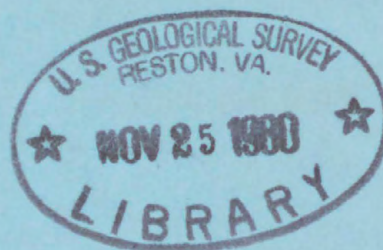


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Water Resources Data for Missouri



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MO-79-1
WATER YEAR 1979

Prepared in cooperation with the Missouri Department of Natural Resources, Division of Geology and Land Survey and Division of Environmental Quality; Missouri State Highway Commission; and with other State and Federal agencies

CALENDAR FOR WATER YEAR 1976

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WATER YEAR 1979

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UNITED STATES DEPARTMENT OF THE INTERI

CECIL D. ANDRUS, Secretary

GEOLOGICAL SURVEY

H. William Menard, Director

For information on the water program in Missouri write to
District Chief, Water Resources Division
U.S. Geological Survey
Rolla Center - Mailstop 200
1400 Independence Road
Rolla, Missouri 65401

PREFACE

This report was prepared by the personnel of the Missouri district of the Water Resources Division of the U.S. Geological Survey under the supervision of Donald L. Coffin, District Chief, and Alfred Clebsh, Jr., Regional Hydrologist, Central Region. It was done in cooperation with the State of Missouri and with other agencies.

This report is one of a series issued by Missouri. General direction for the series is by Philip Cohen, Jr., Chief Hydrologist, U.S. Geological Survey, and Robert J. Dingman, Assistant Chief Hydrologist for Scientific Publications and Data Management.

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(Letter after station name designates type of data: (d) discharge, (c) chemical,
(b) biological, (m) microbiological, (t) water temperature, and (s) sediment)

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INTRODUCTION

Water resources data for the 1979 water year for Missouri consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of ground-water wells. This volume contains records for water discharge at 119 gaging stations; stage only at 3 gaging stations; stage and contents at 6 lakes and reservoirs; water quality at 32 gaging stations (including 1 lake) and 3 wells. Also included are data for 114 crest-stage, and 11 water-quality partial-record stations. This data represents that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State, local, and Federal agencies in Missouri.

Records of discharge and stage of streams, and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled, "Surface Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled, "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled, "Ground Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from the Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, VA 22202.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. 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, water data for streamflow, water quality, and ground water are published in official Survey reports on a State-boundary basis. These official Survey reports carry 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 MO-79-1". For archiving and general distribution, the reports for water years 1971-74 are also 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 (319) 337-4191.

COOPERATION

The U.S. Geological Survey and organizations of the State of Missouri have had cooperative agreements for the systematic collection of streamflow records since 1921, and for water-quality records since 1964. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

Missouri Department of Natural Resources,
Fred Lafser, director.

Division of Geology and Land Survey,
Dr. Wallace B. Howe, director.

Division of Environmental Quality,
James P. Odendahl, director.

Missouri State Highway and Transportation Commission
Robert N. Hunter, Chief Engineer.

City of Springfield, Sanitation Division,
Robert R. Schaeffer.

The following Federal agencies assisted in collection of records published in this report by furnishing funds or services:

Corps of Engineers, U.S. Army, in collecting records for
77 gaging stations and 3 water-quality stations.

Assistance was also furnished by NOAA, National Weather Service,
U.S. Department of Commerce.

WATER RESOURCES DATA FOR MISSOURI, 1979

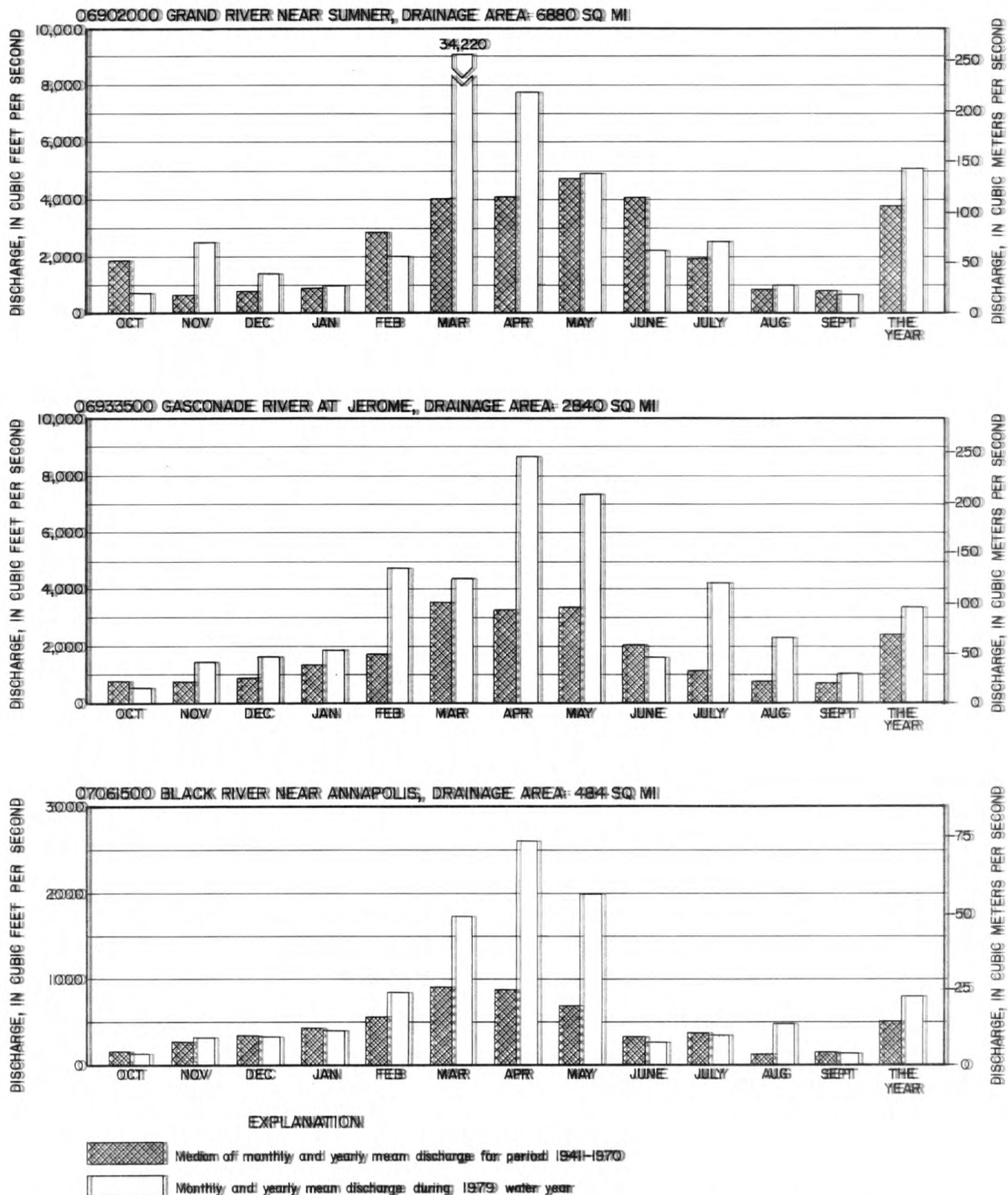


FIGURE 1.--DISCHARGE DURING 1979 WATER YEAR COMPARED WITH MEDIAN DISCHARGE FOR PERIOD 1941-70 FOR THREE REPRESENTATIVE GAGING STATIONS.

The following organizations aided in collecting records:

City of Kansas City; Union Electric Company of Missouri;
Missouri Conservation Commission; Missouri Park Board;
City of Springfield Utilities.

ACKNOWLEDGMENT

Missouri district personnel who contributed significantly to the collection and preparation of the data in this report were: M. E. Janson, chief, data section, assisted by J. G. Alexander, P. W. Cross, D. O. Hatten, and D. W. Spencer.

HYDROLOGIC CONDITIONS

Streamflow for the water year throughout the state was 20 to 50 percent greater than the average. As shown by figure 1 for three representative gaging stations streamflow was near average in October but generally from November through August it varied from near average to 500 percent above average due to a wet, severely cold winter and a cool, wet spring and early summer. Again in September precipitation was below normal so streamflow returned to average by the end of the year.

In March snow melt runoff from a heavy snowpack and above normal rainfall produced floods with recurrence intervals of about 2 years in basins north of the Missouri River. Intense rains of short duration on April 11 produced floods on most streams in central Missouri. Some of the highest crests during period of record were recorded at Hinkson Creek at Columbia, Osage Fork Gasconade River at Drynob, Bourbeuse River near St. James and near High Gate, and at several crest-stage partial record sites. Localized heavy showers on July 28 produced the highest peak discharge since before 1950 on Beaver Creek near Rolla and also caused a flood on Alley Spring Branch, a tributary to Jacks Fork, that was almost as great as the one on April 11. The recurrence intervals of the April and July floods varied from 10 to 50 years.

Streams were near the 7 day 2 year recurrence low-flow interval early in the water year and about September 30 but were higher at all other times.

Water-quality data indicated no unusual changes have taken place this year.

DEFINITION OF TERMS

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

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

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.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, 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 $44.5^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$ 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 $35^{\circ}\text{C} \pm 1.0^{\circ}\text{C}$ on M-enterococcus 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.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass, and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grind or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (ml) or liters (l).

Cfs-day is the volume of water represented by 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 2,447 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

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 foot per second (FT³/s, ft³/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 feet per second per square mile (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.

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 refers to the amount of substance present in true chemical solution. In practice, however, the term includes all forms of substance that will pass through a 0.45-micrometer membrane filter, and thus may include some very small (colloidal) suspended particles. Analysis are performed on filtered samples.

Diversity index is a mathematical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = - \sum_{i=1}^s \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

Where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific 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 river above the specified point. Figures of drainage area given herein include all closed basins, or noncontribution areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by 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 interchangeably with the more 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 carbonate (CaCO₃).

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 8-digit number.

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

Micrograms per liter (UG/L, mg/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 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.

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meters (m^2), acres, or hectares. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliters (mL) or liters (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

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 recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology.

The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay.....	0.00024 - 0.004	Sedimentation.
Silt.....	.004 - .062	Sedimentation.
Sand.....	.062 - 2.	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 material 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 plants and animals. 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^{12} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column, and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

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.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Runoff in inches (IN, in) shows the depth to which the drainage area would be covered if all the 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 characteristic, 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 weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge times mg/L times 0.0027.

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

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

Mean concentration is the time weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks 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 micromhos 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 micromhos). 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 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.

Substrate is the physical surface upon which an organism lives.

Natural substrates refers to any naturally occurring emerged or submersed solid surface, such as a rock or tree, upon which an organism lived.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multi-plate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is that part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of the total concentration in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) that material retained on a .45 micrometer filter.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata is the following:

Kingdom.....	Animal
Phylum.....	Arthropoda
Class.....	Insects
Order.....	Ephemeroptera
Family.....	Ephemeridae
Genus.....	Hexagenia
Species.....	Hexagenia limbata

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the presence of a thermograph or a digital mechanism that automatically records water temperatures on paper tape.

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 water 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 in milligrams per liter by 0.00136.

Tons per day is the quantity of substance in solution or suspension that passes a stream section during a 24-hour day.

Total (as used in tables of chemical analyses) refers to the amount of a substance that is present both in solution and in suspension. Analyses are performed on representative samples of water-suspended sediment mixtures.

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the mg/l of the constituent, times the factor 0.0027, times the number of days.

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 individual 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.

DOWNSTREAM ORDER AND STATION NUMBER

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 main-stream station are listed before that station. A station on a tributary that enters between two main-stream 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 on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indentation in a list of stations in the front of the report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, 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 8-digit number for each station such as 06909000, which appears just to the left of the station name, includes the 2-digit part number "06" plus the 6-digit downstream order number "909000".

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The 8-digit downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well and miscellaneous site 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 or miscellaneous sites 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 or other sites within a 1-second grid. See figure 2 below.

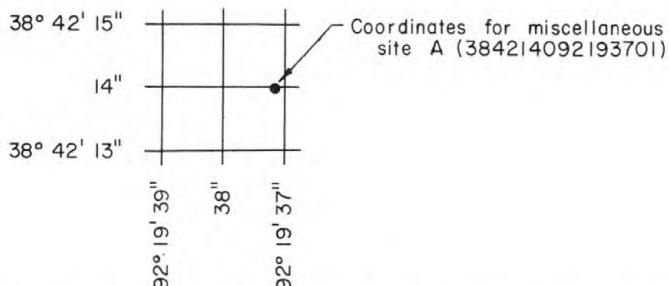


Figure 2. System for numbering wells and miscellaneous sites (latitude and longitude).

SPECIAL NETWORKS AND PROGRAMS

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 STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from either direct readings on nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharge are computed from the daily figures. 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 by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by the 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.

At some stream-gaging stations the stage-discharge relation is affected by ice in the winter and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

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 on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30.

The description of the hydrologic-data station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

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 or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the fact is brought out by notations 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 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 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 revision of the drainage area only are usually not published in the annual series of reports.

The type of gage currently in use, the datum of the present gage referred to National Geodetic Vertical Datum; and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." National Geodetic Vertical Datum is explained in "DEFINITION OF TERMS" on page 5.

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow of the gaging station is given under "REMARKS." For reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the 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 may be 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, if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches. In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-relation, or of any other source, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skelton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but is not published for reservoirs for which only monthly data are given.

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 discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage 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. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

Accuracy of field data and computed results

The accuracy of streamflow data 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 observations of stage, measurements of discharge, and interpretations of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good", within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations.

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 in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile 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

Information of a more detailed nature than that published for most of the gaging stations such as observations of water temperatures, discharge measurements, gage-height records, and rating tables is on file in the district office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the District office.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface water samples for analyses usually are collected at or near gaging stations. The quality-of-

water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, pH, dissolved oxygen, water temperature, sediment discharge, etc.); extremes for the period of daily record; extremes for the current year; and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, date of sampling and/or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

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.

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 and minimum 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 district office.

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 daily, the water temperatures are taken at about the same time each day. Large streams have a small daily 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 and minimum temperatures for each day are published.

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 in predicting long-term sediment-discharge characteristics of the stream.

For the Mississippi River at St. Louis, depth-integrated samples were collected weekly at two or more verticals with the P-61 sampler. Periodically, samples were taken at 10 to 20 verticals in the cross section to define more accurately the average concentration of the cross section. Three times during the year, bed material samples were collected from 15 to 18 verticals.

For some periods, when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, turbidity, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

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

Publication of turbidity was changed to the NTU method this year. Previously, turbidity was published using the JTU method.

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing 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) is on 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, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering 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.
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DES MOINES RIVER BASIN

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO
(National stream-quality accounting network station)

LOCATION.--Lat 40°27'45", long 91°34'00", Clark County, Hydrologic Unit 07100009, at bridge on County Highway B at St. Francisville, and 8 mi (12.9 km) upstream from Sugar Creek.

DRAINAGE AREA.--14,300 mi² (37,000 km²).

PERIOD OF RECORD.--August 1967 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1973 to September 1974, October 1975 to current year.

WATER TEMPERATURES: October 1973 to September 1974, October 1975 to current year.

SUSPENDED SEDIMENT DISCHARGE: April to September 1978.

REMARKS.--Water temperature and specific conductance samples collected daily by observer. Stream frozen Dec. 24 to March 12.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1976-79): Maximum daily, 1,080 micromhos Jan. 25, 1977; minimum daily, 217 micromhos Aug. 10, 1977.

WATER TEMPERATURES (water years 1976-79): Maximum daily, 35.0°C July 6, 1977; minimum 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 815 micromhos Dec. 27; minimum daily, 265 micromhos Sept. 17.

WATER TEMPERATURES: Maximum daily, 31.5°C Aug. 8, minimum daily, 1.0°C on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT												
25...	3300	717	8.6	13.0	11	8.6	81	70	90	340	89	89
NOV												
29...	4300	616	8.3	2.0	22	13.6	99	2500	1900	280	86	72
DEC												
20...	11200	740	8.3	.5	6.8	13.1	91	48	134	350	99	87
JAN												
22...	3400	825	7.9	.5	2.1	5.8	40	330	500	390	200	100
FEB												
13...	4300	850	7.6	.0	18	9.2	63	200	50	390	110	100
MAR												
13...	--	330	7.3	3.0	310	12.0	89	650	6400	200	73	34
APR												
10...	28000	380	7.6	5.5	58	10.0	79	<25	120	170	41	46
MAY												
23...	18700	500	8.2	18.5	19	7.6	80	50	60	260	90	72
JUN												
19...	7480	545	8.0	24.0	18	7.8	92	--	200	290	130	72
JUL												
24...	6600	564	8.1	27.5	11	8.4	105	100	40	280	71	71
AUG												
22...	10500	625	8.4	24.5	100	6.6	79	1200	--	310	84	81
SEP												
18...	11800	610	8.2	20.5	32	8.1	90	120	290	330	87	89

DES MOINES RIVER BASIN

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 25...	29	15	4.2	280	14	79	25	.4	16	470	4190	6.8
NOV 29...	25	15	4.7	240	0	84	21	.3	10	389	4520	5.2
DEC 20...	31	20	4.0	300	0	96	31	.3	12	467	14100	5.4
JAN 22...	34	23	3.8	230	0	130	33	.3	14	550	5050	5.7
FEB 13...	34	24	3.8	336	0	130	30	.3	14	543	6300	5.0
MAR 13...	27	9.0	5.7	150	0	51	11	.2	8.3	217	--	2.3
APR 10...	14	6.8	4.5	160	0	34	15	.3	13	242	18300	6.1
MAY 23...	20	8.3	4.5	210	0	63	27	.4	8.9	361	10200	7.5
JUN 19...	27	11	3.5	200	0	90	29	.4	5.7	365	7370	7.7
JUL 24...	26	11	3.8	255	0	84	25	.4	14	472	8410	7.5
AUG 22...	27	12	3.4	264	8	85	25	.4	20	458	13000	8.1
SEP 18...	27	9.1	4.4	300	0	68	23	.5	21	426	13600	5.9

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 25...	.09	1.4	.87	36	.230	.160	--	--	--	112	998	72
NOV 29...	.01	1.4	.30	29	.200	.110	--	6.2	2.0	494	5740	16
DEC 20...	.20	1.5	1.1	31	.260	.180	5.2	--	--	119	3600	45
JAN 22...	.56	1.4	1.2	31	.250	.240	4.2	--	--	58	532	40
FEB 13...	.59	1.1	1.2	27	.240	.190	--	3.3	.4	--	--	--
MAR 13...	.86	1.7	1.5	18	.190	.100	21	--	--	212	--	94
APR 10...	.49	1.1	1.1	32	.350	.210	8.6	--	--	534	40400	44
MAY 23...	.07	1.8	1.4	41	.140	.110	--	8.1	--	324	16400	34
JUN 19...	.01	.89	.03	38	.120	.060	6.0	--	--	--	--	--
JUL 24...	.04	1.3	.43	39	.170	.080	6.7	--	--	--	--	--
AUG 22...	.00	1.8	1.1	44	.310	.000	--	10	1.0	285	8080	69
SEP 18...	.02	1.0	.99	31	.620	.530	6.9	--	--	182	5800	62

DES MOINES RIVER BASIN

05490600 DES MOINES RIVER AT STL. FRANCISVILLE, MO--Continued

WATER QUALITY DATA, WATER YEAR: OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC		BARIUM		CADMIUM		CHROMIUM		COBALT	
	TOTAL (UG/L AS: AS)	DIS- SOLVED (UG/L AS: AS)	TOTAL RECOV- ERABLE (UG/L AS: BA)	DIS- SOLVED (UG/L AS: BA)	TOTAL RECOV- ERABLE (UG/L AS: CD)	DIS- SOLVED (UG/L AS: CD)	TOTAL RECOV- ERABLE (UG/L AS: CR)	DIS- SOLVED (UG/L AS: CR)	TOTAL RECOV- ERABLE (UG/L AS: CO)	DIS- SOLVED (UG/L AS: CO)
NOV 29	2	1	<100	80	0	2	0	100	2	
FEB 13	2	1	100	100	0	<1	0	0	3	
MAY 23		2	100	100	2	4	100	0	0	
AUG 22	3	3	100	100	1	<1	100	0	2	

DATE	COBALT		COPPER		IRON		LEAD		MANGANESE	
	TOTAL RECOV- ERABLE (UG/L AS: CO)	DIS- SOLVED (UG/L AS: CO)	TOTAL RECOV- ERABLE (UG/L AS: CU)	DIS- SOLVED (UG/L AS: CU)	TOTAL RECOV- ERABLE (UG/L AS: FE)	DIS- SOLVED (UG/L AS: FE)	TOTAL RECOV- ERABLE (UG/L AS: PB)	DIS- SOLVED (UG/L AS: PB)	TOTAL RECOV- ERABLE (UG/L AS: MN)	DIS- SOLVED (UG/L AS: MN)
NOV 29	<3	6	9	1700	1800	5	2	180	200	
FEB 13	<3	4	2	1300	100	5	3	80	60	
MAY 23	0	6	0	1000	200	33	29	1100	0	
AUG 22	<3	100	5	3900	100	12	1	340	6	

DATE	MERCURY		SELENIUM		SILVER		ZINC	
	TOTAL RECOV- ERABLE (UG/L AS: HG)	DIS- SOLVED (UG/L AS: HG)	TOTAL RECOV- ERABLE (UG/L AS: SE)	DIS- SOLVED (UG/L AS: SE)	TOTAL RECOV- ERABLE (UG/L AS: AG)	DIS- SOLVED (UG/L AS: AG)	TOTAL RECOV- ERABLE (UG/L AS: ZN)	DIS- SOLVED (UG/L AS: ZN)
NOV 29	.0	.0	3	2	0	0	100	6
FEB 13	.2	.1	1	1	1	1	200	6
MAY 23	.0	.0	2	2	0	0	100	100
AUG 22	.0	.0	3	3	0	0	200	5

DES MOINES RIVER BASIN

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	PCB, TOTAL (UG/L) (39516)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39519)	ALDRIN, TOTAL (UG/L) (39330)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39333)	CHLOR- DANE, TOTAL (UG/L) (39350)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39351)	DDD, TOTAL (UG/L) (39360)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39363)	DDE, TOTAL (UG/L) (39365)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39368)
NOV 29...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
APR 10...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 23...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 22...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	DDT, TOTAL (UG/L) (39370)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39373)	DI- AZINON, TOTAL (UG/L) (39570)	DI- AZINON, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39571)	DI- ELDRIN, TOTAL (UG/L) (39380)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39383)	ENDRIN, TOTAL (UG/L) (39390)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39393)	ETHION, TOTAL (UG/L) (39398)	ETHION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39399)
NOV 29...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
APR 10...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 23...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 22...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	METHYL PARA- THION, TOTAL (UG/L) (39600)	METHYL PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39601)	METHYL TRI- THION, TOTAL (UG/L) (39790)	METHYL TRI- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39791)	PARA- THION, TOTAL (UG/L) (39540)	PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39541)	TOX- APHENE, TOTAL (UG/L) (39400)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39403)	TRI- THION, TOTAL (UG/L) (39786)	TRI- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39787)
NOV 29...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
APR 10...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 23...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 22...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39413)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	HEPTA- CHLOR EPOXIDE TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39423)	LINDANE TOTAL (UG/L) (39340)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39343)	MALA- THION, TOTAL (UG/L) (39530)	MALA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39531)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METH- OXY- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39481)
NOV 29...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
APR 10...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 23...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 22...	ND	--	ND	--	ND	--	ND	--	ND	--

DES MOINES RIVER BASIN

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	ONCE-DAILY											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	492	650	555			---	320	490	570	520	640	545
2	520	675	565			---	330	485	565	510	660	520
3	580	640	---			---	340	465	580	500	640	550
4	610	650	---			---	335	410	580	560	600	550
5	610	640	---			---	330	420	570	500	610	540
6	620	625	---			---	350	470	570	490	600	545
7	640	580	---			---	365	485	570	570	620	555
8	640	650	---			---	375	490	570	570	625	555
9	650	640	---			---	380	505	560	580	620	570
10	640	625	---			---	380	505	540	480	620	565
11	630	650	---			---	415	450	560	580	615	580
12	620	650	---			310	380	495	560	600	640	585
13	640	625	---			355	395	500	560	560	640	590
14	640	625	---			---	400	500	570	580	600	600
15	620	650	630			---	415	510	570	600	600	600
16	600	640	---			---	425	525	560	580	630	610
17	590	675	---			345	430	542	580	590	620	620
18	570	---	600			335	440	540	560	590	620	625
19	560	---	590			285	440	542	560	580	630	625
20	625	---	555			280	450	550	580	570	670	630
21	580	---	545			295	400	550	580	580	660	640
22	580	---	550			335	410	545	520	600	625	650
23	575	---	565			355	456	540	560	---	480	665
24	575	---	---			355	465	520	560	550	460	675
25	645	---	---			308	470	540	425	490	600	675
26	620	---	---			335	460	540	500	625	580	675
27	650	---	---			335	435	543	560	635	570	670
28	675	---	---			360	460	545	520	610	530	675
29	675	---	---			345	472	565	550	610	580	660
30	640	570	---			265	480	560	430	650	600	660
31	675	---	---			272	---	560	---	630	585	---
MEAN	612	637	573			322	407	512	551	570	605	607

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	ONCE-DAILY											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	14.0	4.0			---	6.0	12.0	20.0	25.0	28.0	25.0
2	19.0	14.0	1.0			---	4.5	14.0	20.0	25.0	28.0	25.0
3	18.0	15.0	---			---	5.0	12.0	22.0	25.0	28.0	26.0
4	16.0	16.0	---			---	5.0	13.0	22.0	24.0	28.5	26.0
5	15.0	15.0	---			---	4.0	14.0	23.0	24.0	29.5	26.0
6	15.0	12.0	---			---	4.0	15.0	23.0	24.0	30.5	25.0
7	15.0	11.0	---			---	4.0	16.0	23.5	24.0	30.5	25.0
8	14.0	11.0	---			---	6.0	17.5	23.0	25.0	31.5	24.0
9	15.0	12.0	---			---	4.0	18.0	22.0	26.0	31.0	24.0
10	15.0	12.0	---			---	5.0	18.0	21.0	25.5	28.5	24.0
11	15.0	11.0	---			---	6.0	16.0	22.0	26.0	27.0	24.5
12	16.0	9.0	---			1.0	7.0	15.0	23.0	26.0	25.0	25.0
13	14.0	13.0	---			1.0	7.0	16.0	24.0	27.5	26.0	24.0
14	13.0	9.0	---			---	7.5	17.0	24.0	27.0	24.0	22.0
15	13.0	7.0	1.0			---	8.0	17.0	24.0	27.0	23.0	22.0
16	12.0	6.0	---			---	8.0	17.0	25.0	28.0	23.0	22.0
17	12.0	6.0	---			3.0	9.0	18.5	24.0	28.0	25.0	22.0
18	12.0	---	2.0			5.0	9.0	19.0	27.0	28.0	27.0	22.0
19	13.0	---	1.0			6.0	9.0	19.0	24.5	27.0	27.0	22.0
20	14.0	---	1.0			6.0	9.5	19.0	25.0	27.0	26.5	22.0
21	15.0	---	1.0			5.0	10.0	19.0	25.5	28.0	27.0	21.0
22	16.0	---	1.0			5.0	10.0	19.0	25.5	28.0	26.0	20.0
23	13.0	---	1.0			7.0	11.0	18.0	23.0	---	25.0	20.0
24	13.0	---	---			3.0	11.0	17.0	28.5	26.0	25.0	20.0
25	13.0	---	---			2.0	12.0	18.0	28.5	27.0	25.0	21.0
26	12.0	---	---			2.0	11.0	17.0	29.5	27.0	25.0	21.0
27	12.0	---	---			2.0	11.0	19.0	29.0	29.0	24.0	21.0
28	11.0	---	---			5.0	11.0	19.0	28.5	29.0	25.0	22.0
29	12.0	---	---			7.0	11.0	21.0	28.0	29.0	25.0	22.0
30	13.0	3.0	---			9.0	11.5	21.5	25.0	27.5	25.0	21.0
31	13.0	---	---			8.0	---	20.5	---	27.5	25.0	---
MEAN	14.0	11.0	1.5			4.5	8.0	17.0	24.5	26.5	26.5	23.0

DES MOINES RIVER BASIN

(05490600) DES MOINES RIVER AT ST. FRANCISVILLE, MO--(Continued)

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 29, 78 1130	MAR 13, 79 1545	MAY 23, 79 1000	JUN 19, 79 1430				
TOTAL CELLS/ML	18000	720	18000	370				
DIVERSITY: DIVISION	11.1	0.5	11.6	1.3				
CLASS	11.1	0.5	11.6	1.3				
ORDER	11.5	1.2	11.9	2.2				
FAMILY	11.9	2.5	2.2	2.4				
GENUS	2.2	2.5	2.5	2.6				
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
CHLOROPHYCEAE								
CHLOROCOCCALES								
CHARACIACEAE								
SCHROEDERIA	--	--	--	--	--	--	--	--
CHLOROCOCCACEAE	--	--	--	--	--	--	--	--
COELASTRACEAE								
COELASTRUM	--	--	--	--	--	--	--	--
HYDRODICTYACEAE								
PEDIASTRUM	--	--	--	--	--	--	--	--
MICRACTINIACEAE								
GOLENKINIA	--	--	--	--	1100	11	--	--
MICRACTINIUM	530	3	--	--	1000	6	--	--
ODCYSTACEAE								
ANKISTRODESMUS	1200	7	--	--	500	3	65#	17
DICTYOSPHAERIUM	530	3	--	--	--	--	--	--
GLOEDACTINIUM	--	--	--	--	--	--	--	--
KIRCHNERIELLA	--	--	--	--	--	--	--	--
ODCYSTIS	270	11	--	--	--	--	--	--
SELENASTRUM	800	4	72	10	--	--	--	--
SCENEDESMACEAE								
CRUCIGENIA	--	--	--	--	--	--	--	--
SCENEDESMUS	530	3	--	--	--	--	--	--
TETRASTRUM	1100	6	--	--	1600	9	--	--
VOLVOCALES								
CHLAMYDOMONADACEAE								
CHLAMYDOMONAS	930	5	--	--	500	3	26	7
CHRYSDOPHYTA								
BACILLARIOPHYCEAE								
CENTRALES								
COSCINODISCEAE								
CYCLOTELLA	11000#	62	140#	20	710	4	90#	24
MELOSTIRA	--	--	--	--	400	2	--	--
STEPHANODISCUS	--	--	--	--	8000#	45	--	--
PENNALES								
ACHNANTHACEAE								
ACHNANTHES	--	--	72	10	--	--	--	--
FRAGILARIACEAE								
ASTERIONELLA	--	--	--	--	--	--	1130#	34
SYNEDRA	--	--	--	--	--	--	13	3
GOMPHONEMATACEAE								
GOMPHONEMA	1130	11	140#	20	--	--	--	--
NAVICULACEAE								
NAVICULA	--	--	140#	20	--	--	--	--
NITZSCHIA	270	11	140#	20	100	1	13	3
CHRYSDOPHYCEAE								
CHRYSDOMONADALES								
CHROMONADACEAE								
CHROMONAS	--	--	--	--	--	--	--	--

DES MOINES RIVER BASIN

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 29,78 1130		MAR 13,79 1545		MAY 23,79 1000		JUN 19,79 1430	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
....CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	100	1	13	3
....CRYPTOMONADACEAE								
....CRYPTOMONAS	130	1	--	-	200	1	13	3
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
....CHROOCOCCACEAE								
....ANACYSTIS	--	-	--	-	600	3	13	3
...HORMOGONALES								
....OSCILLATORIACEAE								
....OSCILLATORIA	--	-	--	-	4000#	23	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
....EUGLENA								
....TRACHELOMONAS	530	3	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)								
..DINOPHYCEAE								
...PERIDINIALES								
....GLENODINIACEAE								
....GLENODINIUM	--	-	--	-	--	-	--	-

DES MOINES RIVER BASIN

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 24,79 1130	AUG 22,79 1000	SEP 18,79 1130
TOTAL CELLS/ML	44000	11000	21000
DIVERSITY: DIVISION	1.2	1.7	1.7
..CLASS	1.2	1.7	1.8
..ORDER	1.3	1.9	2.1
...FAMILY	1.7	2.3	2.6
....GENUS	2.3	2.7	0.0

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....CHARACIACEAE						
.....SCHROEDERIA	310	1	--	--	--	--
....CHLOROCOCCACEAE	--	--	--	--	170	1
...COELASTRACEAE						
....COELASTRUM	2500	6	780	7	470	2
...HYDRUDICTYACEAE						
....PEDIASTRUM	--	--	--	--	470	2
...MICRACTINIACEAE						
....GOLENKINIA	--	--	78	1	--	--
....MICRACTINIUM	--	--	--	--	--	--
...OOCYSTACEAE						
....ANKISTRODESMUS	--	--	78	1	*	0
....DICTYOSPHAERIUM	--	--	310	3	--	--
....GLOEOACTINIUM	630	1	--	--	1700	8
....KIPCHNERIELLA	--	--	--	--	470	2
....OOCYSTIS	--	--	--	--	120	1
....SELENASTRUM	--	--	--	--	--	--
...SCENEDESMACEAE						
....CRUCIGENIA	2500	6	--	--	--	--
....SCENEDESMUS	6300	14	780	7	1200	6
....TETRASTRUM	--	--	620	6	470	2
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	--	--	--	--	--	--
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
....COSCINODISCACEAE						
.....CYCLOTELLA	25000#	56	1600	15	1700	8
....MELOSIRA	1900	4	1000	10	5200#	25
....STEPHANODISCUS	2200	5	--	--	--	--
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	--	--	--	--	--
...FRAGILARIACEAE						
....ASTERIONELLA	--	--	--	--	--	--
....SYNEDRA	--	--	160	1	--	--
...GOMPHONEMACEAE						
....GOMPHONEMA	--	--	--	--	--	--
...NAVICULACEAE						
....NAVICULA	--	--	--	--	120	1
...NITZSCHIACEAE						
....NITZSCHIA	630	1	78	1	170	1
..CHRYSTOPHYCEAE						
...CHRYSOMONADALES						
....OCHROMONADACEAE						
.....OCHROMONAS	--	--	--	--	350	2

DES MOINES RIVER BASIN

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 24, 79 1130		AUG 22, 79 1000		SEP 18, 79 1130	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	310	1	--	-	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	1300	3	160	1	120	1
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	1300	3	230	2	6400#	30
...HORMOGONALES						
...OSCILLATORIA						
....OSCILLATORIA	--	-	4700#	44	1700	8
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	78	1	170	1
....TRACHELOMONAS	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	--	-	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

PERIPHYTON

Date	Length of Exposure (days)	Biomass (mg/m ²)		Chlorophyll	Chlorophyll	Sampling method
		Dry weight (00573)	Ash weight (00572)	a (mg/m ²) (70957)	b (mg/m ²) (70958)	
Nov. 29, 1978	35	13.7	12.4	4.54	.440	Polyethylene Strip
May 23, 1979	43	12.9	11.8	19.0	.000	Polyethylene Strip
Aug. 22, 1979	29	11.6	10.5	2.90	.910	Polyethylene Strip

DES MOINES RIVER BASIN

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER				NOVEMBER			DECEMBER		
1				---	---		4320	125	1460
2				---	---		4670	150	1890
3				---	---		---	---	---
4				---	---		---	---	---
5				---	---		---	---	---
6				---	---		---	---	---
7				---	---		---	---	---
8				---	---		---	---	---
9				---	---		---	---	---
10				---	---		---	---	---
11				---	---		---	---	---
12				---	---		---	---	---
13				---	---		---	---	---
14				---	---		---	---	---
15				---	---		4330	78	912
16				---	---		7000	84	1590
17				---	---		5000	98	1320
18				---	---		4180	124	1400
19				---	---		3740	180	1820
20				---	---		3050	172	1420
21				---	---		2860	176	1360
22				---	---		2530	184	1260
23				---	---		2390	196	1260
24				---	---		---	---	---
25				---	---		---	---	---
26				---	---		---	---	---
27				---	---		---	---	---
28				---	---		---	---	---
29				---	---		---	---	---
30				161	1560		---	---	---
31				---	---		---	---	---
TOTAL				---	---	1560	44070	---	15692
JANUARY				FEBRUARY			MARCH		
1							---	---	---
2							---	---	---
3							---	---	---
4							---	---	---
5							---	---	---
6							---	---	---
7							---	---	---
8							---	---	---
9							---	---	---
10							---	---	---
11							---	---	---
12							13500	225	8200
13							16000	475	20500
14							24900	590	39700
15							29300	630	49800
16							20400	720	39700
17							12000	900	29200
18							14600	1220	48100
19							18000	2200	107000
20							23200	2550	160000
21							29700	1700	136000
22							26600	1000	71800
23							21400	2020	117000
24							18900	1070	54600
25							18300	1750	86500
26							16800	1280	58100
27							11900	940	30200
28							12300	610	20300
29							20300	795	43600
30							29800	2990	241000
31							28800	2730	212000
TOTAL							406700	---	1573300

