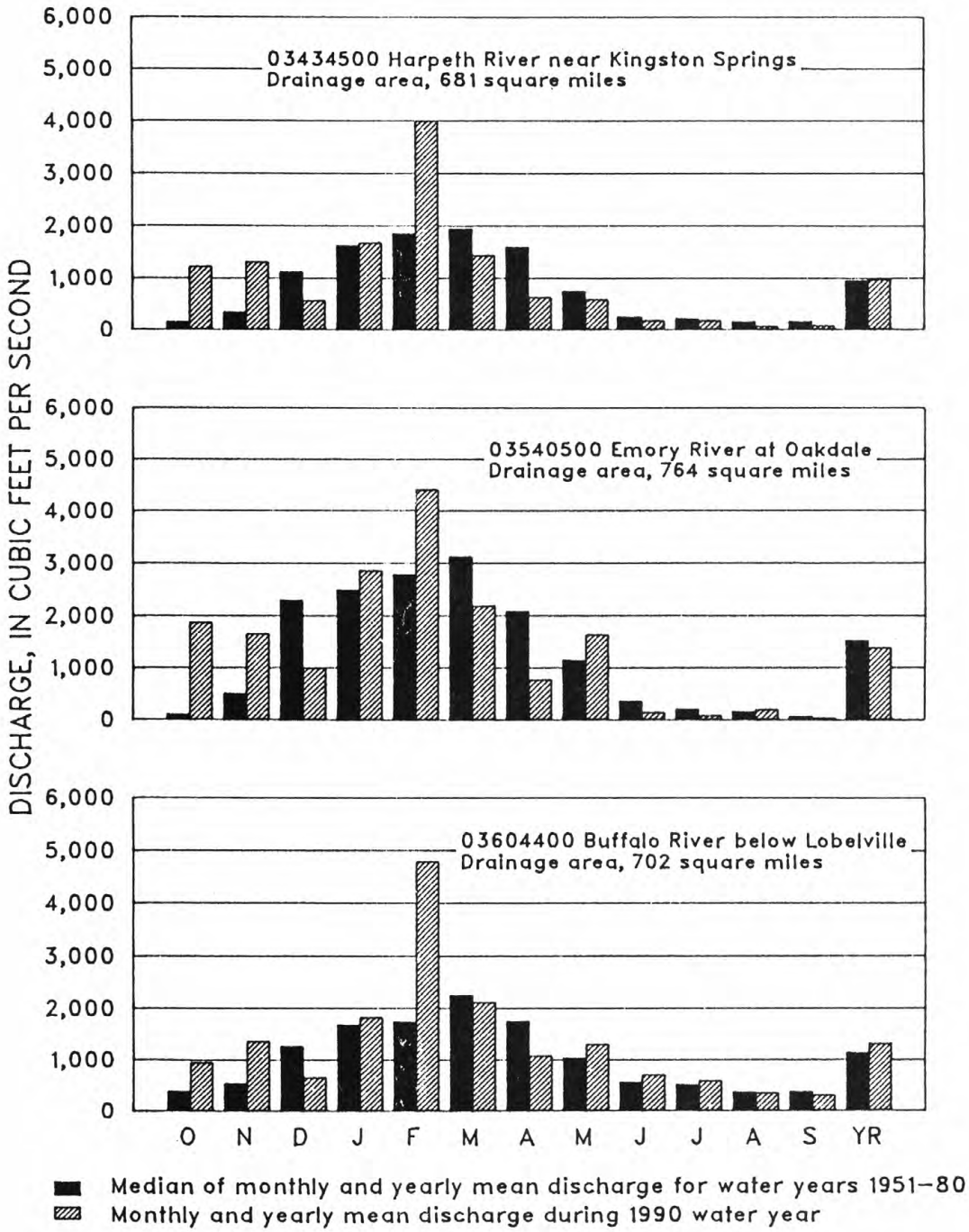

Figure 1.--Discharge for 1990 water year compared with median discharge for period 1951–80 at three representative gaging stations..

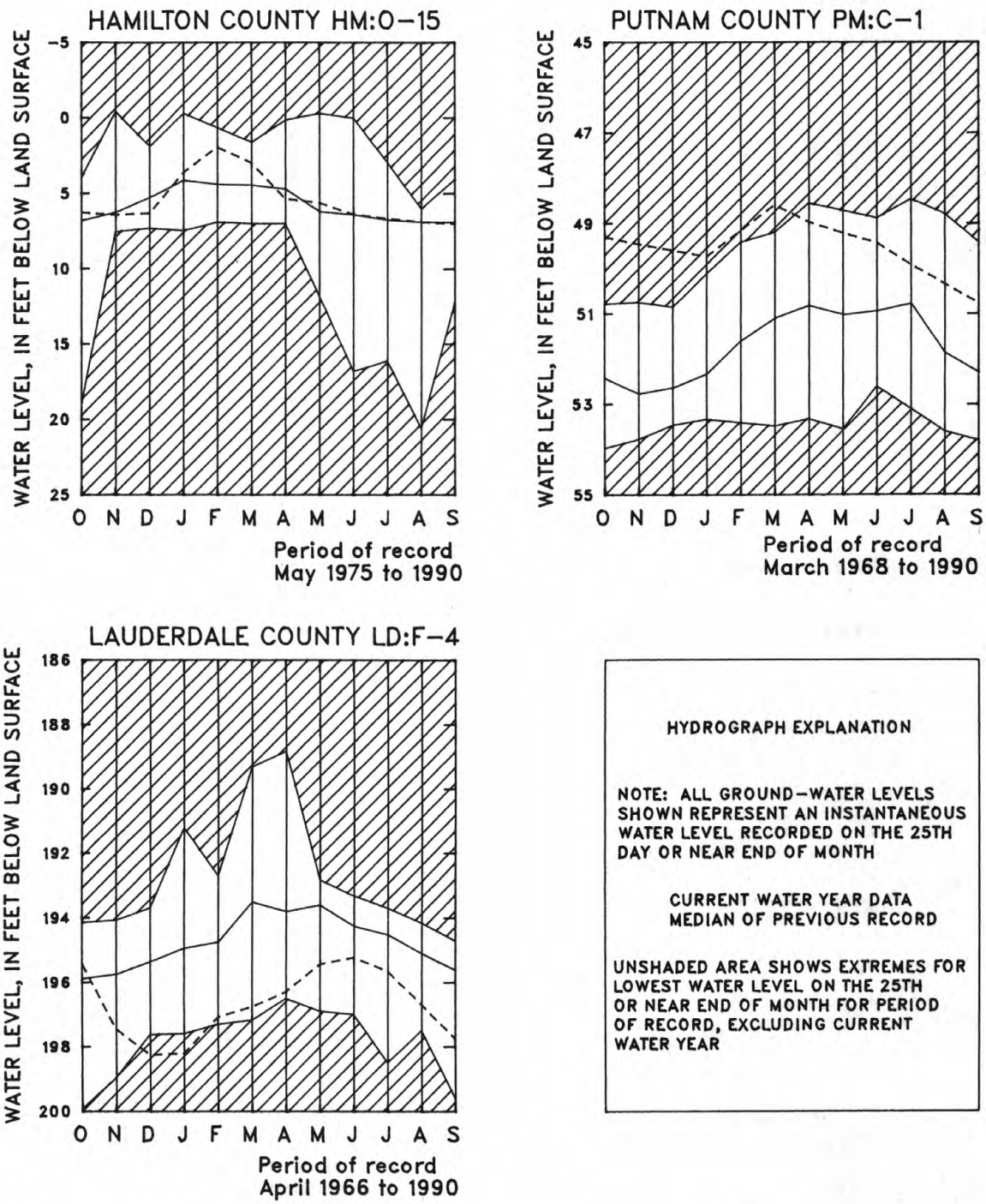

Figure 2.--Ground–water levels for the 1990 water year compared to the maximum, minimum, and median water levels for the period of record.

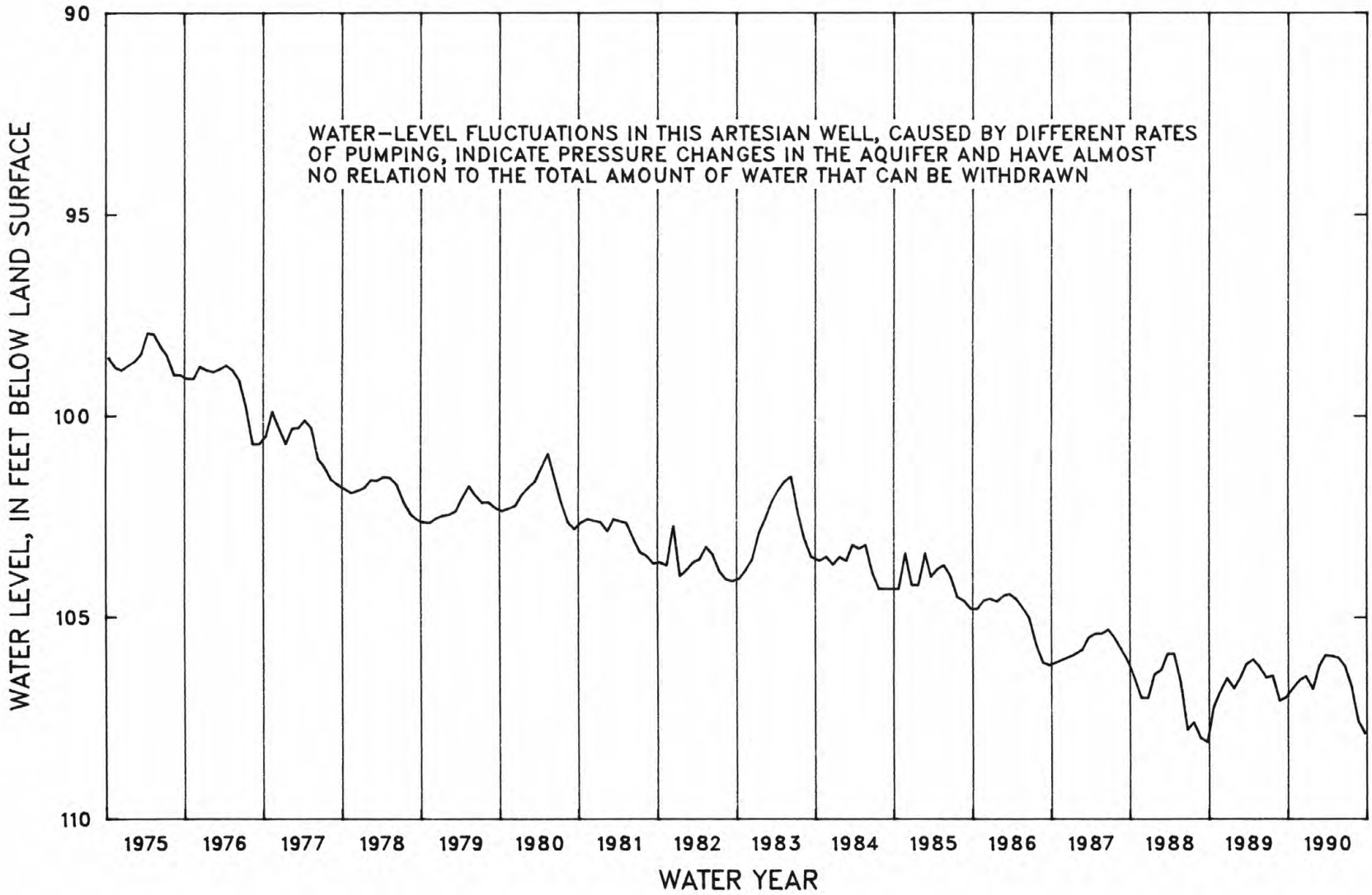

Figure 3.--Hydrograph of well SH:Q-1 in Shelby County showing long-term decline in the water level.

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 1990 water year that began October 1, 1989, and ended September 30, 1990. 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.

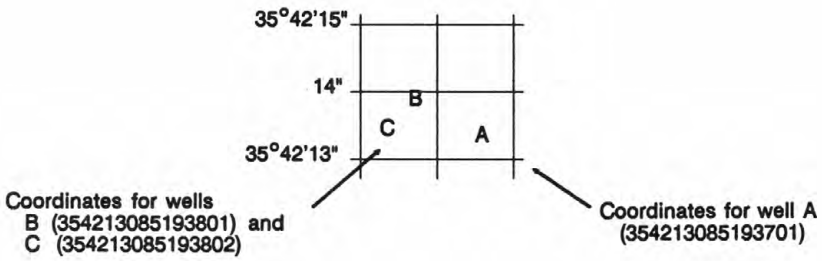

Figure 4.--System for numbering wells (latitude and longitude).

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 discharges. 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 °C ± 0.2 °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 °C ± 1.0 °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 ($\mu g/g$) 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, $\mu g/L$) 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.

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.

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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-A19. *Levels of streamflow gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 27 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-B4. *Regression modeling of ground-water flow*, by Richard L. Cooley and Richard L. Naff: USGS--TWRI Book 3, Chapter B4. 1990. 232 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.

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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.

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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.

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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.

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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.

Cumberland River Basin

Map number	Station number	Station name	Map number	Station number	Station name
1	03408500	NEW RIVER AT NEW RIVER	36	03431340	BROWNS CR AT FACTORY STREET AT NASHVILLE
2	03409000	WHITE OAK CR NR SUNBRIGHT	37	03431490	PAGES BR AT AVONDALE
3	03409500	CLEAR FORK NEAR ROBBINS	38	03431500	CUMBERLAND RIVER AT NASHVILLE
4	03414500	EAST FORK OBEY RIVER NEAR JAMESTOWN	39	03431517	CUMMINGS BRANCH AT LICKTON
5	03416000	WOLF RIVER NEAR BYRDSTOWN	40	03431550	EARTHMAN FORK AT WHITES CREEK
6	03417500	CUMBERLAND RIVER AT CELINA	41	03431573	EWING CR AT RICHMOND HILL DRIVE AT PARKWOOD
7	03418070	ROARING RIVER ABOVE GAINESBORO	42	03431575	EWING CR AT BRICK CHURCH PIKE AT PARKWOOD
8	03418201	DOE CREEK AT GAINESBORO	43	03431578	EWING CR AT GWYNWOOD DRIVE NR JORDONIA
9	03418420	CUMBERLAND RIVER BELOW CORDELL HULL DAM	44	03431581	EWING CR BELOW KNIGHT ROAD NEAR BORDEAUX
10	03420360	MUD CREEK TRIB NO. 2 NR SUMMITVILLE	45	03431677	SUGARTREE CR AT YMCA ACCESS ROAD AT GREEN HILLS
11	03421000	COLLINS RIVER NEAR MCMINNVILLE	46	03431679	SUGARTREE CR AT ABBOTT MARTIN ROAD AT GREEN HILLS
12	03421200	CHARLES CR NR MCMINNVILLE	47	03431700	RICHLAND CR AT CHARLOTTE AVE
13	03422500	CANEY FORK NEAR ROCK ISLAND	48	03431795	BEDNIGO BRANCH TRIB AT CHESTNUT GROVE
14	03424900	MULHERRIN CR NR GORDONSVILLE	49	03431800	SYCAMORE CREEK NR ASHLAND CITY
15	03425000	CUMBERLAND RIVER AT CARTHAGE (NASQAN)	50	03432350	HARPETH RIVER AT FRANKLIN
16	03425045	PEYTON CR AT MONOVILLE	51	03432400	HARPETH RIVER BELOW FRANKLIN
17	03425357	DARWIN BRANCH TRIB AT HARTSVILLE	52	03432470	MURFREES FORK ABOVE BURWOOD
18	03425365	SECOND CR NR WALNUT GROVE	53	03432925	LITTLE HARPETH RIVER AT GRANNY WHITE PIKE
19	03425400	CUMBERLAND RIVER AT HUNTERS POINT	54	03433500	HARPETH RIVER AT BELLEVUE
20	03425700	SPENCER CR NR LEBANON	55	03434500	HARPETH RIVER NR KINGSTON SPRINGS
21	03426310	CUMBERLAND RIVER AT OLD HICKORY DAM	56	03434590	JONES CR NR BURNS
22	03426800	EAST FORK STONES RIVER AT WOODBURY	57	03434616	HALL BRANCH NR CHARLOTTE
23	03426874	BRAWLEYS FORK BELOW BRADYVILLE	58	03435000	CUMBERLAND RIVER BELOW CHEATHAM DAM
24	034269424	REED CR NR BRADYVILLE	59	034350021	BARTONS CR NR CUMBERLAND FURNACE
25	03427500	EAST FORK STONES RIVER NEAR LASCASSAS	60	0343500213	BARTONS CR TRIB NR STAYTON
26	03428200	WEST FORK STONES RIVER AT MURFREESBORO	61	034351113	HONEY RUN CR BELOW CROSS PLAINS
27	03428500	WEST FORK STONES RIVER NEAR SMYRNA	62	03435770	SULPHUR FORK RED RIVER ABOVE SPRINGFIELD
28	03430118	MCCRORY CR AT IRONWOOD DRIVE AT DONELSON	63	03435930	SPRING CR TRIB NR CEDAR HILL
29	03430400	MILL CR AT NOLENSVILLE	64	03436000	SULPHUR FORK RED RIVER NEAR ADAMS
30	03431000	MILL CREEK AT ANTOICH	65	03436100	RED RIVER AT PORT ROYAL
31	03431040	SEVENMILE CR AT BLACKMAN ROAD	66	03436500	CUMBERLAND RIVER AT CLARKSVILLE
32	03431060	MILL CR AT THOMPSON LANE NEAR WOODBINE	67	03436505	CUMMINGS CR NR DOTSONVILLE
33	03431062	MILL CR TRIB AT GLENROSE AVE. AT WOODBINE	68	03436690	YELLOW CREEK AT ELLIS MILLS
34	03431120	WF BROWNS CR AT GENERAL BATES DR. AT NASHVILLE	69	03436700	YELLOW CR NR SHILOH
35	03431240	EF BROWNS CR AT BAIRD-WARD PRINTING CO. AT NASH	70	03437000	CUMBERLAND RIVER AT DOVER

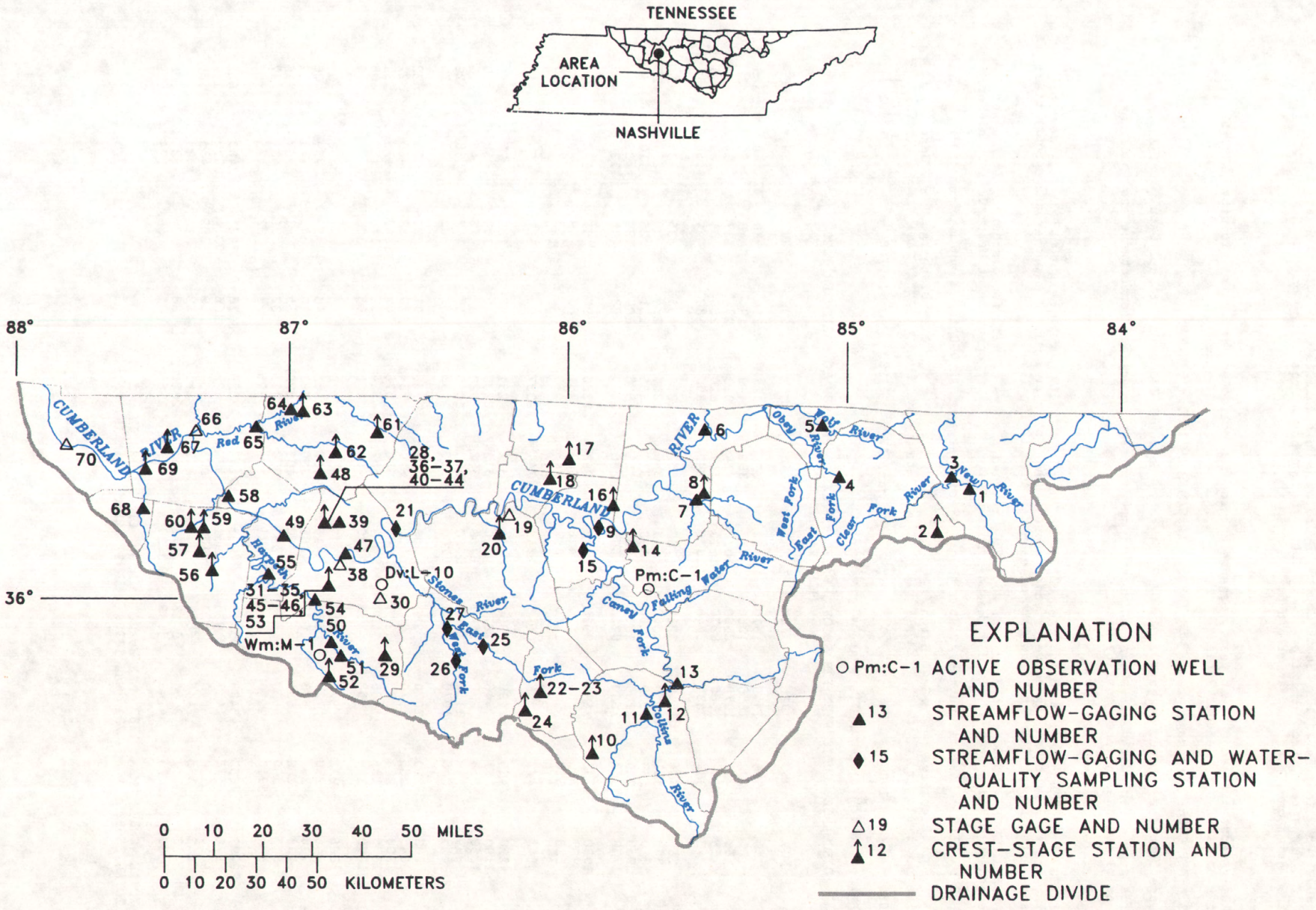

Figure 5.--Location of gaging sites in the Cumberland River Basin.

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

AVERAGE DISCHARGE.--56 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)
Oct. 1	1030	*19,100	*19.90	Mar. 17	1330	15,700	17.91

Minimum discharge, 16 ft^3/s, Sept. 30, gage height, 1.68 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13300	209	556	4340	1310	552	376	324	234	30	48	e26
2	4220	190	499	1850	1060	617	339	439	194	48	45	e28
3	2090	166	451	1270	2890	1070	314	390	234	137	34	e30
4	1300	153	384	1380	8870	1010	301	620	269	64	32	e35
5	932	142	363	2030	3740	878	290	3850	189	44	58	e30
6	713	180	354	1510	1980	762	357	1830	153	35	435	e27
7	544	300	321	1170	1500	663	880	1200	134	30	214	e25
8	426	1620	598	1550	1200	593	814	865	121	28	110	e30
9	352	2950	920	2200	1010	559	711	656	109	29	89	e35
10	299	1720	802	1590	6220	509	688	1120	98	26	124	e35
11	262	1080	732	1190	3930	482	993	1280	96	31	172	e30
12	233	807	686	966	1990	428	863	781	85	49	99	e25
13	206	628	610	761	1380	387	748	569	73	263	75	e30
14	189	530	519	624	1130	362	675	436	72	389	63	e35
15	174	543	472	558	948	345	741	337	90	357	54	e40
16	159	4220	425	499	2360	650	612	281	87	159	77	e45
17	976	2190	361	446	2670	10100	572	2280	75	100	59	e50
18	1210	1350	358	936	1640	3750	662	2020	64	78	45	36
19	772	994	349	1150	1380	1830	583	1010	57	102	38	29
20	617	818	348	1070	1170	1280	555	742	51	81	33	26
21	507	703	290	3070	980	980	572	796	101	61	35	22
22	417	645	266	2070	951	801	810	734	120	132	e65	27
23	352	1300	224	1390	1200	664	686	676	102	243	e75	31
24	308	1170	185	1080	1030	574	582	504	92	170	e85	66
25	279	1000	189	958	862	586	490	385	68	103	e70	43
26	253	868	222	876	719	496	411	330	55	75	e60	32
27	230	756	230	728	660	416	356	455	46	59	e50	26
28	211	710	231	636	603	381	330	787	40	48	e43	22
29	197	735	239	1630	---	366	465	622	35	41	e37	19
30	187	615	559	4050	---	393	370	415	32	36	e31	17
31	185	---	5110	1910	---	421	---	295	---	33	e25	---
TOTAL	32100	29292	17853	45488	55383	32905	17146	27029	3176	3081	2480	952
MEAN	1035	976	576	1467	1978	1061	572	872	106	99.4	80.0	31.7
MAX	13300	4220	5110	4340	8870	10100	993	3850	269	389	435	66
MIN	159	142	185	446	603	345	290	281	32	26	25	17
CFSM	2.71	2.56	1.51	3.84	5.18	2.78	1.50	2.28	.28	.26	.21	.08
IN.	3.13	2.85	1.74	4.43	5.39	3.20	1.67	2.63	.31	.30	.24	.09

CAL YR 1989 TOTAL 462302 MEAN 1267 MAX 26200 MIN 95 CFSM 3.32 IN. 45.02
WTR YR 1990 TOTAL 266885 MEAN 731 MAX 13300 MIN 17 CFSM 1.91 IN. 25.99

e Estimated

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

AVERAGE DISCHARGE.--56 years (water years 1931-71, 1976-90), 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)
Oct. 1	0800	*13,100	*12.25	May 17	1900	6,750	9.05
Feb. 4	0230	10,200	10.98				

Minimum discharge, 6.0 ft^3/s, July 10, 11, 12, and Aug. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9870	103	292	2720	894	291	261	161	112	15	8.3	9.5
2	3840	102	266	1310	698	325	230	155	95	15	7.4	9.7
3	1820	96	241	883	3600	536	207	169	153	13	7.0	11
4	1070	89	208	946	7610	486	190	378	304	11	6.7	12
5	714	82	197	1300	2970	433	179	3230	162	9.8	8.7	9.8
6	512	101	192	1000	1610	380	189	1520	114	8.9	232	8.6
7	379	163	178	765	1170	330	368	879	91	7.9	137	7.3
8	292	1040	297	955	906	293	336	586	82	7.1	73	7.8
9	236	1560	590	1450	730	287	295	430	73	6.8	44	11
10	198	1020	492	1050	3110	273	281	429	62	6.3	45	11
11	172	645	465	770	2820	366	409	398	54	6.0	72	7.9
12	152	466	457	609	1470	328	387	298	46	7.0	50	7.5
13	136	356	415	467	992	281	333	249	40	32	36	11
14	124	299	353	381	751	256	294	207	41	94	28	14
15	113	361	318	342	611	236	289	171	42	70	22	16
16	105	1280	277	308	1910	476	258	146	37	49	19	26
17	440	1220	311	e300	1810	4070	229	2750	32	34	17	36
18	654	819	256	e450	1150	2530	292	2460	27	26	14	27
19	375	597	228	e900	919	1260	263	923	24	21	12	22
20	307	478	230	e850	743	857	237	635	21	19	10	19
21	256	405	248	e1800	584	637	231	1200	105	17	9.2	16
22	214	360	e230	e1400	538	514	236	805	80	17	11	18
23	183	838	e180	e1000	642	426	215	613	60	27	13	19
24	163	781	e150	725	520	355	189	460	41	31	21	20
25	148	626	e160	623	432	344	169	345	31	31	17	23
26	135	515	e170	532	359	315	152	277	24	24	14	20
27	125	441	e165	424	333	267	138	267	20	19	12	17
28	115	414	161	366	314	236	138	270	17	16	10	14
29	109	399	167	830	---	224	215	216	16	13	8.8	12
30	104	327	251	2350	---	274	187	171	17	11	8.4	9.0
31	102	---	2300	1320	---	292	---	135	---	9.6	7.6	---
TOTAL	23163	15983	10445	29126	40196	18178	7397	20933	2023	674.2	981.1	452.1
MEAN	747	533	337	940	1436	586	247	675	67.4	21.7	31.6	15.1
MAX	9870	1560	2300	2720	7610	4070	409	3230	304	94	232	36
MIN	102	82	150	300	314	224	138	135	16	6.0	6.7	7.3
CFSM	2.75	1.96	1.24	3.45	5.28	2.16	.91	2.48	.25	.08	.12	.06
IN.	3.17	2.19	1.43	3.98	5.50	2.49	1.01	2.86	.28	.09	.13	.06

CAL YR 1989 TOTAL 308242 MEAN 844 MAX 13200 MIN 19 CFSM 3.10 IN. 42.16
WTR YR 1990 TOTAL 169551.4 MEAN 465 MAX 9870 MIN 6.0 CFSM 1.71 IN. 23.19

e Estimated

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.--48 years, 416 ft^3/s, 27.97 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)
Oct. 1	0430	12,500	16.52	May 17	1030	9,840	14.43
Feb. 3	1730	*14,700	*17.91				

Minimum discharge, 8.2 ft^3/s, Sept. 9, 10, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7460	102	278	2180	869	247	274	154	160	20	14	13
2	2070	93	248	1200	726	266	255	170	138	19	14	13
3	1070	85	224	894	6210	362	237	161	258	19	13	13
4	660	77	198	1010	6310	394	219	212	319	18	13	12
5	453	74	189	1130	2150	326	205	1530	213	17	16	11
6	353	106	183	907	1320	285	226	1040	160	17	24	10
7	273	172	167	745	1050	263	371	784	133	16	34	9.5
8	213	1080	252	780	857	247	321	607	125	15	25	9.2
9	179	2670	365	870	748	249	278	458	109	15	20	8.8
10	154	1200	287	744	3020	341	267	414	104	16	17	8.2
11	126	793	297	649	1890	527	299	354	96	17	17	8.3
12	109	618	328	572	1200	418	279	254	83	21	15	10
13	101	484	314	455	932	333	243	216	68	32	14	11
14	92	392	278	351	763	277	227	183	58	64	14	13
15	84	562	269	295	673	253	229	158	55	44	14	23
16	84	2380	247	265	1430	824	218	138	51	31	13	16
17	1260	1420	207	244	1200	2470	204	3860	46	25	13	13
18	776	1000	202	709	925	1500	255	1530	42	21	12	13
19	503	764	196	860	799	1020	253	799	39	20	11	13
20	401	649	191	814	680	791	236	850	36	20	11	13
21	327	559	165	1670	590	648	348	1060	83	19	11	12
22	262	491	137	1170	567	563	382	728	65	23	16	19
23	214	787	119	882	601	449	284	598	49	34	13	16
24	183	705	114	724	514	344	220	486	43	32	12	14
25	160	641	119	666	400	313	197	387	36	26	12	13
26	143	582	127	602	309	271	178	313	31	21	11	13
27	129	522	128	505	278	240	164	381	28	19	10	12
28	117	466	128	413	264	217	156	395	25	17	9.1	11
29	108	430	135	1290	---	209	180	311	23	15	9.8	10
30	101	344	255	1870	---	277	169	243	22	15	12	9.6
31	101	---	3200	1140	---	303	---	194	---	14	13	---
TOTAL	18266	20248	9547	26606	37275	15227	7374	18968	2698	702	452.9	370.6
MEAN	589	675	308	858	1331	491	246	612	89.9	22.6	14.6	12.4
MAX	7460	2670	3200	2180	6310	2470	382	3860	319	64	34	23
MIN	84	74	114	244	264	209	156	138	22	14	9.1	8.2
CFSM	2.92	3.34	1.52	4.25	6.59	2.43	1.22	3.03	.45	.11	.07	.06
IN.	3.36	3.73	1.76	4.90	6.86	2.80	1.36	3.49	.50	.13	.08	.07

CAL YR 1989 TOTAL 226732 MEAN 621 MAX 9070 MIN 19 CFSM 3.08 IN. 41.75
WTR YR 1990 TOTAL 157734.5 MEAN 432 MAX 7460 MIN 8.2 CFSM 2.14 IN. 29.05

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.--48 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)
Oct. 1	0700	6,680	7.87	Feb. 10	0530	4,490	6.65
Oct. 17	1130	*7,490	*8.36	May 5	0130	3,660	6.24
Feb. 3	1730	4,780	6.80				

Minimum discharge, 8.6 ft^3/s, Sept. 6, 7, 11, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3710	77	168	897	373	125	108	91	89	22	14	11
2	934	70	152	508	304	131	103	90	80	22	14	10
3	504	66	135	377	2320	147	97	87	89	21	14	9.7
4	331	61	120	386	2050	136	93	535	88	20	14	9.4
5	238	59	116	378	867	127	90	1640	71	19	19	9.1
6	187	72	108	317	558	120	142	561	63	18	24	8.9
7	150	86	97	266	430	113	255	380	61	18	22	8.7
8	121	113	111	240	343	109	201	275	56	17	17	11
9	102	264	122	217	397	107	179	220	51	17	16	9.1
10	90	197	111	196	2850	109	166	209	61	16	15	8.9
11	79	157	125	177	978	105	166	180	52	17	15	8.6
12	70	132	132	163	573	99	143	152	43	18	19	8.9
13	63	113	134	142	420	95	128	135	38	36	16	9.2
14	58	105	125	130	335	93	122	116	36	40	15	9.6
15	54	114	123	123	290	93	121	102	38	31	14	12
16	108	479	109	115	519	244	111	92	36	24	14	10
17	3310	377	98	111	420	599	110	329	33	21	14	10
18	912	279	96	124	350	458	130	233	31	19	13	9.2
19	534	220	96	122	301	326	116	167	30	18	13	10
20	386	195	91	128	249	252	111	217	30	18	12	11
21	288	170	84	268	219	213	124	567	116	18	30	11
22	220	156	70	235	208	188	191	335	77	19	81	17
23	178	196	66	211	202	166	177	257	48	20	30	16
24	149	175	67	196	179	149	159	209	37	18	18	14
25	128	165	68	191	156	155	140	172	32	17	15	12
26	112	156	73	179	142	143	125	161	30	17	13	11
27	100	148	70	163	138	131	111	186	28	16	12	10
28	91	196	67	153	132	123	104	199	26	16	11	9.6
29	84	201	71	930	---	119	102	149	25	15	12	9.3
30	78	184	149	923	---	118	93	121	23	15	13	9.2
31	80	---	1480	510	---	117	---	101	---	15	12	---
TOTAL	13449	4983	4634	9076	16303	5210	4018	8268	1518	618	561	313.4
MEAN	434	166	149	293	582	168	134	267	50.6	19.9	18.1	10.4
MAX	3710	479	1480	930	2850	599	255	1640	116	40	81	17
MIN	54	59	66	111	132	93	90	87	23	15	11	8.6
CFSM	4.09	1.57	1.41	2.76	5.49	1.59	1.26	2.52	.48	.19	.17	.10
IN.	4.72	1.75	1.63	3.19	5.72	1.83	1.41	2.90	.53	.22	.20	.11

CAL YR 1989 TOTAL 108082 MEAN 296 MAX 5150 MIN 18 CFSM 2.79 IN. 37.93
WTR YR 1990 TOTAL 68951.4 MEAN 189 MAX 3710 MIN 8.6 CFSM 1.78 IN. 24.20

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. 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.--67 years (water years 1923-1980, 1982-1990), 11,630 ft^3/s, 21.61 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, 39,900 ft^3/s, Oct. 17; maximum gage height, 26.22 ft, Oct. 17; minimum daily, 419 ft^3/s, Sept. 30; minimum gage height, 11.18 ft, Jan. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e5670	19800	18000	28600	10800	18700	6600	2510	2270	6190	10700	6500
2	e11600	19600	15600	22400	9200	19200	5200	889	2290	3730	10600	4700
3	e11000	19600	14000	18100	18600	18200	7100	1370	531	6770	10400	3410
4	13400	20300	15300	15100	26800	17800	11100	3360	3650	8010	10600	4920
5	6030	18900	19100	14500	14900	11900	11700	4790	7910	7950	8020	7900
6	9350	16200	17000	12600	14100	10600	11700	5420	9610	9050	7260	10300
7	13000	17500	15900	7740	17500	e11000	13600	4130	10500	7910	10000	10300
8	15100	19200	e16800	6230	18500	e10600	7440	13600	11400	4020	9780	8670
9	15900	20500	e19600	9220	18900	12300	3510	16400	12100	4490	9350	6290
10	16000	19700	e18000	12000	32200	12500	3140	15700	8160	13600	9190	4210
11	14600	18500	17900	14500	26500	9750	3160	15900	4280	14400	9940	4380
12	14300	15900	20200	15700	22300	4440	3500	15900	6620	10800	7570	4010
13	13600	15200	21400	14800	26200	4270	4130	14800	8210	5910	6260	4330
14	13800	17200	21900	11800	29200	5160	4010	7750	10700	4850	9380	4420
15	12500	18200	21500	9070	28100	4830	2900	7270	12500	5710	9980	4350
16	14900	22400	20700	8860	29100	6500	1980	8710	11700	6040	11000	4390
17	32600	20100	18500	10100	30400	8680	3490	13400	5110	5670	10800	4240
18	26100	18800	17400	12600	31000	5500	3810	14400	4350	6130	10600	4210
19	21300	17100	18600	12600	31100	4400	4930	9620	6650	6860	8160	4350
20	21100	15700	17300	11600	30500	8640	7380	10600	7540	7490	6940	4720
21	20100	17200	16800	11600	29900	17400	5370	14200	7740	8720	8360	4210
22	19300	17900	21100	6880	28200	16000	2650	16700	7380	7230	8870	4740
23	18600	17900	22600	6630	20900	13300	1330	13500	7040	5880	7330	4130
24	17900	18500	21800	7520	18900	11100	3560	12400	3530	6010	6780	1650
25	17700	18000	21100	7560	19200	5400	4840	18500	3820	9190	6790	2640
26	18100	14600	16200	6560	19600	5990	7800	18500	6080	10200	6770	2870
27	17900	13700	10500	9570	19800	11600	9490	9720	7620	10200	6960	3470
28	17500	16800	8750	5390	18800	12900	10600	3010	7920	10800	8930	3440
29	18500	18000	8860	11500	---	13100	5720	1170	10300	8150	10100	3440
30	20500	19300	11300	18700	---	12800	2310	1930	10600	5890	9520	419
31	20600	---	28400	13000	---	12200	---	1240	---	10100	7500	---
TOTAL	508550	542300	552110	373030	641200	336760	174050	297389	218111	237950	274440	141609
MEAN	16400	18080	17810	12030	22900	10860	5802	9593	7270	7676	8853	4720
MAX	32600	22400	28400	28600	32200	19200	13600	18500	12500	14400	11000	10300
MIN	5670	13700	8750	5390	9200	4270	1330	889	531	3730	6260	419

CAL YR 1989 TOTAL 6574416 MEAN 18010 MAX 52700 MIN 576 MEAN‡ 17720 CFSM‡ 2.43 IN.‡ 32.93
WTR YR 1990 TOTAL 4297499 MEAN 11770 MAX 32600 MIN 419 MEAN‡ 10450 CFSM‡ 1.43 IN.‡ 19.41

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 good, 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.--16 years, 258 ft^3/s, 16.68 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)
Oct. 1	0630	*10,800	*17.22	Feb. 10	0330	6,110	12.95
Feb. 3	1530	7,950	14.77	May 17	0900	8,620	15.39

No flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7660	38	116	1410	683	140	104	20	87	.00	.00	.00
2	2000	29	99	785	537	157	89	18	67	.00	.00	.00
3	1020	24	85	564	4240	163	76	18	429	.00	.00	.00
4	646	20	72	649	4570	153	73	155	303	.00	.00	.00
5	410	19	71	711	1790	129	68	867	146	.00	109	.00
6	283	78	63	544	1110	118	105	450	94	.00	167	.00
7	211	86	48	399	869	106	235	261	70	.00	15	.00
8	160	519	85	343	678	102	169	154	93	.00	1.2	.00
9	126	1010	132	319	948	100	126	102	49	.00	.00	.00
10	98	579	108	267	4280	98	111	90	37	.00	.00	.00
11	75	322	100	227	1720	106	108	72	24	.00	.00	.00
12	57	231	95	197	1080	91	88	50	18	.00	.00	5.0
13	46	172	85	167	771	79	75	38	14	82	.00	.84
14	37	146	72	150	602	74	70	26	11	212	.00	.00
15	31	169	69	139	546	72	74	20	11	45	.00	.00
16	27	790	59	123	992	1100	64	16	6.9	7.3	.00	.00
17	522	667	53	112	775	1790	63	4910	3.3	.66	.00	.00
18	354	444	48	283	610	1160	85	1460	2.6	.00	.00	.00
19	213	307	51	317	513	789	76	699	2.0	.00	.00	.00
20	178	242	50	270	389	621	63	1000	1.3	.00	.00	.00
21	139	190	40	594	331	497	61	1400	11	.00	.00	.00
22	107	168	16	487	310	396	88	800	7.3	5.3	.00	.00
23	79	308	13	359	287	315	79	604	2.2	33	.00	.00
24	60	239	15	302	249	251	64	438	.57	6.5	.00	.00
25	48	189	30	276	208	245	50	308	.00	.27	.00	.00
26	39	164	32	225	187	200	37	245	.00	.00	.00	.00
27	33	145	29	186	174	164	29	543	.00	.00	.00	.00
28	29	232	28	161	152	135	27	399	.00	.00	.00	.00
29	26	184	28	1430	---	126	29	264	.00	.00	.05	.00
30	25	138	101	1810	---	132	22	175	.00	.00	.04	.00
31	30	---	1720	984	---	125	---	123	---	.00	.00	---
TOTAL	14769	7849	3613	14790	29601	9734	2408	15725	1490.17	392.03	292.29	5.84
MEAN	476	262	117	477	1057	314	80.3	507	49.7	12.6	9.43	.19
MAX	7660	1010	1720	1810	4570	1790	235	4910	429	212	167	5.0
MIN	25	19	13	112	152	72	22	16	.00	.00	.00	.00
CFSM	2.27	1.25	.55	2.27	5.03	1.50	.38	2.42	.24	.06	.04	.00
IN.	2.62	1.39	.64	2.62	5.24	1.72	.43	2.79	.26	.07	.05	.00

CAL YR 1989 TOTAL 156802.13 MEAN 430 MAX 9270 MIN .00 CFSM 2.05 IN. 27.78
WTR YR 1990 TOTAL 100669.33 MEAN 276 MAX 7660 MIN .00 CFSM 1.31 IN. 17.83

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.--18 years, 13,340 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, 45,100 ft^3/s, Feb. 4; minimum daily, 2,800 ft^3/s, May 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38300	22100	21000	39700	18600	22600	11500	4370	4060	7600	11100	7270
2	20300	20400	18900	31400	15400	20200	10300	2800	4210	5550	10000	5300
3	13000	19500	17200	22100	23900	19300	8400	3460	5630	6520	9970	4630
4	15700	19400	18100	19400	45100	19400	12400	5120	6740	7780	9950	5620
5	12600	22300	20000	18300	26000	18700	17000	8690	9930	8860	8350	7370
6	8640	19100	22200	16400	16400	14800	14900	7520	11900	8820	8370	9170
7	11800	16700	22900	13200	23200	13100	15600	8750	11600	9720	8690	10600
8	15300	23200	16500	10300	23700	14000	12900	9950	11500	6050	10600	9280
9	15800	24100	20900	12400	21200	14100	7760	19300	11700	5510	10000	6910
10	16700	24400	20100	15100	43900	14900	6870	15000	11000	9120	9300	6320
11	15600	21500	20800	17800	41600	12300	6980	15300	7120	14400	9040	5570
12	14300	18200	22100	19600	25500	11100	7140	13400	6450	14400	8010	5320
13	15200	19600	24300	18400	29600	8860	6310	14200	6920	6910	6940	4380
14	14000	19700	25900	15600	31300	8430	6180	12500	9740	5650	7680	5900
15	13300	20500	26200	15100	33900	7620	5300	7510	12300	6270	10500	5300
16	13800	24100	24800	12400	31200	11100	4770	7650	11400	6240	10100	4680
17	34100	23400	21500	11800	31000	18600	4300	28900	8470	6570	11000	5600
18	34500	21500	20000	16500	33200	12300	4970	19100	5560	7630	9520	5280
19	22400	18900	21000	15800	34700	10500	9920	13200	5250	6630	7950	5320
20	21800	18600	19800	15100	35600	12600	6110	10300	7350	8700	8010	6070
21	21400	20300	20000	15000	34100	18200	8890	19200	8640	8820	7540	5400
22	20800	21000	22000	12800	32200	22800	4550	17000	8420	8760	8290	5940
23	20700	22300	24500	10300	25200	18600	4280	13500	6660	6880	8430	4930
24	18500	21900	24100	11600	20400	15200	3880	15700	5420	6670	8030	4020
25	19400	20900	23900	14500	20100	9750	4020	15800	5130	8750	6600	4320
26	17800	17600	24700	13200	19200	10700	6190	17600	5970	10200	7200	4320
27	18200	17200	16000	11100	20600	12000	8260	13000	7140	9950	8300	5020
28	17500	18800	10300	11300	24900	15400	9270	6780	8300	9950	8400	4340
29	17800	22300	10900	13700	---	16900	6690	4820	10200	8270	10500	4050
30	20200	23900	12800	26400	---	17000	4060	3790	10500	7290	9170	4010
31	26100	---	36800	19600	---	14300	---	4360	---	8850	8040	---
TOTAL	585540	623400	650200	515900	781700	455360	239700	358570	245210	253320	275580	172240
MEAN	18890	20780	20970	16640	27920	14690	7990	11570	8174	8172	8890	5741
MAX	38300	24400	36800	39700	45100	22800	17000	28900	12300	14400	11100	10600
MIN	8640	16700	10300	10300	15400	7620	3880	2800	4060	5510	6600	4010

CAL YR 1989 TOTAL 7310630 MEAN 20030 MAX 83800 MIN 1290
WTR YR 1990 TOTAL 5156720 MEAN 14130 MAX 45100 MIN 2800

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 instrument malfunctions.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 290 microsiemens, Mar. 27, 1990; 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, 290 microsiemens, Mar. 27; minimum, 167 microsiemens, June 23.
WATER TEMPERATURE: Maximum, 23.5°C, June 17; minimum, 5.1°C, Dec. 24, 25.
DISSOLVED OXYGEN: Maximum, 12.6 mg/L, Apr. 13; minimum, 4.0 mg/L, Aug. 14.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	210	194	203	205	200	201	201	201	201	221	217	218
2	210	210	210	200	195	199	205	201	201	221	209	214
3	218	210	212	246	195	200	202	201	201	209	200	204
4	214	209	212	202	194	197	206	202	202	212	200	205
5	213	201	204	198	193	194	206	202	202	220	212	215
6	209	205	205	193	193	193	207	202	205	220	216	219
7	213	205	209	244	192	202	207	203	205	223	219	219
8	217	213	213	196	191	195	204	203	203	230	219	223
9	217	217	217	195	191	193	204	204	204	230	223	225
10	217	208	213	195	190	191	204	204	204	230	225	227
11	263	208	225	194	190	192	208	204	205	225	225	225
12	263	200	209	261	194	217	213	205	205	229	225	227
13	208	200	201	210	197	199	205	205	205	229	224	226
14	202	197	201	201	197	198	209	205	206	224	221	221
15	218	198	201	197	192	195	210	206	206	221	220	220
16	211	196	200	196	192	192	206	206	206	220	220	220
17	201	196	197	196	192	192	211	207	207	220	215	219
18	198	197	198	196	191	194	211	207	207	226	215	218
19	199	188	196	258	195	218	208	207	207	219	214	216
20	188	180	186	258	198	201	208	208	208	218	218	218
21	188	184	186	202	198	198	208	208	208	218	217	217
22	196	188	191	198	198	198	209	208	209	217	213	216
23	204	196	199	206	193	197	209	209	209	220	216	217
24	204	204	204	240	193	202	209	209	209	219	216	219
25	204	200	203	197	193	194	210	209	210	223	218	220
26	204	200	200	197	196	196	210	210	210	222	218	221
27	216	200	204	201	196	200	210	210	210	225	221	224
28	207	203	203	203	201	202	214	210	212	229	225	226
29	203	202	202	204	200	201	214	214	214	233	224	226
30	244	202	213	201	200	200	217	213	213	224	220	221
31	228	201	207	---	---	---	217	213	215	220	220	220
MONTH	263	180	204	261	190	198	217	201	207	233	200	220

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

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	220	211	217	200	196	198	268	201	205	210	206	208
2	215	211	211	201	196	198	205	200	201	218	206	211
3	211	203	207	201	197	197	208	199	201	222	206	213
4	223	207	217	198	197	198	206	198	199	213	212	212
5	214	190	197	202	198	198	244	193	201	212	210	211
6	192	190	191	203	198	201	199	195	196	210	209	209
7	191	178	186	207	203	203	206	194	198	209	204	207
8	193	178	185	208	204	204	200	195	197	207	202	205
9	208	193	201	209	204	205	202	194	195	206	201	203
10	208	203	205	209	205	205	206	188	194	203	200	201
11	207	186	196	213	205	207	254	192	214	206	202	203
12	188	181	185	210	202	207	258	193	201	206	204	205
13	184	180	181	211	203	206	216	193	200	204	199	202
14	200	184	193	211	203	207	207	194	200	199	194	198
15	203	199	201	208	203	205	236	197	202	205	192	196
16	203	199	200	231	196	203	207	191	201	204	191	198
17	203	199	200	202	197	199	210	194	200	198	188	193
18	203	190	199	207	202	203	227	196	207	208	192	196
19	194	182	187	211	204	207	247	192	211	213	193	200
20	198	194	194	220	205	209	212	204	207	213	193	200
21	198	194	197	285	208	225	212	204	208	197	185	192
22	198	198	198	277	211	219	217	209	210	193	185	189
23	198	197	197	219	214	218	224	197	213	210	194	200
24	197	197	197	218	209	214	228	197	208	233	198	204
25	201	197	197	217	205	208	228	197	209	233	202	207
26	201	197	200	213	204	206	221	197	206	238	203	214
27	201	196	200	290	200	209	217	197	204	234	203	210
28	196	196	196	207	203	204	209	205	206	226	207	216
29	---	---	---	207	199	201	210	205	206	231	207	218
30	---	---	---	206	198	202	214	206	208	---	---	---
31	---	---	---	214	201	204	---	---	---	---	192	---
MONTH	223	178	198	290	196	205	268	188	204	238	185	204
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	203	192	197	225	202	209	---	---	---	208	195	196
2	226	191	198	220	204	210	---	---	---	217	193	197
3	218	187	195	222	205	210	---	205	---	224	192	198
4	222	190	199	216	207	211	212	204	205	210	190	195
5	218	189	195	229	213	215	215	203	205	202	189	193
6	197	189	192	229	211	219	214	202	204	204	---	---
7	217	188	199	232	207	212	209	201	203	---	188	---
8	212	188	196	226	204	214	204	199	201	186	175	179
9	223	192	198	230	197	210	207	199	200	195	175	181
10	222	191	198	218	193	203	206	198	200	200	180	185
11	230	191	204	195	190	192	205	196	198	197	180	185
12	229	190	199	193	187	189	208	196	198	201	181	188
13	225	186	202	204	188	189	211	195	198	198	182	188
14	202	189	192	204	188	192	206	194	197	198	186	189
15	236	185	195	204	188	191	197	193	196	199	186	190
16	251	184	199	200	188	190	208	188	194	204	187	191
17	239	188	211	208	188	190	199	182	190	204	184	191
18	247	183	207	200	188	190	207	188	193	201	188	191
19	218	178	190	196	188	189	209	189	199	201	185	192
20	227	171	187	196	188	189	210	191	201	205	189	194
21	190	169	178	208	188	191	212	197	202	202	186	194
22	210	176	188	208	188	193	215	198	203	203	187	194
23	189	167	177	204	---	---	216	203	207	199	191	194
24	198	169	179	---	---	---	215	202	206	200	192	194
25	180	---	---	---	---	---	221	202	206	197	192	194
26	212	---	---	---	---	---	223	200	205	198	186	192
27	213	---	---	---	---	---	215	202	204	195	---	---
28	213	168	192	---	---	---	214	200	202	---	192	---
29	225	198	205	---	---	---	214	199	202	204	192	194
30	211	200	204	---	---	---	207	197	200	204	192	196
31	---	---	---	---	---	---	212	196	199	---	---	---
MONTH	251	167	195	---	---	---	223	182	201	224	175	191

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	17.9	17.2	17.6	16.1	15.9	16.0	12.3	12.3	12.3	7.7	7.6	7.6
2	17.2	17.0	17.1	15.9	15.5	15.7	12.3	11.7	12.0	7.6	7.2	7.3
3	17.4	17.0	17.2	15.5	15.1	15.2	11.5	10.5	11.1	7.2	7.0	7.0
4	17.5	17.2	17.4	14.9	14.7	14.9	10.5	10.1	10.3	7.6	7.2	7.3
5	17.4	17.4	17.4	14.7	14.5	14.6	10.1	9.9	10.0	7.6	7.5	7.5
6	17.8	17.4	17.6	14.8	14.5	14.7	10.5	10.1	10.2	7.6	7.6	7.6
7	17.6	17.6	17.6	15.0	14.8	14.9	10.3	10.1	10.3	7.6	7.5	7.6
8	17.8	17.4	17.6	15.4	15.0	15.1	10.1	10.1	10.1	7.8	7.5	7.7
9	17.6	17.4	17.6	15.4	15.2	15.3	10.1	9.9	10.0	8.0	7.6	7.8
10	17.6	17.2	17.4	15.4	15.2	15.3	9.9	9.7	9.9	8.0	7.8	8.0
11	17.2	17.0	17.0	15.2	15.2	15.2	9.9	9.7	9.8	8.2	8.0	8.1
12	17.2	16.8	17.0	15.2	15.0	15.2	9.7	9.3	9.5	8.0	7.4	7.8
13	17.2	16.9	17.0	15.2	14.9	15.1	9.4	9.2	9.3	7.4	7.1	7.1
14	17.1	16.9	17.0	14.9	14.7	14.8	9.2	9.0	9.1	7.1	7.0	7.0
15	17.3	16.9	17.1	14.9	14.7	14.8	9.2	8.6	8.9	7.2	7.0	7.0
16	17.3	17.1	17.2	14.9	14.3	14.6	8.6	8.0	8.2	7.2	7.0	7.0
17	17.4	17.1	17.3	14.3	13.7	14.0	8.0	7.8	7.9	7.3	7.2	7.3
18	17.4	16.9	17.2	13.7	13.5	13.6	7.8	7.6	7.7	7.5	7.3	7.4
19	16.7	15.9	16.3	13.5	13.1	13.3	7.6	7.5	7.6	7.4	7.2	7.3
20	15.9	15.5	15.8	13.1	12.7	12.9	7.5	7.3	7.3	8.0	7.4	7.7
21	15.5	15.0	15.1	12.7	12.3	12.5	7.3	6.7	7.1	8.2	7.8	8.0
22	15.0	14.6	14.7	12.3	12.1	12.3	6.7	5.9	6.3	8.2	8.0	8.1
23	14.6	14.4	14.5	12.1	11.9	11.9	5.9	5.3	5.6	8.2	7.8	8.0
24	14.9	14.5	14.6	12.1	11.7	11.9	5.3	5.1	5.2	8.1	7.9	8.0
25	15.3	14.7	14.9	11.9	11.7	11.8	5.3	5.1	5.1	8.3	7.7	8.0
26	15.6	15.0	15.2	12.1	11.9	12.0	5.8	5.3	5.5	7.9	7.5	7.7
27	15.8	15.2	15.5	12.3	12.1	12.2	6.1	5.6	5.8	7.9	7.7	7.8
28	16.2	15.8	15.9	12.5	12.3	12.5	6.6	6.1	6.3	7.9	7.6	7.8
29	16.4	16.0	16.2	12.5	12.3	12.4	6.6	6.4	6.5	7.6	7.2	7.5
30	16.7	16.2	16.3	12.4	12.1	12.3	7.0	6.6	6.9	7.2	6.7	7.0
31	16.5	16.3	16.4	---	---	---	7.6	7.0	7.3	6.8	6.6	6.6
MONTH	17.9	14.4	16.5	16.1	11.7	13.9	12.3	5.1	8.4	8.3	6.6	7.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.2	6.7	6.8	6.7	6.5	6.5	10.2	9.6	10.0	16.0	15.6	15.7
2	7.6	7.2	7.4	6.7	6.5	6.6	10.7	10.0	10.3	16.2	15.4	15.7
3	7.9	7.6	7.8	7.3	6.7	6.9	10.5	10.3	10.4	17.1	15.8	16.2
4	8.6	7.9	8.2	7.6	7.3	7.4	10.7	10.3	10.5	18.2	16.3	17.0
5	9.9	8.8	9.5	7.9	7.4	7.7	11.1	10.5	10.8	16.9	15.9	16.5
6	10.2	9.7	9.9	8.3	7.7	8.0	10.9	10.7	10.8	16.9	16.3	16.5
7	10.2	9.9	10.1	8.5	7.9	8.2	11.2	10.5	10.9	17.1	16.1	16.6
8	10.1	9.6	9.8	8.5	8.3	8.4	11.0	10.6	10.8	17.8	15.9	16.8
9	9.6	9.0	9.3	8.5	8.3	8.5	11.0	10.4	10.6	17.8	17.1	17.6
10	9.0	8.7	8.8	9.1	8.5	8.8	11.4	10.8	11.2	17.1	16.3	16.8
11	9.1	8.5	8.9	9.7	8.9	9.3	11.2	10.6	11.0	17.0	16.6	16.8
12	9.6	9.0	9.3	10.2	9.5	9.9	11.4	9.2	10.7	16.8	16.2	16.6
13	9.6	9.2	9.4	10.8	9.8	10.3	12.2	10.0	11.3	16.2	14.2	15.7
14	9.2	8.7	9.0	11.6	10.2	10.9	11.9	10.4	11.5	16.4	14.6	15.5
15	8.9	8.7	8.9	11.8	11.2	11.5	11.9	10.9	11.6	15.8	13.6	15.1
16	9.1	8.9	9.0	11.7	11.2	11.4	12.8	10.9	11.6	17.4	15.0	16.0
17	8.9	8.7	8.8	12.2	11.7	12.0	12.1	11.7	11.9	16.4	15.4	15.8
18	9.0	8.5	8.7	12.4	12.0	12.1	12.6	11.3	12.0	16.2	15.6	15.9
19	9.2	8.2	8.9	12.3	12.0	12.2	12.8	12.1	12.4	17.0	15.8	16.3
20	8.2	7.6	7.8	12.2	11.6	11.9	13.0	12.6	12.9	16.6	16.0	16.4
21	8.0	7.4	7.8	12.2	11.2	11.9	13.4	12.8	13.2	17.0	16.4	16.6
22	8.4	8.0	8.3	11.9	11.6	11.7	13.6	13.0	13.3	16.8	16.2	16.4
23	8.4	8.1	8.2	11.6	11.0	11.3	16.2	12.8	13.8	16.8	16.0	16.4
24	8.1	7.9	8.0	11.2	10.1	10.8	14.2	13.2	13.8	16.8	15.6	16.4
25	7.9	7.5	7.7	10.3	9.8	10.0	16.6	13.6	14.1	16.6	16.2	16.3
26	7.5	7.2	7.3	10.0	9.4	9.6	15.0	13.6	14.2	16.2	15.8	16.0
27	7.2	6.9	7.1	10.1	9.4	9.8	17.2	14.0	15.0	16.0	15.4	15.7
28	6.9	6.7	6.7	10.3	9.9	10.0	17.0	14.8	15.9	16.2	15.2	15.6
29	---	---	---	10.2	9.8	9.9	16.6	14.6	15.4	---	---	---
30	---	---	---	10.0	9.5	9.7	16.2	15.2	15.5	---	---	---
31	---	---	---	9.7	9.5	9.6	---	---	---	17.5	---	---
MONTH	10.2	6.7	8.5	12.4	6.5	9.8	17.2	9.2	12.2	18.2	13.6	16.2

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

TEMPERATURE, WATER, (DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	16.5	15.5	16.0	22.5	19.7	20.5	---	---	---	21.6	19.6	20.2
2	17.9	15.6	16.8	22.2	20.4	21.1	---	---	---	20.6	19.8	20.2
3	17.6	16.1	16.6	---	---	---	22.2	---	---	20.4	19.8	20.0
4	17.4	15.9	16.5	21.6	18.2	20.4	22.1	19.5	20.4	20.5	19.7	20.1
5	19.0	15.6	16.9	20.8	19.7	20.4	21.2	19.6	20.0	21.7	19.7	20.3
6	20.9	16.5	18.4	21.9	19.0	20.3	20.8	19.4	20.0	---	19.9	---
7	20.8	17.6	19.1	22.1	18.9	20.2	20.7	19.2	19.8	22.7	---	---
8	21.6	18.6	19.9	22.0	19.2	20.2	20.9	19.3	19.9	23.1	19.9	21.0
9	21.7	19.3	20.4	21.0	19.4	20.2	21.7	19.1	19.9	21.3	20.2	20.6
10	22.2	20.2	20.9	22.1	19.6	20.7	22.0	19.2	19.8	21.5	19.9	20.5
11	22.7	19.9	20.9	22.3	19.9	21.2	21.0	18.8	19.3	20.8	20.0	20.4
12	21.6	19.6	20.7	23.1	19.7	21.1	20.7	18.4	19.2	21.3	20.4	20.7
13	21.7	20.1	20.6	20.4	19.8	20.0	19.7	18.3	19.0	21.2	20.4	20.6
14	22.8	19.9	20.9	20.2	19.4	19.6	20.5	18.3	18.8	20.6	19.9	20.3
15	22.9	19.4	21.1	19.8	18.8	19.3	20.6	18.4	19.0	20.1	19.5	19.8
16	23.4	19.9	21.3	19.6	19.0	19.3	22.3	18.2	19.4	19.8	19.0	19.4
17	23.5	20.6	21.3	19.6	18.6	18.9	21.8	18.8	19.6	20.5	18.8	19.5
18	22.0	20.7	21.1	19.6	18.2	18.7	21.0	18.9	19.6	20.3	18.9	19.5
19	21.4	18.9	20.0	19.2	17.6	18.3	20.1	18.7	19.4	20.6	19.2	19.6
20	22.0	19.0	19.9	19.8	17.3	18.4	20.6	18.7	19.2	20.5	19.1	19.7
21	21.3	18.9	19.8	21.0	17.8	18.7	19.7	18.6	18.9	20.4	19.1	19.6
22	21.1	18.7	19.6	---	17.6	---	19.4	18.4	18.8	19.6	18.8	19.4
23	19.5	18.2	18.9	---	---	---	21.2	17.9	18.9	19.1	18.5	18.7
24	19.0	17.1	18.2	---	---	---	20.2	18.6	19.3	18.8	18.1	18.6
25	20.0	16.7	18.4	---	---	---	20.0	18.4	19.0	18.9	18.2	18.6
26	21.4	17.6	19.3	---	---	---	20.7	18.5	19.2	20.6	18.3	19.7
27	20.3	18.7	19.4	---	---	---	21.3	19.1	19.8	---	20.1	---
28	21.0	18.9	19.9	---	---	---	21.5	19.1	19.8	20.9	---	---
29	21.9	18.5	20.3	---	---	---	23.4	19.1	20.6	21.4	20.4	20.6
30	21.4	19.6	20.4	---	---	---	22.6	19.9	20.6	21.0	20.1	20.5
31	---	---	---	---	---	---	22.2	19.8	20.3	---	---	---
MONTH	23.5	15.5	19.4	---	---	---	23.4	17.9	19.6	23.1	18.1	19.9

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.8	7.4	7.6	10.6	6.4	8.9	9.7	9.4	9.6	11.1	10.9	11.0
2	7.7	7.2	7.5	9.1	7.4	8.2	9.5	9.3	9.3	11.0	10.7	10.9
3	7.6	7.1	7.4	8.0	7.0	7.6	9.7	9.3	9.5	10.8	10.7	10.7
4	7.7	7.2	7.5	8.1	7.3	7.7	10.4	---	---	10.9	10.7	10.7
5	7.8	7.2	7.5	8.0	7.2	7.6	---	---	---	10.8	10.6	10.7
6	9.3	6.1	7.6	7.9	7.4	7.7	---	---	---	10.9	10.7	10.8
7	8.0	5.9	7.6	7.7	7.1	7.3	---	---	---	10.9	10.7	10.8
8	8.2	7.5	7.9	8.0	6.8	7.3	---	---	---	10.9	10.0	10.7
9	8.2	7.4	7.9	9.4	7.5	8.2	---	---	---	11.0	10.2	10.8
10	8.3	8.0	8.1	9.5	9.3	9.3	---	---	---	10.9	10.1	10.8
11	8.9	7.8	8.2	9.4	9.2	9.3	---	---	---	11.1	10.8	11.0
12	8.4	6.1	8.1	9.3	9.1	9.3	---	---	---	11.5	11.0	11.2
13	8.4	6.4	7.8	11.3	9.0	9.4	---	---	---	11.6	11.5	11.5
14	8.5	7.8	8.2	10.8	8.6	9.2	---	---	---	11.6	11.3	11.5
15	8.4	7.7	8.0	8.7	8.4	8.6	---	---	---	11.5	11.1	11.5
16	7.8	6.9	7.4	8.8	8.0	8.5	---	---	---	11.5	11.4	11.5
17	8.5	7.3	7.9	8.8	8.6	8.7	---	---	---	11.5	11.2	11.5
18	8.5	6.9	7.6	8.8	8.5	8.7	---	---	---	11.6	10.4	11.4
19	7.2	6.8	6.9	8.8	8.6	8.7	---	---	---	11.6	11.3	11.5
20	7.4	6.7	7.0	9.6	8.4	8.8	---	---	---	11.6	11.2	11.5
21	7.4	6.7	7.0	9.0	8.5	8.8	---	---	---	11.5	10.7	11.3
22	7.6	7.0	7.2	9.1	8.8	9.0	---	---	---	11.4	11.0	11.2
23	7.2	6.8	6.9	9.1	8.8	8.9	---	---	---	11.4	10.3	11.0
24	10.2	6.8	7.8	9.3	8.9	9.0	---	---	---	11.3	10.3	10.9
25	7.3	6.9	7.0	9.2	8.9	9.1	---	---	---	11.3	9.5	10.9
26	7.2	6.6	6.9	11.3	9.1	9.7	---	---	---	11.3	9.2	11.0
27	7.1	6.5	6.8	10.5	8.1	8.9	11.2	---	---	11.3	10.5	11.1
28	9.6	6.8	7.4	9.4	8.2	8.5	11.6	10.9	11.1	11.3	9.3	10.9
29	10.5	9.2	9.6	10.4	9.4	9.9	11.2	10.9	11.0	11.4	9.5	10.9
30	10.7	8.7	9.4	10.2	9.6	9.9	11.2	11.0	11.1	12.4	11.2	11.7
31	9.9	8.0	8.8	---	---	---	11.2	11.0	11.1	12.2	10.4	11.4
MONTH	10.7	5.9	7.7	11.3	6.4	8.7	---	---	---	12.4	9.2	11.1

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

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	10.5	9.9	10.3	11.7	9.9	11.6	11.6	10.3	11.2	9.4	7.1	8.8
2	10.1	8.8	9.8	11.6	11.5	11.6	12.1	10.2	11.4	9.1	6.8	8.2
3	10.9	9.5	10.1	11.7	11.3	11.5	11.4	8.3	10.7	8.8	7.0	7.9
4	10.8	10.2	10.5	12.4	11.4	11.5	11.0	10.7	10.9	8.6	7.1	7.9
5	10.7	10.1	10.4	11.5	11.0	11.4	11.6	10.7	11.1	7.9	7.4	7.7
6	10.3	9.2	10.0	11.4	10.2	11.3	11.1	10.9	11.0	7.7	7.4	7.5
7	9.4	9.2	9.3	11.5	10.2	11.1	11.2	10.4	11.0	7.9	7.1	7.6
8	9.6	9.3	9.4	11.4	10.0	11.1	11.7	10.9	11.3	8.3	7.0	7.8
9	10.4	9.5	10.0	11.3	10.2	11.0	12.1	11.0	11.7	8.6	8.0	8.3
10	10.8	10.4	10.7	11.3	11.1	11.2	12.3	11.1	11.9	8.5	8.1	8.4
11	10.8	10.5	10.6	11.2	10.0	11.0	12.2	10.9	11.8	9.0	8.2	8.6
12	10.7	10.4	10.6	11.3	10.2	11.0	12.4	10.7	11.9	9.7	8.5	9.1
13	10.8	10.5	10.7	11.4	10.1	10.9	12.6	10.4	12.1	9.8	9.0	9.4
14	11.5	10.7	11.1	11.8	9.9	11.0	---	---	---	9.9	9.4	9.8
15	11.5	11.2	11.4	11.2	9.5	10.9	---	---	---	---	---	---
16	11.4	11.1	11.3	11.1	9.2	10.5	---	---	---	---	---	---
17	11.7	11.1	11.2	10.7	10.3	10.5	---	---	---	10.0	---	---
18	11.2	10.7	11.0	10.4	9.5	10.1	11.1	---	---	10.0	9.0	9.8
19	11.2	10.6	10.8	10.3	7.6	9.8	11.0	9.6	10.6	10.1	8.6	9.8
20	11.5	11.2	11.4	10.4	7.7	10.1	11.0	9.9	10.6	10.2	8.8	9.7
21	11.6	11.4	11.5	10.7	10.2	10.4	10.6	9.2	10.3	9.7	8.7	9.2
22	11.6	11.4	11.5	10.9	9.8	10.5	10.5	8.7	9.9	8.7	8.5	8.6
23	12.4	11.4	11.5	10.7	7.4	10.1	10.6	6.4	9.6	9.1	7.6	8.7
24	11.4	11.1	11.4	10.8	10.5	10.6	10.5	7.0	9.8	9.8	8.8	9.3
25	11.4	11.3	11.4	10.9	8.4	10.5	10.5	7.6	9.7	10.0	8.3	9.4
26	12.0	11.1	11.4	11.1	8.0	10.7	10.8	8.5	9.8	10.2	7.9	9.7
27	11.5	11.1	11.4	11.3	10.2	11.0	10.9	8.7	9.9	10.7	8.8	10.2
28	11.6	11.4	11.5	11.5	10.0	11.1	10.6	8.2	9.7	10.8	6.7	10.1
29	---	---	---	11.3	10.2	11.0	10.1	7.9	9.3	11.1	9.1	10.3
30	---	---	---	11.3	10.3	11.1	9.8	7.6	9.0	---	---	---
31	---	---	---	11.6	9.9	11.1	---	---	---	12.0	---	---
MONTH	12.4	8.8	10.8	12.4	7.4	10.9	12.6	6.4	10.6	12.0	6.7	8.9
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	11.0	9.1	10.0	9.0	5.4	7.3	---	---	---	8.5	5.5	7.4
2	11.4	8.6	9.9	8.7	5.2	7.4	---	---	---	7.7	5.5	7.0
3	10.0	8.3	9.5	9.0	5.4	7.8	8.8	---	---	7.8	4.7	6.9
4	10.6	7.5	9.5	8.9	6.0	7.7	8.2	5.2	7.2	7.6	4.8	6.9
5	11.9	8.0	9.9	8.3	6.4	7.4	8.0	4.3	6.8	8.8	5.3	7.2
6	11.6	8.9	10.3	8.8	4.9	7.1	7.4	4.1	5.8	---	5.8	---
7	12.1	7.3	9.8	8.9	5.8	7.6	7.6	5.1	6.4	8.6	---	---
8	11.7	8.2	9.8	9.1	4.7	6.6	7.7	6.2	6.9	8.3	5.4	6.9
9	11.3	8.0	9.8	8.8	6.0	7.5	7.3	5.6	6.5	7.6	5.0	6.7
10	11.2	8.2	9.8	9.2	4.8	7.2	7.2	4.7	5.4	7.5	4.1	6.5
11	11.6	6.5	9.0	8.5	7.3	8.0	8.0	---	---	7.0	4.5	6.3
12	11.4	7.5	9.6	8.7	7.2	7.8	6.3	---	---	7.3	5.1	6.4
13	11.7	7.2	9.8	7.9	4.7	7.2	5.3	4.1	4.6	7.0	4.8	6.2
14	11.6	8.1	10.1	7.7	4.8	6.1	5.1	4.0	4.2	6.5	4.5	6.1
15	11.9	7.7	10.5	9.6	4.9	7.5	6.1	---	---	6.8	4.3	6.2
16	12.2	8.1	10.7	8.3	5.8	7.1	---	---	---	---	---	---
17	12.3	7.0	10.1	8.8	5.9	7.6	---	7.7	---	---	---	---
18	11.9	5.9	9.2	8.5	4.8	7.2	---	5.7	---	7.9	4.9	6.6
19	11.2	7.3	9.5	8.7	5.1	6.9	---	4.6	---	---	---	---
20	11.3	6.5	9.2	9.0	5.2	8.0	---	4.8	---	---	---	---
21	10.8	4.6	8.6	9.6	5.9	8.0	9.6	5.7	7.2	---	---	---
22	10.7	6.0	8.6	9.5	5.3	8.2	9.3	4.4	7.5	7.4	4.3	6.4
23	9.8	6.5	8.2	---	5.5	---	8.8	6.4	7.3	7.4	5.2	6.8
24	9.4	5.4	7.9	---	---	---	8.1	6.2	7.5	7.9	5.7	7.1
25	9.6	5.0	7.9	---	---	---	7.9	5.4	7.1	8.1	5.9	7.4
26	9.9	5.1	7.4	---	---	---	8.1	5.7	7.1	---	5.8	---
27	---	5.4	---	---	---	---	8.8	5.3	7.3	---	---	---
28	8.3	5.5	7.3	---	---	---	8.9	6.5	7.4	6.7	---	---
29	8.4	5.2	7.1	---	---	---	9.2	6.0	7.5	6.9	4.8	5.9
30	8.6	5.5	7.4	---	---	---	8.5	5.9	7.2	7.5	4.2	6.1
31	---	---	---	---	---	---	8.8	6.1	7.3	---	---	---
MONTH	12.3	4.6	9.2	---	---	---	---	---	---	---	---	---

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.--66 years, 1,157 ft^3/s, 24.55 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)
Oct. 2	1200	15,700	17.75	Feb. 10	2130	15,000	17.27
Feb. 4	1330	*18,300	*19.52				

Minimum discharge, 89 ft^3/s, Sept. 7, 8, 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9810	317	899	5620	2980	1230	1100	1020	464	187	154	103
2	14100	313	835	3580	2450	1450	1080	1570	430	194	147	102
3	7390	307	778	2610	4350	3080	1010	1620	422	191	142	100
4	3890	299	717	2710	16300	3060	940	1430	623	180	138	97
5	2630	290	680	3590	10600	2430	886	4280	871	175	143	94
6	1930	330	652	3100	5380	1980	893	3260	640	178	145	92
7	1500	548	619	2840	3670	1690	1170	2260	538	182	139	91
8	1220	706	673	3280	2950	1540	1120	1670	469	176	179	90
9	1020	1330	945	4140	2490	2110	985	1340	410	189	161	90
10	891	1230	910	3250	9930	3100	950	1280	369	190	154	93
11	793	952	842	2520	10300	3040	1010	1500	338	227	143	97
12	715	789	818	2080	5170	2430	1020	1340	312	799	136	163
13	649	693	834	1730	3500	1990	921	1150	295	735	136	184
14	598	646	814	1480	2770	1730	867	988	283	1030	130	131
15	553	787	771	1340	2370	1550	842	852	274	994	125	121
16	516	3610	735	1220	5550	5030	814	756	268	629	121	118
17	583	3240	681	1120	6720	8860	779	994	259	456	119	108
18	589	2330	639	1760	4370	6260	746	1260	255	370	115	100
19	560	1750	645	2000	3300	3980	718	922	251	349	114	98
20	534	1410	669	2410	2720	2900	678	807	241	277	113	97
21	497	1220	647	7020	2240	2260	1450	868	244	260	109	104
22	467	1180	586	5170	2010	1880	3710	950	242	344	110	203
23	440	3100	507	3490	2170	1620	2650	890	235	434	110	190
24	415	2830	499	2680	2040	1430	1960	791	231	392	110	212
25	394	2160	465	2380	1780	1290	1540	708	234	309	108	168
26	377	1740	466	2110	1550	1170	1280	647	217	254	107	137
27	361	1460	467	1800	1410	1080	1100	730	205	219	107	122
28	348	1320	463	1590	1310	1000	1020	698	199	198	105	112
29	338	1200	454	3070	---	986	1110	646	194	182	103	105
30	330	1010	588	6250	---	1100	1120	585	186	170	105	101
31	327	---	3520	4050	---	1140	---	516	---	160	106	---
TOTAL	54765	39097	23818	91990	122380	74396	35469	38328	10199	10630	3934	3623
MEAN	1767	1303	768	2967	4371	2400	1182	1236	340	343	127	121
MAX	14100	3610	3520	7020	16300	8860	3710	4280	871	1030	179	212
MIN	327	290	454	1120	1310	986	678	516	186	160	103	90
CFSM	2.76	2.04	1.20	4.64	6.83	3.75	1.85	1.93	.53	.54	.20	.19
IN.	3.18	2.27	1.38	5.35	7.11	4.32	2.06	2.23	.59	.62	.23	.21

CAL YR 1989 TOTAL 709922 MEAN 1945 MAX 19400 MIN 234 CFSM 3.04 IN. 41.26
WTR YR 1990 TOTAL 508629 MEAN 1394 MAX 16300 MIN 90 CFSM 2.18 IN. 29.56

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.--Records good, except for periods of no gage height record, Dec. 24 to Jan. 1 which are fair. 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.--76 years (1915-90), 3,126 ft^3/s, 25.30 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, 55,000 ft^3/s, Feb. 4, gage height, 24.00 ft; minimum daily, 59 ft^3/s, June 29, 30, July 1-10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25400	643	1790	e7500	8590	3170	3410	3460	1170	59	87	80
2	25500	652	1820	9070	6340	3270	3340	3530	819	59	91	81
3	16500	745	1830	8110	13400	e5500	3530	3500	372	59	133	81
4	7570	583	1810	4480	40500	e7000	3440	3650	647	59	94	1120
5	5740	523	1810	8350	22400	5640	3520	3620	656	59	93	1120
6	4900	573	2410	7940	13300	4540	3640	3990	651	59	93	1210
7	3410	1320	2570	6170	8060	4130	3630	5260	1330	59	93	1270
8	4130	1870	3220	7990	7140	3810	3610	4520	1470	59	90	89
9	2380	1860	3230	10700	6380	4260	3680	3880	703	59	125	76
10	1830	1780	3210	8780	21800	5390	2070	3740	652	59	128	255
11	1810	8470	3220	4410	19800	5620	2200	3750	597	583	111	73
12	1350	3740	3040	5030	11400	5060	3700	3710	554	86	107	71
13	1350	2220	3180	4590	7650	4410	3720	3710	474	1550	104	71
14	1810	1860	3160	3980	6780	3970	3320	3720	420	110	104	71
15	1800	1880	3180	3710	6160	3670	1110	3740	421	73	104	72
16	800	7090	3110	3060	13900	11500	2270	3690	63	74	104	72
17	1150	9840	2680	3040	13000	23200	2110	3700	62	74	103	67
18	1460	7360	2300	2690	8910	15200	2870	3700	479	1240	102	60
19	1260	5600	859	5650	e8000	8340	2700	3670	477	1230	102	60
20	1420	2850	1560	6420	6180	7250	1570	3720	483	1270	101	947
21	1690	1900	1430	17900	5140	5500	81	3720	64	82	101	971
22	1500	4080	1350	13800	5330	4840	2080	3750	64	83	101	61
23	778	6330	1100	9580	5160	4100	3500	1920	63	82	100	61
24	909	6880	e1300	6550	5070	3920	3430	2300	63	82	99	61
25	755	5870	e850	4680	5680	3590	3530	1840	62	82	99	331
26	569	4870	e850	4890	3990	3350	3500	1610	62	82	99	310
27	562	4030	e1000	4190	3230	3360	3540	1580	62	84	991	299
28	804	3630	e850	3900	3220	3370	96	1480	62	83	80	302
29	748	2670	e1000	8220	---	3360	71	1370	59	83	80	60
30	489	1890	e1000	14900	---	3380	3440	1170	59	83	79	60
31	690	---	e2500	9110	---	3440	---	1350	---	89	79	---
TOTAL	121064	103609	63219	219390	286510	177140	82708	98350	13120	7795	3977	9462
MEAN	3905	3454	2039	7077	10230	5714	2757	3173	437	251	128	315
MAX	25500	9840	3230	17900	40500	23200	3720	5260	1470	1550	991	1270
MIN	489	523	850	2690	3220	3170	71	1170	59	59	79	60
(†)	-6600	+3600	+400	+8200	-1100	-2600	-1900	-7800	+1800	+4900	-300	-4900
MEAN‡	3692	3574	2052	7342	10193	5630	2694	2921	497	410	119	152
CFSM†	2.20	2.13	1.22	4.38	6.07	3.36	1.61	1.74	.30	.24	.07	.09
IN‡	2.54	2.38	1.41	5.04	6.33	3.87	1.79	2.01	.33	.28	.08	.10

CAL YR 1989 TOTAL 1614397 MEAN 4423 MAX 42600 MIN 62 MEAN‡ 4416 CFSM‡ 2.63 IN.‡ 35.72
WTR YR 1990 TOTAL 1186344 MEAN 3250 MAX 40500 MIN 59 MEAN‡ 3233 CFSM‡ 1.93 IN.‡ 26.15

e Estimated
† 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 except for estimated discharges, which are fair. Flow regulated by five upstream lakes or reservoirs, (see p. 88). U.S. Army Corps of Engineers Satellite telemeter at station.

AVERAGE DISCHARGE.--68 years, 17,350 ft^3/s, 22.03 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, 78,100 ft^3/s, Feb. 4; maximum gage height, 30.31 ft, Feb. 4; minimum daily discharge, 4,010 ft^3/s, Sept. 30; minimum gage height, 6.07 ft, Aug. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40200	25000	26000	40700	25800	32600	14500	5420	5160	7600	14300	7400
2	28300	23300	22300	32500	22600	29900	15100	4470	4860	5980	13300	5300
3	25400	22500	20600	23100	29200	29200	15100	5060	6360	7440	13200	5390
4	28100	21900	26800	20400	55600	23900	18800	6770	8230	8280	10100	8090
5	25100	23800	27300	19300	38900	25200	23400	9940	11200	9280	8780	9830
6	21000	21200	29500	16800	29300	21400	22900	8800	13200	9260	12200	11600
7	24100	18600	30300	13600	36000	19600	18600	13000	15000	9870	10500	13100
8	21300	25100	25400	11300	36500	20800	14100	14200	14800	6050	12200	9450
9	21700	26000	26000	14600	34000	20700	9440	23600	12600	9260	13000	6910
10	22700	26300	25100	17300	56700	19600	8650	19200	11000	11600	10900	7200
11	21600	22800	28200	19700	54600	15300	8790	19500	7630	17400	9190	6430
12	20300	19600	28600	23900	38400	16700	9830	17600	6910	14900	8010	6290
13	21200	21600	31100	19400	42600	14600	8860	15800	8150	7400	8510	5350
14	20000	24900	33700	20600	44300	14100	7280	14500	11000	5790	10800	6800
15	19300	27000	34000	21000	46800	12300	7380	12300	13500	6270	13700	5460
16	19900	30600	32600	18300	44100	16000	8000	12800	11700	7420	13200	4680
17	40200	30000	21500	17900	44000	20900	7550	32100	8470	7830	13200	6890
18	40600	24800	27900	22500	46200	15200	8220	20700	6430	9950	9680	6760
19	28400	22300	22900	21800	47600	15000	14100	16500	6140	8780	7950	6640
20	28100	24400	21800	20100	48400	21000	9410	13600	8170	11100	9960	7560
21	25300	26000	23800	17900	46800	25400	11000	24100	9500	8990	9310	6920
22	26900	26900	28900	17800	44900	29100	5680	21300	9320	8760	9510	6110
23	26800	28100	28200	16000	37900	24700	5900	17700	6850	8200	9690	4930
24	24800	27700	27900	17200	33100	18100	5530	21500	5420	9770	9360	5390
25	26000	24300	27700	20300	29800	12500	5630	21400	7490	11900	6760	5760
26	24300	21000	27700	20200	28800	16200	7860	18200	8320	13200	7200	5830
27	24700	21800	18000	14000	30100	17700	9860	13300	9340	13100	10400	6510
28	23900	23600	12400	16100	34500	21100	10400	7070	10700	10100	10300	6160
29	20200	27400	12800	21100	---	22500	8030	5920	12600	8270	11700	4200
30	23100	32100	13900	33800	---	22800	5650	4930	10600	11300	10500	4010
31	28900	---	37900	26800	---	17100	---	5590	---	12100	9490	---
TOTAL	792400	740600	800800	636000	1107500	631200	325550	446870	280650	297150	326900	202950
MEAN	25560	24690	25830	20520	39550	20360	10850	14420	9355	9585	10550	6765
MAX	40600	32100	37900	40700	56700	32600	23400	32100	15000	17400	14300	13100
MIN	19300	18600	12400	11300	22600	12300	5530	4470	4860	5790	6760	4010

CAL YR 1989 TOTAL 9436250 MEAN 25850 MAX 83800 MIN 3400 CFSM 2.42 IN. 32.84 MEAN‡ 27350 CFSM‡ 2.56 IN.‡ 34.72
WTR YR 1990 TOTAL 6588570 MEAN 18050 MAX 56700 MIN 4010 CFSM 1.69 IN. 22.93 MEAN‡ 17470 CFSM‡ 1.63 IN.‡ 22.18

‡ 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 1989 TO SEPTEMBER 1990

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										
16...	1100	9600	193	7.5	17.0	752	5.4	7.5	79	23
DEC										
04...	1100	38700	200	7.7	10.5	752	5.1	9.6	87	30
FEB										
13...	0900	48400	195	7.7	9.0	755	27	10.8	94	880
APR										
10...	1100	9280	200	8.0	11.0	750	4.2	10.4	96	K9
JUN										
12...	1030	7100	209	7.9	20.5	756	4.3	8.6	96	K4
AUG										
15...	1030	9300	187	7.5	17.5	756	4.4	7.9	83	K26

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	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
OCT										
16...	K20	84	22	24	5.8	4.2	10	0.2	1.5	62
DEC										
04...	K13	85	26	24	6.2	4.8	11	0.2	2.0	59
FEB										
13...	870	86	19	26	5.2	3.2	7	0.1	2.1	67
APR										
10...	K14	88	25	25	6.2	4.6	10	0.2	1.4	63
JUN										
12...	K3	92	2	27	5.9	4.5	9	0.2	1.6	89
AUG										
15...	44	66	13	17	5.6	4.4	12	0.2	1.3	53

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

03425000 CUMBERLAND RIVER AT CARTHAGE, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	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 16...	28	3.2	0.10	5.2	109	108	0.15	2830	0.010	0.310
DEC 04...	31	3.4	0.10	4.9	141	113	0.19	14700	0.020	0.320
FEB 13...	20	2.7	0.10	5.1	112	106	0.15	14600	0.020	0.400
APR 10...	28	4.5	<0.10	3.7	113	113	0.15	2830	<0.010	0.300
JUN 12...	25	5.0	<0.10	3.1	112	127	0.15	2150	0.010	0.300
AUG 15...	27	3.8	0.10	4.4	97	97	0.13	2440	<0.010	0.400

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,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 16...	0.04	0.020	0.030	0.30	0.030	0.010	0.010	14	368	60
DEC 04...	0.14	0.020	0.110	0.30	0.030	0.030	0.030	11	1180	74
FEB 13...	0.03	0.040	0.020	0.40	0.870	0.030	0.010	55	7200	56
APR 10...	--	<0.010	<0.010	0.40	0.020	<0.010	<0.010	11	283	61
JUN 12...	0.06	0.040	0.050	0.50	0.050	0.020	0.020	10	192	87
AUG 15...	0.05	0.030	0.040	0.80	0.010	0.020	<0.010	8	208	94

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 16...	20	<1	21	<0.5	<1.0	1	<3	3	26	<1
FEB 13...	110	<1	18	<0.5	<1.0	<5	<3	<10	140	<10
APR 10...	30	<1	21	<0.5	<1.0	<5	<3	<10	27	<10
AUG 15...	<10	<1	20	<0.5	<1.0	1	<3	3	7	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 16...	<4	8	0.1	<10	1	<1	<1.0	95	<6	38
FEB 13...	<4	17	0.1	<10	<10	<1	<1.0	86	<6	11
APR 10...	<4	17	<0.1	<10	<10	<1	<1.0	96	<6	20
AUG 15...	<4	7	<0.1	<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.-Records good. No record Aug. 6 to Sept. 30, bridge construction. Site located in Old Hickory Lake. Stage regulated by five reservoirs above site (see p. 88). 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, 42.85 ft, Nov. 1, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 49.68 ft, Feb. 4; minimum, 42.85 ft, Nov. 1.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	47.64	46.76	43.88	42.85	45.78	45.01	47.28	46.68	45.74	44.84	45.63	45.19
2	47.62	45.37	43.86	43.15	44.97	44.35	46.64	45.70	45.30	44.79	45.47	45.12
3	45.48	45.31	44.56	43.68	44.72	44.24	45.77	44.95	48.44	44.91	45.25	44.84
4	45.74	45.21	45.36	44.41	45.36	44.60	45.06	44.40	49.68	48.51	44.90	44.63
5	45.60	45.06	45.64	45.18	45.48	45.16	45.47	44.78	49.50	46.73	45.33	44.91
6	45.38	44.87	45.64	45.12	45.20	44.92	45.47	44.86	46.63	45.11	45.22	44.68
7	45.71	45.23	45.19	44.63	45.39	44.78	44.83	44.59	46.08	45.24	44.79	44.46
8	45.63	45.51	46.57	45.05	45.44	44.72	44.76	44.49	46.45	46.03	44.74	44.15
9	45.52	45.17	46.38	45.40	45.82	45.31	44.92	44.42	46.54	45.62	45.01	44.38
10	45.24	44.99	45.36	45.12	45.73	45.20	45.04	44.78	48.82	46.67	44.98	44.71
11	45.31	44.91	45.35	45.12	45.25	44.64	45.07	44.88	48.81	47.65	44.94	44.59
12	45.48	44.93	45.13	44.74	45.29	44.66	45.07	44.74	47.61	46.11	44.91	44.53
13	45.67	45.19	45.62	44.79	45.41	44.81	44.99	44.62	46.47	45.54	44.88	44.47
14	45.69	45.04	45.61	45.02	45.43	44.97	44.60	44.30	46.94	46.12	44.92	44.49
15	45.12	44.72	46.30	44.98	45.47	44.75	44.75	44.50	47.19	46.60	45.12	44.64
16	45.11	44.65	46.41	45.74	45.61	45.28	44.87	44.67	47.61	46.77	45.44	44.79
17	47.39	45.16	46.23	45.84	45.79	45.18	44.91	44.60	46.90	46.30	45.71	45.24
18	47.56	46.31	45.82	45.12	45.48	44.42	45.54	44.78	47.09	46.50	45.38	44.82
19	46.29	44.62	45.30	44.87	45.56	45.32	45.60	45.07	47.11	46.76	45.23	44.69
20	44.60	43.87	45.33	44.94	45.51	44.90	45.36	44.77	47.00	46.73	45.41	44.95
21	43.89	43.38	45.63	45.16	45.20	44.67	45.53	45.16	46.89	46.50	45.75	44.82
22	43.50	43.39	45.59	45.09	46.01	45.24	45.47	44.73	46.84	46.44	45.99	45.56
23	43.61	43.46	45.15	44.76	45.97	45.63	44.92	44.43	46.72	46.10	46.02	45.23
24	43.68	43.47	45.11	44.75	46.31	45.88	45.10	44.71	46.12	45.77	45.50	44.92
25	43.58	43.37	45.40	45.11	45.88	45.47	45.10	44.73	45.77	45.11	45.07	44.54
26	43.59	43.15	45.37	44.78	45.80	45.39	45.31	44.86	45.28	44.96	44.68	44.32
27	43.80	43.41	44.88	44.51	45.74	44.75	45.14	44.49	45.21	44.87	45.00	44.56
28	43.81	43.51	44.95	44.55	44.73	44.10	44.94	44.18	45.63	45.14	45.24	44.69
29	43.54	43.03	45.45	44.88	44.51	44.26	45.80	44.71	---	---	45.10	44.67
30	43.64	42.96	45.82	45.41	44.90	44.33	46.44	45.85	---	---	45.10	44.67
31	44.15	43.62	---	---	47.24	44.88	46.39	45.55	---	---	44.99	44.47
MONTH	47.64	42.96	46.57	42.85	47.24	44.10	47.28	44.18	49.68	44.79	46.02	44.15

03425400 CUMBERLAND RIVER AT HUNTERS POINT, TN--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	44.91	44.37	44.67	44.33	44.43	44.07	44.91	44.38	44.84	44.48	---	---
2	44.91	44.61	44.56	44.33	44.53	44.06	44.68	44.35	44.99	44.60	---	---
3	44.94	44.72	44.67	44.31	44.92	44.16	44.64	44.28	44.94	44.53	---	---
4	45.10	44.79	44.89	44.42	45.09	44.50	44.53	44.28	44.87	44.47	---	---
5	45.43	44.93	45.06	44.74	44.79	44.47	44.71	44.29	44.86	44.45	---	---
6	45.44	45.12	44.79	44.34	44.88	44.53	44.67	44.43	---	---	---	---
7	45.14	44.89	44.63	44.30	44.77	44.43	44.85	44.36	---	---	---	---
8	45.06	44.60	44.71	44.41	44.69	44.41	44.84	44.36	---	---	---	---
9	44.82	44.42	45.05	44.56	44.93	44.47	44.88	44.38	---	---	---	---
10	44.63	44.27	45.22	44.78	44.95	44.42	44.91	44.54	---	---	---	---
11	44.53	44.23	44.89	44.69	44.57	44.20	45.30	44.67	---	---	---	---
12	44.63	44.17	44.90	44.59	44.42	44.12	45.17	44.71	---	---	---	---
13	44.95	44.45	44.71	44.46	44.42	44.03	44.92	44.35	---	---	---	---
14	44.78	44.22	44.73	44.43	44.54	44.12	44.43	44.20	---	---	---	---
15	44.63	44.26	44.68	44.34	44.97	44.44	44.39	44.10	---	---	---	---
16	44.59	44.21	44.66	44.29	45.16	44.51	44.40	44.15	---	---	---	---
17	44.72	44.39	47.24	44.36	44.75	44.34	44.51	44.23	---	---	---	---
18	44.89	44.45	47.11	45.31	44.54	44.15	44.52	44.30	---	---	---	---
19	45.03	44.58	45.22	44.42	44.53	44.12	44.66	44.38	---	---	---	---
20	44.95	44.46	44.94	44.50	44.56	44.18	44.69	44.47	---	---	---	---
21	44.88	44.43	45.23	44.51	44.86	44.46	44.79	44.52	---	---	---	---
22	44.64	44.20	45.21	44.87	44.80	44.48	44.90	44.31	---	---	---	---
23	44.55	44.05	44.99	44.46	44.71	44.46	44.64	43.99	---	---	---	---
24	44.46	44.13	44.72	44.33	44.67	44.21	44.33	44.03	---	---	---	---
25	44.72	44.29	45.04	44.62	44.43	44.11	44.53	44.23	---	---	---	---
26	44.72	44.32	45.35	44.99	44.59	44.17	44.82	44.35	---	---	---	---
27	44.76	44.49	45.15	44.65	44.60	44.31	44.94	44.49	---	---	---	---
28	45.00	44.58	44.75	44.30	44.76	44.49	44.90	44.51	---	---	---	---
29	44.96	44.51	44.64	44.23	44.89	44.51	44.85	44.40	---	---	---	---
30	44.69	44.42	44.55	44.13	45.15	44.62	44.73	44.26	---	---	---	---
31	---	---	44.46	44.10	---	---	44.70	44.36	---	---	---	---
MONTH	45.44	44.05	47.24	44.10	45.16	44.03	45.30	43.99	---	---	---	---

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. 88).