DES MOINES RIVER BASIN

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR (OCTOBER 1978 TO SEPTEMBER 1979)

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	21700	1420	83200	23600	250	15900	19800	1470	78600
2	19900	820	44100	22200	230	13800	20000	345	18600
3	19800	470	25100	22000	755	44800	19800	273	14600
4	20200	560	30500	32800	1720	152000	19800	199	10600
5	28000	720	54400	29700	980	78600	19600	176	9310
6	29200	660	52000	23700	470	30100	19600	1440	76200
7	29700	730	58500	21500	340	19700	20100	234	12700
8	26100	600	42300	21200	290	16600	20300	150	8220
9	28500	640	49200	21000	225	12800	20000	210	11300
10	28400	600	46000	20500	342	18900	23400	975	61600
11	28300	715	54600	20500	1080	59800	22500	336	20400
12	26000	1180	82800	23700	535	34200	21500	260	15100
13	31800	1000	85900	22000	350	20800	23700	192	12300
14	30700	920	76300	20600	280	15600	19400	142	7440
15	29700	500	40100	20400	240	13200	19000	202	10400
16	28700	570	44200	20300	230	12600	18800	215	10900
17	29000	590	46200	20100	210	11400	18500	252	12600
18	32100	450	39000	19500	170	8950	18300	950	46900
19	30300	420	34400	19700	200	10600	18400	203	10100
20	30300	670	54800	20200	205	11200	17800	200	9610
21	44700	1970	238000	20300	270	14800	16300	308	13600
22	37000	1560	156000	19600	211	11200	16800	258	11700
23	35300	660	62900	19400	204	10700	20100	368	20000
24	29900	450	36300	19300	213	11100	20100	143	7760
25	28400	440	33700	19200	212	11000	20100	94	5100
26	27600	675	50300	20500	215	11900	19500	200	10500
27	33400	1460	131000	20400	210	11600	19600	277	14700
28	31900	730	62900	20400	227	12500	19400	288	15100
29	25300	380	26000	20100	208	11300	22000	1350	80200
30	24700	330	22000	20000	203	11000	22000	580	34500
31	---	---	---	19800	264	14100	---	---	---
TOTAL	866600	---	1862700	664200	---	732750	596200	---	670640
JULY			AUGUST			SEPTEMBER			
1	22400	335	20300	14000	212	8010	20400	470	25900
2	18600	178	8940	11700	167	5280	20700	420	23500
3	18100	265	13000	11400	174	5360	20200	249	13600
4	18500	1120	55900	11500	155	4810	20000	327	17700
5	21500	550	31900	13100	153	5410	19800	302	16100
6	23400	283	17900	12700	147	5040	19600	224	12000
7	20000	230	12400	12200	137	4510	19600	245	13000
8	17800	270	13000	10800	118	3440	19700	216	11500
9	17500	250	11800	9350	103	2600	19200	197	10200
10	17200	248	11500	6900	130	2420	18600	188	9440
11	17000	220	10100	6000	229	3710	17100	175	8080
12	16100	182	7910	5600	153	2310	17000	178	8170
13	12200	203	6690	6000	155	2510	16000	152	6570
14	11800	212	6750	7430	394	7900	16000	149	6440
15	13800	340	12700	9060	218	5330	14800	126	5030
16	13800	255	9500	9220	174	4330	13400	115	4160
17	13500	210	7650	9220	137	3410	11700	100	3160
18	10900	206	6060	8170	122	2690	11500	102	3170
19	7620	222	4570	8340	134	3020	11500	106	3290
20	9090	247	6060	8340	304	6850	10400	107	3000
21	7380	174	3470	8700	187	4390	9100	90	2210
22	7380	138	2750	8340	205	4620	9090	106	2600
23	6880	143	2660	17100	1260	58200	9090	102	2500
24	6300	349	5940	13100	640	22600	9090	112	2750
25	5800	288	4510	17100	450	20800	9010	102	2480
26	5800	316	4950	18300	340	16800	8460	112	2560
27	6420	256	4440	18400	500	24800	8050	150	3260
28	9090	275	6750	21600	430	25100	7260	107	2100
29	11900	350	11200	19400	300	15700	6780	110	2010
30	11700	235	7420	19600	250	13200	6660	130	2340
31	11500	222	6890	19600	277	14700	---	---	---
TOTAL	410960	---	335610	372270	---	309850	419990	---	228820

FOX RIVER BASIN

05495000 FOX RIVER AT WAYLAND, MO

LOCATION.--Lat 40°23'33", long 91°35'50", in NW¼ sec.31, T.65 N., R.6 W., Clark County, Hydrologic Unit 07110001, on left bank 90 ft (27 m) downstream from bridge on U.S. Highway 136, 0.8 mi (1.3 km) west of Wayland, and 5.0 mi (8.0 km) downstream from Brush Creek, and at mile 15.2 (24.3 km).

DRAINAGE AREA.--400 mi² (1,040 km²), approximately.

PERIOD OF RECORD.--February 1922 to current year.

REVISED RECORDS.--WSP 785: 1934.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 501.52 ft (152.863 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1929, nonrecording gage at bridge 2.8 mi (4.5 km) upstream at different datum. Oct. 1, 1929, to June 11, 1936, nonrecording gage, at bridge 90 ft (27 m) upstream at present datum.

REMARKS.--Records fair. Several observations of water temperature and specific conductance made during the year. National Weather Service gage height telemeter at station.

COOPERATION.--Four discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--57 years, 236 ft³/s (6.684 m³/s), 8.01 in/yr (203 mm/yr), 171,000 acre-ft/yr (211 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,400 ft³/s (748 m³/s) Apr. 22, 1973, gage height, 21.71 ft (6.617 m); no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 4,000 ft³/s (113 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Mar. 4	0800	6130	174	Mar. 30	2400	*10200	289
Mar. 14	Unknown	4370	124	Apr. 12	1000	4120	117
Mar. 19	1200	4470	127				

Minimum daily discharge, 1.9 ft³/s (0.054 m³/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	15	271	43	43	721	815	194	33	107	72	53
2	31	19	165	26	41	873	798	204	30	50	56	157
3	30	15	125	18	39	2200	667	1270	38	36	195	72
4	28	13	212	17	37	4840	502	976	29	28	142	30
5	25	13	106	21	34	2870	452	382	25	26	154	20
6	31	16	80	21	31	2020	409	229	22	24	46	15
7	25	21	103	23	30	2580	335	165	22	40	26	13
8	23	34	121	24	30	1340	217	132	22	36	19	11
9	21	34	90	24	24	1520	192	156	23	24	15	10
10	20	28	68	23	27	1090	167	106	85	22	32	8.8
11	20	24	55	21	26	552	655	870	121	20	80	8.3
12	21	19	46	20	28	645	3620	690	69	19	38	7.8
13	22	22	45	22	29	2660	1650	241	38	18	22	6.8
14	20	77	48	28	32	3970	534	152	28	17	15	6.3
15	19	122	50	26	31	3290	320	109	24	17	12	5.5
16	18	76	44	30	31	984	250	87	21	18	11	5.0
17	16	78	42	34	31	1040	191	76	20	18	10	4.6
18	17	856	34	39	32	2250	175	69	19	19	9.7	4.4
19	15	454	32	39	33	3750	155	65	18	16	9.7	4.1
20	15	155	36	39	35	2400	551	71	18	15	9.4	3.8
21	15	100	43	50	82	1070	3070	77	18	14	8.7	3.4
22	14	77	32	52	128	420	2210	65	17	13	9.3	3.2
23	17	84	29	55	754	1710	545	53	16	12	249	2.9
24	21	153	21	59	2140	2440	349	48	13	17	543	2.8
25	22	114	26	60	1640	1590	309	45	15	32	150	2.6
26	21	85	24	60	1370	750	757	42	39	121	47	2.4
27	18	84	17	56	1010	630	757	43	27	58	27	2.3
28	16	132	11	53	799	744	372	45	24	25	267	2.1
29	15	119	9.7	50	---	6090	245	46	36	152	142	2.0
30	15	117	11	50	---	8610	216	39	367	96	45	1.9
31	15	---	31	47	---	4540	---	35	---	71	26	---
TOTAL	642	3156	2027.7	1130	8567	70189	21485	6782	1277	1181	2487.8	472.0
MEAN	20.7	105	65.4	36.5	306	2264	716	219	42.6	38.1	80.3	15.7
MAX	36	856	271	60	2140	8610	3620	1270	367	152	543	157
MIN	14	13	9.7	17	24	420	155	35	13	12	8.7	1.9
CFSM	.05	.26	.16	.09	.77	5.66	1.79	.55	.11	.10	.20	.04
IN.	.06	.29	.19	.11	.80	6.53	2.00	.63	.12	.11	.23	.04
AC-FT	1270	6260	4020	2240	16990	139200	42620	13450	2530	2340	4930	936

CAL YR 1978	TOTAL	159450.4	MEAN 437	MAX 7740	MIN 5.1	CFSM 1.09	IN 14.83	AC-FT 316300
WTR YR 1979	TOTAL	119396.5	MEAN 327	MAX 8610	MIN 1.9	CFSM .82	IN 11.10	AC-FT 236800

FABIUS RIVER BASIN

05497000 NORTH FABIUS RIVER AT MONTICELLO, MO

LOCATION.--Lat 40°06'30", long 91°42'51", in SW¼SE¼ sec.6, T.61 N., R.7 W., Lewis County, Hydrologic Unit 07110002, on right bank upstream from bridge on State Highway 16, 1.0 mi (1.6 km) south of Monticello, and 19.0 mi (30.6 km) upstream from Middle Fabius River.

DRAINAGE AREA.--452 mi² (1,171 km²).

PERIOD OF RECORD.--February 1922 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 925: 1937-39(M). WSP 1308: 1922(M), 1924-26(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 540.73 ft (164.815 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 22, 1930, nonrecording gage at site 400 ft (122 m) downstream at datum 0.03 ft (0.009 m) lower. Nov. 22, 1930, to Nov. 28, 1967, nonrecording gage at present site and datum.

REMARKS.--Records poor. Several observations of water temperature and specific conductance made during the year.

COOPERATION.--Four discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--57 years, 271 ft³/s (7.675 m³/s), 8.14 in/yr (207 mm/yr), 196,300 acre-ft/yr (242 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,700 ft³/s (586 m³/s) Apr. 22, 1973, gage height, 33.03 ft (10.068 m), from graph based on gage readings; no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1874, 30.8 ft (9.39 m) June 30, 1933.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (142 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Mar. 5	1445	6990	198	21.60	6.584
Mar. 30	1330	*7910	224	*22.70	6.919

Minimum daily discharge, 7.3 ft³/s (0.21 m³/s) Sept. 28, 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	18	140	18	50	925	899	177	42	35	195	116
2	38	16	128	17	47	1130	673	168	40	29	106	160
3	39	17	92	17	45	2080	632	1130	38	26	173	66
4	36	18	209	18	42	3340	407	913	33	23	979	56
5	35	24	135	20	40	6020	386	287	31	16	629	46
6	32	35	121	24	40	4830	398	181	38	12	224	36
7	31	30	78	26	37	3450	287	173	28	11	117	29
8	30	25	56	27	36	3700	237	148	27	16	84	23
9	31	23	77	26	36	2300	214	122	37	23	61	22
10	30	25	61	26	35	1760	195	101	77	20	58	20
11	34	38	44	24	35	1040	1340	1240	138	18	52	20
12	29	66	40	24	34	1320	4160	1000	103	273	47	18
13	28	68	50	24	34	2980	1560	334	69	110	39	19
14	26	72	39	24	34	4260	523	247	51	202	34	20
15	25	74	44	22	35	1820	306	173	41	656	30	17
16	24	51	46	23	36	800	224	82	47	939	28	17
17	22	52	46	31	37	738	190	73	45	444	26	15
18	21	380	46	34	37	1590	168	69	42	113	25	15
19	21	236	44	34	38	3810	150	53	40	104	22	13
20	21	66	48	35	39	1870	172	83	37	48	18	12
21	20	77	44	35	44	662	1590	111	34	39	24	9.3
22	20	63	46	40	51	398	1080	70	32	32	27	9.3
23	26	59	41	49	484	2560	364	73	29	28	37	9.3
24	28	95	39	54	1800	3650	245	61	23	54	195	8.8
25	26	94	32	57	2210	1160	209	52	29	70	123	8.3
26	23	71	25	61	1420	653	673	48	27	493	114	8.3
27	22	77	21	61	1070	544	554	156	28	1340	52	8.3
28	22	95	25	58	936	469	261	104	36	351	31	7.3
29	23	96	23	54	---	2530	173	73	40	1580	35	7.3
30	20	74	21	52	---	7010	151	57	38	721	47	7.3
31	19	---	19	51	---	3020	---	46	---	351	70	---
TOTAL	845	2135	1880	1066	8782	72419	18421	7605	1320	8177	3702	823.5
MEAN	27.3	71.2	60.6	34.4	314	2336	614	245	44.0	264	119	27.5
MAX	43	380	209	61	2210	7010	4160	1240	138	1580	979	160
MIN	19	16	19	17	34	398	150	46	23	11	18	7.3
CFSM	.06	.16	.13	.08	.70	5.17	1.36	.54	.10	.58	.26	.06
IN.	.07	.18	.15	.09	.72	5.96	1.52	.63	.11	.67	.30	.07
AC-FT	1680	4230	3730	2110	17420	143600	36540	15080	2620	16220	7340	1630

CAL YR 1978	TOTAL	153211.0	MEAN	420	MAX	7580	MIN	12	CFSM	.93	IN	12.61	AC-FT	303900
WTR YR 1979	TOTAL	127175.5	MEAN	348	MAX	7010	MIN	7.3	CFSM	.77	IN	10.47	AC-FT	252300

FABIUS RIVER BASIN

05498000 MIDDLE FABIUS RIVER NEAR MONTICELLO, MO

LOCATION.--Lat 40°05'37", long 91°44'08", in SE¼ sec.12, T.61 N., R.8 W., Lewis County, Hydrologic Unit 07110002, on left bank on downstream end of bridge pier on State Highway 16, 2.5 mi (4.0 km) southwest of Monticello, 8 mi (13 km) downstream from Radish Branch, and 17 miles (27 km) upstream from mouth.

DRAINAGE AREA.--393 mi² (1,018 km²).

PERIOD OF RECORD.--July 1945 to current year.

GAGE.--Water-stage recorder. Datum of gage is 540.46 ft (164.732 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 4, 1967, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance made during the year.

COOPERATION.--Four discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--34 years, 247 ft³/s (6.995 m³/s), 8.54 in/yr (217 mm/yr), 179,000 acre-ft/yr (221 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,700 ft³/s (501 m³/s) Apr. 23, 1973, gage height, 27.14 ft (8.272 m); no flow at times in 1953-56.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 17, 1945, reached a stage of 23.3 ft (7.10 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s (99.1 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 7	0015	3960	15.33
Apr. 1	0530	*5110	*17.25

Minimum daily discharge, 0.70 ft³/s (0.02 m³/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	31	11	91	12	38	933	2980	129	27	14	129	6.8		
2	28	11	105	13	38	1080	528	127	24	15	71	6.3		
3	30	9.8	91	14	35	2210	437	501	21	12	61	5.6		
4	23	9.8	78	14	35	3840	331	1230	19	13	712	5.0		
5	21	9.6	156	16	36	3540	254	352	18	12	587	4.8		
6	19	14	106	17	38	3630	268	196	17	9.7	137	8.7		
7	18	14	53	19	38	2310	208	144	16	8.6	74	6.3		
8	16	13	50	20	38	1500	156	116	17	8.2	47	4.8		
9	16	13	76	21	37	857	139	99	19	7.9	33	4.4		
10	16	33	66	20	37	774	124	86	24	7.6	25	4.0		
11	18	27	48	19	35	561	607	96	27	7.3	19	3.9		
12	17	20	39	20	35	621	2540	799	65	7.1	16	3.1		
13	17	19	37	19	33	1550	2670	584	45	6.9	14	2.4		
14	15	17	37	20	32	2300	865	176	31	6.8	14	2.2		
15	15	16	41	16	31	1950	305	116	24	12	14	1.9		
16	14	21	49	16	32	667	208	91	19	336	13	1.7		
17	13	55	45	17	32	395	167	79	17	350	12	1.5		
18	12	39	44	17	32	644	145	68	14	91	10	1.4		
19	13	261	39	20	32	1830	139	62	13	46	9.9	1.3		
20	11	127	39	24	32	2260	144	61	12	28	9.3	1.3		
21	10	78	40	24	39	670	629	65	11	19	11	1.2		
22	10	59	38	24	51	342	1860	68	9.8	15	39	1.2		
23	12	50	37	25	308	1010	545	50	15	12	69	1.2		
24	12	44	33	26	1410	2180	252	44	18	18	46	1.1		
25	15	100	24	32	2370	2240	200	38	13	55	98	.89		
26	14	100	18	24	2130	578	512	52	12	375	46	.84		
27	14	81	18	24	1260	432	600	66	11	208	24	.79		
28	12	97	17	33	982	336	292	34	22	264	15	.75		
29	13	149	15	37	---	378	184	34	19	204	13	.75		
30	16	112	13	38	---	1690	142	37	14	274	9.3	.70		
31	14	---	11	38	---	3850	---	31	---	354	7.8	---		
TOTAL	505	1610.2	1554	679	9246	47158	18431	5631	613.8	2797.1	2385.3	86.82		
MEAN	16.3	53.7	50.1	21.9	330	1521	614	182	20.5	90.2	76.9	2.89		
MAX	31	261	156	38	2370	3850	2980	1230	65	375	712	8.7		
MIN	10	9.6	11	12	31	336	124	31	9.8	6.8	7.8	.70		
CFSM	.04	.14	.13	.06	.84	3.87	1.56	.46	.05	.23	.20	.007		
IN.	.05	.15	.15	.06	.88	4.46	1.74	.53	.06	.26	.23	.01		
AC-FT	1000	3190	3080	1350	18340	93540	36560	11170	1220	5550	4730	172		
CAL YR 1978	TOTAL	125710.30	MEAN	344	MAX	5230	MIN	5.4	CFSM	.88	IN	11.90	AC-FT	249300
WTR YR 1979	TOTAL	90697.22	MEAN	248	MAX	3850	MIN	.70	CFSM	.63	IN	8.59	AC-FT	179900

FABIUS RIVER BASIN

05500000 SOUTH FABIUS RIVER NEAR TAYLOR, MO

LOCATION.--Lat 39°53'49", long 91°34'49", in SW¼NW¼ sec.21, T.59 N., R.6 W., Marion County, Hydrologic Unit 07110003, on right bank at downstream side of highway bridge, 4.5 mi (7.2 km) southwest of Taylor, 5.0 mi (8.0 km) downstream from Grassy Creek, and 5.3 mi (8.5 km) upstream from confluence with North Fabius River.

DRAINAGE AREA.--620 mi² (1,606 km²).

PERIOD OF RECORD.--October 1934 to current year. Prior to December 1934 monthly discharge only, published in WSP 1308.

REVISED RECORDS.--WSP 825: 1936.

GAGE.--Water-stage recorder. Datum of gage is 482.91 ft (147.191 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to May 14, 1936, nonrecording gage at bridge 4.0 mi (6.4 km) downstream at datum 21.94 ft (6.687 m) lower. May 14, 1936, to Dec. 2, 1940, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance made during the year.

COOPERATION.--Four discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--45 years, 387 ft³/s (10.96 m³/s), 8.48 in/yr (215 mm/yr), 280,400 acre-ft/yr (346 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,700 ft³/s (558 m³/s) June 8, 1947, gage height, 19.5 ft (5.94 m), from rating curve extended above 11,000 ft³/s (312 m³/s); no flow at times in several years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1928 reached a stage of 18.49 ft (5.636 m), from floodmark, at present site and datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5100 ft³/s (144 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Mar. 4	0300	*5470	155	*a9.91	3.021
Apr. 12	0200	5300	150	a9.73	2.966

Minimum daily discharge, 0.75 ft³/s (0.02 m³/s) Sept. 30.

a From graph based on once-daily wire-weight readings

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	21	3.7	36	55	24	1500	1520	178	33	12	90	18		
2	16	4.0	25	42	22	2100	655	173	32	27	65	15		
3	53	3.8	20	30	25	3000	467	346	30	26	54	12		
4	40	3.5	14	26	23	4700	419	966	27	27	54	9.5		
5	22	9.0	13	23	17	3970	365	725	26	22	256	8.0		
6	13	15	10	23	16	3530	265	339	25	17	271	7.2		
7	8.5	19	12	20	19	2810	235	232	22	13	118	6.4		
8	6.3	15	8.8	17	19	1890	205	180	25	12	69	5.6		
9	5.5	9.7	6.1	12	17	1330	175	141	26	11	51	5.3		
10	17	21	11	13	16	1330	150	116	27	9.5	37	5.3		
11	82	17	12	13	16	928	2880	116	27	12	27	4.6		
12	18	13	12	12	18	1000	4700	175	88	34	19	4.3		
13	8.8	14	15	13	18	1480	3580	191	143	12	16	3.7		
14	6.6	13	18	13	18	1970	1660	223	88	7.2	15	3.1		
15	5.0	11	23	13	21	1570	563	141	59	6.0	15	2.2		
16	5.2	9.4	23	13	21	1000	349	100	42	5.6	14	1.6		
17	5.0	14	22	15	18	548	277	82	40	4.9	12	1.6		
18	4.6	21	23	16	18	1000	241	72	36	4.6	11	1.4		
19	3.6	18	23	16	19	2290	212	65	29	7.6	9.5	1.3		
20	2.9	18	28	16	20	2330	332	58	27	54	8.0	1.3		
21	2.8	34	29	18	40	1310	389	54	23	34	8.0	1.3		
22	2.3	28	30	33	140	593	637	50	19	22	99	1.2		
23	2.8	16	22	41	400	2790	739	47	16	17	268	1.2		
24	3.7	9.6	26	42	1500	2640	363	45	14	30	158	1.1		
25	2.6	6.9	22	37	2100	2190	280	44	13	201	77	1.0		
26	3.9	6.9	23	35	3000	928	463	43	13	325	35	.94		
27	3.6	17	22	34	1900	556	536	45	13	309	58	.87		
28	3.7	16	20	32	1300	443	523	39	13	1850	40	.81		
29	3.8	16	20	28	---	374	296	39	13	1340	34	.81		
30	3.7	13	28	25	---	624	220	36	12	250	27	.75		
31	3.5	---	44	25	---	1720	---	38	---	131	22	---		
TOTAL	380.4	415.5	640.9	751	10765	54444	23696	5099	1001	4833.4	2037.5	127.38		
MEAN	12.3	13.9	20.7	24.2	384	1756	790	164	33.4	156	65.7	4.25		
MAX	82	34	44	55	3000	4700	4700	966	143	1850	271	18		
MIN	2.3	3.5	6.1	12	16	374	150	36	12	4.6	8.0	.75		
CFSM	.02	.02	.03	.04	.62	2.83	1.27	.27	.05	.25	.11	.007		
IN.	.02	.02	.04	.05	.65	3.27	1.42	.31	.06	.29	.12	.01		
AC-FT	755	824	1270	1490	21350	108000	47000	10110	1990	9590	4040	253		
CAL YR 1978	TOTAL	173193.80	MEAN	475	MAX	6350	MIN	2.3	CFSM	.77	IN	10.39	AC-FT	343500
WTR YR 1979	TOTAL	104191.08	MEAN	285	MAX	4700	MIN	.75	CFSM	.46	IN	6.25	AC-FT	206700

NORTH RIVER BASIN

05501000 NORTH RIVER AT PALMYRA, MO

LOCATION.--Lat 39°49'06", long 91°31'13", in SE¼SW¼ sec.13, T.58 N., R.6 W., Marion County, Hydrologic Unit 07110004, on right bank 100 ft. (30 m) upstream from City Waterworks dam, 1,000 ft (305 m) upstream from upstream bridge on dual U.S. Highways 24 and 61, 0.5 mi (0.8 km) north of Palmyra, and 7.0 mi (11.3 km) upstream from mouth.

DRAINAGE AREA.--373 mi² (966 km²).

PERIOD OF RECORD.--December 1934 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 464.81 ft (141.674 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1945, nonrecording gage at bridge 1,000 ft (305 m) downstream, Oct. 1, 1945, to June 22, 1951, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance made during the year.

COOPERATION.--One discharge measurement furnished by Corps of Engineers.

AVERAGE DISCHARGE.--44 years, 243 ft³/s (6.882 m³/s), 8.85 in/yr (225 mm/yr), 176,100 acre-ft/yr (217 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,500 ft³/s (1,630 m³/s) Apr. 21, 1973, gage height, 29.70 ft (9.053 m); no flow on many days in 1936, 1941, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage prior to 1934, about 28.0 ft (8.53 m), from floodmarks, date unknown, at site 1,000 ft (305 m) downstream, present datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,500 ft³/s (241 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Feb. 23	2345	*14700	416	*21.24	6.474
Mar. 4	0045	10700	303	19.33	5.892
Apr. 12	0545	8600	244	20.19	6.154

Minimum daily discharge, 1.0 ft³/s (0.028 m³/s) Sept. 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	12	5.3	14	17	20	944	300	124	29	18	22	5.4		
2	13	5.5	16	23	18	1260	180	156	28	15	14	5.0		
3	24	5.5	41	17	15	5650	100	859	26	12	12	5.0		
4	22	5.5	36	13	16	5110	130	365	25	12	9.4	4.7		
5	16	6.3	27	14	17	1290	200	250	25	9.5	7.8	4.7		
6	12	5.4	22	15	17	940	260	177	22	8.4	6.7	4.4		
7	9.3	5.8	20	15	17	1070	300	133	22	7.7	6.0	3.9		
8	7.9	5.7	19	15	18	593	150	109	150	7.4	5.5	3.6		
9	7.6	7.3	17	13	18	613	90	94	150	6.8	5.6	3.3		
10	11	6.9	16	13	18	988	70	84	123	6.5	5.7	2.9		
11	74	6.3	15	13	18	455	3910	125	48	7.8	5.6	2.7		
12	15	6.3	17	13	16	566	4660	193	35	7.3	5.4	2.6		
13	8.9	6.5	17	13	15	636	1350	103	32	6.7	5.2	2.4		
14	7.6	6.4	17	12	18	571	770	82	37	6.6	5.7	2.3		
15	6.7	6.2	18	12	19	323	420	71	35	6.2	6.3	2.1		
16	5.8	6.5	19	13	22	233	230	63	36	6.6	5.9	2.0		
17	5.4	8.4	18	14	24	199	175	60	30	6.5	5.0	1.8		
18	5.2	8.4	19	14	25	406	151	56	25	6.1	4.8	1.9		
19	4.8	11	19	15	20	1940	151	53	22	5.3	4.1	1.8		
20	5.1	9.3	20	16	18	714	742	50	22	5.4	3.9	1.7		
21	4.7	8.0	19	19	28	391	935	47	22	4.3	5.2	1.7		
22	4.1	7.3	22	22	248	315	279	45	25	3.3	50	1.6		
23	4.6	7.4	20	23	9000	3010	208	44	26	3.7	31	1.8		
24	5.2	7.4	20	25	9900	750	195	42	20	56	16	1.5		
25	4.8	7.4	16	40	3680	500	239	40	16	312	9.8	1.3		
26	4.7	9.5	15	29	1740	370	1220	42	15	169	7.2	1.2		
27	5.1	28	16	21	802	250	381	381	14	37	5.8	1.2		
28	5.2	24	16	19	837	200	223	81	15	18	5.3	1.1		
29	5.5	17	17	22	---	150	172	47	15	273	5.9	1.0		
30	5.5	14	22	22	---	190	143	34	13	119	5.8	1.0		
31	5.3	---	18	19	---	430	---	31	---	63	5.3	---		
TOTAL	328.0	264.5	608	551	26604	31057	18334	4041	1103	1226.1	293.9	77.6		
MEAN	10.6	8.82	19.6	17.8	950	1002	611	130	36.8	39.6	9.48	2.59		
MAX	74	28	41	40	9900	5650	4660	859	150	312	50	5.4		
MIN	4.1	5.3	14	12	15	150	70	31	13	3.3	3.9	1.0		
CFSM	.03	.02	.05	.05	2.55	2.69	1.64	.35	.10	.11	.03	.007		
IN.	.03	.03	.06	.05	2.65	3.10	1.83	.40	.11	.12	.03	.01		
AC-FT	651	525	1210	1090	52770	61600	36370	8020	2190	2430	583	154		
CAL YR 1978	TOTAL	119931.5	MEAN	329	MAX	7960	MIN	3.7	CFSM	.88	IN	11.96	AC-FT	237900
WTR YR 1979	TOTAL	84488.1	MEAN	231	MAX	9900	MIN	1.0	CFSM	.62	IN	8.43	AC-FT	167600

BEAR CREEK BASIN

05502000 BEAR CREEK AT HANNIBAL, MO

LOCATION.--Lat 39°40'43", long 91°24'41", in SE¼NW¼ sec.1, T.56 N., R.5 W., Ralls County, Hydrologic Unit 07110004, on right bank 42 ft (13 m) upstream from upstream bridge on dual U.S. Highway 61 at Hannibal, and 4.8 mi (7.7 km) upstream from mouth.

DRAINAGE AREA.--31.0 mi² (80.3 km²).

PERIOD OF RECORD.--October 1938 to September 1942, October 1947 to current year in reports of Geological Survey. Monthly discharge only for some periods, published in WSP 1308. October 1936 to November 1938 (gage heights and discharge measurements only) in reports of Missouri Geological Survey.

REVISED RECORDS.--WSP 1115: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 508.91 ft (155.116 m) National Geodetic Vertical Datum of 1929. Prior to Mar. 26, 1948, nonrecording gage, and Mar. 26, 1948, to Sept. 30, 1953, water-stage recorder, present site and at datum 2.00 ft (0.610 m) higher. Oct. 1, 1953, to Oct. 30, 1961, water-stage recorder at present site, Oct. 31, 1961, to Sept. 5, 1972, water-stage recorder 400 ft (122 m) downstream at present datum.

REMARKS.--Records fair. High flow regulated by Bear Creek reservoir, 1.0 mi (1.6 km) upstream, since Aug. 7, 1961. Several observations of water temperature and specific conductance made during the year.

AVERAGE DISCHARGE.--36 years, 19.1 ft³/s (0.541 m³/s), 8.37 in/yr (213 mm/yr). 13,840 acre-ft/yr (17.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,500 ft³/s (184 m³/s) Aug. 3, 1957, gage height, 14.05 ft (4.282 m), present datum; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 755 ft³/s (21.4 m³/s) Mar. 5, gage height, 7.68 ft (2.341 m); minimum daily, 0.39 ft³/s (0.01 m³/s) Oct. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.65	.85	1.7	4.9	2.5	134	21	18	6.8	1.5	264	3.4
2	.60	.97	1.7	2.6	2.5	166	18	68	6.1	2.2	18	3.0
3	6.1	.97	2.6	2.0	2.6	257	15	200	5.7	1.7	16	2.2
4	1.1	1.0	1.9	1.8	2.5	234	18	138	5.3	1.4	9.2	2.0
5	.80	1.0	1.8	1.7	2.6	442	17	25	5.3	1.3	5.3	1.9
6	.69	1.6	1.7	1.6	2.6	102	12	20	4.9	1.3	3.8	1.7
7	.65	1.6	2.0	1.4	2.6	71	12	17	3.6	1.2	3.0	1.4
8	.60	1.4	1.2	1.2	2.8	29	21	15	59	1.1	2.2	1.3
9	.60	1.3	1.2	1.1	2.6	63	16	13	7.5	1.1	2.2	1.3
10	1.6	1.3	1.2	1.0	2.6	60	12	10	16	1.1	2.0	1.2
11	15	1.0	1.1	1.0	2.6	42	196	11	5.7	1.3	2.0	1.2
12	1.3	.97	1.2	1.1	2.6	59	365	10	3.6	1.9	1.8	1.0
13	.80	1.5	1.3	1.7	2.6	60	358	8.9	5.3	1.3	1.9	.98
14	.60	1.4	1.3	1.6	2.6	35	360	8.2	3.8	1.0	3.0	.93
15	.53	1.3	1.4	1.3	3.8	23	272	7.9	2.8	.85	2.8	.82
16	.47	1.5	1.8	1.5	3.4	20	31	7.5	2.4	.76	2.1	.77
17	.44	32	1.9	1.7	3.0	20	25	7.5	2.2	.71	1.6	.77
18	.69	4.9	1.7	1.7	3.2	49	24	6.8	2.2	.66	1.2	.77
19	.90	2.5	1.7	12	2.8	164	26	6.4	2.1	.61	1.0	.77
20	.53	1.0	1.9	16	4.6	25	46	6.4	2.0	.60	36	.71
21	.57	1.0	3.0	11	104	21	71	7.2	1.8	.58	74	.71
22	.60	1.3	1.7	5.8	206	25	31	6.8	1.8	.58	261	.71
23	.69	1.6	1.5	4.7	424	201	29	6.8	2.6	.57	263	.66
24	.69	1.4	1.5	3.9	429	176	31	6.4	3.8	287	257	.66
25	1.3	1.5	1.4	3.2	150	173	62	6.4	2.1	363	45	.60
26	.85	4.1	1.3	3.2	90	77	160	53	1.9	60	8.9	.60
27	.80	11	1.1	3.2	80	24	35	117	1.7	8.2	6.8	.57
28	.39	3.9	1.1	3.0	98	29	22	12	2.0	5.7	4.6	.57
29	1.5	2.3	1.6	2.6	---	26	24	8.9	2.2	4.0	6.8	.57
30	.74	1.7	4.7	2.6	---	32	16	7.5	1.9	3.6	4.2	.54
31	.74	---	13	2.8	---	27	---	7.2	---	257	3.6	---
TOTAL	43.52	89.86	64.2	104.9	1638.1	2866	2346	843.8	174.1	1013.82	1314.0	34.31
MEAN	1.40	3.00	2.07	3.38	8.5	92.5	78.2	27.2	5.80	32.7	42.4	1.14
MAX	15	32	13	16	429	442	365	200	59	363	264	3.4
MIN	.39	.85	1.1	1.0	2.5	20	12	6.4	1.7	.57	1.0	.54
CFSM	.05	.10	.07	.11	1.89	2.98	2.52	.88	.19	1.06	1.37	.04
IN.	.05	.11	.08	.13	1.97	3.44	2.82	1.01	.21	1.22	1.58	.04
AC-FT	86	178	127	208	3250	5680	4650	1670	345	2010	2610	68
CAL YR 1978	TOTAL	9134.13	MEAN 25.0	MAX 258	MIN .04	CFSM .81	IN 10.96	AC-FT 18120				
WTR YR 1979	TOTAL	10532.61	MEAN 28.9	MAX 442	MIN .39	CFSM .93	IN 12.64	AC-FT 20890				

SALT RIVER BASIN

05502300 SALT RIVER AT HAGERS GROVE, MO

LOCATION.--Lat 39°49'40", long 92°14'10", in NE¼SW¼ sec.15, T.58 N., R.12 W., Shelby County, Hydrologic Unit 07110005, at bridge on State Highway 151, 200 ft (61 m) downstream from old channel carrying Bear and other creeks, 0.25 mi (0.40 km) west of Hagers Grove, 2.5 mi (4.0 km) upstream from Ten Mile Creek, and at mile 143.8 (231.4 km).

DRAINAGE AREA.--365 mi² (945 km²).