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

AVERAGE DISCHARGE.--54 years (water years 1932-42, 1948-90), 18,850 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, 79,300 ft^3/s Feb. 4; minimum daily discharge, 4,070 ft^3/s Sept. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57300	22800	32900	53700	31100	33100	14300	5670	5630	9750	11900	7130
2	54100	21700	27500	43800	27800	30900	14000	5270	4170	5560	13300	6390
3	30800	13900	17600	34100	47400	32300	15900	4970	7990	7170	13300	4070
4	29300	13600	18900	27100	79300	23200	18500	6260	9370	7790	12200	4530
5	28900	20000	29200	20400	76200	22600	19000	15600	11800	7910	9500	8260
6	22000	25700	28300	25700	44200	25700	25800	12100	13500	9200	9460	9980
7	22100	18900	28200	17200	32300	21500	23600	10100	15200	7560	11800	13400
8	25000	24900	25500	13700	38400	19700	17200	14500	13600	7450	12500	10400
9	25200	39600	25100	12600	39900	19000	12900	18400	14100	5750	11400	6780
10	24900	27400	29200	17200	70700	19900	9810	22700	12600	10300	10800	6240
11	19600	25800	28300	19800	77000	17800	9140	19600	8340	16100	11100	7960
12	19300	20400	28300	24000	55000	15400	8970	19500	7650	18000	9020	6300
13	19400	14800	28400	23900	40300	15000	10100	18400	7320	11900	7320	5960
14	24700	26500	33300	20000	41700	13800	9020	13500	7700	6860	9270	5710
15	22300	23400	31500	18100	49800	14100	7530	13000	10500	5760	8520	5470
16	19000	36500	30200	18200	62100	21300	7570	13900	14400	5700	12400	6350
17	50300	5940	28900	20200	47500	29800	7810	31800	10200	7040	14000	6160
18	57300	29700	19500	19900	44200	22800	8650	42800	6060	7630	11400	6010
19	47600	22900	26900	29200	50400	14900	12100	20100	7670	8390	9000	6020
20	36400	20200	25200	22000	49800	23500	13800	18100	5810	10200	8480	5370
21	31100	22200	19500	24800	47200	20100	11900	21300	9040	10200	8120	6660
22	25900	29600	23000	26200	45800	27500	10200	24600	9260	11100	8500	6450
23	25800	29100	27500	17700	41800	28800	5830	22800	8220	10100	10300	4770
24	25800	24900	29800	18800	36400	23800	5000	19200	7400	7580	9470	5600
25	25800	23300	29400	19600	33800	18300	4790	17700	5740	9480	8340	5790
26	24000	26100	27700	22000	31000	14800	7580	21100	6650	10800	7070	5650
27	22400	23500	27700	17700	28400	15300	9790	17400	7430	12900	8280	6810
28	25500	21400	16200	15400	30600	21800	10100	12400	9040	12000	7690	5870
29	26300	23200	12200	24600	---	22500	9340	6690	11900	9220	10200	5130
30	16100	29100	13200	36100	---	24200	6920	5790	11900	9150	12300	4320
31	28100	---	35500	36500	---	20700	---	6430	---	10300	10300	---
TOTAL	912300	707040	804600	740200	1300100	674100	347150	501680	280190	288850	317240	195540
MEAN	29430	23570	25950	23880	46430	21750	11570	16180	9340	9318	10230	6518
MAX	57300	39600	35500	53700	79300	33100	25800	42800	15200	18000	14000	13400
MIN	16100	5940	12200	12600	27800	13800	4790	4970	4170	5560	7070	4070

CAL YR 1989 TOTAL 10485310 MEAN 28730 MAX 107000 MIN 3850
WTR YR 1990 TOTAL 7068990 MEAN 19370 MAX 79300 MIN 4070

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

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 instrument malfunctions. 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, June 25, 1990.
WATER TEMPERATURE: Maximum, 27.6°C, Aug. 8, 1988; minimum, 2.1°C, Dec. 24, 1989.
DISSOLVED OXYGEN: Maximum, 15.9 mg/L, Dec. 24, 1990; minimum, 2.9 mg/L, Sept. 5, 1988.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 257 microsiemens, Jan. 12; minimum, 176 microsiemens, Feb. 6.
pH: Maximum, 8.7 units, May 27; minimum, 6.7 units, June 25.
WATER TEMPERATURE: Maximum, 26.7°C, July 3; minimum, 2.1°C, Dec. 24.
DISSOLVED OXYGEN: Maximum, 15.9 mg/L, Dec. 24; minimum, 3.3 mg/L, June 24.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	225	204	217	216	206	210	208	199	204	222	210	216
2	229	218	223	210	204	207	208	200	203	231	214	223
3	215	210	212	207	202	204	208	200	204	235	227	229
4	228	215	220	208	200	204	209	201	204	242	231	237
5	240	224	231	206	198	202	210	202	205	243	239	241
6	249	236	242	205	195	201	207	198	204	247	239	242
7	254	245	249	202	193	198	207	199	204	248	239	244
8	246	228	237	199	190	195	204	203	204	248	244	246
9	232	220	224	193	185	190	208	193	202	248	244	246
10	225	213	219	194	185	189	201	193	196	249	244	247
11	218	208	212	193	184	189	202	194	200	251	242	247
12	212	204	207	197	186	191	206	198	201	257	242	250
13	208	204	206	198	190	193	207	198	202	256	246	252
14	220	204	210	205	193	199	211	199	206	254	248	250
15	224	216	220	210	201	204	211	203	207	252	246	249
16	228	220	223	206	198	203	208	203	205	250	240	244
17	225	209	217	207	199	202	208	204	207	244	235	241
18	217	209	212	212	199	206	209	204	206	242	233	238
19	213	193	202	208	196	203	209	197	203	236	227	231
20	213	197	205	208	197	203	209	197	203	230	221	226
21	217	209	213	210	197	205	210	201	205	224	214	219
22	225	213	218	210	202	206	210	202	208	217	209	213
23	225	217	221	207	198	203	215	206	210	219	211	215
24	221	209	217	207	199	202	215	203	209	221	210	217
25	217	205	210	204	199	202	215	207	210	224	215	220
26	210	201	205	204	196	199	216	208	212	226	217	221
27	210	202	205	205	197	201	212	204	209	228	220	225
28	214	206	210	210	197	204	213	204	209	229	221	225
29	218	210	213	206	202	204	213	209	211	229	213	219
30	218	210	214	207	199	205	213	209	211	214	203	208
31	218	209	213	---	---	---	214	209	212	216	203	208
MONTH	254	193	217	216	184	201	216	193	206	257	203	232

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	218	212	214	212	200	206	226	219	220	228	217	220
2	219	210	213	212	203	208	222	212	217	227	217	222
3	220	211	215	207	199	205	220	212	217	227	220	225
4	225	212	220	207	199	204	220	212	215	231	224	226
5	214	179	193	207	203	205	216	212	213	227	224	225
6	200	176	186	207	199	205	220	211	214	231	224	226
7	213	196	206	207	203	205	219	211	215	230	223	228
8	222	210	215	207	199	205	219	211	214	234	226	229
9	215	192	206	211	203	205	215	207	211	234	226	231
10	196	182	188	211	202	207	211	199	207	234	226	228
11	198	182	192	214	206	209	207	199	205	230	226	227
12	203	180	193	210	206	207	207	199	203	230	223	225
13	213	200	206	210	202	207	207	199	204	234	223	230
14	214	206	211	210	202	206	207	199	204	234	223	229
15	210	191	201	210	202	207	211	202	204	230	219	223
16	196	185	188	210	202	208	210	202	207	223	214	219
17	205	190	199	214	206	209	210	206	208	218	210	213
18	207	198	204	221	210	215	214	206	208	218	210	214
19	209	200	206	221	214	217	218	206	211	222	214	216
20	210	202	207	218	210	212	222	210	215	218	202	213
21	211	199	206	214	206	211	224	217	219	206	194	202
22	200	193	196	229	210	219	228	221	225	210	201	205
23	206	198	201	245	229	236	231	223	227	223	206	213
24	207	199	204	246	234	241	231	223	227	224	215	220
25	208	200	206	234	226	232	231	223	227	229	220	224
26	209	202	206	230	215	220	226	222	224	229	218	223
27	208	204	206	222	211	216	226	219	224	223	218	220
28	208	200	204	222	211	217	226	221	224	224	216	220
29	---	---	---	222	215	220	225	218	220	225	217	219
30	---	---	---	226	219	222	225	218	220	224	218	221
31	---	---	---	226	219	224	---	---	---	227	219	221
MONTH	225	176	203	246	199	213	231	199	215	234	194	221
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	226	218	221	214	205	210	208	200	202	198	190	193
2	225	220	223	213	205	209	208	199	205	194	190	192
3	227	218	221	213	201	206	203	195	200	194	190	193
4	222	215	220	209	201	204	203	195	199	198	190	195
5	225	213	218	212	201	206	203	195	198	198	190	196
6	224	215	220	216	200	206	203	195	197	198	193	196
7	223	217	220	216	200	204	206	198	200	197	193	195
8	229	220	224	212	192	200	218	198	203	197	193	195
9	235	224	229	216	192	203	202	198	200	197	193	195
10	239	226	232	208	191	198	202	194	198	201	193	196
11	238	225	230	203	191	196	221	193	198	201	197	198
12	232	224	228	205	195	200	232	193	198	201	197	198
13	231	226	228	207	200	203	201	189	194	201	197	198
14	230	221	227	204	200	201	248	189	197	201	197	199
15	229	219	223	204	196	202	231	192	198	201	197	199
16	227	214	220	204	196	198	200	192	196	201	193	198
17	222	209	215	204	196	199	196	188	193	201	193	197
18	217	208	214	200	196	198	196	188	192	201	193	198
19	215	206	211	200	192	195	196	188	192	201	193	196
20	223	210	215	200	192	194	192	188	190	201	193	196
21	225	217	220	200	192	195	195	187	191	201	193	196
22	224	213	219	200	192	194	199	191	193	201	193	196
23	227	219	222	200	192	196	195	191	192	201	193	196
24	222	210	218	200	196	197	195	187	191	217	185	199
25	218	209	214	204	196	197	195	187	189	200	192	197
26	217	208	211	208	196	200	191	187	189	200	192	197
27	216	207	210	208	196	202	195	187	191	200	196	198
28	215	203	209	208	196	198	195	187	190	200	196	198
29	214	206	211	204	188	194	194	187	191	200	192	197
30	214	210	212	196	188	192	198	190	193	200	196	197
31	---	---	---	204	188	196	198	190	196	---	---	---
MONTH	239	203	219	216	188	200	248	187	195	217	185	196

PH (STANDARD UNITS), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.9	7.7	8.0	7.8	8.1	8.0	8.2	8.1	8.1	7.9	7.8	7.8
2	7.7	7.7	8.0	7.7	8.2	7.9	8.1	8.0	8.1	8.0	7.8	7.7
3	7.8	7.7	7.9	7.7	8.1	7.9	8.1	8.0	8.1	8.0	7.8	7.7
4	7.8	7.7	7.9	7.8	8.1	7.9	8.2	7.9	8.1	7.9	7.8	7.7
5	7.9	7.7	8.0	7.8	8.1	7.9	8.1	7.9	8.0	7.8	7.8	7.7
6	8.1	7.8	7.9	7.8	8.1	7.8	8.1	7.9	7.9	7.9	7.9	7.7
7	8.1	7.9	7.9	7.5	8.1	7.9	8.0	7.8	7.9	7.9	7.9	7.7
8	8.0	7.8	7.8	7.6	8.0	7.8	8.0	7.8	8.0	7.8	7.9	7.7
9	7.9	7.8	7.8	7.7	7.9	7.8	7.9	7.8	8.0	7.9	7.8	7.7
10	7.9	7.8	7.8	7.7	8.0	7.8	7.9	7.7	8.0	8.0	7.8	7.6
11	8.0	7.8	7.9	7.8	8.0	7.8	8.0	7.7	8.0	7.9	7.8	7.6
12	8.0	7.8	7.8	7.4	8.0	7.8	8.0	7.9	8.0	7.9	7.7	7.5
13	8.0	7.8	7.6	7.4	8.0	7.9	8.2	8.0	8.0	7.9	8.1	7.5
14	8.0	7.7	7.8	7.5	8.0	8.0	8.2	8.1	8.0	7.8	8.0	7.7
15	8.0	7.8	7.9	7.7	8.0	8.0	8.2	8.1	8.1	7.9	7.9	7.7
16	7.9	7.6	8.0	7.8	8.1	8.0	8.2	8.1	8.2	8.1	7.8	7.7
17	7.8	7.7	8.0	7.9	8.0	8.0	8.2	8.1	8.1	7.9	8.0	7.7
18	7.8	7.6	8.0	7.9	8.0	7.9	8.3	8.0	8.1	7.8	8.1	7.8
19	7.7	7.6	8.0	7.9	8.1	8.0	8.2	8.1	8.1	8.0	8.1	7.5
20	7.7	7.6	8.1	7.9	8.2	8.1	8.2	8.1	8.1	8.0	8.2	7.9
21	7.8	7.6	8.0	7.8	8.2	8.1	8.3	8.1	8.1	7.9	8.2	7.9
22	7.8	7.7	8.0	7.8	8.2	8.1	8.3	8.1	8.0	7.8	8.0	7.7
23	7.8	7.7	8.0	7.8	8.2	8.1	8.3	8.1	8.2	7.9	7.9	7.7
24	7.7	7.7	8.1	7.8	8.2	8.1	8.3	8.0	8.0	7.9	7.8	7.6
25	7.7	7.6	8.1	7.8	8.2	8.1	8.2	8.0	8.0	7.8	7.6	7.5
26	7.7	7.6	8.1	7.8	8.1	8.1	8.2	7.9	7.9	7.8	7.9	7.5
27	7.7	7.7	8.1	7.9	8.2	8.1	8.2	8.0	7.9	7.8	7.8	7.5
28	7.7	7.7	8.2	7.8	8.1	7.9	8.1	8.0	7.8	7.8	8.0	7.5
29	7.8	7.7	8.2	8.0	8.0	7.9	8.1	7.9	---	---	7.9	7.7
30	7.7	7.5	8.1	7.9	8.0	7.9	8.1	8.0	---	---	8.0	7.6
31	8.0	7.4	---	---	8.2	7.9	8.1	8.0	---	---	8.0	7.7
MONTH	8.1	7.4	8.2	7.4	8.2	7.8	8.3	7.7	8.2	7.8	8.2	7.5
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.1	7.7	8.2	7.6	8.2	7.6	7.7	7.1	8.0	7.5	7.5	7.3
2	8.1	7.8	8.0	7.7	8.1	7.6	7.9	6.9	7.8	7.4	7.5	7.3
3	8.3	8.0	8.2	7.3	7.8	7.4	8.1	7.0	7.8	7.4	7.4	7.3
4	8.3	8.2	8.3	7.6	7.9	7.3	7.7	7.3	7.7	7.4	7.4	7.2
5	8.3	8.2	7.9	7.6	8.3	7.4	7.5	7.2	7.6	7.3	7.6	7.2
6	8.2	8.1	7.9	7.6	8.2	7.4	7.5	7.0	7.5	7.1	7.5	7.3
7	8.2	8.0	8.1	7.5	8.0	7.4	7.7	7.1	7.7	7.1	7.5	7.3
8	8.2	8.0	8.1	7.6	8.1	7.3	7.7	7.0	8.0	7.2	7.5	7.3
9	8.3	8.1	7.8	7.5	7.9	7.3	7.9	7.1	7.7	7.2	7.4	7.3
10	8.2	7.9	7.6	7.4	7.9	7.3	7.6	7.1	7.7	7.4	7.4	7.3
11	8.1	7.8	7.9	7.6	7.9	7.2	7.8	7.1	7.8	7.3	7.5	7.3
12	8.2	7.8	7.8	7.6	7.9	7.3	7.8	7.3	7.8	7.4	7.5	7.3
13	8.2	7.6	7.9	7.6	8.1	7.2	7.6	7.4	7.4	7.1	7.4	7.3
14	8.2	7.8	8.1	7.5	7.9	7.3	7.6	7.3	7.4	7.1	7.3	7.1
15	8.0	7.6	8.2	7.7	8.1	7.2	7.5	7.1	7.5	7.0	7.4	7.1
16	8.0	7.4	8.2	7.5	8.3	7.3	7.8	7.3	7.9	7.1	7.4	7.2
17	7.8	7.5	8.4	7.5	8.2	7.4	7.7	7.4	8.0	7.3	7.6	7.2
18	7.8	7.4	8.5	8.0	8.1	7.4	7.7	7.2	7.8	7.5	7.7	7.4
19	8.0	7.3	8.1	8.0	8.0	7.3	7.6	7.2	7.7	7.5	7.5	7.4
20	8.0	7.3	8.0	7.8	7.9	7.2	7.7	7.4	7.7	7.4	7.5	7.2
21	8.1	7.0	7.9	7.6	7.6	7.4	7.7	7.3	7.6	7.2	7.5	7.2
22	8.2	7.8	7.9	7.8	7.7	7.1	7.8	7.5	7.5	7.3	7.4	7.3
23	8.1	7.7	8.0	7.9	7.4	7.0	7.6	7.4	7.5	7.3	7.4	7.2
24	7.9	7.6	8.3	7.9	7.5	6.9	7.6	7.4	7.7	7.4	7.8	7.2
25	8.0	7.5	8.4	8.0	7.5	6.7	7.8	7.3	7.9	7.4	8.1	7.5
26	8.0	7.5	8.4	8.0	7.8	6.8	8.0	7.3	7.7	7.4	7.8	7.4
27	8.5	7.4	8.7	7.9	7.4	6.8	7.9	7.5	7.7	7.4	7.8	7.4
28	8.6	7.7	8.2	7.9	7.6	6.8	7.9	7.4	7.6	7.4	7.7	7.4
29	8.5	7.5	8.2	7.7	7.5	6.8	7.9	7.4	7.5	7.3	7.7	7.5
30	8.3	7.8	8.3	7.8	7.6	7.0	7.6	7.3	7.6	7.3	7.5	7.3
31	---	---	8.3	7.5	---	---	7.7	7.4	7.8	7.3	---	---
MONTH	8.6	7.0	8.7	7.3	8.3	6.7	8.1	6.9	8.0	7.0	8.1	7.1

TEMPERATURE WATER, (DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	18.9	18.5	18.8	16.2	15.6	15.9	11.0	10.6	10.8	6.1	5.7	6.0
2	18.7	18.3	18.5	15.8	15.4	15.6	11.2	10.6	10.9	6.3	5.7	6.1
3	19.2	18.2	18.7	15.6	14.7	15.2	10.8	9.4	10.1	6.7	6.3	6.5
4	19.0	18.2	18.7	15.1	14.5	14.8	9.6	8.8	9.2	7.3	6.7	6.9
5	18.6	18.0	18.3	15.1	14.3	14.7	9.3	8.8	9.0	7.5	6.9	7.2
6	18.7	17.8	18.2	15.1	14.5	14.8	9.7	8.9	9.3	7.5	7.1	7.3
7	18.5	17.5	18.1	15.3	14.7	15.1	9.7	9.3	9.5	7.4	7.1	7.2
8	18.1	17.5	17.9	15.7	15.1	15.3	9.3	8.5	9.0	7.4	7.0	7.2
9	18.1	17.3	17.7	15.5	14.9	15.2	8.3	7.7	8.0	7.6	6.8	7.2
10	17.8	17.1	17.4	15.1	14.4	14.8	8.1	7.9	8.0	7.6	7.0	7.2
11	18.6	17.1	17.7	14.8	14.2	14.6	8.3	7.9	8.0	7.6	7.2	7.4
12	18.8	17.6	18.2	15.2	14.4	14.8	8.5	7.7	8.0	7.6	7.3	7.4
13	18.8	18.0	18.5	15.4	14.8	15.1	7.9	7.4	7.7	7.5	6.9	7.2
14	19.0	18.0	18.5	15.2	14.4	14.9	7.9	7.4	7.6	7.2	6.8	7.0
15	19.2	18.2	18.8	15.2	14.6	14.9	7.7	7.2	7.4	7.4	7.0	7.1
16	19.0	18.6	18.9	14.6	13.6	14.3	7.2	6.5	6.8	7.7	7.2	7.4
17	19.0	18.4	18.8	13.8	12.8	13.4	6.7	6.3	6.4	8.3	7.6	7.9
18	18.8	16.9	17.9	13.0	12.4	12.7	6.5	6.1	6.3	8.4	8.0	8.3
19	17.1	15.9	16.4	12.8	12.2	12.6	6.3	5.9	6.2	8.4	8.0	8.2
20	15.7	14.9	15.4	12.8	12.2	12.6	5.9	5.5	5.7	8.6	7.8	8.3
21	15.2	14.3	14.8	12.6	12.0	12.3	5.5	4.7	5.4	8.4	8.0	8.3
22	15.4	14.4	14.9	12.3	11.8	12.0	4.7	3.3	3.9	8.5	8.0	8.3
23	15.8	14.8	15.2	11.6	11.2	11.4	3.3	2.5	2.9	8.5	8.1	8.4
24	16.0	15.2	15.5	11.4	10.8	11.1	3.2	2.1	2.8	8.5	8.1	8.4
25	16.2	15.4	15.8	11.2	10.6	10.8	3.4	2.8	3.2	8.5	8.1	8.4
26	16.4	15.6	15.9	11.2	10.8	11.0	3.8	3.2	3.6	8.5	7.9	8.2
27	16.4	15.6	15.9	11.8	11.0	11.3	4.4	3.6	4.0	8.6	7.9	8.3
28	16.2	15.6	15.9	12.0	11.2	11.5	4.6	4.0	4.3	8.6	8.2	8.5
29	16.4	15.8	16.1	11.4	10.6	11.1	4.8	4.2	4.4	8.4	8.0	8.2
30	16.4	15.6	16.1	11.0	10.6	10.8	5.0	4.4	4.7	8.2	7.8	8.0
31	16.4	15.8	16.1	---	---	---	5.7	4.8	5.3	8.2	7.6	8.0
MONTH	19.2	14.3	17.2	16.2	10.6	13.5	11.2	2.1	6.7	8.6	5.7	7.6
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	8.4	7.6	8.1	8.4	7.9	8.1	12.2	11.5	11.9	17.2	16.6	16.9
2	8.6	8.0	8.4	7.9	7.7	7.9	12.4	11.5	12.1	17.6	16.8	17.2
3	9.0	8.4	8.7	8.3	7.5	8.0	12.6	12.1	12.4	18.8	17.3	18.0
4	9.2	8.6	8.9	8.3	7.7	8.1	12.4	11.9	12.1	19.1	17.5	18.4
5	10.3	9.0	9.7	8.5	7.9	8.2	13.0	11.9	12.3	18.3	17.2	17.8
6	10.3	9.7	10.0	8.8	8.1	8.5	12.4	11.9	12.3	18.3	17.7	18.0
7	9.9	9.5	9.8	9.2	8.6	8.8	12.1	11.7	11.9	18.9	17.4	18.2
8	10.1	9.5	9.8	9.2	9.0	9.1	12.6	11.7	12.0	19.1	18.1	18.7
9	10.1	9.7	9.9	9.6	9.0	9.3	12.8	11.9	12.3	18.9	18.0	18.4
10	10.3	9.7	10.1	10.2	9.2	9.7	12.8	12.4	12.7	18.4	17.8	18.2
11	10.1	9.9	10.0	10.9	9.6	10.2	12.5	12.0	12.2	18.4	17.8	18.1
12	10.3	9.7	10.0	11.3	10.3	10.8	12.5	12.2	12.3	18.2	17.4	17.8
13	10.1	9.7	9.9	12.1	10.9	11.4	13.3	12.0	12.6	17.8	17.3	17.5
14	10.5	9.7	10.1	12.3	11.7	12.0	13.1	12.7	12.9	18.3	17.2	17.7
15	11.1	10.1	10.6	12.5	12.2	12.4	13.1	12.5	12.8	19.3	17.9	18.4
16	11.3	10.7	11.0	12.5	12.0	12.3	14.3	12.5	13.3	19.3	17.9	18.7
17	10.9	10.1	10.4	12.9	12.3	12.6	14.1	12.9	13.4	19.1	17.7	18.5
18	10.1	9.7	9.8	13.1	12.3	12.7	13.5	12.9	13.2	20.1	18.9	19.4
19	9.8	9.4	9.6	12.9	12.0	12.5	13.7	12.9	13.3	19.8	19.2	19.5
20	9.6	8.8	9.2	12.2	11.6	11.9	14.1	13.3	13.6	19.6	18.6	19.2
21	9.6	8.6	9.1	12.2	11.4	11.8	14.5	13.5	14.0	19.1	18.4	18.8
22	10.0	9.4	9.7	12.3	11.4	11.8	15.1	13.9	14.6	18.4	18.1	18.3
23	9.8	9.0	9.3	12.7	11.8	12.2	15.3	14.5	14.9	18.6	18.0	18.3
24	9.0	8.2	8.6	12.6	11.9	12.1	15.9	14.5	15.2	18.9	18.1	18.5
25	8.4	7.8	8.1	11.9	11.5	11.6	16.3	14.7	15.3	19.2	18.3	18.9
26	8.0	7.6	7.9	11.5	10.9	11.2	17.4	15.0	15.9	19.3	18.4	18.9
27	8.4	7.8	8.1	11.5	10.7	11.1	19.5	15.4	17.2	20.1	18.7	19.3
28	8.6	8.0	8.3	11.7	11.3	11.4	18.7	16.4	17.9	19.8	18.8	19.4
29	---	---	---	11.9	11.3	11.4	17.9	15.2	16.7	19.3	18.4	18.9
30	---	---	---	11.9	11.5	11.7	17.9	16.8	17.2	20.0	18.9	19.6
31	---	---	---	12.1	11.7	11.8	---	---	---	20.9	19.4	20.0
MONTH	11.3	7.6	9.4	13.1	7.5	10.7	19.5	11.5	13.7	20.9	16.6	18.5

TEMPERATURE WATER, (DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	21.5	19.5	20.5	25.6	24.6	25.0	24.7	23.3	24.0	24.8	23.8	24.2
2	21.8	20.2	21.0	25.8	24.4	25.0	24.5	22.9	23.8	24.0	23.6	23.8
3	21.4	19.8	20.2	26.7	24.7	25.4	24.9	22.5	23.7	23.8	23.0	23.4
4	20.3	19.1	19.8	25.5	24.7	25.2	24.7	23.1	23.9	24.4	23.0	24.0
5	22.1	19.9	20.9	25.1	24.3	24.7	24.1	22.9	23.5	25.2	23.4	24.1
6	22.4	19.8	21.1	24.8	24.2	24.4	23.9	23.3	23.6	25.4	23.4	24.3
7	22.7	20.6	21.5	26.0	24.2	24.7	24.7	23.3	24.1	25.2	23.6	24.4
8	22.6	21.1	21.9	25.7	24.0	24.7	24.9	23.9	24.3	25.0	24.0	24.4
9	22.8	21.3	22.2	25.7	24.1	24.7	24.1	23.1	23.7	24.8	23.6	24.3
10	22.7	22.0	22.4	26.1	23.5	24.8	23.9	22.7	23.3	24.2	23.4	23.8
11	23.5	22.2	22.9	26.0	24.2	25.2	23.9	22.7	23.3	24.8	23.8	24.5
12	23.8	21.9	22.9	26.3	25.2	25.8	24.1	22.4	23.1	24.8	24.0	24.4
13	23.9	21.7	22.7	26.0	25.1	25.5	23.3	22.4	22.8	24.6	24.0	24.3
14	23.1	21.6	22.4	25.4	24.8	25.2	23.3	22.0	22.7	24.2	23.4	24.0
15	23.6	22.0	22.8	25.3	24.5	24.9	23.5	22.7	23.0	24.0	23.2	23.7
16	24.6	22.2	23.3	25.5	24.5	24.9	24.3	22.5	23.3	23.4	22.6	23.0
17	24.5	23.0	23.8	25.1	24.1	24.7	24.0	22.5	23.3	23.9	22.2	23.2
18	23.9	22.5	23.2	24.7	23.9	24.1	24.0	22.6	23.2	23.9	23.3	23.7
19	24.0	22.3	23.3	24.2	23.4	23.9	23.8	23.0	23.3	23.7	23.1	23.5
20	24.3	23.3	23.9	24.4	23.4	23.9	24.2	22.8	23.4	23.5	22.5	23.1
21	24.3	23.1	23.9	24.4	23.2	23.8	23.8	22.3	23.1	23.3	22.7	23.1
22	25.1	23.5	24.4	24.5	23.4	23.9	23.2	22.4	22.8	23.1	22.5	22.9
23	24.1	23.3	23.8	24.3	23.3	23.8	23.8	22.4	22.9	22.9	22.2	22.6
24	24.5	23.1	24.1	24.3	23.5	23.9	23.8	23.0	23.4	22.7	22.0	22.3
25	24.8	23.4	24.3	25.1	23.3	24.1	24.6	23.0	23.5	22.3	21.8	22.1
26	25.8	24.2	24.9	25.8	23.8	24.7	24.2	23.0	23.6	22.2	21.6	21.8
27	25.4	24.2	24.7	25.4	24.0	24.6	24.8	23.2	23.8	22.0	21.4	21.6
28	25.8	24.4	25.0	25.2	23.4	24.1	24.2	23.0	23.4	22.0	21.2	21.6
29	25.3	24.0	24.8	24.7	22.5	23.3	24.6	22.8	23.6	22.0	21.0	21.5
30	25.4	24.5	24.9	23.5	22.4	22.9	25.8	23.6	24.5	21.8	21.0	21.3
31	---	---	---	23.9	22.4	22.9	25.8	23.8	24.5	---	---	---
MONTH	25.8	19.1	22.9	26.7	22.4	24.5	25.8	22.0	23.5	25.4	21.0	23.3

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	10.0	9.6	9.8	11.3	7.1	9.0	9.7	9.5	9.6	14.7	14.4	14.6
2	10.0	9.7	9.8	10.4	7.0	8.5	9.7	9.4	9.6	14.6	14.3	14.4
3	10.3	9.9	10.0	7.7	7.0	7.3	10.1	9.6	9.9	14.4	14.0	14.2
4	10.4	10.0	10.2	8.4	7.6	7.8	10.4	10.1	10.3	14.4	12.2	13.2
5	10.5	10.0	10.3	10.7	7.8	9.4	10.5	10.0	10.3	12.9	11.2	12.2
6	10.4	9.0	9.7	10.8	10.4	10.7	10.4	10.0	10.2	12.8	11.1	11.9
7	10.3	9.0	9.6	10.9	7.8	9.2	10.4	10.1	10.2	11.2	10.9	11.1
8	10.3	9.7	10.2	10.7	7.7	9.3	10.5	10.2	10.3	11.1	10.8	11.0
9	10.4	10.2	10.3	10.8	10.6	10.7	10.5	10.2	10.4	11.2	10.9	11.0
10	10.3	9.3	10.2	11.3	10.7	11.1	10.5	10.2	10.3	11.1	10.9	10.9
11	9.4	8.5	9.0	11.4	11.0	11.2	10.3	10.1	10.3	10.9	10.3	10.6
12	8.6	8.1	8.4	11.2	8.2	10.0	10.4	10.1	10.3	10.7	10.3	10.5
13	9.8	8.1	8.4	9.9	8.1	8.3	10.5	10.3	10.4	10.8	10.5	10.7
14	9.8	9.5	9.7	11.5	10.0	11.1	10.4	10.2	10.3	11.0	10.7	10.8
15	9.8	8.0	9.3	11.3	9.5	10.7	10.5	10.1	10.3	11.1	10.8	11.0
16	9.8	6.8	8.4	11.6	11.1	11.3	10.7	10.4	10.5	11.2	10.8	11.0
17	9.8	9.6	9.7	11.7	11.3	11.6	10.7	10.5	10.6	11.2	10.8	11.0
18	9.9	9.6	9.8	12.2	11.6	11.9	10.8	10.5	10.6	11.2	10.8	11.0
19	10.2	9.8	10.0	12.1	10.7	11.5	14.3	12.3	14.0	11.3	10.9	11.1
20	10.6	10.0	10.3	10.8	10.2	10.6	14.6	12.4	13.7	11.2	11.0	11.1
21	10.8	10.4	10.6	10.9	8.6	10.1	13.5	11.1	12.3	11.2	10.9	11.1
22	10.9	10.5	10.8	9.1	8.4	8.7	15.4	11.3	13.7	11.2	10.7	11.1
23	10.9	10.3	10.7	9.1	8.7	8.9	15.7	15.3	15.5	11.2	10.8	10.9
24	10.8	10.0	10.6	9.1	8.9	9.0	15.9	14.9	15.4	11.2	10.6	10.9
25	10.8	9.7	10.6	9.2	8.8	9.0	15.4	14.9	15.2	11.2	10.4	10.9
26	10.8	9.7	10.4	9.2	8.9	9.1	15.2	14.9	15.1	11.2	10.5	11.0
27	10.6	9.7	10.2	9.5	9.1	9.2	15.0	14.7	14.9	11.2	10.6	10.9
28	10.8	9.8	10.7	9.6	9.2	9.3	15.0	11.8	13.0	11.2	10.3	10.9
29	10.8	10.0	10.6	9.8	9.4	9.6	12.0	11.7	11.8	11.0	10.6	10.8
30	9.9	7.6	8.5	9.8	9.6	9.7	12.1	11.8	11.9	10.9	10.6	10.7
31	10.8	7.4	9.7	---	---	---	14.7	11.7	13.5	10.8	10.6	10.7
MONTH	10.9	6.8	9.9	12.2	7.0	9.8	15.9	9.4	11.8	14.7	10.3	11.4

OXYGEN DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	10.9	10.6	10.8	11.0	10.7	10.9	11.9	11.0	11.4	8.7	8.0	8.5
2	10.7	10.4	10.5	10.8	10.6	10.7	11.7	10.9	11.3	8.9	8.1	8.5
3	13.1	10.4	11.8	10.9	10.6	10.8	11.6	10.5	11.2	9.1	8.1	8.7
4	12.6	12.1	12.4	10.9	10.7	10.8	11.6	10.7	11.2	8.8	8.0	8.4
5	12.1	10.9	11.7	11.1	10.8	10.9	11.5	11.0	11.2	7.9	7.4	7.7
6	11.1	9.7	10.3	11.1	10.9	11.0	11.3	10.8	11.0	8.3	7.6	8.0
7	9.9	9.6	9.8	11.1	10.9	11.0	11.4	10.5	11.0	9.2	7.5	8.3
8	11.3	9.8	10.2	11.0	10.7	10.9	11.1	10.6	10.9	9.7	8.3	8.9
9	12.4	9.8	10.4	10.7	10.6	10.7	11.8	10.7	11.2	9.0	8.3	8.6
10	12.5	9.9	12.0	10.9	10.5	10.7	11.5	10.6	11.1	8.6	7.9	8.3
11	11.9	11.4	11.8	11.0	10.5	10.7	10.8	10.3	10.5	9.4	8.4	8.9
12	12.5	10.5	11.5	10.9	10.5	10.7	11.1	10.1	10.6	9.0	8.7	8.9
13	12.6	10.2	11.1	11.8	10.4	10.8	11.5	10.0	10.8	8.9	8.2	8.6
14	12.7	10.2	11.3	10.9	10.7	10.8	11.7	10.8	11.2	10.1	8.5	9.2
15	12.6	11.7	12.4	10.8	10.1	10.4	11.1	10.3	10.7	10.7	9.0	9.8
16	12.2	11.3	11.8	10.2	10.0	10.1	11.6	10.0	10.9	10.4	8.6	9.6
17	12.6	11.1	11.8	10.3	9.9	10.1	11.2	10.2	10.6	10.7	8.1	9.6
18	13.1	11.3	12.5	10.3	9.8	10.1	10.9	10.0	10.6	10.6	9.2	10.0
19	13.0	12.7	12.9	10.3	10.0	10.1	11.0	10.2	10.6	9.5	9.0	9.3
20	13.2	13.0	13.1	10.6	10.0	10.3	10.8	10.4	10.6	9.1	8.1	8.7
21	13.2	12.7	13.0	10.7	10.2	10.4	10.8	9.9	10.4	9.2	7.0	7.7
22	13.0	12.7	12.8	10.5	9.8	10.1	11.0	10.1	10.5	7.3	6.7	7.0
23	13.1	10.7	12.0	10.4	9.5	10.0	10.3	10.0	10.1	7.5	7.0	7.3
24	11.1	10.7	10.9	10.6	9.8	10.2	9.9	9.5	9.8	8.7	7.0	7.7
25	11.3	11.0	11.1	10.9	9.8	10.4	9.9	9.2	9.5	9.5	7.5	8.5
26	11.3	11.1	11.2	11.3	10.2	10.8	9.9	8.9	9.3	9.0	8.3	8.7
27	11.2	10.8	11.0	11.6	10.8	11.3	10.7	9.1	9.7	10.3	8.2	9.0
28	11.0	10.8	10.9	11.8	11.3	11.5	10.0	8.8	9.6	9.0	7.9	8.7
29	---	---	---	11.6	10.9	11.2	9.9	8.1	9.1	8.1	6.1	7.4
30	---	---	---	11.5	10.6	10.8	9.5	8.6	9.2	8.9	6.6	8.3
31	---	---	---	11.4	10.4	10.9	---	---	---	9.1	7.4	8.2
MONTH	13.2	9.6	11.5	11.8	9.5	10.6	11.9	8.1	10.5	10.7	6.1	8.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.9	7.5	8.1	6.7	5.3	6.0	7.6	6.1	7.0	6.1	5.3	5.7
2	8.4	7.1	7.9	7.2	5.5	6.1	7.4	6.6	7.1	6.2	5.6	5.9
3	7.8	6.6	6.9	8.4	5.1	6.6	7.7	6.7	7.2	6.0	5.2	5.6
4	7.0	6.2	6.6	7.0	6.0	6.6	7.6	7.1	7.3	5.7	5.2	5.4
5	9.3	6.2	7.9	6.2	4.8	5.7	7.2	6.5	6.9	5.9	4.7	5.5
6	9.1	6.8	7.8	5.9	4.1	5.3	7.0	6.4	6.7	5.4	4.9	5.1
7	10.2	6.4	8.0	6.9	4.0	5.6	7.4	6.3	6.9	5.3	4.6	4.9
8	9.7	6.3	8.0	7.0	4.8	5.7	8.0	6.7	7.2	5.3	4.7	5.0
9	9.6	6.2	7.8	6.4	4.3	5.2	7.6	7.0	7.2	5.9	5.0	5.4
10	10.3	6.6	8.2	5.8	4.6	5.1	7.7	6.8	7.2	5.5	4.9	5.3
11	10.3	6.1	7.9	6.0	4.0	5.1	7.9	6.9	7.3	5.7	5.1	5.4
12	9.6	6.7	7.5	---	5.0	---	8.2	6.9	7.3	5.9	4.8	5.3
13	10.1	5.7	7.3	6.6	4.9	5.7	6.9	6.4	6.7	5.2	4.8	5.0
14	9.3	5.7	6.8	5.9	4.7	5.4	6.5	6.1	6.3	4.8	4.2	4.6
15	9.3	5.4	6.9	6.2	5.4	5.8	7.0	5.8	6.3	5.2	4.1	4.8
16	9.9	5.7	7.5	8.0	6.0	6.8	7.9	5.8	6.7	5.2	4.6	4.8
17	9.4	6.0	7.4	7.5	5.4	6.7	6.9	5.9	6.4	6.5	4.8	5.7
18	8.8	5.0	6.3	7.4	5.1	5.8	6.8	5.8	6.3	6.6	5.5	6.3
19	8.9	5.1	6.5	6.3	5.1	5.6	6.7	6.2	6.4	6.2	5.2	5.7
20	6.7	5.1	6.0	7.4	5.0	5.9	6.8	6.0	6.4	5.6	4.8	5.2
21	5.7	4.6	5.2	6.9	4.7	5.8	6.7	5.5	6.1	5.5	4.4	5.0
22	5.8	3.8	5.0	6.7	4.6	5.5	5.9	5.4	5.6	5.5	4.7	5.1
23	4.4	3.5	4.0	5.8	4.9	5.3	6.2	5.4	5.7	5.8	4.8	5.3
24	5.4	3.3	4.8	6.0	4.5	5.4	6.6	5.8	6.2	7.5	5.5	6.5
25	6.8	4.2	5.6	6.7	4.4	5.5	6.9	6.0	6.4	8.2	6.5	7.1
26	8.0	5.2	6.3	6.8	4.8	5.8	6.3	5.9	6.1	7.2	6.2	6.9
27	6.0	4.8	5.4	8.5	5.1	6.3	6.1	5.3	5.8	7.1	6.0	6.6
28	6.9	4.0	5.3	---	---	---	5.7	5.2	5.3	7.0	5.7	6.5
29	5.9	4.1	5.1	---	---	---	5.6	5.1	5.3	6.9	5.9	6.5
30	6.4	4.5	5.5	---	---	---	5.7	4.7	5.2	6.0	4.8	5.4
31	---	---	---	---	---	---	6.4	4.8	5.5	---	---	---
MONTH	10.3	3.3	6.6	8.5	4.0	5.8	8.2	4.7	6.5	8.2	4.1	5.6

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.--35 years (water years 1951-58, 1964-90), 459 ft^3/s, 23.79 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)
Oct. 1	0530	11,500	22.46	Feb. 3	2030	*23,200	*32.80
Oct. 1	2400	10,700	21.60	Feb. 10	0900	7,240	17.34

Minimum daily discharge, 9.9 ft^3/s, Sept. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8970	48	275	1790	611	165	159	121	71	16	24	10
2	5180	47	244	819	493	177	148	118	62	17	21	11
3	1330	44	218	549	12900	350	135	119	102	19	19	10
4	665	42	195	1240	11800	303	126	357	88	21	18	9.9
5	422	40	186	1160	2450	251	123	1780	67	19	21	10
6	305	53	177	719	1240	221	125	514	55	17	24	10
7	232	328	158	517	849	201	180	321	48	21	27	10
8	184	2220	202	466	635	197	163	230	40	25	24	15
9	154	1310	356	509	573	336	144	188	39	25	20	17
10	130	596	313	419	4880	727	133	186	36	24	19	14
11	110	400	278	356	1900	494	139	167	33	37	17	12
12	97	304	263	305	1010	390	131	136	31	410	17	14
13	85	244	244	265	679	323	120	123	29	500	16	18
14	77	355	224	232	516	282	115	110	28	188	15	21
15	69	699	209	218	511	257	117	95	29	99	15	22
16	64	2540	193	199	1830	3650	114	86	29	63	16	18
17	628	950	175	186	975	3010	112	123	29	46	15	16
18	360	590	167	688	651	1410	140	160	28	38	13	15
19	227	434	171	600	520	810	130	104	26	34	12	14
20	184	358	190	1120	419	564	116	305	25	33	11	13
21	154	303	177	2890	353	440	113	471	24	37	11	12
22	127	354	155	1110	315	369	689	348	24	148	11	60
23	106	928	144	676	287	312	328	236	25	231	11	61
24	93	560	139	496	249	270	231	175	26	145	11	33
25	82	442	138	414	214	244	186	136	23	81	11	23
26	74	375	146	341	192	221	160	108	21	54	11	19
27	65	327	195	287	181	202	140	112	20	42	11	16
28	59	459	134	254	173	186	134	246	19	35	10	14
29	54	404	127	2640	---	179	169	149	18	31	10	13
30	50	315	198	1940	---	177	142	106	17	29	10	12
31	49	---	3530	927	---	170	---	84	---	26	10	---
TOTAL	20386	16619	9521	24332	47406	16888	4962	7514	1112	2511	481	542.9
MEAN	658	554	307	785	1693	545	165	242	37.1	81.0	15.5	18.1
MAX	8970	2540	3530	2890	12900	3650	689	1780	102	500	27	61
MIN	49	40	127	186	173	165	112	84	17	16	10	9.9
CFSM	2.51	2.11	1.17	3.00	6.46	2.08	.63	.93	.14	.31	.06	.07
IN.	2.89	2.36	1.35	3.45	6.73	2.40	.70	1.07	.16	.36	.07	.08

CAL YR 1989 TOTAL 278695 MEAN 764 MAX 12100 MIN 22 CFSM 2.91 IN. 39.57
WTR YR 1990 TOTAL 152274.9 MEAN 417 MAX 12900 MIN 9.9 CFSM 1.59 IN. 21.62

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1975 to September 1990 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1975 to September 1990 (discontinued).
WATER TEMPERATURE: October 1975 to September 1990 (discontinued).
DISSOLVED OXYGEN: January 1980 to September 1981 (discontinued).

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

REMARKS.--Interruptions in the record were due to equipment 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, 568 microsiemens, June 17; minimum, 92 microsiemens, Feb. 3.
WATER TEMPERATURE: Maximum, 30.4°C, Aug. 21; minimum, 0.5°C, Dec. 27.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	401	177	289	389	385	387	419	368	416	384	276	359
2	348	231	303	389	381	385	418	408	413	403	349	393
3	379	316	366	386	378	381	412	405	409	410	403	407
4	392	379	386	386	374	381	409	401	405	424	307	389
5	396	392	394	382	370	378	404	398	401	391	333	368
6	400	368	397	382	374	377	402	397	400	402	391	396
7	400	396	397	374	359	364	402	398	400	405	401	403
8	396	392	395	317	242	287	402	390	394	404	399	403
9	397	392	393	356	273	318	406	398	402	399	398	398
10	397	393	393	411	360	385	422	402	412	401	396	400
11	393	365	391	446	379	427	429	422	423	400	399	399
12	393	385	388	471	446	459	433	425	429	395	394	394
13	389	381	386	478	471	475	432	425	428	394	385	388
14	385	374	381	482	463	472	432	421	427	392	379	385
15	382	370	376	471	423	466	428	421	425	391	374	382
16	374	370	373	471	231	303	425	417	423	388	373	383
17	370	272	319	366	325	350	425	413	419	388	376	384
18	363	288	342	389	366	377	421	409	414	388	349	---
19	395	363	381	401	389	396	413	409	412	393	376	---
20	415	399	407	413	401	408	413	401	408	407	305	397
21	426	415	421	417	413	416	409	397	405	354	199	311
22	430	422	425	418	417	418	416	401	410	391	354	375
23	430	418	425	418	402	411	431	416	427	401	391	396
24	427	416	421	414	389	399	439	431	434	411	355	405
25	419	408	415	441	355	425	435	427	431	413	407	410
26	416	400	409	460	440	452	427	416	424	411	406	409
27	412	396	403	461	450	455	424	407	415	412	407	408
28	408	392	398	463	432	448	407	390	400	413	405	410
29	401	385	393	465	391	441	390	380	387	411	259	349
30	397	385	390	414	316	399	399	301	378	340	279	313
31	393	389	389	---	---	---	395	245	319	375	343	363
MONTH	430	177	385	482	231	401	439	245	409	424	199	385

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

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	383	375	381	401	341	368	348	323	337	376	361	369
2	390	382	386	362	339	346	335	320	327	378	367	372
3	386	92	201	374	339	358	327	320	324	409	366	385
4	295	159	231	387	352	369	327	316	321	412	364	392
5	338	291	319	412	369	391	331	320	324	375	253	332
6	357	338	347	425	358	415	323	316	321	408	330	390
7	364	329	359	421	366	401	331	320	325	434	404	417
8	368	364	367	433	406	424	338	326	332	438	414	425
9	375	320	365	434	422	431	338	326	334	466	408	444
10	316	195	242	434	380	422	342	334	339	404	362	382
11	339	261	319	429	377	399	338	330	333	362	358	361
12	355	296	346	452	425	442	338	326	332	365	357	360
13	362	355	358	445	406	435	330	322	326	356	351	353
14	366	361	363	453	418	444	329	325	327	355	342	350
15	365	354	362	446	431	441	329	321	325	364	349	358
16	357	220	303	443	196	300	329	325	327	368	352	361
17	368	274	350	338	276	319	357	325	334	364	344	351
18	372	325	370	363	284	352	357	329	345	360	340	348
19	376	332	373	371	363	367	357	349	352	360	352	356
20	371	367	370	376	371	374	353	337	349	372	293	344
21	371	367	367	381	372	377	357	345	352	391	321	365
22	370	311	365	378	327	374	357	267	308	413	378	395
23	366	300	363	374	362	371	380	302	340	426	376	410
24	366	353	358	373	361	367	404	380	390	389	360	375
25	357	350	354	373	353	362	424	404	414	395	345	369
26	357	346	352	369	344	356	447	408	421	379	352	361
27	353	341	346	360	332	348	494	451	473	396	378	389
28	359	341	345	352	324	339	502	424	489	393	308	350
29	---	---	---	344	328	337	478	459	468	331	316	324
30	---	---	---	340	332	337	459	376	400	336	317	326
31	---	---	---	344	328	338	---	---	---	368	336	353
MONTH	390	92	341	453	196	378	502	267	356	466	253	370

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	407	371	385	328	321	324	355	346	351	272	257	265
2	415	391	404	328	319	324	366	340	345	277	267	271
3	407	336	371	325	312	315	340	319	327	291	273	280
4	403	368	380	328	310	318	323	299	310	289	277	284
5	422	399	409	347	312	329	302	275	289	288	256	268
6	419	399	406	338	321	329	279	269	274	270	245	257
7	434	415	424	324	312	318	273	265	268	281	251	260
8	419	395	403	318	312	315	280	269	274	258	194	236
9	399	383	392	321	310	316	287	270	278	281	224	256
10	399	371	382	327	309	317	297	285	292	287	259	276
11	411	375	389	327	303	320	316	298	305	343	290	315
12	446	411	427	332	290	305	315	298	308	347	275	313
13	477	438	454	362	316	338	326	308	317	329	318	324
14	509	477	493	412	357	386	369	312	321	329	322	327
15	544	509	526	434	411	422	333	308	324	341	329	333
16	564	520	541	440	433	437	314	306	309	341	325	331
17	568	430	511	447	436	439	312	303	307	341	322	332
18	458	348	413	447	438	444	312	306	308	325	318	319
19	348	301	343	441	428	435	333	310	318	329	322	324
20	375	332	337	428	418	421	339	324	332	337	329	331
21	340	332	336	418	378	402	345	337	340	333	325	329
22	336	331	335	381	352	369	354	340	345	329	318	321
23	335	330	333	363	333	346	346	324	335	325	318	322
24	330	326	328	393	363	382	324	288	298	333	318	328
25	329	325	327	396	391	393	295	274	281	333	318	323
26	329	324	327	391	374	382	284	267	273	361	325	338
27	332	324	328	378	357	365	280	265	271	373	337	344
28	331	323	327	380	357	371	280	262	268	388	337	352
29	326	322	326	376	355	368	269	260	265	345	337	341
30	326	321	324	366	350	359	273	258	265	345	345	345
31	---	---	---	365	351	355	273	256	263	---	---	---
MONTH	568	301	389	447	290	363	369	256	302	388	194	308

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	19.0	17.8	18.4	13.9	12.6	13.1	9.7	8.6	9.2	9.8	9.1	9.5
2	19.0	17.5	18.1	12.9	11.9	12.4	9.7	8.4	9.1	8.9	8.1	8.6
3	18.8	18.0	18.4	12.3	10.7	11.5	9.1	7.6	8.0	9.7	8.3	8.9
4	18.2	17.1	17.6	10.7	8.9	10.1	7.6	6.7	7.1	11.4	9.7	10.6
5	17.5	16.1	16.8	12.5	9.3	10.8	8.4	7.1	7.6	11.0	10.6	10.9
6	18.5	16.8	17.6	13.4	12.5	12.9	9.5	8.4	8.9	10.4	10.2	10.3
7	18.7	17.0	17.8	16.3	12.3	13.7	9.0	7.4	8.2	10.2	9.6	9.9
8	17.4	15.8	16.5	17.5	16.1	16.8	7.8	7.1	7.4	10.3	9.7	10.0
9	16.2	14.6	15.5	17.3	15.3	16.3	7.1	6.9	7.0	10.1	9.1	9.8
10	16.4	14.6	15.4	15.1	13.7	14.2	7.3	6.7	6.9	10.1	9.5	9.7
11	16.8	14.8	15.7	14.1	13.0	13.7	7.6	6.7	7.3	10.2	9.5	9.8
12	17.7	15.4	16.4	15.3	13.7	14.4	7.3	6.3	7.1	9.6	7.9	9.0
13	18.0	16.5	17.2	15.3	13.5	14.5	6.3	5.1	5.7	7.9	7.1	7.5
14	19.2	16.9	17.9	15.8	14.9	15.2	5.5	4.7	5.1	8.0	6.3	7.1
15	19.4	17.7	18.5	17.0	15.6	16.3	5.3	3.7	4.9	9.5	7.6	8.4
16	20.0	18.6	19.3	16.2	12.7	14.3	3.5	2.5	3.0	10.1	9.3	9.7
17	20.2	19.0	19.8	12.5	11.3	11.8	2.9	2.0	2.5	11.7	10.1	10.8
18	19.0	15.5	17.4	11.5	10.5	11.1	3.3	2.2	2.7	---	11.7	12.0
19	15.3	12.8	14.0	11.3	10.3	10.9	3.5	2.9	3.4	11.7	---	---
20	12.8	11.5	12.1	12.5	10.9	11.7	3.1	2.5	2.9	12.6	11.5	12.0
21	12.5	10.5	11.5	12.8	11.7	12.2	2.7	1.4	2.1	12.6	10.9	11.8
22	13.6	11.7	12.5	11.8	11.2	11.5	1.4	.6	.7	10.9	10.1	10.4
23	15.0	13.2	14.1	11.2	10.2	10.6	.6	.6	.6	10.4	9.6	10.1
24	15.6	14.0	14.7	10.2	8.9	9.6	.8	.6	.6	11.1	10.1	10.6
25	16.1	14.0	15.0	10.7	9.4	9.9	.8	.6	.6	11.5	10.7	11.3
26	16.1	14.3	15.1	12.6	10.7	12.0	.8	.6	.7	10.7	9.3	9.9
27	15.9	14.1	15.0	14.7	12.6	13.8	1.1	.5	.8	9.9	8.9	9.3
28	15.9	13.9	14.8	15.1	13.5	14.7	1.7	.9	1.3	10.5	9.3	10.0
29	15.9	13.9	14.9	13.5	10.7	12.2	3.7	1.7	2.6	10.3	9.7	9.9
30	15.5	13.7	14.7	10.7	9.3	9.9	7.3	3.7	4.8	9.7	9.3	9.5
31	15.3	14.1	14.9	---	---	---	9.8	6.7	8.9	10.1	9.1	9.6
MONTH	20.2	10.5	16.1	17.5	8.9	12.7	9.8	.5	4.8	12.6	6.3	9.9
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	11.5	9.5	10.3	9.8	9.4	9.6	17.5	14.3	15.8	20.6	19.6	20.3
2	13.4	11.5	12.4	9.6	9.4	9.5	17.5	15.5	16.4	19.4	18.2	18.7
3	14.4	13.4	14.1	11.1	9.0	10.0	15.9	13.3	14.4	19.9	18.5	19.2
4	13.8	11.7	12.8	11.5	9.9	10.6	15.1	12.2	13.5	20.3	19.3	19.8
5	11.7	10.9	11.3	12.4	9.7	10.9	15.4	12.6	14.1	19.5	15.4	17.5
6	11.7	11.1	11.3	13.2	9.7	11.5	14.8	12.1	13.5	15.2	14.2	14.7
7	12.8	11.3	12.0	13.2	11.1	12.2	13.8	11.1	12.3	16.5	14.1	15.2
8	12.6	11.3	12.1	12.8	11.9	12.3	14.2	10.3	12.2	18.8	15.3	16.9
9	13.6	12.4	12.9	12.7	12.2	12.5	15.2	11.9	13.6	18.4	16.5	17.4
10	13.6	11.7	12.2	14.1	12.5	13.4	15.4	14.6	15.1	18.1	16.8	17.5
11	12.2	11.1	11.5	15.9	13.9	14.8	16.0	14.0	15.1	17.6	15.8	16.8
12	12.2	10.9	11.5	16.1	15.5	15.9	15.8	13.0	14.4	17.0	16.0	16.6
13	13.0	11.3	12.2	16.9	15.9	16.2	15.8	13.0	14.4	19.4	16.6	17.8
14	14.1	12.8	13.4	17.5	15.7	16.5	14.8	14.0	14.3	20.6	17.3	18.9
15	14.7	14.1	14.4	17.0	15.8	16.4	16.4	13.8	14.9	21.0	19.2	20.1
16	14.7	13.5	14.4	15.6	13.4	14.2	17.4	15.0	16.1	22.9	20.6	21.6
17	13.3	11.0	12.0	13.4	12.8	13.2	16.6	14.6	16.0	23.6	21.9	22.6
18	11.0	9.8	10.4	13.4	12.6	13.1	16.4	13.6	14.9	23.0	20.9	22.0
19	12.0	10.8	11.3	13.0	11.5	12.7	16.2	14.0	15.1	22.4	21.1	21.7
20	11.6	10.8	11.2	11.5	9.9	10.8	17.2	15.8	16.4	21.4	20.0	20.7
21	11.4	10.4	10.9	11.8	10.0	11.0	17.7	16.8	17.1	20.0	18.8	19.3
22	12.9	11.2	12.2	13.3	11.6	12.3	18.3	17.4	17.8	19.0	17.0	18.0
23	12.1	10.6	11.8	15.1	12.7	13.9	18.9	17.2	17.9	17.7	16.4	17.0
24	11.2	9.2	10.3	13.9	12.2	13.4	20.8	17.5	19.1	18.9	16.4	17.5
25	9.4	7.8	8.6	12.4	11.6	11.9	21.8	17.8	19.7	19.6	18.1	18.8
26	8.4	6.9	7.6	12.0	10.8	11.4	22.2	19.0	20.6	20.4	19.4	19.8
27	9.8	7.1	8.5	12.7	9.6	11.2	22.0	19.8	21.0	21.2	20.0	20.5
28	10.0	9.2	9.7	12.9	10.4	11.8	21.8	19.8	20.6	20.8	19.7	20.4
29	---	---	---	13.1	12.2	12.6	21.4	18.6	20.0	20.9	18.7	19.7
30	---	---	---	13.7	13.1	13.4	20.8	19.6	20.1	20.3	18.8	19.7
31	---	---	---	16.1	13.5	14.7	---	---	---	21.8	19.4	20.3
MONTH	14.7	6.9	11.5	17.5	9.0	12.7	22.2	10.3	16.2	23.6	14.1	18.9

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	22.5	20.6	21.4	28.6	27.5	28.1	27.3	25.7	26.7	27.7	24.8	26.3
2	23.5	21.4	22.3	29.3	27.1	28.2	27.5	25.7	26.6	27.9	25.6	26.8
3	23.3	22.3	22.9	28.4	26.6	27.8	28.0	25.7	27.0	28.1	26.2	27.3
4	23.3	21.8	22.4	29.0	27.1	28.1	28.4	26.5	27.4	28.1	25.8	27.0
5	22.5	20.6	21.6	28.8	26.9	28.0	27.1	26.0	26.5	27.8	25.5	26.9
6	23.3	21.0	22.1	28.6	27.3	28.0	26.0	25.0	25.5	28.2	25.5	27.0
7	24.7	22.2	23.3	28.8	26.7	27.8	25.2	23.4	24.4	28.6	25.9	27.3
8	26.1	23.5	24.7	28.8	27.6	28.3	24.8	22.8	23.9	27.1	25.5	26.5
9	26.5	24.7	25.6	28.6	27.6	28.1	25.8	23.8	24.9	26.9	25.5	26.3
10	26.9	25.3	26.1	28.8	27.1	27.9	26.6	24.6	25.5	26.7	25.5	26.1
11	26.3	24.5	25.4	28.1	26.6	27.4	26.5	24.6	25.7	26.7	24.9	25.9
12	25.5	23.7	24.8	27.7	22.4	26.0	26.5	24.5	25.6	26.1	24.9	25.5
13	25.9	24.1	25.0	22.8	22.4	22.7	26.5	24.9	25.7	24.9	24.3	24.5
14	26.1	24.9	25.5	22.8	21.9	22.3	26.9	25.1	26.0	25.0	23.9	24.4
15	26.5	24.9	25.6	22.8	21.3	22.0	26.9	24.9	26.0	25.0	23.6	24.5
16	27.3	25.3	26.3	23.2	21.7	22.4	26.9	24.5	25.9	24.4	22.6	23.7
17	27.4	26.1	26.8	24.8	22.1	23.2	28.2	25.3	26.8	23.2	21.5	22.4
18	27.8	26.3	27.1	25.6	23.8	24.7	29.0	26.3	27.7	22.5	19.9	21.4
19	28.2	25.9	26.8	26.4	24.8	25.6	29.6	26.9	28.2	23.1	22.1	22.5
20	28.2	25.3	27.3	27.2	25.2	26.0	30.2	27.3	28.8	24.3	22.9	23.5
21	28.9	26.9	28.0	27.0	26.0	26.6	30.4	27.4	28.9	24.1	22.9	23.6
22	28.5	27.2	27.9	26.0	23.8	25.2	28.7	27.4	27.9	23.9	22.7	23.4
23	27.6	25.9	26.8	23.6	22.4	22.9	27.5	26.0	26.8	22.6	19.2	20.9
24	26.3	24.3	25.5	23.8	22.1	22.8	26.8	24.8	26.0	19.0	17.1	18.2
25	26.4	23.8	25.3	24.8	22.8	23.7	27.5	24.4	26.0	18.7	16.8	18.0
26	26.6	23.8	25.4	25.9	23.5	24.5	27.9	24.8	26.5	19.9	17.8	18.9
27	27.7	24.7	26.3	26.5	24.5	25.5	28.9	25.8	27.4	20.7	18.9	19.9
28	28.2	25.5	27.0	27.3	25.1	26.2	29.1	26.2	27.7	21.3	19.7	20.6
29	28.5	26.4	27.6	27.4	25.5	26.5	28.3	26.2	27.1	22.3	20.3	21.3
30	29.2	26.8	28.1	27.6	26.1	26.9	27.4	25.2	26.5	22.4	21.4	21.9
31	---	---	---	27.4	26.5	27.1	27.0	24.6	26.0	---	---	---
MONTH	29.2	20.6	25.4	29.3	21.3	25.8	30.4	22.8	26.5	28.6	16.8	23.7

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 and crest-stage gage. 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.--13 years (water years 1973-81, 1987-90) 319 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)
Oct. 1	0730	6,040	13.60	Feb. 3	2230	*14,400	*19.43
Oct. 2	0430	8,710	16.28	Feb. 10	1200	4,230	10.85
Dec. 31	1500	3,780	10.05	Mar. 16	1200	3,880	10.23

Minimum discharge, 5.2 ft^3/s, Aug. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4750	53	153	974	415	138	107	75	58	19	21	11
2	4510	52	138	564	365	166	98	85	51	39	19	9.6
3	1100	49	124	430	6400	419	87	85	84	23	18	9.4
4	679	46	113	937	7150	301	82	96	57	17	17	10
5	486	44	107	774	1600	231	78	455	48	15	28	11
6	390	66	101	531	952	187	86	217	44	14	32	10
7	303	148	92	412	738	161	101	144	40	13	23	11
8	255	998	116	386	619	168	100	110	36	12	18	48
9	213	849	205	386	582	299	88	95	33	11	16	26
10	181	412	180	310	2800	434	83	95	30	13	14	18
11	154	282	162	269	1140	313	81	85	26	46	15	16
12	137	226	154	230	734	256	77	75	22	130	12	17
13	121	186	140	203	582	217	72	76	23	145	13	20
14	109	244	126	183	479	195	70	66	19	97	13	20
15	97	535	117	166	491	183	68	59	19	76	12	19
16	92	1390	107	153	1390	1880	67	53	19	61	12	18
17	272	567	98	145	724	1410	71	90	16	54	12	16
18	233	386	92	570	534	738	75	122	29	46	12	15
19	166	292	96	445	451	511	66	80	29	38	10	14
20	138	249	105	826	362	382	61	157	22	33	11	14
21	121	214	110	1770	307	307	66	193	18	94	11	18
22	107	230	100	668	276	257	445	256	21	122	12	107
23	97	660	95	472	249	220	218	172	21	77	12	57
24	88	373	90	364	216	194	144	129	18	58	12	43
25	81	287	85	313	190	171	108	105	15	55	11	39
26	76	246	80	266	170	153	92	92	15	49	10	34
27	72	217	63	227	159	137	82	85	14	42	11	29
28	67	219	62	203	145	126	80	98	13	36	11	48
29	63	212	61	1120	---	121	88	87	13	30	11	42
30	58	174	79	916	---	126	85	74	11	26	11	26
31	57	---	1870	546	---	118	---	64	---	24	12	---
TOTAL	15273	9906	5221	15759	30220	10519	3026	3675	864	1515	452	776.0
MEAN	493	330	168	508	1079	339	101	119	28.8	48.9	14.6	25.9
MAX	4750	1390	1870	1770	7150	1880	445	455	84	145	32	107
MIN	57	44	61	145	145	118	61	53	11	11	10	9.4

CAL YR 1989 TOTAL 179396 MEAN 491 MAX 8370 MIN 22
WTR YR 1990 TOTAL 97206.0 MEAN 266 MAX 7150 MIN 9.4

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.--Records good. Interruptions in the record were due to equipment malfunctions.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 502 microsiemens, Dec. 20, 1990; 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, 0.9°C, Dec. 26, 27, 1989.
DISSOLVED OXYGEN: Maximum, 18.2 mg/L, March 20, 1988; minimum, 1.6 mg/L, Sept. 12, 1990.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 502 microsiemens, Dec. 20; minimum 105 microsiemens, Feb. 3.
pH: Maximum, 8.4 units, Feb. 27; minimum, 7.0 units, July 10, 12, Sept. 12.
WATER TEMPERATURES: Maximum, 32.1°C, Aug. 21; minimum, 0.9°C, Dec. 26, 27.
DISSOLVED OXYGEN: Maximum, 17.2 mg/L, Mar. 27; minimum, 1.6 mg/L, Sept. 12.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	250	191	223	421	414	418	467	446	459	366	270	327
2	294	163	223	425	410	418	465	437	454	406	368	389
3	359	300	332	423	411	418	462	432	449	420	407	413
4	384	361	373	424	408	417	458	432	446	427	352	409
5	395	385	389	419	405	413	460	427	443	368	321	338
6	402	396	399	417	389	408	472	434	449	416	371	397
7	405	399	402	427	403	415	470	450	459	433	417	425
8	406	398	403	427	274	386	462	447	456	437	432	435
9	408	395	403	315	256	275	472	459	468	438	432	436
10	410	392	403	395	319	360	472	455	465	440	428	436
11	412	382	401	428	397	413	472	461	467	440	426	435
12	411	371	397	442	428	434	467	454	461	439	425	434
13	414	373	396	450	440	443	463	442	454	440	418	431
14	413	377	396	454	422	438	468	444	457	439	412	428
15	409	383	395	437	399	424	473	453	462	436	409	424
16	405	389	398	415	265	312	475	456	465	435	395	419
17	395	341	368	400	311	359	476	455	465	430	401	416
18	384	373	380	434	402	420	472	457	463	429	366	415
19	396	386	393	449	436	443	471	454	465	357	315	329
20	405	394	397	458	448	452	502	471	488	410	321	376
21	412	404	408	460	449	455	480	451	468	316	224	261
22	420	407	414	461	441	452	478	450	464	388	321	360
23	423	410	416	447	386	424	482	468	474	412	389	400
24	424	409	417	384	366	372	488	473	482	422	412	417
25	424	407	416	417	379	397	485	471	478	426	422	424
26	421	406	415	447	418	431	478	456	470	428	420	425
27	419	405	413	458	447	451	468	447	460	429	420	426
28	417	403	411	467	442	455	458	444	452	431	425	428
29	415	403	410	468	453	462	452	436	446	427	243	373
30	414	403	409	469	450	461	444	431	439	325	235	271
31	418	410	413	---	---	---	461	252	352	375	329	356
MONTH	424	163	388	469	256	414	502	252	457	440	224	395

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

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	394	376	385	394	376	385	391	345	370	392	388	390
2	398	391	395	395	379	387	382	347	363	394	391	392
3	396	105	216	388	378	384	380	347	366	395	388	392
4	248	121	175	382	359	371	367	359	362	397	334	377
5	313	253	285	369	349	358	367	359	364	376	339	355
6	343	315	329	380	353	366	362	356	360	335	304	313
7	358	344	352	390	366	380	369	359	363	356	308	329
8	364	358	360	398	378	389	379	357	370	389	359	374
9	367	329	360	397	391	394	371	355	362	402	391	396
10	336	181	243	396	382	391	365	351	359	414	400	409
11	326	225	283	389	379	384	367	361	364	428	414	420
12	354	329	341	402	388	393	366	362	364	432	421	428
13	368	350	358	408	391	400	364	357	360	430	422	425
14	372	367	370	411	389	402	364	359	361	432	424	429
15	375	364	372	412	394	404	366	361	364	439	427	433
16	365	237	297	388	198	293	366	360	363	437	423	431
17	338	264	304	332	243	303	368	358	364	425	393	412
18	370	340	356	376	317	346	369	364	366	398	384	392
19	379	371	375	398	379	390	371	365	367	395	374	388
20	384	380	382	402	396	399	381	373	377	382	313	354
21	389	382	385	406	396	401	380	369	376	383	348	367
22	390	383	387	407	391	401	372	319	353	379	369	374
23	391	388	389	407	377	396	313	282	293	383	361	370
24	392	376	386	404	386	395	334	299	314	407	384	393
25	392	374	385	402	377	391	366	337	351	420	408	413
26	391	372	383	399	356	380	380	368	376	428	419	424
27	391	360	378	393	330	366	394	378	388	432	421	428
28	392	368	380	387	327	359	395	386	390	432	421	427
29	---	---	---	382	348	365	394	386	391	425	411	419
30	---	---	---	387	366	374	395	388	392	422	411	416
31	---	---	---	387	358	374	---	---	---	417	403	412
MONTH	398	105	343	412	198	378	395	282	364	439	304	396
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	418	399	411	380	269	360	395	385	391	391	379	382
2	415	399	409	368	323	345	394	388	391	386	377	382
3	403	337	358	368	349	359	394	380	388	385	379	382
4	408	358	395	376	362	366	391	370	385	390	383	385
5	404	397	401	376	356	365	386	271	366	396	386	389
6	409	398	404	359	349	355	370	336	347	393	389	391
7	408	402	405	361	356	359	396	372	387	392	350	389
8	409	402	407	369	361	365	394	380	386	396	288	365
9	408	402	407	370	365	367	392	383	388	432	375	394
10	404	399	402	371	348	363	394	387	391	415	378	385
11	401	396	399	360	152	327	397	390	394	419	382	392
12	398	395	397	341	276	313	402	395	399	433	374	394
13	399	392	396	369	332	343	407	403	405	385	356	370
14	397	391	393	373	358	368	409	402	406	386	349	380
15	400	389	393	372	354	360	407	398	404	388	385	386
16	399	390	394	397	375	387	403	394	399	403	389	397
17	393	380	386	415	400	409	400	392	397	407	403	406
18	385	296	362	409	403	406	398	392	396	412	407	409
19	359	333	349	403	395	401	398	391	395	415	411	413
20	336	315	328	397	387	393	398	390	394	420	415	417
21	334	322	326	386	217	353	396	376	390	421	349	406
22	353	335	343	337	222	295	394	310	388	405	352	370
23	365	324	355	397	343	368	395	385	390	370	318	359
24	372	363	367	397	390	392	386	379	383	392	372	385
25	374	370	372	420	394	410	382	375	379	392	378	385
26	378	375	377	420	397	412	385	365	380	380	375	378
27	379	376	378	408	397	403	389	381	385	377	373	375
28	380	377	379	402	391	398	387	381	384	378	371	374
29	382	380	381	405	387	396	387	380	384	378	371	373
30	385	376	381	397	389	393	386	377	382	384	372	377
31	---	---	---	397	385	393	382	377	380	---	---	---
MONTH	418	296	382	420	152	372	409	271	388	433	288	386

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

PH (STANDARD UNITS), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	19.3	18.9	19.1	14.5	12.7	13.4	11.9	10.2	11.0	9.0	8.4	8.7
2	19.3	18.8	19.0	13.3	12.1	12.7	12.0	10.2	11.0	8.4	7.6	8.0
3	19.3	18.6	19.0	12.6	11.0	11.7	10.2	8.2	9.1	9.4	8.1	8.7
4	18.6	15.7	18.0	11.1	9.4	10.5	8.8	7.0	8.0	11.2	9.5	10.5
5	18.1	16.4	17.3	13.2	10.2	11.5	8.9	7.2	8.2	10.8	10.5	10.6
6	19.0	17.0	17.9	14.4	13.3	13.9	10.6	8.5	9.5	10.4	9.9	10.2
7	19.2	17.2	18.1	15.3	13.9	14.6	10.2	9.0	9.5	9.8	9.4	9.6
8	17.9	16.0	16.9	17.3	15.3	16.3	9.0	7.9	8.4	10.3	9.2	9.6
9	17.3	14.9	16.0	17.2	15.4	16.5	7.8	6.9	7.3	10.3	9.0	9.6
10	17.6	15.1	16.2	15.3	13.8	14.6	7.4	6.8	7.0	10.3	9.1	9.6
11	18.4	15.3	16.7	15.2	13.1	14.0	7.6	6.8	7.3	10.7	9.0	9.7
12	19.0	15.9	17.3	16.4	14.0	15.0	7.1	5.9	6.9	8.9	7.2	8.4
13	19.1	16.7	18.0	16.5	14.3	15.3	6.2	4.8	5.5	7.7	6.3	6.9
14	20.0	17.2	18.6	16.0	15.3	15.7	5.8	4.2	5.1	7.7	5.9	6.7
15	20.4	17.6	19.1	17.3	15.9	16.6	5.3	3.3	4.9	8.9	6.9	8.0
16	20.5	19.1	19.9	16.2	12.8	14.7	3.3	2.0	2.7	10.9	8.5	9.6
17	20.6	19.1	20.1	12.7	11.1	11.8	3.2	1.8	2.5	12.0	9.8	11.0
18	19.0	15.3	17.4	11.8	10.4	11.0	3.4	1.7	2.6	12.6	11.7	12.1
19	15.1	12.6	13.9	12.2	10.3	11.2	3.6	2.9	3.4	11.8	10.9	11.2
20	12.5	11.4	12.1	13.8	11.3	12.4	3.1	2.3	2.7	12.6	11.0	11.8
21	13.3	10.2	11.6	13.7	12.2	12.8	2.3	1.1	1.8	12.7	10.6	11.8
22	14.5	11.2	12.9	12.3	11.7	12.1	1.1	1.1	1.1	10.5	9.5	10.1
23	15.5	13.5	14.5	11.7	10.1	11.0	1.1	1.0	1.1	9.8	9.3	9.7
24	16.3	13.9	15.2	10.6	9.2	9.9	1.0	1.0	1.0	10.6	9.6	10.1
25	16.6	14.3	15.5	11.5	9.8	10.6	1.0	1.0	1.0	11.1	10.1	10.8
26	16.7	14.6	15.7	13.6	11.6	12.8	1.0	.9	.9	10.5	8.8	9.6
27	16.6	14.5	15.6	16.0	13.5	14.9	1.3	.9	1.1	10.2	8.5	9.2
28	16.5	14.4	15.5	16.1	14.7	15.7	2.1	1.0	1.5	10.3	9.2	9.9
29	16.6	14.3	15.7	14.6	12.0	13.6	4.8	1.8	3.1	10.0	8.8	9.7
30	16.5	14.3	15.5	12.5	11.0	11.7	6.7	4.8	5.7	8.7	8.1	8.4
31	16.1	14.7	15.7	---	---	---	9.0	6.6	7.9	9.0	7.7	8.4
MONTH	20.6	10.2	16.6	17.3	9.2	13.3	12.0	.9	5.1	12.7	5.9	9.6
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	10.6	8.7	9.6	9.5	8.9	9.3	18.5	14.6	16.4	22.1	20.7	21.7
2	13.2	10.8	12.1	9.3	8.9	9.1	19.0	15.8	17.3	20.5	19.2	19.8
3	14.9	13.3	14.4	11.0	8.7	9.8	16.3	13.5	14.5	21.2	18.9	20.0
4	14.7	11.5	13.3	11.6	9.0	10.1	16.1	11.9	13.9	21.4	20.3	20.8
5	11.4	10.4	11.0	12.6	9.4	10.6	17.1	13.3	15.1	20.6	17.3	19.1
6	11.4	10.5	11.0	13.5	9.7	11.5	15.7	12.0	13.9	17.9	16.1	16.9
7	12.6	11.3	12.0	13.3	11.3	12.3	15.0	10.6	12.6	19.7	15.2	17.2
8	12.8	11.4	12.2	12.5	11.9	12.2	15.2	10.2	12.7	20.6	15.8	18.1
9	13.8	12.5	13.1	12.5	11.8	12.2	16.5	12.1	14.3	19.5	18.0	18.6
10	13.5	11.4	12.2	14.3	12.5	13.4	16.1	15.4	15.8	19.4	17.3	18.3
11	11.6	10.9	11.2	16.9	13.8	15.2	16.7	14.0	15.3	17.9	15.8	17.1
12	12.0	10.6	11.4	17.6	15.8	16.5	16.5	12.8	14.6	17.7	16.7	17.3
13	13.2	11.6	12.4	18.4	16.1	17.0	16.4	13.0	14.6	20.6	17.0	18.6
14	14.5	12.8	13.7	19.0	16.3	17.5	15.1	14.3	14.7	21.9	17.9	19.9
15	15.3	14.4	14.9	17.6	16.2	17.1	17.3	13.8	15.3	23.0	19.8	21.5
16	15.3	14.1	15.1	16.1	13.3	14.5	18.8	15.3	17.0	24.5	21.6	23.1
17	13.9	11.1	12.5	13.7	13.0	13.4	17.7	14.4	16.4	25.0	22.3	23.5
18	11.0	10.2	10.6	14.1	12.4	13.4	17.1	12.6	14.8	24.2	20.7	22.4
19	12.4	10.6	11.4	13.9	11.2	12.8	17.9	14.2	16.0	22.7	20.9	22.0
20	11.9	10.2	10.9	11.9	9.9	10.8	18.1	16.0	17.1	22.0	20.4	21.0
21	12.0	9.7	10.8	12.6	9.5	10.9	18.8	17.2	18.0	21.0	19.8	20.3
22	13.5	11.4	12.4	14.1	11.0	12.3	19.9	17.5	18.5	19.6	17.3	18.6
23	12.3	10.4	11.7	16.0	12.5	13.9	22.1	18.0	19.7	18.5	16.7	17.5
24	11.5	8.6	10.2	13.5	12.0	13.2	23.6	18.6	20.9	20.8	16.3	18.4
25	9.7	7.5	8.4	11.9	11.2	11.6	24.1	19.4	21.7	21.2	18.1	19.7
26	8.5	6.8	7.6	11.9	10.4	11.2	24.8	20.3	22.6	22.1	19.9	21.0
27	10.5	7.1	8.7	13.6	9.3	11.3	24.4	21.1	22.9	23.0	20.7	21.9
28	10.4	9.0	9.7	13.5	10.4	12.1	23.2	20.7	21.9	22.2	20.6	21.5
29	---	---	---	13.8	12.1	13.0	23.3	19.2	21.2	23.1	19.1	21.0
30	---	---	---	14.1	13.0	13.6	22.5	21.1	21.9	22.1	19.9	21.1
31	---	---	---	17.2	13.7	15.2	---	---	---	23.7	20.2	21.9
MONTH	15.3	6.8	11.6	19.0	8.7	12.8	24.8	10.2	17.1	25.0	15.2	20.0

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

TEMPERATURE, WATER, (DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	24.7	21.9	23.3	30.1	27.2	28.5	28.9	26.6	27.6	29.2	25.0	27.1
2	25.1	22.6	23.9	29.8	26.4	28.0	28.9	25.6	27.1	30.2	25.6	27.8
3	24.6	22.9	23.9	30.4	26.1	28.2	29.7	25.4	27.5	29.9	26.2	28.0
4	24.9	22.1	23.4	31.7	27.0	29.0	29.4	26.2	27.6	30.0	25.6	27.6
5	23.9	20.2	22.3	31.7	26.6	29.0	27.8	25.9	26.7	30.0	25.2	27.4
6	25.2	21.6	23.6	31.0	27.2	29.0	26.2	24.6	25.4	30.3	25.3	27.6
7	26.9	23.4	25.2	32.0	26.9	29.3	25.6	22.9	24.2	30.9	25.8	27.9
8	28.6	25.2	26.9	31.6	27.8	29.8	26.3	22.5	24.2	27.1	26.0	26.7
9	29.0	26.2	27.6	30.0	28.0	29.0	27.4	23.3	25.3	27.9	26.0	26.8
10	29.5	26.4	27.7	30.1	26.8	28.0	27.6	24.0	25.8	27.5	25.5	26.3
11	28.0	24.9	26.4	29.7	25.6	27.2	28.4	24.0	26.1	27.1	24.5	25.7
12	28.2	23.8	25.8	26.5	24.6	25.3	28.8	24.2	26.5	25.8	24.0	25.0
13	28.3	24.3	26.2	25.2	24.2	24.7	27.7	25.2	26.5	24.8	23.8	24.3
14	29.8	25.5	27.1	24.7	23.5	24.2	28.6	25.1	26.7	25.4	23.3	24.3
15	29.1	25.9	27.2	25.3	22.5	23.9	29.1	24.8	26.8	26.2	22.9	24.5
16	30.2	26.0	27.8	25.2	22.6	23.9	29.0	24.6	26.6	25.7	22.1	23.7
17	30.9	27.1	28.8	26.7	22.9	24.8	29.8	25.3	27.5	23.5	20.5	22.1
18	29.9	26.9	28.4	27.1	25.1	26.2	30.1	26.0	28.0	23.3	19.2	21.3
19	29.5	26.2	27.8	28.3	25.7	27.0	31.2	26.5	28.7	24.0	21.1	22.4
20	30.3	26.0	28.0	29.1	26.5	27.8	31.9	27.1	29.3	25.0	22.4	23.6
21	30.6	27.2	28.6	28.7	25.9	27.5	32.1	27.5	29.6	24.4	22.3	23.4
22	29.9	27.1	28.3	25.5	24.2	24.8	29.2	27.4	28.3	24.3	22.7	23.4
23	28.5	25.8	27.0	25.1	23.3	24.2	29.1	26.1	27.4	22.5	18.9	20.6
24	27.8	24.4	26.0	26.0	23.2	24.6	29.3	24.8	26.9	19.0	16.9	18.2
25	28.7	23.4	25.8	26.5	23.5	25.1	29.6	24.4	26.9	19.3	17.0	18.4
26	28.8	23.2	25.9	27.5	24.3	26.0	29.7	24.9	27.3	20.6	18.1	19.5
27	29.4	23.9	26.6	27.9	25.7	26.9	30.4	25.8	28.1	22.1	19.3	20.7
28	29.8	24.9	27.3	28.7	26.2	27.5	31.1	26.1	28.4	22.4	20.2	21.3
29	30.9	25.7	28.2	29.0	26.2	27.7	30.8	26.3	27.7	22.7	20.5	21.8
30	31.3	26.6	28.9	29.4	26.7	28.0	29.8	25.2	26.9	22.6	21.5	22.1
31	---	---	---	29.7	27.3	28.4	29.0	24.4	26.6	---	---	---
MONTH	31.3	20.2	26.5	32.0	22.5	26.9	32.1	22.5	27.0	30.9	16.9	24.0

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.2	6.8	7.0	10.9	7.8	9.3	14.1	10.4	11.8	11.5	11.2	11.3
2	7.3	6.2	6.8	10.9	8.0	9.7	14.4	10.5	11.9	12.1	11.2	11.5
3	6.4	6.0	6.1	11.2	8.3	9.9	14.8	10.7	12.3	12.2	10.9	11.4
4	6.7	6.0	6.2	11.4	8.9	10.3	15.0	11.2	12.7	11.0	10.6	10.7
5	7.1	5.9	6.3	11.6	9.0	10.5	14.6	11.4	12.5	10.7	10.6	10.6
6	7.3	5.6	6.2	10.1	8.0	8.8	16.6	10.3	12.9	11.3	10.6	10.8
7	7.7	5.6	6.2	9.4	7.8	8.5	15.5	11.3	13.1	11.6	10.7	11.0
8	---	5.6	---	8.5	8.1	8.3	12.9	11.4	12.0	12.5	10.6	11.2
9	---	---	---	8.6	8.2	8.4	13.7	11.6	12.4	12.7	10.6	11.2
10	---	---	---	9.2	8.6	8.9	15.2	12.1	13.2	13.2	10.5	11.3
11	---	---	---	10.1	8.9	9.3	13.5	11.9	12.5	13.6	10.4	11.4
12	9.2	---	---	10.5	8.8	9.3	14.8	11.7	12.9	13.8	10.4	11.6
13	8.7	2.8	5.1	11.0	8.7	9.4	16.0	12.1	13.6	14.8	10.7	12.2
14	8.6	2.8	5.0	9.0	8.4	8.6	16.4	12.4	14.1	15.2	11.0	12.4
15	8.1	2.9	4.9	9.1	8.4	8.7	14.8	12.3	13.3	14.4	10.6	12.0
16	6.1	3.0	4.3	9.5	8.5	9.2	16.5	13.0	14.4	14.8	10.1	11.8
17	4.0	2.9	3.5	10.2	9.6	9.9	17.0	13.4	14.9	12.8	9.6	10.7
18	4.5	3.6	4.1	11.1	9.9	10.3	16.8	13.6	14.9	9.8	9.0	9.5
19	5.9	4.4	5.1	11.4	10.0	10.5	14.9	13.1	14.0	9.9	9.4	9.7
20	7.8	5.3	6.4	11.4	9.7	10.3	16.4	13.0	14.4	10.0	9.5	9.7
21	8.9	6.0	7.1	11.8	9.6	10.3	16.6	13.3	14.7	10.1	9.6	9.9
22	9.6	6.1	7.4	10.1	9.5	9.8	17.0	14.1	15.4	10.9	10.2	10.4
23	9.7	6.1	7.5	11.0	9.7	10.4	16.8	14.7	15.6	10.9	10.2	10.5
24	10.6	6.4	8.1	11.4	10.4	10.7	16.9	14.6	15.5	10.7	10.0	10.4
25	11.1	6.5	8.3	11.9	10.2	10.8	16.0	14.1	14.9	11.5	9.9	10.5
26	11.1	6.7	8.4	11.1	9.6	10.3	16.0	13.7	14.7	12.6	10.1	11.0
27	11.0	6.9	8.6	11.2	9.3	10.0	15.9	13.6	14.5	12.3	10.5	11.1
28	11.1	7.1	8.9	11.2	9.0	9.8	16.0	13.5	14.5	11.7	10.2	10.8
29	11.2	7.3	9.1	12.7	9.4	10.7	15.7	13.2	14.2	11.0	10.1	10.5
30	10.9	7.6	9.2	13.6	10.2	11.4	13.0	11.4	12.4	11.2	10.9	11.0
31	8.8	7.5	8.3	---	---	---	11.7	11.0	11.3	11.5	10.6	11.1
MONTH	11.2	2.8	6.7	13.6	7.8	9.7	17.0	10.3	13.6	15.2	9.0	10.9

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

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	11.7	10.1	10.8	12.1	9.8	10.8	13.8	7.8	10.3	8.3	6.1	7.1
2	11.1	9.5	10.2	11.4	9.8	10.5	13.0	7.5	9.8	8.0	5.9	6.8
3	9.5	8.8	9.2	12.6	9.9	11.0	11.2	7.8	9.2	8.6	6.4	7.3
4	10.2	8.8	9.4	13.3	10.0	11.1	12.4	8.5	10.1	7.7	6.2	6.8
5	10.5	10.2	10.3	13.9	9.9	11.2	12.1	8.4	9.9	7.7	6.3	7.3
6	10.6	10.1	10.3	14.7	9.8	11.5	9.8	8.0	8.8	8.1	7.5	7.8
7	10.4	9.9	10.1	13.5	9.3	10.9	11.7	8.5	9.8	8.8	7.5	8.0
8	10.4	9.7	10.0	12.0	9.1	10.2	12.2	9.0	10.3	9.2	7.2	8.0
9	9.8	9.3	9.6	10.9	9.3	10.0	12.1	8.8	10.2	7.7	6.8	7.2
10	10.3	9.3	10.0	10.8	9.3	10.0	10.0	8.1	9.1	8.9	6.9	7.7
11	10.4	10.2	10.3	12.0	8.8	10.0	11.3	7.8	9.3	9.2	7.1	7.9
12	10.8	10.0	10.4	11.5	8.7	9.7	11.7	8.2	9.7	9.2	7.2	8.0
13	10.3	9.8	10.0	12.0	8.6	9.7	11.4	8.4	9.6	9.7	7.3	8.2
14	10.0	9.4	9.7	12.3	8.5	9.8	9.4	7.6	8.5	9.9	6.9	8.1
15	9.7	9.2	9.4	9.6	8.2	8.8	10.9	7.3	8.8	10.0	6.3	7.9
16	9.7	9.4	9.5	10.1	8.5	9.5	10.5	7.1	8.6	10.2	6.3	8.0
17	10.5	9.7	10.2	10.3	10.0	10.1	8.1	6.6	7.4	10.5	5.3	7.4
18	11.1	10.4	10.7	10.8	9.9	10.3	11.3	7.4	9.0	11.4	6.0	8.2
19	11.4	10.2	10.7	11.3	9.9	10.4	10.7	7.3	8.8	11.0	6.3	8.2
20	11.7	10.2	10.7	12.5	10.3	11.2	9.8	6.8	8.2	7.5	6.2	6.8
21	11.8	10.2	10.8	13.1	10.0	11.2	9.3	6.5	7.8	7.8	6.3	6.9
22	11.4	9.7	10.3	13.5	9.6	11.0	9.4	7.0	8.1	7.5	6.8	7.2
23	10.7	9.6	10.1	14.8	9.4	11.3	8.7	6.8	7.5	8.2	7.2	7.5
24	13.1	10.1	11.2	12.7	9.0	10.5	9.1	6.5	7.4	8.8	7.0	7.7
25	13.9	10.6	12.0	14.6	9.4	11.5	9.5	6.1	7.4	8.5	6.8	7.3
26	14.1	11.1	12.3	15.9	9.7	12.4	9.7	5.8	7.3	8.5	6.3	7.1
27	14.5	10.9	12.3	17.2	9.9	13.0	9.5	5.9	7.3	8.2	5.5	6.7
28	13.1	10.0	11.3	15.7	9.5	12.2	8.3	5.7	6.9	7.4	5.2	6.2
29	---	---	---	13.1	8.9	10.7	9.9	6.2	7.6	9.4	6.3	7.5
30	---	---	---	11.2	8.3	9.5	9.0	6.1	7.3	9.3	6.1	7.5
31	---	---	---	13.7	7.8	10.1	---	---	---	10.6	6.4	8.1
MONTH	14.5	8.8	10.4	17.2	7.8	10.6	13.8	5.7	8.7	11.4	5.2	7.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	10.4	6.1	7.9	7.0	4.3	5.7	6.9	4.6	5.7	8.0	2.7	4.9
2	9.5	5.6	7.4	9.5	3.6	6.5	7.1	3.9	5.2	8.7	2.8	5.1
3	7.3	5.6	6.3	---	---	---	7.9	3.9	5.5	9.2	3.1	5.4
4	8.8	4.7	6.4	---	---	---	7.0	3.7	5.0	8.5	2.8	5.1
5	9.7	5.1	7.1	---	---	---	5.9	3.4	4.4	8.3	3.0	5.1
6	9.8	5.3	7.3	---	---	---	6.1	3.7	4.8	8.0	3.1	5.1
7	8.8	5.0	6.8	---	---	---	7.6	4.9	6.1	8.8	3.1	5.4
8	7.6	4.4	6.0	---	---	---	9.0	5.5	6.9	6.3	3.3	5.0
9	7.3	3.9	5.5	7.3	---	---	9.8	5.3	7.3	7.3	4.0	5.4
10	7.4	4.0	5.6	6.0	2.4	3.9	10.1	5.2	7.4	7.8	4.1	5.4
11	7.6	4.5	5.9	6.1	2.8	4.2	10.4	5.1	7.5	6.8	3.2	4.7
12	7.8	4.9	6.2	5.7	3.5	4.4	9.6	4.9	7.1	6.3	1.6	4.1
13	8.2	5.0	6.4	6.1	4.3	5.1	8.6	4.8	6.6	5.1	3.8	4.6
14	9.3	5.3	6.7	7.1	5.0	5.9	9.3	4.5	6.4	6.5	3.7	4.9
15	7.8	4.6	6.0	7.7	5.1	6.2	10.0	3.5	6.3	7.1	4.1	5.4
16	9.2	4.6	6.5	8.6	5.3	6.6	9.9	3.7	6.3	7.6	4.8	5.8
17	10.5	4.4	7.3	9.1	5.4	7.1	9.5	3.4	5.9	8.3	5.1	6.3
18	10.4	5.4	7.4	8.5	5.1	6.9	8.6	3.1	5.2	8.4	5.0	6.2
19	12.6	4.3	8.1	8.5	5.0	6.7	9.3	2.7	5.3	8.3	5.0	6.2
20	13.7	6.0	9.5	8.2	4.8	6.5	9.3	2.6	5.3	8.7	4.9	6.4
21	12.9	6.3	9.1	6.6	4.8	5.8	8.5	2.4	4.8	7.5	4.6	5.8
22	9.4	5.4	7.2	5.6	4.7	5.1	7.0	1.7	3.8	7.6	5.2	6.2
23	7.1	4.5	5.7	7.1	4.7	5.7	6.8	1.7	3.8	7.9	5.7	6.8
24	6.8	4.4	5.4	8.0	4.8	6.2	7.9	2.4	4.7	9.0	6.6	7.7
25	7.7	4.5	5.8	10.0	5.2	7.3	8.6	2.8	5.1	8.9	6.9	8.0
26	7.9	4.7	6.1	11.8	5.5	8.3	8.7	2.9	5.3	8.6	6.8	7.9
27	8.2	4.7	6.3	10.6	5.4	7.9	8.7	2.7	5.2	8.5	6.8	7.6
28	8.2	4.7	6.4	9.8	5.2	7.3	8.7	2.8	5.3	9.2	6.5	7.8
29	8.1	4.8	6.3	9.0	5.2	6.9	9.5	3.0	4.9	8.8	6.3	7.5
30	8.1	4.7	6.2	8.2	5.1	6.4	9.5	2.8	5.1	8.1	6.1	7.1
31	---	---	---	7.6	4.9	6.1	7.8	2.8	4.8	---	---	---
MONTH	13.7	3.9	6.7	11.8	2.4	6.2	10.4	1.7	5.6	9.2	1.6	6.0

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.--Records good except for period Aug. 9 to Sept. 21, which are fair. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--25 years, 432 ft^3/s, 24.75 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)
Oct. 2	0500	10,400	10.86	Feb. 3	2400	*19,000	*15.45

Minimum daily discharge, 16.0 ft^3/s, Aug, 28-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6070	90	263	1610	615	252	213	117	153	19	42	18
2	6030	85	242	900	543	250	195	122	129	71	36	17
3	1700	79	219	673	8520	e502	175	132	218	47	31	17
4	1030	73	199	1330	10800	417	160	178	157	28	29	17
5	732	69	184	1260	2750	337	150	616	123	22	32	18
6	568	89	171	816	1800	296	158	362	108	21	67	19
7	462	209	153	638	1360	266	188	265	97	19	41	22
8	389	1060	178	572	1050	255	187	218	86	18	44	95
9	339	1170	259	554	1010	258	169	187	79	17	87	74
10	300	552	250	472	4170	e413	157	182	69	18	82	49
11	272	406	231	412	2020	457	150	155	56	42	85	40
12	246	333	227	366	1290	389	138	132	45	440	90	42
13	225	286	213	328	980	342	128	136	43	619	88	50
14	207	351	198	299	784	308	121	113	41	439	62	48
15	187	772	184	280	729	289	113	100	40	303	56	46
16	174	e1680	168	263	1900	2490	111	89	37	203	53	39
17	419	e776	151	249	1120	2130	114	133	34	140	52	36
18	425	560	138	637	801	1190	130	263	39	106	51	31
19	315	e436	140	564	675	784	112	180	72	86	41	30
20	271	e384	150	870	573	607	101	351	45	67	23	26
21	243	333	143	2310	503	504	101	535	38	108	32	26
22	221	337	120	940	456	435	502	546	43	563	32	288
23	202	858	e118	651	419	379	322	417	48	380	36	222
24	183	543	e117	538	370	335	240	347	39	251	36	137
25	164	438	e116	461	334	304	200	306	30	174	34	102
26	150	379	e115	396	307	277	167	269	28	140	30	85
27	137	340	95	349	290	256	145	250	26	108	24	73
28	121	350	92	316	269	239	135	267	23	87	16	94
29	112	333	88	1390	---	232	139	250	20	71	16	98
30	100	288	116	1440	---	236	137	210	19	56	16	68
31	95	---	2610	809	---	229	---	180	---	51	17	---
TOTAL	22089	13659	7648	22693	46438	15658	5058	7608	1985	4714	1381	1927
MEAN	713	455	247	732	1658	505	169	245	66.2	152	44.5	64.2
MAX	6070	1680	2610	2310	10800	2490	502	616	218	619	90	288
MIN	95	69	88	249	269	229	101	89	19	17	16	17
CFSM	3.01	1.92	1.04	3.09	7.00	2.13	.71	1.04	.28	.64	.19	.27
IN.	3.47	2.14	1.20	3.56	7.29	2.46	.79	1.19	.31	.74	.22	.30

CAL YR 1989 TOTAL 272125 MEAN 746 MAX 11800 MIN 27 CFSM 3.15 IN. 42.71
WTR YR 1990 TOTAL 150858 MEAN 413 MAX 10800 MIN 16 CFSM 1.74 IN. 23.68

e Estimated

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1974 to September 1990 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1975 to September 1990 (discontinued).
WATER TEMPERATURE: March 1974 to September 1990 (discontinued).

INSTRUMENTATION.--Water-temperature recorder March 1974 to September 1975, water-quality monitor October 1975 to September 1990.

REMARKS.--Records good. Interruptions in the record were due to instrument 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, 629 microsiemens, Sept. 2; minimum, 149 microsiemens, Feb. 3.
WATER TEMPERATURES: Maximum, 29.1°C, Sept. 6; minimum, 0.8°C, Dec. 23.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	330	275	300	482	470	475	462	454	459	393	314	352
2	346	244	289	485	478	481	466	458	462	427	393	411
3	393	350	374	485	478	483	466	458	462	443	427	436
4	409	393	402	485	482	485	469	459	464	443	410	434
5	418	409	414	485	482	483	473	463	468	407	379	387
6	425	418	422	485	478	479	478	467	471	425	395	410
7	425	425	425	478	442	460	479	472	475	437	425	432
8	425	422	425	454	368	432	475	471	472	444	437	440
9	429	422	426	368	332	345	474	467	471	---	---	---
10	429	425	428	427	372	400	474	470	472	---	---	---
11	437	425	432	454	427	443	473	470	471	446	441	442
12	433	425	430	470	454	462	473	472	473	445	440	443
13	433	425	430	478	470	472	476	472	474	448	440	443
14	433	425	429	478	442	465	479	472	474	443	439	440
15	433	426	430	466	446	460	483	475	478	439	435	438
16	434	430	432	---	---	---	483	478	481	441	434	438
17	434	395	407	---	---	---	482	482	482	437	433	435
18	423	407	418	380	373	377	486	477	482	432	413	423
19	430	423	426	---	---	---	481	477	480	409	361	375
20	430	426	430	---	---	---	485	477	483	404	372	388
21	447	434	442	---	---	---	496	484	490	387	281	311
22	452	447	447	472	447	464	503	488	492	394	340	371
23	452	452	452	451	433	446	514	503	507	412	398	406
24	457	452	455	429	408	416	507	499	502	424	412	418
25	461	453	458	429	412	420	---	---	---	428	424	427
26	462	454	459	448	433	439	486	481	485	431	426	427
27	463	458	461	454	447	450	481	473	479	430	426	429
28	467	456	462	456	444	449	481	473	477	429	429	429
29	464	460	462	459	452	456	476	472	474	429	318	394
30	465	457	463	461	456	458	476	464	472	341	303	316
31	470	461	465	---	---	---	464	310	391	392	341	369
MONTH	470	244	426	485	332	448	514	310	474	448	281	409

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

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	408	396	403	408	400	404	422	418	420	452	436	443
2	420	412	414	408	404	404	421	410	416	451	445	447
3	416	149	250	404	396	400	421	414	419	445	437	441
4	255	153	201	405	401	404	428	413	422	440	383	427
5	310	263	288	400	396	398	424	417	420	411	379	399
6	333	314	323	404	396	401	423	419	420	409	396	402
7	345	333	339	412	404	407	419	416	418	402	395	396
8	357	345	351	412	408	410	416	411	414	424	406	413
9	365	278	346	412	408	410	418	411	415	430	423	426
10	329	275	294	416	408	411	421	415	418	433	425	430
11	349	294	323	412	411	411	421	417	420	436	431	434
12	373	349	360	415	411	413	421	417	420	441	434	438
13	384	373	379	419	415	416	420	416	419	---	---	---
14	396	384	391	419	415	417	421	420	420	444	440	442
15	400	396	399	423	411	416	424	421	422	448	444	445
16	400	361	383	407	328	371	424	418	421	453	449	451
17	388	365	376	383	340	364	422	418	421	453	437	447
18	404	388	396	407	383	395	426	422	423	433	414	420
19	412	404	407	419	411	416	426	423	424	426	422	426
20	416	412	412	423	419	422	431	423	427	426	321	390
21	416	412	414	426	423	423	435	431	435	403	379	395
22	420	416	417	426	423	424	435	392	408	412	395	404
23	420	416	419	430	423	428	405	377	388	420	412	416
24	416	412	415	429	423	426	394	377	383	431	420	425
25	412	404	409	429	425	427	414	394	402	440	431	436
26	404	400	404	425	421	424	427	414	419	448	440	442
27	408	400	402	421	417	419	434	427	431	448	444	445
28	404	396	401	421	413	416	439	434	437	445	441	444
29	---	---	---	420	408	415	439	435	439	445	441	443
30	---	---	---	422	412	417	439	432	435	447	443	444
31	---	---	---	422	419	420	---	---	---	445	441	444
MONTH	420	149	368	430	328	411	439	377	419	453	321	428
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	445	445	445	487	355	436	492	476	483	623	601	611
2	---	---	---	546	487	510	492	484	489	629	614	622
3	---	---	---	499	434	459	497	484	491	625	608	617
4	421	405	410	467	433	448	497	489	493	619	600	610
5	440	417	432	476	456	465	493	485	490	613	586	601
6	448	436	443	481	476	478	505	446	487	615	597	607
7	451	443	447	---	---	---	442	411	423	617	602	611
8	451	443	450	---	---	---	463	427	442	---	---	---
9	455	451	453	---	---	---	482	463	467	---	---	---
10	459	455	457	---	---	---	490	482	483	---	---	---
11	459	455	457	542	519	530	510	490	495	490	471	475
12	455	451	454	554	333	409	534	510	517	501	489	495
13	462	450	456	416	373	402	538	530	535	527	501	513
14	470	458	460	426	407	418	538	526	533	547	531	540
15	477	458	466	425	418	420	522	511	519	547	526	541
16	481	470	475	432	418	424	511	507	510	526	526	526
17	484	476	479	455	432	442	519	511	514	537	526	534
18	480	476	480	474	455	465	519	499	512	533	524	528
19	484	445	473	477	470	474	511	495	505	532	528	530
20	444	436	440	481	476	478	499	487	496	547	532	537
21	452	440	445	480	428	463	546	495	513	559	534	553
22	452	448	452	436	279	319	---	---	---	597	389	488
23	459	451	453	412	358	378	572	568	571	435	397	418
24	463	455	459	446	416	432	581	571	575	439	427	433
25	459	451	457	462	450	455	592	575	586	458	439	447
26	470	458	462	468	461	463	601	582	593	472	458	463
27	481	466	472	472	467	470	605	580	593	472	465	470
28	493	477	483	471	467	470	611	599	605	475	467	469
29	496	488	491	478	470	475	620	609	615	475	436	452
30	496	292	470	482	473	478	612	599	605	443	439	439
31	---	---	---	481	469	475	599	590	595	---	---	---
MONTH	496	292	458	554	279	449	620	411	524	629	389	523

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	19.2	18.4	18.9	15.2	13.8	14.2	10.7	9.9	10.3	9.4	8.8	9.1
2	19.2	18.8	19.0	13.8	13.2	13.4	10.7	9.7	10.2	9.2	8.2	8.8
3	19.0	18.4	18.7	13.2	12.3	12.6	9.5	7.4	8.5	10.4	9.0	9.7
4	18.4	17.5	17.9	12.1	11.1	11.6	7.9	6.8	7.4	11.8	10.4	11.0
5	17.6	16.5	17.1	13.6	11.3	12.3	9.3	7.5	8.3	11.2	10.8	11.0
6	18.6	17.1	17.8	14.6	13.6	14.1	11.1	8.9	10.0	11.0	10.4	10.8
7	18.2	17.5	17.8	15.2	14.6	15.0	10.7	9.6	10.0	10.4	10.0	10.3
8	17.5	16.1	16.7	16.6	15.2	15.9	9.4	7.8	8.6	11.0	10.2	10.5
9	16.5	15.1	16.0	16.4	14.8	15.7	7.8	7.3	7.5	---	---	---
10	17.0	15.6	16.2	14.6	13.6	14.1	7.3	6.9	7.1	---	---	---
11	17.6	16.0	16.8	14.4	12.8	13.6	7.8	7.1	7.6	10.6	9.2	9.9
12	18.3	16.6	17.4	15.2	13.4	14.4	7.8	6.7	7.3	10.0	8.3	9.0
13	18.7	17.6	18.1	15.2	14.0	14.7	6.5	5.5	5.8	8.1	7.1	7.6
14	19.3	17.7	18.5	15.4	15.0	15.1	6.1	5.3	5.7	8.5	7.1	7.7
15	19.7	17.9	18.9	16.2	15.2	15.8	6.5	4.9	6.0	10.0	8.5	9.2
16	20.1	18.7	19.4	---	---	---	4.7	3.3	3.8	11.2	10.0	10.5
17	20.1	18.9	19.8	---	---	---	4.5	3.1	3.8	12.3	10.8	11.6
18	18.9	15.4	17.2	11.4	10.2	10.9	4.7	3.9	4.3	12.5	12.0	12.3
19	15.4	13.4	14.3	---	---	---	5.1	4.7	4.9	12.0	11.3	11.4
20	13.4	12.8	13.1	---	---	---	4.7	3.9	4.2	12.4	11.5	12.0
21	14.0	12.1	13.0	---	---	---	3.7	2.2	3.2	12.4	10.7	11.8
22	15.2	13.2	14.2	10.2	9.8	10.1	2.0	1.0	1.2	10.8	9.7	10.3
23	16.3	14.6	15.4	9.8	8.6	9.2	1.4	.8	1.0	10.6	9.8	10.2
24	16.7	14.9	15.8	9.0	8.0	8.5	1.6	1.0	1.2	11.2	10.4	10.6
25	16.9	15.1	15.9	11.1	8.6	9.6	---	---	---	11.6	10.6	11.3
26	16.9	15.1	16.0	12.9	11.1	11.9	4.1	3.1	3.5	10.4	9.3	9.9
27	16.7	15.1	15.9	14.8	12.9	13.7	5.1	3.7	4.3	10.7	8.9	9.9
28	16.7	15.1	15.8	14.9	13.3	14.4	5.1	4.1	4.7	10.9	10.5	10.7
29	16.6	15.1	15.8	13.2	11.4	12.3	6.9	4.7	5.5	10.7	9.2	10.1
30	16.4	14.8	15.7	11.2	10.1	10.7	8.2	6.9	7.6	9.4	8.6	9.0
31	16.2	15.2	15.9	---	---	---	9.6	7.6	8.8	10.4	8.4	9.4
MONTH	20.1	12.1	16.7	16.6	8.0	13.0	11.1	.8	6.1	12.5	7.1	10.2
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	11.8	9.8	10.7	10.9	10.5	10.7	17.8	15.4	16.4	21.0	19.8	20.3
2	13.9	12.0	13.0	10.7	10.5	10.6	17.8	15.8	16.7	19.6	18.5	18.8
3	15.0	13.7	14.5	11.5	9.5	10.6	15.9	13.7	14.5	20.4	18.1	19.2
4	14.8	12.1	13.6	11.9	9.9	10.9	15.5	12.2	13.8	20.8	19.4	20.1
5	12.3	11.1	11.7	12.4	9.9	11.2	16.7	13.7	15.1	19.6	17.0	18.5
6	12.5	11.3	11.9	13.1	10.8	12.0	16.3	13.0	14.5	17.1	15.6	16.4
7	13.4	12.3	12.8	13.1	12.4	12.8	14.2	11.7	12.9	18.6	15.5	17.0
8	13.7	12.1	12.9	13.1	12.4	12.7	15.2	12.1	13.5	19.5	17.0	18.1
9	14.9	13.5	13.9	12.9	12.4	12.6	16.8	13.1	14.7	18.7	18.3	18.5
10	13.9	12.0	12.7	14.5	12.9	13.7	16.6	15.4	16.1	19.0	17.7	18.3
11	12.7	11.6	12.1	16.3	13.7	15.0	16.1	14.6	15.5	18.1	16.6	17.5
12	13.3	11.6	12.4	16.7	15.1	16.0	16.1	13.7	14.9	18.1	16.8	17.5
13	14.0	12.6	13.3	17.1	15.3	16.2	16.1	13.3	14.7	---	---	---
14	15.2	13.8	14.5	17.7	15.7	16.7	15.5	14.3	14.8	21.8	---	---
15	15.8	15.0	15.3	17.1	15.7	16.5	16.7	14.1	15.2	22.6	19.8	21.1
16	15.8	14.4	15.5	15.5	13.3	14.3	18.2	15.5	16.8	23.6	20.9	22.2
17	14.4	12.1	13.2	13.6	12.8	13.3	17.8	14.9	16.4	24.0	21.9	22.9
18	12.3	11.3	11.8	14.0	12.1	13.2	16.1	13.3	14.6	23.0	20.9	22.0
19	13.5	12.1	12.7	13.6	11.5	12.6	17.1	13.9	15.3	22.0	21.0	21.5
20	12.9	11.4	12.2	12.1	10.1	11.2	17.3	16.1	16.7	21.4	19.0	20.5
21	13.3	11.0	12.2	12.8	10.1	11.5	18.0	16.9	17.4	19.2	17.6	18.4
22	14.3	13.1	13.6	14.0	11.1	12.7	19.0	17.4	18.2	18.6	17.0	17.7
23	13.7	11.8	12.9	15.4	12.7	14.1	20.6	17.3	18.9	17.9	16.4	17.1
24	12.4	11.1	11.7	14.6	12.5	13.3	21.4	18.4	19.9	19.3	16.6	17.9
25	10.9	9.5	10.3	12.4	11.7	12.1	22.0	19.6	20.7	19.8	18.5	19.1
26	10.5	9.3	9.9	12.4	11.6	12.0	22.5	19.6	21.1	21.0	19.2	20.0
27	11.9	9.9	10.8	13.3	10.6	12.0	22.4	19.8	21.2	21.4	19.6	20.4
28	11.7	11.1	11.4	13.3	12.2	12.8	21.6	20.0	20.6	20.4	19.5	20.1
29	---	---	---	14.0	13.3	13.6	21.2	18.4	19.8	21.1	18.5	19.8
30	---	---	---	14.4	13.8	14.1	21.4	20.2	20.7	20.8	19.2	19.8
31	---	---	---	16.8	14.2	15.4	---	---	---	22.0	19.0	20.4
MONTH	15.8	9.3	12.6	17.7	9.5	13.1	22.5	11.7	16.7	24.0	15.5	19.3

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	22.9	20.4	21.7	27.5	24.0	26.0	26.7	23.6	25.0	27.2	24.0	25.5
2	---	---	---	---	---	---	26.7	23.5	24.9	28.1	24.4	26.2
3	---	---	---	27.7	---	---	27.5	23.7	25.3	28.5	25.4	---
4	23.3	21.2	21.9	28.0	24.6	26.5	26.3	24.1	25.1	28.5	25.2	26.6
5	22.5	19.6	21.1	28.0	---	---	25.0	23.6	24.4	28.3	24.8	26.3
6	23.5	20.2	21.9	28.0	24.9	26.5	25.4	23.2	24.3	29.1	24.8	26.4
7	25.5	21.2	22.9	---	---	---	24.0	22.3	23.3	27.7	25.0	26.0
8	26.7	22.4	24.3	---	---	---	24.0	21.9	22.9	---	---	---
9	26.7	23.3	24.9	---	---	---	24.2	22.8	23.4	---	---	---
10	26.4	23.8	25.1	---	---	---	24.8	23.0	23.7	---	---	---
11	26.0	22.8	24.4	27.7	---	---	24.7	22.9	23.8	27.3	---	---
12	24.6	21.7	23.6	26.1	24.0	25.3	24.9	23.1	23.9	24.9	23.9	24.5
13	25.6	22.3	24.6	23.2	22.1	22.7	24.7	23.5	24.0	23.9	23.1	23.6
14	27.7	23.1	24.8	23.2	21.9	22.4	25.8	23.5	24.4	24.6	22.8	23.6
15	26.7	23.3	24.8	23.4	21.3	22.2	26.0	24.0	24.9	25.2	23.0	24.0
16	28.8	23.1	25.5	23.5	21.2	22.3	26.2	24.0	24.9	24.4	22.5	23.3
17	27.6	23.8	25.6	25.1	21.8	23.1	26.6	24.2	25.2	23.4	21.3	22.5
18	27.0	24.0	25.3	25.7	23.1	24.3	27.0	25.0	25.9	23.6	20.3	21.8
19	28.4	23.9	25.5	26.6	23.8	25.0	27.6	25.4	26.4	22.7	21.0	21.8
20	27.8	23.5	25.5	26.4	24.2	25.3	28.7	25.6	26.9	24.9	22.0	22.9
21	28.3	24.2	26.2	26.0	24.1	25.0	28.4	25.7	26.9	23.7	22.4	22.9
22	26.4	23.8	25.3	25.3	23.7	24.3	---	---	---	23.9	21.8	23.0
23	25.0	23.2	24.2	23.5	22.5	23.0	26.8	---	---	22.0	18.4	19.9
24	24.3	22.7	23.7	23.3	21.6	22.4	26.4	24.0	25.0	18.3	17.1	17.7
25	25.3	22.0	23.8	24.4	21.5	22.8	27.2	23.4	24.9	19.1	16.8	17.8
26	25.4	21.7	23.6	25.4	22.4	23.6	27.2	24.0	25.3	20.3	17.3	18.6
27	26.6	21.9	24.3	25.4	23.2	24.2	27.4	24.6	25.9	21.1	18.3	19.7
28	26.5	22.3	24.5	26.3	23.5	24.7	28.1	25.0	26.5	21.3	19.1	20.3
29	26.5	23.1	25.1	26.3	23.3	24.6	28.3	25.0	25.9	22.3	20.1	21.3
30	27.6	23.9	25.5	26.7	23.5	24.7	27.0	24.4	25.5	21.6	20.6	21.0
31	---	---	---	26.4	23.8	25.1	26.6	24.0	25.3	---	---	---
MONTH	28.8	19.6	24.3	---	---	---	28.7	21.9	25.0	29.1	16.8	22.7

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 1990 (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. July 5-7, flow below orifice elevation of 1.76 for all or part of each day, Sept. 14-17, equipment malfunction. 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, 23.78 ft, (revised) May 4, 1979. 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, 14.02 ft, Feb. 3; minimum gage-height, unknown, July 5-7.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	6.33	4.60	2.73	2.70	3.19	3.12	4.62	3.89	3.59	3.44	2.90	2.86
2	5.14	3.95	2.72	2.68	3.12	3.06	3.89	3.61	3.95	3.42	3.05	2.90
3	3.94	3.49	2.70	2.66	3.05	3.00	3.60	3.43	14.02	3.58	3.04	2.22
4	3.49	3.25	2.67	2.65	3.00	2.96	6.28	3.46	11.08	5.11	2.98	2.92
5	3.24	3.10	2.67	2.66	2.98	2.95	4.37	3.87	5.11	4.29	2.92	2.90
6	3.10	2.98	3.60	2.67	2.95	2.92	3.85	3.59	4.28	3.89	2.90	2.86
7	2.97	2.90	8.64	2.77	2.93	2.86	3.58	3.43	4.00	3.75	2.87	2.85
8	2.90	2.85	9.33	4.48	3.33	2.95	3.43	3.34	3.75	3.57	3.01	2.86
9	2.85	2.81	4.91	3.89	3.18	3.06	3.34	3.24	10.64	3.50	3.25	2.92
10	2.81	2.76	3.88	3.51	3.06	3.03	3.24	3.16	11.15	5.16	3.27	3.10
11	2.76	2.72	3.50	3.30	3.10	3.04	3.16	3.10	5.14	4.20	3.10	3.04
12	2.75	2.71	3.30	3.18	3.10	3.06	3.10	3.04	4.22	3.84	3.06	3.02
13	2.72	2.68	3.17	3.08	3.06	3.02	3.03	2.99	3.82	3.60	3.02	2.98
14	2.70	2.68	6.59	3.06	3.02	2.99	2.99	2.98	3.59	3.44	2.98	2.95
15	2.68	2.65	10.21	3.73	2.99	2.96	2.98	2.95	3.60	3.41	7.21	2.93
16	3.29	2.61	6.49	4.24	2.96	2.88	2.95	2.92	3.74	3.49	7.34	4.65
17	8.50	3.95	4.22	3.73	2.92	2.90	3.66	2.92	3.49	3.33	4.65	3.95
18	4.10	3.58	3.72	3.45	2.91	2.87	5.10	3.40	3.33	3.26	3.97	3.62
19	3.56	3.37	3.45	3.32	2.95	2.87	3.72	3.49	3.26	3.18	3.62	3.44
20	3.35	3.18	3.31	3.21	2.91	2.85	4.51	3.47	3.18	3.11	3.44	3.30
21	3.18	3.09	3.21	3.11	2.94	2.70	4.35	3.73	3.11	3.07	3.29	3.21
22	3.09	2.99	4.85	3.09	2.87	2.70	3.73	3.51	3.08	3.06	3.20	3.14
23	2.99	2.94	4.27	3.48	2.78	2.75	3.50	3.38	3.05	2.99	3.14	3.07
24	2.94	2.88	3.48	3.31	2.78	2.75	3.38	3.27	2.99	2.95	3.10	3.04
25	2.88	2.85	3.30	3.22	2.83	2.78	3.27	3.19	2.94	2.91	3.10	3.03
26	2.86	2.82	3.22	3.15	2.86	2.82	3.19	3.11	2.91	2.91	3.03	2.98
27	2.81	2.77	3.15	3.10	2.82	2.81	3.11	3.07	2.91	2.89	2.98	2.95
28	2.78	2.74	5.12	3.21	2.82	2.78	3.07	3.04	2.89	2.87	2.95	2.92
29	2.77	2.75	3.53	3.30	2.87	2.78	7.51	3.06	---	---	2.95	2.92
30	2.75	2.71	3.30	3.20	4.93	2.87	4.54	3.88	---	---	3.28	2.94
31	2.74	2.70	---	---	7.48	4.64	3.87	3.59	---	---	3.17	3.02
MONTH	8.50	2.61	10.21	2.65	7.48	2.70	7.51	2.92	14.02	2.87	7.34	2.22

03431000 MILL CREEK NEAR ANTIOCH, TN--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	3.02	2.96	2.78	2.72	2.60	2.56	2.52	2.20	2.53	2.46	2.39	2.34
2	2.96	2.91	3.19	2.71	2.58	2.56	2.52	2.28	2.61	2.48	2.34	2.28
3	2.91	2.88	3.00	2.88	2.81	2.55	2.29	2.06	2.50	2.46	2.28	2.22
4	2.88	2.87	3.06	2.84	2.61	2.55	2.06	2.01	6.84	2.46	2.39	2.19
5	2.87	2.85	2.97	2.87	2.56	2.50	2.01	---	3.39	2.86	2.44	2.28
6	3.28	2.85	2.88	2.82	2.54	2.49	---	---	2.85	2.65	2.46	2.29
7	3.28	3.03	2.81	2.77	2.54	2.49	2.05	---	2.64	2.49	2.48	2.32
8	3.03	2.97	2.77	2.73	2.54	2.48	2.48	2.08	2.55	2.47	2.43	2.33
9	2.96	2.93	2.76	2.71	2.56	2.52	2.46	2.28	2.52	2.44	2.45	2.37
10	2.96	2.91	2.86	2.75	2.52	2.49	2.33	2.13	2.53	2.45	2.51	2.31
11	2.93	2.88	2.77	2.70	2.49	2.36	2.26	2.12	2.57	2.46	2.51	2.37
12	2.88	2.85	2.98	2.68	2.43	2.37	4.54	2.29	2.55	2.45	2.51	2.37
13	2.86	2.83	2.90	2.75	2.44	2.30	3.07	2.73	2.55	2.47	2.51	2.38
14	2.90	2.84	2.79	2.73	2.51	2.28	2.75	2.63	2.50	2.46	---	---
15	2.88	2.84	2.72	2.68	2.56	2.49	2.63	2.57	2.47	2.45	---	---
16	2.84	2.82	2.68	2.64	2.49	2.47	2.57	2.51	2.54	2.44	---	---
17	3.17	2.81	3.84	2.66	2.47	2.46	2.51	2.48	2.53	2.44	---	---
18	2.97	2.89	2.98	2.79	2.53	2.41	2.55	2.46	2.60	2.41	2.35	2.23
19	2.88	2.85	2.79	2.73	2.60	2.53	2.47	2.46	2.60	2.48	2.34	2.19
20	2.86	2.83	4.07	2.78	2.60	2.45	3.45	2.43	2.60	2.44	2.29	2.17
21	3.03	2.83	3.49	3.06	2.59	2.47	3.06	2.68	2.58	2.46	3.13	1.88
22	2.91	2.86	3.06	2.93	2.65	2.49	4.09	2.57	2.58	2.44	2.99	2.46
23	2.86	2.83	2.93	2.86	2.51	2.46	4.05	2.82	2.60	2.43	2.46	2.40
24	2.83	2.80	2.86	2.80	2.46	2.42	2.81	2.66	2.67	2.52	2.52	2.39
25	2.81	2.77	2.79	2.75	2.42	2.26	2.66	2.58	2.62	2.46	2.51	2.38
26	2.78	2.75	2.75	2.72	2.34	2.18	2.58	2.53	2.46	2.35	2.51	2.35
27	2.76	2.74	2.75	2.69	2.30	2.15	2.60	2.50	2.49	2.32	2.52	2.39
28	2.95	2.74	2.75	2.71	2.26	2.09	2.58	2.48	2.56	2.37	2.50	2.37
29	2.84	2.78	2.71	2.66	2.18	2.02	2.51	2.46	2.94	2.41	2.53	2.34
30	2.78	2.74	2.66	2.61	2.19	2.07	2.52	2.44	2.90	2.43	2.35	2.19
31	---	---	2.62	2.59	---	---	2.47	2.44	2.48	2.39	---	---
MONTH	3.28	2.74	4.07	2.59	2.81	2.02	4.54	---	6.84	2.32	3.13	1.88

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 is 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. 88). 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, 34.90 ft, Feb. 4; minimum, 15.43 ft, June 12.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	29.09	21.39	23.16	18.79	23.49	22.51	27.87	25.99	24.10	22.61	22.90	21.99
2	29.36	27.57	21.20	18.74	23.36	21.12	27.87	24.26	22.52	21.64	22.61	22.13
3	27.31	22.73	18.88	17.86	20.97	18.20	24.23	23.20	32.70	21.82	22.92	21.86
4	22.96	21.57	18.58	18.07	19.82	17.63	23.27	21.36	34.90	32.86	22.67	19.64
5	23.46	21.54	19.68	18.32	22.20	18.57	21.28	19.49	34.86	33.97	21.06	19.22
6	21.51	20.38	21.41	19.77	22.16	21.02	22.09	18.97	33.88	25.64	21.00	19.87
7	20.85	20.14	21.20	19.28	21.40	20.66	22.04	19.09	25.38	23.30	20.74	18.80
8	21.37	20.86	22.89	18.94	21.68	20.41	19.31	17.61	26.34	24.57	19.85	19.04
9	21.43	21.12	25.38	23.01	21.03	18.28	18.86	17.58	27.58	26.36	20.14	18.69
10	21.24	20.80	24.74	21.74	21.73	21.10	19.13	16.90	34.12	27.70	19.79	19.32
11	21.22	19.69	21.72	21.02	21.56	21.15	20.46	18.08	34.64	34.07	19.43	18.80
12	19.92	19.58	21.41	19.99	22.14	21.25	21.75	19.64	34.01	28.76	19.25	18.54
13	19.74	19.47	19.94	18.73	21.98	21.58	21.50	20.08	28.64	26.22	19.02	18.51
14	20.56	19.55	21.74	18.65	23.12	21.82	20.68	19.10	27.22	25.84	19.00	18.22
15	20.40	19.52	22.58	21.24	22.98	22.00	19.04	18.10	29.81	27.23	19.75	18.14
16	20.37	18.15	24.60	22.32	21.92	21.06	19.70	18.26	33.07	29.96	21.84	19.81
17	28.71	20.39	24.60	24.35	21.44	20.56	20.26	18.38	30.79	26.49	22.82	20.22
18	29.21	28.68	24.35	22.12	21.62	18.27	20.64	18.80	26.45	25.28	22.80	21.07
19	28.60	25.75	22.12	20.60	20.42	18.12	22.16	19.52	28.00	26.42	20.93	17.98
20	25.68	23.27	20.71	20.19	21.16	20.01	22.15	19.91	28.03	27.86	21.97	18.08
21	23.15	21.86	21.34	20.28	19.97	18.36	22.01	19.90	27.94	26.85	21.99	18.41
22	21.79	20.22	23.27	21.44	19.32	17.51	22.03	21.48	27.14	26.56	21.74	19.82
23	21.02	20.27	23.04	22.18	20.52	19.35	21.32	18.50	27.28	25.22	22.38	21.50
24	21.25	20.61	22.81	20.68	21.23	20.40	20.28	17.71	25.21	23.80	21.94	19.46
25	21.32	20.83	20.57	19.35	21.65	21.03	20.85	17.86	24.12	22.41	19.31	18.29
26	21.15	20.30	20.96	19.10	21.02	20.76	21.74	18.44	22.42	21.55	19.04	18.23
27	20.20	19.32	21.06	20.00	20.76	20.61	21.36	17.05	21.52	21.09	18.36	17.86
28	19.97	19.69	20.73	19.66	20.68	17.07	18.75	17.05	22.44	21.06	19.75	17.19
29	19.98	19.76	21.01	19.75	17.48	16.76	23.66	17.55	---	---	19.78	18.88
30	19.93	18.27	22.58	20.21	18.44	17.52	24.76	23.58	---	---	20.60	19.03
31	22.47	18.28	---	---	25.88	18.49	24.68	24.18	---	---	20.52	19.08
MONTH	29.36	18.15	25.38	17.86	25.88	16.76	27.87	16.90	34.90	21.06	22.92	17.19

03431500 CUMBERLAND RIVER AT NASHVILLE, TN--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	19.21	18.33	17.81	16.79	17.84	17.05	18.79	17.10	18.42	17.44	18.05	17.06
2	18.90	18.05	17.47	16.79	17.76	16.40	18.14	17.00	19.07	17.64	17.78	17.13
3	18.86	17.58	17.75	16.92	18.36	16.70	17.86	17.01	18.38	17.45	17.77	17.20
4	19.70	17.66	17.74	16.57	18.64	17.22	18.32	16.98	18.66	17.31	17.71	17.18
5	19.67	17.25	18.96	16.87	19.08	17.09	18.08	17.10	18.08	17.24	18.21	17.08
6	20.72	18.87	18.87	17.56	19.44	17.07	18.40	17.24	17.81	17.08	18.61	17.52
7	20.48	19.43	18.12	17.23	19.43	17.20	18.22	17.20	18.65	17.09	19.06	17.51
8	20.28	18.32	18.43	17.27	19.19	17.08	18.34	16.67	18.73	17.50	18.73	17.46
9	18.41	17.77	19.34	18.19	19.19	17.15	17.30	16.84	18.05	17.32	17.82	17.38
10	18.00	16.97	20.24	18.27	18.88	16.92	18.29	16.31	17.60	17.02	17.84	17.42
11	17.50	16.52	19.85	19.08	18.44	16.45	19.58	17.20	17.92	17.04	18.22	17.54
12	18.30	17.15	19.06	18.62	17.39	15.43	20.18	17.90	18.14	17.51	17.82	17.38
13	18.04	16.51	19.12	18.60	18.58	17.00	19.70	17.44	17.70	17.05	17.74	17.24
14	18.64	17.39	18.51	16.98	18.25	17.26	18.60	16.50	18.10	16.76	17.74	17.27
15	18.06	17.55	18.59	16.65	18.80	16.82	17.50	16.50	18.24	17.34	17.80	17.47
16	17.90	17.17	18.94	16.78	19.17	17.12	17.18	16.74	18.85	17.11	17.96	17.34
17	17.94	16.96	23.62	17.58	18.92	17.26	17.49	16.99	18.76	17.20	17.80	17.22
18	18.14	17.22	25.11	23.66	18.02	17.15	18.02	17.36	18.58	16.87	17.87	17.32
19	18.54	17.47	24.00	17.94	19.74	17.08	17.84	17.58	17.92	17.11	17.84	17.08
20	18.36	17.44	19.97	17.26	17.90	16.91	18.43	17.73	18.34	17.23	17.72	17.06
21	18.80	17.21	20.46	17.93	18.23	16.90	18.59	17.59	17.82	17.19	17.62	16.80
22	18.82	17.82	20.98	19.12	18.54	17.24	19.08	17.42	17.66	17.18	17.90	17.23
23	18.07	16.67	20.98	19.17	18.22	17.25	18.58	17.42	17.96	17.28	17.88	17.24
24	17.35	16.55	20.18	17.34	17.98	16.86	17.97	16.99	17.90	17.37	17.79	16.87
25	18.02	16.98	19.46	17.53	17.72	17.03	18.30	16.97	17.81	17.28	17.77	17.04
26	18.30	17.28	20.60	18.02	17.58	16.76	19.23	17.44	17.73	16.95	18.27	17.07
27	18.51	17.36	20.63	18.26	18.03	16.91	19.46	17.57	17.92	17.26	18.26	17.28
28	17.97	16.93	19.38	18.30	18.76	17.00	18.60	17.45	18.01	17.32	18.03	16.92
29	17.45	16.47	18.49	17.22	19.03	17.26	17.85	17.08	18.28	17.32	18.00	16.90
30	17.44	16.90	17.78	16.90	18.85	17.24	17.74	16.76	18.96	17.53	17.54	16.76
31	---	---	18.28	17.06	---	---	18.09	17.10	18.66	17.65	---	---
MONTH	20.72	16.47	25.11	16.57	19.74	15.43	20.18	16.31	19.07	16.76	19.06	16.76

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 September 1990 (discontinued).

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.--13 years (water years 1977-84, 1986-90), 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, 1990.

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)
Oct. 17	0255	216	3.65	Feb. 3	1915	147	3.34
Feb. 3	0645	172	3.46	Feb. 15	2250	*317	*3.99

Minimum discharge, .00 ft^3/s, Aug. 3, Aug. 19-29, Sept. 4-11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	.64	1.2	e5.0	6.6	2.2	3.6	1.6	.83	.10	e.01	.01
2	1.9	.62	1.2	e3.5	7.7	2.7	3.5	1.8	.78	.12	.01	.01
3	1.8	.58	1.1	e3.0	86	3.5	3.3	2.0	5.3	.09	.00	.01
4	1.3	.55	1.1	e13	42	3.2	3.1	2.1	2.9	.06	.01	.00
5	.95	.54	1.0	e7.2	20	2.9	3.1	2.3	2.1	.05	.02	.00
6	.91	1.4	.99	e5.0	13	2.7	3.2	2.0	1.6	.05	.03	.00
7	.79	2.5	.92	e4.0	10	2.5	3.2	1.8	1.4	.05	.02	.00
8	.73	5.1	.96	e3.5	7.6	2.5	3.1	1.5	1.1	.04	.01	.00
9	.68	6.5	.96	e3.3	8.2	2.5	3.0	1.4	.82	.03	.01	.00
10	.65	4.5	.89	2.9	28	2.4	3.6	1.3	.69	.03	.01	.00
11	.60	4.1	.89	2.7	17	2.2	3.8	1.2	.60	.02	.01	.01
12	.56	3.5	.96	2.4	11	2.1	3.5	1.1	.55	.27	.01	.02
13	.56	2.9	.96	2.1	8.6	2.0	3.3	1.1	.49	.26	.01	.04
14	.52	2.3	.94	e1.9	6.8	1.9	3.5	1.0	.44	.15	.01	.04
15	.52	2.9	.94	e1.7	25	11	3.6	.93	.41	.09	.01	.03
16	.53	4.4	.87	e1.6	44	37	3.4	.86	.38	.06	.01	.03
17	26	3.8	.87	e4.6	17	17	3.6	12	.34	.05	.01	.02
18	6.4	3.1	.83	e7.0	12	12	3.8	5.3	.51	.04	.01	.02
19	3.8	2.7	e.94	e4.6	9.0	8.8	3.7	3.7	.50	.04	.00	.02
20	2.8	2.3	e.86	e11	6.8	6.8	3.5	3.0	.54	.04	.00	.02
21	2.2	2.0	e.77	e9.2	5.7	5.8	3.5	3.1	1.4	.05	.00	.17
22	1.6	2.0	e.71	e7.8	5.1	5.0	3.4	2.7	.76	.06	.00	.58
23	1.3	2.2	e.67	e6.9	4.5	4.3	3.1	2.3	.60	.08	.00	e.28
24	1.1	2.0	e.64	e4.6	3.8	4.0	2.9	1.9	.42	e.06	.00	e.13
25	.92	1.8	e.62	e3.9	3.2	3.8	2.6	1.7	.32	e.04	.00	.09
26	.82	1.7	e.59	3.8	2.8	3.4	2.4	1.4	.26	e.03	.00	.07
27	.75	1.7	e.57	3.4	2.6	3.1	2.2	1.3	.21	e.02	.00	.06
28	.70	1.7	e.56	3.1	2.4	3.0	2.2	1.7	.17	e.02	.00	.05
29	.67	1.5	e1.4	10	---	2.9	2.1	1.5	.14	e.01	.00	.05
30	.64	1.4	e3.0	11	---	3.1	1.8	1.1	.10	e.01	.01	.05
31	.65	---	e10	8.1	---	3.6	---	.97	---	e.01	.01	---
TOTAL	65.25	72.93	38.91	161.8	416.4	169.9	94.6	67.66	26.66	2.03	0.23	1.81
MEAN	2.10	2.43	1.26	5.22	14.9	5.48	3.15	2.18	.89	.065	.007	.060
MAX	26	6.5	10	13	86	37	3.8	12	5.3	.27	.03	.58
MIN	.52	.54	.56	1.6	2.4	1.9	1.8	.86	.10	.01	.00	.00
CFSM	.88	1.01	.52	2.17	6.20	2.28	1.31	.91	.37	.03	.00	.03
IN.	1.01	1.13	.60	2.51	6.45	2.63	1.47	1.05	.41	.03	.00	.03

CAL YR 1989 TOTAL 1931.43 MEAN 5.29 MAX 111 MIN .09 CFSM 2.20 IN. 29.94
WTR YR 1990 TOTAL 1118.18 MEAN 3.06 MAX 86 MIN .00 CFSM 1.28 IN. 17.33

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, on right bank, 600 ft downstream from 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 September 1990 (discontinued).

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

REMARKS.--Records poor. Bridge construction at gage site. 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.--26 years, 33.7 ft^3/s, 18.83 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)
Oct. 17	0425	1,730	6.06	Feb. 3	0755	*1,830	*6.25

Minimum daily discharge, .58 fts^3/s, Aug. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	145	5.3	25	50	50	15	16	9.5	3.9	1.7	1.1	1.0
2	90	4.9	22	35	115	38	16	53	3.2	1.6	1.1	.91
3	64	4.6	18	29	710	37	17	23	9.6	1.3	1.1	.77
4	45	4.4	17	127	285	29	15	32	4.2	1.3	3.1	.83
5	32	4.5	17	68	155	24	11	14	3.6	1.2	2.3	.88
6	37	102	16	50	110	19	35	9.4	3.3	2.4	1.5	.83
7	27	135	14	40	86	18	23	7.7	3.1	2.0	1.7	1.0
8	19	206	34	35	67	25	18	6.6	2.9	1.2	1.4	1.1
9	18	104	21	33	134	24	16	6.3	2.5	1.2	1.3	2.4
10	19	67	19	29	288	24	22	8.9	2.4	1.1	1.2	1.6
11	18	46	19	27	130	21	13	4.8	1.9	1.2	1.1	39
12	15	36	19	24	92	18	e11	6.5	1.8	44	1.0	32
13	13	28	19	20	67	17	e10	9.3	1.8	10	1.0	7.4
14	13	49	18	19	52	15	e20	5.8	9.8	14	1.0	27
15	14	127	17	18	89	143	e16	4.7	4.6	4.7	.97	16
16	13	104	14	18	126	297	e13	4.5	3.1	3.5	.94	6.9
17	358	68	13	46	72	134	22	79	3.0	2.4	.83	6.7
18	101	51	13	69	56	92	20	14	17	2.2	.82	5.8
19	93	41	16	45	44	68	19	9.8	3.3	2.0	.83	7.9
20	38	35	13	109	37	52	17	23	5.2	2.4	.83	11
21	27	28	9.8	91	30	40	21	19	10	2.5	.75	57
22	21	55	8.0	70	27	32	18	14	7.8	8.8	.58	63
23	16	48	7.5	56	24	24	17	11	4.1	5.6	.64	e35
24	13	37	7.9	48	20	22	15	7.7	3.5	3.0	.76	e10
25	11	32	8.0	42	17	22	15	6.6	2.9	2.1	.73	e6.0
26	8.9	28	7.7	34	15	17	14	4.4	2.7	1.8	.84	e4.5
27	8.1	25	7.3	28	15	18	13	10	2.6	1.5	.87	e4.0
28	6.4	63	7.4	27	15	15	18	20	2.0	1.5	.79	e3.5
29	6.5	35	7.2	137	---	12	13	9.8	2.4	1.4	8.0	e3.0
30	6.1	28	32	81	---	29	10	5.3	1.9	1.2	9.8	e2.5
31	6.2	---	98	62	---	19	---	4.4	---	1.1	1.5	---
TOTAL	1302.2	1601.7	564.8	1567	2928	1360	504	444.0	130.1	131.9	50.38	359.52
MEAN	42.0	53.4	18.2	50.5	105	43.9	16.8	14.3	4.34	4.25	1.63	12.0
MAX	358	206	98	137	710	297	35	79	17	44	9.8	63
MIN	6.1	4.4	7.2	18	15	12	10	4.4	1.8	1.1	.58	.77
CFSM	1.73	2.20	.75	2.08	4.30	1.81	.69	.59	.18	.18	.07	.49
IN.	1.99	2.45	.86	2.40	4.48	2.08	.77	.68	.20	.20	.08	.55

CAL YR 1989 TOTAL 20888.8 MEAN 57.2 MAX 1740 MIN 1.5 CFSM 2.36 IN. 31.98
WTR YR 1990 TOTAL 10943.60 MEAN 30.0 MAX 710 MIN .58 CFSM 1.23 IN. 16.75

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.--28 years (water years 1962-1987, 1989-90), 146 ft^3/s, 20.40 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 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)
Oct. 17	0845	5,260	9.90	Feb. 16	0530	4,790	9.56
Feb. 3	1400	*14,400	*12.76	May 17	0845	3,630	8.62
Feb. 10	0245	4,940	9.67	May 28	0730	3,830	8.79

Minimum discharge, 14.0 ft^3/s, Aug. 29, Sept. 5, 6, 7, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	313	45	50	283	250	86	161	73	111	33	20	17
2	116	42	49	164	414	119	144	79	101	40	19	16
3	65	40	47	127	7080	172	127	93	379	35	19	15
4	47	38	45	361	2250	133	118	89	184	33	21	15
5	37	39	46	315	691	115	112	119	128	31	30	14
6	32	98	46	215	496	102	131	95	115	30	32	14
7	29	113	44	157	396	93	128	85	125	31	27	14
8	26	152	48	135	321	95	112	74	91	30	24	15
9	25	155	49	111	634	97	105	68	77	29	22	16
10	24	104	48	94	2560	92	139	68	68	28	22	19
11	23	80	49	80	644	87	181	62	61	27	21	42
12	22	67	51	71	421	83	142	59	56	39	20	50
13	22	59	49	61	316	80	124	60	53	45	19	36
14	21	58	48	57	245	79	120	57	51	36	22	26
15	20	77	47	55	388	277	123	54	51	32	21	25
16	23	170	46	52	2180	1190	111	52	50	29	19	22
17	2030	121	46	57	536	479	126	1200	47	28	17	18
18	337	91	46	153	353	299	151	251	46	27	17	17
19	212	75	46	128	269	230	130	138	54	27	16	18
20	144	68	46	326	207	189	119	105	46	26	16	18
21	107	64	46	479	171	164	130	115	75	28	15	33
22	86	68	46	292	159	151	131	102	72	29	15	123
23	72	92	46	213	143	137	114	81	60	30	16	38
24	64	75	47	168	121	125	103	69	47	29	17	26
25	57	69	47	147	101	142	94	62	42	26	16	23
26	52	67	47	124	94	129	88	57	39	25	15	20
27	49	65	47	101	91	119	83	74	38	24	15	19
28	47	62	46	92	87	114	89	1520	37	23	15	18
29	45	56	47	718	---	112	87	370	35	23	15	18
30	43	52	85	522	---	132	79	212	34	23	22	17
31	44	---	467	330	---	176	---	144	---	21	20	---
TOTAL	4234	2362	1917	6188	21618	5598	3602	5687	2373	917	605	762
MEAN	137	78.7	61.8	200	772	181	120	183	79.1	29.6	19.5	25.4
MAX	2030	170	467	718	7080	1190	181	1520	379	45	32	123
MIN	20	38	44	52	87	79	79	52	34	21	15	14
CFSM	1.41	.81	.64	2.05	7.94	1.86	1.24	1.89	.81	.30	.20	.26
IN.	1.62	.90	.73	2.37	8.27	2.14	1.38	2.18	.91	.35	.23	.29

CAL YR 1989 TOTAL 97363 MEAN 267 MAX 7340 MIN 18 CFSM 2.74 IN. 37.26
WTR YR 1990 TOTAL 55863 MEAN 153 MAX 7080 MIN 14 CFSM 1.57 IN. 21.38

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 fair 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.--16 years, 295 ft^3/s, 20.97 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)
Oct. 1	0100	3,280	15.17	Feb. 4	0300	*15,100	*30.93
Nov. 16	0030	3,030	14.47	Feb. 10	1330	6,860	22.22

Minimum daily discharge, 1.1 ft^3/s, Sept. 3-5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2410	53	173	1110	461	137	132	64	67	12	6.6	1.4
2	2020	54	155	657	476	151	117	107	57	12	4.0	1.2
3	795	49	140	513	5670	193	103	115	61	17	1.6	1.1
4	489	46	124	1090	12100	192	94	198	54	14	3.1	1.1
5	363	43	114	889	2550	149	90	740	46	8.5	16	1.1
6	282	50	107	629	1030	130	106	283	44	8.0	21	1.2
7	233	84	98	499	787	116	126	201	41	7.4	16	1.2
8	204	341	105	439	622	123	105	151	36	7.2	9.2	1.7
9	174	567	109	389	689	213	95	125	32	10	7.7	1.4
10	139	274	103	329	5510	374	92	133	30	7.5	4.0	2.2
11	132	200	96	286	1630	299	92	107	27	132	2.1	1.4
12	123	154	96	245	909	241	83	97	26	460	2.2	1.3
13	104	119	92	201	687	211	75	128	26	553	5.3	1.2
14	93	520	88	175	559	192	75	101	30	176	2.1	1.4
15	89	1260	85	158	e488	268	74	84	51	113	1.6	2.2
16	79	1620	80	142	e459	1880	71	74	33	82	1.7	2.3
17	888	732	77	152	e432	1130	71	182	27	60	1.5	2.2
18	422	495	75	416	e405	724	80	191	49	42	1.2	2.2
19	273	361	71	384	e374	543	74	99	58	33	1.2	2.1
20	211	287	70	386	e348	440	64	440	33	29	1.4	2.0
21	166	235	57	811	314	372	76	692	34	25	1.5	2.6
22	134	298	50	556	291	315	286	474	34	28	1.2	63
23	114	616	53	445	270	257	177	308	30	36	1.3	56
24	101	380	49	378	240	214	125	214	25	38	1.4	25
25	91	301	49	335	206	194	100	156	24	27	1.6	14
26	87	254	52	279	189	169	87	124	25	21	1.5	8.5
27	76	218	57	232	172	148	79	194	23	17	1.4	4.7
28	68	314	58	203	150	132	86	156	18	16	1.5	2.0
29	62	231	55	860	---	125	83	113	15	17	1.5	1.5
30	58	196	171	871	---	145	70	91	14	13	1.4	1.2
31	54	---	1910	588	---	158	---	79	---	6.5	1.4	---
TOTAL	10534	10352	4619	14647	38018	9935	2988	6221	1070	2028.1	125.2	210.4
MEAN	340	345	149	472	1358	320	99.6	201	35.7	65.4	4.04	7.01
MAX	2410	1620	1910	1110	12100	1880	286	740	67	553	21	63
MIN	54	43	49	142	150	116	64	64	14	6.5	1.2	1.1
CFSM	1.78	1.81	.78	2.47	7.11	1.68	.52	1.05	.19	.34	.02	.04
IN.	2.05	2.02	.90	2.85	7.40	1.93	.58	1.21	.21	.40	.02	.04

CAL YR 1989 TOTAL 170470 MEAN 467 MAX 9640 MIN 12 CFSM 2.45 IN. 33.20
WTR YR 1990 TOTAL 100747.7 MEAN 276 MAX 12100 MIN 1.1 CFSM 1.45 IN. 19.62

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.--210 mi^2, includes 15 mi^2 without surface drainage, (corrected).

PERIOD OF RECORD.--August 1988 to current year, discharge for stage of 5.00 ft and below only.

GAGE.--Water-stage encoder.

REMARKS.--Records good except those for estimated days Dec. 4-6, 21-24, and for period July 19 to Sept. 30, which are fair. 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 PERIOD OF RECORD.--Maximum discharge, not determined; maximum gage height, 28.97 ft, Feb. 4; minimum, 3.0 ft^3/s, Aug. 19.

EXTREMES FOR CURRENT PERIOD.--Maximum discharge, not determined; maximum gage height, 28.97 ft, Feb. 4; minimum, 5.3 ft^3/s, Sept. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	64	216	---	---	172	175	82	91	17	12	6.4
2	---	64	201	---	---	189	160	132	77	17	12	6.4
3	---	58	185	---	---	251	145	158	82	19	12	6.9
4	---	50	e179	---	---	216	131	---	73	20	21	6.9
5	---	47	e160	---	---	183	122	---	62	15	23	7.1
6	313	60	e140	---	---	165	149	---	58	15	32	7.3
7	260	112	128	---	---	149	168	220	55	15	23	7.1
8	227	---	155	---	---	157	142	181	49	14	15	6.5
9	200	---	158	---	---	223	127	158	42	15	13	5.3
10	181	---	139	315	---	---	121	166	38	16	11	5.4
11	164	241	132	278	---	306	123	134	35	128	9.3	8.2
12	146	201	132	244	---	253	111	118	33	---	8.0	10
13	120	169	124	213	---	224	97	156	32	---	9.6	7.6
14	104	---	118	196	---	209	93	127	35	197	8.8	12
15	97	---	113	186	---	---	93	101	60	131	7.7	17
16	86	---	101	174	---	---	90	89	42	90	7.3	9.3
17	---	---	96	182	---	---	93	---	32	65	7.1	8.6
18	---	---	92	---	---	---	105	---	47	44	7.5	11
19	---	---	89	---	---	---	95	125	77	35	7.8	14
20	249	---	86	---	---	---	84	---	40	44	8.3	16
21	212	275	e74	---	324	---	105	---	42	34	8.1	26
22	187	---	e65	---	306	---	---	---	42	34	7.2	80
23	164	---	e60	---	283	273	213	---	36	42	7.2	77
24	144	---	e58	---	255	234	167	241	29	46	7.2	31
25	125	---	59	313	226	218	133	195	27	32	9.1	18
26	114	291	64	264	211	201	113	169	28	26	9.1	11
27	99	256	68	231	203	188	99	215	27	21	8.4	9.2
28	84	---	70	211	185	175	109	195	22	19	7.8	8.1
29	76	272	67	---	---	169	106	156	20	21	7.7	7.2
30	71	235	---	---	---	186	88	125	19	18	9.9	6.7
31	66	---	---	---	---	195	---	108	---	13	6.4	---
TOTAL	---	---	---	---	---	---	---	---	1352	---	343.5	453.2
MEAN	---	---	---	---	---	---	---	---	45.1	---	11.1	15.1
MAX	---	---	---	---	---	---	---	---	91	---	32	80
MIN	---	---	---	---	---	---	---	---	19	---	6.4	5.3

e Estimated

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.--Records good except for estimated daily discharges which are fair. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--70 years, 584 ft^3/s, 19.44 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)
Feb. 4	1600	*20,400	*20.09	Feb. 10	2100	10,900	15.16

Minimum daily discharge, 10 ft^3/s, Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5130	140	487	3080	1090	332	354	178	184	45	30	e23
2	4250	133	435	1590	1180	366	313	184	162	43	29	e20
3	2160	128	392	1190	7850	471	287	306	163	41	28	e18
4	1210	116	350	2260	18600	464	265	272	172	40	59	e17
5	863	109	323	2420	11200	377	248	1010	143	40	46	e17
6	641	139	301	1570	3090	336	275	530	125	46	38	e15
7	493	713	275	1210	2320	311	351	365	116	47	40	e14
8	409	1340	313	1020	1820	310	311	279	e110	39	33	e14
9	348	1400	332	885	1750	425	276	231	e100	38	29	e15
10	298	798	301	740	8990	826	263	228	e95	37	27	e16
11	263	548	295	628	5960	742	263	212	e90	37	27	e17
12	233	427	304	545	2590	612	245	179	e85	343	26	e29
13	205	345	294	465	1850	522	225	192	e80	1020	24	e33
14	180	487	277	411	1470	472	212	209	e75	402	24	e22
15	164	2240	266	378	1260	826	211	166	78	217	24	e21
16	156	4200	251	347	1490	5110	206	144	96	146	23	e20
17	3250	1900	229	355	1350	3320	202	175	76	111	23	e15
18	1500	1280	222	1060	1090	2050	235	343	70	85	23	e13
19	903	957	217	1010	958	1470	225	213	92	70	23	e12
20	647	779	214	969	825	1180	203	192	92	60	21	e13
21	492	643	204	1640	718	956	277	1240	76	67	20	e13
22	402	615	201	1340	655	794	491	858	88	58	20	e34
23	335	1260	185	1060	601	636	452	650	81	65	20	106
24	292	950	166	883	528	532	340	465	74	66	20	77
25	254	767	164	765	459	494	277	356	64	66	19	34
26	227	652	154	646	415	432	242	290	57	52	19	17
27	206	564	84	543	392	389	216	329	54	42	18	14
28	183	802	105	481	359	349	208	370	52	36	18	12
29	167	678	154	1390	---	321	221	292	49	34	18	11
30	156	547	252	2190	---	342	199	240	46	31	18	10
31	147	---	3320	1390	---	405	---	206	---	31	e31	---
TOTAL	26164	25657	11067	34461	80860	26172	8093	10904	2845	3455	818	692
MEAN	844	855	357	1112	2888	844	270	352	94.8	111	26.4	23.1
MAX	5130	4200	3320	3080	18600	5110	491	1240	184	1020	59	106
MIN	147	109	84	347	359	310	199	144	46	31	18	10
CFSM	2.07	2.10	.87	2.72	7.08	2.07	.66	.86	.23	.27	.06	.06
IN.	2.39	2.34	1.01	3.14	7.37	2.39	.74	.99	.26	.32	.07	.06

CAL YR 1989 TOTAL 378652 MEAN 1037 MAX 16900 MIN 25 CFSM 2.54 IN. 34.52
WTR YR 1990 TOTAL 231188 MEAN 633 MAX 18600 MIN 10 CFSM 1.55 IN. 21.08

e Estimated

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.--66 years, 980 ft^3/s, 19.54 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)
Feb. 4	0330	*24,700	*23.80	Feb. 10	1000	13,900	17.31

Minimum discharge, 43 ft^3/s, Aug. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5960	295	758	4240	1660	644	768	412	309	101	84	61
2	4830	280	686	2270	1880	788	678	500	282	94	79	54
3	3040	269	622	1660	12100	1010	607	796	283	89	74	51
4	1660	257	561	3030	20400	965	565	730	314	84	69	49
5	1200	244	529	3610	18600	825	533	1120	271	81	96	49
6	945	620	500	2370	5270	730	601	1120	235	80	130	46
7	764	957	460	1790	3170	671	731	778	219	93	108	45
8	644	3470	487	1490	2490	669	675	628	202	106	100	46
9	558	2500	547	1300	2530	785	600	531	185	90	95	51
10	491	1570	506	1120	11900	1230	577	502	173	83	86	55
11	442	1080	510	971	9300	1290	599	479	157	82	78	61
12	401	849	521	864	3900	1120	545	423	148	174	71	106
13	367	703	501	756	2800	979	499	432	140	1000	66	128
14	332	653	477	675	2230	884	483	432	135	786	65	88
15	303	2020	456	628	2190	1580	521	391	147	415	62	88
16	294	5350	407	583	5490	7640	485	345	145	292	57	85
17	4660	3020	392	573	2690	5230	531	415	161	227	57	67
18	2980	1860	374	1440	1980	3150	672	484	143	187	56	60
19	1540	1390	378	1570	1680	2280	620	494	133	162	54	62
20	1140	1140	353	1790	1440	1820	556	404	146	144	52	66
21	898	967	529	2680	1270	1510	730	1030	314	155	50	70
22	747	926	600	2250	1180	1320	1300	1110	231	158	50	201
23	639	1500	583	1700	1090	1150	1120	942	214	166	53	125
24	562	1430	587	1410	967	1000	845	717	169	159	51	152
25	497	1140	562	1220	846	951	688	576	149	144	50	140
26	445	992	516	1060	762	854	589	479	131	138	47	106
27	408	883	480	906	722	770	518	420	121	118	46	87
28	375	1060	447	810	680	714	528	540	114	107	45	77
29	346	1110	417	1860	---	675	520	498	110	99	46	69
30	323	861	443	3190	---	697	470	397	104	92	63	63
31	311	---	2710	2170	---	813	---	343	---	88	82	---
TOTAL	38102	39396	17899	51986	121217	44744	19154	18468	5585	5794	2122	2408
MEAN	1229	1313	577	1677	4329	1443	638	596	186	187	68.5	80.3
MAX	5960	5350	2710	4240	20400	7640	1300	1120	314	1000	130	201
MIN	294	244	353	573	680	644	470	343	104	80	45	45
CFSM	1.80	1.93	.85	2.46	6.36	2.12	.94	.87	.27	.27	.10	.12
IN.	2.08	2.15	.98	2.84	6.62	2.44	1.05	1.01	.31	.32	.12	.13

CAL YR 1989 TOTAL 561457 MEAN 1538 MAX 22600 MIN 94 CFSM 2.26 IN. 30.67
WTR YR 1990 TOTAL 366875 MEAN 1005 MAX 20400 MIN 45 CFSM 1.48 IN. 20.04

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.--No estimated daily discharges. Records good. Flow regulated by eight lakes or reservoirs above station (see p. 88). Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--36 years, 23,260 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, 125,000 ft^3/s, Feb. 5; maximum gage height, 36.34 ft, Feb. 4; minimum daily discharge, 3,820 ft^3/s, June 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57300	37800	41000	61900	46800	40900	20700	7880	5050	9450	11500	8910
2	72900	26800	40600	61900	41300	40800	17200	5000	5800	6290	13100	5180
3	53600	20200	29700	47500	79000	39900	19500	5830	4480	6520	14900	4460
4	40300	13800	25900	44600	123000	36600	20500	7250	9990	5570	13400	4170
5	41400	19700	28500	38600	123000	26700	20600	14200	12900	8180	10700	5500
6	33100	29400	37200	30900	105000	33500	28500	15800	13000	8320	9500	9510
7	30400	32800	34500	32200	54000	30200	27700	10800	12800	8710	9920	12800
8	31700	31200	35400	23800	52100	26100	24200	14400	15600	6850	13200	13800
9	35500	48400	29800	22500	61000	23500	15300	17600	11800	6740	13200	6060
10	33000	47100	34700	23900	95300	25900	15100	22600	13800	6710	11200	5230
11	31500	37200	35100	25600	109000	22700	8750	22400	14800	12700	9550	8780
12	28000	33300	35600	29800	93600	22500	8860	21600	3820	19500	9160	7650
13	27900	26800	39000	35400	62200	20600	10700	19800	5430	16200	8960	5570
14	29600	30100	41100	26700	58300	21100	9400	15300	7690	13100	7180	5250
15	28200	34600	43600	23600	63000	19200	8960	11900	9920	5320	8480	5520
16	25800	49600	37500	22400	91900	45200	10100	11900	11700	4680	11100	5830
17	59100	53200	35300	23200	77100	44200	8740	27300	10500	4940	14200	6030
18	73100	49500	31200	26100	56900	42000	8400	44400	6860	6040	14500	6180
19	64500	39700	26700	35600	59200	29400	12400	36900	7760	6930	7380	6240
20	52500	31500	30600	36200	63900	28300	17200	16100	7090	10300	8900	6710
21	43400	31900	28900	33200	63300	36900	10300	21100	6980	8580	8170	6080
22	34700	38700	25900	39600	59000	30400	13800	24900	9050	11600	8290	6770
23	31700	43600	27900	31500	57900	39500	10400	27300	9090	12000	9360	5850
24	32100	41000	33700	25700	51300	35800	4640	22300	7060	10100	10100	5080
25	34300	33500	33600	26400	43900	22200	4510	16100	6610	8730	8300	5990
26	34100	28000	33500	27700	39400	20600	6540	16600	6270	11100	7140	5350
27	30600	35200	32800	34500	35400	19600	9490	20400	7580	14800	6750	7330
28	30300	29000	27900	19400	35400	22900	14200	17300	7730	14000	9050	7080
29	29600	32100	11000	27400	---	26200	8380	10100	11200	10400	8860	6070
30	24500	34100	12200	50500	---	26300	6900	6630	11600	7900	10900	4130
31	23400	---	34200	52400	---	28800	---	5670	---	8910	12400	---
TOTAL	1198100	1039800	994600	1040700	1901200	928500	401970	537360	273960	291170	319350	199110
MEAN	38650	34660	32080	33570	67900	29950	13400	17330	9132	9393	10300	6637
MAX	73100	53200	43600	61900	123000	45200	28500	44400	15600	19500	14900	13800
MIN	23400	13800	11000	19400	35400	19200	4510	5000	3820	4680	6750	4130

CAL YR 1989 TOTAL 14035140 MEAN 38450 MAX 145000 MIN 3900
WTR YR 1990 TOTAL 9125820 MEAN 25000 MAX 123000 MIN 3820

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.--52 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)
Oct. 17	0930	5,660	13.84	Feb. 16	0615	4,640	12.55
Feb. 3	2130	*14,100	*22.17	May 17	0830	4,140	11.90
Feb. 10	0600	7,700	16.34				

Minimum discharge, 16 ft^3/s, Sept. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	451	77	72	387	450	203	270	112	178	64	31	17
2	222	72	71	271	715	210	248	114	162	73	30	17
3	148	68	69	227	7980	249	226	122	631	63	29	17
4	110	66	66	347	6050	224	210	114	315	58	33	17
5	89	63	68	388	1650	204	201	122	226	56	63	17
6	78	90	68	320	1020	191	203	112	235	56	55	17
7	69	110	66	269	745	180	199	105	248	59	44	17
8	62	123	66	244	592	176	175	100	185	53	36	18
9	57	120	68	223	962	176	164	96	154	51	32	17
10	54	105	66	203	5050	169	171	97	137	50	30	18
11	50	92	65	185	1430	162	202	93	125	50	29	50
12	48	83	71	174	839	156	175	89	113	80	27	53
13	46	79	74	159	640	149	162	89	106	89	27	68
14	45	80	72	148	538	145	163	88	102	67	28	44
15	44	90	74	144	534	180	174	86	99	59	27	34
16	46	163	65	139	2670	1310	163	84	96	52	25	29
17	2900	143	68	148	866	650	167	2090	89	49	24	24
18	546	120	65	433	593	460	200	466	99	46	22	22
19	335	106	67	348	492	378	181	297	124	46	21	22
20	253	99	64	474	414	328	172	239	94	44	19	24
21	202	96	55	676	365	288	176	224	89	43	19	27
22	159	96	44	468	348	266	173	219	147	43	18	97
23	134	107	45	385	326	244	161	179	124	53	19	52
24	116	98	43	338	287	225	151	157	97	50	19	34
25	104	90	49	305	250	247	144	141	85	44	19	28
26	96	89	56	273	230	226	133	131	79	40	17	26
27	88	89	61	239	220	208	127	124	74	38	18	24
28	82	84	63	228	212	197	127	1010	70	37	18	23
29	78	78	59	1240	---	194	126	405	68	34	18	22
30	75	73	82	921	---	216	118	273	66	33	18	22
31	77	---	470	570	---	285	---	215	---	32	19	---
TOTAL	6864	2849	2392	10874	36468	8496	5262	7793	4417	1612	834	897
MEAN	221	95.0	77.2	351	1302	274	175	251	147	52.0	26.9	29.9
MAX	2900	163	470	1240	7980	1310	270	2090	631	89	63	97
MIN	44	63	43	139	212	145	118	84	66	32	17	17
CFSM	1.19	.51	.41	1.89	7.00	1.47	.94	1.35	.79	.28	.14	.16
IN.	1.37	.57	.48	2.17	7.29	1.70	1.05	1.56	.88	.32	.17	.18

CAL YR 1989 TOTAL 170150 MEAN 466 MAX 9230 MIN 26 CFSM 2.51 IN. 34.03
WTR YR 1990 TOTAL 88758 MEAN 243 MAX 7980 MIN 17 CFSM 1.31 IN. 17.75

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.--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.--29 years, 1,332 ft^3/s, 19.35 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)
Feb. 4	0930	*31,400	*37.91	Feb. 16	1930	11,100	23.77
Feb. 10	2130	16,000	28.78				

Minimum discharge, 94 ft^3/s, Sept. 19, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1000	216	334	2920	2830	1390	1550	487	743	280	188	180
2	1180	218	326	1540	3570	1320	1320	471	676	276	184	179
3	741	218	321	1120	13600	1270	1170	480	2950	268	180	174
4	517	217	311	1120	29900	1330	1070	484	3000	257	179	169
5	392	219	303	1540	16800	1190	1020	484	1700	254	228	165
6	327	226	299	1330	7050	1110	981	504	1340	244	252	164
7	297	239	299	1100	4890	1040	947	468	1410	246	281	173
8	273	253	296	966	3910	994	871	438	1150	241	232	242
9	256	267	296	858	3650	968	805	415	922	237	205	196
10	242	305	296	770	13000	934	779	406	807	233	193	139
11	231	283	287	685	10600	889	815	388	720	226	187	157
12	219	266	282	614	5440	853	795	369	622	260	180	174
13	215	253	286	556	4140	814	733	364	566	313	173	242
14	209	249	289	501	3480	786	710	364	521	296	173	225
15	201	271	284	471	3150	811	765	352	487	282	171	182
16	211	506	285	453	8430	3030	785	346	473	267	170	151
17	3560	1090	277	457	6810	3450	759	4690	433	251	169	128
18	3020	732	270	2050	4180	2310	776	3560	407	242	164	115
19	1210	580	268	2310	3510	1800	754	1780	497	233	155	111
20	881	513	238	2000	3020	1550	713	1340	421	229	151	123
21	694	473	238	3650	2640	1380	696	1150	378	224	145	136
22	559	457	210	2670	2460	1250	696	1070	456	222	145	469
23	464	450	218	2140	2320	1160	690	964	682	238	142	764
24	396	444	218	1850	2080	1060	658	817	510	247	179	300
25	346	422	211	1620	1840	1080	620	731	387	238	210	207
26	308	399	218	1450	1650	1160	576	667	331	226	200	166
27	272	394	229	1250	1570	1040	551	620	310	218	197	146
28	243	382	235	1120	1500	964	531	1770	295	211	188	132
29	219	362	235	3120	---	933	525	1890	288	204	193	116
30	212	351	269	5970	---	965	510	1150	282	198	184	105
31	213	---	1640	3720	---	1460	---	879	---	195	182	---
TOTAL	19108	11255	9768	51921	168020	40291	24171	29898	23764	7556	5780	5930
MEAN	616	375	315	1675	6001	1300	806	964	792	244	186	198
MAX	3560	1090	1640	5970	29900	3450	1550	4690	3000	313	281	764
MIN	201	216	210	453	1500	786	510	346	282	195	142	105
CFSM	.66	.40	.34	1.79	6.42	1.39	.86	1.03	.85	.26	.20	.21
IN.	.76	.45	.39	2.07	6.68	1.60	.96	1.19	.95	.30	.23	.24

CAL YR 1989 TOTAL 779390 MEAN 2135 MAX 28700 MIN 159 CFSM 2.28 IN. 31.01
WTR YR 1990 TOTAL 397462 MEAN 1089 MAX 29900 MIN 105 CFSM 1.16 IN. 15.81

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 mi^2, 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. 88). 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, 77.82 ft, Feb. 5; minimum, 54.24 ft, Mar. 15.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	58.08	56.98	58.36	57.37	63.32	60.28	61.75	60.27	59.08	58.54
2	64.37	62.73	57.24	56.34	58.62	57.91	63.50	62.34	61.71	60.15	59.06	58.78
3	64.39	59.98	56.44	54.86	57.98	55.86	62.28	60.33	74.54	61.68	58.98	56.35
4	59.92	58.55	55.77	54.40	56.04	55.96	60.56	59.78	77.74	74.60	59.23	57.62
5	59.41	59.03	56.12	54.47	56.82	55.93	59.86	58.96	77.82	77.08	57.56	57.01
6	59.02	58.03	57.43	56.10	57.50	56.86	58.96	57.54	77.06	73.45	57.99	57.54
7	58.00	57.68	57.40	56.60	57.49	56.62	58.66	57.46	73.34	65.30	57.94	56.88
8	57.90	57.40	57.99	56.42	57.15	57.02	57.44	56.75	65.28	64.11	56.86	56.41
9	57.79	57.50	60.43	58.03	57.13	55.94	56.78	56.20	66.71	64.36	56.52	55.71
10	57.80	56.77	60.77	58.98	57.11	56.32	56.45	56.23	73.12	67.04	56.40	56.27
11	57.46	55.94	58.96	57.99	57.42	57.12	56.58	56.26	74.32	73.20	56.38	55.54
12	56.56	55.77	58.00	57.81	57.48	57.34	57.40	56.42	74.12	71.35	56.42	55.57
13	56.42	55.70	57.73	57.12	57.78	57.51	57.54	57.40	71.32	66.18	56.16	55.24
14	56.52	56.32	58.36	56.95	58.44	57.76	57.54	56.44	66.13	64.99	56.04	55.15
15	56.54	56.10	59.42	57.74	58.83	58.44	56.44	55.71	67.30	64.91	56.66	54.24
16	56.39	55.44	61.03	59.54	58.65	57.67	55.91	55.27	72.68	67.43	60.97	56.88
17	63.10	56.42	61.22	61.03	57.67	57.09	56.49	55.03	72.63	69.43	61.36	60.02
18	65.13	63.15	61.12	59.97	57.06	56.33	57.06	56.52	69.32	65.24	60.01	59.48
19	64.88	62.84	59.82	58.47	56.32	56.05	58.12	56.97	65.20	64.70	59.39	57.36
20	62.81	60.91	58.47	56.88	56.66	55.96	58.83	58.14	65.34	65.10	57.90	57.11
21	60.87	59.38	57.31	56.89	56.68	56.17	58.90	58.12	65.18	65.06	58.89	57.70
22	59.36	57.80	58.88	57.06	56.17	55.38	59.16	58.92	65.04	64.31	57.68	57.50
23	57.79	57.49	59.15	58.40	55.99	55.72	58.99	56.89	64.32	64.18	58.94	57.57
24	58.12	57.14	58.42	58.36	56.76	56.05	56.88	56.62	64.18	62.76	59.00	57.97
25	57.59	57.12	58.38	56.75	56.97	56.76	56.79	56.60	62.72	61.23	57.91	56.16
26	57.52	57.37	56.88	56.29	57.11	56.95	56.96	56.46	61.20	59.95	56.65	56.01
27	57.33	56.99	57.31	56.93	57.28	56.99	57.93	57.03	59.93	59.04	56.57	55.88
28	57.05	56.85	57.31	56.26	57.21	56.30	56.95	55.54	59.02	58.50	56.88	55.84
29	56.85	56.73	56.75	56.64	56.19	54.82	59.41	55.56	---	---	56.99	56.81
30	56.72	55.54	57.35	56.64	55.33	54.78	62.21	59.52	---	---	57.26	56.96
31	56.95	55.24	---	---	60.12	55.31	62.23	61.77	---	---	58.31	57.27
MONTH	65.13	55.24	61.22	54.40	60.12	54.78	63.50	55.03	77.82	58.50	61.36	54.24

03436500 CUMBERLAND RIVER AT CLARKSVILLE, TN--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	57.67	56.80	60.25	59.00	64.05	63.10	60.55	59.12	59.03	57.42	57.56	55.88
2	57.34	56.64	60.16	58.94	64.50	63.09	59.84	58.97	58.99	57.44	57.12	56.06
3	57.44	56.64	59.99	59.20	63.94	63.17	59.82	58.84	59.06	57.82	56.94	55.94
4	57.56	56.79	60.28	59.23	63.73	62.31	59.80	58.72	59.30	57.40	57.01	55.98
5	58.03	57.14	60.72	59.95	63.15	62.18	59.89	58.52	59.10	57.67	---	---
6	59.18	57.68	60.72	60.26	63.00	61.84	59.84	58.50	58.92	57.43	---	---
7	59.36	58.80	60.24	59.78	62.64	61.87	60.17	58.86	59.00	57.40	57.48	56.07
8	58.93	58.76	60.32	59.70	62.14	61.23	59.80	58.66	58.86	57.73	57.60	55.86
9	58.75	57.75	60.48	59.49	61.91	60.24	60.24	58.35	58.76	57.69	57.16	55.96
10	59.61	57.91	60.71	60.00	61.39	59.78	59.66	58.36	58.69	57.24	57.12	55.88
11	59.09	58.00	60.51	60.11	60.55	59.54	60.14	58.66	58.60	57.12	56.99	55.84
12	59.34	58.05	60.46	60.09	59.96	58.91	60.42	59.07	58.51	57.02	56.83	55.91
13	59.54	58.69	60.67	60.02	60.15	58.87	60.26	59.14	58.48	56.98	56.84	55.75
14	59.58	58.60	60.45	59.81	60.48	58.88	59.60	59.00	58.10	57.02	56.71	55.74
15	59.50	58.96	60.34	59.35	59.88	58.72	59.70	58.51	58.18	56.96	56.62	55.75
16	59.54	58.91	60.00	59.34	60.43	59.02	59.28	58.38	58.50	56.96	56.92	55.64
17	60.08	58.70	63.15	60.06	60.16	59.24	59.08	58.46	58.40	57.28	56.44	55.63
18	59.77	58.63	63.79	63.14	60.31	59.00	59.27	58.50	58.58	57.27	56.56	55.50
19	60.21	58.80	63.67	60.98	60.46	58.94	59.46	58.61	57.90	56.71	56.78	55.63
20	60.54	58.98	60.92	59.60	60.52	58.89	60.20	58.63	57.88	56.52	56.82	55.51
21	60.78	59.24	61.68	59.73	60.16	58.88	60.11	58.67	58.01	56.34	56.90	55.60
22	60.40	59.79	62.36	61.23	60.82	59.16	60.16	59.06	57.47	56.30	56.95	56.04
23	60.44	59.86	63.25	62.39	60.82	59.09	59.66	58.69	57.83	56.03	56.64	56.14
24	60.66	59.40	63.64	63.23	60.38	58.94	59.56	58.04	57.89	56.20	56.74	55.67
25	60.41	59.16	64.28	63.10	60.54	58.82	59.14	57.97	57.84	56.20	56.52	55.78
26	59.90	59.06	64.44	63.37	60.30	58.72	59.41	57.97	57.70	56.29	56.76	55.55
27	60.11	59.36	64.54	64.13	60.09	58.71	59.52	57.99	57.39	55.98	56.74	55.38
28	60.81	59.38	64.74	63.97	60.27	58.81	59.58	58.16	57.42	55.92	56.53	55.28
29	60.47	59.13	64.19	62.95	60.66	58.81	59.37	57.94	57.52	55.83	56.86	55.17
30	60.49	59.16	63.95	62.90	60.64	59.12	58.97	57.67	57.60	56.14	56.28	55.22
31	---	---	63.79	62.94	---	---	59.00	57.57	57.63	56.28	---	---
MONTH	60.81	56.64	64.74	58.94	64.50	58.71	60.55	57.57	59.30	55.83	57.60	55.17

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.--10 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)
Feb. 3	1300	*9,140	*15.59	Feb. 16	0430	1,870	8.31
Feb. 9	2300	4,250	11.54				

Minimum discharge, 20 ft^3/s, Sept. 7, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	126	51	68	257	306	139	201	131	82	44	29	22
2	90	50	66	200	402	139	205	132	82	43	29	22
3	74	48	62	174	5530	149	190	138	92	42	29	22
4	62	47	61	261	2670	147	178	136	86	40	29	21
5	56	47	61	314	936	144	171	181	79	40	39	21
6	53	53	60	262	572	140	173	164	76	39	38	21
7	51	59	57	218	411	135	164	151	75	38	34	21
8	48	133	56	194	312	143	156	138	71	38	32	20
9	47	171	55	172	814	157	154	129	66	38	31	22
10	46	137	53	157	2570	171	163	125	63	36	29	23
11	44	114	53	143	929	181	164	117	62	36	28	24
12	43	98	51	132	552	182	156	110	58	52	28	28
13	43	88	54	121	412	174	152	106	59	50	28	28
14	42	86	55	111	337	170	156	99	57	44	29	28
15	41	91	50	106	437	206	158	95	56	41	28	34
16	42	124	47	102	1300	611	156	92	55	39	26	33
17	441	121	47	105	647	476	166	120	53	38	26	34
18	201	110	46	132	449	364	199	102	52	36	26	39
19	145	99	47	142	365	305	214	92	51	35	25	45
20	123	94	45	192	304	259	211	90	50	35	24	51
21	106	89	44	284	265	232	213	88	56	35	24	62
22	94	87	42	266	251	213	217	87	75	36	23	89
23	85	91	41	234	228	195	216	83	66	39	23	74
24	78	88	40	209	197	177	205	79	56	38	23	70
25	72	86	40	186	173	171	188	77	53	35	23	62
26	66	86	40	166	161	161	173	75	50	34	22	54
27	61	85	42	151	153	154	163	80	48	34	22	46
28	58	81	43	146	145	149	159	149	47	33	22	37
29	55	76	43	397	---	147	151	110	46	32	21	36
30	53	71	54	502	---	151	141	94	45	30	24	34
31	53	---	179	369	---	177	---	87	---	29	24	---
TOTAL	2599	2661	1702	6405	21828	6319	5313	3457	1867	1179	838	1123
MEAN	83.8	88.7	54.9	207	780	204	177	112	62.2	38.0	27.0	37.4
MAX	441	171	179	502	5530	611	217	181	92	52	39	89
MIN	41	47	40	102	145	135	141	75	45	29	21	20
CFSM	.81	.86	.53	2.01	7.57	1.98	1.72	1.08	.60	.37	.26	.36
IN.	.94	.96	.61	2.31	7.88	2.28	1.92	1.25	.67	.43	.30	.41

CAL YR 1989 TOTAL 94062 MEAN 258 MAX 5110 MIN 35 CFSM 2.50 IN. 33.97
WTR YR 1990 TOTAL 55291 MEAN 151 MAX 5530 MIN 20 CFSM 1.47 IN. 19.97

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. 88). 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, 64.28 ft Feb. 5; minimum gage height 53.88 ft, Mar. 15.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	56.72	55.30	55.17	54.77	55.07	54.68	57.06	55.55	56.66	56.39	55.66	55.42
2	57.88	56.77	55.10	54.80	55.44	55.07	57.56	57.08	57.22	56.39	55.64	55.52
3	57.94	56.61	54.76	54.24	55.43	54.43	57.42	56.61	62.04	57.21	55.75	55.52
4	56.58	55.90	54.40	54.02	54.42	54.25	56.75	56.52	63.93	62.16	55.90	55.60
5	56.44	56.17	54.66	54.21	54.42	54.26	56.52	56.25	64.28	63.92	55.58	55.32
6	56.44	56.16	54.96	54.64	54.92	54.44	56.26	55.74	64.23	63.60	55.52	55.36
7	56.13	55.86	55.08	54.88	54.80	54.56	56.09	55.75	63.56	60.25	55.48	55.05
8	55.85	55.44	55.25	54.78	54.72	54.63	55.73	55.27	60.20	59.05	55.04	54.72
9	55.44	55.27	56.04	55.25	54.64	54.30	55.26	54.97	59.60	59.04	54.77	54.52
10	55.28	54.85	56.45	56.04	54.76	54.32	55.04	54.76	62.20	59.68	54.67	54.56
11	54.90	54.52	56.04	55.85	55.04	54.78	54.96	54.72	63.03	62.23	54.66	54.47
12	54.68	54.43	55.86	55.79	55.01	54.81	55.00	54.75	63.06	62.53	54.66	54.40
13	54.64	54.39	55.81	55.57	54.93	54.81	55.12	54.96	62.51	60.47	54.68	54.38
14	54.68	54.58	55.76	55.40	55.05	54.82	55.12	54.78	60.44	59.50	54.56	54.23
15	54.69	54.56	56.24	55.66	55.43	55.06	54.85	54.47	61.06	59.30	54.53	53.88
16	54.67	54.43	56.69	56.23	55.27	54.98	54.48	54.22	62.74	61.09	56.10	54.56
17	56.85	54.69	56.71	56.56	54.98	54.82	54.59	54.00	62.84	61.96	56.48	56.13
18	57.96	56.88	56.72	56.32	54.82	54.56	55.02	54.59	61.90	59.72	56.19	56.12
19	58.04	57.53	56.31	55.78	54.57	54.34	55.26	54.88	59.68	59.02	56.16	55.46
20	57.52	56.89	55.76	55.22	54.44	54.28	55.64	55.32	59.23	59.04	55.47	55.21
21	56.88	56.36	55.32	54.94	54.68	54.40	55.61	55.36	59.30	59.20	55.63	55.28
22	56.33	55.74	55.35	54.86	54.40	54.04	55.66	55.52	59.32	59.17	55.44	55.24
23	55.72	55.42	55.49	55.31	54.16	54.12	55.58	55.05	59.22	59.01	55.96	55.42
24	55.48	55.22	55.36	55.31	54.52	54.12	55.03	54.72	59.36	58.74	56.04	55.86
25	55.24	55.08	55.33	54.94	54.69	54.52	54.82	54.61	58.72	57.92	55.84	55.09
26	55.21	55.12	54.92	54.56	54.91	54.69	54.72	54.60	57.90	57.13	55.18	54.96
27	55.19	55.06	54.84	54.64	55.18	54.79	55.26	54.68	57.12	56.42	55.11	54.87
28	55.09	54.98	54.92	54.48	55.22	55.02	55.24	54.47	56.40	55.67	55.18	54.91
29	55.00	54.85	54.58	54.47	55.01	54.44	55.52	54.46	---	---	55.30	55.17
30	54.88	54.56	54.70	54.47	54.54	54.38	56.78	55.56	---	---	55.46	55.26
31	54.76	54.45	---	---	55.50	54.56	56.81	56.64	---	---	55.86	55.47
MONTH	58.04	54.39	56.72	54.02	55.50	54.04	57.56	54.00	64.28	55.67	56.48	53.88

03437000 CUMBERLAND RIVER AT DOVER, TN--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	56.10	55.68	59.66	59.04	63.50	63.11	59.42	59.04	58.07	57.52	56.73	56.05
2	56.05	55.72	59.52	58.96	63.53	63.13	59.21	58.83	58.15	57.54	56.56	56.05
3	55.91	55.64	59.53	59.20	63.18	62.94	59.24	58.76	58.06	57.76	56.52	55.96
4	56.17	55.65	59.61	59.12	63.02	62.30	59.20	58.76	58.27	57.54	56.57	56.00
5	56.65	56.19	59.80	59.57	62.30	61.95	59.28	58.60	58.12	57.62	56.56	56.05
6	57.04	56.46	59.86	59.60	62.14	61.65	59.21	58.53	58.00	57.52	56.64	56.01
7	57.42	56.98	59.64	59.40	61.85	61.43	59.20	58.78	58.02	57.41	56.40	55.91
8	57.64	57.41	59.49	59.28	61.39	60.98	59.20	58.64	57.82	57.48	56.48	55.67
9	57.76	57.35	59.40	59.12	60.95	60.34	59.06	58.49	57.78	57.44	56.40	55.95
10	58.42	57.53	59.53	59.24	60.44	59.78	59.04	58.37	57.69	57.20	56.62	55.89
11	58.30	57.65	59.45	59.28	59.83	59.32	59.24	58.48	57.64	57.16	56.24	55.80
12	58.51	57.89	59.65	59.22	59.45	58.75	59.41	58.84	57.58	57.08	56.29	55.75
13	58.78	58.28	59.65	59.42	59.32	58.77	59.17	58.88	57.56	56.93	56.24	55.79
14	58.96	58.48	59.66	59.32	59.28	58.79	58.92	58.74	57.50	57.13	56.23	55.70
15	58.77	58.59	59.60	59.22	59.25	58.69	59.12	58.48	57.30	56.93	56.14	55.74
16	58.85	58.60	59.44	58.95	59.53	58.93	58.87	58.46	57.50	56.92	56.30	55.72
17	59.17	58.52	60.37	59.61	59.56	59.07	58.66	58.32	57.38	57.08	56.08	55.69
18	59.05	58.56	60.54	60.38	59.64	59.11	58.80	58.36	57.51	57.02	56.02	55.61
19	59.23	58.76	60.44	59.63	59.70	59.04	58.96	58.60	57.38	56.76	56.20	55.70
20	59.54	58.88	59.66	59.23	59.60	59.07	59.19	58.59	57.07	56.50	56.18	55.56
21	59.58	59.07	60.09	59.07	59.54	58.78	59.21	58.72	57.02	56.43	56.18	55.72
22	59.67	59.23	61.18	60.09	59.59	59.01	59.16	58.68	56.91	56.36	56.24	55.89
23	59.78	59.57	62.22	61.21	59.71	59.04	58.70	58.49	56.88	56.23	56.20	55.79
24	59.92	59.28	62.86	62.24	59.58	58.99	58.61	58.06	56.87	56.28	56.16	55.70
25	59.75	59.18	63.30	62.80	59.48	58.96	---	---	56.98	56.28	56.03	55.73
26	59.30	58.88	63.55	63.12	59.35	58.89	58.48	58.00	56.76	56.35	56.04	55.61
27	59.37	59.12	63.60	63.44	59.19	58.63	58.56	58.00	56.66	56.12	56.03	55.42
28	59.71	59.10	63.88	63.16	59.34	58.72	58.62	58.08	56.52	55.85	55.83	55.44
29	59.62	59.14	63.31	63.01	59.60	58.81	58.43	57.96	56.72	55.93	55.96	55.23
30	59.67	59.09	63.22	62.79	59.66	59.02	58.21	57.73	56.63	56.08	55.79	55.24
31	---	---	63.32	62.83	---	---	58.14	57.63	56.64	56.12	---	---
MONTH	59.92	55.64	63.88	58.95	63.53	58.63	59.42	57.63	58.27	55.85	56.73	55.23

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, 2,080,000 cfs-days, Oct. 22, elevation, 725.59 ft; minimum, 1,428,800 cfs-days, Dec. 30, elevation, 698.02 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, 687,500 cfs-days, May 21, elevation, 651.37 ft; minimum, 529,100 cfs-days, Dec. 29, elevation, 639.32 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, 135,100 cfs-days, June 9, elevation, 504.73 ft; minimum, 102,800 cfs-days, Feb. 23, elevation, 498.92 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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...	714.64	1,807,600	-	644.00	588,100	-	504.46	133,500	-
Oct. 31...	721.87	1,985,400	+177,800	645.85	612,300	+24,200	501.80	117,900	-15,600
Nov. 30...	715.36	1,824,900	-160,500	642.63	570,500	-41,800	500.20	109,400	-8,500
Dec. 31...	700.03	1,472,500	-352,400	640.57	544,500	-26,000	500.33	110,000	+600
CAL YR 1989	-	-	-82,100	-	-	-22,700	-	-	+1,200
Jan. 31...	707.43	1,638,300	+165,800	644.03	588,500	+44,000	500.50	110,900	+900
Feb. 28...	720.02	1,939,100	+300,800	645.98	614,000	+25,500	499.85	107,800	-3,100
Mar. 31...	722.29	1,996,000	+56,900	647.29	631,500	+17,500	500.36	110,200	+2,400
Apr. 30...	722.60	2,003,800	+7,800	648.93	653,700	+22,200	503.83	129,600	+19,400
May 31...	724.75	2,058,500	+54,700	650.94	681,500	+27,800	504.17	131,700	+2,100
June 30...	719.90	1,936,100	-122,400	649.28	658,500	-23,000	504.24	132,100	+400
July 31...	705.21	1,587,700	-348,400	645.93	613,340	-45,160	504.29	132,400	+300
Aug. 31...	699.89	1,469,400	-118,300	641.43	555,300	-58,040	504.34	132,700	+300
Sept. 30...	696.30	1,392,000	-77,400	639.59	532,430	-22,870	502.09	119,500	-13,200
WTR YR 1990	-	-	-415,600	-	-	-67,300	-	-	-14,000

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, 26,300 cfs-days, Jan. 12, elevation, 806.24 ft; minimum, 7,700 cfs-days, Dec. 18, elevation, 780.81 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, 731,200 cfs-days, Feb. 12, elevation, 654.48 ft; minimum, 488,400 cfs-days, Dec. 29, elevation, 626.67 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, 223,300 cfs-days, May 17, elevation, 446.01 ft; minimum, 180,800 cfs-days, Nov. 8, elevation, 442.10 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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...	800.03	20,500	-	642.80	623,400	-	445.30	215,000	-
Oct. 31...	791.39	13,900	-6,600	636.26	566,700	-56,700	442.81	188,000	-27,000
Nov. 30...	796.42	17,500	+3,600	637.38	576,200	+9,500	444.82	209,600	+21,600
Dec. 31...	796.90	17,900	+400	627.60	495,800	-80,400	445.20	213,100	+3,500
CAL YR 1989	-	-	-2,700	-	-	-55,800	-	-	+11,700
Jan. 31...	806.03	26,100	+8,200	642.29	618,800	+123,000	444.75	208,800	-4,300
Feb. 28...	804.95	25,000	-1,100	644.91	642,200	+23,400	444.43	205,200	-3,600
Mar. 31...	802.25	22,400	-2,600	646.59	657,400	+15,200	444.55	206,600	+1,400
Apr. 30...	799.99	20,500	-1,900	645.86	650,800	-6,600	444.64	207,600	+1,000
May 31...	789.64	12,700	-7,800	647.19	662,900	+12,100	444.50	206,000	-1,600
June 30...	792.31	14,500	+1,800	644.78	641,000	-21,900	444.85	209,900	+3,900
July 31...	798.69	19,400	+4,900	635.73	562,200	-78,800	444.58	206,900	-3,000
Aug. 31...	798.37	19,100	-300	633.15	540,700	-21,500	444.51	206,100	-800
Sept. 30...	791.86	14,200	-4,900	629.80	513,300	-27,400	444.60	207,100	+1,000
WTR YR 1990	-	-	-6,300	-	-	-110,100	-	-	-7,900

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, 239,200 cfs-days, Oct. 3, elevation, 495.41 ft; minimum, 146,100 cfs-days, Feb. 25, elevation, 481.95 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, 584,500 cfs-days, May 27, elevation, 363.60 ft; minimum contents, 293,200 cfs-days, Dec. 22, minimum elevation, 353.35 ft. Contents based on backwater profile.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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.....	491.80	210,900	-	354.46	318,600	-
Oct. 31.....	487.06	177,400	-33,500	354.10	319,700	+1,100
Nov. 30.....	484.79	162,800	-14,600	353.85	316,400	-3,300
Dec. 31.....	483.95	157,700	-5,100	354.25	332,900	+16,500
CAL YR 1989	-	-	-15,800	-	-	-43,900
Jan. 31.....	484.10	158,600	+900	354.63	351,200	+18,300
Feb. 28.....	486.75	147,000	-11,600	354.26	331,600	-19,600
Mar. 31.....	484.18	159,100	+12,100	355.13	343,900	+12,300
Apr. 30.....	486.65	174,700	+15,600	359.24	445,200	+101,300
May 31.....	490.26	199,500	+24,800	363.34	574,500	+129,300
June 30.....	490.10	198,300	-1,200	359.22	446,900	-127,600
July 31.....	490.14	198,600	+300	356.35	366,200	-80,700
Aug. 31.....	490.03	197,800	-800	355.38	340,700	-25,500
Sept. 30.....	487.38	179,500	-18,300	354.69	323,700	-17,000
WTR YR 1990	-	-	-31,400	-	-	+5,100

‡ Contents based on backwater profile.