PERIOD OF RECORD.--September 1974 to current year. September 1939 to August 1974, gage height and miscellaneous measurements published by Corps of Engineers, St. Louis, Mo.

GAGE.--Water-stage recorder. Datum of gage is 702.30 ft (214.061 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for winter periods, which are poor. Several observations of water temperature and specific conductance made during the year.

AVERAGE DISCHARGE.--5 years, 222 ft³/s (6.287 m³/s), 8.26 in/yr (210 mm/yr), 160,800 acre-ft/yr (198 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 19.7 ft (6.0 m) June 6, 1947, discharge, 26,900 ft³/s (762 m³/s).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1928 reached a stage of 19.1 ft (5.82 m), according to information furnished by Corps of Engineers, Rock Island, IL.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (142 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Mar. 4	1000	*5790	164	*15.00	4.572
Apr. 12	0745	5490	155	14.71	4.484

Minimum daily discharge, 2.2 ft³/s (0.062 m³/s) Sept. 24; minimum gage height, 0.72 ft (0.020 m) Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	4.8	36	9.6	21	1040	364	88	20	12	41	8.4
2	11	5.6	30	10	21	1340	336	118	22	13	26	17
3	14	5.9	30	9.6	20	2300	317	1460	20	10	44	28
4	9.6	6.9	34	10	20	4350	220	631	16	9.0	273	15
5	9.1	6.2	40	11	19	1890	302	226	14	9.0	56	9.5
6	9.6	12	26	11	19	962	242	151	13	7.7	23	7.0
7	8.2	9.1	24	11	19	1630	144	106	13	13	16	5.2
8	7.4	16	25	11	19	694	124	89	324	9.0	12	4.3
9	7.4	24	26	11	19	582	106	63	210	7.7	9.0	4.3
10	9.1	16	23	11	19	686	95	50	518	6.6	7.7	4.3
11	9.6	11	20	11	19	311	1790	133	336	75	7.7	4.0
12	8.2	9.5	15	11	19	927	4230	338	92	88	7.3	3.8
13	7.0	13	17	11	19	1710	1420	118	691	25	7.3	3.0
14	8.2	12	19	13	19	1550	355	70	663	17	8.4	2.5
15	7.4	10	23	12	21	532	208	50	153	20	11	2.7
16	7.0	18	25	12	20	246	147	38	67	16	8.4	2.7
17	5.9	38	24	12	20	224	124	33	42	70	16	2.7
18	6.1	152	20	12	19	477	113	28	34	24	10	2.7
19	7.0	94	15	13	20	2460	100	32	30	12	7.3	2.5
20	5.4	42	14	13	30	997	155	48	25	7.7	7.0	2.7
21	5.6	27	18	14	75	331	1670	42	20	5.9	6.6	2.7
22	5.6	20	23	14	280	222	554	28	18	5.2	6.6	2.7
23	8.0	18	20	15	1710	3380	224	24	15	4.5	63	2.5
24	7.8	24	18	22	3920	2150	155	22	13	72	54	2.2
25	7.5	34	15	24	2710	543	691	20	12	398	25	2.5
26	16	39	12	24	1730	360	733	19	13	238	15	2.7
27	9.7	120	9.0	24	1040	273	400	34	12	137	12	3.0
28	7.4	153	7.0	23	978	198	174	24	13	576	9.0	3.2
29	6.6	73	7.4	23	---	742	126	24	12	92	12	3.0
30	5.7	43	10	23	---	2510	98	20	24	100	10	2.5
31	6.4	---	8.7	22	---	863	---	63	---	106	9.0	---
TOTAL	254.5	1057.0	634.1	453.2	12845	36480	15717	4190	3455	2186.3	820.3	159.3
MEAN	8.21	35.2	20.5	14.6	459	1177	524	135	115	70.5	26.5	5.31
MAX	16	153	40	24	3920	4350	4230	1460	691	576	273	28
MIN	5.4	4.8	7.0	9.6	19	198	95	19	12	4.5	6.6	2.2
CFSM	.02	.10	.06	.04	1.26	3.23	1.44	.37	.32	.19	.07	.02
IN.	.03	.11	.06	.05	1.31	3.72	1.60	.43	.35	.22	.08	.02
AC-FT	505	2100	1260	899	25480	72360	31170	8310	6850	4340	1630	316

CAL YR 1978	TOTAL	122773.3	MEAN	336	MAX	9630	MIN	4.8	CFSM	.92	IN	12.51	AC-FT	243500
WTR YR 1979	TOTAL	78251.7	MEAN	214	MAX	4350	MIN	2.2	CFSM	.59	IN	7.98	AC-FT	155200

SALT RIVER BASIN

05505000 SOUTH FORK SALT RIVER AT SANTA FE, MO

LOCATION--Lat 39°21'45" long 91°49'05", in NW¼NE¼ sec.20, T.53 N., R.8 W., Monroe County, Hydrologic Unit 07110006, on left bank near upstream end of bridge on county road, 0.3 mi (0.5 km) south of Santa Fe, and 1.0 mi (1.6 km) upstream from Elm Creek, and at mile 96.2 (154.8 km) above mouth of Salt River.

DRAINAGE AREA.--298 mi² (772 km²).

PERIOD OF RECORD.--October 1939 to current year. Published as "near Santa Fe" October 1968 to September 1975.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 613.05 ft (186.858 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 5, 1940, nonrecording gage, and Feb. 5, 1940, to Sept. 30, 1968, water-stage recorder, present site and datum, Oct. 1, 1968, to Sept. 30, 1975, water-stage recorder 6.3 mi (10.1 km) upstream at datum 26.04 ft (7.937 m) higher.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. Several observations of water temperature and specific conductance made during the year.

AVERAGE DISCHARGE.--40 years, 190 ft³/s (5.381 m³/s), 8.66 in/yr (220 mm/yr), 137,700 acre-ft/yr (170 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,800 ft³/s (816 m³/s) Oct. 13, 1969, gage height, 28.24 ft (8.608 m), at site and datum then in use; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 23	2230	6840 194	15.07 4.593	Mar. 23	0430	3310 93.7	10.09 3.075
Mar. 3	1930	4560 129	12.07 3.679	Apr. 12	0130	*10800 306	*18.83 5.739

Minimum daily discharge, 0.15 ft³/s (0.004 m³/s) Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	1.9	21	6.0	8.3	1070	82	56	7.1	10	9.8	24
2	6.6	2.0	12	5.6	7.8	1400	72	94	7.0	8.1	11	14
3	16	2.1	35	5.4	7.8	3050	65	1180	7.0	6.6	6.3	7.0
4	8.6	2.5	50	5.4	7.8	3110	62	496	7.0	5.6	4.4	8.1
5	5.3	2.8	30	5.3	7.6	704	58	223	6.0	5.0	3.3	8.1
6	6.3	7.4	25	5.3	7.4	334	53	134	5.6	4.6	3.3	9.4
7	6.6	6.4	18	5.4	7.0	369	48	91	5.0	4.2	2.9	7.4
8	5.0	5.0	15	5.8	7.0	288	58	69	8.1	3.9	2.5	5.3
9	4.1	3.5	13	6.0	6.8	320	74	55	25	3.9	2.2	4.4
10	4.0	3.0	11	5.1	6.7	819	72	47	36	3.6	1.9	4.1
11	4.0	2.8	9.2	4.8	6.6	348	3490	46	52	4.7	1.6	3.0
12	8.1	2.7	8.4	4.7	6.5	203	8830	60	36	210	1.6	2.5
13	63	2.6	8.0	5.3	6.4	196	4040	74	25	98	1.3	2.2
14	31	2.6	8.2	6.2	6.3	189	450	53	19	35	1.5	1.7
15	14	2.4	9.5	6.0	7.3	141	267	40	16	15	1.7	1.4
16	7.7	10	11	5.6	9.0	97	185	32	11	9.4	1.9	1.1
17	5.4	20	12	5.6	12	78	147	26	9.0	7.2	1.7	.97
18	4.5	36	12	5.4	9.6	96	125	21	8.1	5.8	2.5	.82
19	3.8	16	11	7.4	8.0	1290	105	18	7.0	4.8	3.6	.64
20	3.4	7.4	11	11	8.0	625	93	17	6.0	4.1	4.4	.55
21	3.1	4.1	11	19	485	249	454	16	5.3	3.6	4.1	.41
22	2.9	3.1	10	24	2860	191	375	13	5.3	3.3	4.4	.35
23	2.6	2.8	9.2	22	6190	2550	156	12	5.3	2.9	7.8	.33
24	2.4	2.6	8.4	19	4680	990	112	11	4.7	15	4.4	.22
25	2.2	2.6	7.8	16	1420	330	112	10	4.4	100	2.9	.28
26	2.1	89	7.3	14	628	252	230	9.8	4.4	102	2.3	.25
27	2.0	420	7.0	13	682	198	191	11	4.0	33	2.9	.20
28	1.9	186	6.5	12	1150	157	113	12	8.1	13	2.3	.15
29	1.9	83	6.2	11	---	152	79	11	43	6.6	82	.23
30	1.8	42	7.0	9.4	---	134	62	8.7	17	4.7	20	.41
31	1.8	---	7.6	8.8	---	100	---	7.7	---	3.9	9.4	---
TOTAL	237.8	974.3	418.3	285.5	18248.9	20030	20260	2954.2	404.4	737.5	211.9	109.51
MEAN	7.67	32.5	13.5	9.21	652	646	675	95.3	13.5	23.8	6.84	3.65
MAX	63	420	50	24	6190	3110	8830	1180	52	210	82	24
MIN	1.8	1.9	6.2	4.7	6.3	78	48	7.7	4.0	2.9	1.3	.15
CFSM	.03	.11	.05	.03	2.19	2.17	2.27	.32	.05	.08	.02	.01
IN	.03	.12	.05	.04	2.28	2.50	2.53	.37	.05	.09	.03	.01
AC-FT	472	1930	830	566	36200	39730	40190	5860	802	1460	420	217

CAL YR 1978	TOTAL	104552.40	MEAN 286	MAX 7240	MIN 1.7	CFSM .96	IN 13.05	AC-FT 207400
WTR YR 1979	TOTAL	64872.31	MEAN 178	MAX 8830	MIN .15	CFSM .60	IN 8.10	AC-FT 128700

SALT RIVER BASIN

05506500 MIDDLE FORK SALT RIVER AT PARIS, MO

LOCATION.--Lat 39°29'05", long 91°59'50", in NE¼NW¼NW¼ sec.11, T.54 N., R.10 W., Monroe County, Hydrologic Unit 07110006, on right bank near upstream side of bridge on E. Madison Street in Paris, 600 ft (183 m) downstream from Wabash Railroad bridge, 12.5 mi (20.1 km) upstream from Elk Fork Salt River, and at mile 104.5 (168.1 km) above mouth of Salt River.

DRAINAGE AREA.--356 mi² (922 km²).

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 621.88 ft (189.549 m) National Geodetic Vertical Datum of 1929, 1961 adjustment. Prior to Jan. 22, 1940, nonrecording gage, Jan. 22, 1940, to Sept. 30, 1968, water-stage recorder, 600 ft (183 m) upstream at present datum.

REMARKS.--Records fair. Water diverted from river upstream from gage by City of Paris. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--40 years, 240 ft³/s (6.797 m³/s), 9.16 in/yr (233 mm/yr), 173,900 acre-ft/yr (214 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,000 ft³/s (1,270 m³/s) Apr. 21, 1973, gage height, 33.5 ft (10.21 m), from floodmark; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s (99.1 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Feb. 24	1045	*4420	125	*12.35	3.764
Mar. 3	2130	3600	102	11.02	3.359
Apr. 12	1115	4120	117	11.87	3.618

Minimum daily discharge, 0.21 ft³/s (0.006 m³/s) Sept. 28, 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	1.9	46	7.5	23	1270	206	69	11	45	62	347
2	2.8	2.1	32	7.2	23	1730	181	136	9.8	22	25	258
3	3.8	2.4	33	6.6	22	2940	148	912	7.8	12	15	80
4	3.4	2.6	23	5.8	19	2700	123	664	7.2	8.4	16	42
5	3.1	3.6	60	6.0	19	2020	112	304	6.1	6.1	12	23
6	2.8	9.0	41	6.8	21	1330	103	162	6.1	5.0	8.3	15
7	2.2	4.8	28	7.5	18	550	89	115	9.1	3.6	6.2	11
8	1.8	3.5	21	6.2	18	480	185	89	164	2.8	5.3	7.5
9	3.5	8.7	19	7.2	18	410	640	70	1690	3.0	3.9	4.8
10	18	20	14	7.2	18	730	229	59	769	3.0	3.2	3.4
11	73	17	12	7.8	16	660	2720	94	410	2.8	2.7	2.7
12	130	9.7	11	7.8	15	334	3920	132	170	2.8	2.3	2.1
13	80	5.6	12	10	15	270	3720	99	110	2.5	1.9	1.7
14	34	3.5	12	9.1	15	269	1690	64	276	2.5	2.2	1.4
15	19	2.2	13	9.1	18	238	308	49	329	2.8	2.1	1.2
16	11	2.1	16	8.4	19	175	181	40	123	3.9	1.8	.98
17	5.9	30	16	8.4	18	126	142	35	54	4.3	1.6	.76
18	3.9	41	15	9.1	18	162	122	32	34	2.8	1.4	.72
19	2.8	163	15	16	23	785	107	30	24	2.6	1.7	.64
20	2.6	65	15	23	28	819	126	31	20	2.0	1.6	.64
21	2.4	33	14	27	168	421	111	29	17	1.7	1.7	.57
22	2.2	22	13	34	758	228	214	28	32	1.5	13	.45
23	2.1	17	12	186	3600	681	225	25	34	1.5	40	.42
24	2.0	11	11	178	4380	1220	168	20	56	28	10	.37
25	1.9	9.4	10	128	4310	752	196	17	26	15	7.6	.37
26	1.8	28	9.2	98	3810	306	364	16	14	8.4	4.7	.37
27	1.8	277	8.4	69	2580	217	200	19	14	11	3.5	.29
28	1.8	502	7.9	50	1310	176	137	27	36	30	3.4	.21
29	1.8	165	8.8	38	---	150	95	17	86	28	18	.21
30	1.8	77	11	32	---	140	76	13	60	21	14	.21
31	1.8	---	9.9	28	---	220	---	12	---	93	98	---
TOTAL	427.5	1539.1	569.2	1044.7	21300	22509	16838	3409	4605.1	379.0	390.1	808.01
MEAN	13.8	51.3	18.4	33.7	761	726	561	110	154	12.2	12.6	26.9
MAX	130	502	60	186	4380	2940	3920	912	1690	93	98	347
MIN	1.8	1.9	7.9	5.8	15	126	76	12	6.1	1.5	1.4	.21
CFSM	.04	.14	.05	.10	2.14	2.04	1.58	.31	.43	.03	.04	.08
IN.	.04	.16	.06	.11	2.23	2.35	1.76	.36	.48	.04	.04	.08
AC-FT	848	3050	1130	2070	42250	44650	33400	6760	9130	752	774	1600

CAL YR 1978	TOTAL	107969.50	MEAN 296	MAX 3790	MIN 1.0	CFSM .83	IN 11.28	AC-FT 214200
WTR YR 1979	TOTAL	73818.71	MEAN 202	MAX 4380	MIN .21	CFSM .57	IN 7.71	AC-FT 146400

SALT RIVER BASIN

05506800 ELK FORK SALT RIVER NEAR MADISON, MO

LOCATION.--Lat 39°26'05", long 92°10'04", in SW¼NE¼SW¼ sec.29, T.54 N., R.11 W., Monroe County, Hydrologic Unit 07110006, on downstream side of highway 25 ft (8 m) to the left of bridge on State Highway AA, 500 ft (152 m) downstream from Allen Creek, 3.5 mi (5.6 km) southeast of Madison, and at mile 29.8 (47.9 km).

DRAINAGE AREA.--200 mi² (518 km²).

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

REVISED RECORDS.--WRD MO 1973: 1970(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 690.16 ft (210.361 m) National Geodetic Vertical Datum of 1929 (Missouri State Highway Commission bench mark).

REMARKS.--Records fair except those for periods of ice effect and no gage height record, which are poor. Several observations of water temperature and specific conductance made during the year.

AVERAGE DISCHARGE.--11 years, 170 ft³/s (4.814 m³/s), 11.54 in/yr (293 mm/yr), 123,200 acre-ft/yr (152 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,300 ft³/s (1,200 m³/s) Apr. 21, 1973, gage height, 33.4 ft (10.18 m), from floodmarks; no flow Aug. 4-10, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 9, 1967, reached a stage of 31.25 ft (9.525 m), from floodmark, discharge, 31,200 ft³/s (884 m³/s), by contracted-opening method. Flood in 1871 reached nearly the same stage, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Feb. 24	0115	*5,380	152	*17.78	5.419
Apr. 11	1945	4,640	131	16.72	5.096

Minimum daily discharge, 0.18 ft³/s (0.005 m³/s) Sept. 25-27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	.75	8.5	2.9	5.0	300	71	26	4.6	20	9.3	604
2	2.0	.65	5.5	2.6	6.5	400	68	118	3.8	9.8	3.1	104
3	1.4	.65	6.2	2.4	5.0	2050	54	707	3.1	5.4	3.4	20
4	2.2	.65	4.6	2.1	4.1	2100	43	210	2.8	4.1	2.3	13
5	2.4	.65	4.9	1.7	4.1	900	37	98	2.8	3.0	1.5	8.7
6	1.7	.96	4.4	1.8	3.8	250	30	64	2.6	2.5	1.2	6.1
7	1.4	1.2	3.8	1.9	3.6	260	25	46	2.6	2.4	1.0	4.5
8	1.2	2.2	3.4	2.0	3.5	240	78	34	64	2.4	.80	3.5
9	1.1	2.8	3.1	2.0	3.4	210	234	25	113	2.6	.70	2.7
10	1.2	1.9	3.1	2.1	3.3	500	95	20	52	2.6	.56	2.0
11	1.4	1.4	3.1	2.1	3.4	240	2330	31	25	2.6	.48	1.7
12	1.0	1.3	3.1	2.2	3.5	100	3570	67	15	2.5	.44	1.4
13	19	1.2	3.8	3.2	3.7	104	460	37	10	2.4	.44	1.1
14	7.3	1.2	4.3	3.8	4.0	85	154	22	14	2.5	.41	.90
15	2.6	1.2	4.5	4.6	4.1	58	96	17	10	2.7	.48	.70
16	2.1	1.3	4.4	4.6	4.0	41	74	12	8.0	2.8	.48	.60
17	2.0	1.7	3.8	4.1	4.2	35	63	11	6.0	2.8	.48	.50
18	2.0	9.3	3.6	4.5	4.9	62	54	11	4.5	2.7	.80	.42
19	2.0	8.4	3.4	4.8	6.4	496	47	11	4.0	2.4	.61	.36
20	2.0	6.7	3.4	5.8	18	230	60	13	3.2	2.3	.52	.32
21	1.9	4.6	3.1	6.8	58	102	124	11	3.0	2.0	.80	.30
22	1.3	3.4	2.8	8.0	277	74	76	9.3	3.0	1.8	4.5	.26
23	1.5	3.0	2.8	9.8	2770	673	46	6.5	3.3	1.8	30	.22
24	1.4	3.0	2.7	8.0	4550	322	61	5.5	3.2	32	10	.20
25	1.4	3.4	2.4	6.6	1910	132	65	5.2	2.9	52	5.6	.18
26	1.0	11	2.2	6.0	950	108	200	6.5	3.1	48	3.5	.18
27	.90	86	1.8	5.3	500	84	100	18	25	11	3.2	.18
28	.90	86	1.7	4.8	330	66	53	24	80	3.1	3.1	.20
29	.85	33	1.8	4.6	---	62	36	16	60	1.9	22	.23
30	.80	16	2.0	4.5	---	62	27	9.3	39	1.4	12	.20
31	.85	---	2.6	4.7	---	87	---	5.5	---	1.2	338	---
TOTAL	71.10	295.51	110.8	130.3	11443.5	10433	8431	1696.8	573.5	236.7	461.70	778.65
MEAN	2.29	9.85	3.57	4.20	409	337	281	54.7	19.1	7.64	14.9	26.0
MAX	19	86	8.5	9.8	4550	2100	3570	707	113	52	338	604
MIN	.80	.65	1.7	1.7	3.3	35	25	5.2	2.6	1.2	.41	.18
CFSM	.01	.05	.02	.02	2.05	1.69	1.41	.27	.10	.04	.08	.13
IN.	.01	.05	.02	.02	2.13	1.94	1.57	.32	.11	.04	.09	.14
AC-FT	141	586	220	258	22700	20690	16720	3370	1140	469	916	1540

CAL YR 1978	TOTAL	53728.16	MEAN	147	MAX	3930	MIN	.29	CFSM	.74	IN	9.99	AC-FT	106600
WTR YR 1979	TOTAL	34662.56	MEAN	95.0	MAX	4550	MIN	.18	CFSM	.48	IN	6.45	AC-FT	68750

SALT RIVER BASIN

05507500 SALT RIVER NEAR MONROE CITY, MO

LOCATION.--Lat 39°32'25", long 91°40'20", in NE¼NW¼ sec.22, T.55 N., R.7 W., Ralls County, Hydrologic Unit 07110007, on left bank on downstream side of old bridge pier, 135 ft (41 m) upstream from highway bridge at Joanna, 2,500 ft (762 m) downstream from Indian Creek, 2.0 mi (3.2 km) upstream from Lick Creek, 8.0 mi (12.9 km) southeast of Monroe City, and at mile 63.5 (102.2 km).

DRAINAGE AREA.--2,230 mi² (5,780 km²), approximately.

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 520.04 ft (158.508 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 2, 1940, nonrecording gage at present site and datum.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--40 years, 1,518 ft³/s (42.99 m³/s), 9.24 in/yr (235 mm/yr), 1,100,000 acre-ft/yr (1.36 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 102,000 ft³/s (2,890 m³/s) Apr. 22, 1973, gage height, 39.1 ft (11.92 m), from floodmark; no flow July 28-31, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1928 reached a stage of about 36 ft (11.0 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 20,000 ft³/s (566 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Feb. 23	2330	25,100	711	20.90	6.370
Mar. 4	0715	28,600	810	22.51	6.861
Apr. 12	1330	*38,700	1,100	*26.53	8.086

Minimum daily discharge, 6.6 ft³/s (0.19 m³/s) Oct. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	8.0	382	78	140	6440	1780	544	128	287	773	508
2	26	13	268	108	125	7740	1210	735	104	206	270	1310
3	27	13	212	99	110	17500	932	3990	120	136	179	501
4	27	14	301	65	103	26800	850	4810	108	98	138	269
5	38	13	239	51	97	15700	728	2460	83	74	108	178
6	67	13	206	47	90	10000	617	1240	67	54	97	134
7	48	12	192	45	87	5280	631	837	60	38	141	101
8	35	9.5	173	46	84	4050	750	655	70	34	116	86
9	28	8.4	159	48	82	3110	1810	531	1480	28	91	74
10	30	8.8	118	46	80	5270	1370	463	2410	25	71	63
11	46	12	90	46	77	4250	13600	413	1120	19	56	54
12	146	33	80	48	74	2400	37100	555	1020	15	45	46
13	177	54	71	64	73	2240	29100	669	570	244	37	38
14	237	59	63	67	72	2940	9910	634	433	217	31	32
15	174	43	61	64	70	2670	2720	434	1160	145	28	28
16	103	37	62	65	69	1560	1400	334	826	122	25	24
17	81	54	68	76	70	1030	1040	289	420	69	23	21
18	63	46	94	84	70	961	851	249	262	36	21	19
19	42	68	107	100	71	4860	742	221	182	23	19	17
20	29	244	107	109	79	6670	944	202	131	20	18	16
21	23	334	91	112	170	3380	1720	184	102	38	20	15
22	17	192	133	140	3390	1690	2580	174	88	36	20	13
23	15	145	114	200	19100	6640	1730	168	70	25	32	12
24	12	110	103	280	23100	8610	1050	171	118	38	67	12
25	11	88	94	420	15200	6290	1500	146	136	88	94	11
26	9.2	102	89	400	10300	2610	3690	130	98	263	84	10
27	7.6	394	91	320	7540	1560	2230	128	65	548	67	10
28	6.9	1120	72	250	6680	1310	1450	169	85	436	59	9.3
29	6.7	910	65	220	---	1100	898	174	549	318	58	9.3
30	6.8	598	69	180	---	1040	651	140	501	472	96	8.9
31	6.6	---	67	160	---	3100	---	148	---	379	203	---
TOTAL	1575.8	4755.7	4041	4038	87203	168801	125584	21997	12566	4531	3087	3629.5
MEAN	50.8	159	130	130	3114	5445	4186	710	419	146	99.6	121
MAX	237	1120	382	420	23100	26800	37100	4810	2410	548	773	1310
MIN	6.6	8.0	61	45	69	961	617	128	60	15	18	8.9
CFSM	.02	.07	.06	.06	1.40	2.44	1.88	.32	.19	.07	.05	.05
IN.	.03	.08	.07	.07	1.45	2.82	2.09	.37	.21	.08	.05	.06
AC-FT	3130	9430	8020	8010	173000	334800	249100	43630	24920	8990	6120	7200

CAL YR 1978	TOTAL	727328.5	MEAN	1993	MAX	32400	MIN	6.6	CFSM	.89	IN	12.13	AC-FT	1443000
WTR YR 1979	TOTAL	441809.0	MEAN	1210	MAX	37100	MIN	6.6	CFSM	.54	IN	7.37	AC-FT	876300

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO

LOCATION.--Lat 39°36'44", long 91°24'30", in NE¼NW¼ sec.36, T.56 N., R.5 W., Ralls County, Hydrologic Unit 07110007, on left bank 180 ft (55 m) upstream from upstream bridge on dual U.S. Highway 61, 2.0 mi (3.2 km) north of New London, 8.0 mi (12.9 km) upstream from Spencer Creek and at mile 35.5 (57.1 km).

DRAINAGE AREA.--2,480 mi² (6,420 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1922 to current year.

GAGE.--Water-stage recorder. Datum of gage is 477.03 ft (145.399 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 7, 1931, nonrecording gage at present site at datum 0.03 ft (0.009 m) higher. Apr. 7, 1931, to Jan. 17, 1935, nonrecording gage at site 180 ft (55 m) downstream at datum 0.04 ft (0.012 m) lower.

REMARKS.--Records good except those for periods of ice affect, which are fair. Several observations of water temperature and specific conductance made during the year. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--57 years, 1,660 ft³/s (47.01 m³/s), 9.09 in/yr (231 mm/yr), 1,203,000 acre-ft/yr (1.48 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 107,000 ft³/s (3,030 m³/s) Apr. 22, 1973, gage height, 31.8 ft (9.69 m), from floodmark; no flow Aug. 3-14, Aug. 21 to Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 14, 1858, reached a stage of 27.6 ft (8.41 m), present datum, based on comparison of June 1928 flood crest at stone marker 1.0 mi (1.6 km) downstream of gage.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 20,000 ft³/s (566 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 24	2045	27,400 776	21.41 6.526
Mar. 4	2400	29,800 844	22.19 6.764
April 13	Unknown	*37,800 1,070	*24.35 7.422

Minimum daily discharge, 15 ft³/s (0.42 m³/s) Sept. 25, 28-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	56	20	512	72	187	7560	2550	802	205	426	777	228		
2	54	18	340	125	173	8380	1590	846	115	252	626	1320		
3	51	19	256	138	160	15400	1220	3320	109	187	308	1290		
4	49	19	220	131	147	27400	1030	5600	118	141	212	539		
5	47	20	281	115	141	25400	932	3750	115	106	160	317		
6	47	28	310	90	135	12200	771	1910	98	95	128	220		
7	58	32	201	80	128	7350	694	1230	98	85	106	153		
8	72	33	236	72	121	4530	886	926	112	77	131	121		
9	66	32	190	69	121	3800	1510	759	220	69	128	101		
10	64	28	187	61	121	5160	1990	626	2490	64	106	90		
11	66	24	163	58	121	5180	6000	561	1620	61	90	77		
12	64	24	138	58	118	3360	19400	578	1230	72	75	69		
13	115	23	125	61	118	2450	35900	760	938	53	64	58		
14	209	37	112	63	118	3030	22500	833	588	250	53	49		
15	232	66	101	66	118	3130	5180	682	717	200	53	40		
16	228	72	98	66	115	2210	2240	512	1180	150	44	37		
17	144	92	95	66	118	1410	1570	426	705	110	35	33		
18	77	80	92	69	118	1180	1140	370	412	76	32	28		
19	73	69	106	81	125	4050	979	317	260	61	28	27		
20	69	66	121	88	135	7060	921	281	190	58	28	26		
21	56	187	125	101	326	4800	1870	248	150	49	26	24		
22	47	340	115	112	1280	2360	2180	224	140	42	27	22		
23	44	180	128	125	15400	7980	2500	205	130	49	29	19		
24	39	147	125	153	24500	8630	1490	183	140	183	44	17		
25	35	128	106	180	22300	7710	1500	187	190	128	74	15		
26	33	121	106	248	15400	3960	4640	180	180	64	106	16		
27	30	138	101	441	8530	2150	3260	182	118	197	103	16		
28	28	599	101	436	7650	1720	2050	195	95	588	92	15		
29	24	1210	90	355	---	1500	1370	215	131	416	80	15		
30	23	802	98	281	---	1250	985	224	512	365	80	15		
31	22	---	77	228	---	2420	---	176	---	665	82	---		
TOTAL	2222	4654	5056	4289	98024	194720	130848	27308	13306	5339	3927	4997		
MEAN	71.7	155	163	138	3501	6281	4362	881	444	172	127	167		
MAX	232	1210	512	441	24500	27400	35900	5600	2490	665	777	1320		
MIN	22	18	77	58	115	1180	694	176	95	42	26	15		
CFSM	.03	.06	.07	.06	1.41	2.53	1.76	.36	.18	.07	.05	.07		
IN.	.03	.07	.08	.06	1.47	2.92	1.96	.41	.20	.08	.06	.07		
AC-FT	4410	9230	10030	8510	194400	386200	259500	54170	26390	10590	7790	9910		
CAL YR 1978	TOTAL	828610	MEAN	2270	MAX	32700	MIN	18	CFSM	.92	IN	12.43	AC-FT	1644000
WTR YR 1979	TOTAL	494690	MEAN	1355	MAX	35900	MIN	15	CFSM	.55	IN	7.42	AC-FT	981200

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO.--continued
(National stream-quality accounting network station)

PERIOD OF RECORD.--August 1967 to July 1975, July 1977 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March to September 1979.

WATER TEMPERATURE: March to September 1979.

REMARKS.--Water temperature and specific conductance samples collected daily by observer. Number of missing days of record exceed 20 percent of year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
MAR												
14...	2930	252	7.2	4.5	90	11.8	91	340	2300	110	36	33
APR												
10...	2050	355	7.6	7.0	220	5.6	46	2900	4400	160	52	49
MAY												
22...	286	395	8.0	23.0	14	10.4	120	25	70	190	40	57
JUN												
19...	312	262	7.4	27.0	180	5.2	65	--	840	100	34	31
JUL												
24...	95	380	7.9	27.5	26	5.0	62	180	380	170	18	59
AUG												
21...	22	388	7.9	29.0	14	5.2	68	140	32	130	14	40
SEP												
18...	23	295	7.7	21.0	44	8.2	91	50	70	120	11	37

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
MAR 14...	6.2	7.7	3.5	88	0	44	8.3	.1	9.0	174	1380	1.7
APR 10...	8.8	14	4.4	130	0	68	11	.2	7.7	217	1200	.82
MAY 22...	11	15	4.7	180	0	62	16	.2	4.1	270	208	.04
JUN 19...	6.1	9.2	5.4	84	0	52	15	.3	7.3	170	143	2.6
JUL 24...	4.5	16	5.7	180	0	37	19	.3	2.6	238	61.0	.16
AUG 21...	7.0	24	4.9	140	0	32	33	.3	5.1	216	12.8	.00
SEP 18...	6.1	14	4.9	130	0	27	21	.3	4.0	174	10.8	.29

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
MAR 14...	.29	.83	.67	11	.130	.050	9.9	--	--	140	1110	100
APR 10...	.16	2.2	.64	13	.400	.040	23	--	--	802	4440	93
MAY 22...	.11	.95	.45	4.4	.020	.010	--	7.6	--	210	162	19
JUN 19...	.05	1.8	.83	19	.260	.020	15	--	--	520	438	87
JUL 24...	.15	1.2	.54	6.0	.120	.020	10	--	--	--	--	--
AUG 21...	.00	1.3	.34	5.8	.200	.020	--	8.2	1.7	35	2.1	83
SEP 18...	.06	1.4	.89	7.5	.250	.100	11	--	--	42	2.6	89

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
MAY 22...	2	1	100	0	4	7	10	0	0
AUG 21...	1	1	100	90	1	<1	10	10	0

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
MAY 22...	0	6	6	1300	30	30	16	320	10
AUG 21...	<3	5	9	1100	10	5	5	570	180

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
MAY 22...	.4	.2	1	1	0	0	20	20
AUG 21...	.0	.0	1	1	0	0	10	10

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	220	350	460	255	180	193
2						---	285	---	495	300	150	193
3						---	320	295	490	230	145	193
4						---	345	---	480	230	145	193
5						---	355	280	490	280	170	193
6						---	365	---	270	220	175	192
7						---	375	285	223	255	140	194
8						---	360	340	275	200	150	378
9						---	361	330	225	210	150	380
10						---	370	360	225	260	165	380
11						---	---	---	220	280	180	382
12						---	132	---	265	220	190	382
13						---	245	---	280	260	210	384
14						---	178	---	280	250	240	385
15						251	207	---	275	260	240	380
16						245	246	---	280	260	220	382
17						264	281	---	280	220	240	380
18						280	312	---	---	260	260	382
19						268	332	---	210	220	260	385
20						265	---	---	205	180	260	383
21						243	---	---	240	175	194	383
22						255	295	---	250	180	192	382
23						193	365	440	250	230	193	383
24						---	280	450	300	240	192	383
25						214	325	335	300	245	193	383
26						225	255	320	315	200	195	382
27						247	255	320	320	200	194	382
28						275	305	450	320	180	192	382
29						290	305	450	290	200	193	382
30						312	330	445	250	200	194	383
31						---	---	460	---	200	195	---
MEAN						255	296	369	302	229	193	338

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	10.0	16.0	24.0	27.0	26.5	27.0
2						---	10.0	---	25.0	27.0	27.0	27.0
3						---	9.0	14.0	25.5	27.0	27.5	27.0
4						---	9.0	---	26.0	27.0	28.0	27.0
5						---	11.0	16.0	28.0	27.0	28.0	27.0
6						---	9.0	---	28.5	27.5	28.5	27.0
7						---	12.0	21.0	29.0	28.0	28.5	27.0
8						---	11.0	26.0	29.0	28.0	28.5	26.0
9						---	9.0	25.0	24.0	28.5	29.0	26.0
10						---	10.0	25.0	24.0	29.0	29.0	25.0
11						---	---	---	24.5	30.0	29.0	24.5
12						---	16.0	---	26.0	30.0	29.0	25.0
13						---	15.0	---	26.5	30.0	29.0	24.0
14						---	14.0	---	27.0	30.0	28.5	24.0
15						6.0	15.0	---	27.0	30.0	28.0	24.0
16						7.0	15.0	---	27.0	30.0	26.0	23.5
17						8.0	17.0	---	27.5	30.0	25.0	24.0
18						9.0	16.0	---	---	29.5	26.0	23.5
19						12.0	16.0	---	29.0	29.5	27.0	23.0
20						12.0	---	---	29.0	29.0	27.5	23.0
21						12.0	---	---	26.0	29.0	27.5	23.0
22						13.0	17.0	---	26.0	29.0	27.0	23.0
23						1.0	16.0	20.5	26.5	29.5	27.0	22.5
24						---	18.0	19.5	27.0	28.0	28.0	23.0
25						7.0	19.0	19.0	27.0	28.0	28.0	22.5
26						7.0	16.0	18.5	27.0	27.5	27.0	22.5
27						8.0	14.0	17.5	27.0	27.0	27.0	22.0
28						11.0	14.0	25.0	27.0	27.0	27.0	22.0
29						11.0	14.0	24.5	27.0	26.0	27.0	22.0
30						14.0	14.0	25.0	27.0	26.0	26.5	22.0
31						---	---	25.0	---	26.0	27.0	---
MEAN						9.0	13.5	21.0	26.5	28.5	27.5	24.5