Upper Tennessee River Basin

Map number	Station number	Station name
71	03455000	FRENCH BROAD RIVER NEAR NEWPORT
72	03461230	CANEY CR NR COSBY
73	03465500	NOLICHUCKY RIVER AT EMBREEVILLE
74	03465607	CHEROKEE CR NR EMBREEVILLE
75	03465780	CLEAR FORK NR FAIRVIEW
76	03466228	SINKING CREEK AT AFTON
77	03466890	LICK CR NR ALBANY
78	03467480	BENT CR AT TAYLOR GAP
79	03467992	CARTER BRANCH NR WHITE PINE
80	03467993	CEDAR CR NR VALLEY HOME
81	03467998	SINKING FORK AT WHITE PINE
82	03469175	LITTLE PIGEON RIVER ABOVE SEVIERVILLE
83	03470215	DUMPLIN CR AT MT. HAREB
84	03476960	INDIAN CREEK AT CHILDRESS
85	03478615	EVANS CR NR BLOUNTVILLE
86	03487507	HORSE CR ABOVE SULLIVAN GARDENS
87	03487550	REEDY CREEK AT OREBANK
88	03490522	FORGEY CR AT ZION HILL
89	03491000	BIG CREEK NEAR ROGERSVILLE
90	03491490	DODSON CR TRIB NR ROGERSVILLE
91	03491540	ROBERTSON CR NR PERSIA
92	03491544	CROCKETT CREEK BELOW ROGERSVILLE
93	03494714	DRY LAND CR TRIB NR NEW MARKET
94	03494990	FLAT CR AT LUTTRELL
95	03495500	HOLSTON RIVER NEAR KNOXVILLE (NASQAN)
96	03497300	LITTLE RIVER ABOVE TOWNSEND
97	03498500	LITTLE RIVER NEAR MARYVILLE
98	03498850	LITTLE RIVER NEAR ALCOA
99	03519610	BAKER CR TRIB NR BINFIELD
100	03519640	BAKER CR NR GREENBACK
101	03527800	BIG WAR CR AT LUTHUR
102	03528000	CLINCH RIVER ABOVE TAZEWELL
103	03528390	CROOKED CR NR MAYNARDVILLE
104	03534000	COAL CR AT LAKE CITY
105	03535102	SCARBORO CREEK TRIB NEAR HAW RIDGE NR OAK RIDGE
106	03535103	SCARBORO CREEK TRIBUTARY NEAR OAK RIDGE
107	03535180	WILLOW FORK NR HALLS CROSSROADS
108	03535912	CLINCH RIVER AT MELTON HILL DAM (TAILWATER)
109	03536320	WHITEOAK CREEK NR MELTON HILL
110	03536380	WHITEOAK CREEK NR WHEAT
111	03536440	NORTHWEST TRIBUTARY NR OAK RIDGE
112	03536450	FIRST CREEK NR OAK RIDGE
113	03536550	WHITEOAK CR BELOW MELTON VALLEY DRIVE NR OAK RIDGE
114	03537050	MELTON BRANCH TRIB (EAST SEVEN) NEAR OAK RIDGE
115	03537100	MELTON BRANCH NEAR MELTON HILL NEAR OAK RIDGE
116	03537200	MELTON BRANCH TRIB (CENTER SEVEN) NEAR OAK RIDGE
117	035382672	BEAR CREEK TRIB ABOVE BEAR CREEK ROAD NEAR WHEAT
118	035382673	BEAR CREEK NEAR WHEAT
119	03538270	BEAR CREEK AT STATE HIGHWAY 95 NEAR OAK RIDGE
120	03538273	BEAR CREEK AT PINE RIDGE NEAR WHEAT
121	03540500	EMORY RIVER AT OAKDALE
122	03543500	SEWEE CREEK NEAR DECATUR
123	03555900	COKER CR NR IRONSBURG
124	03560500	DAVIS MILL CREEK AT COPPERHILL
125	03563000	OCOEE RIVER AT EMF
126	03564500	OCOEE RIVER AT PARKSVILLE
127	03566000	HIWASSEE RIVER AT CHARLESTON
128	03566420	WOLFTEVER CREEK NEAR OOLTEWAH
129	03566599	NORTH CHICKAMAUGA CR NR HIXON
130	03567500	SOUTH CHICKAMAUGA CR NR CHICKAMAUGA
131	03568000	TENNESSEE RIVER AT CHATTANOOGA (BASE)
132	03569168	STRINGERS BRANCH AT RED BANK
133	03571000	SEQUATCHIE RIVER NEAR WHITWELL
134	03571500	LITTLE SEQUATCHIE RIVER AT SEQUATCHIE
135	03571730	STANDIFER BRANCH AT JASPER

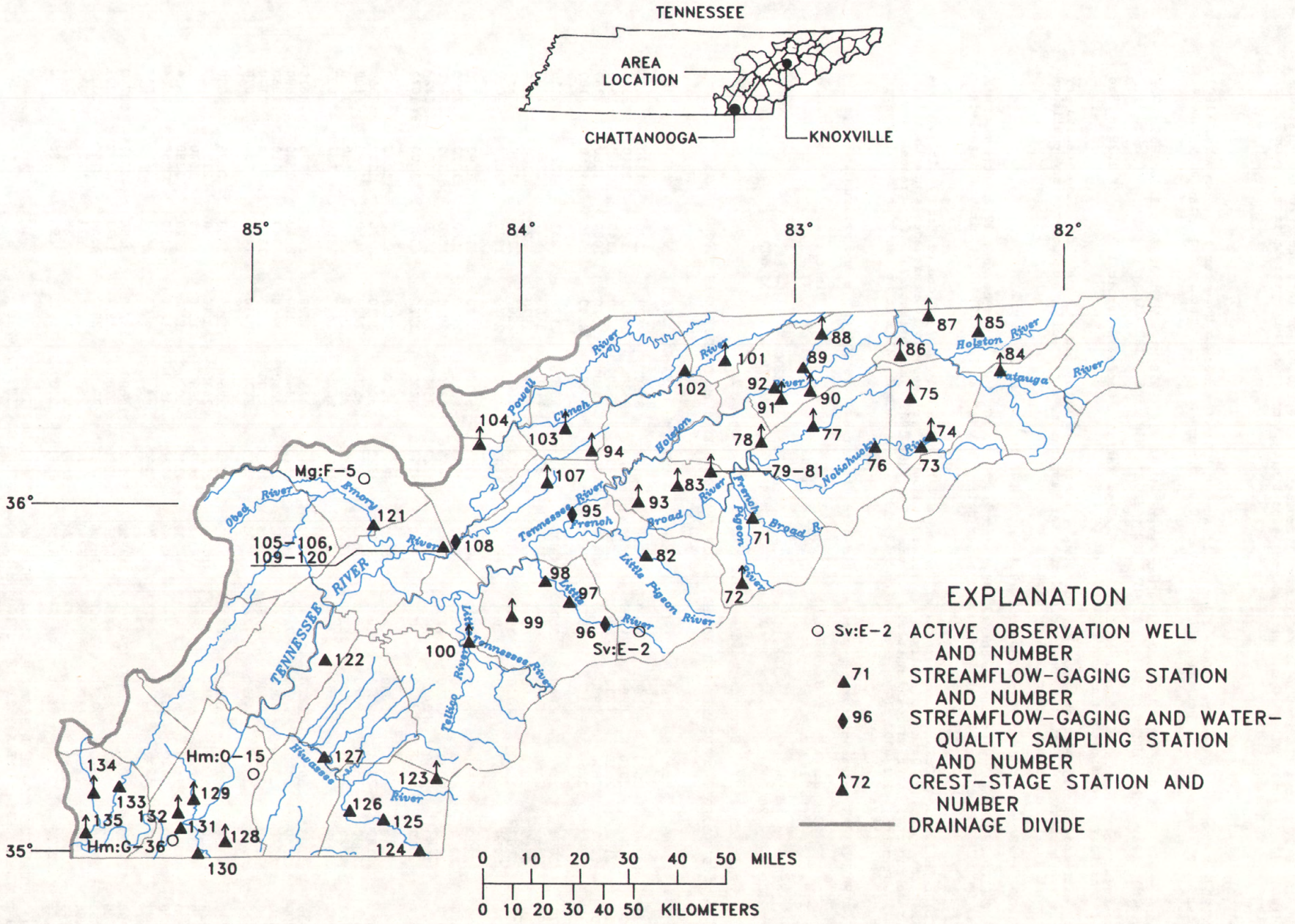

Figure 6.--Location of gaging sites in the upper Tennessee River Basin.

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 report as miscellaneous water quality data.

AVERAGE DISCHARGE.--72 years (water years 1904-05, 1921-90), 2,945 ft^3/s, 21.52 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)
Oct. 1	1300	16,100	8.10	Feb. 16	2200	44,600	14.88
Feb. 10	2200	20,700	9.49	Mar. 17	1700	*55,600	*16.73

Minimum discharge, 651 ft^3/s, Sept. 26; minimum daily, 830 ft^3/s, Sept. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15200	2230	3080	7680	4890	4800	4480	3550	2900	1330	1170	3330
2	13600	2200	2920	6260	4260	4620	4210	3630	2680	1200	1110	2320
3	11400	2120	2810	4610	3960	6260	3950	3360	2550	1140	1160	1540
4	10400	2050	2630	3930	4950	8430	3770	4610	2520	1080	1190	1340
5	8570	1990	2600	4100	6850	7170	3610	7060	2290	1020	1160	1180
6	6270	2060	2540	5040	5500	5920	3510	5630	2220	931	1280	1110
7	4290	2590	2460	5980	4710	5190	3570	4440	2100	937	1260	1080
8	3650	2510	2950	5900	4290	4750	3380	3810	1970	921	1150	1010
9	3280	2480	5080	6710	3960	4640	3210	3420	2290	1110	1130	977
10	3030	2450	4750	5770	13000	4770	3120	4160	2570	1330	1320	1050
11	2840	2160	4100	4810	14600	4510	3520	5710	2480	1140	1590	1730
12	2690	2070	4300	4230	9950	4250	3850	4910	2000	1260	1370	1390
13	2560	2030	6980	3780	7700	4040	3440	3980	1870	1580	1100	1470
14	2460	1950	6460	3420	5650	3880	3220	3560	1780	1910	1160	1420
15	2370	2010	5160	3230	4870	3740	3150	3200	1720	4380	1200	1670
16	2290	9340	4490	3080	20400	6110	3040	3010	1820	3210	1270	1490
17	2330	10100	3870	2970	26600	39100	3010	3240	1710	2170	1130	1350
18	3650	6990	3620	2880	15600	27600	2990	3510	1720	1660	1060	1100
19	4930	4820	3380	2820	15100	17900	2830	2890	1680	1600	930	1010
20	4970	3880	3210	2760	12400	13700	2740	2670	1570	1680	927	997
21	3980	3500	3050	3660	9300	10100	2740	2750	1590	1980	1000	1010
22	3290	3280	2780	4600	7450	7650	2810	2840	1520	2240	1520	1090
23	2970	8210	2500	3950	8730	6270	2730	2840	1460	2340	3110	1360
24	2790	7330	2250	3500	8160	5670	2690	2580	1470	1890	1740	1140
25	2670	5250	2320	4110	7270	5300	2810	2470	1410	1490	1700	1070
26	2520	4350	2770	6330	6170	4970	2680	2360	1290	1460	2090	830
27	2420	3910	2800	5800	5400	4700	2520	2480	1210	1470	2120	980
28	2320	3660	2620	4800	5070	4550	2470	2880	1230	1300	1570	927
29	2280	3560	2500	4390	---	4330	4110	5070	1280	1220	1380	914
30	2180	3280	2440	5720	---	4360	4230	4540	1310	1170	1260	864
31	2190	---	3250	5940	---	4370	---	3530	---	1220	1360	---
TOTAL	140390	114360	106670	142760	246790	243650	98390	114690	56210	49369	42517	38749
MEAN	4529	3812	3441	4605	8814	7860	3280	3700	1874	1593	1372	1292
MAX	15200	10100	6980	7680	26600	39100	4480	7060	2900	4380	3110	3330
MIN	2180	1950	2250	2760	3960	3740	2470	2360	1210	921	927	830
CFSM	2.44	2.05	1.85	2.48	4.74	4.23	1.77	1.99	1.01	.86	.74	.70
IN.	2.81	2.29	2.14	2.86	4.94	4.88	1.97	2.30	1.13	.99	.85	.78

CAL YR 1989 TOTAL 1327350 MEAN 3637 MAX 15200 MIN 1260 CFSM 1.96 IN. 26.58
WTR YR 1990 TOTAL 1394545 MEAN 3821 MAX 39100 MIN 830 CFSM 2.06 IN. 27.92

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

AVERAGE DISCHARGE.--71 years (water years 1920-90), 1,356 ft^3/s, 22.88 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)
Feb. 10	1400	12,100	5.68	Mar. 17	1500	*29,100	*9.30
Feb. 16	2000	21,600	7.75	Aug. 9	1330	11,000	5.41

Minimun discharge, 425 ft^3/s, Aug. 4, and Sept. 28, 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7110	1020	1500	6240	2370	2230	2000	2020	1890	610	467	1460
2	6520	929	1400	3530	2120	2280	1830	2070	1650	789	450	987
3	4150	894	1320	2510	1960	3790	1770	2140	1560	636	438	852
4	3040	865	1180	2200	2640	4040	1690	3860	1460	e550	435	763
5	2420	839	1210	2300	2900	3220	1600	4380	1290	e520	449	699
6	2060	909	1160	2720	2380	2790	1560	3320	1180	e490	937	660
7	1790	1070	1110	2960	2190	2500	1710	2720	1120	466	803	618
8	1590	e983	1540	3230	1990	2300	1520	2310	1060	453	566	594
9	1440	e970	2170	3830	1820	2280	1440	2070	1240	593	4960	574
10	1330	939	1780	3190	7630	2270	1410	3310	1360	583	2800	633
11	1250	875	1600	2630	6570	2330	1760	3140	1100	491	2870	676
12	1170	847	2000	2280	3920	2120	1760	2490	968	489	1470	624
13	1100	823	3130	1980	3000	2000	1560	2210	907	664	1090	1040
14	1050	805	2470	1770	2520	1900	1490	1980	861	2210	1170	1020
15	1010	846	2100	1670	2260	1810	1470	1770	1010	2530	964	850
16	963	4570	1850	1570	10300	3730	1400	1620	1070	1220	815	698
17	1030	3690	1550	1490	10900	22100	1370	1880	971	850	724	602
18	1370	2420	1540	1450	5580	11500	1410	1900	885	822	665	545
19	3150	1970	1450	1410	5220	6080	1300	1520	849	1050	637	522
20	2200	1740	1360	1350	4630	4560	1260	1430	760	865	591	536
21	1640	1600	1230	2090	3810	3710	1270	1490	733	847	561	528
22	1420	1550	1100	2010	3460	3250	1350	1570	732	849	736	603
23	1300	4000	e1050	1680	3810	2910	1280	1710	736	874	1840	679
24	1220	3240	e1000	1580	3260	2690	1210	1460	687	743	1050	564
25	1160	2450	e1100	2150	2830	2540	1190	1330	649	641	2490	485
26	1100	2120	e1200	3040	2530	2370	1140	1260	619	609	2370	471
27	1050	1910	e1300	2550	2410	2210	1100	1440	605	569	1580	455
28	1020	1830	e1250	2230	2350	2070	1110	1520	590	528	1150	437
29	984	1780	e1200	2250	---	2050	2950	4070	579	508	957	430
30	959	1610	e1200	3770	---	2080	2180	3120	576	517	907	433
31	957	---	2390	2890	---	2070	---	2320	---	498	1790	---
TOTAL	58553	50094	47440	76550	107360	113780	46090	69430	29697	24064	38732	20038
MEAN	1889	1670	1530	2469	3834	3670	1536	2240	990	776	1249	668
MAX	7110	4570	3130	6240	10900	22100	2950	4380	1890	2530	4960	1460
MIN	957	805	1000	1350	1820	1810	1100	1260	576	453	435	430
CFSM	2.35	2.07	1.90	3.07	4.76	4.56	1.91	2.78	1.23	.96	1.55	.83
IN.	2.71	2.31	2.19	3.54	4.96	5.26	2.13	3.21	1.37	1.11	1.79	.93

CAL YR 1989 TOTAL 613400 MEAN 1681 MAX 11300 MIN 502 CFSM 2.09 IN. 28.35
WTR YR 1990 TOTAL 681828 MEAN 1868 MAX 22100 MIN 430 CFSM 2.32 IN. 31.51

e Estimated

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

AVERAGE DISCHARGE.--13 years, 12.0 ft^3/s, 11.89 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)
Feb. 10	0815	302	3.88	Mar. 17	0915	258	3.66
Feb. 16	1215	325	3.99	May 28	2230	*617	*5.12

Minimum discharge, 3.7 ft^3/s, Sept. 5, 6, 26-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	6.8	13	80	27	24	21	15	22	25	5.6	4.3
2	18	6.8	12	34	26	25	20	17	20	13	5.6	4.3
3	14	7.9	12	28	26	36	19	14	19	8.8	5.6	4.1
4	13	7.1	11	26	64	28	19	33	18	8.5	5.6	4.1
5	11	7.1	11	26	40	25	18	20	16	8.0	5.7	3.8
6	11	7.4	11	36	32	23	18	17	16	8.0	10	4.0
7	10	7.7	10	31	30	22	20	16	15	7.8	6.8	3.9
8	9.6	8.4	10	47	27	22	18	15	15	7.7	6.0	5.3
9	9.3	18	11	41	26	22	17	15	14	7.4	5.5	4.5
10	9.2	12	11	33	157	24	16	35	14	7.4	5.7	5.7
11	9.0	9.7	11	29	54	31	17	20	13	7.4	6.7	4.8
12	8.6	8.7	15	26	41	23	16	17	12	7.6	5.9	4.2
13	8.4	8.4	19	24	37	21	15	16	12	9.0	5.7	4.4
14	8.2	7.7	17	23	33	20	15	15	12	10	6.5	4.5
15	7.7	8.6	18	22	31	20	15	14	12	9.5	5.4	4.3
16	7.6	56	21	20	185	60	15	13	11	7.8	4.8	4.3
17	7.4	22	19	20	67	182	15	24	11	7.4	4.6	4.0
18	8.6	16	17	22	45	59	18	16	10	7.4	4.6	3.9
19	20	14	16	21	52	43	15	14	10	7.4	4.6	3.9
20	13	13	16	22	42	39	14	13	10	7.0	4.3	3.9
21	11	12	e17	45	37	34	15	14	10	7.4	4.4	3.9
22	9.7	16	e17	28	35	31	17	13	10	7.1	10	4.4
23	9.3	34	e16	23	34	29	14	12	12	6.8	7.5	4.1
24	9.0	19	e16	22	32	27	14	12	10	6.3	5.5	3.9
25	8.5	16	e15	42	28	27	14	12	9.6	6.2	5.1	3.9
26	7.7	15	e14	38	27	25	13	11	9.3	6.2	4.9	3.7
27	7.7	14	13	29	25	24	13	16	9.4	6.1	4.8	3.7
28	7.7	15	12	27	24	23	15	108	8.9	6.2	4.6	3.7
29	7.7	15	11	39	---	22	17	161	8.3	6.1	4.6	3.7
30	7.6	13	23	49	---	22	14	31	8.3	5.6	4.6	3.7
31	7.3	---	85	31	---	22	---	25	---	5.6	4.4	---
TOTAL	326.8	422.3	520	984	1284	1035	487	774	377.8	251.7	175.6	124.9
MEAN	10.5	14.1	16.8	31.7	45.9	33.4	16.2	25.0	12.6	8.12	5.66	4.16
MAX	30	56	85	80	185	182	21	161	22	25	10	5.7
MIN	7.3	6.8	10	20	24	20	13	11	8.3	5.6	4.3	3.7
CFSM	.77	1.03	1.22	2.32	3.35	2.44	1.18	1.82	.92	.59	.41	.30
IN.	.89	1.15	1.41	2.67	3.49	2.81	1.32	2.10	1.03	.68	.48	.34

CAL YR 1989 TOTAL 5758.1 MEAN 15.8 MAX 110 MIN 5.3 CFSM 1.15 IN. 15.64
WTR YR 1990 TOTAL 6763.1 MEAN 18.5 MAX 185 MIN 3.7 CFSM 1.35 IN. 18.36

e Estimated

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 mile 7.5.

DRAINAGE AREA.-- 184 mi^2.

PERIOD OF RECORD.--August 1988 to current year.

GAGE.--Water-stage recorder and encoder. Datum of gage is 898.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. The town of Sevierville at the gage, diverts an average of about 1.5 ft^3/s (1.0 MGD) for municipal supply. 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 7,040 ft^3/s Sept. 22, 1989, gage height, 15.22 ft from rating extended above 3,800 ft^3/s; minimum, 33 ft^3/s, Sept. 7, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,870 ft^3/s, Mar. 17, gage height, 13.48 ft; minimum, 33 ft^3/s, Sept. 7; minimum daily, 35 ft^3/s, Sept. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2030	117	274	1620	567	332	239	242	273	55	56	50
2	1550	112	250	761	474	436	222	275	231	62	52	46
3	926	109	230	531	481	1800	211	234	225	55	50	44
4	603	107	203	506	1370	1250	199	457	205	50	47	43
5	451	104	199	522	1030	730	189	587	175	46	58	39
6	365	185	190	1060	654	542	197	445	155	44	80	37
7	312	199	180	1030	539	442	289	400	141	44	90	35
8	273	211	249	1340	451	387	216	324	134	40	61	36
9	240	304	304	1310	398	362	197	285	126	48	87	49
10	215	271	288	805	2270	387	194	847	138	93	217	58
11	202	206	265	577	1860	359	334	498	181	64	106	69
12	186	177	918	471	1140	315	349	346	130	58	72	49
13	174	158	990	378	755	286	283	281	117	186	62	132
14	163	150	562	326	582	266	254	236	108	1170	72	86
15	157	276	455	299	486	256	254	204	106	681	75	291
16	149	1870	394	275	2780	1250	231	186	104	254	66	146
17	157	834	334	256	2130	4030	223	733	102	151	56	90
18	189	474	300	284	1290	2030	313	481	93	146	51	70
19	283	349	277	266	1210	1270	271	294	96	139	48	61
20	218	295	258	327	999	855	243	241	87	115	44	57
21	175	267	220	915	754	634	234	212	80	146	41	54
22	167	338	e180	579	666	529	237	256	80	154	48	233
23	157	1180	e160	423	679	456	214	388	86	119	545	265
24	150	676	e200	370	573	401	198	275	77	95	166	128
25	141	470	e230	904	452	365	185	228	70	80	111	94
26	135	389	e210	986	398	325	177	205	65	76	92	79
27	130	341	175	623	370	300	168	237	61	72	78	69
28	125	361	164	485	350	276	169	590	60	72	68	61
29	123	372	156	1030	---	263	252	648	58	66	60	57
30	121	306	169	1300	---	248	228	513	56	60	57	53
31	118	---	965	758	---	252	---	345	---	56	55	---
TOTAL	10385	11208	9949	21317	25708	21634	6970	11493	3620	4497	2771	2581
MEAN	335	374	321	688	918	698	232	371	121	145	89.4	86.0
MAX	2030	1870	990	1620	2780	4030	349	847	273	1170	545	291
MIN	118	104	156	256	350	248	168	186	56	40	41	35
CFSM	1.82	2.03	1.74	3.74	4.99	3.79	1.26	2.01	.66	.79	.49	.47
IN.	2.10	2.27	2.01	4.31	5.20	4.37	1.41	2.32	.73	.91	.56	.52

CAL YR 1989 TOTAL 167629 MEAN 459 MAX 2830 MIN 83 CFSM 2.50 IN. 33.89
WTR YR 1990 TOTAL 132133 MEAN 362 MAX 4030 MIN 35 CFSM 1.97 IN. 26.71

e Estimated

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 and encoder. 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.--40 years (water years 1942-48, 1958-90), 57.8 ft^3/s, 16.59 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)
Feb. 10	1115	1,820	5.39	Feb. 16	1800	*1,830	*5.40

Minimum discharge, 4.8 ft^3/s, Sept. 6, 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	390	22	58	401	147	64	62	43	36	11	9.1	6.8
2	231	21	52	180	123	71	60	40	33	10	8.0	6.1
3	132	20	48	130	348	110	58	39	30	9.7	7.9	5.9
4	97	19	43	112	909	93	52	142	29	9.0	7.8	5.4
5	78	18	41	106	330	79	49	236	27	8.7	7.8	5.2
6	66	21	39	102	208	69	53	134	25	8.1	10	5.1
7	57	25	36	97	167	63	117	102	24	7.8	10	5.0
8	49	46	48	362	134	58	91	78	24	7.4	7.8	9.6
9	45	145	78	296	116	58	74	67	23	7.2	6.9	10
10	41	91	63	177	917	56	66	195	60	6.7	11	7.0
11	38	55	55	133	347	61	70	161	30	6.7	12	6.7
12	35	43	57	110	205	54	60	102	23	9.2	9.5	6.3
13	33	36	61	90	158	51	53	82	20	14	7.8	6.2
14	31	33	57	78	131	49	50	66	18	30	14	8.9
15	30	39	56	71	113	47	52	56	19	95	30	8.4
16	28	504	52	64	813	88	47	49	24	37	14	7.4
17	30	187	55	59	432	652	45	105	20	21	10	6.7
18	36	116	47	63	220	321	48	89	17	17	8.9	5.7
19	69	86	46	61	186	179	41	58	15	19	7.9	5.8
20	46	71	44	58	153	137	39	51	15	15	7.4	6.7
21	37	62	39	119	130	110	45	52	18	13	9.5	7.0
22	32	58	39	107	119	95	72	61	22	49	27	13
23	29	147	33	87	113	83	60	58	35	26	17	12
24	27	103	32	77	98	75	53	46	19	19	13	8.7
25	26	81	32	191	85	154	47	40	16	15	11	7.0
26	25	71	33	216	76	135	44	37	14	12	9.0	6.2
27	23	63	32	139	71	105	40	39	13	11	8.0	5.9
28	22	71	31	112	68	89	38	48	12	9.7	7.6	5.6
29	21	75	30	424	---	79	46	81	11	9.4	7.1	5.4
30	20	64	68	442	---	72	40	55	11	8.8	7.3	5.2
31	21	---	554	198	---	67	---	42	---	8.4	8.6	---
TOTAL	1845	2393	1959	4862	6917	3424	1672	2454	683	530.8	332.9	210.9
MEAN	59.5	79.8	63.2	157	247	110	55.7	79.2	22.8	17.1	10.7	7.03
MAX	390	504	554	442	917	652	117	236	60	95	30	13
MIN	20	18	30	58	68	47	38	37	11	6.7	6.9	5.0
CFSM	1.26	1.69	1.34	3.32	5.22	2.34	1.18	1.67	.48	.36	.23	.15
IN.	1.45	1.88	1.54	3.82	5.44	2.69	1.31	1.93	.54	.42	.26	.17

CAL YR 1989 TOTAL 32672 MEAN 89.5 MAX 1030 MIN 17 CFSM 1.89 IN. 25.70
WTR YR 1990 TOTAL 27283.6 MEAN 74.7 MAX 917 MIN 5.0 CFSM 1.58 IN. 21.46

03491544 CROCKETT CREEK BELOW ROGERSVILLE, TN

LOCATION.--Lat 36°22'47", long 83°02'48", Hawkins County, 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 current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1092.53 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, unknown, Sept. 15, 1989, gage height 5.10 ft; minimum observed, 0.31 ft^3/s, Oct. 20, 1988; minimum daily, 0.31 ft^3/s Oct. 20, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 355 ft^3/s, Sept. 8, gage height, 3.50 ft, 105 ft^3/s; minimum 0.54 ft^3/s, July 9, 10; minimum daily, 0.54 ft^3/s, July 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	1.4	3.1	20	11	4.7	3.5	3.4	3.5	.89	1.1	1.3
2	10	1.4	2.9	11	8.9	7.8	3.8	2.5	3.1	.89	.98	1.2
3	7.8	1.3	2.8	8.6	32	7.3	3.3	12	3.2	.78	.89	1.1
4	6.3	1.2	2.6	8.6	48	6.3	2.8	27	2.6	.74	.86	1.1
5	5.2	1.2	2.4	7.2	22	5.7	2.7	12	2.4	.74	1.7	1.0
6	4.5	3.6	2.4	8.4	15	5.1	6.3	7.3	2.4	.73	3.4	.96
7	4.0	2.0	2.2	7.8	13	4.8	5.1	5.7	2.2	.70	1.3	8.2
8	3.6	3.3	4.8	36	10	4.4	4.1	4.6	1.9	.68	1.1	26
9	3.1	5.4	3.7	19	9.7	4.2	3.7	6.6	2.9	.64	3.7	3.8
10	2.8	2.8	3.2	13	55	7.1	4.2	11	3.7	.71	23	2.7
11	2.6	2.4	2.9	10	23	6.0	3.7	6.5	2.2	.67	4.4	2.1
12	2.4	2.1	3.9	8.5	15	5.2	3.2	5.2	2.1	7.1	2.8	1.9
13	2.3	1.9	4.1	7.0	11	4.8	2.9	4.3	2.0	4.0	2.5	1.9
14	2.1	2.0	3.9	6.1	9.4	4.6	2.8	3.8	2.1	15	13	1.7
15	2.0	9.0	3.9	5.5	8.1	4.2	3.0	3.2	1.9	8.7	4.5	1.6
16	1.9	24	3.6	4.9	61	24	2.6	2.8	1.8	3.8	3.3	1.5
17	3.8	8.5	3.5	4.5	27	68	4.1	14	1.6	2.9	2.6	1.3
18	5.9	6.4	3.2	6.1	16	25	3.1	4.6	1.7	16	2.0	1.2
19	4.4	5.3	3.3	4.6	16	16	2.7	3.6	1.6	4.1	1.7	1.8
20	2.8	4.5	3.1	7.1	12	12	2.5	6.5	1.7	2.9	1.6	1.5
21	2.3	4.0	2.9	9.7	10	9.4	3.1	3.9	2.2	4.4	15	1.2
22	2.2	8.7	2.7	7.7	9.9	7.7	2.9	3.9	2.6	3.8	11	6.9
23	1.9	7.3	2.5	6.6	8.5	6.8	2.4	2.9	1.4	2.8	4.5	2.1
24	1.8	5.9	2.4	6.2	7.7	6.7	2.3	2.6	1.4	2.2	3.4	1.7
25	1.7	5.0	2.2	19	6.6	6.8	2.1	2.4	1.1	1.8	2.7	1.5
26	1.6	4.5	2.2	14	6.0	5.4	2.5	3.4	1.0	1.6	2.2	1.3
27	1.5	4.3	2.1	9.7	5.6	4.9	2.0	3.2	.94	1.4	2.0	1.2
28	1.4	4.4	2.2	8.0	5.2	4.6	3.4	14	.90	1.3	1.7	1.1
29	1.4	3.6	2.1	38	---	4.3	2.9	7.4	.90	1.2	1.6	1.1
30	1.4	3.4	5.7	24	---	4.0	2.3	5.1	.85	1.3	1.5	.99
31	1.5	---	40	14	---	3.7	---	4.1	---	1.2	1.3	---
TOTAL	116.2	140.8	132.5	360.8	482.6	291.5	96.0	199.5	59.89	95.67	123.33	82.95
MEAN	3.75	4.69	4.27	11.6	17.2	9.40	3.20	6.44	2.00	3.09	3.98	2.76
MAX	20	24	40	38	61	68	6.3	27	3.7	16	23	26
MIN	1.4	1.2	2.1	4.5	5.2	3.7	2.0	2.4	.85	.64	.86	.96
CFSM	.80	1.00	.92	2.49	3.69	2.01	.69	1.38	.43	.66	.85	.59
IN.	.93	1.12	1.06	2.87	3.84	2.32	.76	1.59	.48	.76	.98	.66

CAL YR 1989 TOTAL 2224.39 MEAN 6.09 MAX 60 MIN .74 CFSM 1.30 IN. 17.72
WTR YR 1990 TOTAL 2181.74 MEAN 5.98 MAX 68 MIN .64 CFSM 1.28 IN. 17.38

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. 158).

AVERAGE DISCHARGE.--57 years (water years 1931-75, 1979-90), 4,676 ft^3/s, 16.95 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, 19,700 ft^3/s, Feb. 16, 19, gage height, 8.33 ft; minimum, 611 ft^3/s, Sept. 18; minimum daily, 762 ft^3/s, Sept. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3000	9230	e10200	2600	13600	10000	1100	1500	7190	2020	9770	5140
2	2480	8000	e10100	3320	12900	10100	877	1610	6300	1570	9400	4720
3	8790	8800	e10300	2010	11200	8310	1840	1350	5760	5620	9230	5770
4	8930	8070	e13000	1110	8570	3450	4060	6850	6510	4760	8370	7400
5	8660	7030	e12900	1500	6150	3420	3870	2350	6830	5160	6530	8200
6	8520	7210	e10800	2600	12400	4990	3820	1870	6720	5610	8270	8930
7	9080	7990	e11400	1220	11800	4490	2960	1790	6580	1930	9740	8920
8	8880	8330	e13300	2290	11600	4890	1430	1580	7860	1330	7790	9400
9	9230	8130	e12800	4270	11400	7470	1320	1690	6640	4920	8780	8400
10	8550	5520	e9100	5910	11100	3410	871	3030	4810	7210	9320	6190
11	8750	5720	e9900	7010	7310	1330	893	1670	4680	3720	8460	9380
12	8000	5620	e10800	5990	10200	1380	1540	1390	5310	6730	6580	9270
13	8020	5220	e15100	4910	15700	5310	2200	1420	7750	1200	8010	9230
14	7740	7310	13600	4590	12300	3000	1530	1370	8500	2420	9890	9570
15	9310	10300	13600	4390	11800	4850	1200	3390	8450	3250	9400	9080
16	7900	10900	14200	6310	15700	3580	1320	6750	6580	2510	8120	5520
17	9640	e10800	9920	6420	13500	5850	2080	7980	4360	7430	8260	762
18	9010	e10100	7570	6750	15500	2700	2480	5960	4500	7320	7260	3290
19	10700	e5700	12600	6400	19500	2670	3170	1890	6690	7300	6040	3620
20	10700	e10100	14300	6070	19100	5700	2070	1590	6710	7540	8200	5940
21	10700	e10100	14700	4950	18800	7080	1870	1350	6690	6320	9220	6170
22	10900	e10300	16000	6600	18900	3720	1420	6060	6740	1770	10000	6820
23	10500	e8900	16200	12200	18700	2960	1350	7610	1250	2520	7530	1500
24	8930	e10300	16100	7850	17600	2110	1330	8460	1360	5840	9720	1380
25	9390	e10500	11800	6710	17400	1150	1630	8420	1380	7140	8800	1520
26	9740	e7800	4000	6850	15000	1050	5960	6850	4110	9300	10300	1220
27	10000	e10300	3100	4700	11600	973	5190	1070	3390	8530	11100	1360
28	9370	e10300	2700	1520	10400	946	1660	1200	5560	8920	11600	1280
29	8900	e10300	2730	5210	---	922	1370	1440	5990	7880	11300	3680
30	9440	e10000	2780	11600	---	904	1230	7300	5740	4020	7590	1410
31	9550	---	3550	12100	---	1600	---	7250	---	9180	5540	---
TOTAL	273310	258880	329150	165960	379730	120315	63641	114040	170940	160970	270120	165072
MEAN	8816	8629	10620	5354	13560	3881	2121	3679	5698	5193	8714	5502
MAX	10900	10900	16200	12200	19500	10100	5960	8460	8500	9300	11600	9570
MIN	2480	5220	2700	1110	6150	904	871	1070	1250	1200	5540	762

CAL YR 1989 TOTAL 2057490 MEAN 5637 MAX 16200 MIN 543 MEAN‡ 5733 CFSM‡ 1.53 IN‡ 20.77
WTR YR 1990 TOTAL 2472128 MEAN 6773 MAX 19500 MIN 762 MEAN‡ 6062 CFSM‡ 1.62 IN‡ 21.96

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 1989 TO SEPTEMBER 1990

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 11...	1215	5870	290	8.1	19.0	744	3.7	8.2	91	54
DEC 13...	1135	9720	280	8.0	9.0	739	4.1	10.8	96	K110
FEB 22...	1145	18700	280	8.1	10.0	732	6.5	10.6	98	74
APR 04...	1140	3690	300	8.2	10.0	734	4.2	11.2	103	K55
JUN 11...	1010	4810	300	8.2	16.0	743	4.0	9.6	100	110
AUG 15...	1205	7080	300	8.2	22.0	744	2.5	5.2	61	96

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	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
OCT 11...	K460	120	21	33	8.2	11	17	0.4	2.3	95
DEC 13...	550	120	17	33	8.3	11	17	0.4	1.9	100
FEB 22...	150	130	18	38	8.1	8.2	12	0.3	1.7	110
APR 04...	73	140	23	39	9.9	6.9	10	0.3	1.7	115
JUN 11...	67	130	22	38	8.7	8.2	12	0.3	1.7	109
AUG 15...	170	120	11	34	7.9	9.2	14	0.4	1.8	106

DATE	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 11...	22	11	0.20	4.0	150	152	0.20	2380	<0.010	0.550
DEC 13...	22	11	0.10	3.5	153	154	0.21	4020	<0.010	0.480
FEB 22...	20	9.4	0.10	5.0	164	158	0.22	8280	0.010	0.900
APR 04...	16	9.3	<0.10	2.7	157	159	0.21	1560	<0.010	0.900
JUN 11...	16	10	0.30	2.6	160	156	0.22	2080	<0.010	0.700
AUG 15...	19	14	<0.10	3.1	151	154	0.21	2890	0.030	0.200

K--results based on non-ideal colony count.

03495500 HOLSTON RIVER NEAR KNOXVILLE, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (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)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 11...	0.01	0.010	0.010	0.40	0.020	<0.010	0.020	8	124	87
DEC 13...	0.03	0.030	0.020	0.20	0.040	<0.010	<0.010	10	260	56
FEB 22...	0.01	0.020	0.010	0.70	0.040	0.020	0.010	14	724	94
APR 04...	--	0.010	<0.010	0.40	0.030	<0.010	<0.010	15	151	79
JUN 11...	--	<0.010	<0.010	0.40	0.020	0.010	<0.010	7	88	76
AUG 15...	0.17	0.100	0.130	0.30	0.030	0.030	<0.010	17	330	62

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	33	<0.5	<1.0	20	<3	2	7	1
FEB 22...	20	<1	35	<0.5	<1.0	<5	<3	<10	5	<10
APR 04...	10	<1	32	<0.5	1.0	<5	<3	<10	7	<10
JUN 11...	<10	<1	33	<0.5	<1.0	<1	<3	7	3	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 11...	<4	1	<0.1	<10	1	<1	<1.0	130	<6	7
FEB 22...	<4	3	<0.1	<10	<10	<1	1.0	120	<6	8
APR 04...	<4	3	<0.1	<10	<10	<1	<1.0	100	<6	30
JUN 11...	6	4	<0.1	<10	1	<1	<1.0	120	<6	6

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 U.S. Highway 321, 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.--27 years, 280 ft^3/s, 35.87 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)
Nov. 16	0300	3,600	6.06	Mar. 17	Unknown	*9,780	*9.75
Feb. 16	1330	5,790	7.60				

Minimum discharge, 37 ft^3/s, Sept. 7, 8, gage height, 1.26 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2020	123	260	1220	633	333	223	222	238	74	86	46
2	1360	117	244	710	520	440	212	307	215	72	80	44
3	896	115	225	519	476	1160	199	248	236	65	81	44
4	657	110	208	576	925	916	189	330	205	66	76	42
5	498	108	205	556	802	691	181	453	180	59	95	39
6	404	163	195	730	644	548	190	408	164	59	113	38
7	350	149	186	709	578	455	220	363	152	61	93	37
8	301	187	274	823	477	409	178	310	145	55	76	58
9	265	255	266	797	430	413	168	306	145	55	79	93
10	238	212	251	657	2020	444	179	1140	280	78	95	125
11	217	186	241	524	1350	407	301	651	197	60	74	160
12	199	172	497	441	892	368	261	476	154	112	65	81
13	183	161	502	369	681	340	233	385	139	260	64	76
14	173	167	397	328	543	317	220	325	128	1230	83	122
15	162	379	358	302	464	295	241	283	136	602	75	344
16	154	2120	301	281	3590	1410	212	251	137	312	196	173
17	208	889	278	262	1980	5120	215	395	186	217	71	121
18	205	589	260	288	1110	1860	245	301	129	232	55	98
19	240	443	249	258	965	1070	215	259	116	203	53	86
20	199	380	228	291	787	773	205	248	107	200	52	83
21	178	342	205	598	662	608	228	225	100	225	49	75
22	171	392	163	437	661	502	220	294	107	225	72	220
23	164	714	147	377	622	430	202	293	111	222	190	153
24	157	567	227	360	562	381	192	261	93	174	80	113
25	151	469	286	951	467	343	183	237	87	152	66	99
26	143	417	283	892	416	310	175	220	84	136	59	90
27	138	368	225	666	384	287	168	246	80	121	56	82
28	133	351	202	529	357	266	195	249	77	112	52	75
29	129	307	163	1120	---	258	251	355	73	103	49	72
30	126	278	194	1230	---	247	200	308	72	96	51	68
31	126	---	929	827	---	243	---	267	---	90	49	---
TOTAL	10545	11230	8649	18628	23998	21644	6301	10616	4273	5728	2435	2957
MEAN	340	374	279	601	857	698	210	342	142	185	78.5	98.6
MAX	2020	2120	929	1230	3590	5120	301	1140	280	1230	196	344
MIN	126	108	147	258	357	243	168	220	72	55	49	37
CFSM	3.21	3.53	2.63	5.67	8.09	6.59	1.98	3.23	1.34	1.74	.74	.93
IN.	3.70	3.94	3.04	6.54	8.42	7.60	2.21	3.73	1.50	2.01	.85	1.04

CAL YR 1989 TOTAL 160576 MEAN 440 MAX 2770 MIN 90 CFSM 4.15 IN. 56.35
WTR YR 1990 TOTAL 127004 MEAN 348 MAX 5120 MIN 37 CFSM 3.28 IN. 44.57

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 1989 TO SEPTEMBER 1990

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)
OCT											
13...	1115	184	20	7.2	12.5	738	0.30	10.4	101	K440	K160
DEC											
11...	1220	240	20	6.7	4.5	730	0.20	12.5	101	K5	52
FEB											
21...	1310	658	15	6.7	8.0	738	0.50	11.4	99	<1	K18
APR											
02...	1650	214	16	7.5	13.0	725	1.2	9.8	98	K6	190
JUN											
13...	0935	141	19	7.1	17.0	736	1.0	9.8	105	K11	180
AUG											
17...	1000	160	20	7.2	20.5	738	0.60	8.5	98	K12	180

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	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)
OCT										
13...	5	0	1.4	0.43	1.0	27	0.2	0.50	5	2.0
DEC										
11...	5	1	1.5	0.42	0.90	24	0.2	0.50	4	2.0
FEB										
21...	4	0	1.1	0.32	0.80	25	0.2	0.80	4	2.0
APR										
02...	5	0	1.4	0.38	1.0	27	0.2	0.60	6	1.9
JUN										
13...	6	0	1.7	0.44	1.2	28	0.2	0.50	7	1.7
AUG										
17...	7	0	1.9	0.46	1.1	24	0.2	0.60	8	1.7

DATE	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)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)
OCT										
13...	0.30	0.10	6.9	20	16	0.03	9.94	<0.010	<0.100	0.01
DEC										
11...	0.50	<0.10	6.1	11	16	0.02	7.13	<0.010	0.160	--
FEB										
21...	0.50	0.10	6.0	19	15	0.03	33.8	<0.010	0.200	--
APR										
02...	0.60	0.20	6.6	16	17	0.02	9.24	<0.010	0.200	--
JUN										
13...	0.60	0.10	6.6	17	18	0.02	6.47	<0.010	0.200	--
AUG										
13...	0.60	<0.10	6.9	22	19	0.03	9.50	<0.010	0.100	0.04

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

03497300 LITTLE RIVER ABOVE TOWNSEND, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (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)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 13...	0.030	0.010	0.20	0.020	<0.010	<0.010	0	0.10	51
DEC 11...	<0.010	<0.010	<0.20	<0.010	<0.010	<0.010	1	0.43	80
FEB 21...	<0.010	<0.010	0.20	<0.010	0.020	<0.010	1	1.3	77
APR 02...	<0.010	<0.010	0.20	0.040	<0.010	<0.010	1	0.43	82
JUN 13...	<0.010	<0.010	0.30	0.060	0.060	0.010	1	0.30	78
AUG 17...	<0.010	0.030	<0.20	<0.010	<0.010	<0.010	1	0.63	59

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 13...	<10	<1	11	<0.5	<1.0	<1	<3	3	10	2
FEB 21...	10	<1	10	<0.5	<1.0	<5	<3	<10	4	<10
APR 02...	20	<1	10	<0.5	<1.0	<5	<3	<10	8	<10
JUN 13...	30	<1	22	<0.5	<1.0	<1	<3	4	13	14

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 13...	<4	1	<0.1	<10	1	<1	<1.0	9	<6	12
FEB 21...	<4	<1	<0.1	<10	<10	<1	<1.0	8	<6	10
APR 02...	<4	1	<0.1	<10	<10	<1	<1.0	8	<6	11
JUN 13...	<4	2	<0.1	<10	2	<1	<1.0	11	<6	28

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 21...	<0.4	<0.4	0.6	<0.4	0.6	<0.4	0.09	<0.01

03498500 LITTLE RIVER NEAR MARYVILLE, TN

LOCATION.--Lat 35°47'10", long 83°53'04", Blount County, Hydrologic Unit 06010201, on left bank 200 ft above 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 and crest-stage gage. 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.--39 years, 520 ft^3/s, 26.25 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 Apr. 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)
Feb. 10	1400	7,470	13.61	Mar. 17	1330	*17,600	a*19.61
Feb. 16	1800	12,000	16.52				

a From flood marks 20.01 ft.

Minimum discharge, 51 ft^3/s, Sept. 7, 8; minimum daily, 54 ft^3/s, Sept. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4280	264	472	2460	1150	722	485	392	370	132	142	70
2	2770	249	441	1290	996	923	462	631	346	136	136	66
3	1720	245	420	961	962	2940	444	460	454	122	135	63
4	1220	239	394	981	2010	1940	424	745	401	113	129	60
5	956	231	390	1030	1630	1310	413	852	325	108	162	58
6	800	417	381	1530	1230	1060	419	731	300	102	235	56
7	690	397	372	1410	1090	916	540	625	278	105	201	54
8	601	595	495	2060	945	838	428	521	268	99	141	57
9	532	833	544	1800	870	828	401	488	260	90	131	89
10	480	560	500	1300	4610	888	397	1450	491	121	155	140
11	438	431	489	1050	2800	871	563	975	467	119	136	208
12	406	380	1170	900	1630	789	530	729	309	113	119	125
13	385	344	1290	781	1240	737	475	602	271	338	111	120
14	367	345	920	706	1040	700	446	513	251	1500	125	142
15	355	550	745	658	927	660	470	444	245	1120	122	483
16	337	3700	661	615	6640	2530	427	405	254	512	114	293
17	362	1630	556	580	4150	10800	413	976	301	352	99	185
18	422	982	526	667	1990	3730	519	613	244	314	92	143
19	544	757	493	625	1730	1900	445	460	223	306	87	124
20	423	643	471	758	1410	1370	423	418	207	284	84	118
21	375	577	422	1750	1210	1100	429	388	199	348	79	110
22	353	621	376	1140	1210	955	441	519	220	409	83	237
23	335	1430	346	912	1210	853	406	449	231	403	235	282
24	323	1010	324	842	1100	771	384	408	193	301	141	170
25	313	815	360	2080	954	707	363	374	178	255	105	144
26	301	701	391	1930	868	650	347	356	167	226	93	129
27	293	620	375	1310	812	602	333	400	156	203	86	120
28	282	631	370	1060	763	567	338	394	144	187	79	110
29	277	582	350	1820	---	551	454	523	137	174	75	102
30	269	509	368	2460	---	531	367	458	131	163	73	99
31	265	---	1360	1490	---	515	---	403	---	151	75	---
TOTAL	21474	21288	16772	38956	47177	44254	12986	17702	8021	8906	3780	4157
MEAN	693	710	541	1257	1685	1428	433	571	267	287	122	139
MAX	4280	3700	1360	2460	6640	10800	563	1450	491	1500	235	483
MIN	265	231	324	580	763	515	333	356	131	90	73	54
CFSM	2.58	2.64	2.01	4.67	6.26	5.31	1.61	2.12	.99	1.07	.45	.52
IN.	2.97	2.94	2.32	5.39	6.52	6.12	1.80	2.45	1.11	1.23	.52	.57

CAL YR 1989 TOTAL 304530 MEAN 834 MAX 5800 MIN 163 CFSM 3.10 IN. 42.11
WTR YR 1990 TOTAL 245473 MEAN 673 MAX 10800 MIN 54 CFSM 2.50 IN. 33.95

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, discharge for stage of 14.7 and below only.

GAGE.--Water-stage recorder. Datum of gage is 814.22 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--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 5.4 ft^3/s (10.0 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, not determined, Mar. 17, 1990, gage height, 18.00 ft; minimum, 23 ft^3/s July 10, 1988; minimum daily 28 ft^3/s, July 10, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, not determined, Mar. 17, gage height, 18.00 ft, minimum, 59 ft^3/s, Sept. 7, 8; minimum daily, 68 ft^3/s, Sept. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4950	263	559	2880	1290	740	527	414	413	142	167	86
2	3380	251	524	1480	1080	894	494	699	382	148	161	83
3	2030	242	490	1060	1030	3200	472	518	464	138	157	80
4	1390	234	446	1030	2280	2280	451	830	472	128	154	77
5	1070	230	438	1150	1910	1470	435	926	351	122	180	73
6	892	378	423	1660	1380	1150	432	817	323	117	231	72
7	766	453	400	1610	1190	975	585	695	296	117	226	68
8	673	549	504	2290	1010	881	452	582	287	114	166	70
9	601	854	615	2140	908	868	418	533	272	107	153	93
10	545	621	551	1490	4700	928	403	1530	444	121	165	136
11	499	475	513	1150	3540	930	581	1130	542	138	160	193
12	462	410	1110	972	1940	821	576	824	320	126	141	148
13	427	368	1440	818	1410	757	513	678	283	400	131	120
14	399	361	993	725	1150	709	489	580	262	1640	136	138
15	377	537	841	671	993	665	538	504	251	1540	143	432
16	359	3850	749	621	e6700	2420	493	453	256	620	131	326
17	372	1940	631	581	5220	e10800	482	1130	298	402	117	191
18	458	1160	600	669	2380	4700	611	766	250	335	110	152
19	578	879	563	638	2010	2290	543	540	228	327	105	132
20	474	750	542	732	1610	1610	465	481	214	299	100	122
21	402	677	483	1980	1340	1260	449	450	207	351	96	138
22	367	670	420	1280	1330	1080	474	569	216	450	98	188
23	348	1610	357	972	1370	943	419	526	236	449	211	293
24	332	1180	407	860	1200	847	394	464	202	325	173	174
25	319	947	384	2190	1020	776	372	421	182	271	124	143
26	306	821	424	2270	910	707	353	399	171	246	111	131
27	291	741	403	1440	843	656	338	446	164	221	100	121
28	280	730	393	1130	792	613	339	530	155	206	94	101
29	271	696	361	1810	---	596	475	712	149	192	91	100
30	266	603	372	3080	---	581	386	539	144	182	89	102
31	265	---	1300	1740	---	565	---	463	---	172	90	---
TOTAL	24149	23480	18236	43119	52536	47712	13959	20149	8434	10146	4311	4283
MEAN	779	783	588	1391	1876	1539	465	650	281	327	139	143
MAX	4950	3850	1440	3080	6700	10800	611	1530	542	1640	231	432
MIN	265	230	357	581	792	565	338	399	144	107	89	68

CAL YR 1989 TOTAL 331591 MEAN 908 MAX 6600 MIN 162
WTR YR 1990 TOTAL 270514 MEAN 741 MAX 10800 MIN 68

e Estimated

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.--72 years, 2,074 ft^3/s, 19.11 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)
Jan. 1	2230	16,300	10.44	Feb. 11	1430	*21,900	*12.46

Minimum discharge, 249 ft^3/s, Sept. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5450	1110	1860	12700	6770	2080	2510	2450	3730	620	377	342
2	9470	1080	1720	14600	4730	2080	2290	3810	2910	606	365	326
3	8320	1030	1600	8930	4590	2690	2130	6350	2400	570	361	303
4	5190	960	1490	5350	9590	2930	2010	5880	2100	563	350	282
5	3630	907	1400	4270	12300	2980	1890	8900	1880	589	349	266
6	2810	902	1320	3700	8700	2730	1860	12500	1630	557	408	256
7	2310	901	1260	3300	5980	2440	2600	8680	1440	514	380	249
8	1950	1210	1330	3770	4590	2190	3920	5510	1300	553	339	365
9	1690	3500	1750	6010	3750	2020	4060	4120	1200	516	339	310
10	1490	4920	1830	7420	8720	1980	3290	4050	1180	473	571	431
11	1330	3790	1720	5680	20700	2120	3050	4890	1740	444	608	385
12	1210	2800	1610	4330	15600	1900	3060	4070	1600	456	532	322
13	1120	2180	1590	3520	7970	1750	2910	3280	1210	532	679	362
14	1050	1830	1530	2920	5480	1630	2630	2790	1020	1180	582	375
15	966	1660	1450	2510	4280	1530	2450	2400	939	2010	621	497
16	906	4290	1400	2240	6350	1660	2340	2080	973	1340	522	530
17	938	6590	1220	2030	12400	5160	2220	2270	1200	1550	490	412
18	1420	5660	1160	1930	9940	9440	2130	2680	1250	1200	433	347
19	3380	4060	1230	1870	6630	9470	2190	2360	1050	1110	376	324
20	7620	3130	1290	1750	5240	5810	2150	1940	930	862	343	317
21	6260	2620	1220	2280	4320	4240	2050	1730	986	684	324	301
22	4200	2300	900	2300	3740	3440	2710	1710	1220	788	1300	318
23	3120	2900	716	2050	3520	2950	2960	2810	1320	905	855	365
24	2490	3200	949	1860	3210	2640	2780	6390	1650	827	882	417
25	2090	2960	1000	2130	2910	3160	2430	4130	1530	706	800	561
26	1820	2590	1030	3600	2580	5180	2160	2910	1160	581	699	485
27	1610	2330	1080	4080	2310	6070	1950	2460	938	511	567	406
28	1450	2260	1030	3920	2150	4590	1800	3000	810	469	479	350
29	1330	2220	1120	4170	---	3700	1850	5200	724	429	436	313
30	1230	2010	1170	8940	---	3180	2290	6080	666	401	423	289
31	1160	---	3570	9830	---	2790	---	5030	---	396	368	---
TOTAL	89010	77900	43545	143990	189050	106530	74670	132460	42686	22942	16158	10806
MEAN	2871	2597	1405	4645	6752	3436	2489	4273	1423	740	521	360
MAX	9470	6590	3570	14600	20700	9470	4060	12500	3730	2010	1300	561
MIN	906	901	716	1750	2150	1530	1800	1710	666	396	324	249
CFSM	1.95	1.76	.95	3.15	4.58	2.33	1.69	2.90	.97	.50	.35	.24
IN.	2.25	1.97	1.10	3.63	4.77	2.69	1.88	3.34	1.08	.58	.41	.27

CAL YR 1989 TOTAL 994587 MEAN 2725 MAX 23600 MIN 502 CFSM 1.85 IN. 25.10
WTR YR 1990 TOTAL 949747 MEAN 2602 MAX 20700 MIN 249 CFSM 1.77 IN. 23.97

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 1989 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 861.40 ft above National Vertical Datum of 1929.

REMARKS.--Records fair, except for periods of estimated discharge, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 97 ft^3/s, Aug. 9, 1990, gage height, 3.91 ft, (from flood marks), from rating curve extended above 20 ft^3/s; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 97 ft^3/s, Aug. 9, gage height, 3.91 ft from flood marks, from rating curve extended as explained above; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.01	.00	.00	.14	.00	.00	.00	.00	.00	e.01	.00	.00
2	e.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
3	e.00	.00	.00	.00	2.0	.00	.00	.01	.00	e.00	.00	.00
4	e.00	.00	.00	.00	4.9	.00	.00	.01	.00	.00	.00	.00
5	e.00	.00	.00	.00	1.4	.00	.00	.00	.00	.00	.00	.00
6	e.00	.00	.00	.00	.39	.00	.00	.00	.00	.00	e.00	e.00
7	e.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	e.00	e.00
8	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	e.00
9	e.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	e.04	e.00
10	e.00	.00	.00	.00	3.0	.00	.00	.00	.00	.00	e.00	e.00
11	e.00	.00	.00	.00	1.3	.00	.00	.00	.00	.00	e.00	e.00
12	.00	.00	.00	.00	.29	.00	.00	.00	.00	.00	e.00	e.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	e.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	e.00
15	.00	.51	.00	.00	.00	.00	.00	.00	.00	.00	e.00	e.00
16	.00	1.8	.00	.00	4.1	.71	.00	.00	.00	.00	e.00	e.00
17	.00	.21	.00	.00	1.9	5.8	.00	.02	.00	.00	e.00	e.00
18	.00	.00	.00	.00	.73	1.6	.00	.00	.00	.00	e.00	e.00
19	.00	.00	.00	.00	.38	.59	.00	.00	.00	.00	e.00	.00
20	.00	.00	.00	.05	.05	.04	.00	.00	.00	.00	e.00	.00
21	.00	.00	.00	.49	.00	.00	.00	e.00	.00	.00	.01	.00
22	.00	.00	.00	.03	.04	.00	.00	e.00	.00	.00	.01	.00
23	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.01	e.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
29	.00	.00	.00	.47	---	.00	.00	.00	e.00	.00	.01	.00
30	.00	.00	.00	.55	---	.00	.00	.00	e.00	.00	.00	.00
31	.00	---	.34	.02	---	.00	---	.00	---	.00	.00	---
TOTAL	0.01	2.52	0.34	1.75	20.51	8.74	0.00	0.05	0.00	0.01	0.07	0.00
MEAN	.000	.084	.011	.056	.73	.28	.000	.002	.000	.000	.002	.000
MAX	.01	1.8	.34	.55	4.9	5.8	.00	.02	.00	.01	.04	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.00	.20	.03	.14	1.79	.69	.00	.00	.00	.00	.01	.00
IN.	.00	.23	.03	.16	1.86	.79	.00	.00	.00	.00	.01	.00

WTR YR 1990 TOTAL 34.00 MEAN .093 MAX 5.8 MIN .00 CFSM .23 IN. 3.08

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 1989 to current year.

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 PERIOD OF RECORD.--Maximum discharge, 103 ft^3/s, Aug. 9, 1990, gage height, 4.35 ft, from rating curve extended above 10 ft^3/s; minimum, 0.03 ft^3/s, gage height, 2.31 ft, part of each day Sept. 15, 18-23, 26-28, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 103 ft^3/s, Aug. 9, gage height, 4.35 ft, from rating curve extended above 10 ft^3/s; minimum, 0.03 ft^3/s, gage height, 2.31 ft, Sept. 15, 18-23, 26-28.

REVISIONS.--The maximum discharge for the period of May to September 1989 has been revised to 47 ft^3/s, gage height 3.81 ft, from rating curve extended as explained above, superseding figures published in the 1989 report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	.10	.40	1.5	.78	.34	.26	.19	.24	.34	.06	.07
2	1.9	.10	.35	.91	.62	.43	.24	.21	.21	.18	.05	.06
3	.97	.10	.31	.68	3.3	.60	.23	.21	.19	.11	.05	.06
4	.61	.10	.27	.61	6.9	.55	.22	.80	.18	.10	.06	.06
5	.43	.10	.26	.64	2.6	.49	.21	1.0	.16	.09	.10	.05
6	.33	.13	.23	.64	1.5	.43	.23	.76	.15	.08	.14	.05
7	.26	.15	.21	.61	1.0	.38	.23	.51	.15	.08	.09	.05
8	.23	.30	.22	.79	.75	.35	.22	.37	.14	.07	.08	.05
9	.21	.43	.22	.92	.65	.33	.22	.33	.14	.07	1.3	.05
10	.19	.39	.22	.75	4.7	.35	.22	.38	.14	.07	.36	.04
11	.18	.31	.22	.60	2.5	.38	.22	.33	.13	.07	.22	.04
12	.17	.26	.22	.49	1.4	.38	.20	.29	.12	.11	.18	.04
13	.16	.23	.21	.38	.95	.38	.19	.26	.11	.13	.14	.04
14	.15	.21	.20	.32	.73	.36	.20	.23	.11	.20	.13	.04
15	.15	.97	.21	.29	.60	.34	.19	.21	.11	.15	.12	.05
16	.15	3.5	.19	.26	5.8	1.6	.19	.19	.11	.11	.10	.04
17	.17	1.5	.18	.24	3.1	7.7	.18	.33	.11	.10	.10	.04
18	.16	.89	.18	.48	1.7	2.6	.18	.26	.10	.09	.09	.03
19	.17	.60	.17	.59	1.4	1.5	.17	.23	.10	.08	.08	.04
20	.17	.45	.17	.87	1.1	.98	.17	.22	.10	.07	.07	.04
21	.16	.37	.17	1.8	.86	.73	.17	.21	.09	.08	.07	.03
22	.15	.37	.15	1.2	.85	.58	.17	.20	.09	.10	.17	.05
23	.13	.58	.15	.82	.78	.47	.17	.18	.09	.08	.12	.04
24	.13	.52	.15	.65	.67	.42	.16	.16	.08	.07	.10	.04
25	.12	.45	.16	.67	.53	.37	.16	.15	.08	.07	.09	.04
26	.11	.40	.16	.65	.45	.34	.15	.16	.08	.06	.08	.04
27	.11	.35	.15	.56	.42	e.31	.15	.23	.08	.06	.07	.03
28	.11	.50	.15	.48	.38	.30	.20	.45	.07	.06	.07	.04
29	.11	.53	.14	1.4	---	.29	.20	.53	.07	.06	.09	.04
30	.11	.46	.21	1.8	---	.28	.18	.40	.07	.06	.09	.05
31	.11	---	1.3	1.1	---	.27	---	.30	---	.07	.07	---
TOTAL	12.51	15.35	7.53	23.70	47.02	24.83	5.88	10.28	3.60	3.07	4.54	1.34
MEAN	.40	.51	.24	.76	1.68	.80	.20	.33	.12	.099	.15	.045
MAX	4.4	3.5	1.3	1.8	6.9	7.7	.26	1.0	.24	.34	1.3	.07
MIN	.11	.10	.14	.24	.38	.27	.15	.15	.07	.06	.05	.03

WTR YR 1990 TOTAL 159.65 MEAN .44 MAX 7.7 MIN .03

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.

WATER-DISCHARGE RECORDS

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.--41 years, (1936-64, 1967-68, 1978-90), 4586 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, 25,900 ft^3/s, Feb. 17; minimum daily, 400 ft^3/s, Apr. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7250	8020	6820	7330	8920	8480	517	1350	5430	4470	3980	3090
2	5700	7550	5880	4400	7860	5500	517	2150	4970	4540	3900	3070
3	9540	8300	5830	2920	10600	6250	400	3520	4620	4190	3550	3420
4	8400	8670	9920	7980	16700	5630	2180	3480	4620	3070	4330	5190
5	8650	7720	8750	7530	8700	5030	3450	5200	4570	4850	4100	4570
6	9050	8030	6320	8150	9850	5480	3420	3450	4950	4850	5460	3970
7	6730	8230	9800	8460	9530	5580	2170	4250	4980	3190	4850	3920
8	8170	8300	9680	9040	9550	4220	1290	4320	4780	3220	2650	4550
9	10200	5730	8530	8730	8620	5040	2270	4320	4480	4300	4210	3190
10	10900	9290	8470	8090	11400	3950	2530	5270	4300	3520	4090	5280
11	12200	8970	11500	9480	15900	2830	2480	4830	4420	3870	4050	4580
12	8470	8770	11500	9220	13400	1770	2970	3920	4640	4470	4100	4300
13	6950	11600	10700	8380	16800	3620	2000	3420	5050	6300	4530	3530
14	4850	11500	9600	8120	18900	7720	867	2590	4490	6340	4510	4330
15	5020	11100	8450	10500	15500	3270	833	2650	4800	4890	4990	3680
16	8230	13300	6130	10600	19800	2430	2020	2070	4550	4780	5020	4130
17	9880	8900	5880	11900	25900	11500	2600	2100	4670	5280	4650	4300
18	9100	6220	9080	7170	19400	3600	2620	5000	4630	4640	3500	4770
19	7650	6020	10100	6060	19800	5000	2100	4880	4500	4300	4230	4320
20	7330	8850	7670	2130	20000	4460	2400	4000	4450	3920	5150	4480
21	7020	9700	4450	583	20000	4560	1250	3050	5040	4820	4550	4770
22	8280	8940	10300	6350	23200	4170	1650	3790	4450	4760	4190	3240
23	11600	9420	9130	7530	20600	3820	2000	4370	4770	4730	4120	3240
24	11500	9270	8530	6280	16500	3880	1670	4170	4400	4600	4300	4130
25	9040	9030	4270	9680	16000	2420	933	4180	4420	4300	4690	4150
26	8030	8830	4340	6500	13300	3320	1780	4120	4370	3900	4780	2750
27	6680	8720	4570	4420	10200	7270	1250	6710	4840	3920	5570	2600
28	5030	11700	4670	2880	10900	6370	1080	5000	4370	6710	4930	2330
29	3920	11200	4410	5600	---	5890	433	6320	3940	4050	3950	1850
30	8420	9400	2430	10900	---	3430	1320	5000	3220	4470	3080	1920
31	8230	---	4470	7540	---	2820	---	5400	---	3980	3570	---
TOTAL	252020	271280	232180	224453	417830	149310	53000	124880	137720	139230	133580	113650
MEAN	8130	9043	7490	7240	14920	4816	1767	4028	4591	4491	4309	3788
MAX	12200	13300	11500	11900	25900	11500	3450	6710	5430	6710	5570	5280
MIN	3920	5730	2430	583	7860	1770	400	1350	3220	3070	2650	1850

CAL YR 1989 TOTAL 2383620.00 MEAN 6530 MAX 19100 MIN 0 MEAN ‡6562 CFSM ‡1.96 IN ‡26.65
WTR YR 1990 TOTAL 2249133 MEAN 6162 MAX 25900 MIN 400 MEAN ‡5736 CFSM ‡1.72 IN ‡23.29

‡ 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 September 1986.
WATER TEMPERATURES: March 1981 to September 1986.

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 1989 TO SEPTEMBER 1990

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 12...	1125	9600	280	7.9	17.5	748	2.3	7.0	75	K10
DEC 12...	1045	18000	260	8.1	10.5	739	2.5	11.8	109	78
FEB 20...	1210	20000	280	8.2	8.5	752	7.3	11.6	101	270
APR 03...	1100	100	260	8.2	12.5	740	2.0	12.4	120	K3
JUN 12...	1330	9200	250	8.2	18.0	762	2.5	8.2	87	K15
AUG 14...	1350	8400	275	8.1	20.0	736	2.5	8.5	97	K7

DATE	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	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
OCT 12...	K18	130	23	38	9.6	4.5	7	0.2	1.6	112
DEC 12...	K17	130	14	36	10	5.3	8	0.2	1.6	117
FEB 20...	K80	130	21	36	9.8	4.9	7	0.2	1.5	109
APR 03...	K1	130	19	36	9.7	4.2	6	0.2	1.5	111
JUN 12...	23	130	19	36	9.5	4.1	6	0.2	1.4	110
AUG 14...	K15	130	16	36	9.8	5.0	8	0.2	1.5	114

DATE	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)	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)
OCT 12...	22	3.3	0.20	6.1	156	155	0.21	4040	0.010	0.450
DEC 12...	24	3.5	0.10	3.4	162	154	0.22	7870	<0.010	0.320
FEB 20...	22	3.4	0.10	3.7	157	149	0.21	8480	0.010	0.400
APR 03...	18	3.0	<0.10	4.4	150	145	0.20	40.5	<0.010	0.500
JUN 12...	17	4.7	<0.10	4.6	140	145	0.19	3480	<0.010	0.700
AUG 14...	18	5.3	<0.10	5.5	148	152	0.20	3360	<0.010	0.500

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

03535912 CLINCH RIVER AT MELTON HILL DAM (TAILWATER), TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (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)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT										
12...	0.03	<0.010	0.020	<0.20	0.010	<0.010	<0.010	7	172	99
DEC										
12...	0.01	0.010	0.010	0.40	0.030	<0.010	<0.010	6	283	54
FEB										
20...	0.04	0.020	0.030	0.60	0.020	<0.010	<0.010	10	564	96
APR										
03...	--	<0.010	<0.010	0.40	0.010	<0.010	<0.010	3	0.85	94
JUN										
12...	--	<0.010	<0.010	<0.40	<0.020	0.010	<0.010	4	91	92
AUG										
14...	0.05	0.010	0.040	0.20	0.010	<0.010	<0.010	7	167	68

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										
12...	<10	<1	36	<0.5	<1.0	<1	<3	2	<3	<1
FEB										
20...	<10	<1	35	<0.5	<1.0	<5	<3	<10	5	<10
APR										
03...	20	<1	33	<0.5	1.0	<5	<3	<10	8	<10
JUN										
12...	20	<1	34	<0.5	<1.0	<1	<3	4	4	<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										
12...	6	2	<0.1	<10	<1	<1	<1.0	98	<6	3
FEB										
20...	5	4	<0.1	<10	<10	<1	<1.0	94	<6	11
APR										
03...	<4	<1	<0.1	<10	<10	<1	<1.0	79	<6	8
JUN										
12...	7	1	0.2	<10	<1	<1	<1.0	90	<6	7

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.--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, 327 ft^3/s, Aug. 9, 1990, gage height, 4.12 ft, from rating curve extended above 80 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, 327 ft^3/s, Aug. 9, gage height, 4.12 ft, from rating curve extended as explained above; minimum, 0.03 ft^3/s June 30, July 7, 8, 10, gage height, 0.38 ft.

REVISIONS.--The maximum discharge for water years 1988 and 1989 have been revised to 152 ft^3/s, Sept. 4, 1988, gage height 2.49 ft, and 248 ft^3/s Sept. 15, 1989, gage height 3.32 ft, from rating curve extended above 80 ft^3/s, superceding figures published in reports for 1988 and 1989.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	.11	1.7	5.6	2.8	1.2	.57	9.4	.66	3.4	.05	.07
2	8.3	.11	1.5	3.2	2.3	2.9	.41	2.9	.45	.67	.05	.05
3	4.2	.10	1.3	2.3	23	2.2	.39	3.5	.42	.12	.06	.05
4	2.6	.10	1.1	3.5	25	1.9	.35	12	.23	.08	.32	.05
5	1.9	.11	.98	2.6	8.0	1.8	.30	7.2	.11	.06	2.7	.05
6	1.6	1.7	.84	2.9	4.7	1.6	1.1	3.8	.09	.06	1.6	.05
7	1.3	2.4	.71	2.7	3.5	1.4	.69	2.5	.08	.04	.34	.05
8	.94	3.8	1.5	6.1	2.5	1.4	.54	1.8	.08	.04	.47	.04
9	.69	2.6	.86	4.2	4.1	1.3	.50	2.3	3.3	.05	18	.05
10	.54	1.9	.76	3.0	24	2.5	.86	2.5	1.9	.04	7.6	.06
11	.41	1.4	.76	2.3	7.9	1.7	.66	1.6	1.1	1.2	2.3	.04
12	.25	1.1	.86	1.9	4.5	1.6	.55	1.3	.79	4.6	1.4	.10
13	.22	.82	.72	1.5	3.2	1.5	.49	1.1	.50	3.2	.94	.07
14	.20	.96	.63	1.2	2.4	1.4	.59	.84	.29	6.9	2.0	.98
15	.18	11	.59	1.0	2.5	1.3	.53	.64	.14	1.8	1.2	.43
16	.78	16	.51	.84	25	15	.44	.51	.06	.99	.90	.07
17	1.2	5.2	.44	.73	8.9	28	.57	2.6	.06	.52	.95	.06
18	.98	3.1	.42	4.4	5.3	8.6	.41	.83	.23	.19	.52	.04
19	.81	2.2	.64	2.1	5.5	5.0	.33	.61	.07	.11	.28	.12
20	.64	1.8	.45	9.1	3.7	3.3	.28	.66	.06	.09	.14	.05
21	.50	1.4	.38	8.2	2.9	2.5	1.0	.47	.07	.72	.77	.16
22	.36	3.4	.30	4.5	3.9	2.0	.64	.39	.28	.42	4.9	.14
23	.27	2.3	.21	3.1	2.8	1.7	.55	.27	.06	.17	2.2	.05
24	.19	2.0	.18	3.0	2.3	1.4	.50	.18	.05	.11	1.5	.05
25	.14	1.8	.17	3.3	2.0	1.3	.44	.12	.05	.08	1.1	.04
26	.12	1.6	.21	2.5	1.7	1.1	.37	.72	.05	.07	.77	.04
27	.10	1.4	.17	2.1	1.5	.91	.31	1.9	.06	.06	.49	.04
28	.10	4.4	.16	1.9	1.3	.78	.91	3.8	.05	.06	.33	.04
29	.09	2.2	.17	13	---	.81	.46	1.7	.05	.05	.54	.04
30	.10	2.0	1.4	6.9	---	.81	.33	1.3	.04	.06	.27	.05
31	.20	---	14	4.0	---	.69	---	.94	---	.05	.14	---
TOTAL	57.91	79.01	34.62	113.67	187.2	99.60	16.07	70.38	11.38	26.01	54.83	3.13
MEAN	1.87	2.63	1.12	3.67	6.69	3.21	.54	2.27	.38	.84	1.77	.10
MAX	28	16	14	13	25	28	1.1	12	3.3	6.9	18	.98
MIN	.09	.10	.16	.73	1.3	.69	.28	.12	.04	.04	.05	.04
CFSM	1.43	2.01	.85	2.80	5.10	2.45	.41	1.73	.29	.64	1.35	.08
IN.	1.64	2.24	.98	3.23	5.32	2.83	.46	2.00	.32	.74	1.56	.09

CAL YR 1989 TOTAL 812.81 MEAN 2.23 MAX 38 MIN .05 CFSM 1.70 IN. 23.08
WTR YR 1990 TOTAL 753.81 MEAN 2.07 MAX 28 MIN .04 CFSM 1.58 IN. 21.41

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, 318 ft^3/s, Aug. 9, 1990, gage height, 5.61 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, 318 ft^3/s, Aug. 9, gage height, 5.61 ft from rating curve extended as explained above; minimum, 2.1 ft^3/s, Sept. 26, 27, 29, 30, gage height, 0.33 ft, minimum daily 2.1 ft^3/s, Sept. 30.

REVISIONS.--The maximum discharge for the water years 1988 and 1989 have been revised to 197 ft^3/s, Sept. 4, 1988, gage height, 4.59 ft, and 240 ft^3/s, Sept. 1, 1989, gage height, 4.99 ft, from rating curve extended above 75 ft^3/s, superseding figures published in reports for 1988 and 1989.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	3.1	6.2	15	9.2	5.3	4.2	23	4.3	14	2.6	2.9
2	20	3.1	5.5	9.8	8.0	11	4.0	12	3.9	5.3	2.5	2.9
3	12	2.9	4.9	7.9	52	8.6	3.9	13	4.1	3.3	2.5	2.8
4	9.0	2.9	4.5	12	58	7.3	3.8	28	3.5	3.0	3.8	2.6
5	7.3	2.9	4.3	9.1	20	6.8	3.8	18	3.4	2.9	11	2.5
6	6.3	8.3	4.0	9.9	13	6.1	6.5	12	3.3	2.8	6.5	2.5
7	5.2	9.5	3.9	9.0	11	5.8	4.8	8.7	3.3	2.7	3.9	2.5
8	4.6	13	6.4	17	8.7	5.8	4.3	6.9	3.2	2.5	4.8	2.5
9	4.0	9.7	4.2	12	12	5.5	4.1	8.9	9.4	2.6	26	2.5
10	3.7	7.2	3.8	9.7	46	8.7	5.1	9.3	6.5	2.6	16	2.5
11	3.5	5.9	3.8	8.1	18	6.7	4.3	6.6	4.7	5.7	7.4	2.5
12	3.3	5.3	4.1	6.7	13	6.4	3.9	5.8	4.2	14	5.6	2.8
13	3.3	4.4	3.8	5.7	10	6.0	3.9	5.5	3.9	12	4.7	2.6
14	3.2	5.2	3.6	5.1	8.4	5.7	4.4	4.8	3.7	20	7.3	4.2
15	3.1	24	3.6	4.9	8.6	5.5	4.1	4.6	3.5	7.2	5.5	5.2
16	5.3	36	3.4	4.5	49	33	3.9	4.4	3.3	5.3	4.5	2.6
17	6.9	14	3.3	4.4	20	51	4.2	10	3.2	4.4	5.4	2.5
18	5.6	10	3.2	14	14	19	3.6	4.8	3.5	3.8	3.9	2.4
19	5.1	7.6	4.1	7.7	15	14	3.4	4.2	3.2	3.6	3.4	2.8
20	4.2	6.6	3.4	22	11	10	3.4	4.7	2.9	3.5	3.2	2.9
21	3.7	5.7	3.2	19	9.6	8.6	7.9	3.8	2.9	7.6	4.2	3.3
22	3.5	11	3.0	13	12	7.4	5.2	3.7	4.1	5.0	15	3.2
23	3.4	8.6	2.8	9.5	9.5	6.8	4.7	3.4	3.0	3.8	7.9	2.7
24	3.3	7.1	2.8	9.8	8.1	6.2	4.5	3.3	2.9	3.4	5.8	2.5
25	3.1	6.4	2.9	11	6.9	5.8	4.3	3.1	2.8	3.1	4.8	2.3
26	3.1	5.9	3.0	8.6	6.3	5.2	3.9	4.7	2.9	2.9	4.1	2.2
27	3.0	5.8	2.9	7.5	6.0	4.8	3.8	8.3	2.7	2.9	3.6	2.2
28	2.9	13	2.9	6.9	5.6	4.7	6.0	13	2.8	2.8	3.4	2.2
29	2.9	7.6	2.9	28	---	4.8	4.0	7.0	3.0	2.7	5.0	2.2
30	3.0	6.9	6.4	17	---	4.9	3.6	5.3	3.1	2.7	3.4	2.1
31	3.7	---	30	12	---	4.3	---	4.7	---	2.7	3.0	---
TOTAL	200.2	259.6	146.8	336.8	468.9	291.7	131.5	255.5	111.2	160.8	190.7	81.6
MEAN	6.46	8.65	4.74	10.9	16.7	9.41	4.38	8.24	3.71	5.19	6.15	2.72
MAX	49	36	30	28	58	51	7.9	28	9.4	20	26	5.2
MIN	2.9	2.9	2.8	4.4	5.6	4.3	3.4	3.1	2.7	2.5	2.5	2.1

CAL YR 1989 TOTAL 2888.3 MEAN 7.91 MAX 65 MIN 2.6
WTR YR 1990 TOTAL 2635.3 MEAN 7.22 MAX 58 MIN 2.1

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.