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	MAR 14,79 0830	MAY 22,79 1545	JUN 19,79 1130	JUL 24,79 0900	AUG 21,79 1500	SEP 18,79 1345
TOTAL CELLS/ML	1300	16000	450	7200	36000	65000
DIVERSITY: DIVISION	0.2	1.3	0.7	1.9	1.2	1.0
..CLASS	0.2	1.3	0.7	1.9	1.2	1.0
..ORDER	0.2	1.8	0.7	2.1	1.4	1.0
...FAMILY	0.3	2.0	0.7	2.4	1.6	1.2
....GENUS	0.3	2.4	0.7	3.2	2.2	1.5

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
..CHLOROPHYCEAE												
...CHLOROCOCCALES												
...COELASTRACEAE												
....COELASTRUM	--	-	--	-	--	-	--	-	1900	5	530	1.
...MICRACTINIACEAE												
....GOLENKINIA	--	-	*	0	--	-	--	-	*	0	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	14	1	750	5	--	-	130	2	480	1	530	1
....BOHLINIA	--	-	--	-	--	-	--	-	--	-	*	0
....CHODATELLA	--	-	*	0	--	-	--	-	*	0	*	0
...DICTYOSPHAERIUM	--	-	--	-	--	-	310	4	--	-	1300	2
...GLOEDACTINIUM	--	-	--	-	--	-	94	1	--	-	--	-
...KIRCHNERIELLA	--	-	--	-	--	-	--	-	--	-	10000#	15
...OOCYSTIS	--	-	--	-	--	-	--	-	--	-	--	-
...SELENASTRUM	--	-	180	1	--	-	130	2	320	1	--	-
...SCENEDESMACEAE							*	0	480	1	--	-
....ACTINASTRUM	--	-	720	5	--	-	--	-	--	-	--	-
....CRUCIGENIA	--	-	--	-	--	-	250	3	320	1	1600	2
...SCENEDESMUS	--	-	1300	8	--	-	310	4	970	3	2300	3
...TETRASTRUM	--	-	360	2	--	-	380	5	--	-	1100	2
...VOLVOCALLES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	--	-	450	3	--	-	280	4	*	0	--	-
...PHACOTACEAE												
....PTEROMONAS	--	-	--	-	--	-	--	-	*	0	--	-
...POLYBLEPHARIDACEAE												
....SPERMATOZOOPSIS	--	-	*	0	--	-	--	-	--	-	--	-
CHRYSOPHYTA												
..BACILLARIOPHYCEAE												
...CENTRALES												
...COSCINODISCACEAE												
....CYCLOTILLA	--	-	120	1	--	-	940	13	2100	6	*	0
....MELOSIRA	--	-	390	2	360#	80	1700#	23	1500	4	*	0
...STEPHANODISCUS	--	-	270	2	--	-	--	-	--	-	--	-
...PENNALES												
...NAVICULACEAE												
....NAVICULA	14	1	*	0	--	-	--	-	--	-	--	-
...NITZSCHACEAE												
....NITZSCHIA	--	-	120	1	--	-	63	1	890	2	--	-
...SURIRELLACEAE												
....SURIRELLA	14	1	--	-	--	-	--	-	--	-	--	-

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	MAR 14,79 0830		MAY 22,79 1545		JUN 19,79 1130		JUL 24,79 0900		AUG 21,79 1500		SEP 18,79 1345	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)												
..CRYPTOPHYCEAE												
...CRYPTOMONADALES												
...CRYPTOCHRYSIDACEAE												
....CHROOMONAS	--	-	150	1	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE												
....CRYPTOMONAS	--	-	270	2	--	-	63	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
..CYANOPHYCEAE												
...CHROOCOCCALES												
...CHROOCOCCACEAE												
....AGMENELLUM	--	-	480	3	--	-	2000#	28	23000#	63	47000#	71
....ANACYSTIS	--	-	450	3	--	-	--	-	3200	9	--	-
...HORMOGONALES												
...OSCILLATORIA												
....OSCILLATORIA	1200#	97	9700#	61	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)												
..EUGLENOPHYCEAE												
...EUGLENALES												
...EUGLENACEAE												
....EUGLENA	--	-	*	0	--	-	220	3	240	1	--	-
....PHACUS	--	-	--	-	--	-	*	0	*	0	--	-
....TRACHELOMONAS	--	-	--	-	90#	20	250	3	480	1	660	1
PYRRHOPHYTA (FIRE ALGAE)												
..DINOPHYCEAE												
...PERIDINIALES												
...GLENODINIACEAE												
....GLENODINIUM	--	-	*	0	--	-	*	0	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

PERIPHYTON

Date	Length of Exposure (days)	Biomass (mg/m ²)		Chlorophyll		Sampling method
		Dry weight (00573)	Ash weight (00572)	a (mg/m ²) (70957)	b (mg/m ²) (70958)	
June 19, 1979	28	2.36	2.13	1.41	.260	Polyethylene Strip
Aug. 21, 1979	28	2.91	2.20	3.21	.640	Polyethylene Strip

MISSISSIPPI RIVER MAIN STEM

05587500 MISSISSIPPI RIVER AT ALTON, IL

LOCATION.--Lat 38°53'06", long 90°10'51", in NE¼ sec.14, T.5 N., R.10 W., Madison County, Hydrologic Unit 07110009, near right bank in downstream end of intermediate lock wall of lock and dam 26 at Alton, 300 ft (91 m) downstream from Missouri & Illinois Bridge & Belt Railroad bridge, 7.7 mi (12.4 km) upstream from Missouri River, and at mile 202.7 (326.1 km) upstream from Ohio River.

DRAINAGE AREA.--171,500 mi² (444,200 km²), approximately.

PERIOD OF RECORD.--Discharge: October 1927 to current year. Monthly discharge only for some periods, published in WSP 1308. Gage heights: At Grafton since 1879 and at Alton since January 1904 in reports of Mississippi River Commission, December 1890 to September 1893 and January 1917 to December 1939 in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Mar. 20, 1933, nonrecording gage at Grafton 15.3 mi (24.6 km) upstream, at datum 403.79 ft (123.075 m) higher. Mar. 20, 1933, to Jan. 4, 1937, and Nov. 11, 1937, to Jan. 31, 1938, nonrecording gage 300 ft (91 m) upstream at datum 395.48 ft (120.542 m) higher. Since July 11, 1940, auxiliary water-stage recorder 5.9 mi (9.5 km) downstream; previously various combinations of gages were used.

REMARKS.--Records good. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin. Floodwater from Missouri River overtops or breaches the levees at extreme high stages. Overflow from Missouri River occurred during various floods as shown in the following table:

Period	Runoff for period acre-ft hm ³		Date	Maximum	
				Discharge ft ³ /s	m ³ /s
May 21 to June 4, 1943	1,075,000	1,330	May 24, 1943	90,000	2,550
Apr. 29 to May 13, 1944	891,000	1,100	Apr. 30, 1944	90,000	2,550
June 29 to July 19, 1947	687,000	847	July 2, 1947	65,000	1,840
July 5-31, 1951	2,534,000	3,120	July 20, 1951	110,000	3,120
Apr. 3-7, 23-26, 1973	Unknown	--	Unknown	Unknown	--

AVERAGE DISCHARGE.--52 years, 98,920 ft³/s (2,801 m³/s), 71,670,000 acre-ft/yr (88.4 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 535,000 ft³/s (15,200 m³/s) Apr. 29, 1973, includes undetermined amount of overflow from Missouri River; maximum elevation, 432.15 ft (131.719 m) Apr. 28, 1973; minimum discharge, 7,960 ft³/s (225 m³/s) Nov. 7, 1948, result of temporary storage in pool of lock and dam 26; minimum elevation, 390.50 ft (119.024 m) Jan. 27, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1844 reached a stage of 432.10 ft (131.704 m), present datum.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 452,000 ft³/s (12,800 m³/s) Apr. 14; maximum elevation, 427.99 ft (130.451 m) Apr. 14; minimum daily discharge, 28,000 ft³/s (793 m³/s) Dec. 5; minimum elevation, 398.43 ft (121.441 m) Jan. 10.

05587500 MISSISSIPPI RIVER AT ALTON, IL

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106000	54000	57400	37800	42200	93400	363000	337000	195000	128000	102000	153000
2	97300	46000	48500	32700	43600	101000	363000	333000	187000	128000	103000	164000
3	86000	43700	39500	40100	41900	122000	376000	330000	179000	122000	95000	169000
4	82800	46900	48900	34200	40500	178000	378000	327000	170000	116000	94300	170000
5	74700	51600	28000	37000	42900	193000	375000	318000	159000	117000	105000	163000
6	73100	47200	34500	42000	46100	186000	373000	317000	148000	124000	110000	156000
7	81700	47200	46200	46000	40000	183000	366000	325000	136000	121000	102000	148000
8	72000	43200	41200	41700	42000	178000	364000	336000	142000	115000	97300	141000
9	77800	45500	31500	39400	44600	183000	367000	334000	143000	120000	94300	137000
10	69000	40400	33700	39200	43700	186000	362000	330000	137000	124000	96500	135000
11	68900	38200	37700	40700	46000	187000	348000	326000	140000	122000	97100	126000
12	67800	36100	50500	44400	44100	185000	422000	322000	132000	128000	101000	108000
13	68800	38000	50700	39000	48100	187000	444000	320000	137000	123000	92300	102000
14	68100	45100	52600	39300	45100	196000	452000	317000	141000	121000	92200	99400
15	72700	42500	52500	42900	40400	210000	449000	313000	137000	120000	96700	92600
16	73000	47400	63200	38700	38200	244000	443000	309000	136000	123000	97400	86800
17	66900	54400	63500	40700	40800	244000	432000	302000	137000	125000	96400	86600
18	67200	53500	65100	41100	39500	239000	424000	297000	134000	125000	94000	78900
19	64700	57800	72000	42100	44500	241000	408000	293000	131000	118000	97800	73500
20	61100	67600	73900	38600	44700	265000	389000	285000	130000	105000	100000	71200
21	60400	74500	68700	37200	42400	276000	374000	277000	125000	101000	135000	67800
22	49400	74000	62700	39100	31300	287000	365000	269000	122000	89100	157000	52600
23	46600	73900	59600	41300	38100	293000	355000	264000	124000	85200	168000	57700
24	44800	80300	56800	33900	79100	305000	356000	250000	130000	86000	171000	60600
25	50200	78200	55600	37600	120000	320000	354000	240000	132000	83200	170000	60800
26	54700	77400	59700	42600	124000	324000	353000	235000	130000	89800	166000	67400
27	53300	74000	54100	44500	109000	332000	349000	226000	125000	95900	158000	68700
28	58100	73000	49200	42200	96000	339000	347000	219000	126000	90900	153000	64200
29	52600	73500	47800	41100	---	345000	343000	212000	133000	87800	155000	56300
30	53800	73000	53400	43600	---	370000	339000	205000	132000	91300	159000	41600
31	59000	---	54700	43200	---	389000	---	199000	---	93700	154000	---
TOTAL	2082500	1698100	1613400	1243900	1498800	7381400	11433000	8967000	4230000	3418900	3710300	3058700
MEAN	67180	56600	52050	40130	53530	238100	381100	289300	141000	110300	119700	102000
MAX	106000	80300	73900	46000	124000	389000	452000	337000	195000	128000	171000	170000
MIN	44800	36100	28000	32700	31300	93400	339000	199000	122000	83200	92200	41600
CFSM	.39	.33	.30	.23	.31	1.39	2.22	1.69	.82	.64	.70	.60
AC-FT	4131000	3368000	3200000	2467000	2973000	14640000	22680000	17790000	8390000	6781000	7359000	6067000
CAL YR 1978	TOTAL	42322500	MEAN	116000	MAX	286000	MIN	28000	CFSM	.68	AC-FT	83950000
WTR YR 1979	TOTAL	50336000	MEAN	137900	MAX	452000	MIN	28000	CFSM	.80	AC-FT	99840000

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL
(National stream-quality accounting network station)

LOCATION.--Lat 38°51'41", long 90°08'15", Madison County, Hydrologic Unit 07110009, 3.0 mi (4.8 km) downstream from gaging station, 4.7 mi (7.6 km) upstream from Missouri River and at mile 199.7 (321.3 km) upstream from Ohio River.

DRAINAGE AREA.--171,500 mi² (444,200 km²), approximately above gaging station.

PERIOD OF RECORD.--Water years 1975-79.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURES: October 1974 to current year.

REMARKS.--Water temperature and specific conductance recorded by instrument at gaging station 05587500 Mississippi River at Alton, IL. Number of missing days of record exceed 20 percent of year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 704 micromhos Jan. 24, 1977; minimum, 286 micromhos July 5, 1978.

WATER TEMPERATURES: Maximum, 30.0°C July 4, 5, 1975, July 25-28, 31, 1976; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 28.5°C July 16, Aug. 9, 10.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT												
26...	54700	380	8.2	13.5	21	8.8	84	280	50	190	41	46
NOV												
30...	83400	410	8.3	4.5	32	11.3	87	1200	3400	200	37	48
DEC												
19...	71300	510	8.1	1.0	9.5	13.4	94	150	100	230	54	56
JAN												
23...	41300	610	7.9	1.0	7.5	11.0	77	75	480	250	70	60
FEB												
14...	45100	630	7.8	.0	6.3	12.4	85	140	180	230	28	56
MAR												
15...	231000	442	7.7	2.0	130	11.6	84	--	300	--	--	42
APR												
19...	406000	336	7.6	12.0	64	9.4	87	100	220	160	45	41
MAY												
24...	251000	425	7.9	19.0	32	8.0	85	100	1000	200	60	50
JUN												
20...	132000	550	8.0	26.0	72	5.2	63	--	40	250	92	60
JUL												
25...	82000	344	8.2	27.5	26	7.0	88	300	230	120	0	25
AUG												
23...	168000	378	8.1	26.0	100	5.2	63	1000	600	190	25	46
SEP												
19...	73500	480	8.1	22.0	22	7.8	89	190	80	260	60	65

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 26...	18	12	3.0	180	0	32	18	.2	9.3	250	36900	2.1
NOV 30...	19	17	3.5	196	0	39	21	.2	4.6	271	61000	1.9
DEC 19...	23	18	3.1	220	0	44	29	.2	5.5	308	59300	2.6
JAN 23...	24	32	3.4	220	0	63	49	.2	9.6	390	43500	2.3
FEB 14...	23	25	2.7	252	0	53	31	.2	11	352	42900	2.1
MAR 15...	--	17	3.7	170	0	44	27	.2	9.0	254	158000	2.6
APR 19...	14	8.1	3.3	140	0	32	16	.2	10	225	247000	4.1
MAY 24...	18	10	3.8	170	0	48	21	.2	4.8	278	188000	3.2
JUN 20...	25	23	2.1	196	0	78	33	.4	4.1	347	124000	3.8
JUL 25...	14	32	2.5	180	0	45	19	.3	4.2	269	59600	3.2
AUG 23...	18	14	3.3	180	0	47	20	.2	8.8	276	125000	2.4
SEP 19...	23	11	3.4	240	0	50	20	.2	12	313	62100	3.2

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 26...	.01	.94	.68	13	.220	.140	--	--	--	160	23600	55
NOV 30...	.10	1.3	.80	14	.260	.130	--	7.5	2.8	78	17600	77
DEC 19...	.01	1.5	.95	18	.200	.120	9.1	--	--	46	8860	73
JAN 23...	1.0	1.5	1.5	17	.210	.180	7.3	--	--	34	3790	14
FEB 14...	.93	1.5	--	16	.220	.180	--	6.3	.6	65	7920	70
MAR 15...	.82	1.4	1.3	18	.180	.090	13	--	--	232	145000	80
APR 19...	.25	1.1	.72	23	.210	.060	10	--	--	193	212000	74
MAY 24...	.04	1.7	.90	22	.090	.060	--	8.0	--	204	138000	85
JUN 20...	.02	1.2	.02	22	.300	.130	12	--	--	164	58500	100
JUL 25...	.08	.87	.48	18	.190	.110	8.6	--	--	116	25700	80
AUG 23...	.00	1.2	.53	16	.330	.140	--	9.5	1.9	393	178000	91
SEP 19...	.02	.94	.83	18	.220	.150	9.6	--	--	93	18500	65

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
NOV 30...	2	1	<100	50	0	3	0	0	2
FEB 14...	1	1	100	50	0	<1	10	0	2
MAY 24...	2	1	100	100	4	5	10	0	0
AUG 23...	3	2	200	80	3	2	10	10	3

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 30...	<3	14	6	1700	60	14	1	130	8
FEB 14...	<3	10	2	460	90	5	5	120	80
MAY 24...	0	39	12	4000	40	65	0	280	0
AUG 23...	<3	130	18	5800	40	130	64	400	20

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 30...	.0	.0	1	0	0	0	30	8
FEB 14...	.1	.0	1	0	0	1	40	8
MAY 24...	.1	.0	1	1	0	3	120	20
AUG 23...	.0	.2	1	1	0	0	280	20

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	412	479			---	405	492	500	575	494	453	---
2	412	484			---	439	490	497	579	493	448	---
3	421	500			---	468	511	490	568	496	470	---
4	435	502			---	484	537	488	552	506	483	---
5	428	495			---	450	530	497	532	529	494	---
6	436	500			---	421	520	507	513	488	514	---
7	426	514			---	432	515	515	490	530	520	---
8	435	487			---	357	505	527	477	555	510	---
9	437	---			---	345	497	542	499	536	514	---
10	408	---			---	406	502	553	497	535	508	---
11	448	---			---	440	488	561	478	556	527	501
12	454	---			---	446	461	559	500	562	509	505
13	462	---			628	461	444	556	527	557	516	507
14	445	---			613	---	397	553	535	542	526	518
15	458	---			609	---	390	557	562	559	515	514
16	450	---			602	---	412	568	577	555	511	528
17	434	---			608	---	440	566	583	567	525	529
18	462	---			605	---	440	557	582	544	525	540
19	475	---			613	---	431	559	596	515	520	545
20	443	---			609	---	428	560	586	514	514	544
21	448	---			607	---	424	559	604	513	529	547
22	454	---			578	---	428	576	613	510	---	552
23	445	---			511	---	437	580	600	502	---	557
24	---	---			513	450	450	586	566	497	---	564
25	---	---			482	452	462	587	569	499	---	586
26	---	---			417	449	472	596	558	469	---	586
27	---	---			392	444	479	582	533	502	---	580
28	---	---			378	465	483	574	511	506	---	580
29	---	---			---	471	496	566	488	525	---	586
30	---	---			---	478	501	567	488	511	---	580
31	---	---			---	487	---	569	---	489	---	---
MEAN	440	495			548	440	469	550	545	521	506	547

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	13.5			---	2.0	8.0	14.5	21.0	24.0	27.0	---
2	20.0	13.5			---	2.0	8.0	15.0	21.0	24.0	27.0	---
3	19.5	13.5			---	2.0	8.0	14.5	21.0	24.5	27.0	---
4	18.0	13.5			---	2.0	8.0	14.5	21.5	25.0	27.0	---
5	16.0	14.0			---	2.0	8.5	14.5	22.5	25.0	27.0	---
6	15.5	13.5			---	2.5	8.0	15.0	23.0	24.5	27.5	---
7	15.0	13.0			---	5.0	8.0	16.0	23.5	24.5	27.5	---
8	14.5	12.5			---	4.0	8.5	17.5	24.0	24.5	27.5	---
9	14.0	---			---	2.5	8.0	18.5	24.5	25.0	28.0	---
10	13.5	---			---	2.5	8.0	19.5	24.5	25.5	28.0	---
11	13.5	---			---	2.5	8.0	20.0	24.0	26.0	27.5	24.5
12	13.5	---			---	2.0	8.5	19.5	24.5	26.5	26.5	24.5
13	14.0	---			2.0	2.5	9.5	19.5	24.5	27.0	26.5	24.5
14	14.0	---			2.0	---	10.5	19.5	25.0	27.0	26.0	23.5
15	14.0	---			2.0	---	11.0	20.0	25.0	27.5	25.5	22.5
16	13.5	---			2.0	---	11.5	20.0	25.0	28.0	25.0	22.5
17	13.5	---			2.0	---	11.5	20.5	25.5	28.0	25.0	22.5
18	13.5	---			2.0	---	12.5	21.0	25.5	27.5	25.5	22.5
19	13.5	---			2.0	---	13.0	21.5	26.0	27.0	26.0	22.5
20	13.0	---			2.0	---	14.0	21.5	26.0	26.5	26.5	22.5
21	13.0	---			2.0	---	14.5	21.0	26.0	27.0	26.5	22.0
22	13.0	---			2.0	---	15.0	21.0	26.0	27.0	---	21.5
23	13.0	---			2.0	---	15.0	21.0	26.0	27.5	---	21.0
24	---	---			2.0	7.5	15.5	20.5	25.0	27.5	---	21.0
25	---	---			2.0	6.5	16.0	20.5	24.5	27.5	---	21.0
26	---	---			2.0	6.5	16.0	19.5	24.5	27.0	---	21.5
27	---	---			2.0	6.0	15.5	19.0	24.5	27.0	---	21.5
28	---	---			2.0	6.5	15.0	19.5	24.0	26.5	---	21.5
29	---	---			---	7.5	15.0	19.5	23.5	27.0	---	21.5
30	---	---			---	8.0	15.0	20.0	23.5	27.5	---	22.0
31	---	---			---	8.5	---	20.5	---	27.5	---	---
MEAN	15.0	13.5			2.0	4.5	11.5	19.0	24.0	26.5	26.5	22.5

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 30,78 1130	MAR 15,79 1200	MAY 24,79 1030	JUN 20,79 1020
TOTAL CELLS/ML	18000	1200	7600	6100
DIVERSITY: DIVISION	0.6	1.2	1.2	1.3
..CLASS	0.6	1.2	1.2	1.3
...ORDER	0.7	1.8	1.6	1.5
...FAMILY	0.8	2.5	2.3	1.5
....GENUS	1.8	3.2	3.3	1.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...MICRACTINIACEAE								
...MICRACTINIUM	--	-	--	-	470	6	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	270	2	29	2	500	7	39	1
....DICTYOSPHAERIUM	--	-	29	2	130	2	--	-
....GLOEOACTINIUM	1100	6	--	-	230	3	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-
....OOCYSTIS	130	1	--	-	--	-	--	-
....SELENASTRUM	270	2	--	-	*	0	--	-
....TETRAEDRON	--	-	--	-	*	0	--	-
....TREUBARIA	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	800	11	--	-
....SCENEDESMUS	--	-	58	5	1000	13	780	13
....TETRASTRUM	--	-	--	-	400	5	160	3
..TETRASPORALES								
...PALMELLACEAE								
...SPHAEROCYSTIS	--	-	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
...CHLAMYDOMONAS	--	-	--	-	130	2	--	-
...PHACOTACEAE								
...PTEROMONAS	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
...COSCINODISCUS	--	-	--	-	--	-	--	-
....CYCLOTELLA	12000# 66		240# 21		100	1	890	15
....MELOSIRA	800	5	220# 18		2300# 31		78	1
....SKELETONEMA	2800# 16		--	-	--	-	--	-
....STEPHANODISCUS	--	-	43	4	670	9	--	-
..PENNALES								
...DIATOMACEAE								
....DIATOMA	--	-	43	4	--	-	--	-
...FRAGILARIACEAE								
...ASTERIONELLA	--	-	130	11	67	1	--	-
...SYNEDRA	--	-	29	2	--	-	--	-
...GOMPHONEMACEAE								
....GOMPHONEMA	130	1	14	1	--	-	--	-
...MERIDIONACEAE								
....MERIDION	--	-	14	1	--	-	--	-
...NAVICULACEAE								
....NAVICULA	--	-	14	1	--	-	--	-
...NITZSCHIACEAE								
....NITZSCHIA	270	2	72	6	370	5	78	1

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 11,79 0940		AUG 8,79 1030		SEP 11,79 1530	
	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
ORGANISM						
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOCHRYSIDACEAE						
.....CHROOMONAS	--	-	--	-	--	-
....CRYPTOMONADACEAE						
.....CRYPTOMONAS	130	1	--	-	170	2
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
....CHROOCOCCACEAE						
.....AGMENELLUM	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	67	1
...HORMOGONALES						160
....OSCILLATORIACEAE						3
.....LYNGBYA	--	-	240#	21	--	-
....OSCILLATORIA	--	-	--	-	--	-
...RIVULARIACEAE						3900#
....RAPHIDIOPSIS	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENAEAE						
.....EUGLENA	130	1	--	-	*	0
....TRACHELOMONAS	--	-	--	-	--	-

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 25,79 1330	AUG 23,79 1130	SEP 19,79 1030			
TOTAL CELLS/ML	9600	4800	21000			
DIVERSITY: DIVISION	1.4	1.0	1.7			
..CLASS	1.4	1.0	1.7			
..ORDER	2.0	1.1	2.5			
...FAMILY	2.2	1.7	2.9			
....GENUS	2.4	2.4	3.6			
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....MICRACTINIACEAE						
....MICRACTINIUM	--	-	--	-	--	-
....OOCYSTACEAE						
....ANKISTRUDES MUS	180	2	--	-	370	2
....DICTYOSPHAERIUM	--	-	--	-	1300	6
....GLOEOACTINIUM	--	-	510	11	--	-
....KIRCHNERIELLA	--	-	--	-	890	4
....OOCYSTIS	360	4	--	-	1200	6
....SELENASTRUM	*	0	320	7	--	-
....TETRAEDRON	--	-	64	1	*	0
....TREUBARIA	--	-	--	-	*	0
....SCENEDESMACEAE						
....ACTINASTRUM	--	-	1500#	32	--	-
....SCENEDESMUS	360	4	900#	19	2700	13
....TETRASTRUM	360	4	--	-	670	3
..TETRASPORALES						
...PALMELLACEAE						
...SPHAEROCYSTIS	--	-	--	-	600	3
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
...CHLAMYDOMONAS	130	1	--	-	--	-
...PHACOTACEAE						
...PTEROMONAS	--	-	--	-	150	1
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
....COSCINODISCACEAE						
....COSCINODISCUS	*	0	--	-	--	-
....CYCLOTELLA	2100#	22	130	3	820	4
....MELOSIRA	130	1	--	-	2800	13
....SKELETONEMA	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	--	-
..PENNALES						
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
...FRAGILARIACEAE						
....ASTERIONELLA	--	-	--	-	--	-
....SYNEDRA	--	-	--	-	--	-
...GOMPHONEMATACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...MERIDIUNACEAE						
....MERIDION	--	-	--	-	--	-
...NAVICULACEAE						
....NAVICULA	--	-	--	-	--	-
...NITZSCHIACEAE						
....NITZSCHIA	3000#	31	1300#	27	1400	7

MISSISSIPPI RIVER MAIN STEM

G5587550 MISSISSIPPI RIVER BELOW ALTON, IL--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 14,78 1430		MAR 21,79 0920		MAY 9,79 0810		JUN 13,79 0700	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS		--	--	--		300		1
...CRYPTOMONADACEAE								
....CRYPTOMONAS		--	--	--		220		1
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM		2900#	30	--	--	--	--	--
....ANACYSTIS		--	--	--	--	3300#	16	
...HORMOGONALES								
...OSCILLATORIACEAE								
....LYNGBYA		--	--	--	--	--	--	--
....OSCILLATORIA		--	--	--	--	3600#	17	
...RIVULARIACEAE								
....RAPHIDIOPSIS		--	--	--	--	300		1
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
....EUGLENA		--	--	--	--	*	0	
....TRACHELOMONAS		*	0	64	1	*	0	

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	200	118	146	100	100	2000	560	450	187	173	211	3070
2	185	118	146	100	70	2000	620	732	183	169	447	947
3	189	118	143	100	50	10000	650	840	182	174	331	235
4	187	116	203	100	30	5980	590	545	178	162	201	164
5	174	114	260	100	10	1140	530	488	178	167	165	137
6	164	114	260	100	.00	1630	462	450	178	169	148	587
7	158	113	160	100	.00	3160	438	414	174	167	138	298
8	156	113	230	100	.00	650	438	402	213	178	129	151
9	155	110	240	100	.00	390	402	378	173	174	122	124
10	155	110	160	100	.00	426	378	354	191	169	130	112
11	153	110	160	100	.00	342	378	366	178	153	132	98
12	151	108	160	100	.00	695	402	331	156	146	116	94
13	146	113	150	100	10	858	402	320	148	137	112	112
14	145	114	150	100	50	575	342	309	146	129	155	98
15	141	116	140	100	70	331	320	285	140	576	148	91
16	140	116	130	100	70	280	309	274	133	426	132	87
17	137	122	120	100	90	287	298	267	135	189	121	82
18	135	130	130	100	100	6080	298	298	146	160	112	79
19	130	132	140	100	100	3550	287	354	165	148	103	76
20	129	133	141	100	100	858	378	309	171	141	97	72
21	127	132	110	100	200	635	414	269	153	135	93	70
22	124	132	110	100	300	635	331	251	273	146	90	67
23	124	135	110	100	500	3810	309	247	792	137	90	66
24	127	137	100	100	700	1420	298	235	500	1600	86	64
25	127	137	100	100	600	875	922	231	261	1400	82	62
26	125	141	100	100	500	725	953	229	217	298	83	58
27	124	145	100	100	500	605	450	229	205	227	84	57
28	122	145	100	100	1000	575	390	221	317	201	164	55
29	122	145	100	100	---	876	725	215	320	718	1470	53
30	119	145	90	100	---	1220	575	196	200	971	201	52
31	118	---	90	100	---	620	---	192	---	269	116	---
TOTAL	4489	3732	4479	3100	5150.00	53228	13849	10681	6593	10009	5809	7318
MEAN	145	124	144	100	184	1717	462	345	220	323	187	244
MAX	200	145	260	100	1000	10000	953	840	792	1600	1470	3070
MIN	118	108	90	100	.00	280	287	192	133	129	82	52
CFSM	.29	.24	.28	.20	.36	3.38	.91	.68	.43	.64	.37	.48
IN.	.33	.27	.33	.23	.38	3.90	1.01	.78	.48	.73	.43	.54
AC-FT	8900	7400	8880	6150	10220	105600	27470	21190	13080	19850	11520	14520
CAL YR 1978	TOTAL	179461.00	MEAN	492	MAX	9940	MIN	76	CFSM	.97	IN	13.14
WTR YR 1979	TOTAL	128437.00	MEAN	352	MAX	10000	MIN	.00	CFSM	.69	IN	9.41
									AC-FT	254800		

MISSOURI RIVER MAIN STEM

06813500 MISSOURI RIVER AT RULO, NB

LOCATION.--Lat 40°03'14", long 95°25'12", in NW¼NW¼ sec.17, T.1 N., R.18 E., Richardson County, Hydrologic Unit 10240005, on downstream end of middle pier of bridge on U.S. Highway 159 at Rulo, 3.2 mi (5.1 km) upstream from Nemaha River, and at mile 498.0 (801.3 km).

DRAINAGE AREA.--414,900 mi² (1,074,600 km²), approximately. The 3,959 mi² (10,254 km²) in Great Divide basin are not included.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

PERIOD OF RECORD.--October 1949 to current year in reports of Geological Survey. Gage-height record collected at site 80 ft (24 m) upstream January 1886 to December 1899 published in reports of Missouri River Commission September 1929 to September 1950 in files of Kansas City office of Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 837.23 ft (255.188 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 13, 1950, nonrecording gage at site 80 ft (24 m) upstream at same datum.

REMARKS.--Records good except those for winter period, which are poor. Flow regulated by upstream main-stem reservoirs. Several observations of water temperature were made during the year. National Weather Service gage height telemeter at station.

AVERAGE DISCHARGE.--30 years, 39,650 ft³/s (1,123 m³/s), 28,730,000 acre-ft/yr (35,400 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 358,000 ft³/s (10,100 m³/s) Apr. 22, 1952, gage height, 25.60 ft (7.803 m); minimum daily, 4,420 ft³/s (125 m³/s) Jan. 13, 1957; minimum gage height, 0.65 ft (0.198 m) Jan. 7, 1971, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1881 reached a stage of 22.9 ft (6.98 m) from floodmark, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 136,000 ft³/s (3,850 m³/s) Mar. 23, gage height, 20.33 ft (6.197 m); minimum daily, 21,000 ft³/s (595 m³/s) Jan. 18-29; minimum gage height, 6.32 ft (1.926 m) Jan. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57300	59200	60200	28700	24000	38000	77100	53300	54200	53800	49700	49300
2	57000	59000	59400	28500	24500	42700	73200	55600	54400	52700	50800	52500
3	57100	58500	56600	27800	25000	80000	69000	77300	53600	52600	47300	48500
4	57000	58100	52400	27300	25000	85000	66700	70200	52600	52400	46100	45900
5	57200	59200	47500	26900	25000	58400	64700	60300	53500	53700	46100	45200
6	58400	59800	43500	26500	25000	53100	63500	57000	52900	52200	45000	46800
7	60300	59900	39400	26500	25500	79000	61800	57400	53300	51200	44900	53900
8	59000	60100	36400	26500	26000	57600	59600	58000	54000	54500	44400	47600
9	58500	59700	34000	26500	26000	46500	57200	56900	55100	55000	43500	44200
10	57500	59000	31400	26500	26500	44700	55800	57800	56000	49800	43500	42900
11	57500	59700	29800	26500	26500	44600	54000	58600	56700	49400	43900	42300
12	58000	61400	29600	26500	27000	46300	53200	56400	56700	48100	43300	41900
13	61500	62600	30700	25500	27000	55400	54000	71200	55500	47700	42800	42200
14	60800	62000	31400	24000	27500	65300	55600	66900	55000	47300	44000	43200
15	60100	61800	31600	23000	28000	60200	55100	66400	55100	56400	45500	44300
16	59600	61500	31200	22000	28000	52200	52600	67800	55200	59700	45700	44500
17	59600	62300	31300	21500	28000	51400	53800	66000	55100	52500	44200	45800
18	59700	62200	32100	21000	27500	90300	56000	65200	55100	49300	43400	46900
19	60900	62000	32100	21000	28000	120000	56200	66800	59300	47900	43900	46800
20	60500	61700	32100	21000	28500	125000	54200	65700	57500	46900	44400	46700
21	60200	60800	32000	21000	29000	129000	54800	65700	58500	46100	50900	46600
22	60300	58900	32300	21000	29500	113000	55700	63100	57000	45100	54200	47700
23	61400	57500	32100	21000	30000	128000	55800	61200	60200	42900	51600	47900
24	61400	58900	32100	21000	31000	135000	55500	59900	60500	52800	51500	47200
25	60700	58500	31700	21000	32000	132000	54000	58400	54600	53800	48500	47300
26	60300	59400	30900	21000	33000	114000	60200	57700	52200	47300	48000	47100
27	59900	59500	30200	21000	34000	91500	55700	56900	52200	45500	47500	46300
28	60500	58800	30400	21000	35000	82900	54600	55500	53100	46000	49000	46100
29	60000	59400	31100	21000	---	80500	54100	54900	55800	48100	51000	46100
30	59700	60100	30800	22000	---	82000	54200	55600	55700	49100	47200	46200
31	59200	---	29400	23000	---	83600	---	54200	---	48800	46000	---
TOTAL	1841100	1801500	1115700	737700	782000	2467200	1747900	1906900	1660600	1558600	1447800	1389900
MEAN	59390	60050	35990	23800	27930	79590	58260	61510	55350	50280	46700	46330
MAX	61500	62600	60200	28700	35000	135000	77100	77300	60500	59700	54200	53900
MIN	57000	57500	29400	21000	24000	38000	52600	53300	52200	42900	42800	41900
CFSM	.14	.15	.09	.06	.07	.19	.14	.15	.13	.12	.11	.11
AC-FT	3652000	3573000	2213000	1463000	1551000	4894000	3467000	3782000	3294000	3091000	2872000	2757000
CAL YR 1978 TOTAL	18453800			MEAN 50560	MAX 160000	MIN 14000	CFSM .12	AC-FT 36600000				
WTR YR 1979 TOTAL	18456900			MEAN 50570	MAX 135000	MIN 21000	CFSM .12	AC-FT 36610000				

NODAWAY RIVER BASIN

06817500 NODAWAY RIVER NEAR BURLINGTON JUNCTION, MO

LOCATION.--Lat 40°26'42", long 95°05'19", in SW¼NE¼ sec. 17, T.65 N., R.37 W., Nodaway County, Hydrologic Unit 10240010, near left bank on downstream end of bridge pier on U.S. Highway 136, 0.5 mi (0.8 km) upstream from Mill Creek, 0.5 mi (0.8 km) downstream from Norfolk and Western Railroad Co. bridge, and 1.5 mi (2.4 km) west of Burlington Junction.

DRAINAGE AREA.--1,240 mi² (3,210 km²), approximately.

PERIOD OF RECORD.--March 1922 to current year.

GAGE.--Water-stage recorder. Datum of gage is 895.17 ft (272.848 m) National Geodetic Vertical Datum of 1929. Prior to October 1, 1970 at datum 1.00 ft (0.305 m) higher. Prior to June 29, 1939, nonrecording gage. Prior to Oct. 26, 1928, at former bridge at same site and approximately same as previous datum; Oct. 26, 1928, to June 9, 1929, at site 0.5 mi (0.8 km) upstream set to read same as former gage at low water; June 10, 1929 to June 28, 1939, at present site and at previous datum.

REMARKS.--Records fair except during periods of ice effect and no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--57 years, 544 ft³/s (15.41 m³/s), 5.96 in/yr (151 mm/yr), 394,100 acre-ft/yr (486 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,000 ft³/s (1,300 m³/s) Oct. 11, 1973, gage height, 19.85 ft (6.050 m); maximum gage height observed, 20.69 ft (6.306 m), present datum, Mar. 5, 1949, (ice jam); minimum discharge, 1.1 ft³/s (0.031 m³/s) Aug. 7, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,500 ft³/s (241 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Mar. 3	1800	*19500	552	Mar. 23	1230	8590	243
Mar. 18	2100	16200	459	June 28	0300	9380	266
							9.61
							2.929
							10.20
							3.109

Minimum discharge observed, 66 ft³/s (1.87 m³/s) Aug. 28, Sept. 29, 30; minimum gage height observed, -0.24 ft (-0.073 ft) Aug. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	233	110	274	120	120	2000	1910	1440	300	912	300	934
2	233	110	200	120	120	2500	1980	1950	300	750	515	918
3	233	120	160	120	120	14000	1990	2200	300	655	715	545
4	233	120	142	120	120	9800	1900	2040	277	590	300	399
5	227	120	220	120	120	4820	1610	1700	274	525	200	200
6	216	124	290	120	120	4040	1410	1400	277	500	170	441
7	190	118	307	120	120	7100	1170	1000	280	450	140	984
8	180	110	383	120	120	3680	1130	942	310	400	130	610
9	172	110	300	120	120	2060	1040	850	300	368	120	258
10	164	110	250	120	120	1820	930	820	300	339	118	194
11	157	110	224	120	120	1460	895	800	346	310	118	118
12	154	120	245	120	120	2940	972	765	314	297	116	99
13	144	236	224	120	120	5810	984	710	300	277	114	100
14	142	261	200	120	120	4320	885	665	290	250	114	100
15	140	252	188	120	120	2290	775	600	280	616	120	90
16	137	252	183	120	120	1400	720	580	277	755	110	90
17	132	590	160	120	120	1330	710	550	280	380	104	87
18	130	750	152	120	120	9720	890	535	274	310	102	84
19	126	600	170	120	120	9130	795	590	570	258	99	80
20	126	365	194	120	120	3930	1800	650	680	236	93	77
21	124	230	194	120	120	2400	1890	665	383	219	90	71
22	130	188	147	120	200	1930	1490	615	685	207	80	71
23	132	170	130	120	300	6770	1060	500	960	200	73	70
24	137	160	130	120	500	4500	924	422	875	1800	73	66
25	132	160	152	120	700	2400	2870	400	600	1930	70	66
26	135	200	137	120	900	2010	3770	400	372	735	70	68
27	130	328	135	120	1200	1610	2340	400	1750	442	68	70
28	120	270	124	120	1500	1360	1550	400	6450	300	66	68
29	120	230	122	120	---	2190	2090	350	2570	949	960	66
30	112	258	120	120	---	4720	1700	350	1280	1210	438	66
31	110	---	122	120	---	2470	---	350	---	500	200	---
TOTAL	4851	6882	5979	3720	7820	126510	44180	25639	22454	17670	5986	7090
MEAN	156	229	193	120	279	4081	1473	827	748	570	193	236
MAX	233	750	383	120	1500	14000	3770	2200	6450	1930	960	984
MIN	110	110	120	120	120	1330	710	350	274	200	66	66
CFSM	.13	.19	.16	.10	.23	3.29	1.19	.67	.60	.46	.16	.19
IN.	.15	.21	.18	.11	.23	3.80	1.33	.77	.67	.53	.18	.21
AC-FT	9620	13650	11860	7380	15510	250900	87630	50850	44540	35050	11870	14060

CAL YR 1978	TOTAL	356589	MEAN 977	MAX 16900	MIN 104	CFSM .79	IN 10.70	AC-FT 707300
WTR YR 1979	TOTAL	278781	MEAN 764	MAX 14000	MIN 66	CFSM .62	IN 8.36	AC-FT 553000

NODAWAY RIVER BASIN

06817800 NODAWAY RIVER NEAR OREGON, MO.

LOCATION.--Lat 39°58'19", long 94°59'46", in SE¼ sec.36, T.60 N., R.37 W., Holt County, Hydrologic Unit 10240010, at bridge on U.S. Highway 59, 7 mi (11.3 km) east of Oregon.

PERIOD OF RECORD.--November 1968 to July 1975, July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARDNESS (MG/L AS CAC03) (00900)
OCT 17...	1028	29001	130	480	8.2	12.5	11.0	103	9	84	150
NOV 14...	1028	29001	2300	422	7.5	7.0	10.7	88	17	11000	--
DEC 12...	1028	29001	250	595	7.6	.5	11.8	82	20	170	--
JAN 22...	1028	29001	--	455	7.3	.0	7.0	48	22	480	240
FEB 13...	1028	29001	60	535	7.5	.0	7.6	52	8	1400	--
MAR 21...	1028	29001	5500	260	7.6	8.5	6.4	55	190	2800	--
APR 17...	1028	29001	580	442	7.9	17.5	8.7	91	38	400	210
MAY 08...	1028	29001	1030	404	8.0	20.5	6.6	73	31	700	--
JUN 12...	1028	29001	230	395	7.9	26.5	8.6	106	36	800	--
JUL 11...	1028	29001	260	405	8.2	27.0	6.6	82	34	900	190
AUG 08...	1028	29001	140	430	8.0	27.5	5.6	70	41	250	--
SEP 11...	1028	29001	130	370	7.4	26.5	8.2	101	31	2000	--

DATE	HARDNESS, NONCARBONATE (MG/L CAC03) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	BICARBONATE (MG/L AS HCO3) (00440)	CARBONATE (MG/L AS CO3) (00445)	ALKALINITY (MG/L AS CAC03) (00410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT 17...	0	46	6.7	8.0	2.2	240	0	197	2.4	43	18
NOV 14...	--	--	--	--	--	216	0	177	11	--	--
DEC 12...	--	--	--	--	--	272	0	223	11	--	--
JAN 22...	22	66	16	15	2.5	260	0	213	21	39	8.2
FEB 13...	--	--	--	--	--	268	0	220	14	--	--
MAR 21...	--	--	--	--	--	120	0	98	4.8	--	--
APR 17...	41	59	14	10	4.0	204	0	167	4.1	36	32
MAY 08...	--	--	--	--	--	202	0	166	3.2	--	--
JUN 12...	--	--	--	--	--	22	0	18	.5	--	--
JUL 11...	190	52	13	9.9	3.4	0	0	0	.0	28	14
AUG 08...	--	--	--	--	--	220	0	180	3.5	--	--
SEP 11...	--	--	--	--	--	196	0	161	12	--	--

NODAWAY RIVER BASIN

06817800 NODAWAY RIVER NEAR OREGON, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+N03 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT 17...	.2	381	16	.60	.10	--	1	<1	30	24
NOV 14...	--	--	54	.60	.10	.240	--	--	--	--
DEC 12...	--	--	30	2.5	.20	.200	--	--	--	--
JAN 22...	.2	336	8	2.8	.30	.060	2	<1	9	6
FEB 13...	--	--	6	1.9	.60	.180	--	--	--	--
MAR 21...	--	--	3440	4.8	1.4	2.77	--	--	--	--
APR 17...	<.3	260	452	--	--	1.08	12	2	220	13
MAY 08...	--	--	304	5.6	<.10	.260	--	--	--	--
JUN 12...	--	--	354	.30	<.10	.430	--	--	--	--
JUL 11...	.3	233	350	2.6	<.10	--	<2	<2	18	3
AUG 08...	--	--	115	.10	.18	.340	--	--	--	--
SEP 11...	--	--	148	1.1	.01	.130	--	--	--	--

[illegible]

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO

LOCATION.--Lat 39°45'12", long 94°51'28", in NW¼SW¼ sec.17, T.57 N., R.35 W., Buchanan County, Hydrologic Unit 10240011, on left bank at left abutment of St. Joseph & Grand Island Railroad bridge in St. Joseph. River mile, 448.2 (721.2 km).

DRAINAGE AREA.--420,300 mi² (1,089,000 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to current year. Gage-height records collected in vicinity 1873-99 are contained in reports of Missouri River Commission; since 1900 in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 788.19 ft (240.240 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 21, 1931, nonrecording gage and Oct. 21, 1931, to Dec. 31, 1933, water-stage recorder at same site at datum 5.50 ft (1.676 m) higher.

REMARKS.--Records good except during periods of ice effect, which are poor. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs.

AVERAGE DISCHARGE.--51 years, 39,490 ft³/s (1,118 m³/s), 28,610,000 acre-ft/yr (35,280 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 397,000 ft³/s (11,240 m³/s) Apr. 22, 23, 1952, gage height, 26.82 ft (8.175 m); minimum, 2,300 ft³/s (65.1 m³/s) Jan. 9, 1937; minimum gage height, 0.00 ft (0.000 m) Dec. 18, 19, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 29, 1881 reached a stage of 27.2 ft (8.29 m), present datum, discharge, about 370,000 ft³/s (10,500 m³/s), computed by Corps of Engineers.
Flood of June 1844 reached a stage of 24.5 ft (7.47 m) discharge, about 370,000 ft³/s (9,910 m³/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 170,000 ft³/s (4,810 m³/s) Mar. 24; maximum gage height, 25.78 ft (7.858 m) Mar. 3 (ice jam); minimum daily, 21,000 ft³/s (595 m³/s) Jan. 18-29; minimum recorded gage height, 7.38 ft (2.249 m) Jan. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61000	61300	59100	30600	24000	38000	82000	61800	61300	61500	59500	52000
2	60800	61700	58000	30000	25000	43000	76900	63400	60800	59100	58400	63900
3	59600	62300	57400	29800	25000	85000	72200	84800	60600	59200	58000	55600
4	59300	62600	52800	28000	25000	110000	69900	88600	58600	58000	53600	51200
5	59500	63000	49300	27000	25000	93700	68000	75000	59500	59800	53200	49000
6	59800	64000	46500	27000	25000	72800	65800	65000	58600	59200	52300	51000
7	60600	64800	43300	27000	26000	111000	64600	64000	58300	56800	51100	55700
8	59800	64100	39700	27000	26000	87600	62300	64000	58800	59800	50800	52000
9	59400	62700	37800	27000	26000	59800	60000	63000	59600	68800	49700	47000
10	58800	61300	36300	27000	26000	53600	59500	63600	59900	57800	48900	45500
11	57900	61200	32300	27000	27000	53600	57000	65600	60000	56500	49400	45000
12	58900	62400	31500	27000	27000	53200	56900	72800	59700	56500	48800	44300
13	60700	64200	31800	26000	27000	63200	57100	85600	58300	54900	47800	44300
14	60900	63300	33000	25000	27000	79700	58000	81600	57400	55000	48400	45100
15	61000	62700	33200	24000	28000	77600	58700	75500	57700	60900	50100	46300
16	61000	62600	33500	23000	28000	65500	56500	74700	58400	75500	50200	46900
17	60600	65200	33200	22000	28000	58900	55700	74300	58700	64700	49100	47900
18	61000	65200	33900	21000	28000	93600	57900	72100	59200	59400	47400	49600
19	60600	63700	34100	21000	28000	155000	62500	74200	60900	57000	47300	49200
20	61300	62400	34400	21000	28000	161000	62700	73600	67200	55400	47600	49200
21	60500	60500	34100	21000	29000	160000	62400	73400	63100	54100	50700	48800
22	60900	59700	34400	21000	29000	146000	62000	71900	63000	53200	58600	49400
23	62000	57900	34300	21000	30000	147000	62600	68400	63500	50900	56600	49800
24	62700	58400	33900	21000	31000	166000	62000	67500	70300	59200	56200	49600
25	63100	59300	34000	21000	32000	157000	60100	65800	61600	79600	52300	49300
26	62600	59400	33400	21000	33000	142000	68100	64700	56800	59300	49400	49300
27	61900	59500	32400	21000	34000	110000	67700	64000	56500	54700	49200	48700
28	61300	57900	31800	21000	35000	90900	62900	62200	61300	55400	49500	48300
29	61600	57400	33400	21000	---	85200	61300	60700	67300	64500	60100	48500
30	62300	58000	33600	22000	---	90100	62800	61400	64500	57600	55500	48500
31	61100	---	32200	23000	---	90700	---	61400	---	57900	49800	---
TOTAL	1882500	1848700	1178600	751400	782000	3000700	1896100	2164600	1821400	1842200	1609500	1480900
MEAN	60730	61620	38020	24240	27930	96800	63200	69830	60710	59430	51920	49360
MAX	63100	65200	59100	30600	35000	166000	82000	88600	70300	79600	60100	63900
MIN	57900	57400	31500	21000	24000	38000	55700	60700	56500	50900	47300	44300
CFSM	.14	.15	.09	.06	.07	.23	.15	.17	.14	.14	.12	.12
AC-FT	3734000	3667000	2338000	1490000	1551000	5952000	3761000	4293000	3613000	3654000	3192000	2937000
CAL YR 1978	TOTAL	20073300	MEAN	55000	MAX	172000	MIN	16800	CFSM	.13	AC-FT	39820000
WTR YR 1979	TOTAL	20258600	MEAN	55500	MAX	166000	MIN	21000	CFSM	.13	AC-FT	40180000

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-79.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURES: October 1974 to current year.

REMARKS.--Water temperature and specific conductance samples collected daily by observer.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 898 micromhos Jan. 18, 1975; minimum daily, 322 micromhos Mar. 25, 1979.

WATER TEMPERATURES: Maximum daily, 29.5°C Aug. 15, 1979; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 890 micromhos July 23; minimum daily, 322 micromhos Mar. 25.

WATER TEMPERATURES: Maximum daily, 29.5°C Aug. 15; minimum daily, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT 17...	60600	690	8.3	14.0	9.0	9.4	90	6000	300	250	90	67
NOV 14...	61700	625	7.6	8.0	22	11.0	92	9600	5400	230	71	58
DEC 12...	31400	810	8.1	1.0	16	12.2	86	3800	620	250	67	63
JAN 22...	44400	800	7.9	.0	1.8	9.9	68	1300	900	260	54	66
FEB 12...	27000	730	7.8	.0	2.1	10.0	68	1400	420	240	63	61
MAR 21...	160000	356	7.3	5.0	940	6.6	52	3800	86000	130	1	38
APR 18...	57500	710	8.0	12.0	80	8.5	79	2200	23000	260	72	68
MAY 09...	63400	665	8.1	17.0	54	7.8	80	1800	100	270	74	72
JUN 13...	59600	705	8.0	21.0	35	7.8	87	1400	480	240	56	60
JUL 11...	55800	700	8.1	25.0	58	7.0	84	2300	1100	250	70	53
AUG 08...	51000	790	8.1	29.0	36	6.4	83	800	150	250	69	62
SEP 11...	45500	675	7.8	24.5	68	7.1	85	4300	360	260	77	65

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT												
17...	21	66	5.1	200	0	220	15	.6	9.2	475	77700	.32
NOV												
14...	21	62	4.9	196	0	190	12	.4	9.2	454	75600	.35
DEC												
12...	22	63	5.2	220	0	190	20	.4	10	502	42600	.63
JAN												
22...	23	71	7.0	250	0	190	22	.4	16	548	65700	.77
FEB												
12...	22	69	5.4	220	0	190	19	.4	15	494	36000	.58
MAR												
21...	9.0	17	8.3	160	0	28	7.7	.3	9.4	227	98100	2.3
APR												
18...	22	45	7.0	230	0	150	19	.4	16	460	71400	2.3
MAY												
09...	23	50	6.3	244	0	170	14	.4	10	461	78900	1.6
JUN												
13...	21	56	5.6	220	0	180	21	.4	8.0	458	73700	.70
JUL												
11...	28	56	6.1	216	0	170	14	.5	11	459	69200	.68
AUG												
08...	23	66	6.5	220	0	230	20	.5	10	501	69000	.60
SEP												
11...	23	64	6.1	220	0	210	17	.5	9.9	491	60300	1.0

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT												
17...	.01	.74	.35	4.7	.120	.060	5.5	--	--	1212	198000	11
NOV												
14...	.04	.55	.45	4.0	.130	.090	--	5.2	2.5	738	123000	12
DEC												
12...	.07	.55	.43	5.2	.190	.130	5.6	--	--	397	33700	25
JAN												
22...	.56	.82	.90	7.0	.130	.130	4.8	--	--	103	12300	40
FEB												
12...	.25	.52	.54	4.9	.120	.090	--	5.2	.7	--	--	--
MAR												
21...	.87	7.2	1.7	42	1.60	.100	24	--	--	2760	1190000	80
APR												
18...	.12	1.1	.50	15	.340	.130	--	--	--	540	83800	66
MAY												
09...	.04	.90	.36	11	.260	.090	--	6.6	2.9	2250	385000	16
JUN												
13...	.04	.53	.61	5.4	.200	.060	5.4	--	--	261	42000	73
JUL												
11...	.09	.75	.07	6.3	.280	.080	8.2	--	--	1520	229000	20
AUG												
08...	.01	.77	.43	6.1	.200	.010	--	7.4	1.6	1180	162000	21
SEP												
11...	.06	1.3	.87	10	.300	.090	--	--	--	421	51700	74

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
NOV 14...	4	2	100	0	1	0	0	0	3
FEB 12...	2	2	100	70	0	<1	10	0	2
MAY 09...	5	2	200	100	0	0	20	0	13
AUG 08...	5	4	200	100	1	<1	10	10	5

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 14...	0	23	4	4400	20	31	0	240	10
FEB 12...	<3	6	2	290	30	8	3	30	20
MAY 09...	0	3	0	10000	40	17	0	540	10
AUG 08...	<3	17	2	9000	20	24	0	460	3

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 14...	.2	.0	2	3	0	0	30	0
FEB 12...	.0	.0	1	1	1	1	30	10
MAY 09...	.2	.0	2	2	0	0	60	20
AUG 08...	.1	.2	2	1	0	0	40	<3

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	PCB, TOTAL (UG/L) (39516)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39519)	ALDRIN, TOTAL (UG/L) (39330)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39333)	CHLOR- DANE, TOTAL (UG/L) (39350)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39351)	DDD, TOTAL (UG/L) (39360)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39363)	DDE, TOTAL (UG/L) (39365)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39368)
NOV 14...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAR 21...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 09...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 08...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	DDT, TOTAL (UG/L) (39370)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39373)	DI- AZINON, TOTAL (UG/L) (39570)	DI- AZINON, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39571)	DI- ELDRIN TOTAL (UG/L) (39380)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39383)	ENDRIN, TOTAL (UG/L) (39390)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39393)	ETHION, TOTAL (UG/L) (39398)	ETHION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39399)
NOV 14...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAR 21...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 09...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 08...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39413)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG) (39423)	LINDANE TOTAL (UG/L) (39340)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39343)	MALA- THION, TOTAL (UG/L) (39530)	MALA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39531)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG) (39481)
NOV 14...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAR 21...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 09...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 08...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	METHYL PARA- THION, TOTAL (UG/L) (39600)	METHYL PARA- THION, TOT. IN BOTTOM MATL. (UG/KG) (39601)	METHYL TRI- THION, TOTAL (UG/L) (39790)	METHYL TRI- THION, TOT. IN BOTTOM MATL. (UG/KG) (39791)	PARA- THION, TOTAL (UG/L) (39540)	PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39541)	TOXA- PHENE, TOTAL (UG/L) (39400)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39403)	TRI- THION, TOTAL (UG/L) (39786)	TRI- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39787)
NOV 14...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAR 21...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 09...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 08...	ND	--	ND	--	ND	--	ND	--	ND	--

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	700	700	700	715	750	610	410	650	690	675	820	580
2	700	700	700	715	730	620	410	660	680	660	785	500
3	710	700	700	725	730	600	418	640	680	675	770	650
4	700	710	700	730	730	388	432	585	685	690	825	600
5	700	700	700	740	730	395	410	605	690	680	850	600
6	700	700	700	790	740	725	---	640	690	680	870	550
7	700	700	700	760	740	415	438	655	690	695	875	700
8	690	700	700	760	740	430	446	675	680	700	---	480
9	690	710	730	740	740	440	470	---	680	605	625	600
10	690	700	740	750	730	480	---	700	675	650	490	520
11	690	700	750	775	725	525	522	675	675	---	540	540
12	700	700	750	775	730	540	522	675	675	825	650	730
13	690	700	750	780	730	525	530	650	675	850	700	740
14	690	700	750	770	730	500	536	625	660	850	725	745
15	690	700	740	770	730	450	536	650	675	850	640	740
16	---	680	740	760	730	470	536	660	675	775	640	745
17	730	680	725	760	740	490	544	675	675	775	615	740
18	700	680	725	775	760	500	---	675	680	800	700	740
19	700	680	720	760	730	385	655	675	680	840	710	740
20	700	680	720	750	---	375	---	675	680	850	715	740
21	700	680	720	750	450	---	610	685	695	860	560	740
22	700	680	715	760	430	372	620	675	700	875	615	730
23	710	680	715	780	700	330	635	685	700	890	560	725
24	690	680	715	775	700	386	630	690	590	875	580	725
25	710	680	720	600	710	322	635	690	625	610	580	720
26	690	680	725	775	680	332	620	685	660	720	575	730
27	690	680	720	760	710	346	600	690	660	810	530	735
28	700	680	710	775	660	378	635	675	650	840	520	740
29	700	700	715	780	---	382	645	690	645	675	540	735
30	700	700	715	775	---	382	645	700	640	825	460	735
31	700	---	715	750	---	396	---	690	---	775	480	---
MEAN	699	692	720	754	704	450	542	667	672	763	652	677

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.5	13.0	3.5	.0	.5	2.5	7.0	14.0	20.5	25.0	27.5	25.0
2	19.0	12.5	3.0	.0	1.0	2.0	6.5	15.5	20.5	26.0	26.0	25.0
3	19.0	13.0	2.0	.0	.5	2.0	6.5	14.0	21.0	26.0	26.0	26.0
4	18.5	13.0	1.5	.5	.5	2.0	6.5	13.0	21.0	27.0	27.0	26.0
5	18.0	13.0	1.5	.0	.0	2.5	6.5	13.0	21.5	25.5	27.5	26.5
6	17.0	13.0	1.5	.0	1.0	3.0	7.0	14.0	22.0	24.5	28.5	26.5
7	16.0	13.0	.5	.0	.5	3.0	7.5	15.5	23.0	24.0	28.5	26.5
8	15.0	13.0	.0	.0	.5	2.5	8.0	16.5	23.0	23.0	---	25.0
9	15.0	12.0	.5	.0	.5	3.0	8.0	---	22.0	23.0	29.0	25.0
10	15.0	11.5	.5	.0	1.0	3.0	---	18.0	21.0	24.0	28.0	25.0
11	16.5	11.5	1.0	.0	1.0	3.5	9.0	15.5	21.0	---	27.5	24.5
12	16.0	11.0	1.0	.0	1.0	4.0	8.5	14.5	21.5	26.0	26.5	24.5
13	16.0	11.0	2.0	.0	1.0	5.5	8.0	14.0	23.0	27.0	25.5	24.0
14	15.0	9.5	2.0	.0	1.0	4.5	8.5	14.5	25.0	27.0	25.0	23.0
15	15.0	9.5	2.0	.0	.5	4.0	9.5	15.0	25.0	27.5	29.5	22.0
16	---	8.5	2.0	.0	.5	4.0	10.5	15.0	25.0	27.0	23.5	21.5
17	14.0	7.5	2.0	.0	.5	4.5	11.5	17.5	25.0	27.0	23.0	21.0
18	14.5	6.0	2.0	.0	1.0	5.5	---	18.5	25.0	27.0	24.5	21.0
19	14.0	5.5	2.5	.0	2.0	6.5	13.0	18.0	24.0	27.0	25.0	21.5
20	14.5	5.0	3.0	.0	---	7.0	---	18.5	23.5	26.5	25.0	21.5
21	14.5	4.0	2.5	.0	2.0	---	14.0	18.5	22.5	26.5	25.5	21.5
22	15.0	5.0	3.0	.5	2.0	7.0	15.0	19.0	23.0	26.5	25.0	21.0
23	14.0	5.0	3.0	.5	2.0	7.0	15.5	19.0	23.5	26.5	25.0	20.5
24	14.0	5.0	2.0	.5	1.5	4.5	16.0	19.5	22.5	26.0	25.0	20.0
25	13.5	5.0	1.5	.0	1.0	4.0	15.0	19.5	22.5	25.0	24.5	20.0
26	12.5	5.0	1.0	.5	1.5	4.0	15.0	20.0	22.5	26.0	24.0	21.0
27	12.0	3.5	.5	.5	2.0	4.5	14.5	21.0	23.5	27.0	24.5	20.5
28	12.5	3.0	1.0	.0	2.0	7.0	14.5	21.5	24.0	28.0	24.5	21.0
29	12.5	4.5	.5	.5	---	8.0	14.0	21.5	24.5	26.5	24.5	21.5
30	12.5	3.0	.0	.5	---	9.0	14.0	22.0	25.0	27.5	24.5	21.5
31	12.5	---	.0	.5	---	8.0	---	21.5	---	27.5	25.5	---
MEAN	15.0	8.5	1.5	.0	1.0	4.5	10.5	17.5	23.0	26.0	26.0	23.0

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 14, 78 1430	MAR 21, 79 0920	MAY 9, 79 0810	JUN 13, 79 0700
TOTAL CELLS/ML	2200	1800	11000	18000
DIVERSITY: DIVISION	0.6	1.3	1.4	1.2
..CLASS	0.6	1.3	1.4	1.2
..ORDER	1.3	1.8	1.8	1.6
...FAMILY	1.6	2.2	2.6	2.2
....GENUS	2.4	2.2	0.0	3.3

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....CHARACIACEAE								
....SCHROEDERIA	--	-	--	-	--	-	--	-
...CHLOROCOCCACEAE								
....CHLOROCOCCUM	--	-	--	-	--	-	--	-
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	--	-	400	2
....MICRACTINIUM	--	-	--	-	1100	9	800	4
...OOCYSTACEAE								
....ANKISTRODESUS	29	1	--	-	79	1	540	3
....CHODATELLA	--	-	--	-	--	-	*	0
...DICHOTOMOCOCCUS	--	-	--	-	320	3	--	-
...DICTYOSPHAERIUM	--	-	--	-	280	2	600	3
...KIRCHNERIELLA	--	-	--	-	120	1	130	1
...OOCYSTIS	14	1	--	-	550	5	--	-
...TREUBARIA	--	-	--	-	--	-	200	1
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	470	4	2100	12
....CRUCIGENIA	--	-	--	-	160	1	--	-
...SCENEDESMUS	250	11	--	-	2900#	25	5500#	30
...TETRASTRUM	--	-	--	-	160	1	1900	10
...VOLVOCALES								
...CHLAMYDOMONADACEAE					360	3	--	-
...CARTERIA	--	-	--	-	79	1	--	-
...CHLAMYDOMONAS	14	1	130	7	--	-	600	3
...PHACOTACEAE	--	-	--	-	*	0	--	-
...PTEROMONAS	--	-	--	-	--	-	--	-
...VOLVOCAEAE	--	-	--	-	--	-	--	-
...PANDORINA	--	-	--	-	--	-	--	-
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	690#	31	390#	21	1300	11	470	3
....MELOSIRA	670#	30	--	-	510	4	200	1
...STEPHANODISCUS	43	2	--	-	--	-	940	5
...PENNALES								
...FRAGILARIACEAE								
....ASTERIONELLA	430#	19	--	-	200	2	--	-
....FRAGILARIA	--	-	130	7	--	-	130	1
....SYNEDRA	29	1	--	-	--	-	--	-
...NAVICULACEAE								
....NAVICULA	29	1	130	7	--	-	--	-
....NEIDIUM	14	1	--	-	--	-	--	-
...NITZSCHIAEAE								
....NITZSCHIA	14	1	--	-	360	3	600	3
...SURIRELLACEAE								
....SURIRELLA	--	-	260	14	--	-	--	-

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA; WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE TIME	PHYTOPLANKTON							
	NOV 14,78 1430		MAR 21,79 0920		MAY 9,79 0810		JUN 13,79 0700	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
....CRYPTOMONADACEAE								
.....CRYPTOMONAS	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
....CHROOCOCCACEAE								
.....AGMENELLUM	--	-	--	-	--	-	--	-
.....ANACYSTIS	--	-	--	-	2500#	22	200	1
...HORMOGONALES								
....NOSTOCACEAE								
.....ANABAENA	--	-	--	-	--	-	--	-
....OSCILLATORIACEAE								
.....OSCILLATORIA	--	-	--	-	--	-	2700	15
...RIVULARIACEAE								
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENUIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
.....EUGLENA	--	-	790#	43	--	-	--	-
....TRACHELOMONAS	--	-	--	-	*	0	*	0
PYRRHOPHYTA (FIRE ALGAE)								
..DINOPHYCEAE								
...PERIDINIALES								
....GLENODINIACEAE								
.....GLENODINIUM	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 11,79 0940	AUG 8,79 1030	SEP 11,79 1530
TOTAL CELLS/ML	15000	18000	13000
DIVERSITY: DIVISION	0.9	1.6	1.4
..CLASS	0.9	1.6	1.4
..ORDER	1.1	2.3	2.1
...FAMILY	1.8	2.9	2.6
....GENUS	2.7	3.4	3.3

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....CHARACIACEAE						
....SCHROEDERIA	130	1	*	0	--	-
...CHLOROCOCCACEAE						
....CHLOROCOCCUM	*	0	--	-	--	-
...COELASTRACEAE						
....COELASTRUM	520	3	510	3	--	-
...MICRACTINIACEAE						
....GOLENKINIA	--	-	--	-	--	-
...MICRACTINIUM	--	-	150	1	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	320	2	510	3	*	0
....CHODATELLA	--	-	--	-	--	-
....DICHOTOMOCOCCUS	--	-	--	-	--	-
...DICTYOSPHAERIUM	390	3	1200	7	--	-
...KIRCHNERIELLA	130	1	--	-	120	1
...OOCYSTIS	320	2	290	2	470	3
...TREUBARIA	260	2	*	0	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	1500	10	590	3	580	4
....CRUCIGENIA	--	-	--	-	--	-
...SCENEDESMUS	6700#	45	2900#	16	2900#	21
...TETRASTRUM	1000	7	--	-	580	4
...VOLVOCALES						
...CHLAMYDOMONADACEAE	--	-	--	-	--	-
....CARTERIA	--	-	--	-	--	-
...CHLAMYDOMONAS	260	2	370	2	260	2
...PHACOTACEAE	--	-	--	-	--	-
...PTEROMONAS	--	-	--	-	--	-
...VOLVOCAEAE	--	-	--	-	--	-
...PANDORINA	--	-	--	-	410	3
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	2300#	16	3700#	20	960	7
....MELOSIRA	130	1	1100	6	170	1
....STEPHANODISCUS	--	-	--	-	--	-
...PENNALES						
...FRAGILARIACEAE						
....ASTERIONELLA	--	-	--	-	--	-
....FRAGILARIA	--	-	440	2	--	-
....SYNEDRA	--	-	--	-	--	-
...NAVICULACEAE						
....NAVICULA	--	-	*	0	--	-
....NEIDIUM	--	-	--	-	--	-
...NITZSCHACEAE						
....NITZSCHIA	190	1	1200	7	150	1
...SURIPELLACEAE						
....SURIPELLA	--	-	--	-	--	-

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 11,79 0940		AUG 8,79 1030		SEP 11,79 1530	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	730	5
....ANACYSTIS	450	3	2000	11	3400#	25
...HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	520	4
...OSCILLATORIA						
...OSCILLATORIA	--	-	2600	15	1700	12
...RIVULARIACEAE						
....RAPHIDIOPSIS	--	-	--	-	520	4
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	*	0	--	-
....TRACHELOMONAS	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	-	*	0	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

PERIPHYTON

Date	Length of Exposure (days)	Biomass (mg/m ²)		Chlorophyll a (mg/m ²) (70957)	Chlorophyll b (mg/m ²) (70958)	Sampling method
		Dry weight (00573)	Ash weight (00572)			
Nov. 14, 1978	28	68.5	61.1	61.6	.000	Polyethylene Strip
Apr. 18, 1979	28	.160	.080	.040	.000	Polyethylene Strip
Aug. 8, 1979	28	3.78	3.46	3.43	.060	Polyethylene Strip

PLATTE RIVER BASIN (IOWA-MISSOURI)

06819500 ONE HUNDRED AND TWO RIVER AT MARYVILLE, MO

LOCATION.--Lat 40°20'45", long 94°49'56", in SW¼SW¼ sec.15, T.64 N., R.35 W., Nodaway County, Hydrologic Unit 10240013, on right bank at intake for city waterworks, just upstream from City Waterworks dam, 150 ft (45.7 m) upstream from bridge on U.S. Highway 136, 0.3 mi (0.48 km) downstream from Thill Branch, 1 mi (1.6 km) east of Maryville and at mile 64.0 (103.0 km).

DRAINAGE AREA.--515 mi² (1,334 km²).

PERIOD OF RECORD.--October 1932 to current year. April to June 1934 monthly discharge only, published in WSP 1310. June 1934 to October 1971, published as "near Maryville".

GAGE.--Water-stage recorder. Datum of gage is 964.65 ft (294.025 m) National Geodetic Vertical Datum of 1929. Nonrecording gage prior to Sept. 15, 1958. Prior to June 20, 1934, at present site and datum. June 20, 1934, to Oct. 31, 1971, at site 3 mi (4.8 km) upstream at datum 5.68 ft (1.731 m) higher.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--47 years, 214 ft³/s (6.060 m³/s), 5.81 in/yr (148 mm/yr), 155,000 acre-ft/yr (191 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft³/s (793 m³/s) Oct. 12, 1973, gage height, 19.25 ft (5.867 m); no flow at times in several years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 16, 1926, reached a stage of 15 ft (4.6 m), present site, from floodmark; discharge, 14,500 ft³/s (411 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8020 ft³/s (227 m³/s) at time unknown Mar. 3, gage height, 15.35 ft (4.679 m), no other peak above base of 7,500 ft³/s (212 m³/s); minimum discharge, 1.3 ft³/s (0.037 m³/s) Dec. 29, gage height, 3.38 ft (1.030 m).