REVISED RECORD.--WRD TN-89-1: 1987-88 (M).

GAGE.--Water-stage recorder and concrete V-notch weir. Datum of gage is 774.36 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair, except for periods of estimated daily discharges, which are poor. 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, 175 ft^3/s, May 1, 1990, gage height, 3.70 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, 175 ft^3/s, May 1, gage height, 3.70 ft, from rating curve extended as explained above; minimum discharge recorded, 0.41 ft^3/s, gage-height, 0.35 ft^3/s, several days, but may have been lower during periods of missing record.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	.50	.96	3.5	1.7	.90	.72	12	.68	1.4	.48	e.52
2	4.4	.50	.82	2.0	1.4	2.1	.69	4.3	.61	.72	.47	e.48
3	2.3	.52	.80	1.5	14	2.0	.68	3.0	.61	.52	.48	e.47
4	1.6	.47	.72	2.6	14	1.5	.68	8.6	.57	.48	.51	e.45
5	1.1	.47	.74	2.0	4.4	1.2	.61	4.7	.49	.47	1.7	e.44
6	.95	1.8	.64	2.2	2.6	1.1	.97	2.3	.48	.48	.94	e.44
7	.76	2.6	.64	1.8	2.0	1.1	.93	1.5	.50	.47	.63	e.43
8	.63	3.9	1.1	4.5	1.4	1.0	.76	1.2	.50	.44	.67	e.43
9	.58	2.4	.85	2.8	2.0	1.0	.69	1.5	1.1	.42	1.8	e.43
10	.61	1.5	.76	1.9	14	1.4	.77	2.3	.88	.46	1.2	e.43
11	.61	1.1	.67	1.5	4.4	1.2	.77	1.3	.61	.67	.70	e.42
12	.58	.88	.67	1.2	2.5	1.1	.70	1.0	.55	2.9	.59	e.42
13	.60	.76	.64	.94	1.8	1.1	.64	.88	.53	1.9	.54	e.42
14	.57	e.90	.62	.85	1.5	.98	.68	.77	.54	3.6	1.5	e.88
15	.55	e5.4	.62	.78	1.5	.95	.70	.70	.53	1.0	.98	e.56
16	.75	e8.8	.60	.72	16	10	.65	.63	.48	.70	.66	e.43
17	1.4	e2.8	.56	.66	5.1	16	.74	1.7	.47	.64	.73	e.42
18	1.0	e1.7	.60	3.1	3.0	4.9	.80	.74	.47	.57	.62	e.42
19	1.1	e1.2	.74	1.7	3.5	2.9	.72	.63	.47	.56	.57	.45
20	.80	e1.0	.71	6.4	2.3	2.0	.72	.65	.47	.59	.61	.44
21	.65	e.88	.68	5.4	1.9	1.6	.94	.53	.47	2.2	e.61	.49
22	.58	2.0	.66	2.7	2.4	1.3	1.0	.52	.56	1.7	e1.1	.49
23	.57	1.8	.65	1.9	1.9	1.2	.81	.48	.49	1.1	e.74	.44
24	.60	1.2	.64	1.8	1.5	1.0	.80	.48	.44	.75	e.66	.41
25	.61	1.0	.64	2.6	1.2	.95	.73	.48	.44	.66	e.60	.45
26	.61	.94	.63	1.8	1.1	.87	.66	.53	.44	.58	e.57	.47
27	.58	.88	.61	1.4	1.0	.87	.66	1.3	.48	.55	e.56	.44
28	.52	2.8	.53	1.1	.90	.78	1.1	2.6	.50	.50	e.54	.46
29	.50	1.5	.58	8.6	---	.79	.87	1.4	.52	.47	e.85	.44
30	.50	1.1	1.1	4.2	---	.80	.70	.94	.50	.47	e.68	.44
31	.59	---	9.8	2.3	---	.75	---	.76	---	.51	e.56	---
TOTAL	41.20	53.30	30.98	76.45	111.00	65.34	22.89	60.42	16.38	28.48	23.85	13.91
MEAN	1.33	1.78	1.00	2.47	3.96	2.11	.76	1.95	.55	.92	.77	.46
MAX	14	8.8	9.8	8.6	16	16	1.1	12	1.1	3.6	1.8	.88
MIN	.50	.47	.53	.66	.90	.75	.61	.48	.44	.42	.47	.41

CAL YR 1989 TOTAL 634.32 MEAN 1.74 MAX 22 MIN .47
WTR YR 1990 TOTAL 544.20 MEAN 1.49 MAX 16 MIN .41

e Estimated

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.

REVISED RECORDS.--WRD TN-89-1: 1987-88 (M).

GAGE.--Water-stage recorder and concrete weir. Datum of gage is 772.78 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair, except for periods of estimated daily discharges, which are poor. 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, 133 ft^3/s, May 1, 1990, gage height, 3.37 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, Sept. 26, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 133 ft^3/s, May 1, gage height, 3.37 ft, from rating curve extended as explained above; minimum, 0.13 ft^3/s, Sept. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	e.40	1.1	2.7	1.8	.93	.68	6.4	.57	1.4	.23	.27
2	3.5	.26	1.0	1.9	1.6	1.8	.66	2.9	.52	.48	.23	.25
3	2.1	.26	.92	1.6	7.8	1.4	.63	2.5	.53	.30	.23	.24
4	1.6	.25	.79	2.2	8.3	1.3	.61	4.4	.45	.27	.45	.23
5	1.3	.24	.71	1.8	3.7	1.2	.59	2.8	.41	.24	1.7	.23
6	1.1	1.2	.65	1.9	2.5	1.1	.94	1.8	.40	.26	.63	.22
7	.99	1.7	.60	1.7	2.1	1.0	.70	1.4	.38	.26	.37	.21
8	.80	2.5	.97	3.0	1.7	1.0	.66	1.3	.38	.28	.46	.21
9	.61	1.7	.65	2.3	2.3	.97	.63	1.6	1.0	.27	1.7	.21
10	.49	1.3	.61	1.9	7.6	1.2	.75	1.5	.67	.24	.90	.20
11	.44	1.1	.60	1.6	3.5	1.0	.67	1.1	.47	.71	.62	.19
12	.39	.97	.66	1.3	2.3	.99	.63	1.1	.43	2.2	e.53	.22
13	.37	.80	.60	1.1	1.8	.98	.60	1.0	.39	1.6	e.31	.21
14	e.36	.81	.56	1.0	1.5	.95	.65	.99	.40	2.8	e.90	.44
15	e.34	4.3	.56	.90	1.5	.94	.64	.97	.38	1.0	e.60	.44
16	e.70	4.9	.52	.81	8.0	5.0	.70	.98	.35	.67	e.38	.21
17	e1.2	2.5	.48	.72	3.8	9.1	.89	1.6	.34	.49	e.45	.19
18	e.80	1.8	.45	2.4	2.6	4.0	.80	.97	.34	.38	e.38	.17
19	e.98	1.4	.57	1.4	2.6	2.6	.75	.94	.35	.36	e.33	.21
20	e.80	1.3	.48	3.8	2.0	2.0	.70	.96	.35	.32	e.30	.20
21	e.54	1.1	.44	3.4	1.7	1.6	.83	.89	.34	1.7	e.26	.28
22	e.40	1.9	.41	2.4	2.0	1.4	.78	.86	.46	1.2	1.2	.25
23	e.34	1.5	.38	1.8	1.7	1.2	.73	.83	.30	.75	.62	.18
24	e.35	1.2	.39	1.9	1.4	1.1	.81	.81	.29	.54	.55	.17
25	e.34	1.2	.40	2.0	1.2	1.0	.91	.81	.27	.37	.46	.16
26	e.35	1.1	.44	1.5	1.1	.92	.87	.93	.24	.31	.36	.14
27	e.33	1.0	.41	1.4	1.0	.83	.84	1.3	.23	.28	.31	.14
28	e.33	2.1	.38	1.4	.98	.76	1.2	1.7	.24	.25	.27	.15
29	e.34	1.3	.39	4.9	---	.77	.89	1.1	.24	.24	.86	.16
30	e.32	1.2	.93	3.3	---	.78	.83	.97	.20	.24	.40	.14
31	e.45	---	4.9	2.3	---	.72	---	.77	---	.25	.30	---
TOTAL	31.16	43.29	22.95	62.33	80.08	50.54	22.57	48.18	11.92	20.66	17.29	6.52
MEAN	1.01	1.44	.74	2.01	2.86	1.63	.75	1.55	.40	.67	.56	.22
MAX	8.2	4.9	4.9	4.9	8.3	9.1	1.2	6.4	1.0	2.8	1.7	.44
MIN	.32	.24	.38	.72	.98	.72	.59	.77	.20	.24	.23	.14

CAL YR 1989 TOTAL 465.05 MEAN 1.27 MAX 11 MIN .23
WTR YR 1990 TOTAL 417.49 MEAN 1.14 MAX 9.1 MIN .14

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.--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. The control structure's weir plate and dam was modified June 14, 1988.

AVERAGE DISCHARGE.--5 years, 10.0 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 629 ft^3/s, May 1, 1990, gage height, 6.31 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.--Peak discharges greater than base discharge of 200 ft^3/s, and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 3	1400	202	4.84	Aug. 9	2000	358	5.52
May 1	1630	*629	*6.31				

Minimum discharge, 4.4 ft^3/s Sept. 26, gage height, 2.61.

EXTREMES FOR 1986-1989 WATER YEARS.--Peak discharges greater than base discharge of 200 ft^3/s, and maximum (*).

Water Year	Date	Discharge (ft^3/s)	Gage height (ft)	Water Year	Date	Discharge (ft^3/s)	Gage height (ft)
1986	Mar. 19, 1986	*250	*5.60	1989	Mar. 30, 1989	219	4.94
1987	Jan. 19, 1987	*236	*5.48		June 22, 1989	236	5.03
1988	Jan. 19, 1988	268	5.75		Sept. 1, 1989	280	5.24
	Sept. 4, 1988	*304	*5.33		Sept. 15, 1989	*367	*5.55

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	5.7	11	25	16	10	7.6	50	8.3	19	6.2	6.1
2	32	5.9	10	18	14	19	7.6	25	7.4	11	6.4	5.8
3	21	5.8	8.9	14	66	16	7.4	22	8.0	6.9	6.2	6.0
4	15	5.8	e8.5	20	68	13	7.3	47	7.0	6.2	7.9	5.8
5	12	5.9	8.3	17	32	12	7.0	32	6.4	6.2	19	5.8
6	11	15	8.1	18	23	12	11	21	6.5	5.9	12	5.6
7	9.6	17	7.8	16	19	11	8.9	16	6.6	6.1	7.8	5.8
8	8.4	24	12	29	15	11	7.9	13	6.6	5.6	8.8	5.7
9	7.3	18	8.3	22	17	10	7.5	17	14	5.8	34	5.6
10	7.1	13	7.6	18	71	15	9.3	18	12	5.9	22	5.5
11	6.8	11	7.3	15	31	12	8.3	13	8.6	10	12	5.4
12	6.5	10	8.2	13	21	11	7.3	12	7.5	24	9.5	6.2
13	6.5	8.6	7.6	11	17	11	7.0	10	7.0	19	8.3	5.8
14	6.2	9.8	7.0	10	15	10	7.7	9.7	7.1	31	13	8.6
15	6.0	34	7.2	9.7	15	9.8	7.7	9.2	6.7	13	10	7.9
16	10	49	e7.8	8.9	73	51	7.5	8.7	6.4	9.9	8.4	5.4
17	13	24	6.7	8.9	33	74	8.4	18	6.0	8.7	10	5.1
18	10	17	7.2	24	24	32	7.5	9.4	6.6	7.5	7.8	5.2
19	9.6	13	8.2	15	25	23	7.0	8.2	6.2	7.3	7.1	5.8
20	7.7	12	e7.2	35	19	18	7.3	9.0	6.2	7.2	6.8	5.9
21	7.3	10	e6.9	33	17	15	13	7.9	6.2	16	7.2	6.4
22	6.6	19	6.6	22	21	13	10	7.6	8.1	12	21	6.6
23	6.6	16	6.4	17	17	12	8.9	6.8	6.4	8.7	12	5.2
24	6.6	13	6.4	18	14	11	8.7	6.7	6.1	7.5	9.9	5.2
25	6.3	11	6.3	20	12	10	8.2	6.5	6.0	6.8	8.5	4.9
26	6.2	11	6.1	16	11	9.4	7.9	8.6	5.7	6.6	7.9	4.7
27	6.0	11	6.3	14	11	8.9	7.9	15	5.9	6.5	7.0	5.0
28	6.1	24	6.5	12	10	8.8	12	22	6.0	6.5	7.0	5.2
29	5.5	14	6.4	47	---	9.0	8.4	13	6.3	6.2	10	5.0
30	6.0	12	11	30	---	9.0	7.6	10	6.8	6.3	7.2	4.9
31	6.7	---	47	20	---	8.0	---	9.4	---	6.3	6.5	---
TOTAL	347.6	445.5	280.8	596.5	727	494.9	249.8	481.7	214.6	305.6	327.4	172.1
MEAN	11.2	14.8	9.06	19.2	26.0	16.0	8.33	15.5	7.15	9.86	10.6	5.74
MAX	72	49	47	47	73	74	13	50	14	31	34	8.6
MIN	5.5	5.7	6.1	8.9	10	8.0	7.0	6.5	5.7	5.6	6.2	4.7

CAL YR 1989 TOTAL 5070.3 MEAN 13.9 MAX 93 MIN 5.5
WTR YR 1990 TOTAL 4643.5 MEAN 12.7 MAX 74 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, 51 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 44 ft^3/s, May 1, gage height, 3.64 ft, from rating curve extended as explained above; no flow many days.

REVISIONS.--The maximum discharges for the water years 1988 and 1989, have been revised to 51 ft^3/s, Jan. 19, 1988, gage height, 3.69 ft, and 44 ft^3/s, Sept. 30, 1989, gage height, 3.64 ft, superceding figures published in reports for 1988 and 1989.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	.07	.26	1.0	.38	.21	.15	5.0	.06	.32	.00	.01
2	.98	.06	.21	.46	.34	1.0	.13	1.4	.05	.16	.00	.01
3	.39	.05	.17	.31	7.2	.94	.12	1.0	.08	.02	.00	.01
4	.21	.05	.16	.90	4.9	.49	.11	5.0	.05	.01	.01	.01
5	.14	.05	.14	.84	.89	.32	.10	1.2	.03	.01	.20	.01
6	.11	.86	.13	1.4	.52	.26	.53	.52	.02	.01	.13	.01
7	.07	1.1	.11	1.2	.48	.22	.44	.30	.02	.01	.03	.00
8	.06	e1.3	.46	2.4	.32	.27	.25	.19	.02	.01	.04	.00
9	.05	e.70	.28	.91	.57	.30	.20	.51	.19	.00	1.1	.00
10	.05	e.40	.21	.50	6.1	.77	.30	.90	.16	.00	.55	.00
11	.05	e.20	.19	.34	1.0	.58	.26	.34	.07	.01	.10	.00
12	.04	e.14	.26	.25	.52	.37	.19	.22	.04	.96	.05	.00
13	.04	e.12	.20	.20	.36	.29	.16	.15	.02	.74	.03	.01
14	.04	e.20	.17	.18	.28	.25	.19	.11	.02	2.0	.07	.01
15	.04	e1.5	.18	.17	.36	.21	.23	.08	.02	.20	.07	.08
16	.18	e4.0	.15	.16	7.6	6.0	.16	.06	.03	.06	.03	.01
17	.52	e1.0	.15	.15	1.2	6.5	.19	.52	.02	.03	.03	.01
18	.25	e.40	.15	1.5	.65	.94	.18	.11	.02	.02	.03	.01
19	.34	e.25	.23	.58	1.2	.57	.14	.07	.01	.02	.02	.00
20	.18	e.20	.19	3.4	.69	.39	.13	.12	.01	.01	.01	.00
21	.13	e.17	e.15	2.0	.46	.29	.61	.10	.01	.17	.01	.00
22	.09	.87	e.12	.67	.82	.25	.67	.08	.02	.26	.38	.01
23	.08	.98	e.10	.41	.58	.22	.32	.06	.01	.12	.13	.00
24	.07	.44	e.09	.54	.38	.20	.22	.05	.01	.04	.05	.00
25	.07	.30	e.07	1.1	.28	.18	.16	.04	.01	.02	.03	.00
26	.06	.25	e.07	.60	.25	.16	.12	.07	.01	.01	.02	.00
27	.06	.24	e.06	.39	.23	.15	.10	.65	.00	.01	.01	.00
28	.05	1.5	e.05	.30	.20	.14	.54	1.6	.00	.01	.01	.00
29	.05	.61	e.11	4.5	---	.18	.29	.58	.00	.01	.04	.00
30	.05	.35	.43	1.3	---	.21	.18	.18	.00	.01	.04	.00
31	.09	---	5.1	.57	---	.18	---	.09	---	.01	.01	---
TOTAL	9.74	18.36	10.35	29.23	38.76	23.04	7.37	21.30	1.01	5.27	3.23	0.20
MEAN	.31	.61	.33	.94	1.38	.74	.25	.69	.034	.17	.10	.007
MAX	5.2	4.0	5.1	4.5	7.6	6.5	.67	5.0	.19	2.0	1.1	.08
MIN	.04	.05	.05	.15	.20	.14	.10	.04	.00	.00	.00	.00
CFSM	1.31	2.55	1.39	3.93	5.77	3.10	1.02	2.86	.14	.71	.43	.03
IN.	1.51	2.85	1.60	4.53	6.01	3.57	1.14	3.30	.16	.82	.50	.03

CAL YR 1989 TOTAL 189.98 MEAN .52 MAX 9.9 MIN .00 CFSM 2.17 IN. 29.45
WTR YR 1990 TOTAL 167.86 MEAN .46 MAX 7.6 MIN .00 CFSM 1.92 IN. 26.02

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 between 0.2 and 12 ft^3/s, and poor above and below. Periodic observations of water temperatures and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--5 years, 0.59 ft^3/s, 15.41 in/yr.

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, May 1, gage height, 9.24 ft, from rating curve extended as explained above; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	.09	.74	2.2	1.2	.57	.37	8.4	.19	.40	.00	.01
2	2.3	.06	.59	1.3	1.1	1.8	.32	3.4	.16	.32	.00	.00
3	1.2	.05	.50	1.0	13	1.8	.29	2.5	.21	e.05	.00	.00
4	.69	.03	.44	1.8	11	1.2	.32	11	.12	e.02	.01	.00
5	.44	.03	.41	1.6	2.5	.91	.32	2.9	.05	e.01	.42	.00
6	.33	1.4	.36	1.9	1.7	.74	1.0	1.6	.03	e.01	.28	.00
7	.24	1.7	.32	1.5	1.5	.62	1.0	1.1	.02	e.01	.04	.00
8	.19	2.3	.97	3.5	1.1	.72	.64	.79	.02	.00	.07	.00
9	.16	1.6	.63	2.0	1.4	.78	.52	1.2	.32	.00	1.4	.00
10	.15	.91	.47	1.4	12	1.4	.72	1.9	e.30	.00	.96	.00
11	.12	.55	.44	1.1	2.7	1.2	.62	1.0	e.16	.01	.20	.00
12	.10	.39	.56	.84	1.8	.97	.46	.70	e.08	1.8	.09	.00
13	.11	.32	.45	.62	1.4	.80	.38	.54	e.04	1.5	.05	e.01
14	.09	.45	.38	.53	1.1	.69	.45	.39	e.04	3.6	.15	e.03
15	.09	2.9	.38	.50	1.1	.61	.54	.31	e.03	.59	.15	e.17
16	.54	6.4	.32	.44	15	11	.39	.25	e.04	.17	.05	.01
17	1.3	1.6	.32	.44	3.1	14	.46	1.1	e.04	.06	.05	e.01
18	.51	1.0	.32	2.6	2.1	2.9	.42	.38	e.05	e.04	.05	e.01
19	.71	.68	.48	1.4	2.7	2.0	.35	.25	e.04	e.03	.02	.00
20	.35	.54	.39	6.3	1.9	1.5	.32	.36	e.02	e.02	.01	.00
21	.27	.45	e.26	3.9	1.4	1.1	1.2	.30	e.02	e.30	.02	.00
22	.24	1.4	e.23	1.8	1.8	.94	1.6	.24	e.05	.53	.61	.01
23	.19	1.9	e.20	1.3	1.5	.78	.95	.19	e.03	.23	.25	.00
24	.15	1.1	e.18	1.4	1.2	.66	.67	.15	e.02	e.07	.08	.00
25	.13	.80	e.17	2.2	.89	.57	.51	.14	e.02	e.02	.04	.00
26	.10	.66	e.19	1.5	.76	.48	.42	.17	.00	.02	.02	.00
27	.08	.63	e.17	1.1	.66	.44	.35	1.1	.00	.01	.02	.00
28	.07	2.8	e.17	.93	.59	.38	1.0	2.7	.00	.01	.01	.00
29	.06	1.4	e.16	8.4	---	.45	.75	1.3	.00	.01	.07	.00
30	.06	1.0	e.40	2.8	---	.52	.49	.50	.00	.00	.05	.00
31	.15	---	8.3	1.7	---	.44	---	.26	---	.00	.01	---
TOTAL	22.12	35.14	19.90	60.00	88.20	52.97	17.83	47.12	2.10	9.84	5.18	0.26
MEAN	.71	1.17	.64	1.94	3.15	1.71	.59	1.52	.070	.32	.17	.009
MAX	11	6.4	8.3	8.4	15	14	1.6	11	.32	3.6	1.4	.17
MIN	.06	.03	.16	.44	.59	.38	.29	.14	.00	.00	.00	.00
CFSM	1.37	2.25	1.23	3.72	6.06	3.29	1.14	2.92	.13	.61	.32	.02
IN.	1.58	2.51	1.42	4.29	6.31	3.79	1.28	3.37	.15	.70	.37	.02

CAL YR 1989 TOTAL 372.09 MEAN 1.02 MAX 21 MIN .00 CFSM 1.96 IN. 26.62
WTR YR 1990 TOTAL 360.66 MEAN .99 MAX 15 MIN .00 CFSM 1.90 IN. 25.80

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, 29 ft^3/s, May 1, 1990, gage height, 3.64 ft from rating curve extended above 9 ft^3/s on basis of theoretical-flume formula; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29 ft^3/s May 1, gage height, 3.64 ft from rating curve extended as explained above; no flow part of several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	.04	.10	.31	.14	.10	.07	1.9	.04	.15	.01	.01
2	.28	.03	.09	.15	.13	.26	.07	.48	.04	.06	.01	.01
3	.14	.03	.07	.12	2.0	.30	.07	.32	.05	.02	.01	.01
4	.09	.03	.07	.22	1.6	.18	.06	1.5	.04	.01	.02	.01
5	.07	.03	.06	.22	.30	.14	.06	.35	.03	.01	.13	.01
6	.05	.20	.06	.25	.21	.11	.15	.19	.03	.01	.06	.01
7	.04	.33	.05	.22	.19	.10	.14	.13	.03	.01	.02	.01
8	.04	.40	.12	.58	.13	.11	.11	.10	.03	.01	.04	.01
9	.04	.26	.09	.31	.18	.12	.10	.16	.09	.01	.30	.01
10	.03	.13	.08	.17	1.8	.18	.12	.24	.07	.01	.16	.01
11	.03	.09	.08	.13	.33	.19	.10	.15	.03	.03	.05	.01
12	.03	.07	.09	.11	.20	.15	.08	.11	.03	.35	.03	.01
13	.03	.06	.08	.09	.16	.12	.08	.09	.02	.25	.02	.01
14	.03	.08	.07	.08	.12	.11	.09	.07	.02	.57	.06	.02
15	.03	.59	.07	.07	.14	.10	.09	.06	.02	.08	.04	.07
16	.07	.95	.06	.07	2.3	1.7	.07	.05	.02	.04	.02	.01
17	.15	.19	.06	.06	.39	2.1	.08	.16	.02	.02	.03	.01
18	.08	.12	.06	.37	.22	.31	.08	.06	.02	.02	.03	.01
19	.10	.09	.08	.19	.34	.21	.07	.05	.02	.02	.02	.01
20	.07	.08	.06	.96	.25	.16	.07	.08	.02	.02	.01	.01
21	.05	e.07	e.05	.64	e.18	.13	.21	.06	.02	.09	.01	.01
22	.05	e.20	e.05	.22	e.24	.11	.28	.06	.03	.10	.11	.02
23	.04	e.25	e.05	.15	e.20	.10	.14	.05	.02	.06	.05	.01
24	.04	e.16	e.04	.17	e.16	.10	.10	.04	.01	.03	.03	.01
25	.04	e.12	e.03	.28	e.13	.09	.08	.04	.01	.02	.02	.01
26	.03	e.10	e.05	.21	e.11	.09	.07	.05	.01	.01	.01	.01
27	.03	.09	e.05	.15	e.10	.08	.06	.18	.01	.01	.01	.01
28	.03	.40	e.04	.12	e.09	.08	.13	.42	.01	.01	.01	.01
29	.03	.21	e.06	1.3	---	.09	.08	.20	.01	.01	.03	.01
30	.03	.13	.11	.42	---	.09	.07	.09	.01	.01	.02	.01
31	.05	---	1.4	.19	---	.08	---	.06	---	.01	.01	---
TOTAL	3.42	5.53	3.43	8.53	12.34	7.79	2.98	7.50	0.81	2.06	1.38	0.38
MEAN	.11	.18	.11	.28	.44	.25	.099	.24	.027	.066	.045	.013
MAX	1.6	.95	1.4	1.3	2.3	2.1	.28	1.9	.09	.57	.30	.07
MIN	.03	.03	.03	.06	.09	.08	.06	.04	.01	.01	.01	.01
CFSM	1.58	2.63	1.58	3.93	6.30	3.59	1.42	3.46	.39	.95	.64	.18
IN.	1.82	2.94	1.82	4.53	6.56	4.14	1.58	3.99	.43	1.09	.73	.20

CAL YR 1989 TOTAL 61.83 MEAN .17 MAX 3.3 MIN .01 CFSM 2.42 IN. 32.86
WTR YR 1990 TOTAL 56.15 MEAN .15 MAX 2.3 MIN .01 CFSM 2.20 IN. 29.84

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 temperature and specific conductance are published in this report as miscellaneous water quality data.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48 ft^3/s, June 9, 1990, gage height, 2.87 ft, from rating curve extended above 7.5 ft^3/s; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 48 ft^3/s, June 9, gage height, 2.87 ft, from rating curve extended above 7.5 ft^3/s; minimum 0.03 ft^3/s, gage height, 1.06 several days.

REVISIONS.--The maximum discharges for some water years have been revised, as shown in the following table. They supersede figures published in reports for 1987, 1988 and 1989.

Water year	Date	Discharge (ft^3/s)	Gage height (ft)
1987	Jan. 19, 1987	19	2.18
1988	Jan. 19, 1988	34	2.57
1989	Sept. 30, 1989	22	2.25

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.3	.06	.35	1.7	.68	.31	.19	.83	.13	.57	.04	.08
2	1.6	.06	.28	.84	.52	.59	.17	1.0	.12	.36	.04	.08
3	.73	.06	.20	.58	4.6	.84	.15	.72	.12	.11	.04	.07
4	e.45	.06	.16	.79	6.2	.74	.14	3.8	.10	.08	.06	.06
5	e.34	.06	.14	.82	1.6	.55	.13	2.0	.09	e.08	.21	.06
6	e.26	.18	.12	.86	.91	.44	.26	.78	.08	e.06	.32	.06
7	e.22	.25	.11	.80	.72	.36	.30	.42	.08	e.05	.11	.05
8	e.18	.74	.26	1.7	.54	.33	.25	.26	.07	e.05	.10	.05
9	e.15	.81	.23	1.3	.60	.31	.24	.27	4.2	e.04	e2.9	.05
10	e.13	.49	.20	.80	7.1	.60	.24	.54	1.9	e.04	1.9	.05
11	e.10	.34	.19	.57	1.8	.70	.22	e.36	.66	e.08	.68	.05
12	e.07	.25	.20	.42	.93	.58	.19	e.26	.37	e.60	.48	.05
13	.06	.18	.16	e.28	.69	.47	.17	e.22	.24	e.50	.29	.06
14	.06	.19	.14	e.25	.54	.40	.19	e.18	.17	e1.9	.47	.06
15	.06	2.4	.13	e.22	.50	.34	.20	e.17	.13	e.36	.59	.13
16	.16	5.4	.11	e.20	7.0	3.9	.17	e.16	.10	e.19	.33	.06
17	.43	1.1	.11	.20	2.1	8.0	.18	.64	.09	e.13	.27	.05
18	.27	.63	e.14	1.1	1.0	1.7	.16	e.27	.08	e.11	.20	.04
19	.27	.42	e.16	.90	1.1	.95	.14	e.22	.07	e.09	.13	.05
20	.21	.32	e.15	2.2	.91	.71	.14	e.20	.07	e.08	.11	.05
21	.16	.25	e.11	2.8	.76	.56	.18	e.18	.07	e.12	.16	.05
22	.13	.49	e.10	1.1	.86	.47	e.15	e.16	.08	e.20	2.7	.06
23	.11	.85	e.10	.74	.79	.40	e.14	e.15	.07	e.12	1.5	.04
24	.10	.65	e.09	.63	.66	.35	e.14	e.14	.06	e.11	.64	.05
25	.09	.45	e.12	.80	.50	.31	e.13	e.12	.05	.09	.36	.04
26	.08	.35	e.14	.76	.43	.28	e.13	.16	.05	.07	.24	.04
27	.07	.31	e.13	.61	.38	.24	.13	.33	.05	.06	.16	.04
28	.07	.77	e.12	.49	.33	.21	.24	.43	.04	.05	.13	.04
29	.06	.70	e.14	3.7	---	.22	.21	.36	.04	.05	.15	.04
30	.06	.48	.27	2.1	---	.24	.16	.25	.04	.05	.13	.04
31	.06	---	5.1	.96	---	.21	---	.18	---	.04	.10	---
TOTAL	14.04	19.30	9.96	31.22	44.75	26.31	5.44	15.76	9.42	6.44	15.54	1.65
MEAN	.45	.64	.32	1.01	1.60	.85	.18	.51	.31	.21	.50	.055
MAX	7.3	5.4	5.1	3.7	7.1	8.0	.30	3.8	4.2	1.9	2.9	.13
MIN	.06	.06	.09	.20	.33	.21	.13	.12	.04	.04	.04	.04
CFSM	1.51	2.14	1.07	3.36	5.33	2.83	.60	1.69	1.05	.69	1.67	.18
IN.	1.74	2.39	1.24	3.87	5.55	3.26	.67	1.95	1.17	.80	1.93	.20

CAL YR 1989 TOTAL 217.38 MEAN .60 MAX 17 MIN .01 CFSM 1.99 IN. 26.96
WTR YR 1990 TOTAL 199.83 MEAN .55 MAX 8.0 MIN .04 CFSM 1.82 IN. 24.78

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, 308 ft^3/s, Aug. 9, 1990, gage height, 6.75 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, 308 ft^3/s, Aug. 9, gage height, 6.75 ft, from rating curve extended above 70 ft^3/s; minimum, 0.48 ft^3/s, Sept. 29, gage height 0.52 ft.

REVISIONS.--The maximum discharges for the following water years have been revised, as shown in the following table. They supersede figures published in reports for 1987, 1988 and 1989.

Water year	Date	Discharge (ft^3/s)	Gage Height (ft)
1987	Jan. 19, 1987	201	4.90
1988	Jan. 20, 1988	287	6.33
1989	Sept. 30, 1989	220	5.21

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	1.4	5.6	17	8.5	4.2	2.9	9.5	2.6	12	.66	1.1
2	21	1.6	4.5	9.8	7.0	10	2.7	8.2	2.2	6.4	.64	1.0
3	11	1.3	4.0	7.2	65	9.7	2.5	6.9	2.2	1.6	.63	.93
4	7.5	1.2	3.6	11	72	7.0	2.4	49	1.9	1.1	.73	.84
5	5.5	1.3	3.3	9.2	21	5.9	2.3	23	1.6	.92	4.8	.80
6	4.5	4.7	3.1	10	13	5.1	4.6	11	1.5	.82	4.5	.78
7	3.5	6.4	2.8	8.6	10	4.5	4.4	7.1	1.4	.76	1.5	.74
8	3.0	12	5.6	20	7.6	4.3	3.4	5.3	1.3	.70	1.2	.71
9	2.5	8.3	4.0	14	8.1	4.2	3.1	6.5	31	.66	46	.68
10	2.3	5.5	3.7	9.5	76	7.5	3.2	10	9.7	.65	21	.67
11	2.2	4.4	4.1	7.3	21	6.3	3.1	5.7	4.4	1.2	6.5	.67
12	2.0	3.6	3.6	5.9	13	5.4	2.6	4.6	3.0	12	4.1	.68
13	1.9	3.1	3.2	4.7	9.2	4.9	2.4	3.9	2.2	8.7	2.6	.75
14	1.7	3.5	2.9	4.2	7.4	4.5	2.5	3.2	1.8	24	11	.78
15	1.7	25	3.2	4.0	6.9	4.2	2.8	2.7	1.7	5.0	6.9	1.5
16	3.4	59	2.4	3.8	82	47	2.4	2.4	1.4	2.9	3.5	.78
17	7.3	14	2.3	3.6	24	85	2.5	16	1.3	1.9	3.2	.69
18	4.0	8.5	2.4	18	14	22	2.5	4.6	1.2	1.5	2.5	.66
19	5.2	6.2	3.0	8.5	16	13	2.2	3.4	1.1	1.3	1.8	.69
20	3.4	5.3	2.7	27	11	9.5	2.1	3.1	1.0	1.1	1.6	.72
21	3.0	4.8	2.1	27	9.2	7.4	3.1	2.8	.99	1.6	1.7	.69
22	2.4	10	1.7	13	12	6.2	3.3	2.6	1.2	2.8	32	1.0
23	2.3	10	1.6	9.1	9.2	5.3	2.8	2.2	1.0	1.9	9.4	.72
24	1.9	6.9	1.6	8.8	7.5	4.7	2.5	2.1	.86	1.2	5.0	.66
25	1.8	6.1	2.1	11	e6.2	4.3	2.3	1.7	.80	1.0	3.4	.63
26	1.7	5.6	2.2	8.3	e5.5	3.8	2.1	4.6	.75	.90	2.5	.61
27	1.5	5.4	2.1	6.8	e4.7	3.5	1.9	11	.71	.82	1.9	.60
28	1.4	14	2.1	5.9	4.4	3.3	4.1	12	.68	.75	1.6	.58
29	1.4	7.5	1.9	43	---	3.3	3.0	6.4	.66	.71	2.1	.56
30	1.4	6.1	8.0	21	---	3.4	2.4	4.2	.65	.70	2.0	.55
31	1.7	---	54	12	---	3.2	---	3.2	---	.71	1.3	---
TOTAL	199.1	252.7	149.4	369.2	551.4	312.6	84.1	238.9	82.80	98.30	188.26	22.77
MEAN	6.42	8.42	4.82	11.9	19.7	10.1	2.80	7.71	2.76	3.17	6.07	.76
MAX	85	59	54	43	82	85	4.6	49	31	24	46	1.5
MIN	1.4	1.2	1.6	3.6	4.4	3.2	1.9	1.7	.65	.65	.63	.55
CFSM	2.01	2.63	1.51	3.72	6.15	3.15	.88	2.41	.86	.99	1.90	.24
IN.	2.31	2.94	1.74	4.29	6.41	3.63	.98	2.78	.96	1.14	2.19	.26

CAL YR 1989 TOTAL 2806.83 MEAN 7.69 MAX 131 MIN .53 CFSM 2.40 IN. 32.63
WTR YR 1990 TOTAL 2549.53 MEAN 6.99 MAX 85 MIN .55 CFSM 2.18 IN. 29.64

e Estimated

03538270 BEAR CREEK AT STATE HIGHWAY 95 NEAR OAK RIDGE, TN

LOCATION.--Lat 35°56'14", long 84°20'22", 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.--WRD TN-87-1: Drainage area. WRD TN-89-1: 1985-88 (M).
GAGE.--Water-stage recorder and Cippolletti-weir. Datum of gage is 801.15 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records fair, except for periods of estimated daily discharges, and discharges less than 2.0 ft^3/s which are poor. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.
AVERAGE DISCHARGE.--5 years, 6.38 ft^3/s, 19.96 in/yr.
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.--Peak discharges greater than base discharge of 160 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	0030	322	2.98	Feb. 16	1230	208	2.53
Dec. 31	1130	191	2.45	Mar. 16	2115	177	2.38
Jan. 29	1445	173	2.36	Mar. 17	0630	212	2.55
Feb. 3	1645	187	2.43	June 9	1830	243	2.68
Feb. 4	0115	187	2.43	Aug. 9	2315	*358	*3.10
Feb. 10	0300	173	2.36				

Minimum discharge recorded, 0.79 ft^3/s, Sept. 27, 28-30, gage height 0.23, but may have been lower during periods of no gage height record.

EXTREMES FOR 1986-89 WATER YEARS.--Peak discharges greater than base discharge of 160 ft^3/s, and maximum (*).

Water year	Date	Discharge (ft^3/s)	Gage height (ft)	Water year	Date	Discharge (ft^3/s)	Gage height (ft)
1986	Feb. 17, 1986	*173	*2.36	1989	Dec. 31, 1988	161	2.30
					Jan. 12, 1989	*238	*2.66
1987	Jan. 19, 1987	*268	*2.78		Mar. 6, 1989	210	2.54
					Sept. 15, 1989	177	2.38
1988	Jan. 20, 1988	*364	*3.12				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	2.2	9.8	30	16	7.5	5.8	16	5.5	10	1.1	e2.0
2	36	2.1	8.4	18	13	14	5.4	18	4.3	13	1.1	e1.5
3	20	2.0	6.9	13	83	16	5.2	13	4.0	3.1	1.1	e1.5
4	14	1.9	6.3	19	105	12	4.7	65	3.7	2.2	1.1	e1.4
5	10	1.9	6.0	16	37	11	4.1	36	3.2	1.7	6.6	e1.3
6	7.9	6.0	5.8	16	24	9.3	6.7	20	2.9	1.5	8.7	e1.3
7	6.4	8.3	5.3	15	18	8.2	7.3	15	2.7	1.4	3.1	e1.2
8	5.5	e18	7.9	31	14	7.7	6.0	12	2.6	1.3	2.3	e1.1
9	4.3	e15	6.9	25	14	7.6	6.0	12	37	1.2	43	e1.0
10	3.6	e9.5	6.1	17	106	12	5.9	18	17	1.1	40	e1.0
11	3.3	e7.0	5.8	13	36	11	6.1	12	8.8	1.2	11	e1.0
12	3.0	e5.5	5.8	11	22	9.7	5.6	10	6.1	16	7.9	e1.0
13	2.8	e5.0	5.7	9.0	16	8.7	5.2	8.6	4.4	13	4.8	e1.1
14	2.7	e5.0	5.4	7.7	13	8.3	4.8	7.3	3.5	32	13	1.2
15	2.5	e30	5.2	7.1	12	7.6	5.7	6.4	3.1	9.7	12	3.3
16	4.2	e93	4.5	6.3	101	56	4.9	5.6	2.7	5.7	6.4	1.6
17	10	e17	4.0	5.9	37	112	4.7	21	2.4	3.5	4.9	1.3
18	5.9	e12	3.8	24	23	35	5.0	9.2	2.3	2.7	4.5	1.1
19	7.9	e11	4.2	15	25	23	4.0	7.0	2.1	2.3	3.0	1.1
20	5.4	e8.0	4.4	35	18	17	4.0	6.0	2.0	2.1	2.5	1.2
21	4.4	e7.5	3.8	43	15	13	5.3	5.8	1.9	2.8	2.6	1.1
22	3.7	e14	3.3	23	19	11	7.0	5.3	2.2	5.7	42	1.5
23	3.2	e19	2.8	17	16	9.8	6.3	4.3	2.0	4.4	17	1.2
24	2.9	e13	e2.5	15	13	9.0	6.0	3.8	1.7	2.6	9.8	1.0
25	2.7	e9.5	e3.0	19	11	8.0	5.6	3.5	1.6	2.0	6.6	1.0
26	2.5	e8.5	e3.0	15	9.6	7.2	4.7	4.0	1.4	1.7	4.5	.96
27	2.4	e8.0	e3.5	12	8.5	6.5	4.0	17	1.3	1.6	3.4	.89
28	2.3	e21	e3.5	11	8.1	6.0	6.8	18	1.3	1.4	2.8	.79
29	2.2	14	e3.0	57	---	5.8	6.4	12	1.2	1.3	3.1	.79
30	2.2	11	10	36	---	5.8	5.3	9.0	1.2	1.3	4.0	.79
31	2.2	---	70	22	---	6.0	---	6.8	---	1.2	2.6	---
TOTAL	319.1	385.9	226.6	604.0	833.2	481.7	164.5	407.6	136.1	150.7	276.5	37.22
MEAN	10.3	12.9	7.31	19.5	29.8	15.5	5.48	13.1	4.54	4.86	8.92	1.24
MAX	133	93	70	57	106	112	7.3	65	37	32	43	3.3
MIN	2.2	1.9	2.5	5.9	8.1	5.8	4.0	3.5	1.2	1.1	1.1	.79
CFSM	2.37	2.96	1.68	4.49	6.86	3.58	1.26	3.03	1.05	1.12	2.06	.29
IN.	2.74	3.31	1.94	5.18	7.14	4.13	1.41	3.49	1.17	1.29	2.37	.32

CAL YR 1989 TOTAL 4281.18 MEAN 11.7 MAX 159 MIN .79 CFSM 2.70 IN. 36.70
WTR YR 1990 TOTAL 4023.12 MEAN 11.0 MAX 133 MIN .79 CFSM 2.54 IN. 34.48

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.

REVISED RECORD.--WRD TN-89-1: 1987, 1988 (M).

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, 377 ft^3/s, Oct. 1, gage height, 5.03 ft, from rating curve extended above 141 ft^3/s; minimum, 0.72 ft^3/s, Sept. 28, 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	152	2.8	10	37	19	9.1	5.5	27	4.9	10	.88	1.7
2	43	2.6	8.7	22	15	19	5.2	25	4.0	14	.84	1.5
3	24	2.5	7.6	16	95	21	4.6	14	3.9	2.6	.85	1.5
4	15	2.5	6.7	23	123	15	4.4	78	3.4	1.8	.89	1.3
5	10	2.4	6.3	20	45	12	4.2	46	2.8	1.4	6.5	1.2
6	8.1	7.5	5.8	21	29	9.9	7.1	24	2.6	1.3	8.0	1.2
7	6.6	11	5.2	19	23	8.8	7.7	17	2.4	1.2	2.9	1.1
8	5.6	21	9.5	38	17	8.6	6.2	11	2.2	1.0	2.1	.99
9	4.7	18	7.6	29	16	8.1	5.6	13	37	.94	38	.97
10	4.3	11	6.7	21	125	14	5.5	22	18	.89	41	.94
11	4.0	7.9	5.9	16	45	13	5.5	14	7.4	.93	9.2	.92
12	3.7	6.5	6.5	12	28	11	4.8	9.7	5.3	16	6.1	.93
13	3.6	5.5	6.0	9.6	21	9.4	4.5	8.3	4.1	12	3.9	1.1
14	3.5	5.6	5.6	8.4	16	8.8	4.7	6.7	3.2	36	12	1.2
15	3.2	35	5.3	7.8	14	8.0	5.0	5.7	2.9	8.1	10	3.2
16	5.7	111	4.9	6.5	125	69	4.4	5.0	2.4	4.7	5.0	1.4
17	14	31	4.7	6.0	50	137	4.4	24	2.1	3.0	4.2	1.1
18	6.6	20	4.8	30	31	45	4.4	8.4	1.9	2.3	3.9	.99
19	8.9	13	4.9	18	33	29	3.9	6.3	1.8	1.9	2.6	.95
20	5.8	10	4.8	46	24	21	3.9	5.7	1.6	1.7	2.1	.98
21	5.2	8.6	4.2	53	20	16	5.0	5.1	1.6	2.8	1.9	.93
22	4.7	17	3.6	29	25	13	6.2	4.8	1.9	5.0	45	1.4
23	4.2	22	3.0	20	20	10	5.4	4.1	1.7	3.8	17	1.0
24	4.0	15	2.8	18	16	9.2	4.9	3.8	1.4	2.3	8.2	.86
25	4.0	11	3.3	24	12	8.5	4.5	3.3	1.3	1.7	5.4	.84
26	3.4	9.7	3.9	18	10	7.2	4.1	3.8	1.2	1.4	3.9	.80
27	2.9	9.0	4.0	14	9.6	6.5	3.8	18	1.1	1.2	2.9	.78
28	2.7	25	4.0	12	9.0	6.1	6.5	20	1.0	1.1	2.4	.76
29	2.7	17	3.9	69	---	6.1	5.4	12	.97	1.0	3.0	.73
30	2.5	12	13	43	---	6.3	4.4	7.4	.98	.94	3.7	.74
31	2.8	---	90	26	---	6.1	---	6.0	---	.95	2.1	---
TOTAL	371.4	473.1	263.2	732.3	1015.6	571.7	151.7	459.1	127.05	143.95	256.46	34.01
MEAN	12.0	15.8	8.49	23.6	36.3	18.4	5.06	14.8	4.23	4.64	8.27	1.13
MAX	152	111	90	69	125	137	7.7	78	37	36	45	3.2
MIN	2.5	2.4	2.8	6.0	9.0	6.1	3.8	3.3	.97	.89	.84	.73
CFSM	2.40	3.15	1.70	4.72	7.25	3.69	1.01	2.96	.85	.93	1.65	.23
IN.	2.76	3.52	1.96	5.45	7.56	4.25	1.13	3.42	.95	1.07	1.91	.25

CAL YR 1989 TOTAL 5135.64 MEAN 14.1 MAX 187 MIN .64 CFSM 2.81 IN. 38.21
WTR YR 1990 TOTAL 4599.57 MEAN 12.6 MAX 152 MIN .73 CFSM 2.52 IN. 34.22

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

AVERAGE DISCHARGE.--63 years, 1,455 ft^3/s, 25.86 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)
Oct. 1	0430	*34,000	*20.82	Mar. 17	1000	22,200	17.52
Feb. 4	0830	29,400	19.67	May 17	1400	19,700	16.68

Minimum discharge, 7.9 ft^3/s, July 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24600	202	1530	e6600	2700	1030	806	497	427	25	33	15
2	e10800	200	1290	3850	2140	1150	733	567	346	22	29	15
3	5330	194	1110	2530	7230	1930	672	686	308	20	28	27
4	3120	187	944	2440	23400	1990	621	801	310	19	24	28
5	2080	176	851	3540	9230	1690	587	4270	304	17	38	25
6	1530	193	785	2910	4900	1450	603	3250	251	14	1730	20
7	1140	311	707	2350	3420	1270	1120	2120	205	12	860	16
8	888	2580	954	3120	2650	1130	1190	1550	187	10	431	14
9	719	3930	1690	e4600	2160	1110	1080	1230	206	9.0	263	14
10	591	2900	1570	e3100	10600	1270	985	1840	208	9.2	646	15
11	500	1880	1420	2530	8240	1730	1180	1960	179	20	594	12
12	436	1400	1330	2010	4530	1590	1180	1470	162	30	330	11
13	382	1130	1220	1580	3110	1430	1040	1170	143	65	220	19
14	338	964	1080	1320	2380	1250	940	947	122	154	155	47
15	303	1050	978	1180	1960	1100	919	757	108	266	120	91
16	276	4120	915	1060	5400	2430	847	627	98	170	96	74
17	368	3690	756	960	5960	16700	756	7570	86	116	82	66
18	587	2480	771	1480	3710	8000	770	4760	76	88	74	55
19	596	1840	723	2480	3070	4230	777	2210	70	72	64	48
20	478	1490	744	2430	2570	2880	697	1550	62	60	56	44
21	420	1280	668	7220	2100	2160	660	1630	57	82	48	38
22	376	1140	551	4790	2000	1750	658	1370	52	227	43	35
23	340	2400	463	3110	2480	1450	697	1200	53	271	43	31
24	311	2470	414	2360	2060	1230	633	1010	53	201	40	29
25	287	1970	490	2090	1690	1080	564	817	48	137	34	28
26	265	e1700	506	1840	1410	954	503	682	44	97	31	36
27	245	e1620	478	1540	1260	837	454	923	41	78	30	42
28	230	1900	462	1350	1140	745	424	1200	36	65	26	37
29	216	2450	456	2260	---	696	519	936	34	55	23	31
30	206	1820	601	6230	---	785	572	707	30	46	20	27
31	206	---	4570	3820	---	883	---	540	---	39	17	---
TOTAL	58164	49667	31027	88680	123500	67930	23187	50847	4306	2496.2	6228	990
MEAN	1876	1656	1001	2861	4411	2191	773	1640	144	80.5	201	33.0
MAX	24600	4120	4570	7220	23400	16700	1190	7570	427	271	1730	91
MIN	206	176	414	960	1140	696	424	497	30	9.0	17	11
CFSM	2.46	2.17	1.31	3.74	5.77	2.87	1.01	2.15	.19	.11	.26	.04
IN.	2.83	2.42	1.51	4.32	6.01	3.31	1.13	2.48	.21	.12	.30	.05

CAL YR 1989 TOTAL 876843 MEAN 2402 MAX 29700 MIN 83 CFSM 3.14 IN. 42.69
WTR YR 1990 TOTAL 507022.2 MEAN 1389 MAX 24600 MIN 9.0 CFSM 1.82 IN. 24.69

e Estimated

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.--56 years, 189 ft^3/s, 21.94 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)
Oct. 1	1230	*4,790	*10.86	Feb. 16	1930	4,410	10.25
Feb. 4	0930	2,690	7.14	Mar. 17	1000	4,390	10.22

Minimum discharge, 25 ft^3/s, Aug. 28, 29, Sept. 6, 7, 8, 9, 10, 11, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4170	66	147	712	401	215	172	113	86	36	31	32
2	1540	66	137	365	339	384	160	127	84	36	30	34
3	743	64	129	285	620	775	150	107	93	34	31	30
4	504	63	120	431	2260	463	143	156	90	34	30	28
5	375	63	116	436	882	356	137	146	79	33	73	27
6	290	233	114	626	590	296	141	121	75	34	207	26
7	231	162	109	541	478	259	161	110	83	35	61	25
8	197	146	152	952	381	270	137	102	83	34	50	27
9	172	253	162	715	327	286	130	121	73	33	58	27
10	155	150	141	503	1500	273	138	284	102	32	81	26
11	144	116	131	384	823	258	177	193	67	34	57	26
12	130	99	161	311	548	238	143	157	59	55	45	28
13	116	89	167	253	422	223	134	137	56	85	40	123
14	109	85	151	221	347	213	131	122	53	83	39	49
15	102	273	145	203	345	203	143	113	53	59	51	59
16	97	1140	133	186	3180	1230	131	129	50	44	38	49
17	139	450	122	175	1820	3700	126	333	63	38	34	37
18	140	303	118	256	786	1160	131	174	53	37	32	33
19	114	237	118	222	751	682	119	135	49	41	30	32
20	99	205	118	844	553	505	116	122	46	38	30	28
21	90	185	108	1560	443	392	159	117	45	41	30	28
22	84	258	97	706	564	328	168	244	46	85	33	68
23	79	571	97	497	521	282	144	137	46	133	46	65
24	76	312	85	412	392	255	132	118	42	65	33	43
25	71	257	88	591	313	232	122	107	39	51	30	36
26	67	227	88	458	272	212	116	102	38	44	29	34
27	68	204	86	360	247	198	111	143	37	38	27	31
28	68	189	84	308	227	185	118	152	37	36	27	29
29	66	178	84	790	---	186	125	116	37	34	31	27
30	66	155	86	842	---	193	109	100	38	33	73	27
31	66	---	915	522	---	195	---	91	---	32	40	---
TOTAL	10368	6799	4509	15667	20332	14647	4124	4429	1802	1447	1447	1134
MEAN	334	227	145	505	726	472	137	143	60.1	46.7	46.7	37.8
MAX	4170	1140	915	1560	3180	3700	177	333	102	133	207	123
MIN	66	63	84	175	227	185	109	91	37	32	27	25
CFSM	2.86	1.94	1.24	4.32	6.21	4.04	1.17	1.22	.51	.40	.40	.32
IN.	3.30	2.16	1.43	4.98	6.46	4.66	1.31	1.41	.57	.46	.46	.36

CAL YR 1989 TOTAL 120708 MEAN 331 MAX 8080 MIN 43 CFSM 2.83 IN. 38.38
WTR YR 1990 TOTAL 86705 MEAN 238 MAX 4170 MIN 25 CFSM 2.03 IN. 27.57

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 CSX 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.--Records fair, except those above 250 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.--31 years (water years 1941, 1950-77, 1987-1990), 57.4 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; maximum gage height, 10.82 ft, Feb. 16, 1990, (backwater from Ocoee River); minimum daily, 3.1 ft^3/s, July 30, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge recorded, 1870 ft^3/s, July 13, gage height 3.48 ft, from rating curve extended above 250 ft^3/s, on basis of slope conveyance of peak flow at gage height, 3.48 ft, but may have been more during period of backwater from Ocoee River on Feb. 16, when stage reached 10.82 ft; minimum daily, 32 ft^3/s, Feb. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	268	34	56	48	42	60	54	64	51	76	48	53
2	104	36	51	47	41	77	59	62	49	63	51	56
3	74	36	50	44	43	80	55	62	46	61	54	59
4	68	35	50	59	70	72	53	62	41	63	59	60
5	69	36	49	47	41	69	53	68	42	57	82	61
6	67	42	49	48	39	56	55	60	47	66	58	59
7	60	41	50	48	38	55	52	56	52	66	57	55
8	57	44	59	51	37	68	51	54	52	65	56	55
9	56	41	52	49	37	80	54	63	56	64	56	59
10	52	40	51	47	126	75	52	72	51	79	57	64
11	55	41	50	48	40	68	52	53	51	51	56	64
12	54	41	53	48	35	68	53	55	47	52	56	78
13	56	42	51	49	33	66	53	53	48	155	60	64
14	56	44	50	49	32	66	53	53	52	82	60	70
15	55	115	50	49	60	67	53	55	53	51	58	66
16	56	84	56	48	e950	302	53	58	51	50	56	61
17	56	46	55	48	131	375	53	64	54	45	60	63
18	54	45	49	51	111	104	50	58	48	46	62	60
19	49	46	48	52	121	85	59	55	51	45	63	59
20	47	46	48	e100	109	81	58	58	66	47	65	59
21	44	46	49	e70	102	80	65	59	62	45	61	71
22	45	85	48	e60	129	77	61	58	55	46	62	60
23	42	55	47	e60	91	75	62	57	62	47	61	54
24	41	49	47	e60	88	73	64	58	65	45	60	54
25	40	49	47	e100	83	72	62	59	66	47	60	51
26	40	48	47	51	75	66	62	52	68	49	60	54
27	39	51	47	49	68	69	62	52	67	47	62	53
28	39	53	47	47	63	65	69	53	67	44	65	55
29	37	51	48	77	---	67	60	51	65	40	64	56
30	37	53	47	46	---	65	58	53	65	36	55	56
31	35	---	75	44	---	56	---	55	---	36	57	---
TOTAL	1852	1475	1576	1694	2835	2739	1700	1792	1650	1766	1841	1789
MEAN	59.7	49.2	50.8	54.6	101	88.4	56.7	57.8	55.0	57.0	59.4	59.6
MAX	268	115	75	100	950	375	69	72	68	155	82	78
MIN	35	34	47	44	32	55	50	51	41	36	48	51

CAL YR 1989 TOTAL 21318 MEAN 58.4 MAX 422 MIN 34
WTR YR 1990 TOTAL 22709 MEAN 62.2 MAX 950 MIN 32

e Estimated

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 good. 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.--78 years, 1,232 ft^3/s, 31.93 in/yr unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,400 ft^3/s, Feb. 16, 1990, gage height, 17.06 ft, from high water mark in gage well, 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, 51,400 ft^3/s, Feb. 16, gage height, 17.06 ft, from high water mark in gage well, from rating curve extended as explained above; minimum, 22 ft^3/s, Sept. 28, gage height, 2.36 ft; minimum daily, 45 ft^3/s, May 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7680	1900	1650	1930	2760	4500	2790	2150	1240	553	1190	621
2	3470	1900	1830	1600	2610	3840	2460	1290	1010	732	1210	629
3	2260	1690	1850	1490	2350	3310	2420	1510	834	891	1220	656
4	2380	1930	1670	1460	4720	4390	2380	1680	1260	800	1230	609
5	1840	1990	1520	1590	3000	3580	1240	1310	953	723	1280	749
6	2060	1920	1850	1650	2580	3260	1220	1470	936	690	1270	832
7	2080	1500	1840	1620	2560	3180	1260	1390	1020	618	1260	831
8	2100	1880	2090	1710	2520	3410	1250	1250	943	566	1210	756
9	1990	2150	2320	1640	2520	3760	1230	1300	951	660	1180	659
10	1840	2270	1890	1560	5620	3100	734	2970	878	1120	1220	731
11	1950	2010	1880	1620	3750	2510	1240	1820	949	787	1310	1060
12	1860	1470	2260	1490	3100	2850	1260	1890	148	762	1210	185
13	1650	1710	2470	1500	3000	1260	1280	1550	170	1610	1200	565
14	2020	2020	2100	1500	2780	1460	1240	1550	543	3510	842	649
15	1880	2260	2220	1470	2810	1410	1240	1560	647	1590	732	630
16	1630	2670	2460	1480	e24000	7530	1190	1420	917	1290	763	672
17	2220	2090	2440	1450	e7500	12100	1210	862	654	1260	731	589
18	2120	1880	2430	1250	e5800	6790	1190	703	685	1270	730	315
19	1900	2170	1950	925	e5100	6780	1200	1230	644	1060	734	232
20	1820	1580	1900	923	e5400	6160	1220	1240	688	1200	1140	393
21	2060	1100	2120	2850	5060	5750	1220	1320	723	1360	930	315
22	1960	996	2050	2190	4110	4260	1220	704	730	1300	1150	826
23	1630	2250	2340	2240	4590	4340	1250	50	636	676	821	654
24	1770	1180	2200	2250	5040	4640	1240	45	521	801	805	225
25	1920	858	2050	3060	4410	4320	1430	239	602	1100	807	357
26	1890	900	1870	3350	4410	3770	1810	985	470	1040	691	331
27	1660	1150	1140	2590	4650	2690	1600	1010	489	1160	690	307
28	1850	806	1200	2390	4500	3380	1280	1020	717	1140	804	282
29	1910	793	1200	3210	---	3040	1290	1160	684	983	811	440
30	1680	1290	1090	3850	---	2780	1530	1220	645	1200	759	402
31	1910	---	2330	2620	---	3280	---	1210	---	1190	612	---
TOTAL	66990	50313	60210	60458	131250	127430	43124	39108	22287	33642	30542	16502
MEAN	2161	1677	1942	1950	4687	4111	1437	1262	743	1085	985	550
MAX	7680	2670	2470	3850	24000	12100	2790	2970	1260	3510	1310	1060
MIN	1630	793	1090	923	2350	1260	734	45	148	553	612	185
(†)	-12200	-3800	-12800	+14800	+11800	+2800	+8600	+200	+500	-6100	-14800	-800
MEAN‡	1767	1550	1529	2428	5109	4201	1724	1268	760	888	508	523
CFSM‡	3.37	2.96	2.92	4.63	9.75	8.02	3.29	2.42	1.45	1.69	.97	1.00
IN.‡	3.89	3.30	3.36	5.34	10.15	9.24	3.67	2.79	1.62	1.95	1.12	1.11

CAL YR 1989 TOTAL 578952 MEAN 1586 MAX 7680 MIN 39 MEAN‡ 1643 CFSM‡ 3.14 IN.‡ 42.57
WTR YR 1990 TOTAL 681856 MEAN 1868 MAX 24000 MIN 45 MEAN‡ 1836 CFSM‡ 3.50 IN.‡ 47.56

e Estimated
† Change in contents, in cfs-days, in Blue Ridge Lake (Georgia).
‡ Adjusted for change in contents in lakes or 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. 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.--74 years, 1,320 ft^3/s, 30.13 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,800 ft^3/s, Feb. 16, 1990, gage height, 24.76 ft, from high water mark in gage house, from rating curve extended above 15,000 ft^3/s on basis of contracted-opening measurement; 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, 61,800 ft^3/s, Feb. 16, gage height, 24.76 ft, from high water mark in gage house from rating curve extended as explained above; minimum, 28 ft^3/s, June 14, gage height, 2.52 ft; minimum daily, 164 ft^3/s, May 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10100	2450	1470	2230	3160	4420	3260	2250	1310	800	1450	613
2	6530	2100	1910	2140	3080	4240	2680	1990	1120	872	1470	646
3	3320	1710	1320	1970	2870	4390	2780	1700	1140	934	1480	682
4	2800	846	1670	1810	3740	4450	2720	2100	1510	977	1500	996
5	1910	544	1320	1880	3970	4030	1970	1920	1630	977	1830	1140
6	2160	1220	1650	2000	3330	3470	1650	1800	1440	963	1830	1110
7	1980	1520	1640	2090	3060	3360	1630	1920	1330	952	1540	1090
8	2120	1610	1620	2150	2890	3360	1610	1670	1310	885	1410	1070
9	2310	2570	1670	2240	2810	3980	1600	1710	1280	846	1410	999
10	1680	2550	1690	2110	5350	4100	1360	3000	1270	1020	1500	979
11	1730	2620	1640	1980	5600	2750	1350	2780	1260	840	1530	1100
12	1420	2720	1910	1850	3810	2860	1560	2420	786	940	1530	800
13	1780	2050	2420	1750	3480	2470	1630	2140	367	1960	1510	791
14	2220	1900	2490	e2000	3140	1780	1600	1990	377	3520	1380	1030
15	2360	2130	2410	e2100	3070	1680	1600	1960	883	3040	1070	923
16	2210	4540	2470	e1700	e28000	6200	1560	1890	805	2330	871	905
17	2550	3740	2530	e1800	e12000	16800	1540	1400	840	1940	894	791
18	2750	2280	2200	e2000	e7600	9180	1550	1080	859	1760	910	529
19	3020	2260	1930	e1600	e6400	7250	1540	1380	876	1610	911	519
20	3130	2280	2080	e1600	e6700	6610	1540	1560	859	1540	1020	512
21	3030	1710	2200	e2900	4630	6310	1610	1580	875	1620	1080	509
22	3020	2280	2110	e3200	4460	4670	1630	1430	904	1810	1210	597
23	1730	2430	2210	2670	4660	4360	1630	621	920	1590	1220	816
24	1870	2290	2290	2490	4940	4630	1610	169	858	1240	1160	800
25	1780	2360	2230	2920	4710	4520	1630	164	806	1200	1110	717
26	1620	2410	2160	3560	4220	4110	2040	562	827	1260	1050	545
27	1790	2330	1870	3380	4560	3080	2080	816	782	1320	995	408
28	1760	2350	1580	2980	4460	3470	1720	1000	750	1370	993	427
29	1890	942	1460	2930	---	3450	1660	1190	791	1340	1020	563
30	1710	1420	1340	3850	---	2990	1690	1320	830	1380	1060	566
31	1680	---	1430	3560	---	3340	---	1400	---	1430	807	---
TOTAL	79960	64162	58920	73440	150700	142310	54030	48912	29595	44266	38751	23173
MEAN	2579	2139	1901	2369	5382	4591	1801	1578	986	1428	1250	772
MAX	10100	4540	2530	3850	28000	16800	3260	3000	1630	3520	1830	1140
MIN	1420	544	1320	1600	2810	1680	1350	164	367	800	807	408

CAL YR 1989 TOTAL 648529 MEAN 1777 MAX 10100 MIN 84 MEAN‡ 1843 CFSM‡ 3.10 IN‡ 42.04
WTR YR 1990 TOTAL 808219 MEAN 2214 MAX 28000 MIN 164 MEAN‡ 2176 CFSM‡ 3.66 IN‡ 49.65

e Estimated
‡ Adjusted for changes in contents in Blue Ridge Lake (Georgia) and Lake Ocoee.
NOTE.--Contents (cts-days) for adjustments furnished by Tennessee Valley Authority.

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 Norfork/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. 158 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.

CO-OPERATION.--Records for December and January furnished by Bowater Paper Company.

AVERAGE DISCHARGE.--40 years, (water years 1901-02, 1920-39, 1964-76, 1980-81, 1988-90), 4,775 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 discharge recorded, 42,000 ft^3/s, Mar. 18, but may have been more during period of no velocity record Feb. 17; maximum gage height, 25.65 ft, Feb. 17; minimum daily discharge, 1,950 ft^3/s, June 14; minimum gage height, 11.13 ft, Jan. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27400	e7600	6820	7940	e11300	e14500	8840	3480	3530	2070	3900	2420
2	22900	e7200	7070	6540	e11100	e13600	8030	3680	2920	2440	3830	2310
3	16000	e6800	6340	5990	e11200	e15800	6630	3700	3020	2550	4030	2270
4	12100	e6000	6940	6000	e16600	e16900	6210	5160	4020	2540	3160	3060
5	10200	e5700	6600	6950	e16900	e15000	5730	5550	4100	2620	3520	3490
6	e9500	e6400	6750	8120	e12900	14300	4870	4090	3810	2530	3740	3350
7	e8400	e7000	6860	7770	e11800	11200	4210	3990	3110	2200	4260	e4000
8	e8300	e7000	7170	9390	e11300	10300	3400	4300	3150	2150	3910	e2800
9	e8300	e8200	7220	9380	e10200	10700	3470	4260	3170	2290	3920	e2800
10	e7300	e8000	7070	8120	e16100	12500	3540	7150	4040	2410	4010	e3900
11	e7500	e7900	7230	8150	e19900	11100	3360	7340	4000	2820	3220	e3400
12	e7100	e8000	8880	7570	e15800	10400	4110	4780	3450	2130	3090	e3100
13	e7400	e6800	9040	7290	e13900	9730	4220	4150	2180	3170	2830	e3000
14	e7800	e6000	8100	7040	e13000	9150	3720	4600	1950	6740	3800	e2900
15	e7900	e6600	7560	7810	e12600	8480	3180	4680	2640	7080	3750	e2800
16	e7600	e11900	7200	7540	e34700	14200	3140	4580	2730	5300	3360	e2700
17	e8000	e10700	6910	7260	e29800	30600	3110	4250	2760	4760	3500	e2500
18	e8300	e7200	7870	7430	e21000	31900	3330	4120	2610	4310	2780	e2200
19	e8500	e7000	6870	6940	e19700	20600	3300	3310	2640	4090	2570	e2000
20	e8600	e6900	6880	7050	e19600	17800	3250	3220	2710	2870	3360	e2400
21	e8500	e6500	7310	9880	e16700	16800	3360	4000	2830	2210	3700	e2800
22	e8400	e7400	9010	9300	e16400	15100	3240	3510	2870	5000	3800	e2400
23	e7000	e8800	8560	9480	e17000	14100	3050	2910	2890	4140	3950	e2700
24	e7200	e8000	8620	9040	e16300	12500	3240	2510	2370	3600	3780	e3100
25	e7100	e7700	7820	10600	e15500	12100	3210	2170	2490	3780	3020	e3000
26	e6900	e7600	6550	10600	e14800	11000	3600	2400	2720	3770	2820	e2800
27	e7000	e7700	5710	9890	e14900	10400	3650	2700	2740	3790	3470	e2800
28	e7000	e7800	5250	8990	e14600	9960	2960	2780	2690	3100	3590	e2800
29	e7300	e6500	5140	9940	---	10100	2790	3680	2660	3120	3440	e2200
30	e6900	e6800	4880	10800	---	9510	2660	3660	2560	3960	3620	e2200
31	e6900	---	6700	10800	---	9410	---	3740	---	4070	3420	---
TOTAL	289300	223700	220930	259600	455600	429740	121410	124450	89360	107610	109150	84200
MEAN	9332	7457	7127	8374	16270	13860	4047	4015	2979	3471	3521	2807
MAX	27400	11900	9040	10800	34700	31900	8840	7340	4100	7080	4260	4000
MIN	6900	5700	4880	5990	10200	8480	2660	2170	1950	2070	2570	2000

CAL YR 1989 TOTAL 2265490 MEAN 6207 MAX 27400 MIN 2080
WTR YR 1990 TOTAL 2515050 MEAN 6891 MAX 34700 MIN 1950

e Estimated

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.--60 years (water years 1929-78, 1981-90), 696 ft^3/s, 22.08 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)
Oct. 2	0800	13,300	21.09	Feb. 17	1300	*27,300	*28.72
Jan. 21	1900	5,760	15.17	Mar. 3	1430	5,660	15.06
Feb. 4	1100	6,500	15.94	Mar. 9	2330	5,660	15.07
Feb. 11	0530	6,010	15.44	Mar. 17	2330	19,200	24.67

Minimum discharge, 127 ft^3/s, Sept. 7-9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11100	244	583	4450	1390	769	606	411	327	166	157	137
2	12800	228	527	2260	1180	1600	553	438	302	165	155	137
3	8270	223	481	1170	1650	5370	507	397	530	162	154	134
4	3520	221	430	1700	6040	4150	484	752	452	160	163	133
5	1290	215	411	3100	5410	1890	448	749	350	159	243	131
6	963	586	397	3630	3460	1290	445	517	297	158	205	129
7	766	672	382	3350	1710	1080	527	433	278	158	178	127
8	635	569	686	4480	1310	1490	483	373	272	156	161	127
9	546	613	1060	4720	1110	4250	430	495	258	154	157	127
10	489	527	857	3000	3860	4910	429	3370	244	173	336	140
11	448	417	697	1570	5460	2870	494	3220	233	251	280	142
12	400	361	1550	1240	3140	1620	461	1180	224	643	183	170
13	371	330	2190	984	1540	1270	414	951	218	1790	174	238
14	349	347	1250	829	1200	1090	396	839	209	725	161	379
15	347	613	966	746	1520	962	395	641	207	399	160	246
16	331	3700	858	680	10900	5150	390	580	201	284	155	174
17	398	2770	687	615	25000	15600	377	596	200	233	150	154
18	427	1110	617	639	15900	15900	374	539	199	214	147	144
19	416	818	617	657	5270	6030	362	454	195	202	146	141
20	393	684	659	1150	2930	2270	337	449	192	198	162	141
21	339	590	565	5260	1870	1460	387	443	208	193	149	176
22	314	987	490	4400	1660	1200	514	518	197	208	185	369
23	296	4710	411	1950	1980	1020	460	415	420	217	168	259
24	283	3600	394	1380	1390	889	401	374	224	193	159	174
25	271	1650	386	3680	1110	786	370	346	192	176	148	158
26	264	1100	383	4340	973	711	348	325	183	170	142	151
27	261	931	380	2520	877	682	327	451	178	166	142	144
28	252	966	370	1420	817	627	428	615	176	164	140	141
29	248	922	356	2240	---	647	789	663	174	161	138	139
30	247	670	375	3410	---	703	497	428	172	159	139	138
31	247	---	2820	2230	---	656	---	360	---	157	137	---
TOTAL	47281	31374	22835	73800	110657	88942	13433	22322	7512	8514	5274	5100
MEAN	1525	1046	737	2381	3952	2869	448	720	250	275	170	170
MAX	12800	4710	2820	5260	25000	15900	789	3370	530	1790	336	379
MIN	247	215	356	615	817	627	327	325	172	154	137	127
CFSM	3.56	2.44	1.72	5.56	9.23	6.70	1.05	1.68	.59	.64	.40	.40
IN.	4.11	2.73	1.98	6.41	9.62	7.73	1.17	1.94	.65	.74	.46	.44

CAL YR 1989 TOTAL 402709 MEAN 1103 MAX 12800 MIN 153 CFSM 2.58 IN. 35.00
WTR YR 1990 TOTAL 437044 MEAN 1197 MAX 25000 MIN 127 CFSM 2.80 IN. 37.99

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. 158 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.--116 years, 36,650 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, 169,000 ft^3/s, Feb. 19; maximum gage height, 29.77 ft, Feb. 17; minimum daily discharge, 4,540 ft^3/s, Apr. 24; minimum gage height, 11.22 ft, May 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125000	48900	56900	40900	97300	85300	26200	15600	31400	18100	33100	23000
2	138000	48100	50800	45700	86700	76900	26900	23300	37400	17000	30500	22700
3	120000	48200	50400	49500	76000	77700	28500	29800	39200	14700	37800	24800
4	88300	48600	53500	59000	87100	86200	29300	39900	35700	17000	34800	29200
5	78900	48200	57500	61300	101000	84300	24600	18100	30200	23800	35800	38500
6	77900	48600	57300	61400	99100	83400	29900	26200	33000	24500	39100	38000
7	73600	49000	57000	61500	96300	77100	14000	30500	34400	16600	39300	41000
8	63200	50400	58700	66000	94300	60800	12000	34600	33600	15700	39300	24700
9	62900	53000	61500	77300	86900	55100	21200	34300	31400	28400	40500	23600
10	59700	53100	61300	80800	79400	53300	19000	39100	33400	23800	31800	37000
11	53600	53000	58200	79600	90400	51900	20200	45500	28000	24200	37600	34500
12	52600	53000	53600	73400	104000	50300	20000	40500	27600	19400	41200	31100
13	53000	53000	56700	63400	109000	50100	18500	25400	32100	34900	36400	27200
14	52800	52900	59000	63000	107000	52200	6510	28500	31700	28500	36600	28500
15	52500	54800	56800	59400	107000	58600	4830	27600	29000	41200	36900	30100
16	52200	65700	54300	55100	127000	68100	5190	42200	33800	25100	37100	25300
17	51000	78400	54100	57500	150000	121000	5570	37700	24600	32800	39100	23100
18	47300	76100	54200	62300	154000	128000	13200	37100	23600	27500	37700	23400
19	47300	74900	54500	55000	155000	115000	18900	27100	24800	27500	30600	23600
20	50600	70300	55400	43300	153000	109000	6200	21000	26900	34700	36500	23800
21	55300	60700	57500	46600	145000	107000	6260	27000	26100	35800	38400	31500
22	54800	58600	62000	57700	140000	98900	7130	31500	22900	28800	37700	31200
23	53600	63400	68700	64200	129000	79000	4820	30100	20000	32900	35500	21800
24	51900	68300	69500	69100	111000	59100	4540	40500	19800	28100	34000	21100
25	51800	74400	58500	80600	108000	52200	13300	27400	21800	34800	40400	22400
26	51900	73200	27900	75800	100000	52000	20500	33200	15100	36600	39100	22100
27	50000	64000	28900	61000	89100	49100	16200	15300	24400	37000	34100	23100
28	46900	64600	27600	59100	88300	44100	8450	20000	26300	33600	33400	21200
29	47100	66600	28900	59600	---	44500	8440	35200	22900	31100	34700	18300
30	48100	60400	23100	72400	---	44400	11000	38300	23700	34100	33700	16700
31	49700	---	25600	97400	---	41000	---	37900	---	34700	28500	---
TOTAL	1961500	1782400	1599900	1958900	3070900	2215600	451340	960400	844800	862900	1121200	802500
MEAN	63270	59410	51610	63190	109700	71470	15040	30980	28160	27840	36170	26750
MAX	138000	78400	69500	97400	155000	128000	29900	45500	39200	41200	41200	41000
MIN	46900	48100	23100	40900	76000	41000	4540	15300	15100	14700	28500	16700
CFSM	2.96	2.78	2.41	2.95	5.12	3.34	.70	1.45	1.32	1.30	1.69	1.25
IN.	3.41	3.10	2.78	3.41	5.34	3.85	.78	1.67	1.47	1.50	1.95	1.39

CAL YR 1989 TOTAL 16720650 MEAN 45810 MAX 165000 MIN 6280 CFSM 2.14 IN. 29.07
WTR YR 1990 TOTAL 17632340 MEAN 48310 MAX 155000 MIN 4540 CFSM 2.26 IN. 30.65

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 283 (formerly 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.--70 years, 744 ft^3/s, 25.13 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)
Oct. 2	0900	*12,500	*14.58	Feb. 17	0400	10,200	14.14
Feb. 5	0200	11,600	14.43	Mar. 17	2130	7,760	13.59
Feb. 11	0830	7,640	13.56				

Minimum discharge, 39 ft^3/s, Sept. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8390	228	715	3310	2070	940	889	564	269	114	82	56
2	12000	219	663	2650	1650	1100	859	576	256	113	79	54
3	8870	212	606	1870	2050	2250	806	630	696	105	76	55
4	4440	202	553	1780	7970	2280	754	1140	626	102	75	58
5	2370	197	523	2210	9920	1790	712	1300	427	101	83	54
6	1650	305	496	2240	6230	1460	686	1260	338	97	90	51
7	1270	397	468	2150	3310	1250	735	1110	297	95	185	50
8	1070	494	504	2710	2350	1230	707	919	292	91	343	48
9	929	848	604	3230	1800	1640	677	827	264	88	236	46
10	821	830	612	2620	4300	2070	661	1400	250	96	154	44
11	731	699	615	1990	6970	1830	675	1510	235	110	170	41
12	655	596	632	1580	4290	1730	643	1230	220	108	170	43
13	591	518	634	1310	2670	1430	605	1010	211	135	184	63
14	539	490	606	1130	1940	1250	580	864	203	183	137	72
15	495	621	584	1010	1820	1130	569	743	195	181	118	70
16	466	1960	551	926	6480	3160	546	650	184	153	105	67
17	497	1950	504	846	8920	6840	521	624	179	135	93	66
18	484	1500	481	928	4800	6600	499	658	173	122	87	62
19	454	1180	469	1040	2930	4030	470	565	167	112	80	59
20	442	1000	458	1450	2260	2480	446	513	161	105	76	58
21	397	891	438	4280	1810	1830	523	486	166	105	73	57
22	361	898	395	3540	1660	1500	1060	464	163	104	83	71
23	338	1760	350	2500	1770	1290	936	433	156	113	72	72
24	316	1760	352	1850	1560	1130	808	406	147	206	69	70
25	298	1450	334	1670	1350	1020	701	381	141	161	67	66
26	285	1210	330	1470	1180	931	620	355	134	130	63	62
27	273	1060	321	1290	1070	855	563	346	128	115	60	59
28	258	952	313	1160	996	791	578	353	125	103	58	57
29	249	860	303	1980	---	808	625	330	121	95	55	54
30	243	781	311	3470	---	886	581	308	117	91	67	53
31	237	---	1800	2710	---	870	---	288	---	87	64	---
TOTAL	50419	26068	16525	62900	96126	58401	20035	22243	7041	3656	3354	1738
MEAN	1626	869	533	2029	3433	1884	668	718	235	118	108	57.9
MAX	12000	1960	1800	4280	9920	6840	1060	1510	696	206	343	72
MIN	237	197	303	846	996	791	446	288	117	87	55	41
CFSM	4.05	2.16	1.33	5.05	8.54	4.69	1.66	1.78	.58	.29	.27	.14
IN.	4.67	2.41	1.53	5.82	8.90	5.40	1.85	2.06	.65	.34	.31	.16

CAL YR 1989 TOTAL 514705 MEAN 1410 MAX 12000 MIN 183 CFSM 3.51 IN. 47.63
WTR YR 1990 TOTAL 368506 MEAN 1010 MAX 12000 MIN 41 CFSM 2.51 IN. 34.10

Lower Tennessee River Basin

Map number	Station number	Station name
136	03571800	BATTLE CR NR MONTEAGLE
137	03580995	E. FORK MULBERRY CREEK AT LYNCHBURG
138	03583300	RICHLAND CR NR CORNERSVILLE
139	03584600	ELK RIVER AT PROSPECT
140	03588000	SHOAL CREEK AT LAWRENCEBURG
141	03588500	SHOAL CREEK AT IRON CITY
142	03593005	TENNESSEE RIVER AT PICKWICK LANDING DAM
143	03593500	TENNESSEE RIVER AT SAVANNAH, TN
144	035944242	OWL CREEK AT LEXINGTON
145	03597300	WARTRACE CR ABOVE BELL BUCKLE
146	03597590	WARTRACE CR BELOW COUNTY RD AT WARTRACE
147	03598000	DUCK RIVER NEAR SHELBYVILLE
148	03599500	DUCK RIVER AT COLUMBIA
149	035999716	RUTHERFORD CR TRIB AT MOORES LANE NR KEDRON
150	03600085	CARTERS CR AT PETTY LN NR CARTERS CR TN
151	03600086	CARTERS CR TRIB NR CARTERS CR TN
152	03600088	CARTERS CR AT BUTLER RD AT CARTERS CR
153	03602170	WEST PINEY RIVER NR DICKSON
154	03602219	PINEY RIVER NR CEDAR HILL
155	03602500	PINEY RIVER AT VERNON
156	03603000	DUCK RIVER ABOVE HURRICANE MILLS
157	03604000	BUFFALO RIVER NEAR FLAT WOODS
158	03604070	COON CR TRIB NR HOHENWALD
159	03604080	HUGH HOLLOW BR NR HOHENWALD
160	03604090	COON CR ABOVE CHOP HOLLOW NR HOHENWALD
161	03604400	BUFFALO RIVER BELOW LOBELVILLE
162	03604580	BLUE CR NR NEW HOPE
163	03604595	LITTLE BLUE CR TRIB NR GORMAN
164	03605555	TRACE CREEK ABOVE DENVER
165	03605880	CANE CR NR STEWART

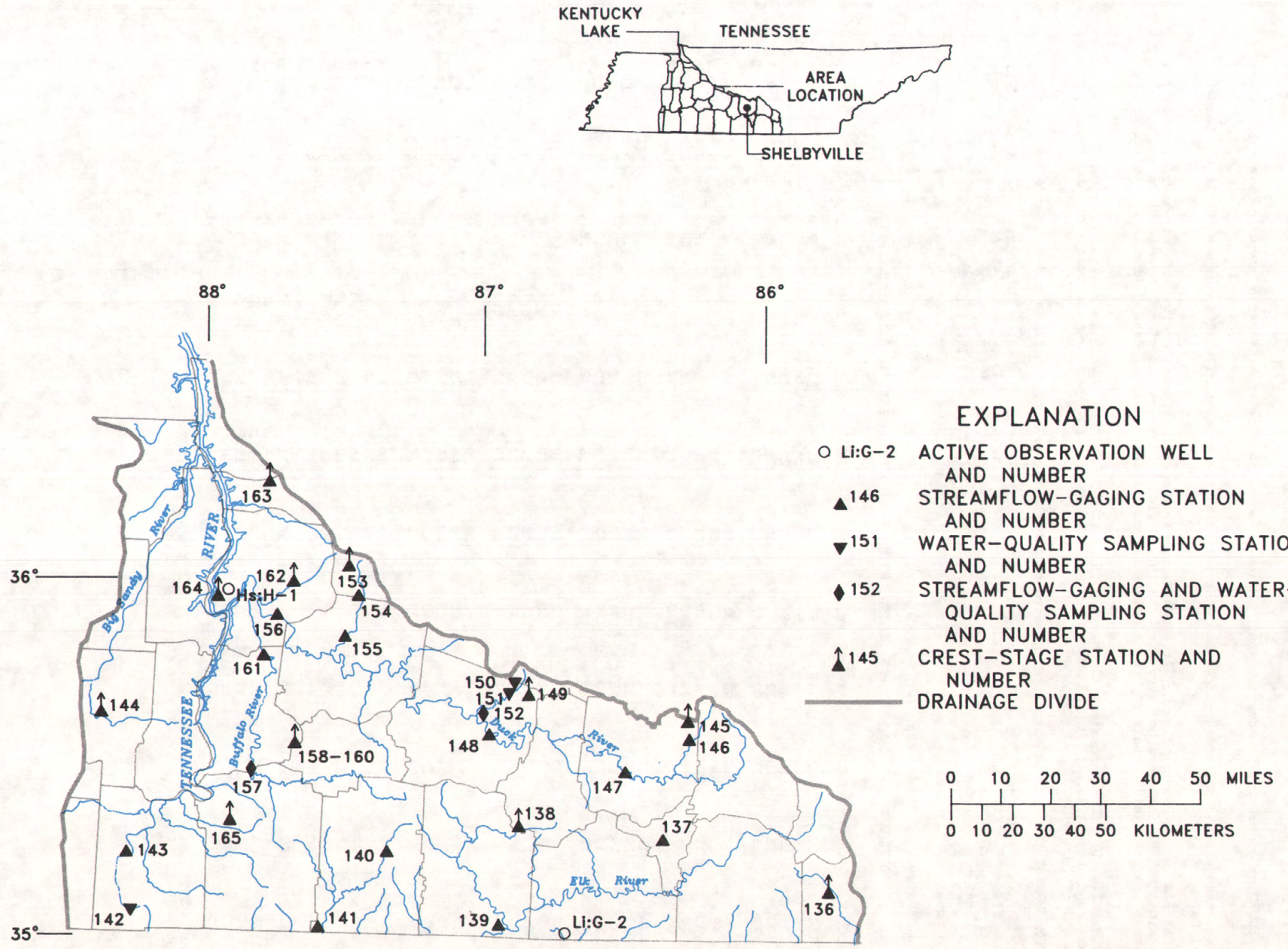

Figure 7.--Location of gaging sites in the lower Tennessee River Basin.

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. 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, from rating curve extended above 1,000 ft^3/s on basis of step backwater and slope area computations of peak flow; 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)
Oct. 1	1545	*2,610	*7.90	Mar. 16	0500	1,150	5.98
Feb. 3	2230	1,300	6.30	June 21	0745	1,110	5.87
Feb. 10	0515	892	5.23	Sept. 21	1915	851	5.10

Minimum discharge, 3.8 ft^3/s, Aug. 26, Sept. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1120	14	20	131	94	32	25	23	13	7.9	7.3	4.0
2	478	14	19	84	87	81	25	29	13	7.6	7.2	4.3
3	174	13	18	65	337	101	23	23	21	7.1	6.7	4.3
4	100	13	16	111	620	80	23	85	16	6.9	6.7	4.9
5	70	13	17	108	213	65	22	86	13	6.9	8.1	4.9
6	53	20	17	99	135	55	23	51	13	6.6	7.6	4.7
7	42	15	16	87	103	48	21	38	12	6.0	6.9	5.0
8	35	21	19	141	80	91	20	31	11	e6.4	6.4	4.4
9	30	20	19	132	146	199	20	28	10	e6.4	6.2	4.8
10	26	16	18	96	570	177	21	34	9.4	e6.4	6.2	7.8
11	24	15	17	76	221	120	21	26	9.7	7.5	5.6	8.8
12	22	14	17	59	133	89	19	23	9.5	14	5.3	11
13	21	14	17	46	100	72	18	22	9.2	17	6.2	9.2
14	20	15	17	40	79	62	18	20	8.9	10	5.9	15
15	19	68	17	36	105	74	18	19	10	8.4	6.1	65
16	19	81	15	33	312	610	18	18	8.8	8.5	5.9	12
17	19	43	15	31	158	278	19	23	8.2	8.1	5.3	9.0
18	18	32	15	57	116	162	17	17	8.7	7.8	4.7	8.2
19	17	26	16	51	92	112	17	17	9.1	7.8	4.5	13
20	16	23	15	321	72	83	16	33	8.3	7.7	5.4	16
21	16	21	14	332	61	68	39	27	124	8.5	5.7	88
22	16	58	11	156	60	58	44	22	23	8.3	6.0	58
23	15	75	11	108	52	49	36	19	15	12	5.5	20
24	15	53	13	90	42	43	31	18	12	9.2	5.1	13
25	14	42	14	82	36	38	27	17	11	8.4	4.5	11
26	14	36	13	65	34	35	25	15	9.8	7.7	4.3	9.6
27	13	31	13	58	32	32	23	19	9.0	7.3	5.1	8.5
28	14	27	12	52	31	31	28	17	8.3	6.3	5.3	7.6
29	14	23	13	268	---	31	23	16	8.0	6.1	5.0	6.8
30	14	20	47	200	---	29	21	14	8.2	8.2	4.8	6.7
31	14	---	220	124	---	27	---	14	---	8.3	4.2	---
TOTAL	2482	876	721	3339	4121	3032	701	844	450.1	255.3	179.7	445.5
MEAN	80.1	29.2	23.3	108	147	97.8	23.4	27.2	15.0	8.24	5.80	14.8
MAX	1120	81	220	332	620	610	44	86	124	17	8.1	88
MIN	13	13	11	31	31	27	16	14	8.0	6.0	4.2	4.0
CFSM	3.42	1.25	.99	4.60	6.29	4.18	1.00	1.16	.64	.35	.25	.63
IN.	3.95	1.39	1.15	5.31	6.55	4.82	1.11	1.34	.72	.41	.29	.71

CAL YR 1989 TOTAL 23302.1 MEAN 63.8 MAX 1120 MIN 8.5 CFSM 2.73 IN. 37.04
WTR YR 1990 TOTAL 17446.6 MEAN 47.8 MAX 1120 MIN 4.0 CFSM 2.04 IN. 27.74

e Estimated

03584600 ELK RIVER AT PROSPECT, TN

LOCATION.--Lat 35°00'51", long 86°59'41", Giles County, Hydrologic Unit 06030004, on right bank 25 ft upstream from county road bridge, 800 ft above abandoned L and N Railroad bridge, 0.4 mi above Ford Creek, 0.8 mi south of Prospect, 2.9 mi upstream from Tennessee-Alabama State line, and at mile 36.5.

DRAINAGE AREA.--1,805 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. Published as "near Prospect, Tn." 1935-89.

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 558.70 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 6.9 mi downstream at datum 8.93 ft lower. January 1934 to September 1989, water-stage recording at site 5.0 mi upstream at datum 4.59 ft higher.

REMARKS.--Records good. Daily discharge for period Oct. 1 to Nov. 14 from previous site. 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.--74 years (water years 1905-7, 1920-90), 3,050 ft^3/s, 22.95 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 117,000 ft^3/s, Mar. 17, 1973, gage height, 40.12 ft, site and datum then in use, 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, site and datum then in use, 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 daily discharge, 36,200 ft^3/s, Oct. 3; minimum, 221 ft^3/s, Sept. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22200	502	4110	13300	7980	3660	1530	1330	1630	1200	337	230
2	35400	524	3980	6990	8240	6500	1280	1950	2510	439	330	230
3	36200	501	2640	4560	12300	10100	1160	2130	2180	351	323	233
4	18100	531	1150	6400	26800	9130	1070	2420	1870	673	313	233
5	8120	513	1880	9610	32300	7650	1020	7100	1250	376	305	230
6	6530	501	3060	8440	22000	5730	1010	4640	923	303	350	228
7	5890	531	2150	6920	10500	2890	1060	2760	780	735	354	232
8	5500	527	2660	6250	9010	4900	1020	2480	695	360	335	258
9	5230	521	2940	7830	9300	10800	933	2490	627	285	314	228
10	5070	511	2410	7270	23400	11900	897	3040	597	300	289	226
11	4940	510	1030	6250	26000	7840	966	2740	569	1130	276	243
12	4840	1060	1410	5490	20100	5460	961	2980	528	802	278	1010
13	4750	832	2660	4680	10500	4190	845	1930	497	1850	292	1270
14	4680	1480	2940	4030	10100	3400	804	1190	505	1660	292	1260
15	2650	3900	3090	3160	11000	3370	803	1230	692	1620	284	1300
16	1550	8810	3120	2840	16800	14400	803	2500	753	585	282	1110
17	2780	7610	2150	3030	15000	20300	778	2410	755	433	282	459
18	3780	5530	838	3990	10200	13900	776	2640	596	471	274	328
19	3740	3450	1420	4560	10500	11100	1010	2060	647	1400	266	1060
20	3690	1880	2440	7790	9830	9140	2840	2480	514	1340	257	1290
21	3600	2700	3450	18800	9070	5910	4030	4100	436	e1500	311	1330
22	2260	4920	3050	14200	8700	5120	6410	3350	2030	e1320	315	1330
23	901	8430	3760	8120	6390	4630	4100	3590	1650	e657	280	1350
24	971	7020	3270	7000	6040	4190	2940	2700	736	e587	279	492
25	1160	4930	2300	6450	5940	3400	2790	2920	566	e503	e273	344
26	898	3710	2390	4780	5700	3140	1940	2640	495	e433	e264	326
27	1320	2250	815	5810	5560	2900	2450	2450	1370	e353	e264	509
28	1070	3120	685	3950	4570	2220	1910	1310	1360	369	e264	278
29	838	4220	642	6550	---	2070	2240	1160	1300	353	e260	248
30	553	4320	807	13000	---	2110	1530	974	1310	357	e255	239
31	500	---	9010	10000	---	2120	---	851	---	339	232	---
TOTAL	199711	85844	78257	222050	353830	204170	51906	78545	30371	23084	9030	18104
MEAN	6442	2861	2524	7163	12640	6586	1730	2534	1012	745	291	603
MAX	36200	8810	9010	18800	32300	20300	6410	7100	2510	1850	354	1350
MIN	500	501	642	2840	4570	2070	776	851	436	285	232	226

CAL YR 1989 TOTAL 1888753 MEAN 5175 MAX 42300 MIN 268 MEAN‡ 5140 CFSM‡ 2.85 IN.‡ 38.65
WTR YR 1990 TOTAL 1354902 MEAN 3712 MAX 36200 MIN 226 MEAN‡ 3686 CFSM‡ 2.04 IN.‡ 27.72

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^2.

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.--24 years (water years 1933, 1968-90), 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)
Oct. 1	1215	2,800	6.32	Feb. 10	0545	2,660	6.17
Feb. 3	1445	2,090	5.54	Mar. 9	1045	1,910	5.33
Feb. 3	2145	*5,800	*9.30				

Minimum discharge, 18 ft^3/s, Sept. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	43	58	125	106	93	82	73	56	41	33	27
2	212	43	55	93	165	211	79	75	55	40	32	28
3	109	43	54	82	2150	163	74	69	193	38	31	26
4	86	44	54	262	1070	118	75	231	68	38	34	27
5	75	43	53	127	247	105	72	161	60	37	35	26
6	69	70	51	118	182	101	78	89	57	38	32	27
7	62	51	49	102	155	95	75	77	55	46	32	26
8	58	172	51	132	139	513	71	72	52	48	32	27
9	56	78	51	98	314	728	70	70	51	41	33	27
10	54	59	50	86	1270	233	76	69	51	42	32	42
11	53	55	51	81	242	161	70	66	49	41	32	29
12	50	51	48	73	176	141	66	67	49	73	31	32
13	49	50	47	69	151	129	65	65	48	49	30	30
14	47	196	47	67	141	121	63	63	49	44	30	29
15	49	355	44	63	237	456	64	62	51	38	29	29
16	50	352	43	63	390	636	60	60	47	37	29	28
17	208	111	43	71	155	281	63	63	46	37	29	27
18	65	88	43	99	142	167	61	58	47	41	29	27
19	55	79	46	80	133	138	60	65	45	38	28	27
20	55	72	43	673	122	128	59	424	43	36	27	26
21	51	65	41	303	115	118	605	133	82	47	27	27
22	51	151	39	152	120	110	133	89	53	64	27	27
23	48	153	39	125	104	103	93	82	46	61	27	26
24	47	87	40	111	96	94	83	76	42	39	27	26
25	48	79	40	108	90	93	76	71	42	37	29	25
26	47	74	40	97	93	93	73	69	41	36	27	25
27	46	72	38	91	91	90	71	80	40	36	27	25
28	49	66	39	87	87	86	90	62	40	36	27	25
29	45	62	41	333	---	85	76	62	40	35	26	26
30	45	59	147	151	---	96	68	59	41	35	27	25
31	46	---	461	120	---	92	---	59	---	32	27	---
TOTAL	3145	2923	1946	4242	8483	5778	2751	2821	1639	1301	918	824
MEAN	101	97.4	62.8	137	303	186	91.7	91.0	54.6	42.0	29.6	27.5
MAX	1160	355	461	673	2150	728	605	424	193	73	35	42
MIN	45	43	38	63	87	85	59	58	40	32	26	25
CFSM	1.83	1.76	1.13	2.47	5.47	3.36	1.66	1.64	.99	.76	.53	.50
IN.	2.11	1.96	1.31	2.85	5.70	3.88	1.85	1.89	1.10	.87	.62	.55

CAL YR 1989 TOTAL 60742 MEAN 166 MAX 3400 MIN 38 CFSM 3.00 IN. 40.79
WTR YR 1990 TOTAL 36771 MEAN 101 MAX 2150 MIN 25 CFSM 1.82 IN. 24.69

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.--65 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)
Feb. 4	0630	*22,100	*18.14	Apr. 21	1800	8,090	12.22
Feb. 10	1500	7,430	11.70				

Minimum discharge, 105 ft^3/s, Sept. 7, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2440	226	407	2410	941	570	553	528	393	211	162	110
2	1600	215	384	1380	1070	879	528	615	375	208	158	111
3	752	209	361	1080	4320	1340	501	547	877	200	156	112
4	538	203	339	1360	13700	1140	486	659	749	195	157	111
5	422	203	335	1490	2830	979	476	1340	529	191	205	109
6	363	533	328	1260	1700	858	518	948	457	189	195	107
7	320	591	315	1110	1350	768	522	768	412	185	174	106
8	292	1000	321	1080	1150	1490	475	647	377	202	161	106
9	274	1170	339	1010	1150	2940	461	592	383	206	156	113
10	260	765	326	888	5470	2520	485	577	361	246	152	132
11	250	592	328	793	2760	1580	530	502	330	256	150	164
12	240	485	324	713	1630	1270	482	472	311	360	146	141
13	233	412	309	628	1300	1080	465	501	299	398	140	136
14	229	654	298	572	1120	956	465	445	290	324	143	145
15	226	1430	297	531	1120	1350	470	412	303	254	141	173
16	221	2360	279	498	1930	4150	451	398	304	224	135	151
17	1300	1370	272	486	1500	2380	446	433	281	210	131	128
18	874	1030	271	634	1240	1610	455	400	274	201	131	122
19	552	818	306	622	1090	1300	419	376	276	211	129	121
20	431	698	304	1400	951	1100	406	1940	260	201	126	121
21	363	613	275	3140	852	967	4530	2300	273	197	129	124
22	324	626	e240	1690	848	876	3120	1370	352	219	129	148
23	295	1070	e230	1280	793	795	1480	1070	309	280	126	127
24	273	860	e225	1070	712	729	1080	888	264	241	127	121
25	257	753	e220	935	643	679	880	751	248	202	124	119
26	244	679	e215	802	605	639	755	649	240	185	121	119
27	234	616	e210	706	581	607	663	630	233	181	118	117
28	229	562	e225	646	561	581	691	576	228	179	117	115
29	224	484	250	1040	---	588	630	506	224	173	115	113
30	219	434	539	1350	---	601	552	453	217	168	112	113
31	224	---	3840	1100	---	598	---	422	---	165	111	---
TOTAL	14703	21661	12912	33704	53917	37920	23975	22715	10429	6862	4377	3735
MEAN	474	722	417	1087	1926	1223	799	733	348	221	141	124
MAX	2440	2360	3840	3140	13700	4150	4530	2300	877	398	205	173
MIN	219	203	210	486	561	570	406	376	217	165	111	106
CFSM	1.36	2.07	1.20	3.12	5.53	3.52	2.30	2.11	1.00	.64	.41	.36
IN.	1.57	2.32	1.38	3.60	5.76	4.05	2.56	2.43	1.11	.73	.47	.40

CAL YR 1989 TOTAL 324466 MEAN 889 MAX 15100 MIN 176 CFSM 2.55 IN. 34.68
WTR YR 1990 TOTAL 246910 MEAN 676 MAX 13700 MIN 106 CFSM 1.94 IN. 26.39

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 1989 TO SEPTEMBER 1990

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											
08...	0945	62500	142	7.3	17.0	763	5.1	8.7	90	--	--
MAR											
23...	1030	174000	126	7.4	14.5	774	13	11.2	108	70	K3
MAY											
02...	0930	43400	139	--	18.5	766	4.8	8.5	90	K15	33
JUL											
19...	1000	44700	165	6.9	28.0	771	4.7	7.5	95	--	K20

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	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)
NOV											
08...	64	6	19	3.9	5.4	15	0.3	1.7	57	12	6.2
MAR											
23...	59	12	18	3.3	3.7	12	0.2	1.4	46	8.8	3.8
MAY											
02...	50	--	15	3.0	3.9	14	0.2	1.3	--	9.3	4.6
JUL											
19...	56	3	16	3.9	5.9	18	0.3	1.6	53	11	8.2

DATE	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, 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)
NOV										
08...	0.10	5.7	99	90	0.13	16700	0.390	0.020	0.07	0.410
MAR										
23...	<0.10	5.4	90	--	0.12	42200	0.590	0.010	0.03	0.600
MAY										
02...	<0.10	4.3	75	73	0.10	8790	0.290	0.010	0.03	0.300
JUL										
19...	<0.10	2.1	87	84	0.12	10500	--	<0.010	--	<0.100

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

03593005 TENNESSEE RIVER AT PICKWICK LANDING DAM (LL), TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (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)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
NOV 08...	0.010	0.04	0.030	<0.20	0.050	0.020	0.050	30	<1	21
MAR 23...	0.040	0.05	0.040	0.20	0.100	0.060	0.050	90	<1	24
MAY 02...	0.050	0.03	0.020	0.60	0.030	0.010	<0.010	40	<1	20
JUL 19...	0.030	0.01	0.010	0.50	0.040	<0.010	<0.010	10	1	23

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 08...	<0.5	<1.0	<1	<3	2	27	1	<4	6	0.1
MAR 23...	<0.5	1.0	<5	<3	<10	74	<10	<4	5	0.1
MAY 02...	<0.5	2.0	<1	<3	1	37	<1	<4	4	<0.1
JUL 19...	<0.5	2.0	<1	<3	3	6	<1	<4	5	<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 08...	<10	1	<1	<1.0	59	<6	6	6	1010	95
MAR 23...	<10	<10	<1	<1.0	49	<6	3	18	8440	95
MAY 02...	<10	<1	<1	<1.0	48	<6	5	8	937	90
JUL 19...	<10	2	<1	<1.0	56	<6	4	3	362	85

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 TN-74-1: 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.--Records good. Slight regulation since 1924 by Wilson Lake and increasing regulation since 1936 as other reservoirs have been built above station (see p. 158 and Water Resources Data for adjoining states).

AVERAGE DISCHARGE.--60 years, 54,094 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, 284,000 ft^3/s, Feb. 20; maximum gage height, 83.57 ft, Feb. 22; minimum daily discharge, 8,350 ft^3/s, Apr. 14; minimum gage height 54.52 ft, Sept. 29.

REVISIONS.--The maximum gage height for water year 1989 is 82.16 ft, Jan. 15, 1989. This supersedes the figure published in the report for 1989.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	168000	56200	91600	69400	152000	133000	22200	43100	53100	9840	43400	17600
2	207000	55500	81500	79800	151000	131000	34300	46800	30600	22300	41800	22500
3	199000	52400	81100	100000	162000	134000	45900	49200	19200	14600	42000	30600
4	182000	50000	77400	104000	221000	133000	46600	69300	50900	22100	25700	35200
5	188000	47300	73000	107000	226000	128000	25800	46300	69300	23100	30900	42900
6	176000	53300	70500	113000	218000	123000	47900	52100	61300	23300	40800	44300
7	150000	63300	65400	124000	213000	125000	18300	51200	53000	14500	39900	43400
8	132000	66300	72500	139000	209000	130000	13000	51800	52900	14400	39500	28000
9	126000	e68000	81000	149000	205000	132000	32400	61500	41500	32800	39300	26800
10	112000	e70000	80700	149000	219000	130000	29300	62000	28000	39500	47000	37000
11	90700	e69000	75200	148000	225000	130000	32900	67000	38500	32600	38800	38600
12	87800	e69000	74500	141000	222000	118000	34500	68700	41100	32600	30700	34000
13	80500	e65000	73300	132000	219000	96800	32600	69100	43900	41000	49000	31800
14	71000	e60000	73300	126000	220000	91400	8350	55700	48600	52200	25900	30700
15	70800	e65000	72400	110000	214000	104000	9320	51000	43000	18100	49000	28000
16	69800	e79000	69000	91100	225000	136000	13600	67000	33800	39300	52700	25300
17	71100	e95000	69200	89000	251000	178000	17300	45200	30500	43700	48000	30700
18	68400	99100	69400	94000	263000	177000	18100	24100	31500	45100	33100	31200
19	64100	99300	69200	97700	274000	171000	19000	43600	33300	45500	23500	31600
20	63900	99300	68700	89600	280000	172000	14600	41100	35000	45000	41900	32600
21	63600	100000	69000	98100	277000	175000	27200	74700	32500	28000	48200	36200
22	63300	100000	70100	e122000	266000	175000	66600	79200	27100	16300	46500	27400
23	58800	101000	69700	e133000	231000	161000	50100	72500	19700	38500	43800	21800
24	53100	101000	69000	e142000	202000	124000	35700	66400	17600	38700	39000	27700
25	53800	101000	67800	e150000	193000	104000	41300	55300	27600	53100	22900	29000
26	55000	101000	67800	140000	182000	89300	50300	43200	14300	50200	21800	24800
27	56300	104000	52000	123000	160000	65300	43200	24500	37600	45700	43800	29900
28	57800	106000	35500	119000	138000	64800	31400	33100	38800	37100	53200	26300
29	57600	104000	33700	118000	---	67300	19700	68700	40100	24100	53200	18000
30	56400	99100	31100	127000	---	67500	33000	69500	19700	42700	31300	15400
31	53500	---	47700	150000	---	59500	---	67100	---	42200	39200	---
TOTAL	3007300	2399100	2102300	3674700	6018000	3825900	914470	1720000	1114000	1028140	1225800	899300
MEAN	97010	79970	67820	118500	214900	123400	30480	55480	37130	33170	39540	29980
MAX	207000	106000	91600	150000	280000	178000	66600	79200	69300	53100	53200	44300
MIN	53100	47300	31100	69400	138000	59500	8350	24100	14300	9840	21800	15400

CAL YR 1989 TOTAL 28055670 MEAN 76860 MAX 233000 MIN 8970
WTR YR 1990 TOTAL 27929010 MEAN 76520 MAX 280000 MIN 8350

e Estimated

03597590 WARTRACE CREEK BELOW COUNTY ROAD AT WARTRACE, TN

LOCATION.--Lat 35°31'38", long 86°20'25", Bedford County, Hydrologic Unit 06040002, on right bank 300 ft below county road bridge, 0.4 mi upstream from Louisville and Nashville Railroad bridge, 0.4 mi west of Wartrace, and at mile 2.3.

DRAINAGE AREA.--35.7 mi^2.

PERIOD OF RECORD.--October 1989 to September 1990.

GAGE.--Water-stage encoder and crest-stage gage. Datum of gage is 781.66 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. Satellite telemeter at station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,330 ft^3/s, Oct. 1, gage height, 11.04 ft; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1900	5.0	21	199	74	23	16	15	4.7	.20	.48	.00
2	453	5.3	19	104	72	167	15	17	4.1	.19	.47	.00
3	155	5.3	16	76	1260	127	12	14	5.4	.13	.39	.00
4	89	4.7	14	404	935	70	12	110	4.9	.09	.31	.00
5	61	4.6	14	153	197	52	11	116	3.4	.07	2.3	.00
6	45	19	13	101	117	42	15	42	2.7	.05	3.7	.00
7	32	21	11	76	89	35	19	29	2.2	.05	1.3	.00
8	24	172	27	119	69	110	14	22	1.8	.04	.74	.00
9	19	78	32	90	175	195	12	20	1.4	.03	.50	.00
10	16	41	26	66	877	120	13	19	1.2	.03	.40	.00
11	14	27	24	55	183	80	19	15	.96	.06	.33	.00
12	12	20	24	44	105	62	14	14	.83	20	.22	.00
13	11	17	21	36	76	50	12	12	.68	12	.19	.00
14	10	39	19	33	61	42	11	11	.64	4.3	.18	.00
15	8.6	700	18	30	202	60	12	9.4	.84	2.0	.18	9.6
16	7.4	378	13	28	161	831	11	8.3	.83	1.0	.15	2.2
17	21	105	14	27	96	407	10	60	.61	.70	.13	.84
18	15	68	13	355	73	142	10	20	.54	.52	.10	.52
19	11	49	19	106	64	90	9.3	13	.69	.38	.09	.37
20	9.6	39	19	773	50	66	8.4	81	.77	.35	.07	.35
21	8.2	30	14	363	43	50	153	44	1.9	90	.06	6.3
22	7.2	209	11	142	39	39	111	36	1.6	66	.04	43
23	6.5	132	8.3	91	36	33	52	26	1.5	27	.02	6.7
24	5.8	72	7.9	72	30	28	34	21	1.2	10	.00	3.0
25	5.7	55	8.9	66	25	25	26	17	.54	4.9	.00	1.7
26	5.3	44	9.8	50	24	23	22	15	.29	3.1	.00	.98
27	4.7	36	11	42	22	21	18	14	.25	2.1	.00	.72
28	4.7	41	11	38	21	19	24	14	.23	1.4	.00	.56
29	4.4	28	11	537	---	18	21	11	.25	.99	.00	.45
30	4.4	23	116	174	---	19	16	9.2	.25	.73	.00	.40
31	4.4	---	1130	99	---	18	---	6.6	---	.54	.00	---
TOTAL	2974.9	2467.9	1715.9	4549	5176	3064	732.7	861.5	47.20	248.95	12.35	77.69
MEAN	96.0	82.3	55.4	147	185	98.8	24.4	27.8	1.57	8.03	.40	2.59
MAX	1900	700	1130	773	1260	831	153	116	5.4	90	3.7	43
MIN	4.4	4.6	7.9	27	21	18	8.4	6.6	.23	.03	.00	.00
CFSM	2.69	2.30	1.55	4.11	5.18	2.77	.68	.78	.04	.22	.01	.07
IN.	3.10	2.57	1.79	4.74	5.39	3.19	.76	.90	.05	.26	.01	.08

WTR YR 1990 TOTAL 21928.09 MEAN 60.1 MAX 1900 MIN .00 CFSM 1.68 IN. 22.85

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.--57 years, 807 ft^3/s, 22.78 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, 12,700 ft^3/s, at 0200 hours Oct. 2, gage height, 22.19 ft; minimum, 166 ft^3/s, Apr. 20; minimum daily, 168 ft^3/s, Apr. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8710	228	708	2760	2310	306	260	634	237	170	201	200
2	9830	579	856	1430	1310	634	243	635	358	172	199	191
3	4170	597	822	1960	2910	1300	227	1230	320	178	197	190
4	3220	591	776	2730	9680	818	215	3570	300	178	201	188
5	2900	588	755	2620	4440	618	209	1990	266	176	208	190
6	2590	676	743	2160	3290	516	227	1560	245	174	223	187
7	1090	686	692	1890	2830	618	261	1010	226	181	220	186
8	913	821	454	2190	2510	1040	224	914	216	184	201	230
9	848	1210	486	2200	2250	2030	204	854	210	186	197	195
10	779	1020	462	1870	7160	2260	205	550	205	236	196	205
11	398	908	445	1640	3730	1930	247	498	196	199	194	222
12	346	843	444	1430	3260	1760	226	480	189	258	193	263
13	325	804	432	813	3060	1490	205	460	186	416	193	312
14	302	842	418	716	2780	625	197	435	236	274	193	236
15	284	1280	411	671	2880	518	201	349	221	231	190	285
16	274	3620	398	636	2230	4890	195	459	220	213	190	259
17	284	2020	384	480	1850	3710	187	462	220	202	187	218
18	311	1640	378	1100	1580	3060	188	361	210	190	188	205
19	284	1450	412	937	1470	2400	176	806	214	184	189	220
20	273	1330	427	2190	1320	2050	168	671	209	181	188	243
21	260	1240	400	4540	1200	1840	951	567	254	191	192	247
22	254	1560	364	2230	1120	1710	1880	572	249	1050	192	458
23	245	2480	356	2740	778	1450	876	590	225	455	191	310
24	237	1710	356	2420	707	476	571	559	214	307	191	230
25	234	1470	353	2190	645	391	407	524	210	254	189	207
26	232	1330	274	986	613	350	321	529	203	232	192	195
27	231	1210	221	827	458	321	338	548	200	218	190	189
28	228	579	224	761	406	301	338	497	198	213	188	185
29	224	366	218	2710	---	289	281	232	183	209	186	183
30	222	307	488	2770	---	289	318	179	171	203	185	182
31	224	---	4950	2880	---	279	---	209	---	206	194	---
TOTAL	40722	33985	19107	57477	68777	40269	10546	22934	6791	7721	6038	6811
MEAN	1314	1133	616	1854	2456	1299	352	740	226	249	195	227
MAX	9830	3620	4950	4540	9680	4890	1880	3570	358	1050	223	458
MIN	222	228	218	480	406	279	168	179	171	170	185	182
(†)	-2400	-10700	-1300	-1900	-800	+8100	+8400	+300	-1500	-1100	-3200	-1900
MEAN‡	1236	776	574	1793	2428	1560	632	749	176	214	91.5	164
CFSM‡	2.57	1.61	1.19	3.73	5.05	3.24	1.31	1.56	.37	.44	.19	.34
IN.‡	2.96	1.80	1.38	4.30	5.26	3.74	1.46	1.80	.41	.51	.22	.38

CAL YR 1989 TOTAL 471372 MEAN 1291 MAX 12600 MIN 145 MEAN‡ 1296 CFSM‡ 2.69 IN.‡ 36.58
WTR YR 1990 TOTAL 321178 MEAN 880 MAX 9830 MIN 168 MEAN‡ 858 CFSM‡ 1.78 IN.‡ 24.21

† 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.

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 1989 TO SEPTEMBER 1990

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 18...	0900	72	330	15.0	7.8	751	8.9	90	K1100
JAN 10...	0900	29	375	8.0	7.8	751	11.0	94	150
APR 11...	0830	13	340	12.0	7.9	751	10.5	98	460
JUL 25...	0830	4.4	340	20.0	7.6	755	7.3	81	520

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 18...	K2000	<1	<100	1	<1	2	3	<0.10	2
JAN 10...	80	<1	<100	<1	1	7	1	<1.0	3
APR 11...	160	<1	<100	<1	2	2	1	<0.10	<1
JUL 25...	1400	1	<100	1	2	4	2	<0.10	2

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 18...	<1	<1	<10	<0.010	<1	10	2.0	90
JAN 10...	<1	<1	20	<0.010	<1	4	0.27	97
APR 11...	<1	<1	<10	<0.010	<1	16	0.55	30
JUL 25...	<1	<1	<10	<0.010	<1	18	0.21	89

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

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 1989 TO SEPTEMBER 1990

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									
18...	1030	7.9	630	16.0	7.8	751	8.4	87	K770
JAN									
10...	1030	2.4	1100	7.5	7.8	752	11.4	97	120
APR									
11...	1030	1.7	600	12.0	7.9	752	9.6	90	190
JUL									
25...	1000	2.5	700	22.0	7.4	755	7.6	88	240

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									
18...	K2200	<1	<100	3	<1	4	12	<0.10	2
JAN									
10...	30	<1	<100	<1	2	1	1	<1.0	<1
APR									
11...	45	<1	<100	<1	2	2	<1	<0.10	1
JUL									
25...	630	<1	<100	1	1	11	3	<0.10	2

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								
18...	<1	<1	<10	<0.010	<1	17	0.35	72
JAN								
10...	<1	<1	20	<0.010	<1	4	0.02	96
APR								
11...	<1	<1	<10	<0.010	<1	8	0.03	80
JUL								
25...	<1	<1	20	<0.010	<1	9	0.06	89

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.--Records good except for periods of no gage height record Dec. 23 to Jan. 10, fragmentary record June 4 to July 25, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,990 ft^3/s, Feb. 3, 1990, gage height, 14.83 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)
Oct. 17	0415	1,960	11.20	Feb. 3	1030	*2,990	*14.83
Nov. 14	1445	1,010	7.96	Feb. 10	0430	1,430	9.43
Nov. 15	1930	1,280	8.92	May 20	1330	988	7.89
Dec. 31	Unknown	2,040	11.49				

Minimum discharge, 0.24 ft^3/s, Sept. 7, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	216	9.5	25	e120	42	17	23	10	15	1.9	2.7	.35
2	123	8.8	23	e76	56	24	21	37	14	1.7	2.4	.37
3	72	8.0	19	e66	1430	28	18	28	18	1.4	2.1	.36
4	51	7.9	17	e120	418	22	17	44	11	1.3	2.5	.31
5	40	7.4	17	e98	161	20	15	35	8.9	1.2	5.6	.31
6	32	13	15	e70	111	18	21	23	8.4	1.1	5.8	.28
7	26	11	14	e56	87	16	20	18	e6.4	1.2	3.1	.26
8	21	81	17	e48	69	32	17	15	e4.9	1.2	2.0	.27
9	18	61	15	e43	242	82	15	15	e3.3	1.1	1.8	.34
10	15	34	13	e35	559	75	16	16	e2.3	3.7	1.6	.44
11	13	26	14	29	148	53	15	12	2.2	5.1	1.5	3.1
12	12	20	14	25	100	43	13	13	5.5	137	1.4	11
13	11	18	13	22	78	37	12	19	5.2	87	1.4	4.6
14	9.8	157	12	20	64	33	12	12	4.9	55	1.3	2.4
15	8.9	291	12	19	58	176	12	10	5.0	25	1.2	4.3
16	8.4	160	10	17	79	287	11	9.5	4.7	16	1.1	2.3
17	358	87	9.8	25	58	121	14	51	4.3	11	1.0	1.4
18	73	61	9.7	76	48	82	14	22	4.2	9.6	.91	1.1
19	50	48	11	47	43	63	11	15	3.8	9.3	.83	.84
20	39	41	9.3	63	37	51	10	150	4.4	7.6	.80	.74
21	32	35	7.7	71	34	44	18	139	31	7.3	.76	4.7
22	27	62	6.6	52	33	39	16	98	12	13	.62	8.1
23	24	67	e6.9	43	30	34	13	63	6.1	17	.64	4.4
24	20	47	e6.3	37	26	30	12	49	4.6	10	.60	2.5
25	17	40	e6.2	34	22	28	10	42	3.9	7.5	.60	1.7
26	15	35	e6.8	28	20	25	9.4	37	3.3	6.1	.54	1.3
27	13	32	e7.2	25	19	23	8.7	37	2.9	5.2	.47	1.0
28	12	38	e7.5	23	18	21	14	34	2.5	4.7	.43	.84
29	11	32	e7.0	100	---	22	9.6	27	2.3	4.4	.40	.72
30	10	28	e19	68	---	31	8.7	21	2.2	3.6	.35	.68
31	10	---	e210	49	---	29	---	17	---	3.0	.35	---
TOTAL	1388.1	1566.6	581.0	1605	4090	1606	426.4	1118.5	207.2	460.2	46.30	61.01
MEAN	44.8	52.2	18.7	51.8	146	51.8	14.2	36.1	6.91	14.8	1.49	2.03
MAX	358	291	210	120	1430	287	23	150	31	137	5.6	11
MIN	8.4	7.4	6.2	17	18	16	8.7	9.5	2.2	1.1	.35	.26
CFSM	2.23	2.60	.93	2.58	7.27	2.58	.71	1.80	.34	.74	.07	.10
IN.	2.57	2.90	1.08	2.97	7.57	2.97	.79	2.07	.38	.85	.09	.11

CAL YR 1989 TOTAL 17988.11 MEAN 49.3 MAX 1060 MIN .78 CFSM 2.45 IN. 33.29
WTR YR 1990 TOTAL 13156.31 MEAN 36.0 MAX 1430 MIN .26 CFSM 1.79 IN. 24.35

e Estimated

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 1989 TO SEPTEMBER 1990

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 18...	1200	70	360	15.0	7.8	751	9.2	93	K1100
JAN 10...	1230	32	410	9.0	7.9	752	12.8	112	K37
APR 11...	1200	15	380	13.5	8.3	752	10.6	104	140
JUL 25...	1100	7.2	500	22.0	8.0	753	7.1	82	430

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 18...	K2000	<1	<100	1	<1	1	4	<0.10	1
JAN 10...	56	<1	<100	4	<1	2	1	<1.0	1
APR 11...	41	<1	<100	<1	2	2	<1	<0.10	<1
JUL 25...	1000	<1	<100	1	2	2	<1	<0.10	2

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 18...	<1	<1	<10	<0.010	<1	12	2.3	85
JAN 10...	<1	<1	<10	<0.010	<1	3	0.21	93
APR 11...	<1	<1	<10	<0.010	<1	56	2.2	35
JUL 25...	<1	<1	<10	<0.010	<1	7	0.13	98

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

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, 7.6 ft^3/s, Sept. 4, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, not determined; maximum gage height, 13.17 ft, Feb. 3; minimum 7.6 ft^3/s, Sept. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	26	39	86	113	58	71	63	33	21	15	10
2	46	25	36	73	149	70	69	92	32	21	14	9.9
3	38	25	36	68	---	66	64	105	40	20	14	9.8
4	34	24	34	207	---	71	60	160	33	20	23	9.2
5	30	22	34	155	342	67	58	154	31	18	23	9.3
6	28	46	34	118	224	64	66	121	31	19	21	9.0
7	27	95	32	99	187	62	62	102	30	18	17	9.0
8	25	181	34	91	150	69	61	89	29	18	16	10
9	24	119	31	82	---	80	59	81	28	17	15	9.9
10	23	87	31	75	---	94	64	78	27	21	15	9.9
11	22	71	31	69	356	92	64	66	27	22	14	10
12	21	62	29	63	229	88	58	61	26	47	14	14
13	21	54	28	---	175	80	55	58	26	30	14	13
14	20	53	27	---	147	77	56	52	25	25	14	12
15	20	60	28	50	---	203	56	47	26	23	14	14
16	22	70	26	47	---	381	54	44	25	21	13	12
17	183	61	26	49	308	231	73	53	24	20	13	11
18	78	55	25	65	206	162	83	43	22	19	12	11
19	63	50	26	60	161	131	81	40	21	18	12	11
20	52	48	25	94	132	108	79	42	31	18	12	11
21	46	45	24	116	113	97	149	41	55	45	12	23
22	42	54	22	103	108	89	166	40	40	35	12	28
23	38	60	25	94	98	82	131	36	30	25	12	15
24	35	54	21	87	86	76	109	34	26	22	12	13
25	33	52	21	87	76	73	96	33	25	20	11	12
26	31	51	21	77	69	67	85	32	23	18	11	12
27	30	49	20	70	65	61	78	32	23	18	11	11
28	28	48	18	67	61	59	90	34	23	17	10	11
29	28	43	18	183	---	57	79	30	23	17	10	10
30	27	40	32	172	---	64	70	27	22	16	11	11
31	28	---	93	134	---	75	---	30	---	15	10	---
TOTAL	1209	1730	927	---	---	3054	2346	1920	857	684	427	361.0
MEAN	39.0	57.7	29.9	---	---	98.5	78.2	61.9	28.6	22.1	13.8	12.0
MAX	183	181	93	---	---	381	166	160	55	47	23	28
MIN	20	22	18	---	---	57	54	27	21	15	10	9.0
CFSM	.84	1.24	.64	---	---	2.11	1.68	1.33	.61	.47	.30	.26
IN.	.97	1.38	.74	---	---	2.44	1.87	1.53	.68	.55	.34	.29

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 and crest-stage gage. 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, except those for periods of fragmentary or no gage height record, Oct. 10 to Jan. 3, Feb. 3 to Mar. 8, Mar. 17 to Apr. 23 which are poor. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--65 years, 314 ft^3/s, 22.10 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft^3/s, Dec. 21, 1926, gage height, 19.7 ft, present datum; minimum, 35 ft^3/s, Sept. 19, 20, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1897 reached a stage of 20.7 ft, present 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)
Feb. 4	Unknown	*12,500	*14.91	Mar. 16	Unknown	5,840	11.45

Minimum daily discharge, 70 ft^3/s, Sept. 5, 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	520	e110	e180	e840	485	e205	e245	293	173	115	95	74
2	335	e108	e170	e600	547	e210	e240	323	162	115	94	74
3	262	e107	e160	e450	e3000	e230	e235	381	197	112	92	73
4	221	e106	e150	620	e4700	e250	e230	392	168	110	99	71
5	199	e110	e140	671	e2500	e240	e225	464	157	109	115	70
6	183	e120	e140	535	e1300	e230	e220	407	154	107	108	70
7	167	e150	e140	446	e610	e270	e215	374	152	108	101	72
8	157	e200	e140	404	e450	e340	e210	345	148	113	96	79
9	149	e300	e140	363	e700	410	e210	324	144	108	93	75
10	e140	e280	e140	327	e1100	532	e210	319	141	116	92	74
11	e132	e260	e138	299	e1600	544	e210	293	137	129	92	76
12	e128	e230	e137	274	e1000	502	e210	282	134	188	90	84
13	e123	e200	e136	250	e650	460	e210	279	133	167	90	91
14	e120	e200	e137	235	e540	435	e210	260	136	135	91	84
15	e118	e220	e135	226	e450	597	e210	249	139	124	89	85
16	e180	e800	e135	215	e600	1560	e210	240	133	118	87	79
17	e235	e500	e135	216	e470	e1100	e210	251	130	114	86	75
18	e250	e400	e135	274	e400	e800	e210	234	127	111	85	74
19	e230	e300	e135	272	e340	e600	e210	226	123	111	83	76
20	e205	e275	e150	346	e310	e500	e210	241	121	108	82	78
21	e185	e260	e140	496	e300	e450	e450	237	228	110	80	90
22	e165	e250	e135	467	e270	e400	e900	237	179	185	79	164
23	e150	e260	e135	421	e250	e375	e525	228	160	140	82	96
24	e140	e260	e135	390	e240	e350	438	221	140	123	81	85
25	e130	e250	e135	370	e230	e325	398	215	133	114	79	81
26	e125	e235	e135	335	e220	e310	366	211	127	109	77	80
27	e120	e230	e135	308	e205	e285	344	208	124	106	77	78
28	e115	e215	e135	288	e190	e270	354	206	121	104	76	77
29	e112	e200	e135	486	---	e260	334	202	119	102	75	75
30	e110	e190	e190	649	---	e255	311	195	117	100	77	74
31	e110	---	e800	555	---	e250	---	184	---	98	75	---
TOTAL	5516	7326	5083	12628	23657	13545	8760	8521	4357	3709	2718	2434
MEAN	178	244	164	407	845	437	292	275	145	120	87.7	81.1
MAX	520	800	800	840	4700	1560	900	464	228	188	115	164
MIN	110	106	135	215	190	205	210	184	117	98	75	70
CFSM	.92	1.27	.85	2.11	4.38	2.26	1.51	1.42	.75	.62	.45	.42
IN.	1.06	1.41	.98	2.43	4.56	2.61	1.69	1.64	.84	.71	.52	.47

CAL YR 1989 TOTAL 191051 MEAN 523 MAX 9910 MIN 106 CFSM 2.71 IN. 36.82
WTR YR 1990 TOTAL 98254 MEAN 269 MAX 4700 MIN 70 CFSM 1.39 IN. 18.94

e Estimated

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.--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.--65 years, 4,087 ft^3/s, 21.71 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, 55,200 ft^3/s, at 0630 hours Feb. 5, gage height, 23.90 ft; minimum, 442 ft^3/s, Sept. 6, 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8860	1300	2940	9320	10200	3040	2810	2270	2180	865	785	464
2	15600	1260	2510	14400	8410	2920	2660	2320	1970	839	748	462
3	21400	1220	2270	13200	17700	3020	2530	2820	2020	809	719	468
4	25200	1180	2340	8530	44300	3650	2360	3040	2110	770	712	466
5	24200	1170	2490	9810	53900	5500	2240	3550	1880	738	762	454
6	10500	1530	2400	11200	46400	4840	2210	5370	1740	721	832	450
7	7110	1750	2300	10400	39000	3980	2240	7330	1790	707	992	445
8	5990	2040	2280	8200	20800	3620	2250	5940	1630	700	877	515
9	4840	3490	2260	6950	11200	4290	2180	4630	1490	702	786	506
10	3500	5400	2210	6390	17300	7330	2200	3910	1380	693	726	498
11	2970	5180	2070	6410	28100	10700	2200	3310	1280	720	699	518
12	2670	4090	2050	5650	27500	10300	2140	3000	1190	1090	680	572
13	2440	3420	2000	4890	21200	8040	2040	2850	1120	4220	660	658
14	2080	3060	1930	4330	12500	6800	2020	2600	1080	4130	656	630
15	1820	4520	1880	3780	10200	6250	2040	2340	1080	3400	635	682
16	1700	10200	1840	3170	12800	10700	1990	2170	1070	2380	617	745
17	2520	12900	1750	2880	13500	17700	2010	2130	1030	1880	598	831
18	5310	13100	1690	2950	12500	19900	2110	2550	1010	1530	586	820
19	4190	9120	1650	3620	9370	17400	2160	2950	991	1320	574	863
20	3270	6560	1630	4570	7670	11900	2110	2680	959	1200	558	757
21	2720	5370	1610	6060	6630	9110	2130	4530	1140	1130	548	705
22	2390	4650	e1600	10900	5940	7550	2380	7390	1870	1090	533	880
23	2150	4560	e1580	13900	5390	6550	3340	6760	1940	1090	528	874
24	1980	5520	e1570	9760	4890	5830	6420	5230	1620	1380	520	767
25	1820	7260	e1560	7580	4360	5280	4910	4170	1420	2400	515	764
26	1700	6160	e1550	6810	3790	4510	3680	3510	1270	1790	514	850
27	1600	5060	1560	6070	3450	3560	3050	3140	1120	1440	506	824
28	1510	4440	1460	5070	3200	3170	2720	3000	1020	1180	504	711
29	1440	4030	1390	4260	---	2930	2590	2810	953	1030	490	639
30	1380	3580	1370	5880	---	2810	2440	2600	903	921	478	609
31	1350	---	2170	9400	---	2810	---	2380	---	840	475	---
TOTAL	176210	143120	59910	226340	462200	215990	78160	113280	42256	43705	19813	19427
MEAN	5684	4771	1933	7301	16510	6967	2605	3654	1409	1410	639	648
MAX	25200	13100	2940	14400	53900	19900	6420	7390	2180	4220	992	880
MIN	1350	1170	1370	2880	3200	2810	1990	2130	903	693	475	445

CAL YR 1989 TOTAL 2354273 MEAN 6450 MAX 44000 MIN 759 MEAN‡ 6455 CFSM‡ 2.52 IN.‡ 34.27
WTR YR 1990 TOTAL 1600411 MEAN 4385 MAX 53900 MIN 445 MEAN‡ 4363 CFSM‡ 1.71 IN.‡ 23.16

e Estimated
‡ 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-71: 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.--70 years, 752 ft^3/s, 22.85 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. 1	0500	5,610	10.80	Feb. 10	2130	8,060	13.23
Feb. 4	1100	*26,700	*23.72	Mar. 16	1630	5,560	10.75

Minimum discharge, 175 ft^3/s, Sept. 6, 7, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1680	328	466	4360	996	590	624	569	484	299	261	182
2	1970	328	445	1960	1050	644	573	673	453	296	258	180
3	1090	325	429	1320	7810	850	543	929	578	292	253	180
4	745	320	415	1460	23100	908	528	808	602	283	251	180
5	602	318	409	2080	7700	839	518	860	507	275	264	178
6	537	341	405	1520	2610	786	531	867	463	270	291	176
7	491	425	400	1210	1850	746	565	746	438	269	283	175
8	454	667	400	1050	1460	904	533	666	415	272	263	180
9	431	1130	411	954	1250	2200	508	624	401	277	252	203
10	413	860	411	846	5310	2790	506	615	386	280	245	201
11	398	660	400	757	5580	1950	522	576	369	311	241	214
12	386	574	400	686	2530	1480	517	555	357	741	237	225
13	375	521	396	625	1800	1210	500	602	348	844	232	221
14	366	596	384	579	1440	1080	493	563	344	530	230	220
15	359	1640	386	549	1220	1310	493	518	359	408	230	220
16	356	2950	389	525	1840	4810	493	496	390	361	226	229
17	530	1990	376	515	2240	3740	496	542	358	336	219	217
18	729	1240	372	616	1520	2250	520	570	341	321	213	204
19	548	925	379	646	1260	1650	503	506	333	310	208	200
20	484	759	396	609	1100	1320	488	815	332	304	203	199
21	446	673	385	1330	964	1130	1320	2810	431	303	208	200
22	413	628	353	1410	939	1020	2260	2120	513	305	220	210
23	397	748	363	1140	897	925	1350	1500	487	338	209	213
24	384	785	419	982	796	850	1020	1170	405	366	207	204
25	371	684	377	885	709	794	863	960	363	327	205	202
26	362	633	369	801	657	738	770	826	341	302	201	199
27	353	592	362	721	625	686	692	766	329	292	197	197
28	338	559	361	650	604	641	661	728	320	285	194	194
29	332	521	355	750	---	627	652	636	311	280	190	191
30	328	489	440	1220	---	619	604	565	304	271	187	187
31	328	---	3080	1160	---	680	---	517	---	265	182	---
TOTAL	16996	23209	14933	33916	79857	40767	20646	25698	12062	10613	7060	5981
MEAN	548	774	482	1094	2852	1315	688	829	402	342	228	199
MAX	1970	2950	3080	4360	23100	4810	2260	2810	602	844	291	229
MIN	328	318	353	515	604	590	488	496	304	265	182	175
CFSM	1.23	1.73	1.08	2.45	6.38	2.94	1.54	1.85	.90	.77	.51	.45
IN.	1.41	1.93	1.24	2.82	6.65	3.39	1.72	2.14	1.00	.88	.59	.50

CAL YR 1989 TOTAL 434231 MEAN 1190 MAX 16500 MIN 265 CFSM 2.66 IN. 36.14
WTR YR 1990 TOTAL 291738 MEAN 799 MAX 23100 MIN 175 CFSM 1.79 IN. 24.28

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 1989 TO SEPTEMBER 1990

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												
17...	1000	442	95	7.5	19.0	750	3.1	8.0	88	K950	K2500	43
JAN												
09...	1030	1130	80	7.9	7.0	747	1.5	11.2	94	K29	K27	34
APR												
09...	1000	519	100	7.6	12.0	757	1.8	10.4	97	K18	K30	38
JUL												
24...	1015	368	86	7.2	27.0	754	3.3	6.2	79	100	120	41

DATE	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	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)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT												
17...	3	14	1.9	1.3	6	0.1	1.1	40	3.0	1.8	0.10	5.8
JAN												
09...	7	11	1.6	1.5	8	0.1	0.90	27	<5.0	<2.4	<0.10	6.4
APR												
09...	0	12	1.9	1.3	7	0.1	0.70	39	3.5	1.6	<0.10	3.8
JUL												
24...	0	13	2.0	1.5	7	0.1	0.90	47	2.6	2.5	0.30	6.8

DATE	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)	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,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)
OCT												
17...	46	54	0.06	54.9	<0.010	0.130	0.020	0.04	0.030	<0.20	0.030	0.020
JAN												
09...	53	--	0.07	162	<0.010	0.500	0.020	0.04	0.030	<0.20	0.030	0.010
APR												
09...	43	49	0.06	60.3	<0.010	0.100	<0.010	0.03	0.020	<0.20	0.020	<0.010
JUL												
24...	55	106	0.08	54.6	<0.010	0.200	0.030	--	<0.010	0.70	0.030	0.030

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

03604000 BUFFALO RIVER NEAR FLAT WOODS, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	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)	LITHIUM DISSOLVED (UG/L AS LI)
OCT 17...	0.020	40	<1	19	<0.5	<1.0	<1	<3	1	62	<1	<4
JAN 09...	0.020	60	<1	16	<0.5	1.0	1	<3	<10	47	<10	<4
APR 09...	<0.010	20	<1	14	<0.5	<1.0	<5	<3	<10	35	<10	<4
JUL 24...	<0.010	20	<1	19	<0.5	<1.0	<1	<3	2	47	<1	<4

DATE	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)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 17...	9	0.3	<10	1	<1	<1.0	50	<6	10	12	14	87
JAN 09...	8	0.3	<10	<10	<1	<1.0	41	<6	14	10	31	54
APR 09...	6	<0.1	<10	<10	<1	<1.0	44	<6	14	5	7.4	74
JUL 24...	12	0.2	<10	3	<1	<1.0	58	<6	12	11	11	91

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 17...	0.8	<0.4	2.2	<0.4	1.8	<0.4	0.13	0.04

03604400 BUFFALO RIVER BELOW LOBELVILLE, TN

LOCATION.--Lat 35°48'44", long 87°46'44", Perry County, Hydrologic Unit 06040004, on left bank at downstream end of bridge on State Highway 13, 1.1 mi downstream from Lost Creek, 1.4 mi above Standing Rock bridge, 2.8 mi north of Lobelville, and at mile 19.1.

DRAINAGE AREA.--702 mi^2.

PERIOD OF RECORD.--October 1927 to September 1989 (published as "near Lobelville"), October 1989 to September 1990. 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 and crest-stage gage. Datum of gage 405.25 ft above National Geodetic Vertical Datum of 1929. Nov. 1, 1927, to May 31, 1934, nonrecording gage. June 1, 1934 to September 30, 1989, water-stage recorder at Standing Rock bridge 1.4 mi downstream at datum 2.23 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.--63 years, 1,187 ft^3/s, 22.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 100,000 ft^3/s, Feb. 14, 1948, gage height, 25.99 ft, present datum, from high-water mark, 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 24.0 ft, present datum, 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)
Jan. 2	0145	5,950	10.96	Feb. 11	2130	9,780	13.63
Feb. 5	1100	*27,900	*18.99	Mar. 17	1245	7,320	12.09

Minimum discharge, 262 ft^3/s, Sept. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2840	539	868	4420	1840	1000	1060	979	876	501	412	276
2	2390	535	818	4700	1900	1030	1000	1070	817	490	403	276
3	2530	525	770	2610	8160	1160	931	1380	999	475	394	273
4	1690	519	733	2560	24300	1310	877	1460	1020	464	392	272
5	1310	517	710	3060	25700	1340	850	1440	983	453	396	269
6	1100	529	690	3080	10700	1280	868	1400	867	444	406	267
7	934	574	668	2380	3960	1210	941	1360	791	436	420	265
8	819	825	673	1990	2860	1360	928	1210	741	428	418	317
9	737	1350	676	1730	2370	2270	876	1110	700	423	397	289
10	684	1590	679	1540	4550	3920	861	1050	666	430	382	302
11	648	1380	676	1390	8400	3850	871	1000	636	467	376	306
12	621	1170	654	1260	6840	2860	864	946	612	1210	370	323
13	599	1020	649	1140	3620	2290	839	955	594	1440	364	345
14	581	967	639	1050	2720	1940	820	963	605	1270	364	339
15	568	1300	627	984	2320	1930	821	900	635	959	359	337
16	564	4240	609	921	2960	4550	816	839	607	741	354	332
17	1150	4390	598	880	3230	6920	861	959	622	632	348	331
18	1230	2950	589	1040	2900	4900	949	988	590	573	342	318
19	1250	2080	594	1160	2270	3200	940	940	564	539	333	313
20	1060	1640	596	1240	1930	2470	898	981	550	516	324	306
21	906	1400	601	1420	1700	2040	926	1760	660	526	317	315
22	810	1290	571	2120	1540	1770	2090	3360	835	502	310	351
23	731	1340	563	2020	1490	1580	2490	2670	909	512	324	329
24	681	1380	526	1710	1390	1440	1810	2060	811	529	318	321
25	646	1360	523	1520	1260	1350	1490	1680	687	546	312	309
26	618	1260	564	1370	1150	1270	1340	1450	615	513	307	303
27	594	1180	574	1260	1090	1180	1210	1310	575	482	302	301
28	577	1100	575	1160	1030	1110	1150	1220	547	459	298	297
29	559	1020	573	1290	---	1060	1100	1150	526	444	292	294
30	545	937	606	1730	---	1040	1050	1040	511	432	287	288
31	542	---	1230	2070	---	1030	---	950	---	423	281	---
TOTAL	30514	40907	20422	56805	134180	65660	32527	40580	21151	18259	10902	9164
MEAN	984	1364	659	1832	4792	2118	1084	1309	705	589	352	305
MAX	2840	4390	1230	4700	25700	6920	2490	3360	1020	1440	420	351
MIN	542	517	523	880	1030	1000	816	839	511	423	281	265
CFSM	1.40	1.94	.94	2.61	6.83	3.02	1.54	1.86	1.00	.84	.50	.44
IN.	1.62	2.17	1.08	3.01	7.11	3.48	1.72	2.15	1.12	.97	.58	.49

CAL YR 1989 TOTAL 636465 MEAN 1744 MAX 18900 MIN 449 CFSM 2.48 IN. 33.73
WTR YR 1990 TOTAL 481071 MEAN 1318 MAX 25700 MIN 265 CFSM 1.88 IN. 25.49

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, 647,100 cfs-days, May 20, elevation, 996.14 ft; minimum, 123,700 cfs-days, Dec. 25, elevation, 943.46 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, 338,200 cfs-days, May 7, elevation, 1,730.68 ft; minimum, 221,900 cfs-days, Dec. 25, elevation, 1,696.37 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, 288,600 cfs-days, May 7, elevation, 1,959.60 ft; minimum, 216,000 cfs-days, Dec. 25, elevation, 1,935.42 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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...	987.29	525,400	-	1,715.19	281,700	-	1,947.42	250,400	-
Oct. 31...	979.67	432,800	-92,600	1,709.15	261,500	-20,200	1,942.85	237,000	-13,400
Nov. 30...	965.01	281,900	-150,900	1,703.05	242,100	-19,400	1,942.34	235,600	- 1,400
Dec. 31...	948.09	151,000	-130,900	1,697.99	226,700	-15,400	1,936.67	219,500	-16,100
CAL YR 1989	-	-	+19,200	-	-	+27,600	-	-	+24,800
Jan. 31...	952.68	181,700	+30,700	1,709.94	264,100	+37,400	1,946.20	246,800	+27,300
Feb. 28...	965.17	283,400	+101,700	1,712.57	272,800	+8,700	1,950.62	260,000	+13,200
Mar. 31...	975.59	387,500	+104,100	1,723.19	310,000	+37,200	1,957.33	281,200	+21,200
Apr. 30...	985.22	499,100	+111,600	1,728.91	331,400	+21,400	1,958.95	286,400	+5,200
May. 31...	995.84	643,500	+144,400	1,729.97	335,400	+4,000	1,958.50	285,000	-1,400
June 30...	990.86	572,800	-70,700	1,726.19	321,100	-14,300	1,954.22	271,200	-13,800
July 31...	989.97	560,700	-12,100	1,720.98	302,000	-19,100	1,950.07	258,300	-12,900
Aug. 31...	973.76	368,100	-192,600	1,715.66	283,300	-18,700	1,944.45	241,700	-16,600
Sept. 30...	964.64	278,500	-89,600	1,706.82	254,000	-29,300	1,940.47	230,200	-11,500
WTR YR 1990	-	-	-246,900	-	-	-27,700	-	-	-20,200

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, 96,100 cfs-days, Aug. 11, elevation, 1,384.35 ft; minimum, 46,700 cfs-days, Dec. 28, elevation, 1,354.58 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, Jan. 14, elevation, 1,263.00 ft; minimum, 11,200 cfs-days, Sept. 20, elevation, 1,257.59 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, 700,700 cfs-days, June 3, elevation, 1,069.84 ft; minimum, 243,600 cfs-days, Dec. 25, elevation, 1,026.86 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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...	1,378.54	84,000	-	1,261.14	12,800	-	1,059.44	561,700	-
Oct. 31...	1,372.24	72,500	-11,500	1,258.29	11,500	-1,300	1,053.54	491,000	-70,700
Nov. 30...	1,365.33	61,300	-11,200	1,260.80	12,600	+1,100	1,045.81	407,300	-83,700
Dec. 31...	1,357.70	50,600	-10,700	1,262.50	13,300	+700	1,028.08	252,400	-154,900
CAL YR 1989	-	-	+500	-	-	+500	-	-	-18,200
Jan. 31...	1,361.09	55,100	+4,500	1,260.89	12,600	-700	1,038.97	341,500	+89,100
Feb. 28...	1,363.83	51,000	-4,100	1,261.50	12,900	+300	1,040.60	356,500	+15,000
Mar. 31...	1,376.04	79,200	+28,200	1,261.95	13,100	+200	1,053.52	490,800	+134,300
Apr. 30...	1,382.00	91,000	+11,800	1,262.02	13,100	0	1,058.38	548,600	+57,800
May 31...	1,381.83	90,700	-300	1,261.56	12,900	-200	1,069.22	691,800	+143,200
June 30...	1,381.58	90,100	-600	1,260.90	12,600	-300	1,066.57	654,900	-36,900
July 31...	1,381.72	90,400	+300	1,261.40	12,900	+300	1,061.95	593,500	-61,400
Aug. 31...	1,381.14	89,200	-1,200	1,261.46	12,900	0	1,047.66	426,400	-167,100
Sept. 30...	1,376.90	80,800	-8,400	1,260.64	12,500	-400	1,040.28	353,500	-72,900
WTR YR 1990	-	-	-3,200	-	-	-300	-	-	-208,200

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, 189,000 cfs-days, Oct. 1; maximum elevation, 813.88 ft Oct. 1; minimum midnight contents, 146,000 cfs-days, Dec. 3, minimum elevation, 807.13 ft Dec. 7. 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 June 1990 (discontinued). 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.--Data not furnished.

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.--Resevoir 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, 206,000 cfs-days, Oct. 1, elevation, 814.06 ft; minimum, 155,800 cfs-days, Dec. 3, elevation, 807.37 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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...	813.76	190,000	-	872.25	23,300	-	813.90	204,800	-
Oct. 31...	812.73	182,600	-7,400	871.33	22,500	-800	812.80	196,100	-8,700
Nov. 30...	807.84	149,500	-33,100	871.49	22,700	+200	807.90	159,500	-36,600
Dec. 31...	808.66	152,900	+3,400	872.74	23,700	+1,000	808.76	165,700	+6,200
CAL YR 1989	-	-	-100	-	-	-900	-	-	+700
Jan. 31...	808.53	153,000	+100	867.90	19,700	-4,000	808.68	165,100	-600
Feb. 28...	807.52	148,200	-4,800	873.95	24,800	+5,100	807.71	158,200	-6,900
Mar. 31...	809.43	158,200	+10,000	871.72	22,800	-2,000	809.60	171,800	+13,600
Apr. 30...	812.93	182,500	+24,300	873.47	24,400	+1,600	813.01	197,700	+25,900
May 31...	812.89	182,900	+400	872.24	23,300	-1,100	812.99	197,600	-100
June 30...	812.44	178,900	-4,000	872.53	23,600	+300	812.54	194,000	-3,600
July 31...	812.35	179,300	+400				812.45	193,300	-700
Aug. 31...	812.66	181,100	+1,800				812.75	195,700	+2,400
Sept. 30...	812.82	181,700	+600				812.85	196,500	+800
WTR YR 1990	-	-	-8,300	-	-		-	-	-8,300

‡ Contents based on backwater profile.

* Discontinued by Tennessee Valley Authority, June, 1990.

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, 1,048,600 cfs-days, June 2, elevation, 1021.28 ft; minimum, 562,400 cfs-days, Dec. 30, elevation, 986.78 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, 61,400 cfs-days, July 13, elevation, 795.29 ft; minimum, 47,700 cfs-days, Oct. 26, elevation, 790.10 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, 573,000 cfs-days, Oct. 1; maximum elevation, 744.09 ft, Oct. 1; minimum midnight contents, 414,000 cfs-days, Mar. 7; minimum elevation, 735.37 ft, Feb. 2. Contents based on backwater profile.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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.	1009.78	862,700	-	794.22	58,200	-	742.47	541,000	-
Oct. 31...	1004.34	783,400	-79,300	793.84	57,200	-1,000	738.41	461,800	-79,200
Nov. 30...	999.05	711,400	-72,000	790.72	49,100	-8,100	736.54	429,900	-31,900
Dec. 31...	987.57	571,300	-140,100	794.56	59,200	+10,100	736.91	433,500	+3,600
CAL YR 1989	-	-	+11,600	-	-	0	-	-	+9,500
Jan. 31...	993.96	646,600	+75,300	793.77	57,000	-2,200	736.17	426,200	-7,300
Feb. 28...	999.36	715,500	+68,900	792.80	54,400	-2,600	735.78	419,800	-6,400
Mar. 31...	1007.80	833,200	+117,700	790.83	49,400	-5,000	736.64	430,400	+10,600
Apr. 30...	1013.07	913,300	+80,100	794.20	58,200	+8,800	741.35	516,100	+85,700
May 31...	1021.24	1,047,900	+134,600	794.00	57,600	-600	740.80	506,100	-10,000
June 30...	1017.18	979,400	-68,500	794.39	58,700	+1,100	740.24	494,500	-11,600
July 31...	1012.29	901,100	-78,300	793.30	55,700	-3,000	740.32	497,000	+2,500
Aug. 31...	1005.58	801,000	-100,100	794.16	58,100	+2,400	740.09	491,500	-5,500
Sept. 30...	998.85	708,800	-92,200	793.68	56,700	-1,400	740.97	508,600	+17,100
WTR YR 1990	-	-	-153,900	-	-	-1,500	-	-	-32,400

‡ 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, 46,500 cfs-days, Feb. 16 , elevation, 842.1 ft; minimum contents observed, 32,100 cfs-days, Nov. 29, elevation, 826.5 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, 358,000 cfs-days, Oct. 1; maximum elevation, 684.79 ft, Oct. 2; minimum midnight contents, 210,000 cfs-days, Jan. 19; minimum elevation, 675.14 ft, Dec. 25. 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, 151,000 cfs-days, Feb. 19; maximum elevation, 634.35 ft, Aug. 9; minimum midnight contents, 115,000 cfs-days, Apr. 5; minimum elevation, 631.89 ft, Feb. 16. Contents based on backwater profile.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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...	836.7	41,100	-	683.38	337,000	-	632.43	123,000	-
Oct. 31...	831.3	36,000	-5,100	678.38	250,700	-86,300	632.94	120,100	-2,900
Nov. 30...	826.8	32,300	-3,700	676.69	229,000	-21,700	632.30	119,700	-400
Dec. 31...	833.8	38,300	+6,000	677.18	229,200	+200	633.66	121,100	+1,400
CAL YR 1989	-	-	+3,500	-	-	+2,200	-	-	+1,100
Jan. 31...	836.0	40,400	+2,100	676.92	237,200	+8,000	632.35	129,200	+8,100
Feb. 28...	834.5	38,900	-1,500	675.73	218,500	-18,700	632.33	126,400	-2,800
Mar. 31...	834.2	38,600	-300	677.47	232,000	+13,500	633.50	120,400	-6,000
Apr. 30...	833.5	38,000	-600	682.53	314,400	+82,400	633.90	120,900	+500
May 31...	834.9	39,300	+1,300	682.27	312,200	-2,200	633.79	123,200	+2,300
June 30...	834.4	38,800	-500	682.06	306,600	-5,600	633.84	122,400	-800
July 31...	834.8	39,200	+400	681.10	299,000	-7,600	633.33	119,800	-2,600
Aug. 31...	834.8	39,200	0	682.69	317,300	+18,300	633.20	117,600	-2,200
Sept. 30...	834.7	39,100	-100	680.96	286,700	-30,600	633.36	118,000	+400
WTR YR 1990	-	-	-2,000	-	-	-50,300	-	-	-5,000

‡ 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, Apr. 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, 39,600 cfs-days, June 3, elevation, 959.68 ft; minimum midnight contents, 35,900 cfs-days, Feb. 7, elevation, 957.71 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, 284,700 cfs-days, Oct. 3, elevation, 891.18 ft; minimum, 195,800 cfs-days, Dec. 25, elevation, 873.00 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, 664,000 cfs-days, Oct. 4; maximum elevation, 417.42 ft, Oct. 5; minimum midnight contents, 368,000 cfs-days, Jan. 19, minimum elevation, 408.23 ft, Jan. 19. Contents based on backwater profile.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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...	959.70	39,700	-	886.92	261,400	-	411.25	592,000	-
Oct. 31...	958.76	37,800	-1,900	883.48	243,800	-17,600	410.38	393,900	-198,100
Nov. 30...	958.00	36,400	-1,400	879.76	225,800	-18,000	409.51	381,700	-12,200
Dec. 31...	958.17	36,700	+300	874.12	200,600	-25,200	410.31	393,100	+11,400
CAL YR 1989	-	-	-700	-	-	-12,000	-	-	-147,900
Jan. 31...	958.01	36,400	-300	879.06	222,500	+21,900	409.14	383,900	-9,200
Feb. 28...	958.02	36,400	0	878.74	221,000	-1,500	409.18	379,700	-4,200
Mar. 31...	958.67	37,700	+1,300	884.08	246,800	+25,800	412.81	445,600	+65,900
Apr. 30...	959.50	39,300	+1,600	886.82	260,900	+14,100	414.60	478,900	+33,300
May 31...	959.50	39,300	0	887.22	263,000	+2,100	413.16	448,000	-30,900
June 30...	959.49	39,300	0	887.66	265,400	+2,400	413.42	453,700	+5,700
July 31...	959.51	39,300	0	887.26	263,200	-2,200	412.55	435,400	-18,300
Aug. 31...	959.34	39,000	-300	886.96	261,600	-1,600	411.89	421,600	-13,800
Sept. 30...	959.37	39,000	0	885.24	252,700	-8,900	411.26	409,000	-12,600
WTR YR 1990	-	-	-700	-	-	-8,700	-	-	-183,000

‡ 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, 62,800 cfs-days, Oct. 2, elevation, 879.56 ft; minimum, 38,600 cfs-days, Feb. 15, elevation, 863.41 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, 1,816,000 cfs-days, Feb. 21; maximum elevation, 363.74 ft, June 2; minimum midnight contents, 1,094,000 cfs-days, Dec. 30, minimum elevation, 353.62 ft, Dec. 15.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

Date	Elevation (feet)	Change in Contents (cfs-days)	contents (cfs-days)	Elevation (feet)	Change in Contents (cfs-days)	contents (cfs-days)
	03596460	NORMANDY LAKE		03609000	KENTUCKY LAKE‡	
Sept. 30...	875.80	56,600	-	355.19	1,206,000	-
Oct. 31...	874.27	54,200	-2,400	354.40	1,107,800	-98,200
Nov. 30...	867.08	43,500	-10,700	354.20	1,148,700	+40,900
Dec. 31...	866.10	42,200	-1,300	354.45	1,123,100	-25,600
CAL YR 1989	-	-	+1,700	-	-	-152,900
Jan. 31...	864.73	40,300	-1,900	354.48	1,259,900	+136,800
Feb. 28...	864.08	39,500	-800	354.80	1,315,500	+55,600
Mar. 31...	869.97	47,600	+8,100	355.40	1,179,000	-136,500
Apr. 30...	875.41	56,000	+8,400	359.23	1,453,300	+274,300
May 31...	875.60	56,300	+300	363.38	1,811,200	+357,900
June 30...	874.67	54,800	-1,500	359.10	1,431,500	-379,700
July 31...	873.96	53,700	-1,100	357.81	1,348,700	-82,800
Aug. 31...	871.86	50,500	-3,200	356.34	1,231,400	-117,300
Sept. 30...	870.60	48,600	-1,900	355.31	1,148,300	-83,100
WTR YR 1990	-	-	-8,000	-	-	-57,700

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.

West Tennessee

Map number	Station number	Station name
166	07024225	NEIL DITCH NR HENRY
167	07024300	BEAVER CR AT HUNTINGDON
168	07024370	LITTLE REEDY CR NR HUNTINGDON
169	07024500	SOUTH FORK OBION RIVER NEAR GREENFIELD
170	07025500	NORTH FORK OBION RIVER NEAR UNION CITY, TN
171	07026000	OBION RIVER AT OBION, TN
172	07027000	REELFOOT LAKE NR TIPTONVILLE, TN
173	07027010	RUNNING REELFOOT BAYOU NEAR OWL CITY
174	07027500	SOUTH FORK FORKED DEER RIVER AT JACKSON, TN
175	07028505	NF FORKED DEER RIVER AT TRENTON
176	07029090	LEWIS CR NR DYERSBURG
177	07029500	HATCHIE RIVER AT BOLVAR, TN
178	07030100	CANE CREEK AT RIPLEY
179	07030240	LOOSAHATCHIE RIVER NR ARLINGTON, TN
180	07031660	WOLF RIVER AT WALNUT GROVE ROAD AT MEMPHIS, TN
181	07032000	MISSISSIPPI RIVER AT MEMPHIS
182	07032200	NONCONNAH CREEK NEAR GERMANTOWN, TN

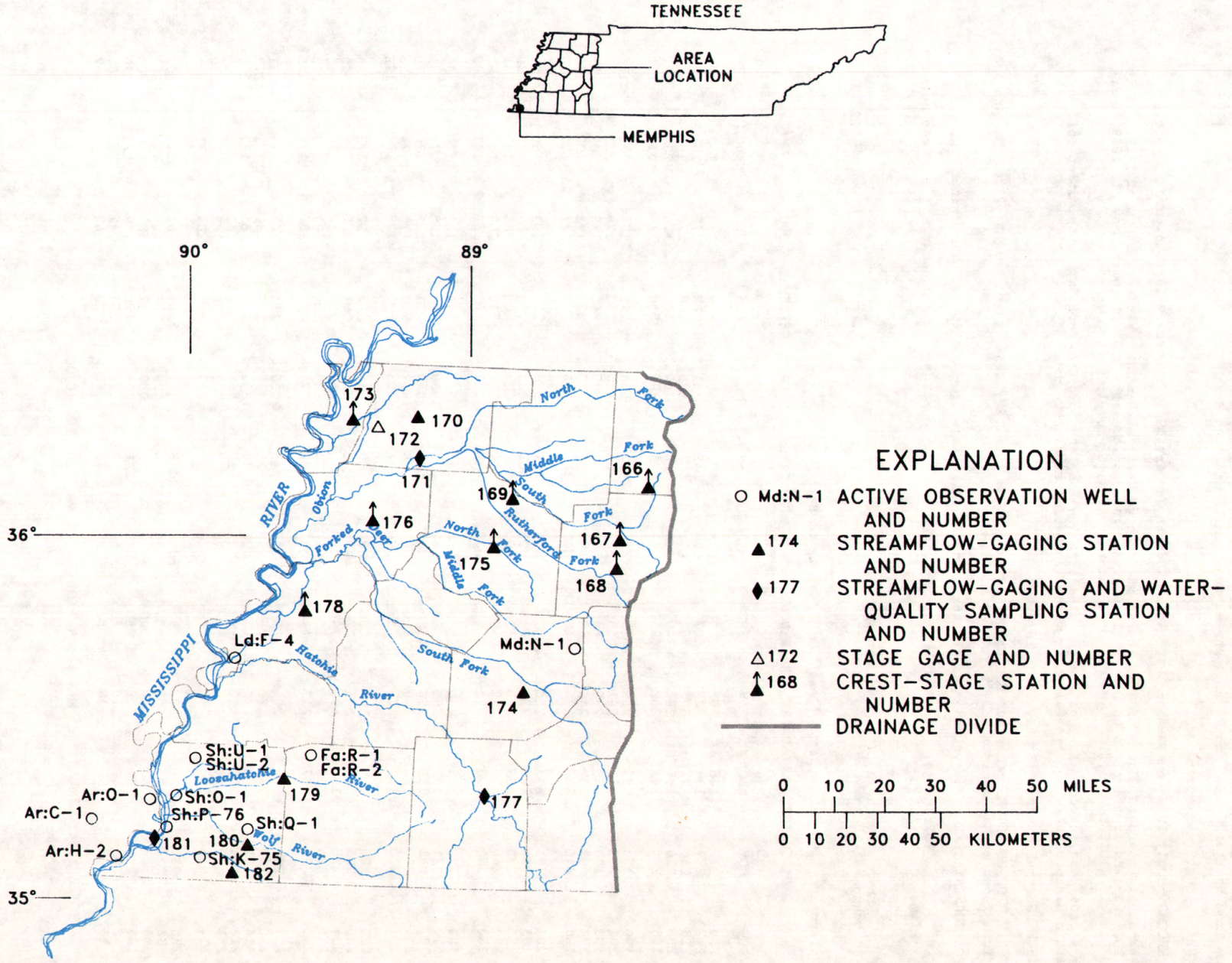

Figure 8.--Location of gaging sites in the Mississippi River Basin.

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 current year.

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, except for estimated discharges which are poor. Periodic observation of water temperature are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--42 years, 613 cfs, 17.34 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,200 ft^3/s, Jan. 22, 1937, gage height 23.08 ft present datum, from flood marks; minimum, 82 ft^3/s, Oct. 5, 1943.

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)
Jan. 20	1200	4,390	12.22	Mar. 30	1830	5,500	14.00
Feb. 4	Unknown	Unknown	Unknown	Apr. 28	0830	4,570	12.93
Feb. 10	Unknown	Unknown	Unknown	Sept. 21	2330	4,200	12.49
Feb. 16	1200	*10,900	*18.57				

Minimum discharge, 168 ft^3/s part of each day, Aug. 27 to Sept. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	288	217	188	797	1890	538	957	496	294	178	183	171
2	267	217	190	397	6070	658	642	751	332	179	182	172
3	228	218	191	305	e7610	496	507	865	460	179	182	172
4	206	218	191	297	e8490	414	448	744	477	178	204	171
5	196	225	191	292	e6910	374	421	893	350	178	516	171
6	196	353	193	259	e3500	354	412	504	275	178	378	170
7	201	388	193	241	1060	337	438	410	256	178	221	173
8	198	1100	198	236	666	492	396	366	245	179	197	177
9	192	597	208	241	e1690	666	375	343	232	178	190	176
10	190	340	207	234	e4460	603	382	378	221	177	185	178
11	188	281	205	225	e2070	478	417	348	211	191	180	181
12	185	258	202	223	839	408	382	323	204	384	179	180
13	185	250	199	215	553	390	366	427	200	289	187	184
14	184	246	195	212	457	372	372	391	310	209	184	190
15	180	354	196	215	5220	2230	429	327	492	189	181	189
16	190	708	195	210	e10500	2250	405	307	310	181	179	186
17	510	321	188	293	e5060	967	472	1980	243	175	177	181
18	397	243	189	520	1520	645	567	1040	231	172	176	179
19	314	219	192	399	1400	568	428	487	202	175	174	188
20	291	208	197	3130	783	524	387	403	191	176	174	192
21	256	203	195	1540	586	480	1390	970	187	192	173	1040
22	235	205	e193	581	721	457	795	1090	193	252	172	1900
23	224	226	e191	400	794	432	522	557	202	239	172	465
24	218	220	e189	346	550	417	423	398	190	201	173	283
25	218	209	e187	317	440	731	382	374	184	188	174	235
26	217	203	e184	294	396	565	345	360	180	182	173	221
27	216	202	181	276	383	458	331	588	179	180	171	213
28	214	201	189	278	413	422	3450	1840	179	181	171	208
29	213	194	233	e1830	---	431	1550	568	180	181	171	225
30	214	189	544	e1940	---	3010	692	368	178	182	171	230
31	217	---	1080	765	---	2520	---	319	---	184	171	---
TOTAL	7228	9013	7274	17508	75031	23687	19083	19215	7588	6085	6121	8601
MEAN	233	300	235	565	2680	764	636	620	253	196	197	287
MAX	510	1100	1080	3130	10500	3010	3450	1980	492	384	516	1900
MIN	180	189	181	210	383	337	331	307	178	172	171	170
CFSM	.49	.63	.49	1.18	5.58	1.59	1.33	1.29	.53	.41	.41	.60
IN.	.56	.70	.56	1.36	5.81	1.84	1.48	1.49	.59	.47	.47	.67

WTR YR 1990 TOTAL 206434 MEAN 566 MAX 10500 MIN 170 CFSM 1.18 IN. 16.00

e Estimated

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 poor. Gage destroyed Apr. 28 by flood. Estimated discharges based on fragmentary records, climatological data, and twice a day observer readings.

COOPERATION.--Thirty-three discharge measurements furnished by the U.S. Army Corps of Engineers.

AVERAGE DISCHARGE.--53 years (water years 1930-58, 1967-90), 2,737 ft^3/s, 20.07 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, 27,600 ft^3/s, Feb. 7; minimum daily discharge, 433 ft^3/s, Sept. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3300	698	754	5530	7820	2520	8840	e1900	e934	e650	e590	e460
2	2200	689	747	2730	13700	2930	5010	e2600	1200	e650	e590	e450
3	1600	687	738	2140	16600	2450	2590	e2800	3750	e620	e585	e445
4	1460	686	743	1860	20100	2080	1950	e2500	3640	e610	e670	e440
5	1230	707	751	1800	23900	1840	1620	e2800	1990	e600	e2500	e433
6	1020	768	746	1500	26500	1710	1560	e1700	1370	e580	e1350	e435
7	888	977	759	1330	27200	1620	1630	e1400	1210	e585	e800	e445
8	808	1550	771	1230	24900	5480	1380	e1720	1110	e580	e680	e470
9	753	2100	788	1190	22200	9810	1220	e1610	972	e580	e590	e485
10	724	1090	794	1120	17000	8280	1170	e1320	893	e565	e570	e500
11	701	946	788	1050	16000	5590	1240	e1150	e825	e820	e550	e610
12	688	883	784	1040	13500	3690	1150	e1070	e790	e3300	e540	e540
13	677	834	778	998	12000	3830	975	e1560	e770	e3100	e590	e510
14	671	808	769	929	11000	2900	903	e1500	e1700	e1280	e560	e518
15	657	949	759	917	17300	6840	1120	e1290	e2500	e790	e545	e518
16	685	1710	760	897	21400	12100	1080	e1150	e1400	e670	e540	e518
17	4600	1340	758	1060	25500	9550	4360	e9400	e1020	e625	e520	e510
18	4200	1010	738	3390	27200	5610	8900	e7700	e930	e600	e500	e495
19	2370	909	738	3200	27200	3190	4700	e3250	e850	e590	e490	e510
20	1980	863	739	7930	22000	2170	2530	e1420	e860	e780	e485	e525
21	1550	828	730	8540	21000	1590	8630	e4350	e830	e860	e485	e4300
22	1270	816	721	4840	17000	1330	7990	e4950	e810	e1080	e480	e8300
23	1090	914	721	2920	13500	1190	3620	e1700	e900	e1020	e480	e3250
24	965	939	e718	2150	11000	1070	2020	e1290	e790	e860	e475	e1400
25	887	881	e705	1740	8500	1690	1560	e1110	e710	e800	e470	e810
26	836	872	e700	1500	7500	1830	1280	e1040	e670	e680	e470	e750
27	796	859	e685	1350	5030	1510	1140	e2150	e650	e630	e472	e710
28	768	806	e682	1350	2930	1390	e12800	e3250	e630	e610	e470	e670
29	742	789	857	8290	---	1750	e11000	e2050	e630	e600	e468	e735
30	718	760	1400	11200	---	7500	e5300	e1210	e650	e595	e465	e790
31	697	---	4880	8710	---	12300	---	e1020	---	e590	e465	---
TOTAL	41531	28668	28001	94431	479480	127340	109268	73960	35984	26900	19445	31532
MEAN	1340	956	903	3046	17120	4108	3642	2386	1199	868	627	1051
MAX	4600	2100	4880	11200	27200	12300	12800	9400	3750	3300	2500	8300
MIN	657	686	682	897	2930	1070	903	1020	630	565	465	433
CFSM	.72	.52	.49	1.64	9.25	2.22	1.97	1.29	.65	.47	.34	.57
IN.	.83	.58	.56	1.90	9.63	2.56	2.19	1.49	.72	.54	.39	.63

CAL YR 1989 TOTAL 1518497 MEAN 4160 MAX 46100 MIN 558 CFSM 2.25 IN. 30.50
WTR YR 1990 TOTAL 1096540 MEAN 3004 MAX 27200 MIN 433 CFSM 1.62 IN. 22.03

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 recorded, 35 microsiemens, July 21, 22, 1975; minimum observed, 34 microsiemens, Feb. 6, 1990.
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 1989 TO SEPTEMBER 1990

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											
06...	1330	801	94	6.8	15.0	767	17	--	--	K350	200
FEB											
06...	1115	26100	34	6.6	9.5	770	120	8.3	72	600	580
APR											
30...	1535	8490	80	7.1	20.0	767	50	5.9	64	600	250
JUL											
17...	1100	625	79	6.8	25.0	775	33	8.1	97	460	220

DATE	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	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)
NOV											
06...	29	1	6.9	2.8	6.5	31	0.5	2.0	27	4.0	5.4
FEB											
06...	12	1	3.0	1.1	2.2	23	0.3	3.2	11	6.0	1.8
APR											
30...	29	4	7.3	2.5	3.3	18	0.3	3.4	25	6.2	4.5
JUL											
17...	22	0	5.7	1.9	5.3	32	0.5	1.9	22	5.1	5.5

DATE	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)	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)
NOV										
06...	0.10	12	66	62	0.09	143	--	<0.010	--	0.410
FEB										
06...	0.10	6.3	50	31	0.07	3520	--	<0.010	--	0.110
APR										
30...	0.20	7.9	69	53	0.09	1580	0.480	0.020	0.07	0.500
JUL										
17...	<0.10	12	50	53	0.07	84.4	0.390	0.010	0.03	0.400

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (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)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
NOV										
06...	0.030	0.03	0.020	0.30	0.140	0.040	0.040	20	<1	24
FEB										
06...	0.090	0.05	0.040	1.2	0.240	0.040	0.010	280	<1	66
APR										
30...	0.210	0.22	0.170	1.1	0.240	0.070	0.060	210	1	39
JUL										
17...	0.040	0.03	0.020	0.50	0.140	0.060	0.050	20	1	23

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

07026000 OBION RIVER AT OBION, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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 06...	<0.5	<1.0	<1	<3	2	270	<1	<4	180	<0.1
FEB 06...	<0.5	<1.0	<5	<3	<10	330	<10	<4	140	<0.1
APR 30...	<0.5	<1.0	<1	<3	3	460	1	<4	70	<0.1
JUL 17...	<0.5	1.0	<1	<3	2	140	<1	<4	57	<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 06...	<10	1	<1	<1.0	43	<6	<3	58	125	87
FEB 06...	<10	<10	<1	<1.0	24	<6	15	92	6480	96
APR 30...	<10	1	<1	<1.0	46	<6	<3	67	1540	94
JUL 17...	<10	1	<1	<1.0	37	<6	<3	100	169	82

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.--Records fair.

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 YEAR.--Maximum gage height, 13.62 ft, Feb. 17, 18; minimum 10.88 ft, Sept. 19.

GAGE HEIGHT, (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	11.40	11.39	11.39	11.18	11.17	11.18	---	---	---	11.34	11.33	11.34
2	11.38	11.36	11.37	11.19	11.17	11.18	---	---	---	11.34	11.33	11.34
3	11.40	11.38	11.38	11.18	11.14	11.16	---	---	---	11.33	11.31	11.33
4	11.38	11.34	11.37	11.19	11.18	11.19	---	---	---	11.37	11.30	11.33
5	11.37	11.30	11.34	11.19	11.19	11.19	---	---	---	11.35	11.35	11.35
6	11.43	11.34	11.37	11.15	11.13	11.14	---	---	---	11.37	11.35	11.36
7	11.38	11.35	11.37	11.22	11.08	11.17	---	---	---	11.37	11.37	11.37
8	11.35	11.30	11.33	11.24	11.18	11.21	---	---	---	---	---	---
9	11.32	11.24	11.29	11.23	11.23	11.24	11.39	11.25	11.30	---	---	---
10	11.30	11.24	11.27	11.23	11.20	11.22	11.26	11.22	11.24	11.28	11.27	11.27
11	11.29	11.24	11.27	11.21	11.20	11.20	11.39	11.24	11.29	11.27	11.26	11.27
12	11.27	11.22	11.25	11.18	11.15	11.17	11.31	11.30	11.31	11.29	11.25	11.26
13	11.27	11.23	11.26	11.20	11.19	11.19	11.29	11.20	11.25	11.29	11.25	11.27
14	11.26	11.22	11.25	11.17	11.14	11.15	11.22	11.22	11.22	11.25	11.22	11.25
15	11.25	11.21	11.24	---	---	---	11.32	11.22	11.27	11.24	11.18	11.21
16	11.31	11.21	11.25	---	---	---	11.26	11.22	11.23	11.26	11.22	11.24
17	11.39	11.31	11.35	---	---	---	11.22	11.22	11.22	11.34	11.24	11.28
18	11.39	11.35	11.36	---	---	---	11.22	11.19	11.21	11.46	11.32	11.40
19	11.35	11.28	11.33	---	---	---	11.19	11.19	11.19	11.60	11.46	11.49
20	11.32	11.24	11.26	---	---	---	11.19	11.19	11.19	11.59	11.54	11.56
21	11.28	11.25	11.25	---	---	---	11.19	11.19	11.19	11.66	11.57	11.62
22	11.24	11.21	11.23	---	---	---	11.19	11.19	11.19	11.74	11.66	11.69
23	11.25	11.20	11.23	---	---	---	11.19	11.19	11.19	11.74	11.72	11.73
24	11.24	11.22	11.23	---	---	---	11.19	11.19	11.19	11.79	11.75	11.90
25	11.24	11.21	11.23	---	---	---	11.19	11.18	11.19	11.77	11.75	11.77
26	11.24	11.20	11.23	---	---	---	11.18	11.17	11.18	11.80	11.77	11.90
27	11.23	11.19	11.22	---	---	---	11.19	11.16	11.17	11.87	11.79	11.84
28	11.22	11.18	11.21	---	---	---	11.19	11.16	11.18	11.91	11.87	11.87
29	11.21	11.18	11.20	---	---	---	11.23	11.18	11.21	11.96	11.91	11.96
30	11.20	11.15	11.18	---	---	---	11.36	11.23	11.28	11.95	11.95	11.94
31	11.26	11.17	11.19	---	---	---	11.34	11.34	11.34	11.98	11.93	11.95
MONTH	11.43	11.15	11.28	---	---	---	---	---	---	11.98	11.18	11.52

07027000 REELFOOT LAKE NEAR TIPTONVILLE, TN--Continued

GAGE HEIGHT, (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	12.18	12.00	12.09	12.84	12.78	12.83	12.59	12.53	12.56	12.84	12.76	12.83
2	12.46	12.19	12.34	12.77	12.69	12.74	12.66	12.56	12.62	12.87	12.81	12.84
3	12.67	12.49	12.57	12.68	12.66	12.67	12.62	12.56	12.60	12.85	12.81	12.84
4	12.77	12.67	12.73	12.67	12.58	12.61	12.57	12.48	12.52	12.85	12.70	12.78
5	12.88	12.77	12.79	12.60	12.51	12.55	12.59	12.45	12.52	12.80	12.75	12.78
6	12.88	12.81	12.85	12.55	12.49	12.52	12.51	12.44	12.49	12.74	12.69	12.71
7	12.85	12.82	12.84	12.53	12.47	12.51	12.44	12.40	12.42	12.69	12.59	12.63
8	12.83	12.78	12.78	12.47	12.41	12.44	12.39	12.33	12.36	12.61	12.53	12.56
9	12.95	12.79	12.87	12.48	12.47	12.47	12.35	12.24	12.32	12.53	12.47	12.50
10	12.94	12.90	12.92	12.48	12.40	12.45	12.37	12.22	12.31	12.50	12.43	12.47
11	12.88	12.84	12.86	12.46	12.37	12.43	12.37	12.33	12.35	12.46	12.41	12.45
12	12.86	12.77	12.82	12.42	12.33	12.38	12.35	12.31	12.34	12.42	12.28	12.36
13	12.76	12.67	12.73	12.43	12.35	12.40	12.34	12.26	12.30	12.43	12.36	12.39
14	12.71	12.65	12.68	12.41	12.34	12.39	12.37	12.29	12.33	12.38	12.34	12.35
15	13.25	12.62	12.96	12.49	12.34	12.45	12.37	12.31	12.33	12.34	12.26	12.30
16	13.54	13.25	13.38	12.53	12.49	12.50	12.35	12.31	12.33	12.31	12.20	12.27
17	13.62	13.54	13.59	12.51	12.45	12.49	12.48	12.30	12.42	12.39	12.37	12.37
18	13.62	13.56	13.59	12.60	12.45	12.50	12.41	12.34	12.38	12.40	12.37	12.39
19	13.56	13.56	13.56	12.56	12.48	12.53	12.33	12.27	12.30	12.41	12.41	12.41
20	13.56	13.44	13.50	12.51	12.43	12.47	12.38	12.31	12.38	12.42	12.42	12.42
21	13.44	13.27	13.35	12.44	12.34	12.39	12.45	12.40	12.40	12.55	12.45	12.48
22	13.28	13.24	13.25	12.37	12.21	12.32	12.49	12.44	12.46	12.55	12.42	12.52
23	13.23	13.20	13.19	12.42	12.36	12.39	12.50	12.45	12.48	12.42	12.39	12.41
24	13.17	13.13	13.18	12.42	12.42	12.42	12.50	12.46	12.48	12.41	12.38	12.39
25	13.14	12.99	13.08	12.42	12.33	12.37	12.46	12.42	12.44	12.40	12.32	12.37
26	12.98	12.85	12.95	12.33	12.31	12.33	12.43	12.35	12.39	12.51	12.38	12.42
27	12.86	12.79	12.82	12.33	12.29	12.32	12.47	12.30	12.35	12.59	12.45	12.50
28	12.84	12.84	12.84	12.33	12.28	12.31	12.62	12.44	12.52	12.66	12.56	12.65
29	---	---	---	12.35	12.30	12.33	12.75	12.63	12.69	12.75	12.67	12.72
30	---	---	---	12.47	12.35	12.43	12.81	12.73	12.77	12.73	12.71	12.72
31	---	---	---	12.54	12.47	12.50	---	---	---	12.72	12.66	12.69
MONTH	13.62	12.00	12.97	12.84	12.21	12.47	12.81	12.22	12.44	12.87	12.20	12.53

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	12.67	12.60	12.64	11.93	11.93	11.93	11.53	11.47	11.50	11.07	11.05	11.06
2	12.62	12.59	12.57	11.96	11.92	11.94	11.47	11.44	11.46	11.05	11.03	11.04
3	12.59	12.50	12.55	11.93	11.88	11.90	11.44	11.41	11.43	11.04	11.03	11.03
4	12.59	12.50	12.55	11.88	11.84	11.86	11.43	11.40	11.41	11.03	11.00	11.01
5	12.49	12.42	12.45	11.85	11.81	11.83	11.50	11.41	11.50	11.00	10.98	10.99
6	12.45	12.36	12.41	11.82	11.81	11.81	11.51	11.43	11.51	10.97	10.95	10.96
7	12.40	12.35	12.38	11.82	11.76	11.81	11.46	11.40	11.42	11.02	10.91	10.98
8	12.40	12.39	12.39	11.79	11.76	11.78	11.41	11.37	11.39	10.99	10.95	10.97
9	12.40	12.35	12.36	11.76	11.73	11.75	11.38	11.34	11.36	10.97	10.95	10.96
10	12.43	12.35	12.38	11.73	11.73	11.73	11.34	11.32	11.33	11.10	10.95	11.02
11	12.36	12.33	12.35	11.75	11.74	11.75	11.32	11.29	11.31	11.07	11.06	11.06
12	12.33	12.29	12.31	11.79	11.75	11.76	11.29	11.26	11.28	11.07	11.04	11.04
13	12.30	12.24	12.28	11.78	11.75	11.76	11.30	11.24	11.27	11.05	11.01	11.03
14	12.31	12.30	12.30	11.75	11.70	11.72	11.30	11.28	11.29	11.01	10.97	11.00
15	12.30	12.27	12.29	11.71	11.69	11.70	11.28	11.26	11.27	11.01	11.00	11.00
16	12.29	12.26	12.27	11.69	11.66	11.67	11.39	11.24	11.32	11.00	10.97	10.99
17	12.25	12.21	12.24	11.67	11.64	11.66	11.38	11.35	11.36	10.99	10.96	10.98
18	12.23	12.20	12.22	11.66	11.63	11.64	11.35	11.31	11.34	10.96	10.91	10.93
19	12.21	12.16	12.18	11.63	11.61	11.62	11.33	11.29	11.31	11.01	10.88	10.95
20	12.21	12.08	12.14	11.61	11.58	11.60	11.30	11.26	11.29	10.99	10.97	10.98
21	12.20	12.12	12.14	11.62	11.60	11.60	11.30	11.27	11.28	11.15	10.96	11.04
22	12.12	12.11	12.12	11.64	11.63	11.63	11.28	11.25	11.26	11.15	11.11	11.13
23	12.11	12.11	12.11	11.63	11.62	11.62	11.26	11.23	11.24	11.13	11.09	11.12
24	12.12	12.10	12.11	11.64	11.61	11.63	11.24	11.21	11.22	11.10	11.05	11.08
25	12.10	12.06	12.08	11.62	11.59	11.61	11.21	11.19	11.20	11.07	10.98	11.03
26	12.07	12.03	12.05	11.60	11.57	11.58	11.20	11.18	11.19	11.05	11.02	11.04
27	12.05	12.03	12.04	11.57	11.55	11.56	11.18	11.15	11.17	11.05	11.03	11.05
28	12.03	11.99	12.01	11.55	11.53	11.54	11.15	11.12	11.14	11.05	11.00	11.03
29	12.00	11.93	11.97	11.54	11.53	11.53	11.16	11.10	11.12	11.05	10.98	11.03
30	11.97	11.91	11.94	11.54	11.51	11.53	11.13	11.10	11.11	11.05	10.98	11.05
31	---	---	---	11.54	11.51	11.52	11.11	11.07	11.09	---	---	---
MONTH	12.67	11.91	12.26	11.96	11.51	11.70	11.53	11.07	11.30	11.15	10.88	11.02

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 TN-71-1: 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 conductance are published in this report as miscellaneuos water quality data.