DISCHARGE; IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	37	160	40	20	1050	533	428	69	71	154	221
2	37	48	130	40	20	1010	790	786	59	46	102	145
3	38	52	110	40	20	5560	791	800	50	46	136	50
4	149	36	90	40	20	6000	612	600	44	50	87	28
5	81	35	120	40	20	4000	475	500	42	41	56	19
6	52	37	190	40	20	3000	432	450	41	37	37	234
7	39	37	270	40	21	5000	320	400	42	36	30	180
8	34	31	340	40	20	2000	281	350	79	37	26	62
9	35	33	260	40	20	1500	237	300	148	37	20	31
10	34	34	160	40	20	1000	198	300	142	37	19	21
11	37	36	130	30	20	700	188	320	118	37	18	15
12	34	26	110	30	20	1000	188	280	66	26	16	9.9
13	30	126	100	30	20	4000	191	230	76	30	14	9.9
14	27	300	104	30	20	1040	191	200	56	20	28	9.4
15	25	108	119	30	20	574	177	170	48	306	22	8.1
16	25	74	112	30	20	397	161	148	34	465	16	7.4
17	29	743	100	30	20	430	141	139	31	96	14	5.1
18	26	749	70	30	20	2530	181	132	34	46	14	5.2
19	30	249	80	30	20	3300	290	137	46	34	13	5.5
20	30	123	90	30	20	978	473	137	74	30	14	4.6
21	31	92	81	20	100	578	743	116	71	22	12	4.3
22	33	142	74	20	100	506	506	104	81	22	11	3.9
23	36	174	68	20	200	4290	400	95	242	18	11	3.5
24	36	170	61	20	900	2140	397	90	353	1150	8.9	3.2
25	35	157	64	20	600	1010	1690	84	169	2240	8.8	3.4
26	31	262	65	20	500	871	1610	84	94	283	9.1	3.2
27	31	270	52	20	445	646	648	78	84	129	8.8	3.3
28	31	115	54	20	978	560	450	78	553	132	11	3.6
29	35	167	7.3	20	---	578	804	70	460	1330	198	3.6
30	31	177	6.1	20	---	1060	690	63	145	1460	28	3.5
31	37	---	40	20	---	786	---	71	---	306	18	---
TOTAL	1205	4640	3417.4	920	4224	58094	14788	7740	3551	8620	1160.6	1106.6
MEAN	38.9	155	110	29.7	151	1874	493	250	118	278	37.4	36.9
MAX	149	749	340	40	978	6000	1690	800	553	2240	198	234
MIN	25	26	6.1	20	20	397	141	63	31	18	8.8	3.2
CFSM	.08	.30	.21	.06	.29	3.64	.96	.49	.23	.54	.07	.07
IN.	.09	.34	.25	.07	.31	4.20	1.07	.56	.26	.62	.08	.08
AC-FT	2390	9200	6780	1820	8380	115200	29330	15350	7040	17100	2300	2190
CAL YR 1978 TOTAL	155313.4			MEAN 426	MAX 8820	MIN 6.1	CFSM .83	IN 11.22	AC-FT 308100			
WTR YR 1979 TOTAL	109466.6			MEAN 300	MAX 6000	MIN 3.2	CFSM .58	IN 7.91	AC-FT 217100			

PLATTE RIVER BASIN (IOWA-MISSOURI)

06820500 PLATTE RIVER NEAR AGENCY, MO

LOCATION.--Lat 39°41'19", long 94°42'10", in NE¼NW¼ sec. 10, T.56 N., R.34 W., Buchanan County, Hydrologic Unit 10240012, on left bank 10 ft (0.3 m) downstream from bridge of U.S. Highway 169, 1.5 mi (2.4 km) downstream from Third Fork, 3.5 mi (5.6 km) northeast of Agency, and at mile 66.8 (107.5 km).

DRAINAGE AREA.--1,760 mi² (4,560 km²), approximately.

PERIOD OF RECORD.--May 1924 to August 1930 (published as "at Agency"), May 1932 to current year.

GAGE.--Water-stage recorder. Datum of gage is 807.38 ft (246.089 m) National Geodetic Vertical Datum of 1929. May 22, 1924, to Aug. 9, 1930, nonrecording gage at site 4 mi (6.4 km) downstream at different datum. May 13, 1932, to Nov. 14, 1965, nonrecording gage at same site and datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--52 years (1924-29, 1932-79), 901 ft³/s (25.52 m³/s), 6.95 in/yr (177 mm/yr), 652,800 acre-ft/yr (805 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,000 ft³/s (1,500 m³/s) from loop rating, July 20, 1965, gage height, 35.05 ft (10.683 m); no flow at times in July and August 1934 and October 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,000 ft³/s (198 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Mar. 4	1815	*15,900 450	*24.62 7.504	May 3	1515	8560 242	19.46 5.931
Mar. 19	1700	11,800 334	22.40 6.828	July 26	0500	8800 249	19.70 6.005
Mar. 24	1400	15,500 439	24.50 7.468				

Minimum discharge, 45 ft³/s (1.27 m³/s) Sept. 30, gage height, 4.31 ft (1.314 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	347	96	671	300	120	2500	2240	1820	213	734	2000	789
2	300	74	749	300	120	3000	1590	3850	207	488	1000	2200
3	278	72	641	250	120	5000	1790	7830	205	372	500	837
4	255	90	440	250	120	14500	2150	4350	494	300	300	404
5	281	99	385	250	120	14600	1840	1870	1880	358	250	258
6	393	189	458	240	110	13300	1530	1300	509	308	200	1910
7	283	220	590	240	110	13200	1340	1100	545	283	150	1180
8	236	168	659	230	110	11300	1130	962	430	776	140	611
9	218	151	578	220	110	6340	1030	866	650	557	130	371
10	201	134	560	210	110	3460	953	809	800	269	120	242
11	192	115	460	200	110	2470	1190	794	545	216	110	184
12	181	115	385	190	110	2900	1430	704	442	170	100	150
13	169	455	378	180	110	4770	1140	662	412	154	100	131
14	167	794	372	170	110	5470	1160	623	340	212	112	117
15	153	866	392	160	110	3210	947	557	288	421	147	107
16	142	908	402	150	110	1850	920	509	322	357	167	96
17	130	1620	372	150	110	1430	794	470	244	1100	153	90
18	123	2710	362	146	110	2400	719	440	203	552	115	80
19	126	2880	335	150	110	11000	1250	440	183	290	109	76
20	117	1280	295	150	110	10700	3940	462	176	192	155	75
21	114	827	244	150	110	4200	1710	422	665	141	101	73
22	114	617	293	150	150	2000	1790	388	812	114	104	67
23	132	554	269	150	1000	7500	1270	355	438	97	123	71
24	128	620	191	140	2000	14100	1010	335	572	443	75	69
25	126	641	244	130	1500	12800	905	322	791	3770	70	66
26	122	2230	253	120	1200	8810	2300	302	629	6810	79	66
27	114	2230	325	120	1000	3810	3880	288	455	1500	75	62
28	114	1240	271	120	2200	2650	1650	273	1220	1700	73	60
29	108	836	209	120	---	2040	1280	255	2700	4680	2130	59
30	105	650	288	120	---	1910	1450	241	1430	4560	3510	57
31	100	---	325	120	---	3490	---	228	---	3960	741	---
TOTAL	5569	23481	12396	5576	11410	196710	46328	33827	18800	35884	13139	10558
MEAN	180	783	400	180	408	6345	1544	1091	627	1158	424	352
MAX	393	2880	749	300	2200	14600	3940	7830	2700	6810	3510	2200
MIN	100	72	191	120	110	1430	719	228	176	97	70	57
CFSM	.10	.45	.23	.10	.23	3.61	.88	.62	.36	.66	.24	.20
IN.	.12	.50	.26	.12	.24	4.16	.98	.71	.40	.76	.28	.22
AC-FT	11050	46570	24590	11060	22630	390200	91890	67100	37290	71180	26060	20940

CAL YR 1978	TOTAL	717964	MEAN	1967	MAX	24800	MIN	38	CFSM	1.12	IN	15.18	AC-FT	1424000
WTR YR 1979	TOTAL	413678	MEAN	1133	MAX	14600	MIN	57	CFSM	.64	IN	8.74	AC-FT	820500

PLATTE RIVER BASIN (IOWA-MISSOURI)

06821150 LITTLE PLATTE RIVER AT SMITHVILLE, MO

LOCATION.--Lat 39°23'17", long 94°34'44", in N4SW4 sec.23, T.53 N., R.33 W., Clay County, Hydrologic Unit 10240012, on left bank behind city equipment shelter on old bridge abutment, 500 ft (152 m) upstream from town bridge in Smithville, 1,500 ft (457 m) upstream from bridge on U.S. Highway 169, 0.5 mi (0.8 km) downstream from Wilkerson Creek, 2.4 mile (3.9 km) downstream from Smithville Lake and at mile 11.1 (17.8 km).

DRAINAGE AREA.--234 mi² (606 km²).

PERIOD OF RECORD.--June 1965 to current year. Occasional measurements 1942, 1943, 1946, 1962-65.

GAGE.--Water-stage recorder. Datum of gage is 778.18 ft (237.189 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Mar. 23, 1966, nonrecording gage at site 1,500 ft (457 m) downstream at same datum.

REMARKS.--Records poor. Construction of dam for Smithville Lake began in June 1974 and partial regulation began Aug. 6, 1977. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--14 years, 159 ft³/s (4.503 m³/s), 9.23 in/yr (234 mm/yr), 115,200 acre-ft/yr (142 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 76,600 ft³/s (2,170 m³/s), slope-area measurement of peak flow, July 20, 1965, gage height, 44.8 ft (13.66 m) from floodmark; no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1947 reached a stage of 37.4 ft (11.40 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,230 ft³/s (91.5 m³/s) at 2400 June 4, gage height, 26.21 ft (7.989 m), no other peak above regulated base of 3,000 ft³/s (85.0 m³/s); minimum, 2.4 ft³/s (0.068 m³/s) Sept. 4, gage height, 10.35 ft (3.155 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	3.5	41	25	30	599	560	104	18	50	231	4.0
2	12	3.0	34	20	30	539	344	538	18	104	228	4.4
3	9.6	3.5	29	20	30	872	174	395	19	200	318	2.9
4	8.0	3.8	30	20	30	1230	149	53	354	100	372	380
5	7.0	4.8	21	20	30	1100	203	48	774	443	354	604
6	6.8	12	17	20	30	474	184	45	312	800	326	554
7	6.0	23	29	20	30	45	130	478	298	500	255	392
8	5.5	29	27	20	30	33	133	886	982	200	39	60
9	6.5	20	18	20	30	37	133	772	96	100	17	35
10	7.0	14	16	20	30	48	112	567	86	70	15	30
11	7.5	11	15	20	40	31	345	259	341	50	15	25
12	6.8	9.2	16	20	40	50	516	130	822	31	15	22
13	5.5	9.8	17	20	40	100	499	94	741	24	15	20
14	5.8	10	17	20	40	70	282	76	581	19	17	18
15	4.8	10	16	20	50	40	159	65	156	16	21	16
16	4.8	16	16	20	50	30	141	56	60	16	19	16
17	4.6	91	17	25	40	50	219	52	53	13	13	15
18	5.0	222	12	27	40	100	148	47	51	14	12	14
19	5.0	90	13	30	40	200	124	48	44	14	11	11
20	4.6	33	15	40	40	100	356	80	41	13	246	8.3
21	4.2	20	14	50	100	29	453	82	33	11	279	7.4
22	4.8	16	14	50	200	26	315	62	30	10	88	6.7
23	5.1	16	11	40	500	100	196	49	30	9.4	40	6.0
24	4.4	16	9.8	30	500	500	151	39	37	37	29	5.7
25	4.8	17	15	30	400	80	137	37	31	358	18	5.0
26	4.9	148	16	30	200	50	126	37	27	108	20	5.2
27	4.8	528	13	30	300	39	113	44	23	75	25	6.3
28	5.9	331	8.5	30	534	235	98	32	49	228	20	5.9
29	4.7	98	10	30	---	637	96	27	206	226	263	5.7
30	4.3	55	33	30	---	759	93	22	88	143	148	5.5
31	4.2	---	29	30	---	680	---	20	---	133	3.4	---
TOTAL	185.9	1863.6	589.3	827	3454	8883	6689	5244	6401	4115.4	3472.4	2291.0
MEAN	6.00	62.1	19.0	26.7	123	287	223	169	213	133	112	76.4
MAX	12	528	41	50	534	1230	560	886	982	800	372	604
MIN	4.2	3.0	8.5	20	30	26	93	20	18	9.4	3.4	2.9
CFSM	.03	.27	.08	.11	.53	1.23	.95	.72	.91	.57	.48	.33
IN.	.03	.30	.09	.13	.55	1.41	1.06	.83	1.02	.65	.55	.36
AC-FT	369	3700	1170	1640	6850	17620	13270	10400	12700	8160	6890	4540

CAL YR 1978 TOTAL 73967.9 MEAN 203 MAX 1830 MIN 1.9 CFSM .87 IN 11.76 AC-FT 146700
WTR YR 1979 TOTAL 44015.6 MEAN 121 MAX 1230 MIN 2.9 CFSM .52 IN 7.00 AC-FT 87300

PLATTE RIVER BASIN (IOWA-MISSOURI)

06821190 PLATTE RIVER AT SHARPS STATION, MO

LOCATION.--Lat 39°24'03", long 94°43'36", in NW¼SE¼SW¼ sec.16, T.53 N., R.34 W., Platte County, Hydrologic Unit 10240012, on downstream side of center pier at Sharps bridge, 0.2 mi (0.3 km) upstream from Jowler Creek, 3.3 mi (5.3 km) downstream from Little Platte River, 3.6 mi (5.8 km) south of Camden Point, and at mile 25.1 (40.4 km).

DRAINAGE AREA.--2,380 mi² (6160 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1978 to September 1979.

GAGE.--Water-stage recorder. Datum of gage is 754.23 ft (229.889 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Water discharge records poor. Some regulation from Smithville Lake.

EXTREMES FOR CURRENT PERIOD.--Peak discharges above base of 12,000 ft³/s (340 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Mar. 6	1430	*19,700 558	*31.56 9.619
Mar. 26	2145	13,000 368	29.92 9.120

Minimum discharge, 88 ft³/s (249 m³/s) Sept. 30, gage height, 4.75 ft (1.44 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			900	450	150	4360	4800	2000	402	1570	4360	1140
2			900	400	150	4740	3380	3290	388	836	1700	2310
3			800	400	150	7120	2430	7790	400	696	1120	2530
4			700	350	150	10000	2670	8680	400	482	1050	1170
5			600	300	150	15200	3130	6780	4710	1130	903	1220
6			707	300	150	19300	2630	2980	2830	917	810	1550
7			800	300	140	18600	2090	2100	1200	576	713	3460
8			540	300	140	17500	1830	2790	2490	540	478	1570
9			462	300	140	16600	1560	2500	1390	1910	365	774
10			606	250	140	14000	1380	2060	1160	1040	322	540
11			676	250	140	7780	1970	1740	1100	479	292	418
12			656	250	140	4380	2830	1340	1590	359	276	372
13			606	200	140	5440	3100	1100	1510	286	254	324
14			561	200	150	7410	2030	1000	1310	250	239	287
15			567	200	150	7450	1660	916	780	312	274	262
16			567	180	160	4840	1350	832	466	589	304	244
17			580	160	160	2850	1550	784	445	562	318	226
18			575	163	150	2280	1210	728	402	1280	287	208
19			582	160	150	5850	1060	699	372	734	275	190
20			611	170	150	8640	3140	766	314	463	1340	179
21			575	180	300	10400	5160	828	290	328	740	161
22			532	200	800	8560	3160	701	673	298	454	149
23			543	180	2000	5480	2670	626	846	260	298	136
24			551	170	4000	7330	1870	570	566	230	362	125
25			470	160	6340	8980	1490	537	651	2090	250	119
26			436	150	4760	12400	1380	521	848	6300	224	112
27			436	150	3540	12100	4040	516	689	6140	299	107
28			460	150	3450	8640	4120	485	590	2060	258	100
29			482	150	---	4940	2170	458	2150	5270	934	95
30			500	150	---	3920	1700	432	3120	6560	3940	90
31			500	150	---	4020	---	406	---	6150	3670	---
TOTAL			18481	7073	28140	271110	73560	56955	34082	50697	27109	20168
MEAN			596	228	1005	8745	2452	1837	1136	1635	874	672
MAX			900	450	6340	19300	5160	8680	4710	6560	4360	3460
MIN			436	150	140	2280	1060	406	290	230	224	90
CFSM			.25	.10	.42	3.67	1.03	.77	.48	.69	.37	.28
IN.			.29	.11	.44	4.24	1.15	.89	.53	.79	.42	.32
AC-FT			36660	14030	55820	537700	145900	113000	67600	100600	53770	40000

PLATTE RIVER BASIN

06821190 PLATTE RIVER AT SHARPS STATION, MO.--continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March to September 1979.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March to September 1979.

WATER TEMPERATURE: April to September 1979.

REMARKS.--Water temperature and specific conductance samples collected daily by observer. Number of missing days of record exceed 20 percent of year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
MAR 20...	9160	254	7.1	9.5	33	8.6	75	13000	20000	110	30	33
APR 17...	1560	423	7.8	18.0	560	7.4	77	4200	10000	180	18	53
MAY 08...	2810	318	7.7	18.5	180	7.4	78	600	250	150	20	45
JUN 12...	1650	265	7.4	23.5	360	6.2	72	3500	6000	130	18	39
JUL 10...	870	268	7.3	24.5	11	5.8	69	19000	22000	110	17	33
AUG 07...	680	332	7.7	30.5	140	5.2	68	850	1000	140	1	42
SEP 11...	425	310	7.4	23.5	140	5.9	69	3300	1000	140	20	44

PLATTE RIVER BASIN

Q6821190 PLATTE RIVER AT SHARPS STATION, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
MAR 20...	7.2	9.7	5.2	100	0	24	8.5	.3	8.5	159	3930	2.7
APR 17...	12	11	4.3	200	0	39	11	.3	9.0	251	1060	2.1
MAY 08...	8.7	9.1	4.4	156	0	29	9.5	.2	9.5	208	1580	2.1
JUN 12...	7.1	10	6.0	132	0	23	10	.3	7.7	175	780	2.5
JUL 10...	6.1	6.7	4.8	110	0	24	8.7	.3	7.6	157	369	2.3
AUG 07...	7.9	8.4	6.3	166	0	25	7.6	.4	13	180	330	.79
SEP 11...	8.1	8.6	6.5	150	0	24	8.0	.3	10	191	219	.95

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
MAR 20...	.38	4.9	2.1	34	1.00	.040	75	--	--	4480	111000	95
APR 17...	.22	2.3	.69	19	.410	.070	--	--	--	1840	7750	96
MAY 08...	.17	2.2	.66	19	.550	.080	--	8.2	--	1070	8120	98
JUN 12...	.43	3.4	1.9	26	.420	.430	27	--	--	1580	7040	90
JUL 10...	.10	4.9	.57	32	.830	.080	43	--	--	2210	5190	94
AUG 07...	.06	.96	.61	7.7	.460	.110	--	11	2.6	661	1210	82
SEP 11...	.06	.57	.45	6.7	.710	.100	--	--	--	571	655	81

PLATTE RIVER BASIN

06821190 PLATTE RIVER AT SHARPS STATION, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
MAY 08...	6	2	400	100	0	0	20	0	14
AUG 07...	8	4	300	200	1	<1	.20	0	6

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
MAY 08...	0	10	0	14000	40	73	0	780	140
AUG 07...	<3	13	3	12000	70	15	1	830	110

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
MAY 08...	.3	.0	2	1	0	0	70	20
AUG 07...	.1	.0	1	1	0	0	50	6

PLATTE RIVER BASIN

06821190 PLATTE RIVER AT SHARPS STATION, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	324	395	500	304	175	185
2						---	334	390	---	256	---	---
3						---	362	272	---	288	---	---
4						---	390	255	500	294	---	185
5						---	375	290	203	287	---	225
6						---	364	375	240	296	---	180
7						---	372	385	300	353	394	174
8						---	395	350	233	---	362	220
9						---	408	350	300	---	374	---
10						---	420	400	380	238	---	272
11						---	410	440	---	335	423	---
12						---	365	440	---	385	---	---
13						---	345	---	---	---	442	350
14						---	---	470	---	415	448	380
15						---	425	470	---	---	480	420
16						---	418	460	---	---	---	440
17						---	---	450	---	364	---	455
18						---	410	440	457	368	---	490
19						---	450	---	487	286	---	490
20						---	350	---	472	---	---	490
21						236	260	440	475	305	---	485
22						263	380	450	465	---	---	---
23						322	330	480	338	363	385	---
24						244	385	460	306	383	452	---
25						214	410	470	315	---	418	---
26						217	420	480	366	258	420	540
27						248	365	---	338	161	455	---
28						280	415	---	344	152	476	555
29						318	360	490	349	180	397	560
30						337	365	500	212	283	288	560
31						362	---	500	---	---	183	---
MEAN						276	379	419	361	298	387	383

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	14.0	21.0	24.0	24.0	24.0
2							---	15.0	---	25.0	---	---
3							---	14.0	---	25.0	---	---
4							---	14.0	24.0	26.0	---	25.0
5							---	14.0	19.0	24.0	---	24.0
6							7.0	14.0	19.0	20.0	---	22.0
7							8.0	17.0	21.0	20.0	28.0	22.0
8							10.0	20.0	22.0	---	28.0	22.0
9							10.0	20.0	21.0	---	28.0	---
10							10.0	22.0	20.0	22.0	---	22.0
11							10.0	18.0	---	25.0	25.0	---
12							13.0	18.0	---	26.0	---	---
13							13.0	---	---	---	24.0	23.0
14							---	21.0	---	28.0	25.0	23.0
15							13.0	18.0	---	---	28.0	22.0
16							15.0	18.0	---	---	---	23.0
17							---	20.0	---	26.0	---	18.0
18							18.0	21.0	24.0	26.0	---	20.0
19							18.0	---	25.0	24.0	---	19.0
20							15.0	---	25.0	---	---	19.0
21							15.0	19.0	25.0	25.0	---	19.0
22							15.0	19.0	25.0	---	---	---
23							15.0	19.0	26.0	26.0	25.0	---
24							17.0	19.0	23.0	25.0	24.0	---
25							18.0	19.0	23.0	---	24.0	---
26							18.0	19.0	23.0	25.0	22.0	20.0
27							14.0	---	23.0	24.0	22.0	---
28							14.0	---	23.0	24.0	22.0	19.0
29							14.0	19.0	24.0	25.0	23.0	19.0
30							14.0	24.0	22.0	25.0	22.0	19.0
31							---	24.0	---	---	22.0	---
MEAN							13.5	18.5	23.0	24.5	24.5	21.0

PLATTE RIVER BASIN

06821190 PLATTE RIVER AT SHARPS STATION, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	MAR 20,79 1630	MAY 8,79 1600	JUN 12,79 1430	JUL 10,79 1545	AUG 7,79 1605	SEP 11,79 1300
TOTAL CELLS/ML	1600	2800	2800	1600	43000	11000
DIVERSITY: DIVISION	0.8	1.4	0.8	0.0	0.5	0.9
..CLASS	0.8	1.4	0.8	0.0	0.5	0.9
..ORDER	0.8	1.5	1.0	0.0	0.7	1.2
...FAMILY	0.8	1.6	1.3	1.0	0.8	1.6
....GENUS	0.8	1.7	1.5	1.0	0.9	1.8

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
..CHLOROPHYCEAE												
...CHLOROCOCCALES												
....CHARACIACEAE												
....SCHROEDERIA	--	-	--	-	--	-	--	-	310	1	*	0
....COELASTRACEAE												
....COELASTRUM	--	-	--	-	--	-	--	-	--	-	210	2
....HYDRODICTYACEAE												
....PEDIASTRUM	--	-	--	-	--	-	--	-	--	-	190	2
....MICRACTINIACEAE												
....GOLENKINIA	--	-	--	-	--	-	780#	50	--	-	--	-
....MICRACTINIUM	--	-	130	5	--	-	--	-	--	-	--	-
....OOCYSTACEAE												
....ANKISTRODESMUS	130	8	--	-	--	-	--	-	*	0	110	1
....DICTYOSPHAERIUM	--	-	--	-	--	-	780#	50	--	-	--	-
....GLOEOACTINIUM	--	-	--	-	--	-	--	-	520	1	--	-
....KIRCHNERIELLA	--	-	64	2	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	260	9	130	5	--	-	--	-	120	1
....TREUBARIA	--	-	--	-	--	-	--	-	*	0	--	-
....SCENEDESMACEAE												
....ACTINASTRUM	--	-	--	-	--	-	--	-	830	2	180	2
....CRUCIGENIA	--	-	--	-	--	-	--	-	--	-	440	4
....SCENEDESMUS	--	-	--	-	2100#	73	--	-	1700	4	220	2
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	--	-	--	-	--	-	--	-	--	-	*	0
..ZYGNEMATALES												
...DESMIDIACEAE												
....STAUSTRUM	--	-	--	-	--	-	--	-	--	-	*	0
CHRYSTOPHYTA												
..BACILLARIOPHYCEAE												
...CENTRALES												
....COSCINODISCEACEAE												
....CYCLOTELLA	--	-	--	-	130	5	--	-	310	1	260	2
....MELOSIRA	--	-	130	5	260	9	--	-	--	-	*	0
...PENNALES												
....FRAGILARIACEAE												
....SYNEURA	--	-	--	-	--	-	--	-	--	-	*	0
....NAVICULACEAE												
....CALONEIS	--	-	--	-	--	-	--	-	--	-	*	0
....NAVICULA	--	-	--	-	130	5	--	-	--	-	*	0
....NITZSCHIA												
....NITZSCHIA	--	-	--	-	--	-	--	-	--	-	*	0
....NITZSCHIA	--	-	130	5	130	5	--	-	*	0	*	0
...XANTHOPHYCEAE												
....HETEROCOCCALES												
....CHLOROTHECIACEAE												
....OPHIOCYTIUM	--	-	--	-	--	-	--	-	*	0	--	-

PLATTE RIVER BASIN

06821190 PLATTE RIVER AT SHARPS STATION, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	MAR 20,79 1630	MAY 8,79 1600	JUN 12,79 1430	JUL 10,79 1545	AUG 7,79 1605	SEP 11,79 1300
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	64	2	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	1100	3
...HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	1300#	83	--	-	--	-
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	1900#	70	37000#	87
EUGLENOPHYTA (EUGLENIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	130	8	--	-	--	-
...LEPOCINCLIS	--	-	--	-	--	-
....TRACHELOMONAS	--	-	64	2	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

PERIPHYTON

Date	Length of Exposure (days)	Biomass (mg/m ²)		Chlorophyll	Chlorophyll	Sampling method
		Dry weight (00573)	Ash weight (00572)	^a (mg/m ²) (70957)	^b (mg/m ²) (70958)	
Apr. 17, 1979	28	.160	.160	.000	.000	Polyethylene Strip
Aug. 7, 1979	28	1.18	1.02	.000	.000	Polyethylene Strip

KANSAS RIVER BASIN

06892350 KANSAS RIVER AT DESOTO, KS

LOCATION.--Lat 38°59'00", long 94°57'52", in SE¼NE¼NE¼ sec.27, T.12 S., R.22 E., Leavenworth County, Hydrologic Unit 10270104, on left bank at downstream side of bridge on county road, north edge of DeSoto, 0.4 mi (0.6 km) upstream from Kill Creek and at mile 31.0 (49.9 km).

DRAINAGE AREA.--59,756 mi² (154,768 km²), of which a large area is noncontributing.

PERIOD OF RECORD.--July 1917 to current year. Monthly discharge only for some periods published in WSP 1310. Prior to October 1973, published as "at Bonner Springs".

REVISED RECORDS.--WSP 806: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 758.87 ft (231.304 m) National Geodetic Vertical Datum of 1929. July 9, 1917, to Apr. 23, 1934, nonrecording gage; April 24, 1934, to Nov. 26, 1961, water-stage recorder at site 9.7 mi (15.6 km) downstream at datum 11.81 ft (3.600 m) lower; Nov. 26, 1961, to Sept. 30, 1971, water-stage recorder at site 10.2 mi (16.4 km) downstream at datum 17.81 ft (5.428 m) lower; and Oct. 1, 1971, to Sept. 30, 1973, at site 10.2 mi (16.4 km) downstream at datum 22.81 ft (6.592 m) lower.

REMARKS.--Records good except those for winter periods, which are poor. Natural flow of stream affected by lakes and reservoirs in Colorado, Nebraska, and Kansas, and by numerous diversions for irrigation above station.

AVERAGE DISCHARGE.--62 years, 6,929 ft³/s (196.2 m³/s), 5,020,000 acre-ft/yr (6.19 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 510,000 ft³/s (14,400 m³/s) July 13, 1951, gage height, 37.3 ft (11.37 m), from floodmarks, present site and datum, from rating curve extended above 128,000 ft³/s (3,620 m³/s) on basis of slope-area measurement of peak flow at mile 19.52 (31.41 km) and at mile 18.60 (29.93 km); minimum observed, 160 ft³/s (4.53 m³/s) Oct. 11, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1844, that of July 13, 1951.

EXTREMES FOR CURRENT YEAR.--Peak discharges above regulated base of 17,000 ft³/s (481 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Mar. 4	1100	*50,700	1,440	16.42	5.005	June 28	2400	19,600	555	10.73	3.271
Mar. 11	1200	28,500	807	12.91	3.935	July 9	1300	19,000	538	10.61	3.234
Mar. 19	1800	42,700	1,210	15.19	4.630	July 18	2200	20,700	586	10.97	3.344
Mar. 24	2000	49,600	1,400	16.25	4.953	July 25	1300	26,200	742	12.15	3.703
Mar. 29	1600	45,800	1,300	15.63	4.764	July 30	2100	26,000	736	12.10	3.688
Apr. 21	2300	21,200	600	11.08	3.377						

Minimum discharge, 792 ft³/s (22.4 m³/s) Dec. 31, result of freezeup.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4400	1190	3680	1200	1350	16500	41800	11600	5300	6910	17900	3030
2	2990	1190	3880	1300	1350	16500	40900	12300	5130	9010	14500	8190
3	2530	1180	3680	1300	1350	24800	40500	14800	5160	8580	12200	4670
4	2310	1190	3700	1300	1400	48100	40400	12200	5120	9010	11200	2970
5	2140	1230	3700	1300	1400	36100	40500	11100	5080	11500	11000	2650
6	2020	1330	3730	1400	1400	28800	39700	12000	4910	12700	8750	3470
7	1910	1340	3670	1400	1400	26600	39400	13000	4860	12600	7270	4800
8	1760	1280	3490	1400	1400	23900	41400	13000	7440	12800	6670	4360
9	1620	1210	3380	1400	1400	21100	43300	12700	6990	17600	5920	3910
10	1570	1200	3370	1400	1500	24500	40700	12300	5560	16200	5200	3680
11	1540	1190	3800	1350	1600	28100	42200	12200	4270	15100	4100	3520
12	1480	1200	4720	1350	1600	26900	42200	12600	3940	15800	3740	3510
13	1400	1200	4980	1350	1600	26100	42200	11900	3650	15100	3540	2640
14	1440	1270	4920	1300	1600	25800	42200	9690	3440	14500	3330	2050
15	1400	1230	5100	1300	1650	25400	42200	9420	3210	14000	3150	1900
16	1350	1330	5070	1350	1600	25300	29400	9250	3010	14400	3160	1800
17	1310	1420	4900	1350	1550	24900	18200	10800	3100	16200	2930	1740
18	1300	1580	4830	1350	1550	25200	16600	10400	3220	18600	2630	1680
19	1270	1640	4790	1350	1600	36900	14800	9000	3120	19600	2500	1610
20	1260	1530	4890	1400	1700	33800	15700	8990	3070	18900	2440	1670
21	1270	1390	4840	1450	1900	20500	20400	9180	2990	18100	4050	1440
22	1200	1340	4800	1450	2200	19500	18000	9170	2960	16900	4730	1330
23	1220	1340	4430	1450	3000	27900	14900	8760	3260	16800	2610	1250
24	1190	1480	3710	1450	4500	44500	14300	9930	3360	17100	2390	1230
25	1220	1430	2970	1450	6000	40900	13700	8730	3710	24000	2420	1210
26	1200	1440	2070	1450	8000	34600	13300	7910	4170	20400	2490	1160
27	1190	1730	1820	1450	9000	34700	12900	7140	4970	18400	2730	1200
28	1170	2880	1670	1400	12000	35100	12600	6500	10400	17800	2670	1130
29	1170	3170	1640	1300	---	44400	12100	6010	13100	20700	3680	1130
30	1170	2880	1510	1300	---	44200	11800	5800	7050	22200	5060	1170
31	1180	---	1300	1300	---	43400	---	5520	---	22100	3660	---
TOTAL	50180	45010	115040	42300	76600	935000	858300	313900	145550	493610	168620	76100
MEAN	1619	1500	3711	1365	2736	30160	28610	10130	4852	15920	5439	2537
MAX	4400	3170	5100	1450	12000	48100	43300	14800	13100	24000	17900	8190
MIN	1170	1180	1300	1200	1350	16500	11800	5520	2960	6910	2390	1130
CFSM	.03	.03	.06	.02	.05	.51	.48	.17	.08	.27	.09	.04
IN.	.03	.03	.07	.03	.05	.58	.53	.20	.09	.31	.10	.05
AC-FT	99530	89280	228200	83900	151900	1855000	1702000	622600	288700	979100	334500	150900

CAL YR 1978 TOTAL 2623170 MEAN 7187 MAX 26600 MIN 1060 CFSM .12 IN 1.63 AC-FT 5203000
WTR YR 1979 TOTAL 3320210 MEAN 9096 MAX 48100 MIN 1130 CFSM .15 IN 2.07 AC-FT 6586000

MISSOURI RIVER MAIN STEM

06893000 MISSOURI RIVER AT KANSAS CITY, MO

LOCATION.--Lat 39°06'43", long 94°35'16", in sec.32, T.50 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on downstream side of right pier of Chicago, Burlington, & Quincy Railroad bridge at Kansas City, 1.4 mi (2.3 km) downstream from Kansas River. River mile, 366.1 (589.1 km).

DRAINAGE AREA.--485,200 mi² (1,257,000 km²), approximately.

PERIOD OF RECORD.--October 1897 to current year. Prior to August 1928 monthly discharge only, published in WSP 1310. Gage-height records collected at same site 1873-99 are contained in reports of Missouri River Commission; those since 1900 are contained in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 716.40 ft (218.359 m) National Geodetic Vertical Datum of 1929. Prior to May 4, 1931, nonrecording gage, and May 4, 1931, to Aug. 23, 1934, water-stage recorder, at present site and datum. Aug. 24, 1934, to May 15, 1947, water-stage recorder at site 200 ft (61.0 m) upstream at same datum. May 16, 1947, to Feb. 28, 1948, nonrecording gage at present site and datum.