AVERAGE DISCHARGE.--46 years, 721 ft^3/s, 19.78 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)
Feb. 5	Unknown	*22,700	*21.11	Feb. 11	Unknown	5,120	17.35

Minimum discharge, 118 ft^3/s, Sept. 6, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2610	365	282	e1340	1210	607	e810	e1170	192	169	154	126
2	1540	363	275	e1020	3050	684	e718	e1790	180	164	150	126
3	1420	316	262	e850	6070	810	e590	e3020	1900	157	146	126
4	984	310	252	e1990	e9760	729	e505	e2450	720	146	160	125
5	566	314	261	e1270	e17700	659	e470	e2590	605	140	153	124
6	439	377	264	e1060	e12600	577	e620	e1710	509	137	162	121
7	385	494	255	e945	e6520	537	e690	e1070	318	134	151	120
8	358	1010	304	e677	2700	2590	e630	e717	241	133	140	127
9	343	951	338	e522	1790	4090	e559	e566	337	134	137	157
10	333	1150	333	e455	4240	4060	e549	e510	379	127	134	188
11	325	1330	314	442	e4990	3330	e648	420	297	132	133	606
12	324	983	293	405	4150	2200	e523	417	262	1910	132	298
13	322	583	271	367	3540	1500	e458	484	239	1590	297	269
14	321	684	258	356	1640	1120	e449	444	223	752	387	250
15	320	888	257	353	1750	2530	e534	408	918	733	222	262
16	331	962	e253	349	e4080	3230	e483	365	794	390	191	230
17	756	854	e240	528	e3730	2280	e1910	1020	415	259	177	214
18	623	967	e240	1480	e2680	1780	e2620	564	341	215	169	224
19	769	778	e262	788	1800	1270	e1460	496	272	194	164	216
20	842	592	e283	1380	1110	915	e1180	1830	231	185	158	221
21	625	508	e285	1030	840	753	e2340	2250	434	209	152	221
22	506	762	e288	768	1650	663	e2210	1700	1460	362	146	238
23	451	1070	e291	638	1380	596	e1840	1300	861	275	145	213
24	420	642	e294	542	1200	547	e1700	1010	571	260	145	192
25	398	675	e297	519	999	553	e1100	553	404	229	141	184
26	377	555	e292	463	772	527	e675	381	279	207	138	179
27	370	444	e281	422	664	508	e605	313	230	191	137	174
28	362	381	e311	549	600	494	e3360	324	204	180	135	172
29	360	319	e347	3090	---	e476	e2150	260	190	173	133	164
30	358	288	e695	2310	---	e878	e1450	225	180	167	129	154
31	361	---	e2080	1410	---	e1100	---	209	---	159	127	---
TOTAL	18499	19915	10958	28318	103215	42593	33836	30566	14186	10213	5045	6021
MEAN	597	664	353	913	3686	1374	1128	986	473	329	163	201
MAX	2610	1330	2080	3090	17700	4090	3360	3020	1900	1910	387	606
MIN	320	288	240	349	600	476	449	209	180	127	127	120
CFSM	1.21	1.34	.71	1.85	7.45	2.78	2.28	1.99	.96	.67	.33	.41
IN.	1.39	1.50	.82	2.13	7.76	3.20	2.54	2.30	1.07	.77	.38	.45

CAL YR 1989 TOTAL 388624 MEAN 1065 MAX 11500 MIN 127 CFSM 2.15 IN. 29.21
WTR YR 1990 TOTAL 323365 MEAN 886 MAX 17700 MIN 120 CFSM 1.79 IN. 24.30

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.--Records good.

AVERAGE DISCHARGE.--61 years, 2,427 ft^3/s, 22.27 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)
Feb. 7	0100	*31,900	*18.99	May 24	1700	9,080	15.53

Minimum discharge, 259 ft^3/s, Sept. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3270	659	1920	e2600	3590	4070	2390	5530	3020	494	326	271
2	4190	666	1470	e2900	4310	3790	2470	6290	2020	477	316	266
3	4490	663	1220	e3700	12000	2770	2560	6790	1700	458	319	265
4	4940	657	1080	4550	28000	3530	2450	6250	1950	439	322	272
5	5510	653	1010	5140	26900	3470	2210	5670	2370	420	319	272
6	5770	718	976	5720	30200	3520	2180	5170	2410	403	329	263
7	5620	933	949	6000	30600	3640	2470	4770	2360	386	323	264
8	5210	2890	939	5980	24500	4800	2600	4350	2040	377	315	263
9	4740	3800	964	5780	18200	5680	2560	3790	1450	373	303	263
10	4100	3340	1020	5540	18400	5900	2490	2990	1070	361	303	284
11	2890	3100	1060	5280	17300	5780	2340	2250	897	357	303	305
12	1600	2760	1070	4870	13200	5840	2120	1830	800	619	313	313
13	925	2380	1060	4420	11000	6020	1930	1820	743	914	336	346
14	742	1960	1040	4040	10400	6010	1740	2160	705	1110	381	381
15	682	1950	989	3520	9810	6380	1610	2260	715	872	413	396
16	650	2830	914	2760	10100	6490	1530	2160	865	641	417	382
17	1270	3360	863	2120	8300	6170	1860	2070	944	516	399	357
18	2120	3600	833	1890	7310	5690	2610	1990	937	455	377	335
19	2740	3710	840	2010	6600	5440	2530	1750	914	423	362	319
20	2670	3900	856	2300	6030	5440	2210	2820	814	406	349	311
21	2410	4070	910	2600	5660	5510	3610	5090	785	393	336	315
22	1940	4340	1320	2770	5750	5380	5570	5940	910	474	324	325
23	1390	4710	e1180	2850	5590	5020	5660	6820	1010	582	316	322
24	1050	4540	e1010	2940	5340	4550	5510	8750	976	547	315	315
25	889	4290	e990	3070	4900	3980	5490	8720	778	540	315	315
26	810	3940	e1010	3160	4670	3300	5400	7890	665	517	315	309
27	762	3680	e1220	3210	4520	2580	5210	7030	597	448	315	299
28	730	3380	e1210	3150	4350	2140	6520	6240	554	400	308	296
29	704	2990	e990	3500	---	1980	6810	5470	525	369	299	293
30	686	2480	e1300	3670	---	2040	6130	4780	507	350	288	289
31	667	---	e1900	3660	---	2250	---	4040	---	336	278	---
TOTAL	76167	82949	34113	115700	337530	139160	100770	143480	36031	15457	10234	9206
MEAN	2457	2765	1100	3732	12050	4489	3359	4628	1201	499	330	307
MAX	5770	4710	1920	6000	30600	6490	6810	8750	3020	1110	417	396
MIN	650	653	833	1890	3590	1980	1530	1750	507	336	278	263
CFSM	1.66	1.87	.74	2.52	8.15	3.03	2.27	3.13	.81	.34	.22	.21
IN.	1.91	2.08	.86	2.91	8.48	3.50	2.53	3.61	.91	.39	.26	.23

CAL YR 1989 TOTAL 1464918 MEAN 4013 MAX 36600 MIN 439 CFSM 2.71 IN. 36.82
WTR YR 1990 TOTAL 1100797 MEAN 3016 MAX 30600 MIN 263 CFSM 2.04 IN. 27.67

e Estimated

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 recorded, 28 microsiemens, Apr. 18, 1982; minimum observed, 24 microsiemens, Feb. 7, 1990.
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 1989 TO SEPTEMBER 1990

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)
NOV												
07...	1120	864	64	6.9	14.0	765	18	8.4	81	4500	--	21
FEB												
07...	1045	30700	24	6.1	12.0	772	100	7.7	70	690	450	11
MAY												
01...	1000	5510	60	7.1	19.5	768	28	6.1	66	170	150	19
JUL												
18...	0900	454	56	6.5	24.0	773	31	6.2	72	K86	180	17

DATE	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	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)	SILICA, DIS-SOLVED (MG/L AS SIO2)
NOV												
07...	2	5.7	1.6	3.4	24	0.3	2.0	19	5.0	4.2	0.10	9.6
FEB												
07...	3	3.3	0.75	1.2	16	0.2	1.6	9	5.0	1.6	0.10	5.2
MAY												
01...	7	5.2	1.4	2.0	17	0.2	1.5	12	5.8	2.6	<0.10	7.3
JUL												
18...	0	4.6	1.3	2.8	24	0.3	1.8	23	3.9	4.1	<0.10	9.7

DATE	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)	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, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)
NOV												
07...	53	45	0.07	124	<0.010	0.120	0.030	0.03	0.020	0.80	0.060	0.020
FEB												
07...	42	26	0.06	3480	<0.010	0.110	0.060	0.04	0.030	0.70	0.090	0.020
MAY												
01...	48	36	0.06	714	<0.010	0.100	0.080	0.05	0.040	0.50	0.060	0.020
JUL												
18...	40	39	0.05	49.0	<0.010	0.300	0.090	0.08	0.060	0.50	0.080	0.010

07029500 HATCHIE RIVER AT BOLIVAR, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	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)	LITHIUM DIS-SOLVED (UG/L AS LI)
NOV 07...	0.020	20	<1	20	<0.5	<1.0	<1	<3	2	160	<1	<4
FEB 07...	0.010	220	<1	21	<0.5	<1.0	<5	<3	<10	280	<10	<4
MAY 01...	0.010	180	1	34	<0.5	<1.0	<1	<3	2	420	1	<4
JUL 18...	<0.010	50	1	22	<0.5	3.0	<1	<3	1	410	<1	<4

DATE	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)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 07...	170	<0.1	<10	3	<1	<1.0	50	<6	4	46	107	89
FEB 07...	34	<0.1	<10	<10	<1	<1.0	26	<6	4	70	5820	91
MAY 01...	82	<0.1	<10	<1	<1	<1.0	43	<6	4	28	415	72
JUL 18...	240	<0.1	<10	2	<1	<1.0	43	<6	9	33	40	95

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.--21 years, 378 ft^3/s, 19.59 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)
Nov. 8	0900	6,850	17.15	Feb. 15	2400	6,330	16.52
Jan. 29	Unknown	Unknown	Unknown	Mar. 8	1200	7,360	17.66
Feb. 4	Unknown	*14,500	*22.11	Apr. 21	1315	5,540	17.59
Feb. 10	Unknown	Unknown	Unknown				

Minimum discharge, 97 ft^3/s, several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	534	126	115	486	273	353	172	235	e150	107	101	97
2	223	124	115	232	5400	360	168	1660	e150	105	101	97
3	163	123	111	197	8900	348	163	951	e400	105	101	97
4	146	123	110	1120	e12000	328	140	498	e220	103	101	98
5	141	123	110	403	e2350	316	134	190	e170	100	101	98
6	137	138	110	216	820	312	228	173	e145	100	101	98
7	134	304	114	172	634	320	232	170	e140	100	101	98
8	131	5320	114	169	564	4840	159	168	e135	99	101	98
9	130	2200	112	157	947	2810	146	155	e132	99	101	98
10	128	399	110	141	e6700	599	152	143	e129	99	101	102
11	126	211	108	132	e2330	306	179	147	e128	103	101	129
12	125	176	106	125	732	508	151	175	e127	140	101	108
13	124	164	105	117	545	697	140	163	e125	157	102	102
14	124	159	104	116	456	271	138	141	e122	117	102	100
15	123	169	103	115	2900	3340	138	139	e121	108	102	103
16	304	182	100	113	4650	1550	138	138	e120	106	102	100
17	2310	152	100	302	e1100	427	1140	185	e119	104	102	98
18	343	142	100	943	576	296	791	170	e118	103	102	98
19	199	137	100	380	493	243	241	193	e117	104	102	98
20	170	136	101	500	426	211	188	e3570	e116	104	102	98
21	154	133	100	323	396	198	3520	e1600	e114	103	101	99
22	148	327	97	185	1720	189	3140	e700	e160	103	100	100
23	141	490	97	152	856	182	526	e400	e130	103	100	99
24	138	192	97	137	515	175	246	e250	e119	102	100	97
25	134	153	97	144	409	170	203	217	e112	102	99	97
26	131	140	99	126	375	165	181	193	e112	102	99	97
27	130	133	99	114	362	160	326	187	e111	102	99	97
28	128	127	98	346	352	158	5370	182	e110	102	99	97
29	127	119	105	e3910	---	163	2580	162	109	102	98	97
30	127	117	698	e1310	---	754	396	161	108	102	98	97
31	127	---	2180	392	---	278	---	e143	---	102	97	---
TOTAL	7300	12539	5915	13275	57781	21027	21426	13559	4169	3288	3118	2992
MEAN	235	418	191	428	2064	678	714	437	139	106	101	99.7
MAX	2310	5320	2180	3910	12000	4840	5370	3570	400	157	102	129
MIN	123	117	97	113	273	158	134	138	108	99	97	97
CFSM	.90	1.60	.73	1.63	7.88	2.59	2.73	1.67	.53	.40	.38	.38
IN.	1.04	1.78	.84	1.88	8.20	2.99	3.04	1.93	.59	.47	.44	.42

CAL YR 1989 TOTAL 227119 MEAN 622 MAX 13000 MIN 84 CFSM 2.37 IN. 32.25
WTR YR 1990 TOTAL 166389 MEAN 456 MAX 12000 MIN 97 CFSM 1.74 IN. 23.62

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 poor. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--21 years, 1,023 ft^3/s, 19.59 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)
Feb. 5	Unknown	*19,800	*22.92	May 20	1245	7,160	14.78

Minimum discharge, 251 ft^3/s, Sept. 1-3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	956	377	495	e2400	1870	721	750	e4100	700	392	291	253
2	951	377	470	e2130	5090	690	697	e4000	e670	386	282	251
3	807	370	458	e1700	e8430	699	654	3710	e680	372	284	271
4	710	373	439	1960	e11800	691	618	3440	e830	363	280	259
5	724	383	430	e1510	e17300	661	609	3120	e1100	338	282	261
6	757	405	440	e1410	13300	664	1210	2750	e930	315	282	257
7	687	405	417	e1310	6690	762	1120	1990	e850	317	280	257
8	583	1950	411	e1220	3990	4710	943	1290	e690	320	277	262
9	514	1040	425	1020	2970	3510	745	887	e590	319	274	265
10	469	1030	445	882	5760	3730	697	725	e570	323	273	266
11	440	935	443	761	6620	3060	700	624	e550	347	271	283
12	421	740	433	637	6460	2460	667	612	e540	597	268	e410
13	412	599	442	e586	4380	1930	603	611	e530	432	337	406
14	407	556	452	540	2910	1490	573	633	e522	472	318	328
15	403	564	439	533	4020	3840	562	611	e520	448	329	324
16	991	537	430	518	4290	2390	561	617	e610	399	319	327
17	2810	594	403	623	3240	2440	1080	788	e620	374	316	326
18	1370	627	389	1120	2200	2820	1300	806	e550	349	309	316
19	1070	e550	410	1020	1540	2620	1170	911	e530	343	299	308
20	824	e460	406	1140	1010	1860	903	5220	e520	334	289	309
21	681	e445	e399	1110	804	1270	2730	4020	e522	321	283	318
22	631	e890	e391	1100	1520	906	2360	4790	e560	355	277	338
23	611	e899	e392	900	1520	744	2610	4730	e580	378	271	343
24	558	e740	e397	800	1420	651	2470	3940	e550	384	266	344
25	496	e770	e389	733	1270	606	2200	3160	e490	411	261	350
26	447	e690	e395	e672	1060	581	e1600	2430	e470	378	258	370
27	e425	e640	e395	600	925	578	e1780	1710	e460	352	257	397
28	e415	e610	e397	e802	791	578	e2600	1250	438	337	257	388
29	e405	595	471	e3780	---	585	e3350	961	422	321	257	329
30	e390	532	e2200	e2440	---	1510	e4000	718	404	315	258	316
31	387	---	e2250	e2460	---	974	---	685	---	296	256	---
TOTAL	21752	19683	16753	38417	123180	50731	41862	65839	17998	11388	8761	9432
MEAN	702	656	540	1239	4399	1636	1395	2124	600	367	283	314
MAX	2810	1950	2250	3780	17300	4710	4000	5220	1100	597	337	410
MIN	387	370	389	518	791	578	561	611	404	296	256	251
CFSM	.99	.93	.76	1.75	6.20	2.31	1.97	3.00	.85	.52	.40	.44
IN.	1.14	1.03	.88	2.02	6.46	2.66	2.20	3.45	.94	.60	.46	.49

CAL YR 1989 TOTAL 560214 MEAN 1535 MAX 14900 MIN 350 CFSM 2.16 IN. 29.39
WTR YR 1990 TOTAL 425796 MEAN 1167 MAX 17300 MIN 251 CFSM 1.65 IN. 22.34

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.--57 years, 484,500 ft^3/s, 351,000,000 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, 1,170,000 ft^3/s, Feb. 24; maximum gage height, 31.29 ft; minimum daily discharge, 194,000 ft^3/s Dec. 30; minimum gage height, -3.70 ft Dec. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	453000	334000	380000	196000	601000	1120000	666000	539000	1110000	669000	452000	409000
2	428000	302000	371000	203000	621000	1100000	643000	517000	1110000	654000	422000	408000
3	407000	287000	366000	222000	664000	1070000	618000	497000	1100000	635000	406000	407000
4	399000	272000	364000	270000	715000	1010000	585000	482000	1100000	614000	409000	401000
5	414000	268000	362000	349000	766000	922000	557000	483000	1100000	592000	415000	392000
6	437000	274000	360000	443000	830000	814000	534000	496000	1100000	577000	406000	379000
7	446000	281000	352000	527000	885000	722000	503000	511000	1090000	560000	398000	368000
8	456000	298000	339000	611000	928000	683000	481000	541000	1080000	542000	395000	363000
9	462000	297000	322000	642000	963000	676000	464000	601000	1060000	524000	395000	366000
10	458000	295000	307000	658000	992000	645000	452000	655000	1040000	514000	402000	362000
11	443000	289000	301000	661000	1000000	609000	439000	685000	1010000	510000	410000	352000
12	423000	290000	301000	648000	1010000	592000	433000	685000	979000	511000	413000	350000
13	397000	300000	298000	619000	1020000	580000	444000	664000	947000	507000	406000	352000
14	367000	316000	300000	580000	1020000	572000	466000	633000	908000	504000	389000	341000
15	337000	329000	303000	537000	1030000	585000	487000	611000	869000	509000	375000	321000
16	317000	335000	303000	504000	1050000	607000	507000	604000	832000	516000	364000	307000
17	314000	336000	297000	485000	1070000	623000	525000	618000	794000	521000	352000	303000
18	299000	336000	287000	471000	1080000	654000	552000	660000	743000	533000	340000	300000
19	289000	350000	278000	445000	1100000	723000	564000	743000	688000	555000	334000	293000
20	291000	381000	270000	418000	1120000	796000	573000	850000	651000	574000	326000	288000
21	306000	410000	254000	403000	1140000	852000	573000	933000	649000	582000	318000	283000
22	331000	448000	232000	428000	1150000	888000	556000	990000	670000	578000	316000	281000
23	371000	485000	219000	483000	1160000	917000	532000	1040000	676000	578000	323000	285000
24	417000	507000	215000	539000	1150000	925000	514000	1070000	674000	577000	341000	287000
25	471000	510000	209000	585000	1140000	923000	516000	1100000	673000	561000	365000	281000
26	508000	495000	200000	614000	1130000	912000	527000	1120000	679000	543000	389000	273000
27	524000	469000	197000	625000	1130000	886000	535000	1120000	682000	534000	411000	268000
28	514000	437000	196000	627000	1120000	841000	552000	1120000	688000	533000	423000	268000
29	478000	413000	197000	634000	---	778000	566000	1120000	689000	527000	428000	267000
30	423000	397000	194000	630000	---	722000	560000	1120000	680000	510000	429000	264000
31	376000	---	195000	615000	---	691000	---	1110000	---	484000	423000	---
TOTAL	12556000	10741000	8769000	15672000	27585000	24438000	15924000	23918000	26071000	17128000	11975000	9819000
MEAN	405000	358000	282900	505500	985200	788300	530800	771500	869000	552500	386300	327300
MAX	524000	510000	380000	661000	1160000	1120000	666000	1120000	1110000	669000	452000	409000
MIN	289000	268000	194000	196000	601000	572000	433000	482000	649000	484000	316000	264000

CAL YR 1989 TOTAL 201494000 MEAN 552000 MAX 116000 MIN 186000
WTR YR 1990 TOTAL 204596000 MEAN 560500 MAX 1160000 MIN 194000

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 1989 TO SEPTEMBER 1990

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)	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)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)
OCT												
18...	1145	296000	335	7.8	19.0	23	8.0	86	170	1200	130	39
FEB												
21...	0900	1150000	255	7.5	9.0	63	10.1	87	63	460	110	37
JUN												
18...	1330	808000	335	7.7	25.0	160	5.6	68	200	460	140	--
JUL												
23...	1230	547000	420	7.9	26.0	44	6.2	77	520	80	170	48

DATE	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)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT												
18...	36	10	18	22	0.7	3.1	92	52	13	0.20	5.1	207
FEB												
21...	30	7.4	8.5	15	0.4	2.4	68	32	11	0.10	6.2	155
JUN												
18...	38	10	11	15	0.4	3.3	100	41	9.5	0.30	6.4	193
JUL												
23...	45	14	16	17	0.5	3.2	122	49	17	<0.10	7.7	252

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 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,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)
OCT												
18...	196	0.28	165000	<0.010	0.640	0.040	0.03	0.020	0.50	0.170	0.060	0.050
FEB												
21...	139	0.21	483000	--	--	--	--	--	--	--	--	--
JUN												
18...	181	0.25	421000	<0.010	2.00	0.060	0.04	0.030	0.50	0.210	0.070	0.070
JUL												
23...	238	0.34	372000	<0.010	2.80	0.040	0.09	0.070	1.0	0.200	0.080	0.070

07032000 MISSISSIPPI RIVER AT MEMPHIS, TN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT												
18...	20	1	47	<0.5	<1.0	<1	<3	7	38	1	9	1
FEB												
21...	70	1	34	<0.5	<1.0	<5	<3	<10	65	<10	4	4
JUN												
18...	40	1	62	0.5	4.0	<1	<3	14	16	<1	9	5
JUL												
23...	10	1	70	<0.5	4.0	<1	<3	11	11	<1	10	<1

DATE	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)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT											
18...	<0.1	<10	2	<1	<1.0	170	<6	28	61	48800	86
FEB											
21...	0.1	<10	<10	<1	<1.0	120	<6	8	187	582000	64
JUN											
18...	<0.1	<10	2	1	1.0	140	6	73	474	1030000	91
JUL											
23...	<0.1	<10	3	<1	<1.0	190	<6	5	186	275000	96

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-74-1: Drainage area, WRD TN-87-1 (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 fair. Periodic observations of water temperature are published in this report as miscellaneous water quality data.

AVERAGE DISCHARGE.--20 years (water years 1970-84, 1986-90), 107 ft^3/s, 21.29 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)
Oct. 16	2145	5,910	16.62	Mar. 15	Unknown	Unknown	Unknown
Feb. 3	Unknown	*Unknown	*Unknown	Apr. 21	0615	5,070	15.41
Feb. 10	Unknown	Unknown	Unknown	Apr. 28	0230	4,260	14.17
Feb. 15	2345	4,830	15.05	May 20	0845	6,750	17.79
Mar. 8	Unknown	Unknown	Unknown				

Minimum discharge, .01 ft^3/s, Sept. 28, 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	.62	.64	100	78	126	52	47	2.0	.36	1.7	.43
2	8.6	4.7	.76	34	2380	169	28	1140	3.0	2.2	1.4	.34
3	3.2	3.8	.83	49	4360	141	e20	207	135	2.2	1.1	.42
4	3.0	1.3	.69	360	962	95	e9.1	179	27	.55	1.0	.29
5	1.8	1.8	.59	83	107	75	e7.3	86	10	5.4	1.0	.27
6	1.3	15	.47	39	51	63	e338	30	4.4	.96	.84	.33
7	1.1	4.1	.31	29	37	e254	e160	17	1.9	.36	.55	.40
8	1.8	394	2.1	44	29	e3660	e64	12	1.1	.49	.58	.65
9	.93	59	2.2	31	369	565	31	9.1	2.7	.41	.68	.99
10	.98	17	1.2	19	e2160	294	e16	6.1	29	.25	.74	.63
11	1.6	11	.78	13	204	186	e8.7	10	9.7	.28	.53	.61
12	1.8	3.8	.59	8.9	58	137	e5.8	24	2.8	67	.41	13
13	2.3	2.7	.40	5.8	37	122	e4.2	18	.89	13	81	49
14	2.1	1.6	.33	3.9	28	109	e3.6	10	.56	3.5	10	3.7
15	2.1	8.2	.28	3.2	1520	e2000	e3.0	6.1	77	1.3	1.9	.74
16	692	15	.23	3.0	e1260	e261	e3.0	3.7	22	.77	.68	.48
17	1310	3.9	.30	75	87	83	e318	28	5.5	.50	.28	.26
18	46	3.4	.33	249	42	45	154	8.5	1.4	.31	.73	.20
19	20	2.0	5.6	99	33	31	36	298	.70	.56	.77	3.9
20	9.4	1.7	1.6	190	25	24	99	3360	.46	.59	.75	1.1
21	5.1	1.0	.67	77	20	20	2620	602	.46	.69	.55	2.2
22	3.9	52	.28	34	e693	16	270	89	406	10	.47	8.7
23	3.2	42	.11	21	258	16	57	25	24	34	.49	.83
24	2.5	16	.03	15	134	12	34	14	7.4	14	.81	.30
25	1.5	8.1	.06	31	94	12	26	7.4	5.3	3.0	.46	.13
26	1.4	3.6	.30	16	76	16	18	4.9	1.3	.92	.45	.09
27	1.5	2.9	.45	10	65	12	252	10	.73	.54	.49	.06
28	.65	3.5	.54	329	59	20	1650	15	.57	.55	.39	.02
29	.56	1.3	8.4	1600	---	25	136	8.0	.50	.76	.40	.01
30	.76	.74	400	171	---	764	44	3.6	.42	7.5	.31	.01
31	.80	---	707	47	---	151	---	2.0	---	3.6	.51	---
TOTAL	2152.88	685.76	1138.07	3789.8	15226	9504	6467.7	6280.4	783.79	176.55	111.97	90.09
MEAN	69.4	22.9	36.7	122	544	307	216	203	26.1	5.70	3.61	3.00
MAX	1310	394	707	1600	4360	3660	2620	3360	406	67	81	49
MIN	.56	.62	.03	3.0	20	12	3.0	2.0	.42	.25	.28	.01
CFSM	1.02	.34	.54	1.79	7.97	4.50	3.16	2.97	.38	.08	.05	.04
IN.	1.17	.37	.62	2.07	8.31	5.18	3.53	3.43	.43	.10	.06	.05

CAL YR 1989 TOTAL 62128.00 MEAN 170 MAX 5900 MIN .03 CFSM 2.50 IN. 33.89
WTR YR 1990 TOTAL 46407.01 MEAN 127 MAX 4360 MIN .01 CFSM 1.86 IN. 25.31

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 low-flow partial-record sites and at miscellaneous sites and for special studies 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 1990

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, 1985-90	10- 1-89	10.14	-
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	1978-90	5-17-90	5.71	-
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	1967-90	10- 1-89	5.31	914
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	1955-90	10- 1-89	9.15	3,100
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, 1986-90	2- 3-90	17.62	-
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	1986-90	5-17-90	34.33	-
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	1986-90	5-17-90	22.56	-

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--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	1986-90	5-17-90	28.66	-
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	1955-90	10-17-89	6.61	908
03426800	East Fork Stones River at Woodbury, TN	Lat 35°49'41", long 86°04'36", Cannon County, Hydrologic Unit 05130203, at bridge on U.S. Highway 70S at Woodbury. Datum of gage is 676.23 ft above National Geodetic Vertical Datum of 1929.	39.1	1962-89†, 1990	2- 3-90	14.36	6,900
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	1983-90	10- 1-89	27.94	2,850
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	1983-90	10- 1-89	3.94	-
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	1978-90	2- 3-90	2.54	-
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	1977-90a	10-17-89	7.06	1,380
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	1965-90	2- 3-90	8.16	6,480
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†, 1976-90	2- 3-90	14.02	6,220

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--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					
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	1965-90	10-17-89	5.92	-
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	1965-90	2- 3-90	13.00	8,600
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	1977-90a	6-18-90	5.08	329
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	1965-90	11- 7-89	4.70	630
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	1965-90	6-18-90	3.77	304
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	1965-90	10-17-89	6.92	-
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	1977-90a	2-15-90	4.42	613

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--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					
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	1965-90	3-15-90	6.34	1,030
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	1976-90	3-15-90	493.68	-
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	1976-90	3-15-90	475.40	-
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	1976-90	3-15-90	461.85	-
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	1976-90	3-15-90	448.06	-
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	1976-90	10-17-89	543.10	-
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	1976-90	10-17-89	529.80	-
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	1986-90	2- 3-90	20.88	_
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	1986-90	2- 3-90	22.23	-

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--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					
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	1978-90	10-17-89	8.60	1,150
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	1984-90	2- 3-90	6.73	1,440
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	1984-90	10-17-89	13.77	214
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	1984-90	2- 3-90	13.81	-
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	1984-90	10-17-89	11.41	-
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	1986-90	2- 3-90	23.11	-
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	1975-90†	2- 3-90	13.75	9,800
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	1986-90	5-17-90	22.23	-
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	1984-90	2- 3-90	6.56	-
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†, 1982-90	2- 3-90	15.36	10,400

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--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					
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	1967-90	3-17-90	4.70	132
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	1984-90	3-17-90	14.33	-
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	1983-90	5-28-90	5.34	-
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	1984-90	2-10-90	13.32	3560
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	1986-90	2-04-88b 9-15-89b 5-17-90	13.44 15.55 12.68	1770 2540 1500
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	1986-90	5-28-90	8.46	-
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	1986-90	1-19-87b 5-05-89b 5-28-90	11.68 12.06 12.14	84 109 114
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	1986-90	1-01-89b 5-28-90	6.02 6.68	781 1180
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	1986-90	1-19-87b 2-04-88b 5-05-89b 5-28-90	10.38 9.23 9.92 10.92	122 31 73 211
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	1983-90	3-17-90	8.49	-

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--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					
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	1983-90	10-1-89	11.30	69
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	1983-90	1- 1-90	12.71	1130
03487550	Reedy Creek at Orebank, TN	Lat 36°33'42", long 82°27'36", Sullivan County, Hydrologic Unit 06010102, 80 ft upstream from culvert, 0.3 mi north of Orebank, 1.0 mi upstream from Gaines Branch, and at mile 9.8.	36.3	1963-89†, 1990	1990	<6.34	
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	1986-90	1990	<17.94	-
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	1983-90	5-17-90	4.44	-
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	1986-90	5-29-90	11.13	518
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	1986-90	3-17-90	11.51	-
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	1986-90	11-16-89	11.14	-
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, 1979-90	10-1-89	3.88	102
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†, 1976-90	3-17-90	6.69	472

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--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					
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	1986-90	12-31-89	6.75	-
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	1986-90	2-16-90	2.56	-
03534000	Coal Creek at Lake City, TNc	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†, 1955-90	10-1-89	5.21	2630
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	1967-90	5-28-90	6.01	173
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	1983-90	2-16-90	5.06	
03566420	Wolftever Creek near Ooltewah, TN	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.	18.8	1964-89†, 1990	2-17-90	6.78	1,320
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, 1980-90	2-17-90	32.69	-
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	1980-90	2-17-90	24.81	-
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, 1965,1979-90	2- 5-90	8.34	-
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	1982-90	2- 5-90	16.20	-

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--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					
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	1955-90	10- 2-89	8.63	4,220
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†, 1969-90	10- 2-89	15.83	10,200
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. Datum of gage is 400.00 ft above National Geodetic Vertical Datum of 1929, prior to March 15, 1990 unknown.	2.50	1984-90	2- 3-90	26.03	-
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	1966-90	2- 2-90	7.26	1,050
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	1987-90	2- 2-90	26.93	-
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	1984-90	2- 3-90	24.78	515
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	1967-90	2- 3-90	4.89	155
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	1967-90	2- 3-90	3.70	455
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	1967-90	2- 3-90	6.17	2,210
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	1984-90	2- 3-90	17.51	-

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--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					
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	1984-90	2- 3-90	19.47	-
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	1963-90†	2- 3-90	11.24	6,930
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	1984-90	2- 3-90	16.69	-
		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	1984-90	2-15-90	12.13	-
07024300	Beaver Creek near Huntington, TN	Lat 34°59'56", long 88°26'01", Carroll County, Hydrologic Unit 08010203, at bridge on U.S. Highway 70 at Huntington, 0.6 mile downstream from Brier Creek at mile 5.6.	55.5	1954-61d, 1962-89†, 1990	2- 4-90	14.21	5,440
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	1984-90	2- 3-90	14.19	-
07024500	South Fork Obion River near Greenfield, TN	Lat 36°07'05", long 88°48'39", Weakly County, Hydrologic Unit 08010203, at bridge on U.S. Highway 45 E, 1.1 miles downfrom Mosley Branch, 2.5 miles south of Greenfield, and 9.7 miles upstream from confluence with Middle Fork. Datum of gage is 300.36 ft above National Geodetic Vertical Datum of 1929.	383	1929-89†, 1990	2- 4-90	16.95	11,200
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. Datum of gage is 264.96 ft above National Geodetic Vertical Datum of 1929.	247	1982-83†, 1984-88†, 1989-90	2-17-90	17.26	1,950
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. Datum of gage is 306.85 ft above National Geodetic Vertical Datum of 1929.	73.9	1987-90	2- 4-90	6.86	-

See footnotes at the end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--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)
		OBION RIVER BASIN--CONTINUED					
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, 1985-90	2-15-90	17.57	
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. Datum of gage is 295.93 ft above National Geodetic Vertical Datum of 1929.	33.9	1957-62†, 1963-70c, 1986-88†, 1989-90	5-20-90	21.97	5,530

† Operated as a continuous-record gaging station.
a Operated as a flood hydrograph station.
b Revised record.
c Published as at Coal Creek prior to 1935.
d Operated as low-flow 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 designed by an asterisk (*); measurements of peak flow by a dagger(†).

Discharge measurements made at miscellaneous sites during water year 1990

Stream	Tributary to	Location	Drainage area (mi²)	Measured previously (water years)	Measurements Date	Measurements Discharge (ft³/s)
		TENNESSEE RIVER BASIN				
03599017 Big Rock Creek	Duck River to Tennessee River	Lat 35°29'46", long 86°45'40", Marshall County, Hydrologic Unit 06040002, at Osborne Ford, 3.5 miles northeast of Courthouse in Lewisburg.	41.3	1990	6- 1-90	.28
03599099 Big Rock Creek Tributary	Big Rock Creek to Duck River to Tennessee River	Lat 35°30'15", long 86°46'05", Marshall County, Hydrologic Unit 06040002, 1.5 miles south of Oslin, 1.5 miles south of Verona.	.71	1990	6- 1-90	20.2
03599100 Big Rock Creek	Duck River to Tennessee River	Lat 35°30'16", long 86°46'03", Marshall County, Hydrologic Unit 06040002, at Double Bridges 1.5 miles south of Oslin, 1.5 miles south of Verona.	48.7	1990	6- 1-90	19.7
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	1986-89	10-18-89 1-10-90 4-11-90 7-25-90	72 29 13 4.4
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	1986-89	10-18-89 1-10-90 4-11-90 7-25-90	7.9 2.4 1.7 2.5

Springs

In 1931 a study of large springs in Tennessee was made and the results published in WSP 713. From 1950 to 1954 a more detailed study, including some of these springs, was made. Results of this study and all subsequent spring measurements were published annually in WSP's from 1950 to 1960. Since 1960 results of measurements have been published in annual State reports. Measurements made in the 1990 water year are given in the following table.

Discharge measurement of springs during water year 1990

Site number and name	Location	Tributary to	Date	Discharge (gpm)	Discharge (ft~/sec)
		Marion County			
3511220852708 Ketner Gap Spring	Lat 35'11'22", long 85'27'08", Hydrologic Unit 06020004, 0.6 miles northwest of Ketner Gap, 1.9 miles east of Powells Crossroads.	Looney Creek to Sequatchie River to Tennessee River	6-29 7-12	450 280	1.0 .62

Bedford County special study

A series of low-flow discharge measurements were made April 4, 1990, in Bedford County to define areas of potential ground-water supplies. In addition, measurements of water temperature and specific conductance were taken at each site. The measurements were made during a period of constant base flow.

Stream	Tributary to	Location	Drainage area (mi\)	Measurements Discharge (ft~/s)	Water Temp. ('C)	Specific Cond. (us/cm)
		TENNESSEE RIVER BASIN				
03598152 Hurricane Creek	Fall Creek to Duck River	Lat 35'33'29", long 86'23'16", Bedford County, Hydrologic Unit 06040002, 4.2 miles southeast of Deason, 4.8 miles northeast of Shelbyville.	.61	.000	--	--
0359815370 Hurricane Creek Tributary	Hurricane Creek to Fall Creek to Duck River	Lat 35'33'05", long 86'23'58", Bedford County, Hydrologic Unit 06040002, 4.2 miles southeast of Deason, 4.1 miles northeast of Shelbyville.	.24	.000	--	--
03598154 Hurricane Creek Tributary	Hurricane Creek to Fall Creek to Duck River	Lat 35'33'09", long 86'23'42", Bedford County, Hydrologic Unit 06040002, 4.2 miles southeast of Deason, 4.3 miles northeast of Shelbyville.	.18	.002	15.0	110
0359815530 Hurricane Creek Tributary	Hurricane Creek to Fall Creek to Duck River	Lat 35'33'45", long 86'24'30", Bedford County, Hydrologic Unit 06040002, 3.2 miles southeast of Deason, 3.7 miles southeast of Bell Buckle.	.65	.145	7.0	460
03598156 Hurricane Creek	Fall Creek to Duck River	Lat 35'33'22", long 86'24'43", Bedford County, Hydrologic Unit 06040002, 4.1 miles southwest of Bell Buckle, 3.5 miles southwest of Deason.	3.19	.674	11.0	430
0359815605 Carrick Spring	Hurricane Creek to Fall Creek to Duck River	Lat 35'33'18", long 86'24'45", Bedford County, Hydrologic Unit 06040002, 3.6 miles southeast of Deason, 4.2 miles southeast of Bell Buckle.	.19	.089	15.0	520
0359815615 Hurricane Creek Tributary	Hurricane Creek to Fall Creek to Duck River	Lat 35'33'47", long 86'24'50", Bedford County, Hydrologic Unit 06040002, 3.1 miles southeast of Deason, 3.9 miles southeast of Bell Buckle.	.23	.033	9.0	400
03598157 Hurricane Creek	Fall Creek to Duck River	Lat 35'33'15", long 86'25'58", Bedford County, Hydrologic Unit 06040002, 3.4 miles south of Deason, 3.4 miles northeast of Shelbyville.	5.44	1.05	13.0	390
0359815750 Coops Branch	Hurricane Creek to Fall Creek to Duck River	Lat 35'32'36", long 86'24'50", Bedford County, Hydrologic Unit 06040002, 4.3 miles southeast of Deason, 3.2 miles northeast of Shelbyville.	.82	.045	15.0	420
0359815780 Coops Branch Tributary	Coops Branch to Hurricane Creek to Fall Creek to Duck River	Lat 35'32'26", long 86'25'06", Bedford County, Hydrologic Unit 06040002, 4.5 miles southeast of Deason, 2.9 miles northeast of Shelbyville.	.36	.038	14.0	360
03598158 Coops Branch	Hurricane Creek to Fall Creek to Duck River	Lat 35'33'00", long 86'25'40", Bedford County, Hydrologic Unit 06040002, 3.7 miles southeast of Deason, 3.2 miles northeast of Shelbyville.	1.81	.268	13.0	320

Bedford County special study--Continued

Stream	Tributary to	Location	Drainage area (mi\)	Measurements Discharge (ft~/s)	Water Temp. ('C)	Specific Cond. (us/cm)
0359815860 Hurricane Creek Tributary	Hurricane Creek to Fall Creek to Duck River	Lat 35'33'16", long 86'26'05", Bedford County, Hydrologic Unit 06040002, 3.4 miles south of Deason, 3.4 miles northeast of Shelbyville.	.14	.058	18.0	320
03598160 Hurricane Creek	Fall Creek to Duck River	Lat 35'32'35", long 86'27'02", Bedford County, Hydrologic Unit 0604002, at bridge on U.S. Highway 231, 3.0 miles north of Shelbyville.	8.54	1.76	9.5	365
0359816005 Hurricane Creek Tributary	Hurricane Creek to Fall Creek to Duck River	Lat 35'32'06", long 86'25'21", Bedford County, Hydrologic Unit 06040002, 2.3 miles northeast of Shelbyville, 4.8 miles southeast of Deason.	.13	.053	13.0	230
03598161 Hurricane Creek Tributary	Hurricane Creek to Fall Creek to Duck River	Lat 35'32'26", long 86'27'02", Bedford County, Hydrologic Unit 06040002, 1.4 miles north of Shelbyville, 4.4 miles south of Deason.	1.54	.240	10.5	360
03598162 Hurricane Creek	Fall Creek to Duck River	Lat 35'32'33", long 86'27'36", Bedford County, Hydrologic Unit 06040002, 4.4 miles southwest of Deason, 1.5 miles north of Shelbyville.	10.9	1.64	8.0	320
03598164 Hurricane Creek	Fall Creek to Duck River	Lat 35'33'01", long 86'29'21", Bedford County, Hydrologic Unit 06040002, 2.4 miles northeast of Elbethel, 3.6 miles north of Shelbyville.	12.6	2.10	9.0	300
0359816505 Parch Corn Creek	Fall Creek to Duck River	Lat 35'33'38", long 86'26'45", Bedford County, Hydrologic Unit 06040002, 3.0 miles south of Deason, 2.6 miles north of Shelbyville.	.13	.008	8.5	540
0359816525 Parch Corn Creek	Hurricane Creek to Fall Creek to Duck River	Lat 35'33'35", long 86'28'01", Bedford County, Hydrologic Unit 06040002, 3.7 miles north of Shelbyville, 3.5 miles southwest of Deason.	1.36	.121	14.5	360
0359816545 Parch Corn Creek	Hurricane Creek to Fall Creek to Duck River	Lat 35'33'42", long 86'29'08", Bedford County, Hydrologic Unit 06040002, 3.2 miles northeast of Elbethel, 4.1 miles north of Shelbyville.	2.83	.979	12.0	340
0359816550 Hurricane Creek	Fall Creek to Duck River Upstream of Parch Corn	Lat 35'33'41", long 86'30'06", Bedford County, Hydrologic Unit 06040002, 2.2 miles east of Fall Creek, 3.0 miles north of Elbethel.	17.0	2.60	9.0	320
0359816555 Parch Corn Creek	Hurricane Creek to Fall Creek to Duck River	Lat 35'33'42", long 86'30'04", Bedford County, Hydrologic Unit 06040002, 2.3 miles east of Fall Creek, 3.0 miles north of Elbethel.	5.20	1.46	8.5	370
0359816670 Benford Creek	Fall Creek to Duck River	Lat 35'35'10", long 86'25'03", Bedford County, Hydrologic Unit, 06040002, 1.6 miles southeast of Deason, 3.4 miles west of Bell Buckle.	2.35	.437	9.0	400
03598167 Minkslide Creek	Benford Creek to Fall Creek to Duck River	Lat 35'34'45", long 86'24'31", Bedford County, Hydrologic Unit 06040002, 2.3 miles southeast of Deason, 3.1 miles southeast of Bell Buckle.	.28	.036	9.0	380

Bedford County special study--Continued

Stream	Tributary to	Location	Drainage area (mi\)	Measurements Discharge (ft~/s)	Water Temp. ('C)	Specific Cond. (us/cm)
03598169 Benford Creek	Fall Creek to Duck River	Lat 35'34'18", long 86'26'39", Bedford County, Hydrologic Unit 06040002, 2.2 miles south of Deason, 5.0 miles north of Shelbyville.	5.59	1.14	7.0	370
0359816905 Benford Creek Tributary	Benford Creek to Fall Creek to Duck River	Lat 35'34'02", long 86'26'40", Bedford County, Hydrologic Unit 06040002, 2.6 miles south of Deason, 4.3 miles southwest of Bell Buckle.	.04	.003	5.0	400
0359816920 Hutton Creek	Fall Creek to Duck River	Lat 35'35'42", long 86'26'16", Bedford County, Hydrologic Unit, 06040002, 0.6 mile south of Deason, 4.6 miles west of Bell Buckle.	2.53	.418	8.0	360
0359816940 Hutton Creek	Fall Creek to Duck River	Lat 35'35'25", long 86'27'30", Bedford County, Hydrologic Unit 06040002, 1.5 miles southwest of Deason, 2.2 miles southeast of Vannatta.	4.86	1.18	8.0	340
0359816950 Fall Creek	Duck River	Lat 35'35'29", long 86'28'01", Bedford County, Hydrologic Unit 06040002, 2.0 miles southwest of Deason, 1.9 miles southwest of Vannatta.	12.1	3.40	10.0	315
03598170 Fall Creek	Duck River	Lat 35'35'01", long 86'29'14", Bedford County, Hydrologic Unit 06040002, 3.3 miles southwest of Deason, 2.2 miles south of Vannatta.	14.0	5.65	11.0	295
03598171 Fall Creek Tributary	Fall Creek to Duck River	Lat 35'34'55", long 86'29'39", Bedford County, Hydrologic Unit 06040002, 3.6 miles southwest of Deason, 2.4 miles south of Vannatta.	0.29	.007	18.0	390
03598175 Fall Creek	Duck River	Lat 35'34'02", long 86'30'11", Bedford County, Hydrologic Unit 06040002, 2.2 miles east of Fall Creek, 3.4 miles north of Elbethel.	18.5	6.69	11.0	320
03598177 Fall Creek	Duck River	Lat 35'33'52", long 86'31'00", Bedford County, Hydrologic Unit 06040002, 1.4 miles east of Fall Creek, 3.2 miles north of Elbethel.	35.6	11.0	13.0	300

Marshall County special study

A series of low-flow discharge measurements were made April 5, 1990, in Marshall County to define areas of potential ground-water supplies. In addition, measurements of water temperature and specific conductance were taken at each site. The measurements were made during a period of constant base flow.

Stream	Tributary to	Location	Drainage area (mi\)	Measurements Discharge (ft~/s)	Water Temp. ('C)	Specific Cond. (us/cm)
		TENNESSEE RIVER BASIN				
03598705 Big Rock Creek	Duck River to Tennessee River	Lat 35'26'06", long 86'47'38", Marshall County, Hydrologic Unit 06040002, 150 ft above Loyd Branch, 1.0 mile south of Courthouse in Lewisburg.	16.5	11.7	15.0	260
03598710 Loyd Branch	Big Rock Creek to Duck River to Tennessee River	Lat 35'26'07", long 86'47'39", Marshall County, Hydrologic Unit 06040002, 75 ft above confluence of Big Rock Creek, 1.0 mile south of Courthouse in Lewisburg.	1.98	.72	14.5	405
03598901 Collins Creek	Big Rock Creek to Duck River to Tennessee River	Lat 35'26'02", long 86'46'41', Marshall County, Hydrologic Unit 06040002, at bridge on Ellington Parkway (31-A bypass) 1.2 miles southeast of Courthouse in Lewisburg.	4.44	1.42	13.0	430
03599000 Big Rock Creek	Duck River to Tennessee River	Lat 35'26'56", long 86'47'09", Marshall County, Hydrologic Unit 06040002, at bridge on State Highway 50, 800 ft east of Courthouse in Lewisburg.	24.9	13.4	13.0	350
035990103 Capps Branch	Big Rock Creek to Duck River to Tennessee River	Lat 35'26'52", long 86'46'29", Marshall County, Hydrologic Unit 06040002, at bridge on Ellington Parkway (31-A bypass), 0.7 mile west of Courthouse in Lewisburg.	1.38	.14	13.0	530
035990104 Big Rock Creek	Duck River to Tennessee River	Lat 35'27'57", long 86'46'29", Marshall County, Hydrologic Unit 06040002, at bridge on US Highway 31-A, 1.4 miles morthwest of Courthouse in Lewisburg.	27.9	15.9	12.5	400
035990106 Snell Branch	Big Rock Creek to Duck River to Tennessee River	Lat 35'27'42", long 86'47'46", Marshall County, Hydrologic Unit 06040002, at bridge on Franklin Avenue, 1.0 mile northwest of Courthouse in Lewisburg.	1.95	1.04	12.5	580
035990107 Snell Branch	Big Rock Creek to Duck River to Tennessee River	Lat 35'27'49", long 86'47'04", Marshall County, Hydrologic Unit 06040002, at bridge on Ellington Parkway, 1.0 mile northeast of Courthouse in Lewisburg.	2.42	.95	14.5	550
03599011 Old Distillery Branch	Big Rock Creek to Duck River to Tennessee River	Lat 35'28'48", long 86'46'34", Marshall County, Hydrologic Unit 06040002, at bridge on Verona Pike, 0.8 mile east of Whitehead, 2.3 miles northeast of Courthouse in Lewisburg.	1.86	.36	14.0	465
035990111 Big Rock Creek	Duck River to Tennessee River	Lat 35'28'51", long 86'46'30", Marshall County, Hydrologic Unit 06060002, 50 ft below Old Distillery Branch, 0.8 mile east of Whitehead, 2.3 miles northeast of Courthouse in Lewisburg.	33.3	16.6 12.8	14.5 23.0	420 475
03599013 Snake Creek	Big Rock Creek to Duck River to Tennessee River	Lat 35'27'51", long 86'45'38", Marshall County, Hydrologic Unit 06040002, at bridge on Holly Green Road, 1.9 miles northeast of Courthouse in Lewisburg.	5.09	1.51	13.0	400

Marshall County special study--Continued

Stream	Tributary to	Location	Drainage area (mi\)	Measurements Discharge (ft~/s)	Water Temp. ('C)	Specific Cond. (us/cm)
03599015 Snake Creek	Big Rock Creek to Duck River to Tennessee River	Lat 35'28'26", long 86'45'41", Marshall County, Hydrologic Unit 06040002, at bridge on U.S. Highway 31-A, 2.2 miles northeast of Lewisburg.	5.61	0.00	--	--
03599017 Big Rock Creek	Duck River to Tennessee River	Lat 35'29'46", long 86'45'40", Marshall County, Hydrologic Unit 06040002, at Osborne Ford, 3.5 miles northeast of Courthouse in Lewisburg.	41.3	.25	15.0	350
03599020 Dry Branch	Big Rock Creek to Duck River to Tennessee River	Lat 35'29'01", long 86'45'09", Marshall County, Hydrologic Unit 06040002, at bridge on State Highway 11, 3.1 miles northeast of Lewisburg.	5.33	.007	19.0	340
03599099 Big Rock Creek Tributary	Big Rock Creek to Duck River to Tennessee River	Lat 35'30'15", long 86'46'05", Marshall County, Hydrologic Unit 06040002, 1.5 miles south of Oslin, 1.5 miles south of Verona.	.71	23.6	14.5	410
03599100 Big Rock Creek	Duck River to Tennessee River	Lat 35'30'16", long 86'46'03", Marshall County, Hydrologic Unit 06040002, at Double Bridges 1.5 miles south of Oslin, 1.5 miles south of Verona.	48.7	24.9	14.5	410
035991105 Wright Branch Tributary	Wright Branch to Big Rock Creek to Duck River to Tennessee River	Lat 35'29'38", long 86'50'19", Marshall County, Hydrologic Unit 06040002, at culvert on Barron Hill Road, 0.5 mile south of South Berlin, 4.2 miles northwest of Courthouse in Lewisburg.	.14	.07	12.5	380
035991107 Wright Branch Tributary	Wright Branch to Big Rock Creek to Duck River to Tennessee River	Lat 35'29'25", long 86'50'01", Marshall County, Hydrologic Unit 06040002, at culvert on Ewing Lane, 0.8 mile southeast of South Berlin, 3.8 miles northwest of Courthouse in Lewisburg.	.09	.02	12.0	390
03599111 Wright Branch Tributary	Wright Branch to Big Rock Creek to Duck River to Tennessee River	Lat 35'29'04", long 86'49'41", Marshall County, Hydrologic Unit 06040002, at culvert on Ewing Lane, 1.2 miles southeast of South Berlin, 3.3 miles northwest of Courthouse in Lewisburg.	.21	.07	12.0	320
0359911699 Wright Branch	Big Rock Creek to Duck River to Tennessee River	Lat 35'32'16", long 86'46'08", Marshall County, Hydrologic Unit 06040002, at bridge on Verona Pike, 0.5 mile north of Verona.	8.46	a.002	--	--
03599117 Big Rock Creek	Duck River to Tennessee River	Lat 35'32'16", long 86'46'07", Marshall County, Hydrologic Unit 06040002, at confluence of Wright Branch, 0.5 mile north of Verona.	53.0	36.1	15.0	430
03599118 Big Rock Creek Tributary	Big Rock Creek to Duck River to Tennessee River	Lat 35'31'58", long 86'47'25", Marshall County, Hydrologic Unit 06040002, at county road bridge, 1.2 miles west of Verona.	1.00	.02	20.0	370
03599119 Big Rock Creek Tributary	Big Rock Creek to Duck River to Tennessee River	Lat 35'32'32", long 86'46'18", Marshall County, Hydrologic Unit 06040002, at Verona Pike bridge, 1.0 mile north of Verona.	2.56	.65	11.0	400
03599120 Big Rock Creek	Duck River to Tennessee River	Lat 35'32'40", long 86'46'18", Marshall County, Hydrologic Unit 06040002, beside Verona Pike, 1.0 mile north of Verona.	65.3	39.0	15.0	420

a - estimated

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
CUMBERLAND RIVER BASIN									
034085000 - NEW RIVER AT NEW RIVER, TN									
NOV 03...	1015	164	310	10.5	JUL 20...	1345	81	290	24.5
JAN 23...	1320	1360	145	6.0	SEP 17...	1330	56	460	22.0
JUN 05...	1242	186	230	20.0					
03409500 - CLEAR FORK NEAR ROBBINS, TN									
NOV 15...	1240	349	54	12.0	JUL 11...	1055	5.8	95	28.5
MAR 28...	1338	244	48	9.0	AUG 29...	1243	9.2	60	28.0
JUN 05...	1519	165	58	20.0					
03414500 - EAST FORK OBEY RIVER NEAR JAMESTOWN, TN									
OCT 04...	1400	634	--	16.0	APR 26...	0800	181	160	14.0
NOV 21...	1200	562	--	10.0	JUN 07...	0900	136	160	19.0
DEC 12...	1200	314	130	7.0	JUL 19...	1000	19	330	21.0
JAN 23...	1300	870	120	8.5	SEP 05...	1700	11	450	25.0
MAR 06...	1330	283	140	10.0					
03416000 - WOLF RIVER NEAR BYRDSTOWN, TN									
OCT 04...	0830	327	215	15.0	APR 25...	1430	140	190	20.0
NOV 21...	0830	170	218	10.0	JUN 07...	1200	63	235	22.0
DEC 12...	0910	130	242	6.5	JUL 19...	1445	18	320	28.0
JAN 23...	0825	216	220	7.0	SEP 05...	1100	9.3	320	28.0
MAR 06...	0850	123	252	10.0					
03418070 - ROARING RIVER ABOVE GAINESBORO, TN									
OCT 05...	0750	423	230	14.0	MAR 05...	1455	138	225	10.0
NOV 22...	0830	144	240	8.5	APR 25...	0845	56	225	19.0
DEC 11...	1345	103	250	9.5	JUN 11...	1350	26	225	20.5
JAN 22...	1430	460	210	9.5					
03421000 - COLLINS RIVER NEAR MCMINNVILLE, TN									
OCT 12...	1300	720	180	24.5	APR 19...	1300	714	200	15.5
NOV 21...	1230	1220	165	11.5	MAY 29...	1200	636	200	20.0
DEC 20...	1145	661	190	5.5	JUL 19...	0930	351	225	22.5
FEB 02...	1130	2430	160	12.0	AUG 06...	1545	142	255	25.0
MAR 14...	1100	1740	160	15.0					

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
CUMBERLAND RIVER BASIN--Continued									
03422500 - CANEY FORK NEAR ROCK ISLAND, TN									
DEC					JUN				
18...	1230	2250	160	6.0	20...	1015	66	180	18.0
MAR					20...	1115	66	195	19.0
06...	1115	3680	200	14.0	AUG				
MAY					08...	0900	100	240	20.0
30...	1230	1400	190	21.0					
03423152 - FALLING WATER RIVER BELOW BURGESS FALLS DAM, TN									
JUL									
17...	1010	43	250	22.0					
03423400 - TAYLOR CREEK NEAR CASSVILLE, TN									
MAY					JUL				
08...	1140	23	205	15.5	17...	1245	6.3	340	20.0
JUN									
28...	1300	3.5	320	21.0					
03426300 - EAST FORK STONES RIVER AT WOODBURY, TN									
OCT									
10...	1200	25	315	14.5					
03427690 - BUSHMAN CRK AT PITTS LANE FORD NR COMPTON, TN									
OCT					MAR				
13...	1235	8.2	320	18.5	06...	0830	15	240	11.5
NOV					APR				
13...	1215	17	330	17.0	26...	1120	12	280	18.0
DEC					JUN				
07...	1345	5.7	250	11.0	20...	1255	0.79	390	26.0
JAN									
08...	0945	47	175	12.5					
03428043 - LYTLE CREEK AT SANBYRNE DR AT MURFREESBORO, TN									
MAR					JUN				
05...	0850	11	165	8.5	21...	1315	0.01	--	26.0
APR									
27...	1140	3.3	260	21.0					
03430118 - MCCRORY CREEK AT IRONWOOD DRIVE, AT DONELSON, TN									
JUN									
18...	0935	4.7	470	23.5					
03431517 - CUMMINGS BRANCH AT LICKTON, TN									
OCT					MAR				
18...	1430	6.0	325	14.5	15...	1005	2.3	295	13.5
NOV					15...	1020	2.3	290	--
07...	1020	2.6	315	15.5	15...	1035	2.4	292	13.5
DEC					15...	1105	2.5	290	13.5
13...	0850	0.97	310	4.5	15...	1135	2.6	290	13.5
JAN					15...	1205	2.8	290	13.5
09...	1340	3.3	--	13.0	23...	1130	4.4	220	13.0
FEB					APR				
08...	1120	7.1	255	11.5	18...	1200	3.7	280	13.0
MAR					MAY				
15...	0905	1.9	300	13.5	30...	1415	1.0	330	16.5
15...	0935	2.0	300	13.5	JUN				
					26...	1315	0.26	400	18.0
03431700 - RICHLAND CREEK AT CHARLOTTE AVE, AT NASHVILLE									
OCT					MAR				
20...	1545	34	575	12.5	21...	1145	42	480	13.0
NOV					APR				
07...	1400	54	425	17.0	19...	0825	16	500	12.5
DEC					MAY				
21...	0945	9.6	525	3.0	30...	0920	5.7	440	19.0
JAN					JUN				
10...	0945	29	560	9.0	27...	0910	2.4	520	22.0
FEB									
08...	1420	68	525	13.5					

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

CUMBERLAND RIVER BASIN--Continued

03431800 - SYCAMORE CREEK NEAR ASHLAND CITY, TN

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE WATER (DEG C)	DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE WATER (DEG C)
OCT 03...	1300	66	260	20.0	APR 27...	0815	83	180	19.0
NOV 13...	1100	58	275	12.0	JUN 05...	0830	134	250	19.5
DEC 13...	1130	49	320	2.5	JUL 12...	1220	44	280	25.0
JAN 25...	1230	147	260	9.0	AUG 20...	0915	16	295	24.5

03432350 - HARPETH RIVER AT FRANKLIN, TN

OCT 11...	0940	139	360	14.0	APR 20...	1025	65	385	15.0
NOV 13...	0840	121	410	13.0	JUN 07...	0920	42	330	21.5
DEC 06...	1000	109	410	8.0	JUL 16...	1000	81	300	22.0
JAN 22...	0945	565	240	9.0	AUG 02...	1230	2.8	380	26.0
MAR 12...	1140	238	385	17.0	23...	1115	1.2	350	25.5

03432400 - HARPETH RIVER BELOW FRANKLIN, TN

OCT 11...	1140	164	380	15.0	JUN 07...	1040	54	420	21.5
DEC 05...	0830	146	400	9.0	JUL 19...	1010	34	440	23.5
MAR 12...	0835	258	400	16.5	AUG 23...	1345	6.8	675	26.5
APR 20...	0850	84	400	14.0					

03433500 - HARPETH RIVER AT BELLEVUE, TN

OCT 06...	1000	647	400	15.5	APR 19...	1015	229	360	13.0
NOV 17...	1045	1590	260	13.0	JUN 07...	1300	113	410	22.0
DEC 11...	1150	281	290	5.5	JUL 19...	0820	72	360	29.0
JAN 25...	0915	742	220	7.5	AUG 30...	0855	17	420	24.0
MAR 15...	0845	435	360	17.0					

03434500 - HARPETH RIVER NEAR KINGSTON SPRINGS, TN

OCT 26...	1230	443	350	15.5	APR 27...	0800	501	320	20.0
NOV 16...	1230	5660	280	12.5	JUN 08...	0815	208	350	23.5
DEC 11...	0940	516	300	5.5	JUL 18...	1430	191	320	26.0
MAR 29...	0915	662	320	12.0					

03435000 - CUMBERLAND RIVER BELOW CHEATHAM DAM, TN

MAR 28...	0945	22400	240	13.0	AUG 01...	1000	14200	205	26.5

03436000 - SULPHUR FORK RED RIVER NEAR ADAMS, TN

OCT 02...	1215	211	300	19.0	APR 26...	1240	138	340	20.0
30...	1055	76	340	14.0	JUN 01...	1140	187	345	25.0
DEC 14...	1115	72	390	1.0	JUL 12...	1515	100	400	25.5
JAN 24...	1500	328	320	10.0	AUG 21...	1335	19	420	28.0
MAR 05...	1140	196	305	9.5					

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
CUMBERLAND RIVER BASIN--Continued									
03436100 - RED RIVER AT PORT ROYAL, TN									
OCT					APR				
03...	0745	770	260	18.5	26...	0740	574	340	20.0
27...	0905	307	390	13.0	JUN				
DEC					01...	0805	740	330	25.0
14...	0800	291	320	1.0	JUL				
JAN					13...	0650	331	400	25.0
25...	0900	1640	340	10.0	AUG				
MAR					21...	0925	151	400	26.5
06...	0730	1140	300	10.0					
03436690 - YELLOW CREEK AT ELLIS MILLS, TN									
OCT					APR				
04...	1055	59	260	17.0	25...	1140	186	230	17.5
NOV					MAY				
07...	1130	60	270	16.0	31...	0945	88	260	18.5
DEC					JUL				
15...	1000	51	240	4.5	11...	1250	36	270	27.0
JAN					AUG				
26...	1330	164	200	9.0	16...	1210	26	275	26.5
FEB									
28...	1110	141	220	10.0					
TENNESSEE RIVER BASIN									
03455000 - FRENCH BROAD RIVER NEAR NEWPORT, TN									
APR					SEP				
19...	1715	2990	75	14.5	26...	1110	719	110	17.0
03465500 - NOLICHUCKY RIVER AT EMBREEVILLE, TN									
APR					JUL				
11...	1205	1840	55	11.0	26...	1245	567	65	24.0
JUN									
19...	1235	836	60	24.5					
03466228 - SINKING CREEK AT AFTON, TN									
OCT					APR				
03...	1340	15	--	17.5	19...	1435	14	--	15.0
NOV					JUN				
14...	1215	7.3	--	13.0	28...	1050	8.9	--	18.5
DEC					AUG				
19...	1615	17	450	7.0	09...	1145	5.8	--	19.0
FEB					SEP				
08...	1045	27	--	10.0	12...	1130	4.3	--	19.5
MAY									
22...	1235	13	--	16.0					
03469175 - LITTLE PIGEON RIVER ABOVE SEVIERVILLE, TN									
OCT					MAY				
16...	0915	145	125	16.5	25...	1010	229	82	16.5
DEC					JUL				
20...	1500	248	110	4.0	31...	1040	55	118	24.0
APR					SEP				
20...	0940	241	100	12.5	20...	1105	57	105	19.5
03487550 - REEDY CREEK AT OREBANK, TN									
OCT									
03...	0900	83	420	16.0					
03491000 - BIG CREEK NEAR ROGERSVILLE, TN									
OCT					MAY				
02...	1615	203	280	17.0	15...	1355	54	300	19.0
NOV					JUN				
09...	1050	175	270	13.0	21...	0940	16	360	21.5
DEC					JUL				
18...	1530	45	320	3.0	26...	1640	12	330	24.5
MAR					AUG				
06...	1300	71	290	11.0	29...	1400	6.6	351	24.0
APR									
10...	1415	65	270	15.0					

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
TENNESSEE RIVER BASIN--Continued									
03491544 - CROCKETT CREEK BELOW ROGERSVILLE, TN									
OCT					APR				
02...	1330	10	470	18.5	10...	1015	3.5	480	12.5
NOV					MAY				
07...	1435	1.9	520	14.0	15...	1020	3.2	490	14.5
09...	1240	3.9	540	13.5	18...	0915	4.6	460	14.0
DEC					JUN				
18...	1255	3.0	500	6.0	21...	1540	1.5	460	25.0
JAN					JUL				
23...	1510	6.7	445	11.0	25...	1205	2.0	500	21.0
FEB					SEP				
02...	1442	8.4	450	12.5	27...	1400	1.5	500	18.5
MAR									
06...	0955	5.0	450	9.5					
03498500 - LITTLE RIVER NEAR MARYVILLE, TN									
OCT					JUN				
16...	1425	327	--	17.0	27...	1350	144	--	23.0
NOV					JUL				
13...	1226	347	125	12.5	11...	1250	119	--	26.0
DEC					AUG				
21...	1205	418	120	4.0	09...	1316	141	120	22.5
APR					SEP				
20...	1235	418	110	14.0	11...	1245	263	--	24.0
MAY									
24...	1315	402	100	16.0					
03498850 - LITTLE RIVER NEAR ALCOA, TN									
OCT					APR				
16...	1113	359	--	17.0	24...	1345	394	--	18.0
NOV					MAY				
13...	1545	361	140	13.0	24...	1100	448	118	16.0
DEC					JUL				
11...	1203	489	150	7.0	10...	1030	125	--	25.5
21...	1350	460	160	4.5	AUG				
JAN					10...	0915	140	--	20.5
31...	1131	1750	85	7.0	SEP				
MAR					11...	1105	173	--	24.0
30...	1200	558	140	12.5	25...	1220	141	140	16.0
03535103 - SCARBORO CREEK TRIB NEAR OAK RIDGE, TN									
APR					SEP				
10...	1046	0.35	155	13.0	19...	1444	0.05	280	15.0
JUL									
10...	1057	0.08	235	14.0					
03536320 - WHITEOAK CREEK NEAR MELTON HILL, TN									
JAN					MAY				
18...	1310	2.8	220	12.5	30...	1507	1.2	181	17.0
APR					JUL				
11...	1444	0.59	250	14.0	25...	1449	0.11	280	22.0
03536380 - WHITEOAK CREEK NEAR WHEAT, TN									
JAN					APR				
18...	1609	8.5	270	13.5	11...	1609	4.0	280	14.0
03536440 - NORTHWEST TRIBUTARY NEAR OAK RIDGE, TN									
JAN					JUL				
18...	1418	2.3	275	13.0	24...	1520	0.78	300	23.5
03536450 - FIRST CREEK NEAR OAK RIDGE, TN									
JAN					AUG				
18...	1516	1.7	250	13.5	23...	1718	0.75	290	22.5
APR									
11...	1656	0.68	250	15.0					

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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TENNESSEE RIVER BASIN--Continued									
03536550 - WHITE OAK CR BL MELTON VALLEY DR NR OAK RIDGE, TN									
MAR 06...	1240	10	280	15.0	APR 12...	1446	6.8	315	17.0
03537050 - MELTON BRANCH TRIB (EAST SEVEN) NR OAK RIDGE, TN									
JAN 19...	1502	0.56	160	8.5					
03537100 - MELTON BRANCH NR MELTON HILL NR OAK RIDGE, TN									
NOV 09...	1457	1.4	225	14.0	MAR 05...	1555	0.80	240	12.0
JAN 19...	1341	1.3	220	9.0	APR 12...	1138	0.47	260	9.5
03537200 - MELTON BRANCH TRIB (CENTER SEVEN) NR OAK RIDGE, TN									
JAN 19...	1520	0.21	175	9.5	APR 10...	1158	0.10	230	13.0
035382672 - BEAR CREEK TRIB ABOVE BEAR CREEK ROAD NR WHEAT, TN									
NOV 06...	1340	0.20	130	12.5	JUN 19...	1458	0.07	125	22.0
JAN 16...	1530	0.25	85	10.0	AUG 22...	1245	0.88	70	21.0
APR 13...	1143	0.18	95	9.0					
035382673 - BEAR CREEK NEAR WHEAT, TN									
NOV 06...	1518	5.5	510	12.5	MAY 25...	1057	1.6	440	16.0
JAN 16...	1642	3.0	330	10.5	AUG 22...	1130	11	260	20.5
03538270 - BEAR C AT ST HWY 95 NR OAK RIDGE, TN									
JAN 16...	1500	5.7	300	10.0	MAY 25...	1207	2.9	340	15.0
MAR 05...	1204	10	240	9.0	JUL 05...	1822	1.5	350	18.0
03538273 - BEAR CREEK AT PINE RIDGE, NEAR WHEAT, TN									
JAN 16...	1345	6.3	265	10.0	JUL 05...	1630	1.4	340	20.0
MAR 05...	1314	12	230	10.0	AUG 23...	1519	13	110	20.0
MAY 25...	1422	3.3	310	16.0	SEP 19...	1613	0.98	360	17.5
03540500 - EMORY RIVER AT OAKDALE, TN									
OCT 30...	1235	196	103	13.5	AUG 01...	1110	33	137	28.0
APR 02...	1120	733	70	12.5	SEP 28...	1025	31	170	19.5
30...	1255	608	--	18.5					
JUL 02...	1140	22	145	26.0					
03543500 - SEWEE CREEK NEAR DECATUR, TN									
OCT 27...	1655	70	--	13.5	MAY 17...	1745	502	140	19.5
JAN 24...	1200	398	205	11.0	JUN 18...	1745	51	180	23.0
MAR 09...	1631	296	200	12.0	JUL 16...	1413	42	280	21.0
APR 09...	1447	120	240	13.0					

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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TENNESSEE RIVER BASIN--Continued									
03560500 - DAVIS MILL CREEK AT COPPERHILL, TN									
OCT					MAY				
04...	1510	70	580	22.0	01...	1534	50	700	24.0
NOV					16...	2008	60	700	22.0
01...	1233	35	580	23.5	JUN				
DEC					01...	1522	46	340	21.5
01...	1435	62	360	14.0	19...	1019	40	500	19.5
JAN					JUL				
02...	1150	47	680	9.5	02...	1359	65	600	24.5
FEB					17...	1652	49	740	25.5
01...	1323	48	725	14.0	AUG				
28...	1205	69	--	13.0	21...	1245	57	600	28.5
APR					SEP				
02...	1355	66	900	19.0	04...	1256	63	--	27.0
03563000 - OCOEE RIVER AT EMF, TN									
OCT					MAR				
04...	0955	2140	70	17.5	07...	1900	3160	--	11.0
NOV					APR				
02...	1605	1900	50	14.0	10...	1620	68	80	14.5
JAN					JUL				
25...	1725	3250	--	9.0	17...	2137	1480	70	19.0
03564500 - OCOEE RIVER AT PARKSVILLE, TN									
JAN					APR				
30...	1227	3500	60	8.0	26...	1419	2260	75	18.0
03565500 - OOSTANAULA CREEK NEAR SANFORD, TN									
OCT					MAR				
02...	1235	1210	150	19.0	08...	1723	204	240	12.0
03...	1338	649	240	19.0	APR				
DEC					11...	1128	141	280	14.0
19...	1450	87	300	7.0					
JAN									
23...	1444	210	250	9.5					
03566000 - HIWASSEE RIVER AT CHARLESTON, TN									
MAR					JUL				
09...	1240	12800	--	10.5	24...	1215	3520	75	22.0
03567500 - SOUTH CHICKAMAUGA CREEK NEAR CHICKAMAUGA, TN									
OCT					FEB				
04...	1730	2250	205	17.0	27...	1200	948	220	10.0
NOV					APR				
14...	1415	338	290	14.0	17...	1120	379	240	17.0
DEC					MAY				
07...	1010	363	270	9.0	23...	0930	354	245	19.0
JAN					JUL				
30...	1615	3240	165	10.0	11...	1650	237	270	25.5
FEB					AUG				
17...	0920	26300	65	5.0	28...	1330	133	290	28.0
17...	1430	27300	65	5.0					

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
TENNESSEE RIVER BASIN--Continued									
03571000 - SEQUATCHIE RIVER NEAR WHITWELL, TN									
OCT					APR				
06...	1500	1560	215	18.5	16...	1600	543	175	16.0
NOV					MAY				
16...	1300	2240	120	12.5	24...	1540	397	165	19.0
DEC					JUL				
08...	1300	515	200	9.5	09...	1630	83	235	25.5
JAN					AUG				
29...	1545	2890	130	10.5	20...	1250	76	240	26.0
MAR									
01...	1030	917	175	10.5					
03580995 - E F MULBERRY CR BL JACK DAN DIST. AT LYNCHBURG, TN									
OCT					APR				
03...	0845	179	220	17.0	25...	0830	27	260	16.0
NOV					JUN				
14...	1230	14	310	16.0	06...	0830	14	260	16.0
DEC					JUL				
13...	1050	16	340	4.5	10...	1000	6.1	300	26.5
JAN					AUG				
23...	1130	105	220	16.5	28...	1235	5.5	420	28.5
MAR									
13...	1230	70	195	17.0					
03584600 - ELK RIVER AT PROSPECT, TN									
OCT					MAR				
03...	1250	38300	360	22.0	13...	1520	3980	280	16.0
04...	1145	16500	320	18.0	APR				
31...	0940	518	190	16.0	25...	1230	2870	300	19.0
DEC					JUN				
13...	1350	2600	320	5.0	05...	1220	1260	260	20.5
JAN					JUL				
23...	1540	8620	280	10.0	17...	1130	430	260	26.5
FEB									
05...	1130	33100	160	16.0					
03588000 - SHOAL CREEK AT LAWRENCEBURG, TN									
OCT					MAR				
03...	1800	103	140	18.5	14...	0750	125	140	14.0
NOV					APR				
15...	1525	120	320	14.0	26...	0820	76	160	15.0
DEC					JUN				
14...	0900	52	300	5.0	06...	0750	61	170	16.5
JAN					JUL				
24...	0845	117	200	10.0	17...	1700	35	260	23.0
03588500 - SHOAL CREEK AT IRON CITY, TN									
OCT					MAR				
04...	1545	516	320	17.5	14...	1000	957	110	15.0
NOV					APR				
15...	1300	1270	320	14.0	26...	1100	760	115	18.5
DEC					JUN				
14...	1130	296	300	4.5	06...	1030	460	300	17.5
JAN					JUL				
24...	1100	1070	185	10.0	18...	0905	200	250	27.0
03597210 - GARRISON FORK ABOVE L&N RAILROAD AT WARTRACE									
OCT					APR				
18...	1030	49	310	16.0	24...	1400	139	240	19.0
NOV					JUN				
14...	0915	52	350	13.0	01...	1245	34	300	22.0
DEC					25...	1030	12	310	23.0
12...	1305	65	320	6.0	29...	1240	9.7	300	26.0
JAN					AUG				
23...	0830	299	220	8.0	23...	0910	4.6	260	24.0
FEB									
26...	1130	78	260	6.0					

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

TENNESSEE RIVER BASIN--Continued

03597590 - WARTRACE CREEK BELOW COUNTY ROAD AT WARTRACE

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
OCT					APR				
02...	1705	294	3400	14.0	24...	1630	32	380	21.0
NOV					JUN				
14...	0745	14	410	13.0	01...	1010	4.9	280	21.0
DEC					25...	0940	0.42	380	21.0
13...	0850	23	300	5.0	29...	1205	0.23	255	24.0
JAN					JUL				
05...	1020	150	380	9.0	09...	1030	0.02	385	24.5
MAR					AUG				
13...	1100	47	380	16.0	23...	1220	0.01	380	24.5

03598000 - DUCK RIVER NEAR SHELBYVILLE, TN

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
OCT					APR				
02...	1400	8660	290	19.0	24...	1145	542	350	15.5
NOV					JUN				
13...	1420	754	320	13.5	04...	1445	307	400	23.5
DEC					JUL				
12...	1115	438	360	5.5	16...	1600	204	320	24.0
JAN					AUG				
22...	1400	1940	200	9.0	28...	0935	186	142	24.0
MAR									
13...	0900	1580	180	15.0					

03600258 - LTL BIGBY CRK AT EXPERIMENT LANE AT COLUMBIA, TN

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
JAN					JUN				
17...	1310	44	220	14.0	04...	1125	28	380	20.0
26...	0945	99	190	8.0	JUL				
MAR					16...	1215	18	280	23.0
12...	1000	138	190	15.5	AUG				
APR					29...	1310	1.6	400	25.0
24...	0840	37	320	18.0					

03602219 - PINEY RIVER AT CEDAR HILL, TN

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
NOV					APR				
03...	1215	21	280	11.0	18...	1225	78	220	12.0
DEC					MAY				
13...	1020	28	280	4.0	30...	1350	33	260	18.5
JAN					JUL				
11...	1315	69	235	10.0	10...	1530	24	275	24.0
MAR					AUG				
08...	1305	81	200	12.0	23...	1120	12	305	22.0

03602500 - PINEY RIVER AT VERNON, TN

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
OCT					APR				
10...	0800	142	180	14.0	23...	1615	508	180	18.0
NOV					MAY				
15...	1430	197	240	16.0	30...	0820	195	230	19.0
DEC					JUL				
14...	1210	138	240	5.5	11...	0815	123	250	21.0
JAN					AUG				
11...	1000	293	210	9.0	23...	0820	79	245	20.0
MAR									
08...	0945	346	180	11.5					

03603000 - DUCK RIVER ABOVE HURRICANE MILLS, TN

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
OCT					JUL				
05...	1115	25200	210	18.5	09...	1540	702	240	30.0
NOV					AUG				
15...	0830	3510	280	15.0	22...	1250	534	210	27.0

03604400 - BUFFALO RIVER BELOW LOBELVILLE, TN

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
OCT					APR				
27...	0910	599	120	14.0	23...	1010	2600	80	17.0
DEC					JUL				
18...	1230	580	110	3.5	09...	1015	424	87	27.5
JAN					AUG				
29...	1350	1300	105	9.0	22...	0940	312	120	26.0
MAR									
07...	1400	1250	100	12.0					

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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OBION RIVER BASIN									
07025500 - NORTH FORK OBION RIVER NEAR UNION CITY, TN									
OCT					JUN				
18...	0915	393	--	14.5	21...	0845	185	70	23.5
NOV					AUG				
30...	0945	192	72	7.0	01...	0930	185	60	22.5
JAN					SEP				
09...	1000	255	63	8.0	12...	0945	180	64	21.5
MAY									
10...	1300	386	81	19.0					
07027500 - SOUTH FORK FORKED DEER RIVER AT JACKSON, TN									
DEC					SEP				
01...	1400	287	54	7.0	12...	0745	300	85	22.5
JUL									
18...	1245	220	--	23.0					
31...	1315	157	53	25.5					
LOOSAHATCHIE RIVER BASIN									
07030240 - LOOSAHATCHIE RIVER NEAR ARLINGTON, TN									
DEC					MAY				
06...	1500	115	56	14.5	09...	1245	152	--	18.5
JAN					SEP				
16...	1215	112	53	14.0	14...	1145	98	48	22.0
APR									
09...	1045	147	65	15.0					
WOLF RIVER BASIN									
07031660 - WOLF RIVER AT WALNUT GROVE ROAD AT MEMPHIS, TN									
OCT					MAY				
30...	1355	393	--	17.0	10...	0900	736	--	18.5
DEC					JUN				
05...	1045	443	55	7.0	27...	1130	463	45	25.0
JAN					SEP				
16...	1205	516	51	10.5	17...	1030	332	45	22.5
APR									
02...	1515	674	--	20.0					
NONCONNAH CREEK BASIN									
07032200 - NONCONNAH CREEK NEAR GERMANTOWN, TN									
OCT					MAY				
20...	1100	5.5	--	11.0	10...	1245	6.0	--	19.5
DEC					JUN				
06...	0925	0.42	140	7.5	27...	1425	0.73	100	31.0
JAN					AUG				
16...	1615	3.3	--	12.0	03...	1415	1.1	--	30.0
APR					SEP				
02...	1300	27	860	22.5	14...	1115	3.0	180	25.5

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.

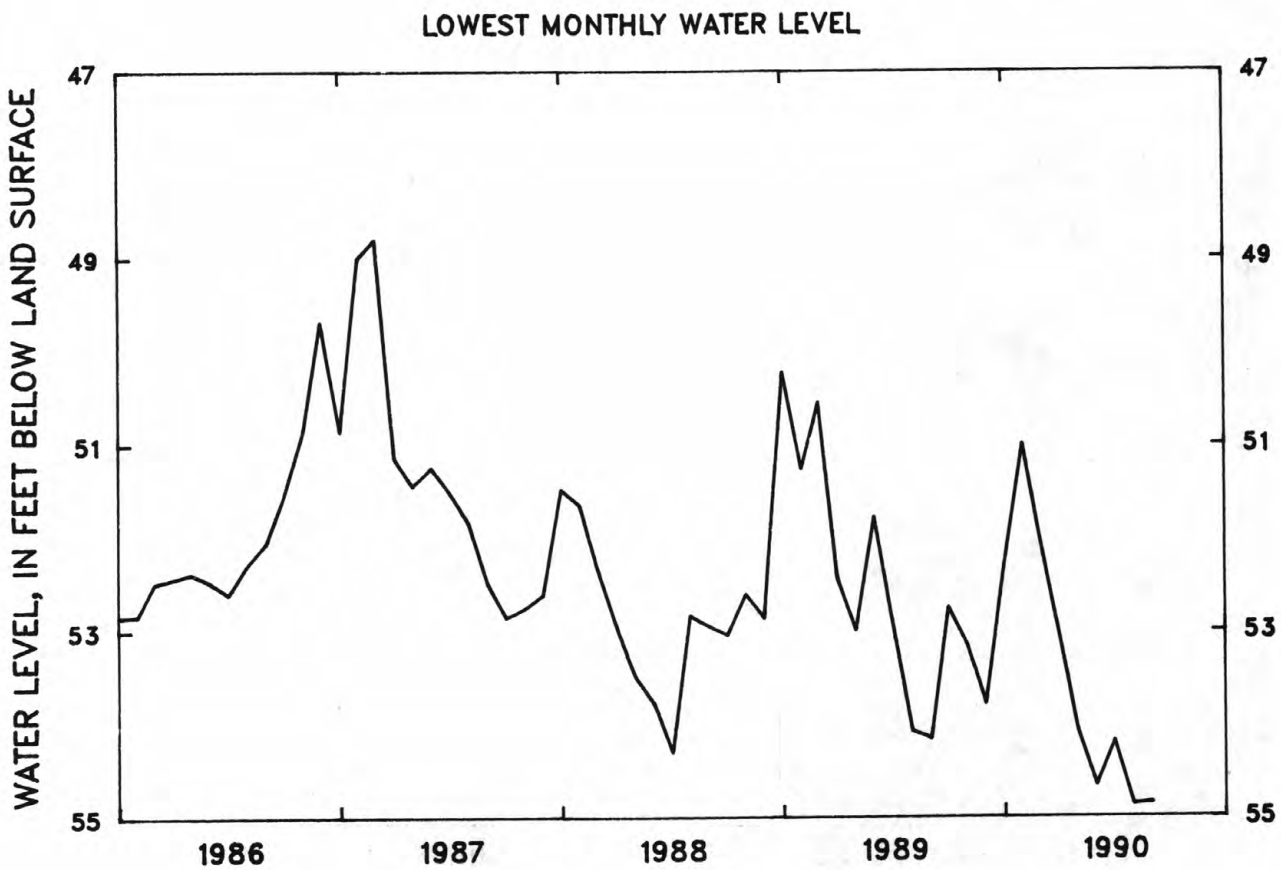
PERIOD OF RECORD.--June 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 36.52 ft below land-surface datum, Feb. 21, 1989; lowest water level 54.87 ft below land-surface datum, Aug. 28, 29, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	48.22	53.15	51.85	48.03	43.63	50.59	52.19	52.33	53.91	54.02	52.66	54.76
10	51.36	47.83	50.43	51.05	46.37	50.79	51.88	53.49	54.52	54.18	53.61	54.76
15	52.65	48.79	52.11	52.12	47.41	52.02	52.33	53.82	54.33	50.18	54.14	51.44
20	47.55	49.63	52.33	49.96	48.17	51.79	52.05	52.82	53.90	52.51	54.58	53.78
25	50.88	49.92	52.78	50.48	50.41	51.82	52.63	53.21	53.61	51.75	54.78	53.34
EOM	52.41	50.42	49.66	47.92	51.00	51.82	53.04	54.06	53.94	53.52	54.30	54.15

WTR YR 1990 HIGHEST 37.97 FEB 4, 1990 LOWEST 54.87 AUG 28, 29, 1990



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.--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].

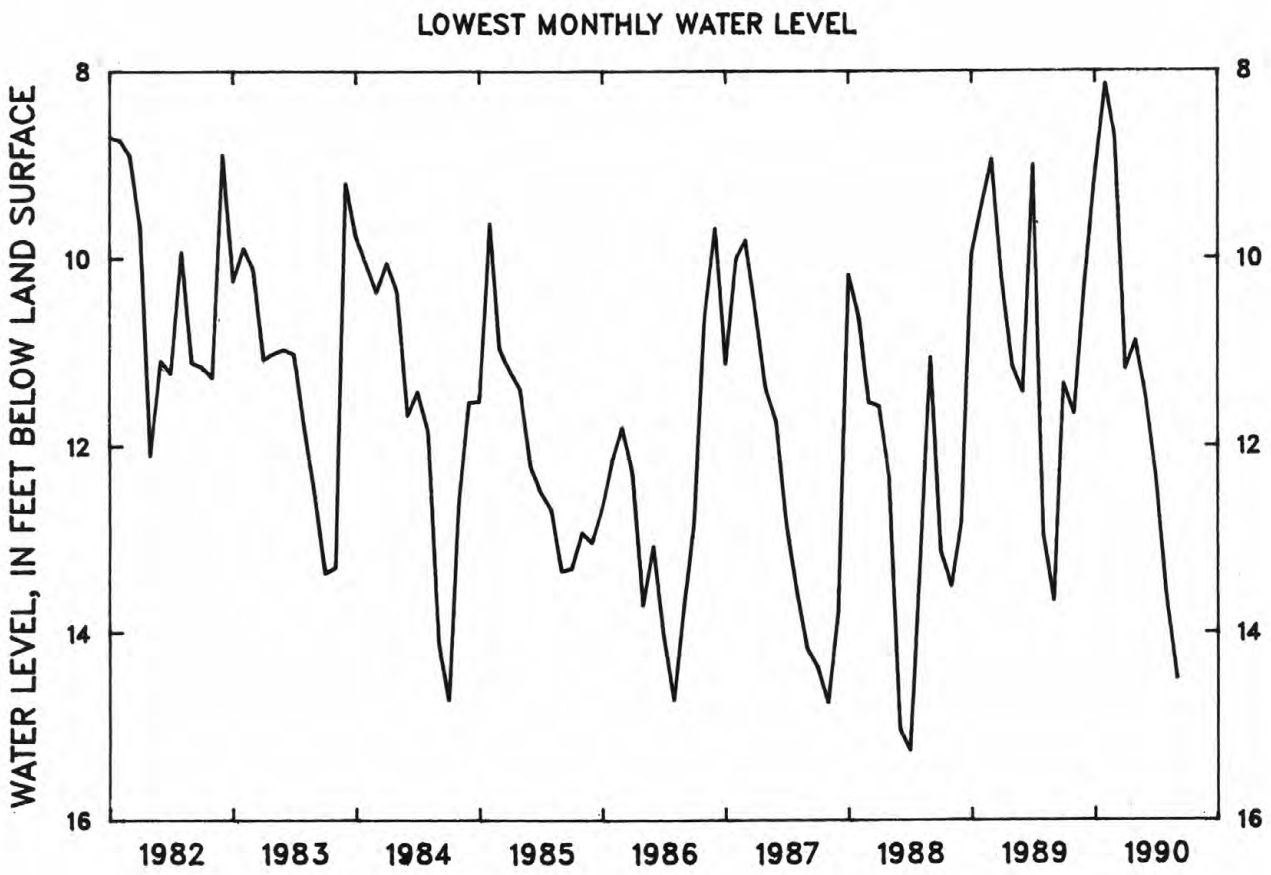
PERIOD OF RECORD.--April 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.57 ft below land-surface datum, Feb. 16, 1990; lowest, 15.25 ft below land-surface datum, July 9, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	5.69	11.63	9.66	7.09	5.06	6.89	9.76	8.71	9.23	11.94	11.60	13.92
10	7.99	8.25	9.49	5.95	6.84	5.34	10.00	7.56	10.02	12.29	12.12	14.24
15	9.34	8.83	9.32	7.98	6.79	7.50	10.22	8.46	10.91	11.79	12.59	14.27
20	10.07	8.17	9.96	9.10	5.38	5.51	10.99	9.22	11.36	11.78	12.78	14.48
25	10.81	7.57	9.99	7.04	7.20	7.61	10.90	10.32	10.93	10.29	13.15	13.60
EOM	11.34	8.86	9.80	6.21	8.14	8.72	10.79	9.67	11.44	11.30	13.61	13.75

WTR YR 1990 HIGHEST 1.57 FEB 16, 1990 LOWEST 14.48 SEPT 13, 20, 1990



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 Oct. 1-3. Record goods. Well previously published as "at Savannah Valley". Water level affected intermittently by pumping from municipal supply well 300 ft south. Negative values indicate water levels above land-surface.

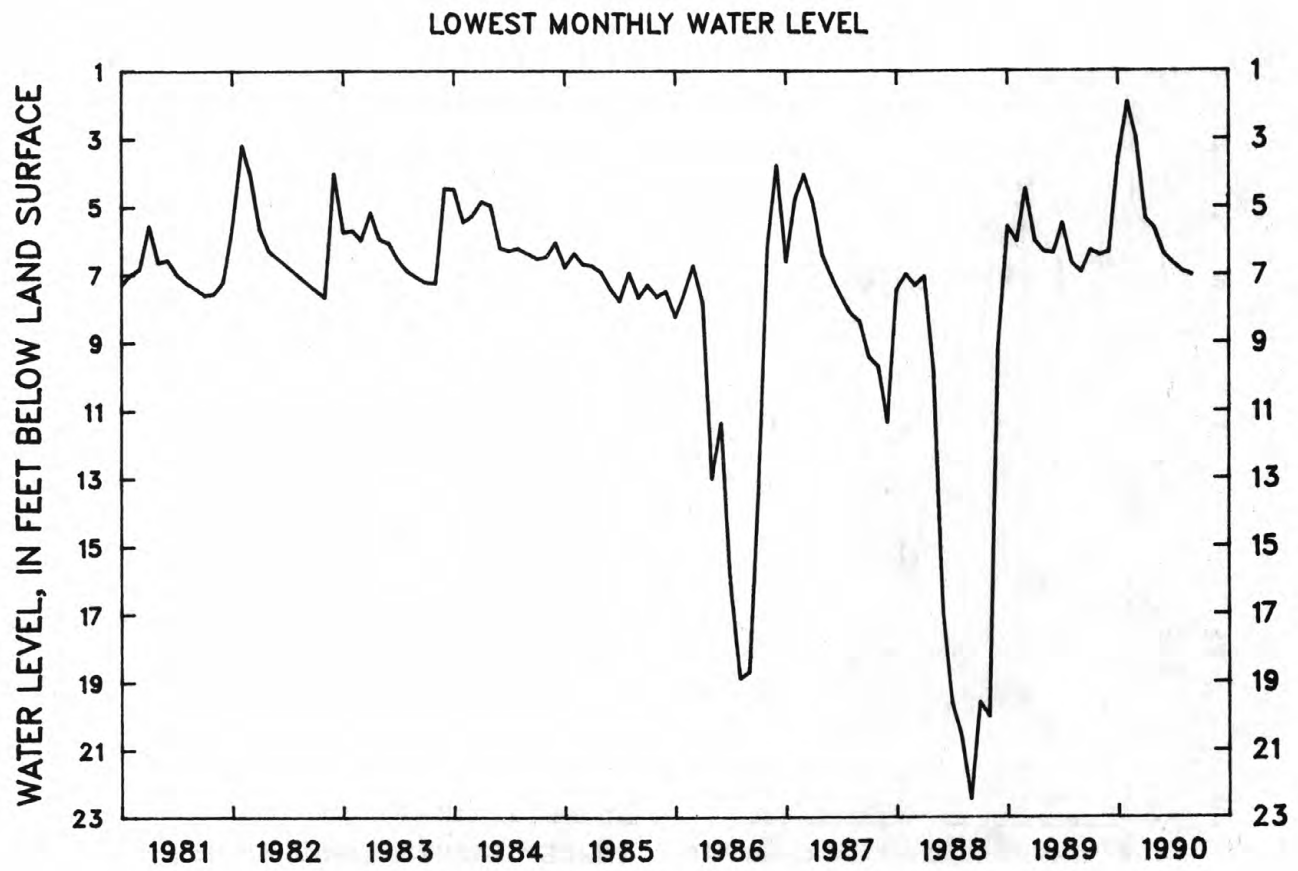
PERIOD OF RECORD.--May 1975 to current year.

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 1989 TO SEPTEMBER 1990
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	-.36	6.28	5.62	1.48	-.90	.33	4.03	4.48	5.49	6.45	6.73	6.96
10	2.07	6.14	5.88	-.32	-.32	.55	4.72	3.84	5.93	6.54	6.66	7.01
15	4.35	6.35	4.94	1.90	.16	1.68	4.98	2.67	6.11	6.55	6.80	6.45
20	5.34	4.87	5.62	3.57	-.52	-.39	5.28	4.09	6.26	6.65	6.87	6.82
25	5.96	3.45	6.10	1.12	.81	1.05	5.25	4.92	6.27	6.54	6.82	6.61
EOM	6.10	4.57	6.20	-.21	1.94	3.00	5.05	5.64	6.39	6.66	6.89	6.87

WTR YR 1990 HIGHEST -3.67 FEB 16, 1990 LOWEST 7.01 SEPT 10, 1990



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.

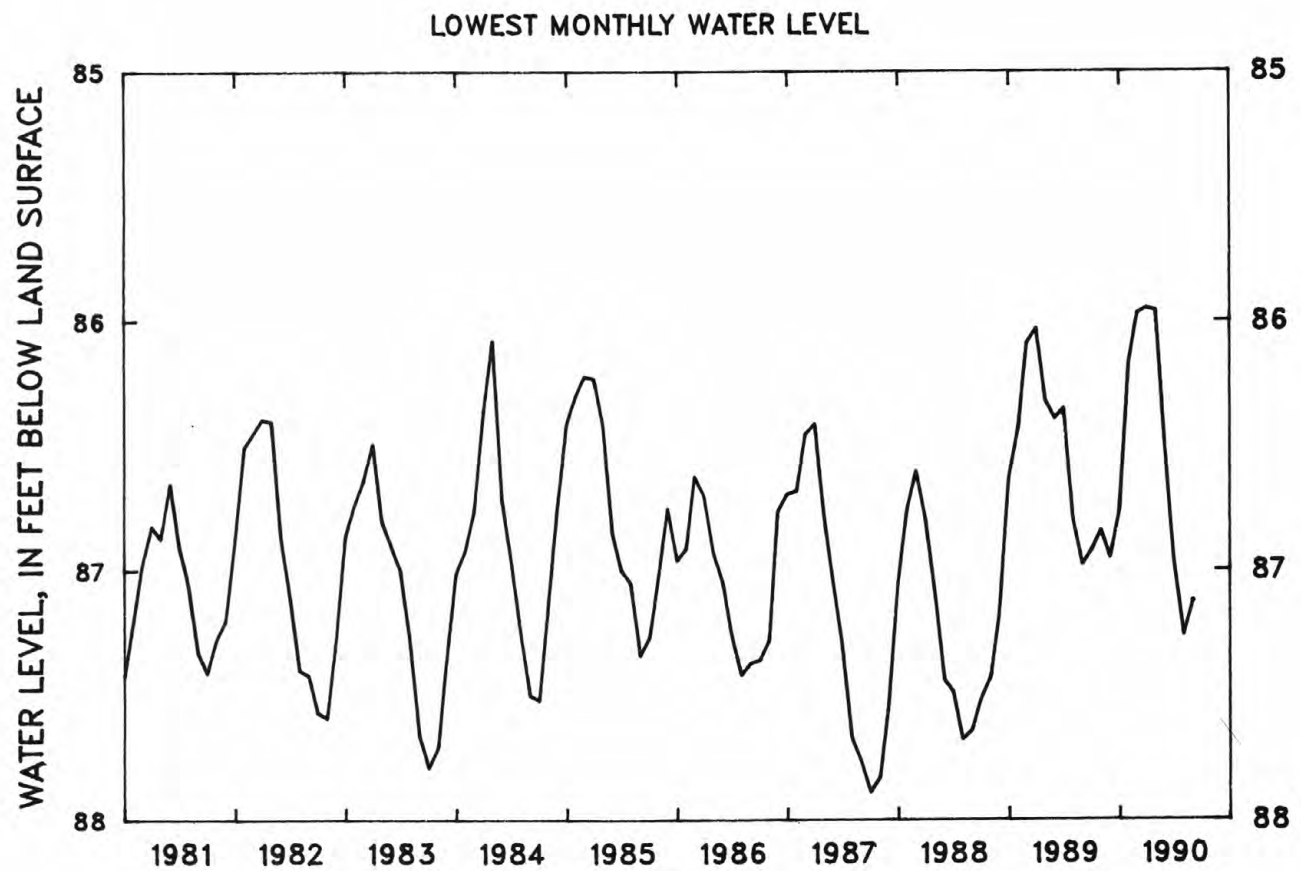
PERIOD OF RECORD.--February 1962 to current year.

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 1989 TO SEPTEMBER 1990
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	86.75	86.82	86.54	86.55	85.82	85.89	85.85	85.75	86.03	86.51	86.61	87.09
10	86.87	86.74	86.63	86.55	85.65	85.81	85.86	85.80	86.16	86.64	86.64	87.05
15	86.92	86.67	86.77	86.57	85.69	85.70	85.83	85.95	86.13	86.37	86.74	86.97
20	86.72	86.59	86.78	86.37	85.72	85.75	85.71	85.85	86.30	86.64	87.23	87.02
25	86.82	86.56	86.77	86.40	85.90	85.86	85.76	85.92	86.41	86.73	87.08	86.98
EOM	86.81	86.69	86.69	86.22	85.85	85.78	85.84	85.96	86.52	86.92	87.06	87.12

WTR YR 1990 HIGHEST 85.49 FEB 22, 1990 LOWEST 87.26 AUG 21, 1990



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. 12 to Nov. 29, Feb. 4 to 17, Feb. 22 to Mar. 5, Apr. 28 to May 9, May 24 to June 7. Records poor.

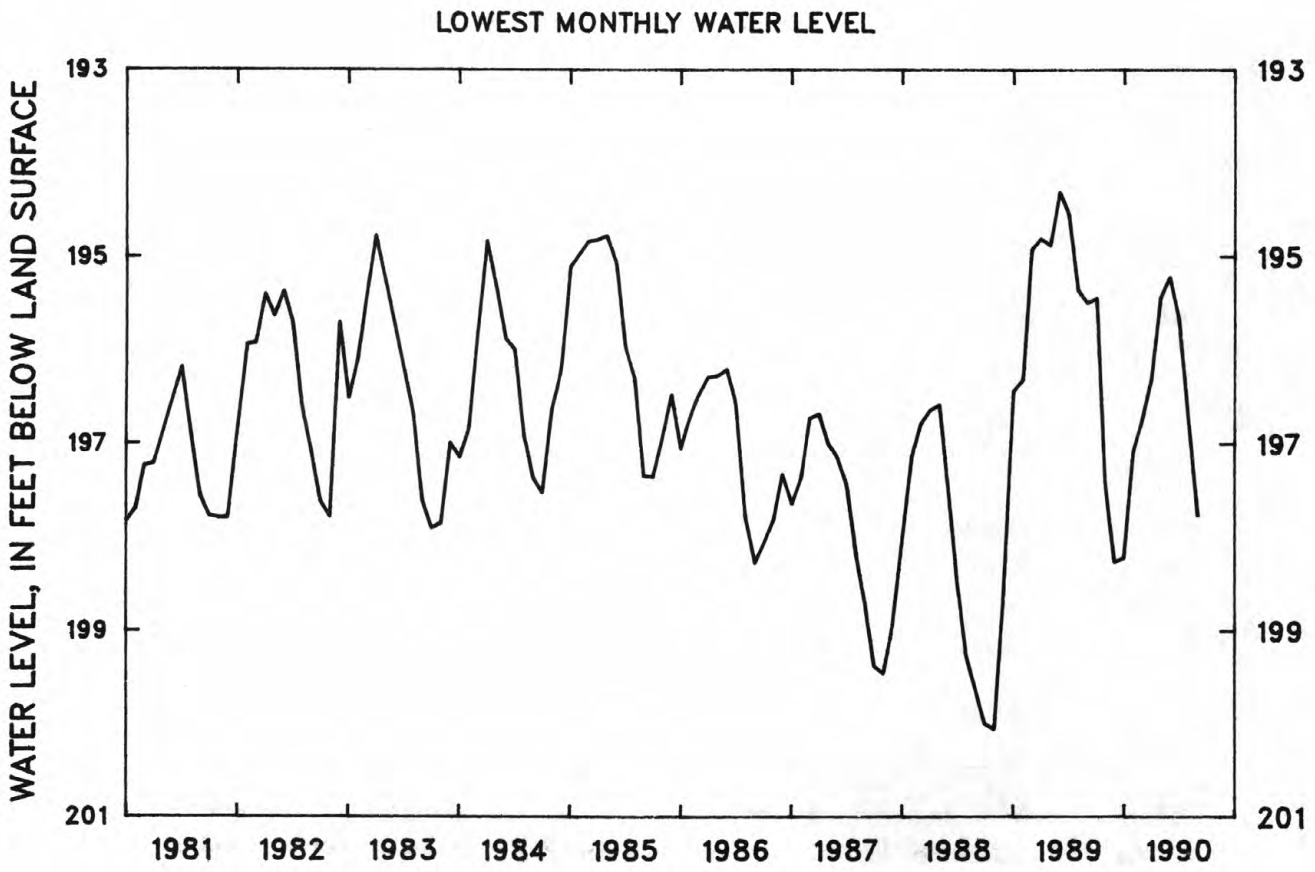
PERIOD OF RECORD.--April 1966 to current year.

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 1989 TO SEPTEMBER 1990
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	195.41	---	197.48	198.09	---	---	196.02	---	---	195.28	195.89	196.92
10	195.43	---	197.66	197.53	---	196.64	196.22	195.43	193.92	195.47	196.08	197.05
15	---	---	197.88	197.41	---	196.47	196.22	195.34	194.70	195.46	196.23	197.20
20	---	---	198.00	197.39	195.63	196.15	196.02	194.76	195.19	195.55	196.45	197.45
25	---	---	198.17	197.34	---	195.65	195.86	---	195.14	195.56	196.65	197.60
EOM	---	---	198.09	197.07	---	195.91	---	---	195.14	195.66	196.70	197.76

WTR YR 1990 HIGHEST 193.70 JUNE 8, 1990 LOWEST 198.26 DEC 23, 24, 1990



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.

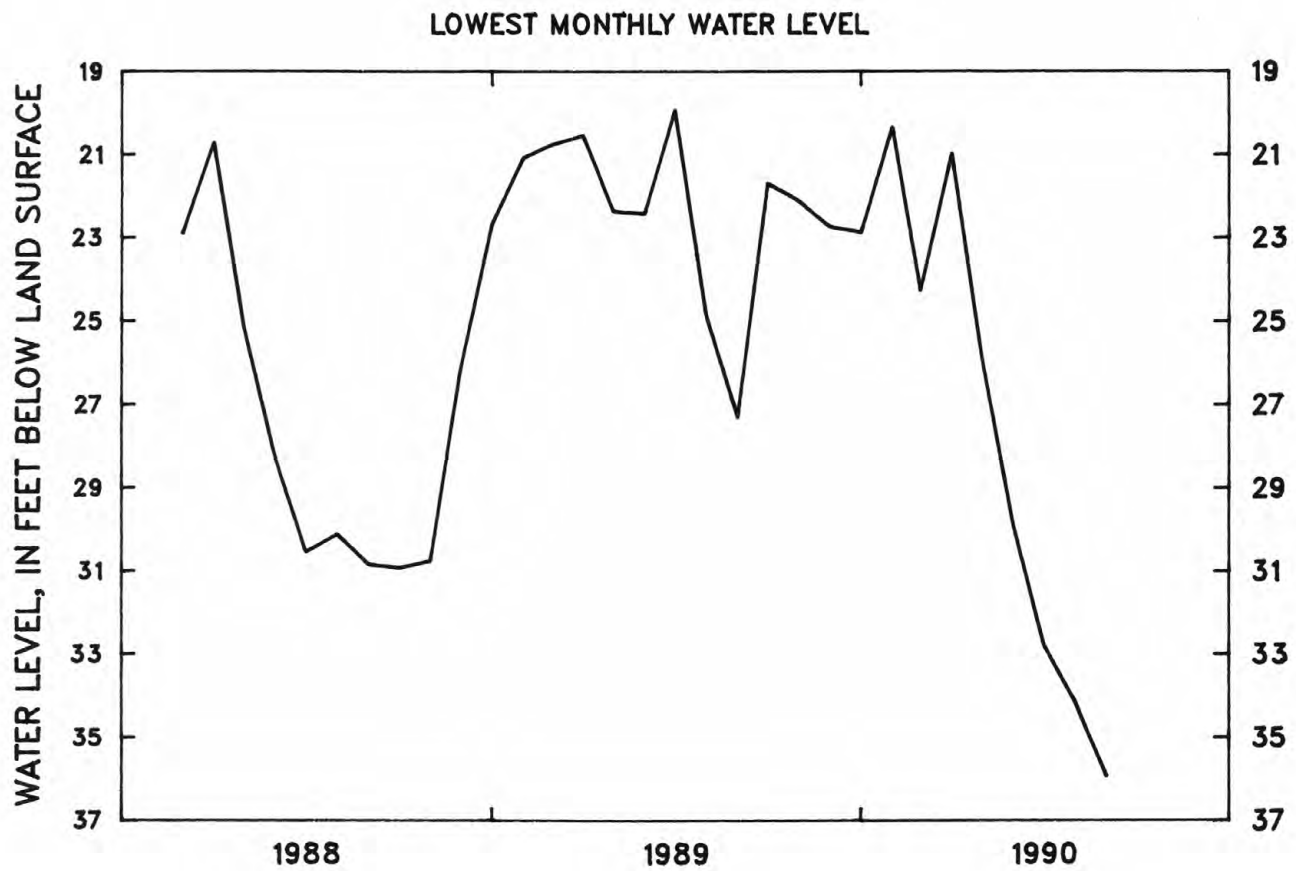
PERIOD OF RECORD.--March 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.75 ft below land-surface datum, Apr. 4, 1990; lowest, 35.93 ft below land-surface datum, Sept. 30, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	19.63	21.09	18.20	22.21	17.99	22.65	19.41	19.41	24.07	---	31.76	34.27
10	19.86	20.76	19.54	19.56	17.67	23.20	16.20	24.54	24.86	---	33.10	35.25
15	19.97	20.59	19.29	19.40	17.96	19.98	16.25	23.64	28.04	---	31.59	34.92
20	20.13	19.84	18.81	18.29	18.98	19.65	20.98	24.41	29.24	31.71	32.05	34.47
25	21.45	19.44	18.40	18.00	19.43	16.23	18.43	25.67	28.85	31.86	33.36	35.57
EOM	21.69	19.46	22.74	18.69	20.34	16.63	17.77	25.36	29.96	31.72	34.15	35.93

WTR YR 1990 HIGHEST 11.75 APR 4, 1990 LOWEST 35.93 SEPT 30, 1990



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 October 24 to January 9. Records poor.

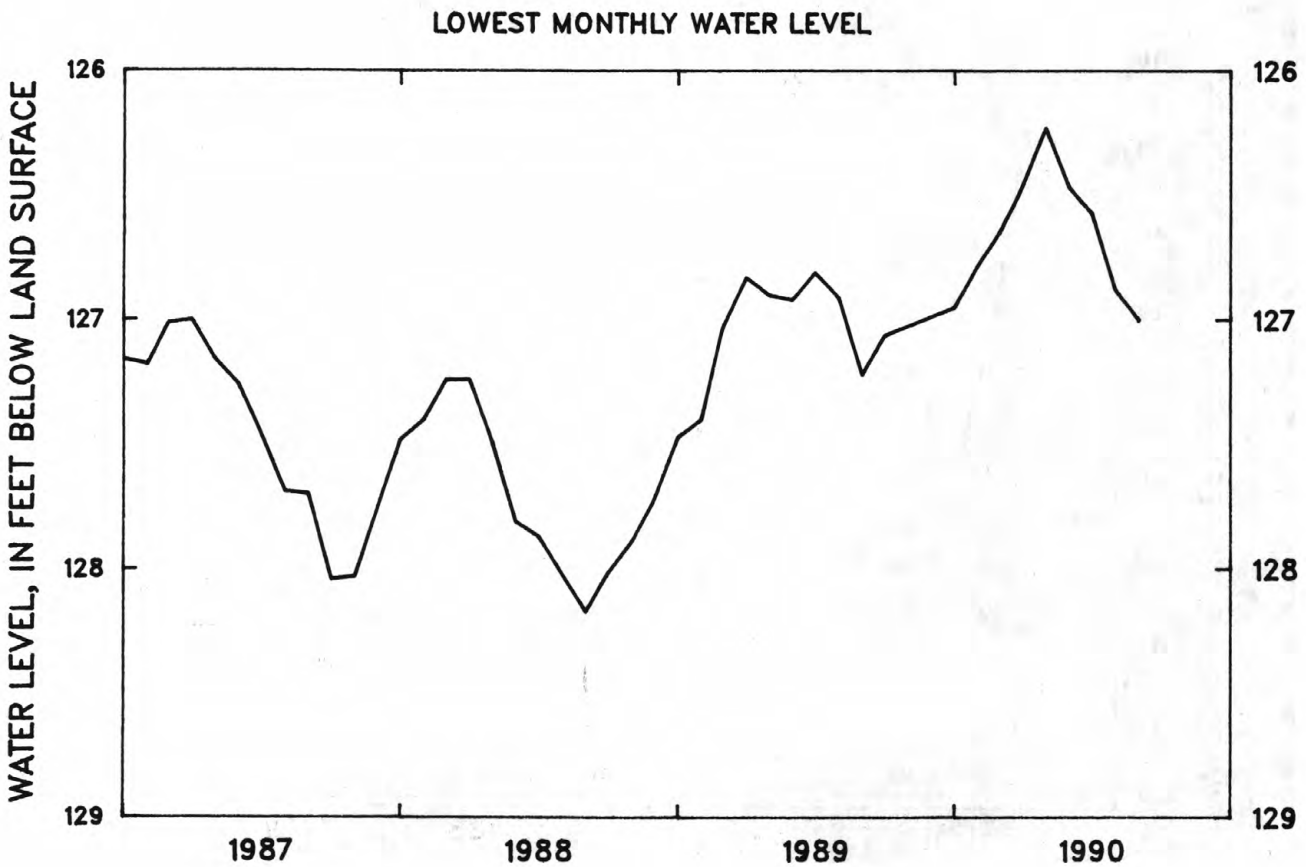
PERIOD OF RECORD.--June 1949 to current year. Analog record June 1949 to February 1971, periodic tape measurements or monthly maximum-minimum recorder March 1971 to April 1986.

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 1989 TO SEPTEMBER 1990
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	126.99	---	---	---	126.77	126.53	126.34	126.19	126.22	126.53	126.66	126.97
10	127.02	---	---	126.88	126.74	126.48	126.38	126.21	126.33	126.56	126.73	126.96
15	127.05	---	---	126.92	126.55	126.34	126.36	126.22	126.34	126.41	126.73	126.85
20	127.01	---	---	126.86	126.55	126.46	126.33	126.18	126.33	126.46	126.75	126.89
25	---	---	---	126.84	126.66	126.46	126.28	126.20	126.41	126.52	126.80	126.97
EOM	---	---	---	126.78	126.65	126.32	126.20	126.22	126.47	126.57	126.88	127.00

WTR YR 1990 HIGHEST 126.10 APR 28, 1990 LOWEST 127.06 OCT 13, 14, 1989



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.

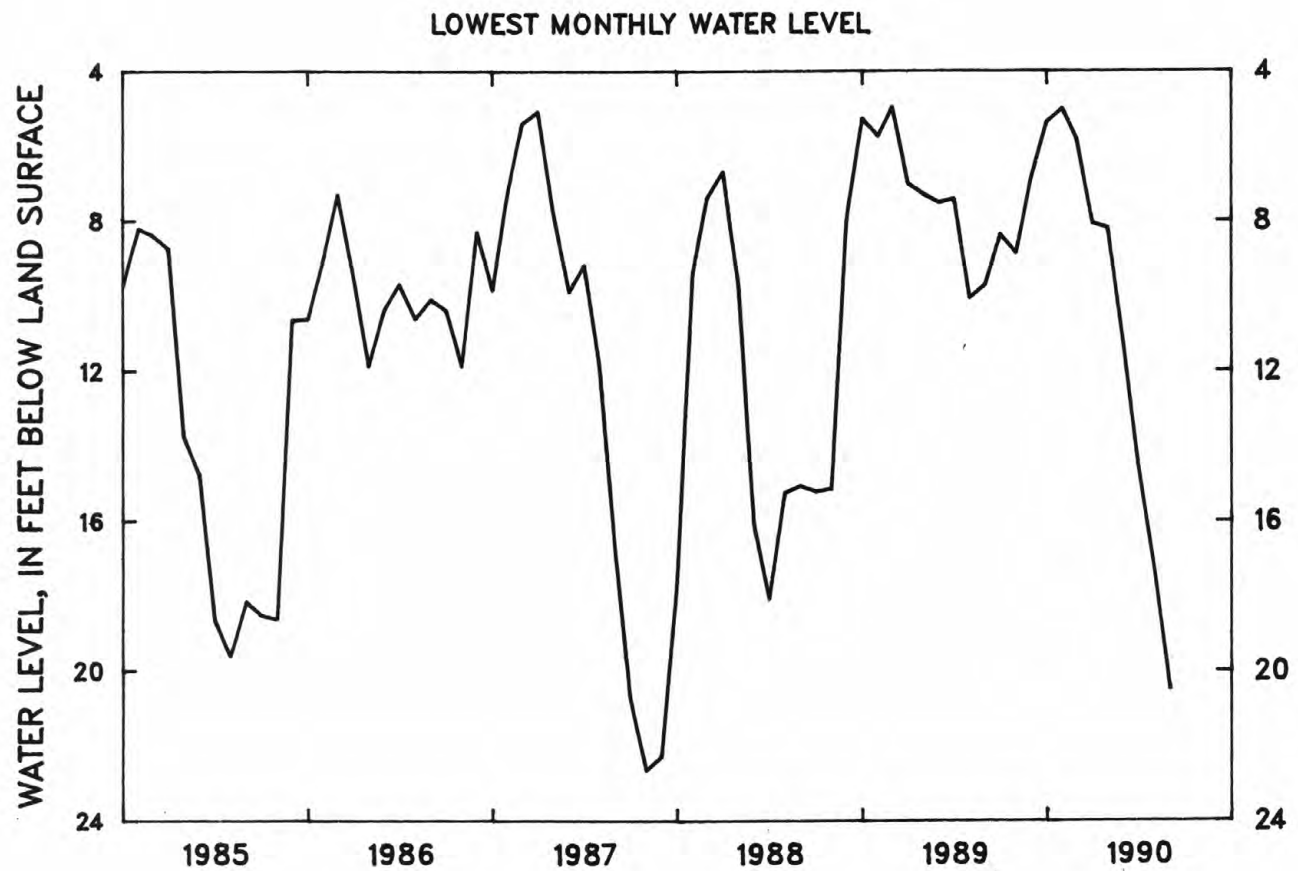
PERIOD OF RECORD.--November 1984 to current year.

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 gage-height record Oct. 21 to Nov. 18, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.29	8.82	5.68	4.23	3.12	4.91	6.48	7.78	6.07	12.33	15.03	18.06
10	5.75	7.25	5.14	4.08	3.28	5.30	6.06	7.22	7.40	13.30	15.30	18.70
15	6.85	7.11	5.67	5.23	4.22	5.42	6.45	7.08	8.51	13.95	15.70	18.97
20	6.92	6.29	5.92	4.55	3.92	4.03	6.96	4.96	9.50	14.46	16.26	19.42
25	7.61	5.68	6.22	4.33	4.64	5.29	7.51	5.51	10.38	14.42	16.72	19.88
EOM	8.36	5.09	6.55	4.04	5.01	5.83	8.08	4.95	11.35	14.63	17.33	20.48

WTR YR 1990 HIGHEST 1.98 OCT 1, 1989 LOWEST 20.48 SEPT 30, 1990



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. No record Jan. 10-12.

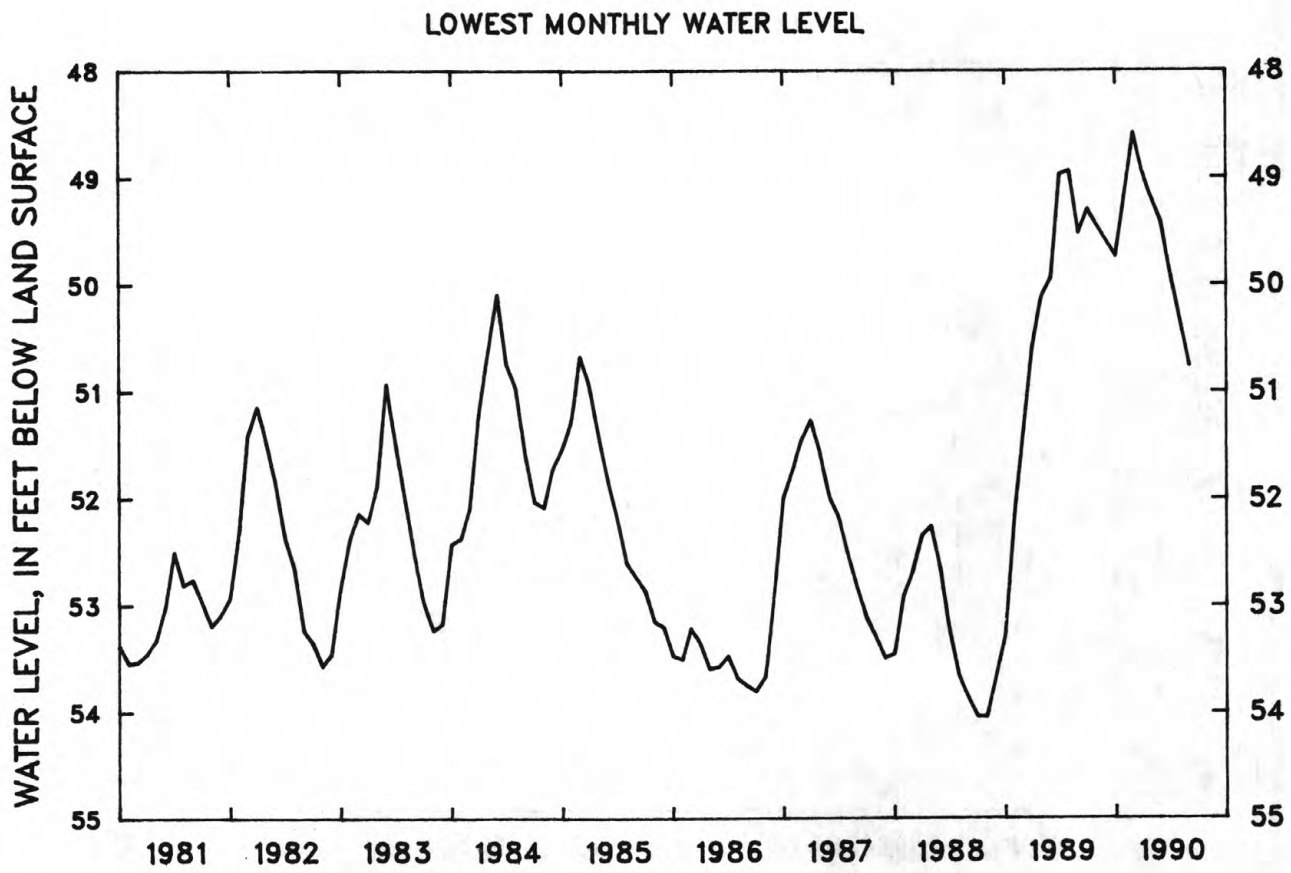
PERIOD OF RECORD.--March 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 48.00 ft below land-surface datum, Feb. 22, 1990; lowest, 54.04 ft below land-surface datum, Oct. 28, Nov. 10, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	49.14	49.19	49.16	49.56	49.07	48.39	48.50	49.04	49.05	49.51	49.98	50.38
10	49.05	49.33	49.28	---	48.67	48.42	48.61	49.11	49.11	49.60	50.06	50.47
15	49.03	49.28	49.47	49.52	48.43	48.45	48.66	49.15	49.11	49.70	50.14	50.49
20	49.05	49.26	49.48	49.28	48.48	48.59	48.83	49.10	49.27	49.73	50.22	50.61
25	49.14	49.29	49.37	49.37	48.56	48.56	48.92	49.11	49.39	49.84	50.29	50.65
EOM	49.17	49.33	49.56	49.29	48.29	48.45	48.97	49.10	49.43	49.91	50.33	50.76

WTR YR 1990 HIGHEST 48.00 FEB 22, 1990 LOWEST 50.76 SEPT 30, 1990



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.

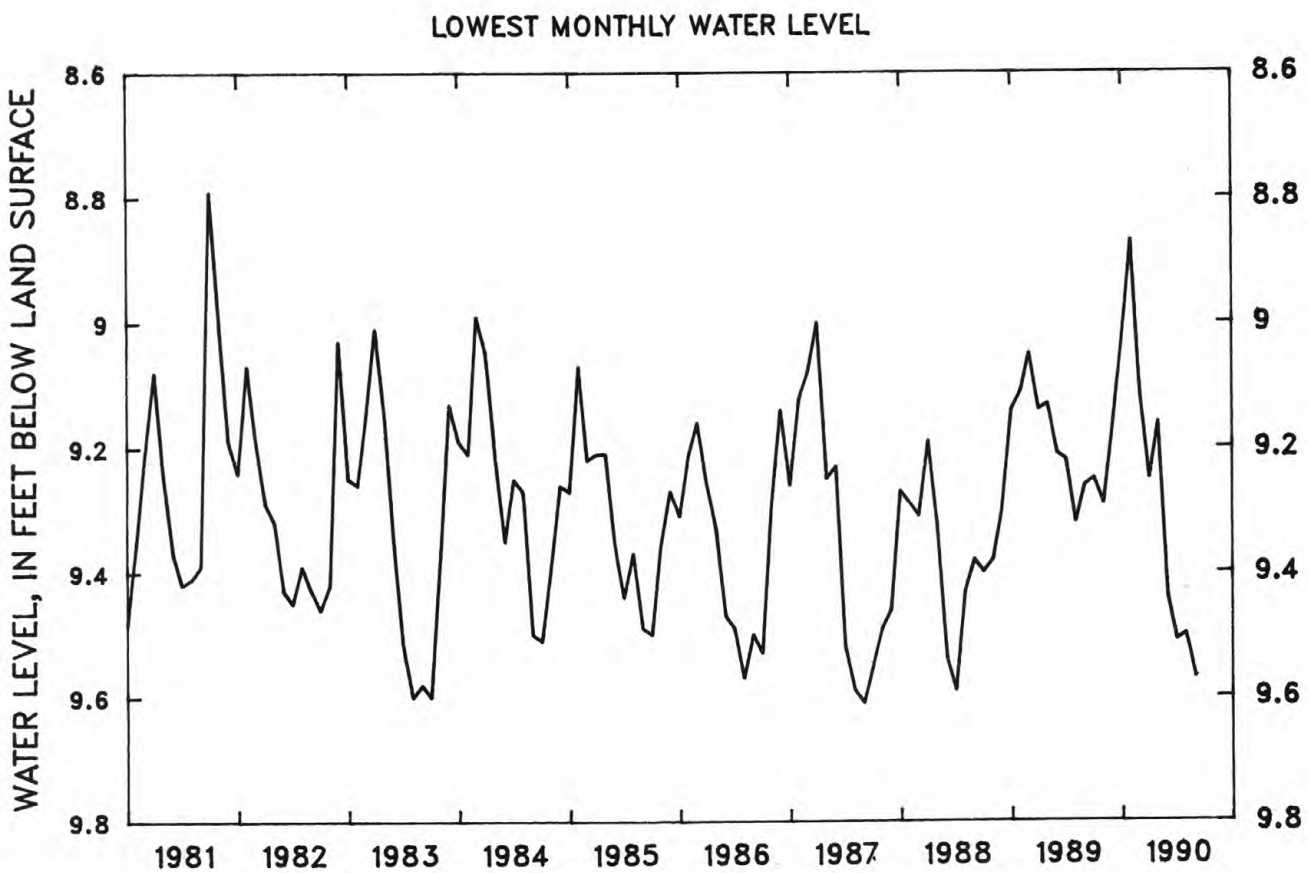
PERIOD OF RECORD.--May 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.36 ft below land-surface datum, Mar. 17, 1990; 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 1989 TO SEPTEMBER 1990
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.67	9.28	9.10	8.64	8.40	8.51	9.22	8.86	9.11	9.50	9.38	9.54
10	9.04	9.03	8.97	8.56	8.73	8.78	9.24	8.59	9.21	9.41	9.37	9.34
15	9.18	9.12	8.82	8.94	8.72	8.93	9.13	8.95	9.28	8.56	9.39	9.21
20	9.09	8.79	9.06	9.03	8.37	8.41	9.18	9.02	9.32	9.06	9.49	9.31
25	9.19	8.71	8.82	8.81	8.67	8.92	9.21	9.05	9.38	9.11	9.29	9.22
EOM	9.25	8.93	9.12	8.33	8.87	9.11	9.13	8.89	9.44	9.32	9.47	9.37

WTR YEAR 1990 HIGHEST 5.36 MAR 17, 1990 LOWEST 9.57 SEPT 7, 8, 1990



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.

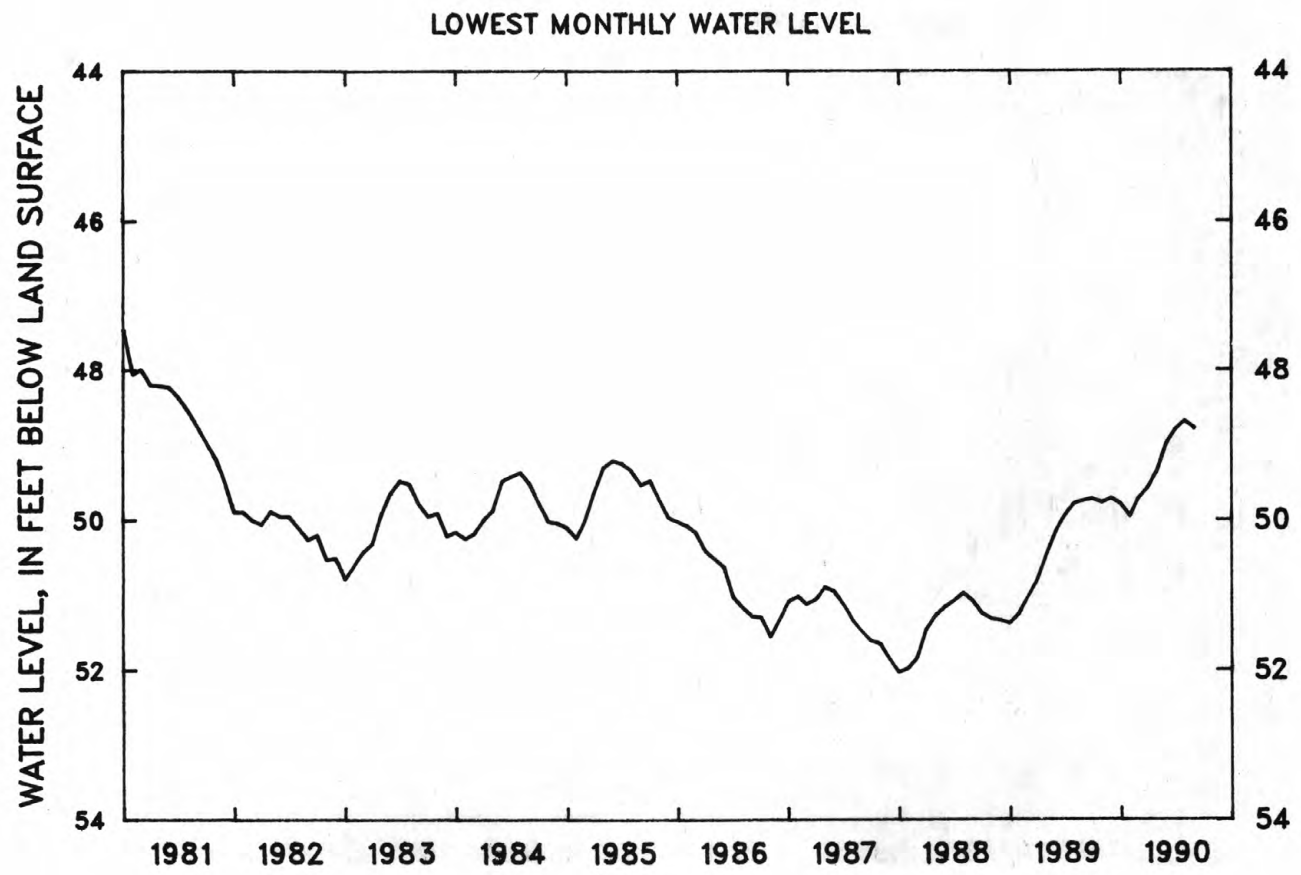
PERIOD OF RECORD.--August 1948 to current year.

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 1989 TO SEPTEMBER 1990
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	49.55	49.55	49.47	49.65	49.82	49.57	49.38	49.27	48.94	48.75	48.64	48.65
10	49.58	49.64	49.50	49.73	49.70	49.55	49.45	49.27	48.94	48.72	48.61	48.69
15	49.56	49.76	49.71	49.67	49.58	49.57	49.31	49.09	48.84	48.73	48.62	48.69
20	49.58	49.49	49.60	49.68	49.72	49.61	49.28	49.03	48.85	48.65	48.63	48.72
25	49.62	49.51	49.48	49.79	49.91	49.53	49.33	48.98	48.85	48.68	48.64	48.67
EOM	49.65	49.54	49.68	49.77	49.57	49.47	49.38	49.00	48.78	48.65	48.68	48.74

WTR YR 1990 HIGHEST 48.52 AUG 19, 29, 1990 LOWEST 49.96 FEB 17, 1990



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. Records good.

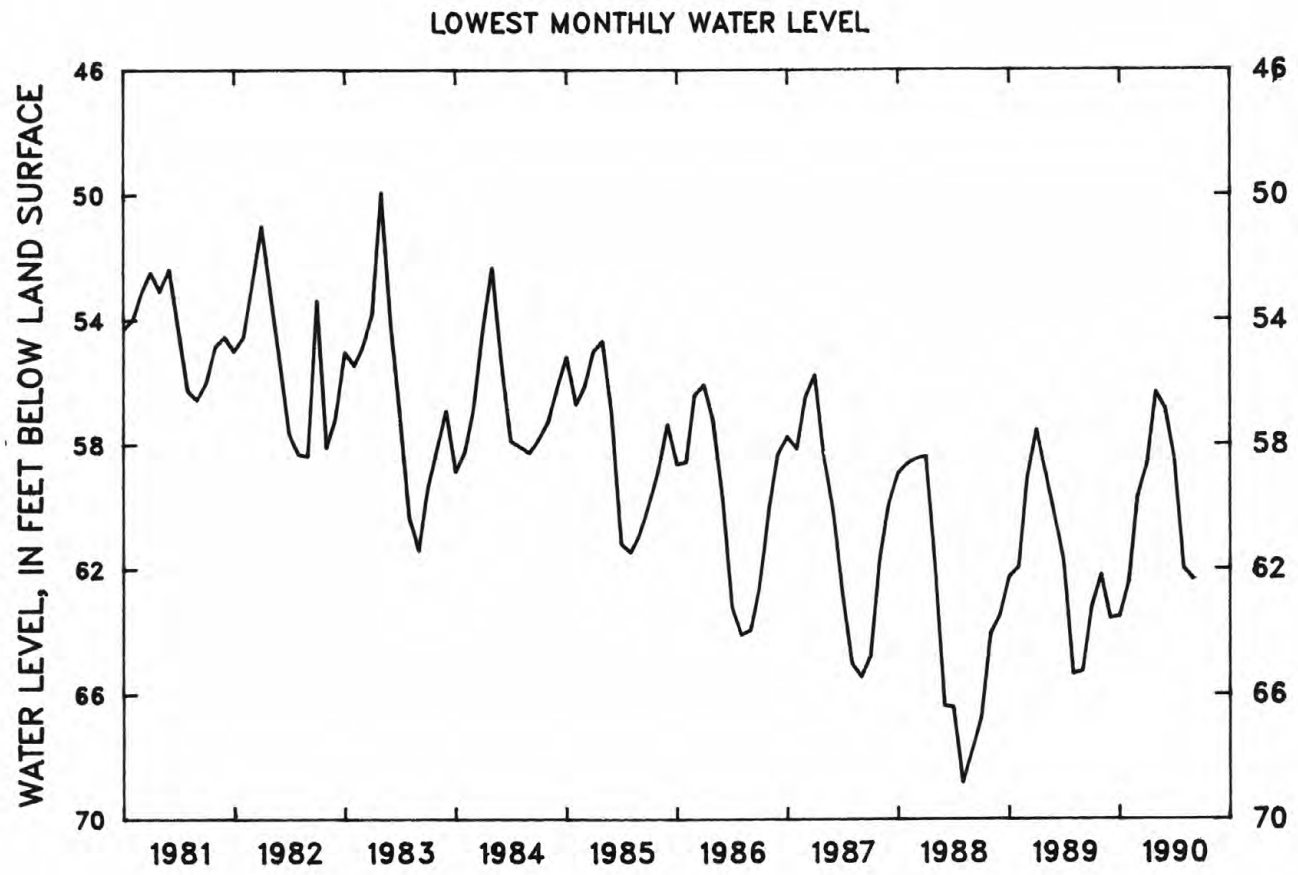
PERIOD OF RECORD.--September 1940 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.65 ft below land-surface datum, September 3, 1940; lowest, 68.82 ft below land-surface datum, August 24, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 30, 1990
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	63.08	62.15	61.36	63.27	61.34	58.99	58.54	56.22	53.36	57.74	59.21	62.05
10	63.18	62.00	61.67	62.94	60.85	59.39	58.37	55.79	54.22	58.35	59.33	62.32
15	62.82	62.14	61.92	62.69	60.25	59.65	58.12	54.91	55.32	58.24	59.47	60.89
20	63.17	62.00	62.72	62.81	59.80	59.66	57.40	54.92	56.35	57.88	59.82	60.05
25	62.83	61.52	63.33	62.77	59.22	58.97	56.22	54.10	56.76	57.70	60.52	59.40
EOM	62.15	60.97	63.51	62.38	59.00	58.45	55.49	53.45	56.87	58.44	61.41	59.95

WTR YR 1990 HIGHEST 53.11 JUNE 6, 7, 1990 LOWEST 63.56 DEC 29, 30, 1989



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.

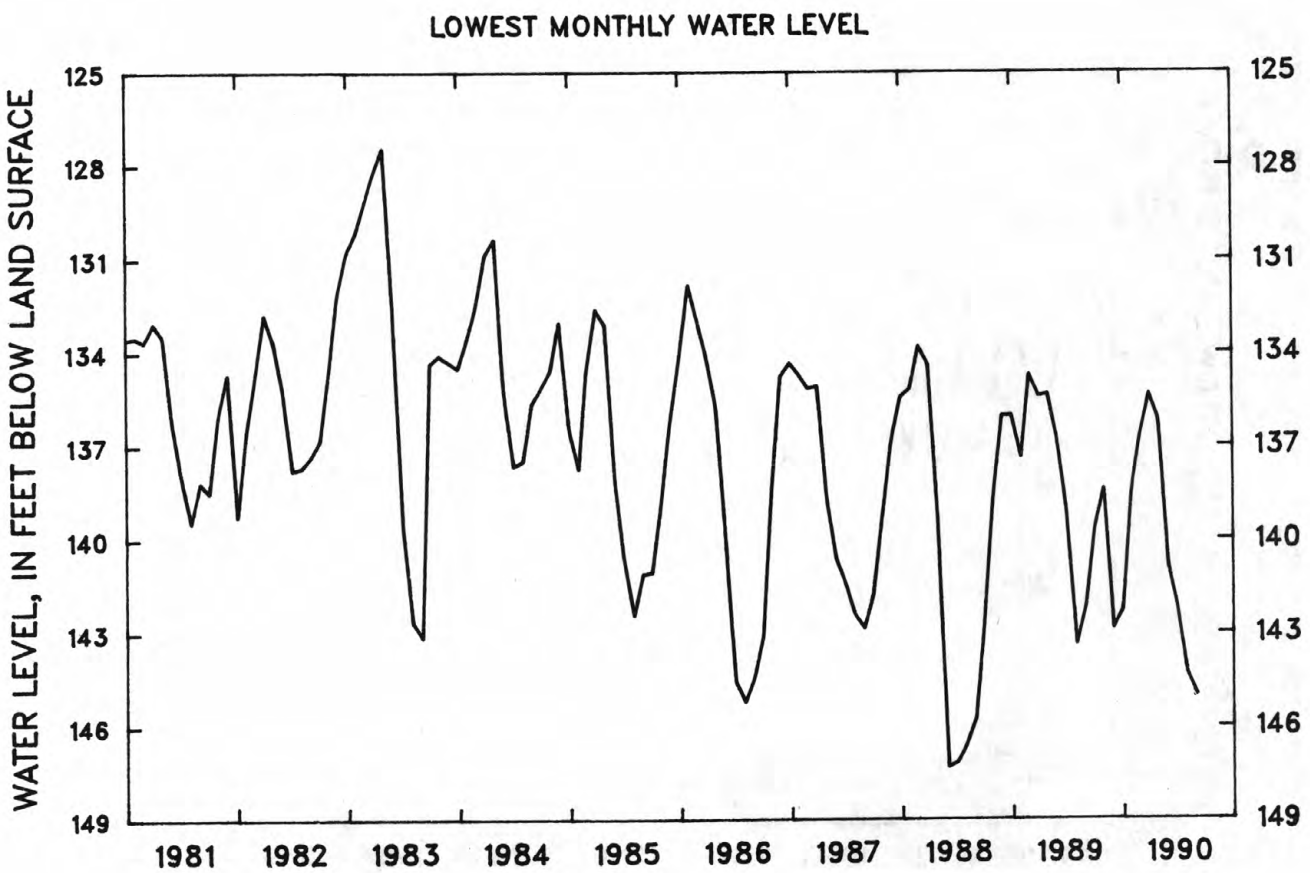
PERIOD OF RECORD.--October 1928 to current year.

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 1989 TO SEPTEMBER 1990
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	139.07	137.67	135.07	142.01	137.00	135.62	135.17	135.35	136.71	141.42	141.96	143.63
10	138.64	137.81	135.98	140.37	137.36	136.06	134.61	135.44	138.81	142.09	142.60	144.35
15	139.48	137.43	136.53	139.90	137.49	135.86	134.83	135.35	140.04	140.09	141.63	142.71
20	139.08	136.49	138.41	138.88	136.96	136.17	134.46	136.20	140.28	140.54	142.65	141.88
25	138.56	134.86	140.96	138.55	136.93	135.56	134.97	136.08	140.19	140.23	143.78	141.34
EOM	138.32	135.44	142.29	138.34	136.21	134.80	135.00	136.17	140.78	141.38	144.29	141.81

WTR YR 1990 HIGHEST 134.19 APR 10, 1990 LOWEST 144.99 SEPT 8, 1990



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.

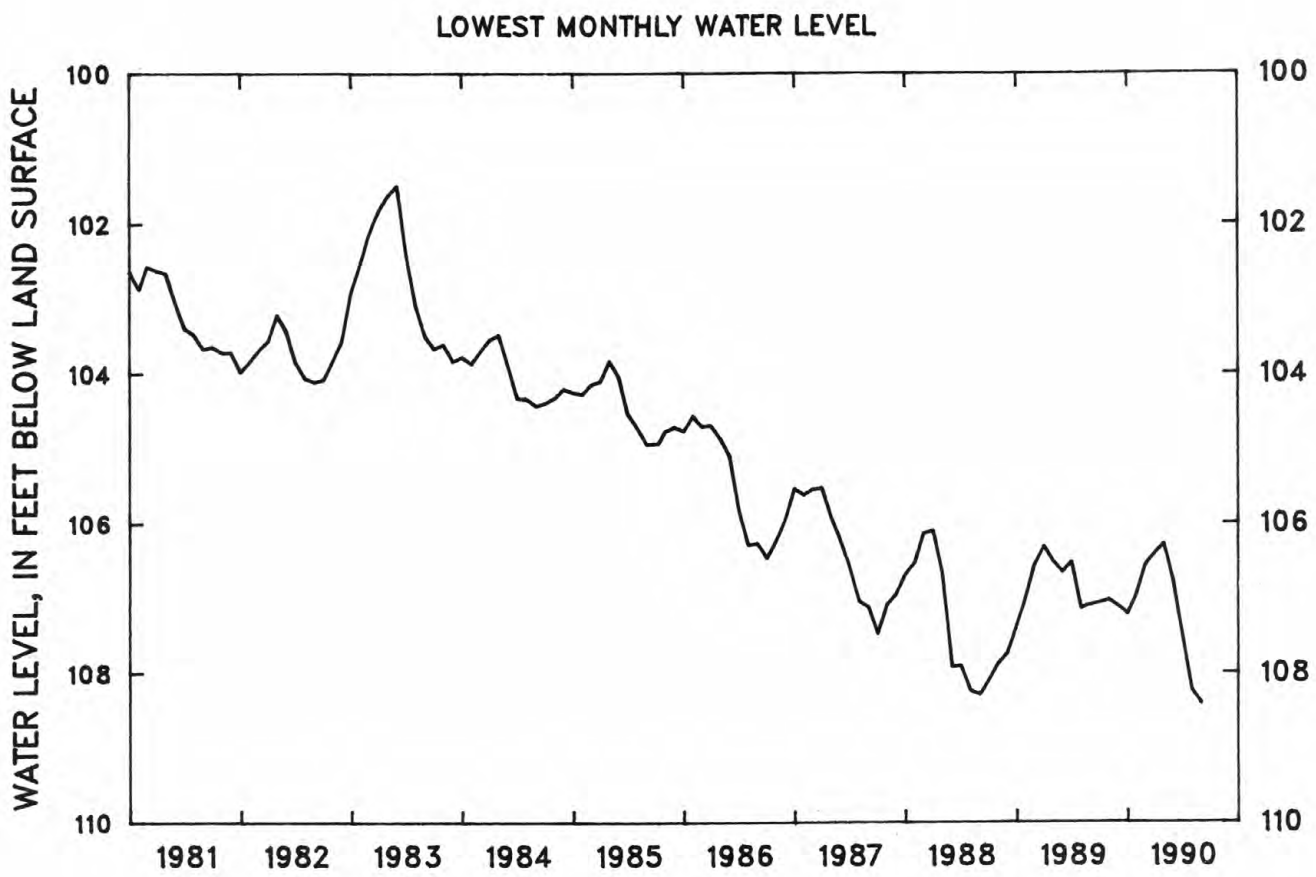
PERIOD OF RECORD.--October 1940 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 74.08 ft below land-surface datum, December 27, 1940; lowest 108.41 ft below land-surface datum, September 4, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	106.90	106.86	106.48	106.98	106.94	106.34	106.12	106.23	106.29	106.98	107.62	108.36
10	106.88	106.87	106.67	107.03	106.52	106.34	106.17	106.15	106.41	107.21	107.81	108.39
15	106.99	106.75	106.81	107.00	106.44	106.12	106.13	106.13	106.33	107.26	107.88	108.21
20	107.01	106.82	106.85	106.83	106.74	106.55	106.39	106.01	106.42	107.31	107.87	108.19
25	107.05	106.72	106.80	106.97	106.82	106.40	106.19	106.14	106.67	107.44	108.06	108.06
EOM	106.94	106.97	106.95	106.93	106.54	106.06	106.20	106.27	106.78	107.50	108.23	108.00

WTR YR 1990 HIGHEST 105.89 APR 28, 1990 LOWEST 108.41 SEPT 4, 1990



CRITTENDEN COUNTY, AR

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.--Water levels affected by pumpage for municipal and industrical water supply in the Memphis, Tenn. area. No record Dec. 25-26, June 17-29, Aug. 31 to Sept. 26. Records poor.

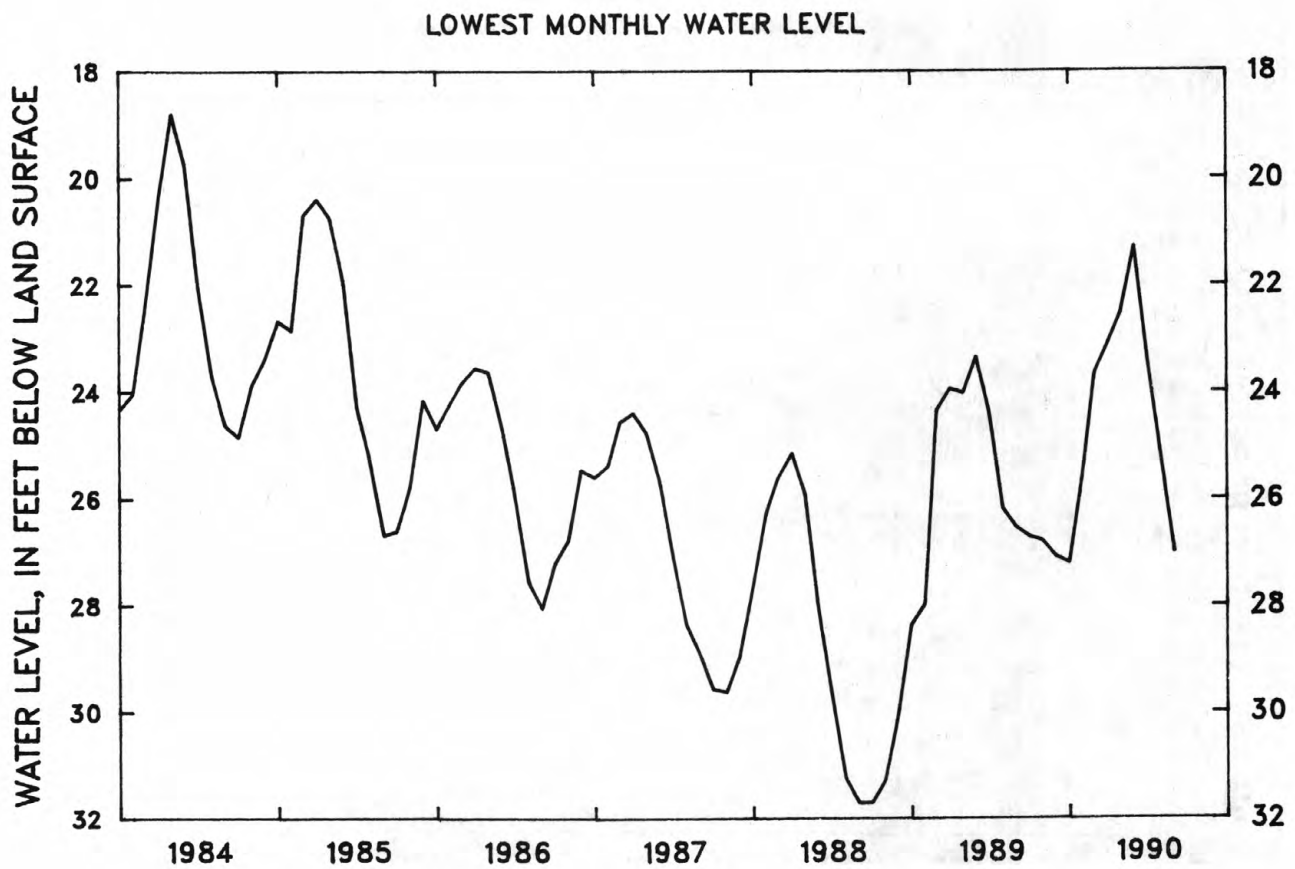
PERIOD OF RECORD.--May 1983 to current year.

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 1989 TO SEPTEMBER 1990
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	26.23	26.80	26.40	26.98	25.07	22.93	22.72	22.53	20.04	21.70	23.96	---
10	26.01	26.64	26.64	25.73	23.95	23.60	23.00	22.11	20.17	22.20	24.24	---
15	26.45	26.49	26.70	26.18	23.59	23.43	22.85	21.96	20.49	22.54	24.51	---
20	26.72	26.37	26.98	26.49	23.31	22.98	22.49	21.55	---	22.67	25.02	---
25	26.25	25.65	---	25.97	22.87	22.19	22.58	20.43	---	22.95	25.19	---
EOM	26.31	26.32	27.09	25.54	22.64	22.48	22.27	20.23	21.29	23.40	---	27.00

WTR YR 1990 HIGHEST 19.97 JUNE 5, 6, 1990 LOWEST 27.21 JAN 2, 1990



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, 83.91 ft below land-surface datum, Aug. 27, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 1	82.34	NOV 30	82.24	DEC 28	82.17	JAN 30	81.93	FEB 28	82.09	MAR 28	81.96
APR 25	82.13	MAY 29	82.32	JUN 27	82.77	JUL 30	83.43	AUG 27	83.91	SEP 26	83.50

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, 39.38 ft below land-surface datum, May 2, 1980; lowest measured, 41.75 ft below land-surface datum, October 4, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 1	40.68	NOV 30	40.68	DEC 28	40.68	JAN 30	40.42	FEB 28	40.24	MAR 28	39.88
APR 25	39.78	MAY 29	39.58	JUN 27	39.72	JUL 30	39.76	AUG 27	40.31	SEP 26	40.48

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 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 1	70.48	NOV 30	70.36	DEC 27	71.02	JAN 29	70.40	FEB 27	69.84	MAR 30	70.60
APR 26	71.65	MAY 31	71.30	JUL 2	72.95	JUL 31	74.86	AUG 30	76.13	SEP 26	76.31

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 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 1	61.21	NOV 30	61.06	DEC 27	61.36	JAN 29	61.20	FEB 27	59.80	MAR 30	59.02
APR 26	58.40	MAY 31	56.62	JUL 2	57.44	JUL 31	58.30	AUG 30	59.31	SEP 26	59.52

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 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	91.33	NOV 17	91.28	JAN 22	91.28	MAR 12	91.66	APR 20	91.75	JUN 7	91.58
JUL 19	91.80										

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 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	22.23	NOV 29	22.26	DEC 26	22.10	JAN 26	22.08	FEB 26	21.29	MAR 29	20.15
APR 24	19.85	MAY 30	19.27	JUN 28	18.61	JUL 31	20.00	AUG 30	21.27	SEP 26	21.80

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 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	36.17	NOV 29	35.45	DEC 26	37.08	JAN 26	35.22	FEB 26	30.80	MAR 29	31.25
APR 24	31.73	MAY 30	28.01	JUN 28	30.52	JUL 31	32.70	AUG 30	34.89	SEP 26	36.36

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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)
AUG 16...	192	6.5	18.0	67	14	7.7	8.5	21	0.5	0.80

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 16...	100	2.7	3.9	<0.10	9.8	95	104	<1	59

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 16...	<1.0	<1	<50	<10	3000	<1	25	<0.1	<3

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 13...	446.00	137	6.4	17.5	59	13	6.5	8.2	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 13...	0.80	74	2.9	3.9	<0.10	14	82	93	<1	43

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 13...	<1.0	<1	<50	<10	250	<1	6	<0.1	4

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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 13...	370.00	122	6.3	17.0	51	12	5.1	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 13...	1.0	74	2.1	4.2	<0.10	13	77	87	<1	65

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 13...	1.0	<1	<50	<10	660	<1	17	<0.1	3

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 14...	278	85	6.1	17.5	29	6.8	3.0	8.4	38	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 14...	0.60	49	4.3	4.7	<0.10	14	60	66	<1	21

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 14...	<1.0	<1	<50	<10	150	<1	8	<0.1	3

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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 14...	85	6.3	19.0	34	8.6	3.0	3.6	19	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 14...	47	3.0	2.0	<0.10	10	38	54	<1	14

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 14...	<1.0	<1	<50	<10	170	1	4	<0.1	4

350507089482401 - SH:L-90-GERMANTOWN 7

DATE	DEPTH OF WELL, TOTAL (FEET)	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	POTASSIUM, DISSOLVED (MG/L AS K)
AUG 20...	304.00	360	73	6.1	17.5	22	5.5	2.0	6.5	38	0.6	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)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)
AUG 20...	32	1.9	5.3	<0.10	13	45	53	0.100	0.010	0.010	<0.20	<0.010

DATE	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	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)
AUG 20...	<0.010	<0.010	10	<1	18	<0.5	<1.0	<1	<3	2	5	1

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

SHELBY COUNTY--Continued

350507089482401 - SH:L-90-GERMANTOWN 7--Continued

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)	XYLENE TOTAL WATER WHOLE TOT REC (UG/L)	DI-CHLORO-BROMO-METHANE TOTAL (UG/L)
AUG 20...	<4	<1	<0.1	<10	1	<1	<1.0	14	<6	<3	<0.2	<0.20

DATE	CARBON-TETRA-CHLO-RIDE TOTAL (UG/L)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L)	BROMO-FORM TOTAL (UG/L)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L)	CHLORO-FORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLORO-BENZENE TOTAL (UG/L)	CHLORO-ETHANE TOTAL (UG/L)	ETHYL-BENZENE TOTAL (UG/L)	METHYL-BROMIDE TOTAL (UG/L)
AUG 20...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

DATE	METHYL-CHLO-RIDE TOTAL (UG/L)	METHYL-ENE CHLO-RIDE TOTAL (UG/L)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L)	TRI-CHLORO-FLUORO-METHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L)	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2,2 TETRA-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-CHLORO-BENZENE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)
AUG 20...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

DATE	1,2-TRANSDI CHLORO-ETHENE TOTAL (UG/L)	1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	1,3-DI-CHLORO-BENZENE TOTAL (UG/L)	1,4-DI-CHLORO-BENZENE TOTAL (UG/L)	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)	STYRENE TOTAL (UG/L)
AUG 20...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2

350449089480501 - SH:L-92-GERMANTOWN 9

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	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
AUG 20...	309.00	380	64	6.0	17.0	18	4.5	1.6	6.6	44	0.7	0.40

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)	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 N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
AUG 20...	27	1.5	5.0	<0.10	12	41	48	0.100	<0.010	<0.010	<0.20	<0.010

DATE	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	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)
AUG 20...	<0.010	<0.010	20	<1	14	<0.5	<1.0	<1	<3	3	3	2

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

SHELBY COUNTY--Continued

350449089480501 - SH:L-92-GERMANTOWN 9--Continued

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)	XYLENE TOTAL WATER WHOLE TOT REC (UG/L)	DI-CHLORO-BROMO-METHANE TOTAL (UG/L)
AUG 20...	<4	<1	<0.1	<10	1	<1	<1.0	12	<6	4	<0.2	<0.20

DATE	CARBON-TETRA-CHLO-RIDE TOTAL (UG/L)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L)	BROMO-FORM TOTAL (UG/L)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L)	CHLORO-FORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLORO-BENZENE TOTAL (UG/L)	CHLORO-ETHANE TOTAL (UG/L)	ETHYL-BENZENE TOTAL (UG/L)	METHYL-BROMIDE TOTAL (UG/L)
AUG 20...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

DATE	METHYL-CHLO-RIDE TOTAL (UG/L)	METHYL-ENE CHLO-RIDE TOTAL (UG/L)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L)	TRI-CHLORO-FLUORO-METHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L)	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2,2 TETRA-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-CHLORO-BENZENE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)
AUG 20...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

DATE	1,2-TRANSDI CHLORO-ETHENE TOTAL (UG/L)	1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	1,3-DI-CHLORO-BENZENE TOTAL (UG/L)	1,4-DI-CHLORO-BENZENE TOTAL (UG/L)	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)	STYRENE TOTAL (UG/L)
AUG 20...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2

350917090012000 - SH:O-231 MLGW-MALLORY

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 16...	518.00	140	6.3	17.5	53	12	5.7	8.3	25	0.5

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 16...	0.80	76	2.7	3.2	<0.10	15	79	89	<1	60

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 16...	<1.0	<1	<50	<10	790	<1	16	<0.1	8

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

SHELBY COUNTY--Continued

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 15...	460.00	301	123	6.4	17.5	49	12	4.7	5.6	19

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 15...	0.3	1.2	60	3.3	2.7	<0.10	10	68	75	<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 15...	79	<1.0	<1	<50	<10	1500	<1	30	<0.1	<3

351109089512901 - SH:Q-40

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 17...	124	6.2	17.0	42	9.8	4.2	8.7	31	0.6	0.90

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 17...	51	7.2	6.6	<0.10	12	72	78	<1	63

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 17...	<1.0	<1	<50	<10	1400	<1	27	<0.1	8

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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 17...	315	50	6.0	18.0	17	4.3	1.5	3.8	32	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 17...	0.40	38	1.2	2.4	<0.10	10	16	37	<1	9

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 17...	<1.0	<1	<50	<10	30	<1	2	<0.1	7

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 15...	551.00	301	6.6	18.0	140	30	15	9.6	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 15...	2.1	184	2.3	4.2	<0.10	9.2	147	169	<1	340

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 15...	1.0	<1	<50	<10	5500	<1	130	<0.1	<3

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.

PRECIPITATION QUALITY, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	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				
04-11	2244	0.01	--	--
11-18	2140	0.22	26.9	4.35
18-25	2102	0.68	19.2	4.48
OCT 25-				
NOV 01	2208	0.59	14.7	4.58
01-08	2245	0.73	15.6	4.87
08-15	2214	0.54	12.8	4.64
15-22	2223	5.98	11.7	4.66
22-29	2214	2.94	9.7	4.79
NOV 29-				
DEC 06	2220	0.0	--	--
06-13	2200	0.15	31.3	4.19
13-20	2207	0.0	--	--
20-27	2008	3.70	9.3	4.84
DEC 27 1988-				
JAN 03 1989	1552	2.61	12.7	4.64
03-10	2213	1.39	16.7	4.52
10-17	2208	5.61	6.8	4.78
17-24	1312	--	--	--
24-31	2208	1.17	15.2	4.54
JAN 31-				
FEB 07	2209	1.01	13.2	4.55
07-14	1700	3.88	9.1	4.73
14-21	2210	4.02	19.0	4.38
21-28	2208	0.73	23.0	4.32
FEB 28-				
MAR 07	2224	2.11	22.0	4.39
07-14	2214	--	--	--
14-21	1325	1.40	21.8	4.47
21-28	2205	0.23	19.0	4.54
MAR 28-				
APR 04	2217	3.73	11.0	4.78
APR				
04-11	2111	0.27	20.1	4.71
11-18	2132	0.18	34.6	4.20
18-25	2125	0.02	--	--
APR 25-				
MAY 02	2126	0.04	--	--
02-09	2203	0.71	15.3	4.72
09-16	2116	0.60	15.5	4.68
16-23	2100	1.47	21.9	4.45
23-30	1200	0.27	28.4	4.46
MAY 30-				
JUN 06	2051	1.22	9.8	4.92
06-13	1424	2.45	11.2	4.79
13-20	1345	1.67	18.7	4.50
20-27	1314	0.34	82.6	3.78
JUN 27-				
JUL 04	1507	4.53	6.0	4.96
04-11	1642	1.02	23.3	4.35
11-18	1439	0.76	21.8	4.41
18-25	1220	1.22	8.1	4.84
JUL 25-				
AUG 01	1315	--	--	--
01-08	1425	--	--	--
08-15	1418	--	--	--
15-22	2227	--	--	--
22-29	2141	0.16	36.7	4.16
AUG 29-				
SEP 05	2200	0.66	30.6	4.23
05-12	2133	1.02	10.1	4.74
12-19	2210	1.29	12.8	4.62
19-26	2200	0.14	69.3	3.88
SEP 26-				
OCT 03	2128	2.96	4.6	4.88

00441400 HATCHIE NATIONAL WILDLIFE REFUGE RAIN GAGE AT HILLVILLE, TN--Continued
(NATIONAL TRENDS NETWORK)

PRECIPITATION QUALITY, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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-PHORUS ORTHO ATM DEP WET DIS AS PO4 (MG/L)
OCT 04-11	0.610	0.078	0.659	0.039	6.44	0.54	0.85	<0.160	0.620
OCT 11-18	0.180	0.048	0.293	0.032	2.78	0.42	1.64	0.360	0.040
OCT 18-25	0.200	0.022	0.088	0.022	1.70	0.18	1.38	<0.020	<0.020
OCT 25-NOV 01	0.080	0.017	0.075	0.012	1.37	0.13	0.81	0.240	<0.020
NOV 01-08	0.630	0.076	0.364	0.054	2.13	0.59	1.85	0.400	<0.020
NOV 08-15	0.140	0.029	0.176	0.021	1.37	0.27	0.82	0.080	<0.020
NOV 15-22	0.060	0.021	0.154	0.014	1.09	0.27	0.46	0.070	<0.020
NOV 22-29	0.090	0.024	0.161	0.016	0.96	0.28	0.09	<0.020	<0.020
NOV 29-DEC 06	--	--	--	--	--	--	--	--	--
DEC 06-13	0.270	0.024	0.050	0.007	2.35	0.12	2.76	0.220	0.060
DEC 13-20	--	--	--	--	--	--	--	--	--
DEC 20-27	0.060	0.024	0.188	0.032	0.97	0.32	0.54	0.090	<0.020
DEC 27 1988-JAN 03 1989	0.040	0.021	0.160	0.008	1.21	0.24	0.48	0.070	<0.020
JAN 03-10	0.150	0.027	0.193	0.023	1.72	0.30	0.72	0.210	<0.020
JAN 10-17	0.030	0.005	0.028	<0.003	0.58	0.05	0.28	<0.020	<0.020
JAN 17-24	<0.230	<0.078	0.780	<0.078	2.60	1.04	<0.78	<0.520	<0.520
JAN 24-31	0.060	0.016	0.108	0.011	1.28	0.19	0.71	0.040	<0.020
JAN 31-FEB 07	0.020	0.009	0.098	<0.003	1.09	0.15	0.55	0.170	<0.020
FEB 07-14	0.040	0.016	0.127	0.008	0.75	0.20	<0.03	0.020	<0.020
FEB 14-21	0.050	0.016	0.137	<0.003	1.88	0.24	0.70	0.070	<0.020
FEB 21-28	0.070	0.009	0.063	0.006	2.12	0.10	1.19	0.230	<0.020
FEB 28-MAR 07	0.240	0.030	0.159	0.049	2.38	0.28	0.85	0.190	<0.020
MAR 07-14	0.010	<0.003	0.024	<0.003	0.04	0.04	0.27	0.020	<0.020
MAR 14-21	0.230	0.048	0.294	0.028	2.38	0.47	1.70	0.600	<0.020
MAR 21-28	0.210	0.043	0.303	0.088	1.67	0.38	1.21	0.340	<0.020
MAR 28-APR 04	0.140	0.030	0.150	0.078	1.24	0.23	0.84	0.200	<0.020
APR 04-11	0.520	0.047	0.150	0.137	2.19	0.15	2.89	0.890	<0.020
APR 11-18	0.110	0.016	0.108	0.023	3.72	0.09	1.46	0.280	0.030
APR 18-25	0.610	0.112	0.730	0.216	5.26	0.41	3.99	0.760	<0.020

00441400 HATCHIE NATIONAL WILDLIFE REFUGE RAIN GAGE AT HILLVILLE, TN--Continued
(NATIONAL TRENDS NETWORK)

PRECIPITATION QUALITY, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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-PHORUS ORTHO ATM DEP WET DIS AS PO4 (MG/L)
APR 25-MAY 02	0.360	0.062	0.638	0.090	2.33	0.46	4.00	0.480	<0.020
MAY 02-09	0.250	0.044	0.097	0.026	1.53	0.16	1.77	0.190	<0.020
MAY 09-16	0.240	0.038	0.157	0.036	1.96	0.25	1.18	0.480	<0.020
MAY 16-23	0.240	0.059	0.222	0.063	2.21	0.31	1.78	0.430	<0.020
MAY 23-30	0.430	0.136	0.875	0.101	2.91	1.39	2.01	0.430	<0.020
MAY 30-JUN 06	0.080	0.016	0.095	0.025	0.92	0.17	1.08	0.410	<0.020
JUN 06-13	0.080	0.020	0.146	0.019	1.05	0.24	0.78	0.280	<0.020
JUN 13-20	0.170	0.021	0.064	0.026	1.72	0.15	1.48	0.310	<0.020
JUN 20-27	0.280	0.041	0.096	0.067	7.42	0.29	3.80	0.640	<0.020
JUN 27-JUL 04	0.010	0.007	0.021	0.011	0.51	0.06	0.28	0.070	<0.020
JUL 04-11	0.060	0.010	0.038	0.015	2.13	0.11	1.08	0.210	<0.020
JUL 11-18	0.180	0.042	0.162	0.023	2.02	0.30	1.56	0.200	<0.020
JUL 18-25	0.030	0.007	0.018	0.007	0.66	0.06	0.52	0.090	<0.020
JUL 25-AUG 01	--	--	--	--	--	--	--	--	--
AUG 01-08	0.010	0.004	0.034	<0.003	0.06	0.07	0.08	0.120	<0.020
AUG 08-15	0.040	<0.003	0.028	<0.003	0.08	0.07	0.13	0.050	<0.020
AUG 15-22	--	--	--	--	--	--	--	--	--
AUG 22-29	0.230	0.040	0.124	0.082	2.90	0.23	2.82	0.240	0.090
AUG 29-SEP 05	0.230	0.025	0.074	0.034	2.62	0.13	1.93	0.230	0.050
SEP 05-12	0.040	0.011	0.040	0.022	0.92	0.10	0.67	0.210	<0.020
SEP 12-19	0.020	<0.003	0.020	0.007	1.13	0.05	0.58	0.120	<0.020
SEP 19-26	0.360	0.043	0.065	0.038	5.93	0.26	3.79	0.260	0.070
SEP 26-OCT 03	<0.010	<0.003	0.019	<0.003	0.33	0.04	0.27	0.020	<0.020

00441400 HATCHIE NATIONAL WILDLIFE REFUGE RAIN GAGE AT HILLVILLE, TN--Continued
(NATIONAL TRENDS NETWORK)

PRECIPITATION QUALITY, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	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				
03-10	2220	--	--	--
10-17	2129	2.03	6.7	4.91
17-24	2154	0.25	31.3	4.24
24-31	2242	0.08	38.6	4.23
OCT 31-				
NOV 07	2213	1.18	20.9	4.50
07-14	2212	1.93	12.7	4.76
14-21	2209	0.83	12.3	4.89
21-28	2228	0.96	16.3	4.52
NOV 28-				
DEC 05	2233	0.0	--	--
05-12	2223	0.48	34.8	4.16
12-19	2239	0.18	26.0	4.30
19-26	1553	0.04	--	--
DEC 26 1989-				
JAN 02 1990	1920	2.26	8.1	4.84
02-09	2232	0.83	6.3	4.90
09-16	2231	0.0	--	--
16-23	2245	1.84	18.7	4.55
23-30	2222	2.14	18.6	4.45
JAN 30-				
FEB 06	2239	5.09	6.9	4.95
06-13	2217	1.62	7.3	4.84
13-20	2223	1.84	7.6	4.93
20-27	2210	0.53	17.3	4.47
FEB 27-				
MAR 06	2208	0.27	56.1	4.00
06-13	2214	2.97	--	4.54
13-20	2226	1.01	--	5.07
20-27	2219	0.19	--	4.05
MAR 27-				
APR 03	2156	1.05	--	4.25
03-10	2103	0.84	--	4.71
10-17	1710	1.72	21.1	4.38
17-24	2104	1.85	17.0	4.65
APR 24-				
MAY 01	1740	2.84	9.4	4.85
01-08	2048	0.93	21.0	4.51
08-15	2110	0.36	13.3	4.86
15-22	1145	2.99	3.6	4.95
22-29	2208	0.03	--	--
MAY 29-				
JUN 05	1333	1.23	4.4	5.07
05-12	1524	0.20	20.8	4.43
12-19	1156	0.84	22.6	4.44
19-26	1253	1.56	24.0	4.40
JUN 26-				
JUL 03	1621	0.0	--	--
03-10	1136	0.09	61.4	3.95
10-17	1840	2.74	21.4	4.42
AUG				
21-28	2120	--	--	--
AUG 28-				
SEP 04	2153	--	--	--
04-11	2124	--	47.2	4.08
11-18	2116	--	64.8	3.95
18-25	2120	0.85	15.7	4.56
SEP 25-				
OCT 02	2150	--	--	--

00441400 HATCHIE NATIONAL WILDLIFE REFUGE RAIN GAGE AT HILLVILLE, TN--Continued
(NATIONAL TRENDS NETWORK)

PRECIPITATION QUALITY, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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-PHORUS ORTHO ATM DEP WET DIS AS PO4 (MG/L)
OCT 03-10	0.730	0.085	0.244	0.053	4.35	0.64	2.23	<0.210	<0.210
OCT 10-17	0.010	0.006	0.058	0.003	0.67	0.19	0.39	0.100	<0.020
OCT 17-24	0.090	0.018	0.059	0.019	3.09	0.13	1.66	0.410	<0.020
OCT 24-31	0.220	0.049	0.246	0.081	2.82	0.31	3.26	0.750	0.090
OCT 31-NOV 07	0.130	0.030	0.186	0.026	1.96	0.29	1.10	0.400	<0.020
NOV 07-14	0.100	0.016	0.121	0.015	1.31	0.18	0.86	0.330	<0.020
NOV 14-21	0.320	0.048	0.180	0.030	1.64	0.27	1.19	0.360	<0.020
NOV 21-28	0.060	0.013	0.057	0.008	1.65	0.10	0.73	0.150	<0.020
NOV 28-DEC 05	--	--	--	--	--	--	--	--	--
DEC 05-12	0.160	0.027	0.100	0.018	2.67	0.14	2.45	0.360	<0.020
DEC 12-19	0.060	0.012	0.041	0.004	2.08	0.10	1.63	0.100	<0.020
DEC 19-26	--	--	--	--	--	--	--	--	--
DEC 26 1989-JAN 02 1990	0.020	0.008	0.062	0.010	0.58	0.11	0.37	0.100	<0.020
JAN 02-09	0.010	0.004	0.026	0.004	0.39	0.08	0.23	0.030	<0.020
JAN 09-16	--	--	--	--	--	--	--	--	--
JAN 16-23	0.050	0.057	0.473	0.026	1.41	0.84	0.73	0.130	<0.020
JAN 23-30	0.060	0.031	0.224	0.017	1.35	0.35	0.87	0.120	<0.020
JAN 30-FEB 06	0.030	0.011	0.068	0.008	0.48	0.12	0.30	0.090	<0.020
FEB 06-13	0.030	0.004	0.052	0.006	0.60	0.09	0.46	0.140	<0.020
FEB 13-20	0.040	0.014	0.113	0.015	0.57	0.17	0.32	0.090	<0.020
FEB 20-27	0.050	0.018	0.092	0.012	1.36	0.15	0.71	0.080	<0.020
FEB 27-MAR 06	0.150	0.075	0.499	0.038	4.04	0.72	3.60	0.610	<0.020
MAR 06-13	0.070	0.038	0.301	0.023	1.46	0.51	1.01	0.170	<0.020
MAR 13-20	0.180	0.019	0.098	0.021	0.52	0.15	0.55	0.100	<0.020
MAR 20-27	0.290	0.042	0.143	0.037	4.41	0.29	2.10	0.460	<0.020
MAR 27-APR 03	0.050	0.020	0.110	0.037	3.00	0.19	1.46	0.450	<0.020
APR 03-10	0.160	0.029	0.055	0.034	1.23	0.12	1.03	0.250	<0.020
APR 10-17	0.050	0.009	0.037	0.010	1.55	0.09	1.35	0.260	<0.020
APR 17-24	0.070	0.028	0.189	0.036	1.92	0.20	0.99	0.430	<0.020

00441400 HATCHIE NATIONAL WILDLIFE REFUGE RAIN GAGE AT HILLVILLE, TN--Continued
(NATIONAL TRENDS NETWORK)

PRECIPITATION QUALITY, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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-PHORUS ORTHO ATM DEP WET DIS AS PO4 (MG/L)
APR 24-MAY 01	0.050	0.017	0.108	0.013	0.79	0.15	0.52	0.120	<0.020
MAY 01-08	0.110	0.030	0.197	0.037	2.14	0.29	1.31	0.380	<0.020
MAY 08-15	0.340	0.043	0.063	0.088	1.44	0.16	1.42	0.320	<0.020
MAY 15-22	0.080	0.016	0.110	0.032	0.74	0.19	0.66	0.240	<0.020
MAY 22-29	0.550	0.067	0.275	0.090	1.17	0.51	3.64	0.050	0.110
MAY 29-JUN 05	0.130	0.043	0.300	0.035	0.95	0.43	0.55	0.250	<0.020
JUN 05-12	0.160	0.035	0.150	0.036	0.95	0.25	2.26	0.160	<0.020
JUN 12-19	0.120	0.024	0.112	0.065	1.73	0.21	1.83	0.360	<0.020
JUN 19-26	0.130	0.021	0.066	0.063	2.05	0.14	1.64	0.370	<0.020
JUN 26-JUL 03	--	--	--	--	--	--	--	--	--
JUL 03-10	0.430	0.061	0.207	0.048	4.12	0.37	4.78	0.350	<0.020
JUL 10-17	0.110	0.017	0.065	0.012	1.62	0.16	1.48	0.250	<0.020
AUG 21-28	<0.010	<0.003	0.004	0.003	0.10	0.03	0.22	0.030	0.080
AUG 28-SEP 04	0.020	<0.003	0.008	0.008	0.04	0.07	0.17	0.040	0.070
SEP 04-11	0.200	0.032	0.071	0.045	4.38	0.15	2.24	0.500	<0.020
SEP 11-18	0.230	0.027	0.089	0.035	6.32	0.26	2.63	0.730	<0.020
SEP 18-25	0.090	0.015	0.036	0.021	1.29	0.11	0.89	0.180	<0.020
SEP 25-OCT 02	0.020	0.003	0.005	0.005	<0.03	<0.03	0.06	<0.020	<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 near 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 Dam 3, near Old Hickory	11,688	USGS	1931-42, 1947-53
03426800	East Fork Stones River at Woodbury	39.1	USGS	1932-33, 1950, 1954, 1962-89
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

DISCONTINUED STREAMFLOW STATIONS--Continued

Station number	Station name	Drainage area (mi^2)	Agency	Period of record
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
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
03487550	Reedy Creek at Orebank	36.3	USGS	1963-89
03487640	South Fork Holston River near Ridgefields Bridge, at Kingsport	2,047	TVA	1968-69

DISCONTINUED STREAMFLOW STATIONS--Continued

Station number	Station name	Drainage area (mi^2)	Agency	Period of record
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
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
03537300	Melton Branch Tributary (West Seven) near Oak Ridge	0.15	USGS	1987-89
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
035382677	Bear Creek Tributary near Wheat	0.14	USGS	1986-89
03538272	Bear Creek Trib. at Highway 95 near Wheat	0.14	USGS	1986-89
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

DISCONTINUED STREAMFLOW STATIONS--Continued

Station number	Station name	Drainage area (mi^2)	Agency	Period of record
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
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
03566420	Wolftever Creek near Ooltewah	18.8	USGS	1964-89
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

DISCONTINUED STREAMFLOW STATIONS--Continued

Station number	Station name	Drainage area (mi^2)	Agency	Period of record
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
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

DISCONTINUED STREAMFLOW STATIONS--Continued

Station number	Station name	Drainage area (mi^2)	Agency	Period of record
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
03600500	Big Bigby Creek at Sandy Hook	17.5	USGS	1953-87, 1988-89
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
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
07024300	Beaver Creek at Huntingdon	55.5	USGS	1946,1948, 1952-54, 1958-88
07024500	South Fork Obion River near Greenfield	383	USGS	1929-89
07025000	Rutherford Fork Obion River near Bradford	201	USGS	1929-57
07025500	North Fork Obion River near Union City	480	USGS	1929-71
07026310	North Reelfoot Creek at State Hwy. 22 near Clayton	56.3	USGS	1980-83, 1984-89
07026400	South Reelfoot Creek near Clayton	36.6	USGS	1984-89
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
07026370	N. Reelfoot Creek at State Hwy 22 near Clayton	56.3	USGS	1983-89	C,S
07026400	South Reelfoot Creek near Clayton	38.6	USGS	1984-89	C,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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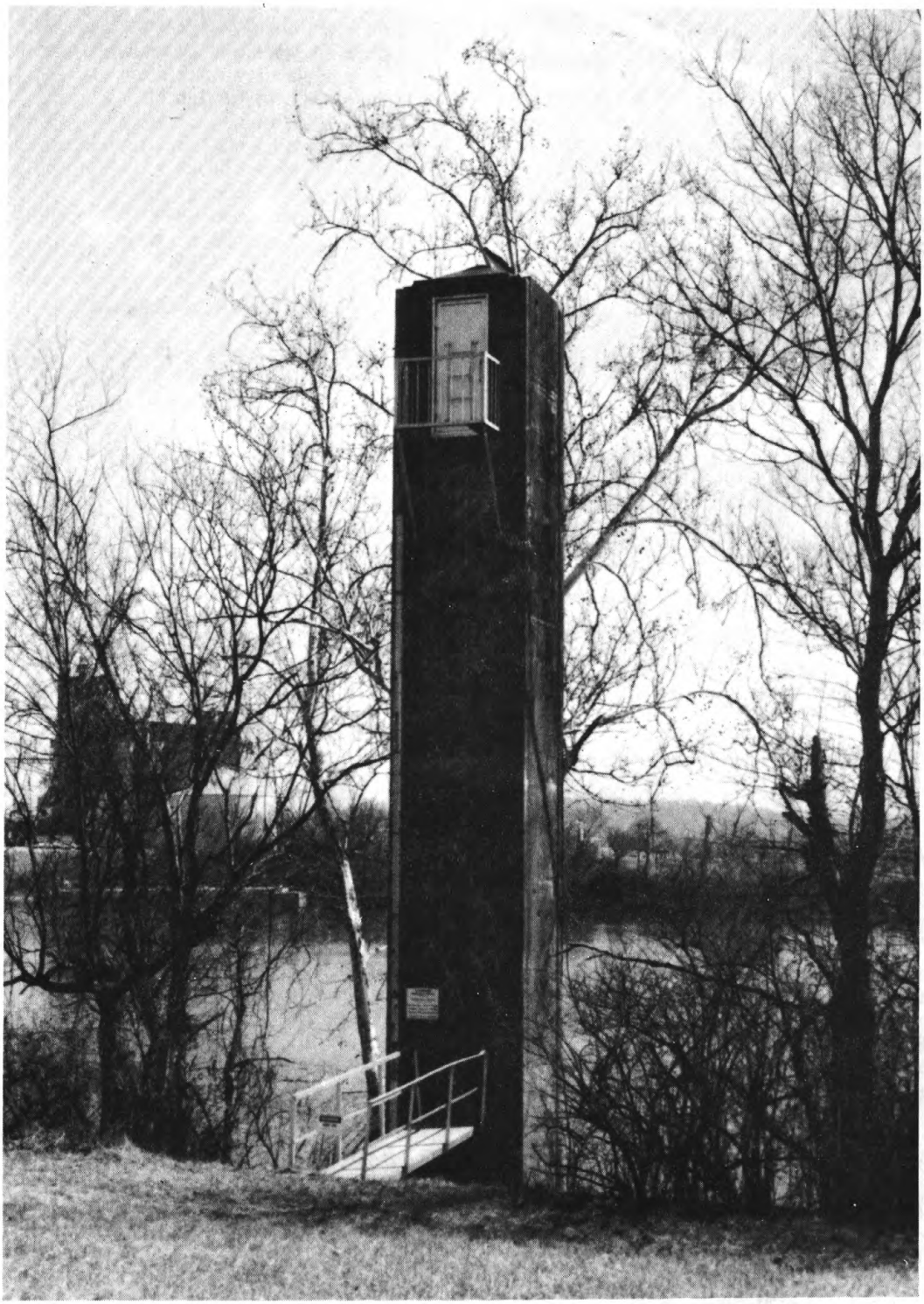

GAGING STATION TENNESSEE RIVER AT CHATTANOOGA,
period of record 1874 to present.

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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