REMARKS.--Records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--82 years (1898-1979). 54,830 ft³/s (1,553 m³/s), 39,720,000 acre-ft/yr (48,970 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 573,000 ft³/s (16,230 m³/s) July 14, 1951; maximum gage height, 36.2 ft (11.03 m) July 14, 1951; minimum discharge, about 1,500 ft³/s (42.5 m³/s) Jan. 9, 10, 1937; minimum gage height, -2.91 ft (-0.887 m) Jan. 29, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 16, 1844 reached a stage of 38.0 ft (11.58 m), discharge, about 625,000 ft³/s (17,000 m³/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 220,000 ft³/s (6,230 m³/s) Mar. 4; maximum gage height, 20.68 ft (6.303 m) Mar. 25; minimum, 13,900 ft³/s (394 m³/s) Jan. 6, gage height, -1.87 ft (-0.570 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67600	64100	70200	34600	24900	59800	142000	74000	64500	70000	86200	56300
2	64400	64400	70800	32300	26000	70800	132000	74400	64300	67000	80700	67200
3	62400	64200	69400	29300	26800	88400	126000	88900	63400	65400	76600	72600
4	62500	64500	65500	32800	26900	181000	122000	109000	64700	64500	70100	59000
5	62500	64400	61800	26100	26800	181000	121000	95100	68400	69800	65900	52800
6	63000	65900	58500	15700	27500	130000	118000	79400	66900	73600	64100	53100
7	63600	65800	54900	19500	28600	133000	115000	73400	64700	68900	59600	57500
8	64000	65100	50100	19800	29400	145000	115000	74400	76100	68100	57300	61200
9	62600	65200	45700	22100	29500	112000	115000	75000	76700	81700	55500	55400
10	61800	64700	43200	22500	30100	96500	110000	73600	71200	79600	53400	50600
11	60900	63600	40500	22000	30800	95000	114000	75100	68200	70200	52200	48400
12	60700	64200	38100	23000	31700	90400	113000	76800	66800	70000	51300	47200
13	61800	66200	38100	24400	32000	90900	110000	86100	65900	67400	50500	46700
14	63600	67400	38100	21600	33100	106000	103000	90500	63700	64800	50700	45600
15	63700	67600	38400	24900	33700	117000	96300	82500	61500	64400	51600	46300
16	63300	69300	38200	26700	33700	106000	89500	78600	60400	75100	53200	47500
17	62800	70300	37800	25800	34100	93100	81800	78600	60700	81600	53800	48300
18	63100	70600	37300	22700	33400	95000	80000	78400	60900	73300	52000	49100
19	62400	69900	38200	21000	33100	159000	79800	76800	60200	72800	50000	50300
20	63000	67500	38700	19500	32800	181000	85300	78800	65100	69700	56400	50100
21	62600	66000	38900	19100	34000	175000	89900	78200	67000	68100	53100	49600
22	62700	64800	38600	19800	36800	171000	88800	78400	65800	65900	59700	49100
23	63400	62300	39000	22300	43400	164000	83500	75800	65200	64700	64200	49600
24	64700	61700	38500	23500	52300	184000	81100	74900	70000	63800	59900	49800
25	65700	63700	38000	26200	51800	193000	78300	74000	71400	98800	58600	49500
26	66200	65700	37600	27500	52000	181000	76900	71900	63100	95700	54200	49200
27	66000	68700	36500	27700	51700	170000	84100	70800	60700	80700	52300	48700
28	65000	70200	35400	27000	54300	147000	81200	69900	62900	77000	52500	47800
29	65000	69400	35700	26000	---	142000	75500	68000	80400	77000	57000	47300
30	64800	69000	36500	25300	---	142000	73200	65800	78200	88700	69600	47800
31	63900	---	36100	24500	---	144000	---	66000	---	93200	60900	---
TOTAL	1969700	1986400	1384300	755200	981200	4143900	2981200	2413100	1999000	2291500	1833100	1553600
MEAN	63540	66210	44650	24360	35040	133700	99370	77840	66630	73920	59130	51790
MAX	67600	70600	70800	34600	54300	193000	142000	109000	80400	98800	86200	72600
MIN	60700	61700	35400	15700	24900	59800	73200	65800	60200	63800	50000	45600
CFSM	.13	.14	.09	.05	.07	.28	.21	.16	.14	.15	.12	.11
AC-FT	3907000	3940000	2746000	1498000	1946000	8219000	5913000	4786000	3965000	4545000	3636000	3082000
CAL YR 1978	TOTAL	23204300	MEAN	63570	MAX	190000	MIN	18200	CFSM	.13	AC-FT	46030000
WTR YR 1979	TOTAL	24292200	MEAN	66550	MAX	193000	MIN	15700	CFSM	.14	AC-FT	48180000

BLUE RIVER BASIN

06893500 BLUE RIVER NEAR KANSAS CITY, MO

LOCATION.--Lat 38°57'26", long 94°33'31", in SE4NE4 sec.28, T.48 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on downstream side of right pier of bridge on Bannister Road, 0.4 mi (0.6 km) downstream from Indian Creek, in Kansas City and at river mile 23.16 (37.3 km).

DRAINAGE AREA.--188 mi² (487 km²).

PERIOD OF RECORD.--May 1939 to current year.

REVISED RECORDS.--WSP 926: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 753.73 ft (229.737 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to July 1, 1939, nonrecording gage at same site and datum.

REMARKS.--Records fair except during periods of no gage-height record which are poor. Low flow regulated by commercial plants above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--40 years, 146 ft³/s (4.135 m³/s), 10.55 in/yr (268 mm/yr), 105,800 acre-ft/yr (130 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,000 ft³/s (1,160 m³/s) Sept. 13, 1961, gage height, 44.46 ft (13.551 m); no flow September 1939 to February 1940 and in August 1946.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 17, 1928, prior to 1961, reached a stage about 39 ft (11.9 m) from information by City of Kansas City.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,800 ft³/s (164 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
June 8	1200	*9,400	266	*24.99	7.617
Sept. 2	0330	7,670	217	22.63	6.898

Minimum discharge recorded, 11 ft³/s (0.31 m³/s) Oct. 27, gage height, 4.05 ft (1.234 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	15	15	26	20	29	190	237	92	29	103	145	983		
2	15	16	26	20	28	153	243	76	26	73	100	3820		
3	15	17	25	20	28	1060	191	73	25	59	75	218		
4	15	17	25	19	28	389	282	83	705	53	60	134		
5	15	18	25	19	27	214	335	64	433	147	49	98		
6	15	96	27	19	28	178	268	63	192	128	42	207		
7	15	36	28	19	28	162	242	63	391	166	39	114		
8	15	21	29	19	29	147	363	61	7420	219	39	72		
9	15	18	28	19	29	186	288	59	1130	191	37	57		
10	15	19	27	18	29	227	263	57	845	111	33	47		
11	15	17	26	18	30	168	748	53	289	82	29	41		
12	15	22	28	18	30	149	351	51	208	65	26	37		
13	14	57	30	19	31	139	297	50	171	57	25	33		
14	13	27	27	18	44	126	264	50	145	49	53	31		
15	13	22	26	18	89	113	232	50	114	44	101	28		
16	13	47	27	19	75	105	211	50	102	46	54	27		
17	14	136	26	19	69	105	199	50	95	39	36	28		
18	16	37	26	28	67	196	193	50	89	35	31	27		
19	17	26	26	154	65	250	160	55	79	34	27	24		
20	17	24	27	113	87	166	147	112	88	32	25	23		
21	17	21	25	77	313	143	132	73	85	32	25	25		
22	18	21	25	55	710	370	196	55	81	30	26	23		
23	38	27	24	52	874	840	248	46	96	30	26	22		
24	17	26	23	39	309	331	155	44	79	44	23	22		
25	16	73	22	36	186	247	130	40	65	366	22	21		
26	16	153	20	35	155	207	118	61	59	111	52	20		
27	15	65	20	35	150	190	112	48	53	60	36	20		
28	14	43	20	32	213	179	104	34	274	70	27	20		
29	15	33	20	28	---	169	97	33	121	192	126	19		
30	15	27	20	28	---	176	157	33	70	995	51	18		
31	15	---	21	29	---	161	---	30	---	698	31	---		
TOTAL	493	1177	775	1062	3780	7436	6963	1759	13559	4361	1471	6259		
MEAN	15.9	39.2	25.0	34.3	135	240	232	56.7	452	141	47.5	209		
MAX	38	153	30	154	874	1060	748	112	7420	995	145	3820		
MIN	13	15	20	18	27	105	97	30	25	30	22	18		
CFSM	.09	.21	.13	.18	.72	1.28	1.23	.30	2.40	.75	.25	1.11		
IN.	.10	.23	.15	.21	.75	1.47	1.38	.35	2.68	.86	.29	1.24		
AC-FT	978	2330	1540	2110	7500	14750	13810	3490	26890	8650	2920	12410		
CAL YR 1978	TOTAL	29122	MEAN	79.8	MAX	803	MIN	13	CFSM	.42	IN	5.76	AC-FT	57760
WTR YR 1979	TOTAL	49095	MEAN	135	MAX	7420	MIN	13	CFSM	.72	IN	9.71	AC-FT	97380

BLUE RIVER BASIN

06893560 BRUSH CREEK AT MAIN ST. IN KANSAS CITY, MO

LOCATION.--Lat 39°02'24", long 94°35'12", SW¼NE¼SW¼ sec.29, T.49 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on right bank 25 ft (8 m) downstream from bridge on Main St. and 4 mi (6.4 km) upstream from Blue River.

DRAINAGE AREA.--14.8 mi² (38.3 km²).

PERIOD OF RECORD.--October 1970 to July 1979 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 811.02 ft (247.199 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records poor. Flow affected by waste water from urbanized area. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years (1970-78), 8.54 ft³/s (0.242 m³/s), 7.84 in/yr (199 mm/yr), 6,190 acre-ft/yr (7.63 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,600 ft³/s (498 m³/s) Sept. 12, 1977, gage height, 23.24 ft (7.804 m) floodmark; no flow Dec. 9-16, 1972, July 17, 1973, Jan. 1 to Feb. 11, 1977, Feb. 7, 1978.

EXTREMES FOR CURRENT PERIOD.--Peak discharges above 800 ft³/s (22.7 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
May 26	1925	846	24.0	5.15	1.570	July 24	Unknown	3190	90.3	8.27	2.521
June 4	1950	*5790	164	*11.20	3.414	July 30	Unknown	2760	78.2	7.74	2.359
June 8	Unknown	2830	80.1	7.82	2.384						

Minimum daily discharge, 0.10 ft³/s (0.003 m³/s) Oct. 6-9, 11-21, Nov. 1-4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	1.0	.10	.31	.30	.30	2.6	3.0	3.0	2.0	2.0				
2	.50	.10	.30	.30	.30	2.8	3.0	4.4	2.6	2.0				
3	.50	.10	.30	.30	.30	6.2	3.0	2.6	3.7	2.0				
4	.50	.10	.30	.30	.30	4.2	3.0	3.0	172	2.0				
5	.50	.20	.30	.30	.28	5.2	3.0	3.0	13	10				
6	.10	17	.30	.30	.30	5.3	3.0	3.0	3.0	5.0				
7	.10	3.7	.30	.30	.30	4.9	3.0	2.0	2.0	4.0				
8	.10	1.0	.30	.30	.30	3.8	3.0	2.0	100	3.0				
9	.10	.36	.30	.30	.30	5.2	3.0	2.0	10	2.2				
10	1.0	.30	.30	.30	.30	4.1	3.0	2.0	12	2.0				
11	.10	.30	.30	.30	4.8	3.5	20	2.0	7.0	2.0				
12	.10	1.3	.30	.30	4.3	3.8	10	2.0	4.7	2.0				
13	.10	6.0	.30	.30	4.3	3.3	5.0	2.0	4.0	2.0				
14	.10	1.0	.30	.30	5.5	3.3	4.0	4.5	3.0	2.0				
15	.10	.50	.30	.30	4.8	2.9	3.0	2.8	2.0	2.0				
16	.10	3.5	.30	.50	3.1	3.1	3.0	2.3	2.0	2.0				
17	.10	6.4	.30	1.0	3.0	4.6	3.0	2.3	2.0	2.0				
18	.10	.50	.30	1.0	3.5	9.3	3.0	4.5	2.0	2.0				
19	.10	.40	.30	.50	5.2	4.1	3.0	4.9	2.0	2.0				
20	.10	.30	.30	.40	5.3	3.0	3.0	15	5.0	2.0				
21	.10	.30	.30	.30	6.5	3.0	2.0	4.0	2.0	2.0				
22	1.4	.30	.30	.30	7.2	10	2.0	4.7	2.0	2.0				
23	3.7	.30	.30	.30	6.2	10	2.0	4.7	2.0	2.0				
24	1.0	.30	.30	.30	4.1	5.0	2.0	3.8	2.0	100				
25	.20	.30	.30	.30	3.4	4.0	2.0	4.0	2.0	6.2				
26	.20	5.0	.30	.30	2.6	3.0	2.0	58	2.0	3.8				
27	.20	1.0	.30	.30	2.5	3.0	2.0	8.6	2.0	2.0				
28	.20	.50	.30	.30	4.6	3.0	2.0	3.3	2.0	2.0				
29	.20	.40	.30	.30	---	3.0	2.0	2.8	2.0	2.0				
30	.20	.30	.30	.30	---	3.0	2.0	2.6	2.0	50				
31	.20	---	.30	.30	---	3.0	---	3.0	---	5.0				
TOTAL*	13.00	51.86	9.31	11.20	83.88	135.2	107.0	208.4	374.0	231.2				
MEAN	.42	1.73	.30	.36	3.00	4.36	3.57	6.72	12.5	7.46				
MAX	3.7	17	.31	1.0	7.2	10	20	58	172	100				
MIN	.10	.10	.30	.30	.28	2.6	2.0	2.0	2.0	2.0				
CFSM	.03	.12	.02	.02	.20	.30	.24	.45	.85	.50				
IN.	.03	.13	.02	.03	.21	.34	.27	.52	.94	.58				
AC-FT	26	103	18	22	166	268	212	413	742	459				
CAL YR 1978	TOTAL	1089.68	MEAN	2.99	MAX	100	MIN	.00	CFSM	.20	IN	2.74	AC-FT	2160

SHOAL CREEK BASIN

06893670 SHOAL CREEK AT CLAYCOMO, MO

LOCATION.--Lat 39°12'27", long 94°28'45", in NE¼NW¼NE¼ Sec.27, T.51 N, R.32 W., Clay County, Hydrologic Unit 10300101, on right bank 100 ft (30.5 m) downstream from bridge on U.S. Highway 69, 2.5 mi (4.0 km) upstream from Little Shoal Creek and 1 mile (1.6 km) northeast of Claycomo.

DRAINAGE AREA.--29.8 mi² (77.2 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 732.58 ft (223.290 m) National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Department).

REMARKS.--Records poor. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,800 ft³/s (278 m³/s) Sept. 11, 1975, gage height, 21.22 ft (6.468 m); no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 33.18 ft (10.113 m) May 18, 1974, from highwater mark by local residents.

EXTREMES FOR CURRENT PERIOD.--Peak discharges above base of 1,000 ft³/s (28.3 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
June 4	2345	*3,700	105	*18.03	5.496
June 8	0230	1,830	51.8	15.04	4.584
July 5	0630	1,210	34.3	13.09	3.990

No flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.20	.20	1.0	.84	.74	17	14	19	7.0	3.7	1.8	45		
2	.20	.20	1.0	.84	1.3	10	14	126	8.0	4.2	.60	23		
3	.20	.20	1.0	.84	1.3	107	12	67	8.0	13	.91	.45		
4	.20	.20	1.0	.84	.89	41	25	38	400	13	.50	.16		
5	.20	.20	1.0	.84	.87	20	26	29	567	281	.65	.00		
6	.20	20	1.0	.84	1.4	13	28	24	37	40	.00	1.0		
7	.20	3.0	1.0	.57	1.8	13	18	20	59	35	.04	.08		
8	.20	2.0	1.0	.19	1.4	7.1	34	16	826	59	.25	.00		
9	.20	2.0	1.0	.12	.89	12	16	14	160	82	.35	.00		
10	.20	2.0	1.0	.16	1.1	21	15	26	261	51	.55	.00		
11	.20	2.0	1.0	.16	2.1	10	118	47	54	35	.55	.00		
12	.20	2.0	1.0	.16	2.5	7.9	84	24	42	20	.60	.00		
13	.20	3.0	.80	.16	1.6	8.0	42	25	36	15	.60	.91		
14	.20	2.0	.40	.16	2.9	6.3	31	8.7	26	9.9	19	.00		
15	.20	1.8	.40	.16	4.3	5.3	26	8.0	22	8.0	55	1.5		
16	.20	20	.40	.16	3.6	5.3	20	5.3	14	4.2	1.8	1.5		
17	.20	30	.40	.55	1.4	4.6	27	9.1	25	3.5	.84	.00		
18	.20	3.0	.40	.53	1.3	49	20	6.8	13	4.2	.70	.00		
19	.20	2.0	.37	7.0	3.1	56	19	7.6	7.0	5.1	.45	.00		
20	.20	2.0	.40	25	14	27	28	15	12	4.1	.45	.00		
21	.20	2.0	.40	11	111	20	29	15	16	6.1	.84	.00		
22	.40	2.0	.34	4.3	79	65	19	8.4	18	8.4	.40	.00		
23	.40	2.0	.44	3.2	113	252	17	8.0	9.5	4.9	.30	.00		
24	.20	2.0	1.1	2.3	47	229	19	9.9	8.4	5.9	.35	.00		
25	.20	10	1.1	2.4	19	95	19	9.1	7.3	230	.12	.00		
26	.20	30	.84	3.3	14	27	15	15	5.3	18	.12	.00		
27	.20	5.0	.69	3.2	20	22	15	18	3.5	7.0	.35	.00		
28	.20	3.0	1.1	2.0	30	21	15	8.0	13	7.3	.40	.00		
29	.20	2.0	1.0	1.7	---	22	11	7.3	7.6	1.4	9.1	.00		
30	.20	1.0	.84	1.7	---	18	12	9.9	6.5	1.8	1.9	.00		
31	.20	---	.84	1.6	---	13	---	9.1	---	1.9	1.2	---		
TOTAL	6.60	156.80	24.26	76.82	481.49	1224.5	788	653.2	2679.1	983.6	100.72	73.60		
MEAN	.21	5.23	.78	2.48	17.2	39.5	26.3	21.1	89.3	31.7	3.25	2.45		
MAX	.40	30	1.1	25	113	252	118	126	826	281	55	45		
MIN	.20	.20	.34	.12	.74	4.6	11	5.3	3.5	1.4	.00	.00		
CFSM	.007	.18	.03	.08	.58	1.33	.88	.71	3.00	1.06	.11	.08		
IN.	.01	.20	.03	.10	.60	1.53	.98	.82	3.34	1.23	.13	.09		
AC-FT	13	311	48	152	955	2430	1560	1300	5310	1950	200	146		
CAL YR 1978	TOTAL	5612.38	MEAN	15.4	MAX	271	MIN	.00	CFSM	.52	IN	7.01	AC-FT	11130
WTR YR 1979	TOTAL	7248.69	MEAN	19.9	MAX	826	MIN	.00	CFSM	.67	IN	9.05	AC-FT	14380

LITTLE BLUE RIVER BASIN

06893890 EAST FORK LITTLE BLUE RIVER NEAR BLUE SPRINGS, MO

LOCATION.--Lat 39°01'32", long 94°20'37" in NE¼NE¼NW¼ sec.33, T.49 N., R.31 W., Jackson County, Hydrologic Unit 10500101, on left downstream side of bridge on east bound lane of U.S. Highway 40, 2.6 miles (4.2 km) west of Blue Springs, and 1.5 miles (2.4 km) upstream from mouth.

DRAINAGE AREA.--34.4 mi² (89.1 km²).

PERIOD OF RECORD.--October 1974 to current year. Annual peaks, 1970-74.

GAGE.--Water-stage recorder. Datum of gage is 753.09 ft (229.542 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records fair except periods of ice effect and no gage-height record which are poor. Several observations of water temperature were made during the year. Flow impounded or detained in Jackson County Lake at times.

AVERAGE DISCHARGE.--5 years, 19.3 ft³/s (0.547 m³/s), 7.62 in/yr (194 mm/yr), 13,980 acre-ft/yr (17.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,100 ft³/s (173 m³/s) Sept. 13, 1977, gage height, 21.13 ft (6.440 m); no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 500 ft³/s (14.2 m³/s) June 8, no peak above base of 1000 ft³/s (28.3 m³/s); no flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	.10	1.5	.00	.40	15	44	30	8.0	15	7.0	10		
2	.00	.10	1.0	.00	.40	16	42	40	7.0	10	5.0	100		
3	.00	.15	.40	.00	.40	17	38	50	7.0	10	4.0	50		
4	.00	.10	.20	.00	.40	16	53	46	200	10	4.0	10		
5	.00	.05	.20	.00	.36	16	61	44	200	10	3.0	5.0		
6	.00	1.3	.20	.00	.40	17	48	40	100	30	3.0	10		
7	.00	8.9	.20	.00	.40	16	47	36	50	20	3.0	7.0		
8	.00	4.5	.10	.00	.40	16	59	34	500	20	2.0	5.0		
9	.00	2.1	.10	.00	.40	16	52	32	400	15	2.0	5.0		
10	.00	1.2	.10	.00	.40	14	49	30	200	10	2.0	4.0		
11	.00	.45	.10	.00	.40	15	119	28	100	10	2.0	4.0		
12	.08	.40	.10	.00	.40	16	127	25	50	10	1.0	4.0		
13	.30	.50	.00	.00	.40	23	80	25	30	8.0	1.0	4.0		
14	.10	.50	.00	.00	.40	18	68	25	20	7.0	.83	4.0		
15	.00	1.4	.10	.00	1.0	17	57	20	20	7.0	.87	4.0		
16	.00	2.7	.20	.10	10	18	52	20	20	6.0	.24	4.0		
17	.00	16	.15	2.0	8.0	18	46	20	20	5.0	.03	4.0		
18	.00	8.4	.15	3.0	7.0	21	42	20	20	4.0	.10	4.0		
19	.00	4.5	.30	5.0	7.4	23	40	20	20	4.0	.10	4.0		
20	.00	2.4	.45	6.0	8.9	46	36	30	20	3.0	.10	4.0		
21	.00	1.6	.50	4.0	19	44	34	14	20	3.0	.10	3.5		
22	.00	1.0	.50	3.0	17	48	32	12	20	3.0	.10	2.9		
23	.00	.94	.50	3.0	16	84	30	12	20	3.0	.10	1.6		
24	.00	.60	.50	2.0	16	66	28	12	20	3.0	.10	1.1		
25	.00	.72	.50	2.0	16	64	26	12	16	10	.10	1.0		
26	.25	9.6	.15	1.5	17	56	25	20	15	7.0	.20	.40		
27	.35	3.7	.00	1.0	17	54	24	30	15	5.0	.20	.20		
28	.30	3.0	.00	.50	16	60	22	25	30	3.0	.20	.00		
29	.25	2.5	.00	.40	---	55	21	15	20	5.0	.20	.00		
30	.25	2.0	.00	.40	---	55	20	10	15	10	.20	.00		
31	.15	---	.00	.40	---	40	---	9.0	---	10	.20	---		
TOTAL	2.03	81.41	8.20	34.30	181.86	1000	1422	786.0	2183.0	276.0	42.97	256.70		
MEAN	.065	2.71	.26	1.11	6.50	32.3	47.4	25.4	72.8	8.90	1.39	8.56		
MAX	.35	16	1.5	6.0	19	84	127	50	500	30	7.0	100		
MIN	.00	.05	.00	.00	.36	14	20	9.0	7.0	3.0	.03	.00		
CFSM	.002	.08	.008	.03	.19	.94	1.38	.74	2.12	.26	.04	.25		
IN.	.00	.09	.01	.04	.20	1.08	1.54	.85	2.36	.30	.05	.28		
AC-FT	4.0	161	16	68	361	1980	2820	1560	4330	547	85	509		
CAL YR 1978	TOTAL	7859.13	MEAN	21.5	MAX	600	MIN	.00	CFSM	.63	IN	8.50	AC-FT	15590
WTR YR 1979	TOTAL	6274.47	MEAN	17.2	MAX	500	MIN	.00	CFSM	.50	IN	6.78	AC-FT	12450

LITTLE BLUE RIVER BASIN

06894000 LITTLE BLUE RIVER NEAR LAKE CITY, MO

LOCATION.--Lat 39°06'02", long 94°18'01", in SW¼SE¼ sec.35, T.50 N., R.31 W., Jackson County, Hydrologic Unit 10300101, at downstream side of right pier of upstream bridge on dual State Highway 78, 3 mi (4.8 km) southwest of Lake City, and 10.5 mi (16.9 km) upstream from mouth.

DRAINAGE AREA.--184 mi² (477 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 719.15 ft (219.197 m) National Geodetic Vertical Datum of 1929. Prior to July 24, 1957, nonrecording gage at site 50 ft (15 m) downstream at same datum. Water-stage recorder July 24, 1957 to Apr. 28, 1977. Nonrecording gage Apr. 29, 1977 to May 10, 1979.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years, 136 ft³/s (3.852 m³/s), 10.04 in/yr (255 mm/yr), 98,530 acre-ft/yr (121 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,000 ft³/s (481 m³/s) Sept. 13, 1977; maximum gage height, 27.94 ft (8.516 m) Sept. 14, 1961; no flow at times during 1953-54, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 5	0100	4220	120	July 5	1030	2160	61.2
June 8	1345	*5560	157	Sept. 2	1745	4770	135
							*13.69
							4.173

Minimum discharge, 9.0 ft³/s (0.25 m³/s) Aug. 10; minimum gage height, 3.10 ft (0.945 m) Sept. 26, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	25	39	20	35	275	260	172	62	54	72	126
2	17	20	43	20	39	229	287	227	59	55	46	3040
3	27	20	30	18	40	1400	201	568	69	55	42	825
4	18	24	23	19	30	600	311	349	271	48	39	130
5	18	30	35	18	32	388	539	238	2740	1180	33	90
6	18	70	36	20	35	278	299	200	403	485	31	151
7	25	118	30	20	34	234	232	170	244	289	31	163
8	20	54	30	22	34	203	220	136	4760	195	27	90
9	20	29	30	23	25	209	219	125	2960	199	27	67
10	22	20	30	32	25	341	207	104	1490	130	19	59
11	42	20	30	29	30	300	1020	124	539	104	23	55
12	34	40	30	20	29	203	725	109	253	85	20	50
13	15	60	35	23	51	227	400	107	203	80	28	47
14	20	40	28	20	50	175	300	104	170	65	30	44
15	20	30	30	21	82	161	200	102	143	67	53	40
16	20	34	31	30	74	160	207	89	125	57	62	33
17	23	145	30	25	70	150	195	83	99	57	41	48
18	18	90	23	25	60	300	175	76	99	55	30	54
19	23	50	26	106	50	557	161	76	79	59	28	38
20	28	30	30	180	52	395	160	103	80	56	23	36
21	30	30	25	120	227	260	232	113	86	48	22	33
22	30	30	22	94	548	299	200	85	65	44	23	33
23	40	40	20	69	1250	1010	140	76	83	47	22	30
24	30	60	20	66	592	557	129	72	80	45	23	31
25	20	100	20	53	300	400	133	67	67	150	25	28
26	20	160	16	47	186	253	199	72	59	140	23	26
27	20	100	21	44	207	260	128	147	56	64	35	27
28	20	70	12	40	249	234	100	118	59	50	41	32
29	20	48	20	40	---	217	100	73	98	45	70	28
30	21	51	20	46	---	229	102	70	87	59	82	26
31	14	---	20	43	---	240	---	66	---	139	47	---
TOTAL	713	1638	835	1353	4436	10744	7781	4221	15588	4206	1118	5480
MEAN	23.0	54.6	26.9	43.6	158	347	259	136	520	136	36.1	183
MAX	42	160	43	180	1250	1400	1020	568	4760	1180	82	3040
MIN	14	20	12	18	25	150	100	66	56	44	19	26
CFSM	.13	.30	.15	.24	.86	1.89	1.41	.74	2.83	.74	.20	1.00
IN.	.14	.33	.17	.27	.90	2.17	1.57	.85	3.15	.85	.23	1.11
AC-FT	1410	3250	1660	2680	8800	21310	15430	8370	30920	8340	2220	10870
CAL YR 1978	TOTAL	58544	MEAN 160	MAX 3900	MIN 12	CFSM .87	IN 11.84	AC-FT 116100				
WTR YR 1979	TOTAL	58113	MEAN 159	MAX 4760	MIN 12	CFSM .86	IN 11.75	AC-FT 115300				

SNI-A-BAR BASIN

06894680 SNI-A-BAR CREEK NEAR TARSNEY, MO

LOCATION.-- Lat 38°56'28", long 94°10'05", in SW¼SW¼NW¼ sec.30, T.48 N., R.29 W., Jackson County, Hydrologic Unit 10300101, on right bank 8 ft (2.4 m) downstream from bridge on Colburn Road, 2.3 mi (3.7 km) upstream from West Fork, 2.7 mi (4.3 km) east of Tarsney and 5 mi (8.0 km) southeast of Grain Valley.

DRAINAGE AREA.--29.1 mi² (75.4 km²).

PERIOD OF RECORD.--June 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 788.37 ft (240.295 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--9 years, 22.6 ft³/s (0.640 m³/s), 10.55 in/yr (268 mm/yr), 16,370 acre-ft/yr (20.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft³/s (445 m³/s) Sept. 12, 1977, gage height, 23.30 ft (7.102 m) highwater mark; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s (19.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage Height (ft)	Gage Height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Feb. 22	1930	2430	68.8	13.42	4.090	June 8	1300	1140	32.3	11.03	3.362
Mar. 18	1715	1180	33.4	11.10	3.383	July 5	0530	*9100	258	*19.83	6.044

No flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.30	.00	.00	35	22	7.2	1.5	1.1	5.6	33
2	.00	.00	.30	.00	.00	32	17	58	1.5	1.1	1.0	32
3	.00	.00	.30	.00	.00	135	13	69	1.4	1.0	.60	1.3
4	.00	.00	.20	.00	.00	56	25	19	1.6	.90	.30	.40
5	.00	.00	.10	.00	.00	36	24	12	6.7	2440	.20	.20
6	.00	.00	.10	.00	.00	32	19	9.4	2.1	48	.10	.20
7	.00	.00	.10	.00	.00	28	20	7.5	1.5	34	.10	.60
8	.00	.00	.00	.00	.00	26	20	7.2	434	18	.10	.20
9	.00	.00	.00	.00	.00	35	27	6.7	37	13	.10	.10
10	.00	.00	.00	.00	.00	42	22	5.1	44	8.0	.10	.10
11	.00	.00	.00	.00	.00	28	205	5.6	12	9.1	.00	.10
12	.00	.00	.00	.00	.00	19	65	4.7	6.7	7.7	.00	.10
13	.00	.00	.00	.00	.50	22	30	4.3	5.4	4.2	.00	.10
14	.00	.00	.00	.00	10	22	20	4.2	4.0	3.1	.00	.00
15	.00	.00	.00	.00	1.4	21	20	3.6	2.6	2.4	.20	.00
16	.00	.00	.00	.00	1.0	19	20	3.8	2.0	2.0	.20	.00
17	.00	.00	.00	.00	1.0	21	13	3.1	2.0	2.0	.10	.00
18	.00	.00	.00	.00	1.0	110	12	2.5	2.0	1.7	.10	.00
19	.00	.00	.00	.00	1.0	84	12	2.5	5.4	1.5	.00	.00
20	.00	.00	.00	.00	2.0	35	12	4.7	10	1.3	.00	.00
21	.00	.00	.00	.00	152	32	10	3.4	1.9	1.2	.00	.00
22	.00	.00	.00	.00	670	81	10	2.4	2.5	1.1	.00	.00
23	.00	.00	.00	.00	388	92	8.9	2.0	1.5	1.0	.00	.00
24	.00	.00	.00	.00	89	50	8.6	1.7	1.4	1.0	.00	.00
25	.00	.00	.00	.00	52	35	6.9	1.5	1.4	57	.10	.00
26	.00	5.1	.00	.00	38	32	5.8	80	1.4	9.1	.10	.00
27	.00	3.8	.00	.00	43	29	6.2	23	1.2	1.3	.10	.00
28	.00	.90	.00	.00	39	26	6.2	4.5	1.4	.80	.10	.00
29	.00	.60	.00	.00	---	23	4.5	2.8	1.6	.60	.20	.00
30	.00	.40	.00	.00	---	23	5.4	2.1	1.3	.30	.10	.00
31	.00	---	.00	.00	---	17	---	1.7	---	5.1	.10	---
TOTAL	.00	10.80	1.40	.00	1488.90	1278	690.5	365.2	599.0	2678.60	9.60	68.40
MEAN	.000	.36	.045	.000	53.2	41.2	23.0	11.8	20.0	86.4	.31	2.28
MAX	.00	5.1	.30	.00	670	135	205	80	434	2440	5.6	33
MIN	.00	.00	.00	.00	.00	17	4.5	1.5	1.2	.30	.00	.00
CFSM	.000	.01	.002	.000	1.83	1.42	.79	.41	.69	2.97	.01	.08
IN.	.00	.01	.00	.00	1.90	1.63	.88	.47	.77	3.42	.01	.09
AC-FT	.00	21	2.8	.00	2950	2530	1370	724	1190	5310	19	136
CAL YR 1978	TOTAL	7064.40	MEAN 19.4	MAX 580	MIN .00	CFSM .67	IN 9.03	AC-FT 14010				
WTR YR 1979	TOTAL	7190.40	MEAN 19.7	MAX 2440	MIN .00	CFSM .68	IN 9.19	AC-FT 14260				

MISSOURI RIVER MAIN STEM

06895500 MISSOURI RIVER AT WAVERLY, MO

LOCATION.--Lat 39°12'50", long 93°30'50", sec.14, T.51 N., R.24 W., Lafayette County, Hydrologic Unit 10300101, on right bank 450 ft (137 m) downstream from bridge on U.S. Highway 65 at Waverly. River mile, 293.4 (472.1 km).

DRAINAGE AREA.--487,200 mi² (1,262,000 km²), approximately.

PERIOD OF RECORD.--October 1928 to current year. Gage-height records collected at same site 1878-79, 1883-99 are contained in reports of Missouri River Commission; since 1915 in reports of National Weather Service. Daily discharge not collected Apr. 1, 1977 to Mar. 31, 1978.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 646.00 ft (196.901 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1934, at datum 5.00 ft (1.524 m) lower; Mar. 30, 1929, to Apr. 4, 1934, nonrecording gage, Apr. 5, 1934, to June 13, 1943, water-stage recorder, June 14, 1943, to Sept. 15, 1944, nonrecording gage, and Sept. 16, 1944, to May 28, 1969, water-stage recorder at present datum; all at site 450 ft (137 m) upstream.

REMARKS.--Records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--49 years (1929-76, 79), 48,940 ft³/s (1,386 m³/s), 35,460,000 acre-ft/yr (43,720 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 549,000 ft³/s (15,550 m³/s) July 16, 1951; maximum gage height, 28.85 ft (8.793 m) Oct. 13, 1973; minimum discharge, about 1,700 ft³/s (48.1 m³/s) Jan. 9, 1940; minimum gage height, 0.4 ft (0.122 m) Jan. 12, 1930, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 193,000 ft³/s (5,470 m³/s) Mar. 5; maximum gage height, 24.15 ft (7.361 m) Mar. 26; minimum daily discharge, 17,000 ft³/s (481 m³/s) Jan. 7; minimum gage height, 5.53 ft (1.686 m) Jan. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67400	63400	69300	35000	25000	55600	147000	73200	65500	72000	86300	58400
2	65400	63900	70100	33000	26000	60800	141000	73300	64000	69300	80600	62000
3	63300	64100	70100	30000	27000	84200	134000	85100	63800	68400	74700	76300
4	63100	64400	68000	33000	27000	140000	129000	99300	63300	67600	73000	63400
5	63000	64800	64200	27000	27000	189000	127000	104000	72800	70800	66700	55400
6	62700	65700	59300	20000	28000	154000	124000	88400	69800	80500	65300	53000
7	62600	66000	55800	17000	29000	133000	121000	77200	67200	75100	62900	55700
8	63300	65400	52800	20000	29000	151000	120000	74400	78600	70200	59700	60000
9	63300	64900	48100	22000	29000	133000	121000	76000	95700	73800	58500	59400
10	63000	65000	45800	23000	30000	108000	117000	74000	82800	84900	56700	52500
11	62900	63900	44200	23000	31000	101000	120000	75000	74900	73400	54900	49100
12	61800	63600	42500	23000	32000	96600	120000	77000	69900	70100	54100	47800
13	62000	66200	41000	25000	32000	90100	113000	87000	68200	68000	53300	47300
14	63300	68000	40800	23000	33000	97600	107000	91000	66300	65000	52400	46600
15	63800	68400	41100	25000	34000	114000	100000	84000	63500	64000	53200	46000
16	63900	68500	42000	27000	34000	114000	94400	83400	62000	70000	53400	46800
17	63600	70200	41800	26000	34000	101000	87200	81000	61100	80000	53500	48000
18	64100	70600	41200	23000	33000	93900	81600	80000	61100	84000	52500	48700
19	64700	70400	41100	21000	33000	131000	80200	78200	61000	74300	50300	49900
20	64800	69700	41800	20000	33000	174000	82900	78900	61200	72800	50600	50300
21	65700	67700	41900	19000	34000	181000	89700	79200	66600	70600	53800	49800
22	65300	66100	41500	20000	37000	175000	90500	77600	65200	68500	51400	48600
23	65400	65400	40600	22000	43000	170000	84400	76300	65400	66800	59400	48700
24	65700	63800	40500	23000	52000	170000	81000	74100	65400	65600	59100	49300
25	66000	64700	39500	26000	52000	184000	78400	74000	70900	68400	57700	49500
26	66000	68100	38800	28000	52000	185000	75300	72200	66300	108000	56300	49100
27	66400	69400	38000	28000	52000	174000	78500	71100	61500	85000	52900	49000
28	65700	71000	36400	27000	54000	154000	81800	70000	61800	76600	52800	48400
29	64700	70500	35700	26000	---	141000	76000	68600	69600	76000	54100	48000
30	64100	69200	37000	25000	---	140000	72200	67000	78600	89400	64900	48100
31	64200	---	37000	25000	---	144000	---	66000	---	89800	67300	---
TOTAL	1991200	2003000	1447900	765000	982000	4139800	3075100	2436500	2044000	2335300	1842300	1565100
MEAN	64230	66770	46710	24680	35070	133500	102500	78600	68130	75330	59430	52170
MAX	67400	71000	70100	35000	54000	189000	147000	104000	95700	108000	86300	76300
MIN	61800	63400	35700	17000	25000	55600	72200	66000	61000	64000	50300	46000
CFSM	.13	.14	.10	.05	.07	.27	.21	.16	.14	.16	.12	.11
AC-FT	3950000	3973000	2872000	1517000	1948000	8211000	6099000	4833000	4054000	4632000	3654000	3104000
WTR YR 1979 TOTAL	24627200			MEAN 67470	MAX 189000	MIN 17000	CFSM .14	AC-FT 48850000				

GRAND RIVER BASIN

06897500 GRAND RIVER NEAR GALLATIN, MO

LOCATION.--Lat 39°55'37", long 93°56'33", in SW¼NW¼ sec.16, T.59 N., R.27 W., Daviess County, Hydrologic Unit 10280101, on left bank 100 ft (30 m) upstream from bridge on State Highway 6, 50 ft (15 m) downstream from Chicago, Rock Island and Pacific Railroad Co. bridge, 1 mi (1.6 km) northeast of Gallatin, and 6 mi (9.7 km) upstream from Honey Creek, and at mile 90 (144.8 km).

DRAINAGE AREA.--2,250 mi² (5,830 km²), approximately.

PERIOD OF RECORD.--June 1921 to current year.

REVISED RECORDS.--WSP 786: 1933-34. WSP 1280: 1922.

GAGE.--Water-stage recorder. Datum of gage is 712.56 ft (217.188 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 31, 1922, nonrecording gage at site 100 ft (30 m) upstream at same datum. Jan. 31, 1922, to Nov. 15, 1936 nonrecording gage, at site about 1,100 ft (335 m) upstream at datum 0.17 ft (0.052 m) higher. Nov. 16, 1936, to Nov. 14, 1937, nonrecording gage, and Nov. 15, 1937, to Sept. 21, 1961, water-stage recorder on center pier of highway bridge at present datum. Sept. 22-27, 1961, nonrecording gage at railroad bridge, 100 ft (30 m) upstream at same datum, Sept. 28, 1961, to Mar. 4, 1964, water-stage recorder on downstream side of left bank pier of highway bridge and wire-weight gage for stages below 7.2 ft (2.2 m) at present datum.

REMARKS.--Records good except periods of ice effect and no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--58 years, 1,160 ft³/s (32.85 m³/s), 7.00 in/yr (178 mm/yr), 840,400 acre-ft/yr (1,036 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,100 ft³/s (1,960 m³/s) June 24, 1947, gage height, 34.55 ft (10.531 m); maximum gage height, 37.02 ft (11.284 m) June 2, 1929, (present site and datum); minimum discharge, 2.2 ft³/s (0.062 m³/s) June 3, 4, Oct. 27, 28, 29, 1956; minimum gage height observed, -0.37 ft (-0.113 m) June 15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 40 ft (12.2 m) July 8, 1909, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 18,000 ft³/s (510 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Mar. 5	0100	29300	830	*23.80	7.254	Mar. 19	1200	19300	547	18.90	5.761
Mar. 7	1200	18100	513	18.30	5.578	Mar. 25	0030	*32000	906	23.38	7.126

Minimum discharge, 40 ft³/s (1.13 m³/s) Sept. 30, gage height, 0.08 ft (0.024 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	449	115	1200	180	210	800	4100	1560	240	832	1100	561
2	382	108	1180	180	210	900	3020	3860	220	545	625	2090
3	328	115	925	190	210	5000	2780	14700	210	396	505	950
4	305	112	585	190	210	20000	2700	7760	190	313	386	745
5	283	112	501	190	210	24700	2620	3550	200	276	302	274
6	278	146	605	190	210	11400	2380	2380	190	247	251	200
7	262	180	473	190	210	16300	2090	1880	2380	238	216	192
8	242	262	278	180	210	8800	1950	1560	832	218	164	378
9	222	230	364	180	210	4720	1680	1410	389	206	132	166
10	216	186	473	180	210	4100	1620	1350	431	186	127	129
11	210	156	417	180	210	3370	1620	1320	449	178	91	115
12	208	146	331	180	210	5380	1620	788	431	154	91	94
13	238	180	298	190	210	8280	1620	705	288	136	85	83
14	372	1290	302	190	210	8020	1560	645	242	127	78	78
15	249	1290	322	190	220	4610	1600	525	222	134	85	67
16	198	832	331	190	220	2620	1620	403	264	132	142	69
17	176	2520	337	190	220	1950	1620	431	253	1200	168	63
18	158	6590	340	200	220	2630	1620	465	212	685	78	58
19	150	3280	340	200	220	16500	1560	445	188	382	85	54
20	144	1410	364	200	220	7890	2300	410	152	262	91	54
21	142	810	316	200	236	3460	2380	403	129	204	110	52
22	140	585	331	200	250	2160	2000	368	392	182	125	49
23	136	521	308	200	500	12700	1680	340	414	146	92	49
24	132	565	290	211	1000	29900	1810	298	705	125	69	47
25	150	565	234	210	1000	27700	1560	285	1000	819	61	47
26	150	2290	234	210	800	11600	1880	292	745	1740	61	45
27	136	4400	251	210	600	7370	3100	283	501	300	60	45
28	130	2160	255	210	600	5380	2230	262	3730	150	65	47
29	125	1320	238	210	---	4610	1620	271	4610	1400	386	47
30	117	1180	174	210	---	4400	1500	251	1680	10000	1080	45
31	117	---	170	210	---	4300	---	298	---	4100	810	---
TOTAL	6545	33656	12767	6041	9246	271550	61440	49498	21889	26013	7721	6893
MEAN	211	1122	412	195	330	8760	2048	1597	730	839	249	230
MAX	449	6590	1200	211	1000	29900	4100	14700	4610	10000	1100	2090
MIN	117	108	170	180	210	800	1500	251	129	125	60	45
CFSM	.09	.50	.18	.09	.15	3.89	.91	.71	.32	.37	.11	.10
IN.	.11	.56	.21	.10	.15	4.49	1.02	.82	.36	.43	.13	.11
AC-FT	12980	66760	25320	11980	18340	538600	121900	98180	43420	51600	15310	13670

CAL YR 1978	TOTAL	804750	MEAN	2205	MAX	34100	MIN	58	CFSM	.98	IN	13.31	AC-FT	1596000
WTR YR 1979	TOTAL	513259	MEAN	1406	MAX	29900	MIN	45	CFSM	.63	IN	8.49	AC-FT	1018000

GRAND RIVER BASIN

06899500 THOMPSON RIVER AT TRENTON, MO

LOCATION.--Lat 40°04'46", long 93°38'39", in NE¼SW¼ sec.18, T.61 N., R.24 W., Grundy County, Hydrologic Unit 10280102, at downstream side of center pier of bridge in Trenton, 1.8 mi (2.9 km) downstream from Weldon River, and at mile 26.0 (41.8 km).

DRAINAGE AREA.--1,670 mi² (4,330 km²), approximately.

PERIOD OF RECORD.--June 1921 to September 1923 (published as "near Hickory"), August 1928 to current year. Monthly discharge only for some periods, published in WSP 1310. Gage-height records collected in vicinity 1910-14 and since 1925 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1116: 1945(M).

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 721.87 ft (220.026 m) National Geodetic Vertical Datum of 1929. June 25, 1921, to Aug. 26, 1923, nonrecording gage at two sites 12 mi (19.3 km) downstream (by old channel route) at different datums. Aug. 1, 1928, to Sept. 15, 1930, nonrecording gage at present site and datum. Sept. 16, 1930, to May 31, 1945, nonrecording gage at site 1.5 mi (2.4 km) downstream at datum 3.46 ft (1.055 m) lower. June 1, 1945, to Dec. 7, 1959, nonrecording gage at same site and datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--53 years (1921-23, 1928-79), 934 ft³/s (26.45 m³/s), 7.60 in/yr (193 mm/yr), 676,700 acre-ft/yr (834 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,000 ft³/s (2,690 m³/s) June 6, 1947, gage height, 25.7 ft (7.833 m) from floodmark; minimum daily, 1 ft³/s (0.028 m³/s) June 17, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 30.7 ft (9.357 m) July 6, 1909, present site and datum, from information by local residents, discharge, 50,000 ft³/s (1,420 m³/s), determination by Corps of Engineers occurred before new channel was dredged.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 15,000 ft³/s (425 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Mar. 4	0900	17,600	498	14.00	4.267 HWM
Mar. 24	1000	*19,600	555	*14.50	4.420 HWM

Minimum discharge, 44 ft³/s (1.25 m³/s) Sept. 24, 25, 26; minimum gage height, 1.64 ft (0.500 m), Sept. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	387	127	1180	120	100	2000	2870	1250	530	1170	464	198		
2	360	127	878	120	100	3000	1780	2720	307	725	344	438		
3	372	127	800	120	100	5880	1710	9640	247	554	301	185		
4	336	127	776	120	90	13400	2010	5430	215	722	250	123		
5	374	143	638	120	90	8190	1920	2440	212	680	221	101		
6	430	188	519	120	90	8050	1710	1570	205	459	234	86		
7	316	189	690	120	90	9070	1360	1180	1390	365	188	80		
8	285	178	538	120	80	5420	1120	975	600	322	163	77		
9	261	170	597	117	80	3920	1000	836	738	299	165	77		
10	244	161	638	110	80	3450	958	841	1230	289	146	77		
11	222	159	577	100	70	3730	1450	1200	1030	280	132	72		
12	244	165	493	100	70	7420	2480	714	471	270	127	67		
13	247	251	447	90	70	9290	1860	646	429	251	123	60		
14	218	737	423	90	70	8120	1460	557	986	294	143	56		
15	193	958	413	80	70	4910	1170	489	673	2990	194	57		
16	174	718	406	80	70	2810	964	443	410	2440	136	60		
17	167	1440	396	80	70	2180	878	413	318	807	118	59		
18	161	5430	413	80	70	4180	969	387	263	451	109	53		
19	161	2870	447	80	70	8890	1180	393	266	339	112	49		
20	154	1140	464	80	70	7000	1330	372	298	283	127	49		
21	152	771	450	80	70	5090	2200	336	275	255	116	49		
22	145	569	420	80	100	3880	3010	313	591	233	106	50		
23	147	504	400	90	1000	7330	1720	303	651	215	93	50		
24	147	504	350	90	4000	13400	1250	288	895	222	86	48		
25	143	581	300	90	3000	6400	1180	296	866	831	84	48		
26	138	1060	250	90	2000	4480	1600	278	464	894	88	49		
27	138	1360	200	100	2000	3470	2310	268	901	651	89	52		
28	138	991	200	100	2000	2500	2540	261	5750	732	85	53		
29	136	761	170	100	---	2600	1430	251	4790	5770	259	55		
30	133	1200	150	100	---	3860	1270	243	3330	2770	195	55		
31	130	---	130	100	---	4810	---	283	---	882	116	---		
TOTAL	6853	23706	14753	3067	15770	178730	48689	35616	29331	27445	5114	2533		
MEAN	221	790	476	98.9	563	5765	1623	1149	978	885	165	84.4		
MAX	430	5430	1180	120	4000	13400	3010	9640	5750	5770	464	438		
MIN	130	127	130	80	70	2000	878	243	205	215	84	48		
CFSM	.13	.47	.29	.06	.34	3.45	.97	.69	.59	.53	.10	.05		
IN.	.15	.53	.33	.07	.35	3.98	1.08	.79	.65	.61	.11	.06		
AC-FT	13590	47020	29260	6080	31280	354500	96570	70640	58180	54440	10140	5020		
CAL YR 1978	TOTAL	554096	MEAN	1518	MAX	31200	MIN	84	CFSM	.91	IN	12.34	AC-FT	1099000
WTR YR 1979	TOTAL	391607	MEAN	1073	MAX	13400	MIN	48	CFSM	.64	IN	8.72	AC-FT	776800

GRAND RIVER BASIN

06900000 Medicine Creek near Galt, Mo.

LOCATION.--Lat 40°17'45", long 93°21'45", in SW¼NW¼ sec.34, T.62 N., R.22 W., Sullivan County, Hydrologic Unit 10280103, on left bank 15 ft (4.6 m) upstream from bridge on State Highway 6, 1.2 mi (1.9 km) east of Galt, 2 mi (3.2 km) upstream from West Medicine Creek, and at mile 32.0 (51.5 km).

DRAINAGE AREA.--225 mi² (583 km²).

PERIOD OF RECORD.--July 1921 to September 1975, October 1977 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1340: 1926. WSP 1730: 1948(M).

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 767.48 ft (233.928 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 3, 1934, nonrecording gage at site 150 ft (46 m) downstream at following datums: prior to Oct. 1, 1924, at datum 6.97 ft (2.124 m) higher; Oct. 1, 1924 to Sept. 30, 1926, at datum 4.97 ft (1.515 m) higher; Oct. 1, 1926, to Dec. 2, 1934, at datum 1.97 ft (0.600 m) higher; Dec. 3, 1934, to Apr. 25, 1956, nonrecording gage, and Apr. 26 to Sept. 30, 1956; water-stage recorder at site 30 ft (9 m) downstream at datum 2.00 ft (0.610 m) higher; Oct. 1, 1956, to Apr. 5, 1969, water-stage recorder at site 30 ft (9 m) downstream at present datum; Apr. 6, 1969 to July 24, 1975, water-stage recorder; July 25, 1975 to Aug. 21, 1978, nonrecording gage at same site and datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--56 years (water years 1922-75, 78, 79), 141 ft³/s (3.993 m³/s), 8.51 in/yr (216 mm/yr), 102,200 acre-ft (126 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,200 ft³/s (685 m³/s) June 6, 1947, gage height, 20.9 ft (6.37 m), present datum, from floodmark; no flow at times in 1934, 1936-37, 1940, 1954, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Discharge of 8,000 ft³/s (227 m³/s) was determined for flood of July 1909 by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,060 ft³/s (143 m³/s) at 2130 Mar. 23, gage height, 10.04 ft (3.060 m), no other peak above base of 3,000 ft³/s (85.0 m³/s); minimum discharge, 3.4 ft³/s (0.096 m³/s) Sept. 11, 12, 13, 14; minimum gage height, -0.28 ft (-0.085 m) Oct. 28, using wire-weight gage.

EXTREMES FOR 1978 WATER YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage Height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 24	Unknown	Unknown	Unknown	Apr. 18	2000	6730	191 10.80 3.292
Oct. 31	Unknown	Unknown	Unknown	May 7	2300	*9200	261 *13.20 4.023
Apr. 10	1715	8410 238	12.44 3.792	Sept. 18	1000	5760 163	10.80 3.292

Minimum discharge, 9.0 ft³/s (0.25 m³/s) July 27, gage height, -0.30 ft (-0.091 m) using wire-weight gage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	200	1000	41	25	23	23	189	73	382	56	12	21
2	100	900	36	25	23	23	132	49	254	47	390	18
3	50	700	38	25	23	23	100	39	139	30	217	18
4	40	400	71	25	23	23	78	49	61	30	65	14
5	30	300	29	25	23	23	153	148	35	20	35	13
6	30	200	33	26	23	23	352	390	32	20	19	12
7	300	100	71	25	23	23	203	6200	30	352	16	12
8	1000	100	61	25	23	23	91	6150	30	749	12	10
9	500	200	61	25	23	23	52	1180	20	98	12	10
10	200	200	63	25	23	23	4710	387	20	59	16	10
11	300	100	61	25	23	23	3570	275	20	47	20	9.8
12	100	100	57	25	23	23	749	1480	20	54	12	9.8
13	80	80	78	25	20	100	352	1680	20	73	12	9.8
14	70	70	263	25	20	200	290	1140	19	102	10	10
15	60	70	273	25	23	500	266	350	20	246	10	10
16	50	67	205	25	23	1000	679	167	10	59	10	11
17	40	60	246	25	23	2100	612	119	10	39	10	11
18	30	50	212	25	23	1040	2100	80	10	10	10	2320
19	30	41	124	20	23	1600	3040	160	10	454	15	580
20	30	54	45	20	23	1950	749	129	10	181	98	220
21	30	57	25	20	23	2020	357	91	10	157	29	268
22	30	54	80	20	23	2760	275	80	10	167	19	232
23	500	45	57	20	23	1510	256	200	10	86	14	82
24	2000	41	54	23	23	784	205	98	10	45	11	61
25	1000	41	40	20	23	283	148	75	10	21	10	35
26	800	29	32	20	23	220	110	52	10	16	11	26
27	500	45	25	23	23	749	80	146	254	9.0	410	24
28	200	33	25	23	23	1040	73	440	495	9.8	384	19
29	100	32	25	23	---	580	172	86	122	9.8	100	19
30	100	36	25	23	---	410	129	63	78	10	45	19
31	2000	---	25	23	---	320	---	47	---	10	28	---
TOTAL	10500	5205	2481	729	638	19442	20272	21623	2161	3266.6	2062	4114.4
MEAN	339	174	80.0	23.5	22.8	627	676	698	72.0	105	66.5	137
MAX	2000	1000	273	26	23	2760	4710	6200	495	749	410	2320
MIN	30	29	25	20	20	23	52	39	10	9.0	10	9.8
CFSM	1.51	.77	.36	.10	.10	2.79	3.00	3.10	.32	.47	.30	.61
IN.	1.74	.86	.41	.12	.11	3.21	3.35	3.57	.36	.54	.34	.68
AC-FT	20830	10320	4920	1450	1270	38560	40210	42890	4290	6480	4090	8160

WTR YR 1978 TOTAL 92494.0 MEAN 253 MAX 6200 MIN 9.0 CFSM 1.12 IN 15.29 AC-FT 183500

GRAND RIVER BASIN

06900000 Medicine Creek near Galt, Mo.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	13	169	5.8	10	381	289	91	25	100	23	26
2	13	12	124	6.0	10	350	267	150	23	75	21	11
3	13	12	82	6.0	10	1680	255	1380	21	66	19	6.5
4	11	12	42	6.0	10	2150	228	628	20	97	18	5.2
5	11	12	67	6.0	10	1000	244	164	27	118	14	5.2
6	9.8	21	143	6.0	10	565	193	114	28	81	11	4.6
7	9.8	56	67	6.0	10	780	159	98	39	64	10	4.2
8	7.9	59	41	6.0	10	452	149	69	41	56	9.8	4.2
9	8.6	36	42	6.0	10	337	138	73	96	53	9.0	4.2
10	12	18	21	6.0	10	284	169	71	94	51	9.0	4.2
11	10	13	18	6.0	10	280	484	132	52	51	9.0	3.8
12	9.5	18	18	6.0	10	672	386	73	38	49	9.0	3.8
13	13	29	19	6.0	10	1030	220	63	218	48	9.0	3.8
14	8.2	127	20	6.0	10	933	162	57	119	47	20	4.2
15	13	102	23	6.0	10	1010	136	54	75	306	10	3.8
16	13	67	25	6.0	20	330	123	49	51	902	9.0	4.2
17	12	390	24	6.0	20	345	131	47	46	181	9.0	3.8
18	12	580	23	6.0	20	655	162	44	43	112	9.0	4.2
19	12	193	25	6.0	30	1340	200	57	40	84	9.0	5.2
20	12	50	29	10	40	440	642	52	54	72	9.0	5.2
21	12	20	23	15	47	256	383	47	51	64	9.0	5.2
22	12	21	25	20	71	401	192	44	47	59	8.1	5.8
23	12	20	23	20	464	3530	151	39	50	55	8.1	5.2
24	12	20	21	23	565	3240	132	39	70	63	7.3	5.8
25	7.3	50	13	20	712	577	148	39	128	254	6.5	4.6
26	7.3	122	16	10	498	342	162	36	75	100	6.5	4.6
27	7.3	93	14	10	375	261	128	36	162	69	8.1	5.2
28	7.3	86	15	10	385	220	97	35	442	49	6.5	4.2
29	12	85	14	10	---	710	86	32	175	117	16	4.6
30	12	157	7.3	10	---	509	75	29	137	63	7.3	4.6
31	13	---	6.5	10	---	488	---	25	---	110	5.8	---
TOTAL	338.0	2494	1199.8	281.8	3397	25548	6291	3867	2487	3616	335.0	167.1
MEAN	10.9	83.1	38.7	9.09	121	824	210	125	82.9	117	10.8	5.57
MAX	13	580	169	23	712	3530	642	1380	442	902	23	26
MIN	7.3	12	6.5	5.8	10	220	75	25	20	47	5.8	3.8
CFSM	.05	.37	.17	.04	.54	3.66	.93	.56	.37	.52	.05	.03
IN.	.06	.41	.20	.05	.56	4.22	1.04	.64	.41	.60	.06	.03
AC-FT	670	4950	2380	559	6740	50670	12480	7670	4930	7170	664	331
CAL YR 1978	TOTAL	78339.8	MEAN 215	MAX 6200	MIN 6.5	CFSM .96	IN 12.95	AC-FT 155400				
WTR YR 1979	TOTAL	50021.7	MEAN 137	MAX 3530	MIN 3.8	CFSM .61	IN 8.27	AC-FT 99220				

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO

LOCATION.--Lat 39°38'21", long 93°16'22", in NE¼ sec.29, T.56 N., R.21 W., Livingston County, Hydrologic Unit 10280103, near right bank on downstream side of pier of bridge on State Highway 139, 240 ft (73 m) downstream from Chicago, Burlington & Quincy Railroad bridge, 2 mi (3.2 km) southwest of Sumner, 2.5 mi (4.0 km) downstream from Locust Creek, and at mile 41.0 (66.0 km).

DRAINAGE AREA.--6,880 mi² (17,800 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to current year. Prior to April 1924 monthly discharge only, published in WSP 1310.

GAGE.--Water-stage recorder. Datum of gage is 631.18 ft (192.384 m) National Geodetic Vertical Datum of 1929. Prior to July 11, 1926, nonrecording gage at site 200 ft (61 m) upstream at same datum. July 11, 1926, to July 9, 1939, nonrecording gage at same site and datum. July 10, 1939, to Aug. 8, 1952, water-stage recorder at site 200 ft (61 m) upstream at same datum. Aug. 9, 1952, to Nov. 12, 1953, nonrecording gage at site 120 ft (37 m) upstream and at same datum. Nov. 13, 1953, to July 6, 1964, water-stage recorder and nonrecording gage for stages below 8.3 ft (2.53 m) at site 120 ft (37 m) upstream and at same datum. July 7, 1964, to May 26, 1965, nonrecording gage at present site and datum. Auxiliary water-stage recorder at site 3.2 mi (5.1 km) downstream from base gage at datum 631.30 ft (192.420 m) above mean sea level. Mar. 15, 1939, to Aug. 4, 1942, auxiliary nonrecording gage at various sites. Aug. 5, 1942, to Dec. 14, 1956, auxiliary nonrecording gage at present site.

REMARKS.--Water-discharge records fair except periods of no gage-height record and ice effect which are poor.

AVERAGE DISCHARGE.--56 years, 3,826 ft³/s (108.4 m³/s), 7.55 in/yr (192 mm/yr), 2,772,000 acre-ft/yr (3,418 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft³/s (5,100 m³/s) June 7, 8, 1947, gage height, 39.5 ft (12.04 m) from floodmark; minimum observed, 10 ft³/s (0.28 m³/s) Aug. 12, 1934; minimum gage height, 2.19 ft (0.668 m) Aug. 22, 23, 31, Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 9, 1909, reached a stage of 36.7 ft (11.19 m) from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 38,000 ft³/s (1,080 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage Height (ft)	Gage Height (m)
Mar. 6	1400	*119,000	3370	*34.84	10.619
Mar. 26	0515	76,500	2170	33.53	10.220

Minimum discharge, 146 ft³/s (4.13 m³/s) Sept. 29, 30, gage height, 6.82 ft (2.079 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1330	354	3150	800	900	13300	15200	4600	918	4960	5060	2280
2	1190	339	3150	800	900	13300	10300	5540	1050	2640	2560	2560
3	1120	327	2780	800	900	19100	7560	21700	944	1810	1710	4230
4	993	320	2240	800	900	57200	7140	27600	802	1390	1300	2070
5	918	320	1570	800	900	98000	8200	19100	726	1290	1050	1110
6	855	349	1450	800	900	116000	8200	9680	685	1440	868	744
7	883	422	1400	800	900	98000	6740	6260	867	1150	764	551
8	829	495	1450	800	900	73600	5780	4980	3450	1010	675	439
9	762	579	1500	800	900	34000	5300	4220	2940	932	587	392
10	755	618	1600	800	900	22500	4900	3700	3560	859	536	399
11	819	513	1700	800	900	17300	6820	6580	3640	775	491	339
12	871	438	1500	800	900	15200	15700	6820	2460	741	465	314
13	699	433	1340	800	900	21300	15300	3700	1680	797	440	281
14	633	485	1180	800	900	27600	10100	2850	2310	698	419	253
15	697	1600	1120	800	900	21700	6980	2430	2120	650	437	231
16	655	2160	991	800	900	15300	5780	2130	1610	4170	472	219
17	565	2650	896	800	900	10100	5220	1950	1160	4720	490	216
18	511	10300	954	800	900	9020	4820	1770	1020	2650	485	207
19	476	11300	963	800	900	23100	4980	1650	862	1770	443	195
20	448	5720	982	800	900	34800	5860	1650	762	1180	406	195
21	430	3250	927	800	1000	24000	11100	1590	748	901	425	189
22	419	2280	878	800	1000	14900	9680	1440	714	744	457	180
23	447	1810	927	800	2000	17600	8100	1340	869	653	435	175
24	448	1620	909	850	3000	38000	6180	1210	1420	602	408	169
25	426	1620	802	933	4000	57200	5220	1140	1610	682	358	167
26	424	2060	739	900	6000	73600	4900	1080	2180	3720	336	164
27	418	6460	658	900	8000	25200	6660	1010	1780	4880	325	162
28	403	7400	721	900	11600	22200	7560	988	2320	2770	321	164
29	394	4200	757	900	---	14600	6020	942	11200	3410	666	146
30	377	2840	767	900	---	17600	4750	920	8920	11100	3070	146
31	366	---	776	900	---	15500	---	875	---	11900	3200	---
TOTAL	20561	73262	40777	25583	54600	1060820	231050	151445	65327	76994	29659	18887
MEAN	663	2442	1315	825	1950	34220	7702	4885	2178	2484	957	630
MAX	1330	11300	3150	933	11600	116000	15700	27600	11200	11900	5060	4230
MIN	366	320	658	800	900	9020	4750	875	685	602	321	146
CFSM	.10	.36	.19	.12	.28	4.97	1.12	.71	.32	.36	.14	.09
IN.	.11	.40	.22	.14	.30	5.74	1.25	.82	.35	.42	.16	.10
AC-FT	40780	145300	80880	50740	108300	2104000	458300	300400	129600	152700	58830	37460
CAL YR 1978 TOTAL	2333914			6394	71800		242	CFSM .93	IN 12.62	AC-FT	4629000	
WTR YR 1979 TOTAL	1848965			5066	116000		146	CFSM .74	IN 10.00	AC-FT	3667000	

GRAND RIVER BASIN

06902000 GRAND RIVER.NEAR SUMNER, MO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1962 to June 1963 and August 1967 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1974 to current year.

WATER TEMPERATURES: January 1974 to current year.

REMARKS.--Water temperatures and specific conductance samples collected daily by observer. Number of missing days of record exceeded 20 percent of year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT 18...	520	475	7.9	12.0	3.9	9.0	83	230	600	240	34	75
NOV 15...	1570	460	7.9	8.5	36	11.0	94	450	250	250	19	75
DEC 13...	1340	600	7.7	.5	9.7	12.0	83	250	420	260	33	79
JAN 23...	800	585	7.3	.0	4.4	6.5	45	1000	1400	260	32	80
FEB 13...	900	645	7.5	.0	1.9	6.3	43	1400	880	270	39	80
MAR 21...	23500	255	7.2	10.0	960	6.4	57	8000	28000	120	27	36
APR 18...	4780	460	8.0	16.5	100	8.6	88	500	--	200	27	62
MAY 09...	4180	405	7.9	21.0	99	7.0	78	1000	250	200	30	60
JUN 13...	1670	345	7.5	23.0	310	6.7	77	6800	6600	160	16	50
JUL 11...	753	460	8.2	28.5	19	11.0	141	110	80	190	7	52
AUG 08...	657	410	7.7	31.5	2.6	6.8	92	80	20	160	0	50
SEP 12...	320	415	8.0	24.0	18	7.9	93	410	200	210	0	64

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 18...	13	11	4.9	252	0	39	8.4	.2	12	287	403	.02
NOV 15...	14	14	4.8	276	0	47	10	.2	9.8	308	1310	.00
DEC 13...	16	14	4.6	280	0	60	12	.2	14	355	1280	1.2
JAN 23...	15	18	3.7	280	0	60	13	.1	14	356	769	.63
FEB 13...	16	17	3.3	276	0	62	13	.2	15	360	875	.75
MAR 21...	6.6	8.1	4.7	110	0	46	6.9	.2	9.0	183	11600	2.0
APR 18...	12	12	4.0	216	0	51	8.0	.2	9.8	280	3610	.92
MAY 09...	12	10	4.4	206	0	42	7.6	.2	9.8	258	2910	.95
JUN 13...	9.3	9.5	4.6	180	0	31	9.4	.3	8.0	233	1050	2.9
JUL 11...	14	11	5.0	220	0	36	8.8	.3	9.9	265	539	.02
AUG 08...	9.1	8.1	5.0	202	0	32	7.1	.3	11	234	415	.01
SEP 12...	11	13	5.6	250	0	36	7.7	.3	10	257	222	.03

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 18...	.07	.66	.45	3.0	.170	.030	5.6	--	--	104	146	36
NOV 15...	.05	.71	.41	3.1	.240	.030	--	5.4	2.5	360	1530	69
DEC 13...	.14	.63	.54	8.1	.140	.080	5.2	--	--	94	340	59
JAN 23...	.34	.61	.59	5.5	.050	.020	5.1	--	--	55	119	57
FEB 13...	.35	.56	.52	5.8	.080	.030	--	4.1	.6	20	49	52
MAR 21...	.35	5.6	1.5	34	1.10	.030	15	--	--	3773	239000	89
APR 18...	.08	1.1	.45	8.9	.290	.060	--	--	--	624	8050	60
MAY 09...	.04	1.0	.41	8.6	.260	.070	--	7.1	--	558	6300	86
JUN 13...	.04	2.7	.82	25	.380	.180	21	--	--	997	4500	86
JUL 11...	.09	1.1	.08	5.0	.190	.040	14	--	--	264	537	57
AUG 08...	.01	1.3	.27	5.8	.030	.030	--	6.0	1.7	259	459	59
SEP 12...	.02	1.8	.88	8.1	.140	.000	--	--	--	268	232	48

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
NOV 15...	3	1	100	0	0	0	20	0	4
FEB 13...	1	1	100	100	0	<1	0	0	2
MAY 09...	4	1	200	100	0	2	20	0	11
AUG 08...	4	3	100	100	1	<1	20	0	2

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 15...	0	7	1	4600	10	12	0	640	290
FEB 13...	<3	5	2	440	30	5	4	830	800
MAY 09...	0	4	0	12000	50	17	0	500	30
AUG 08...	<3	6	2	750	<10	5	0	280	10

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 15...	.0	.0	0	1	0	0	20	0
FEB 13...	.2	.0	1	0	1	1	30	6
MAY 09...	.2	.0	1	1	0	0	50	10
AUG 08...	.1	.0	1	1	0	0	20	<3

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---					---	480	218	183	---
2	338	---	---					---	470	225	---	221
3	356	---	---					---	465	260	235	223
4	---	---	---					---	450	285	295	210
5	---	465	---					---	465	320	335	228
6	---	490	---					---	490	350	370	255
7	---	---	---					---	450	360	400	294
8	---	480	---					---	300	370	420	327
9	420	---	---					405	265	460	400	358
10	415	500	---					430	310	470	415	373
11	415	---	---					320	315	480	435	397
12	405	---	---					320	340	475	445	415
13	405	---	---					380	365	500	450	435
14	---	---	---					420	305	---	450	448
15	---	---	---					445	365	520	445	---
16	---	---	---					460	360	218	450	460
17	---	---	---					470	390	230	445	470
18	---	---	370					460	395	390	445	465
19	465	---	---					450	430	285	455	467
20	---	---	---					480	450	298	445	470
21	---	---	---					480	460	335	455	475
22	465	---	---					485	460	360	435	485
23	470	---	---					490	455	405	430	487
24	---	---	---					450	440	440	438	470
25	490	---	---					510	340	445	445	475
26	---	---	---					500	323	330	450	458
27	---	---	---					395	290	250	455	483
28	---	---	---					510	315	265	460	485
29	---	---	---					490	262	230	445	490
30	470	---	---					460	210	203	175	495
31	---	---	---					450	---	170	227	---
MEAN	426	484	370					446	381	338	398	404

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---					---	23.5	23.5	26.0	---
2	18.0	---	---					---	23.0	25.5	---	25.5
3	18.0	---	---					---	24.5	28.5	25.5	25.0
4	---	---	---					---	26.0	28.5	30.5	25.0
5	---	16.0	---					---	27.5	24.0	31.5	26.5
6	---	15.0	---					---	26.0	22.5	32.0	26.0
7	---	---	---					---	24.0	23.5	32.0	24.5
8	---	12.0	---					---	24.0	23.0	29.0	22.5
9	16.0	---	---					24.0	25.0	27.0	28.0	23.0
10	16.0	12.0	---					24.0	23.5	29.5	28.5	23.0
11	16.0	---	---					16.0	24.0	29.0	28.5	23.5
12	16.0	---	---					18.0	25.0	30.5	25.5	24.0
13	16.0	---	---					18.5	26.5	32.5	27.0	23.0
14	---	---	---					19.5	25.5	---	22.0	20.5
15	---	---	---					19.5	27.5	31.0	22.5	---
16	---	---	---					19.5	26.5	25.5	23.5	22.5
17	---	---	---					19.5	24.5	27.5	22.5	24.0
18	---	---	4.0					23.0	27.5	27.0	25.0	25.0
19	16.0	---	---					23.0	28.0	28.0	31.0	24.5
20	---	---	---					22.5	29.5	29.0	27.0	23.5
21	---	---	---					22.0	25.0	28.5	26.5	20.5
22	16.0	---	---					19.0	26.5	26.5	26.0	22.0
23	16.0	---	---					20.5	26.0	29.5	27.0	22.5
24	---	---	---					19.0	25.5	26.0	26.0	24.0
25	16.0	---	---					20.5	24.0	28.0	26.5	20.5
26	---	---	---					22.0	25.5	28.0	24.5	19.0
27	---	---	---					22.0	24.0	28.5	22.5	21.0
28	---	---	---					24.0	24.0	27.5	23.5	21.5
29	---	---	---					23.0	24.0	27.5	24.0	25.5
30	16.0	---	---					23.5	23.0	26.0	22.5	20.5
31	---	---	---					24.0	---	24.5	25.5	---
MEAN	16.5	14.0	4.0					21.0	25.5	27.0	26.5	23.0

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 15,78 0930	MAR 21,79 1300	MAY 9,79 1250	JUN 13,79 1100
TOTAL CELLS/ML	24000	2300	710	6100
DIVERSITY: DIVISION	1.0	1.5	1.8	0.8
..CLASS	1.0	1.5	1.8	0.8
..ORDER	1.7	1.9	2.3	1.0
...FAMILY	1.9	2.2	2.7	1.8
....GENUS	0.0	2.5	0.0	2.4

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHARACIACEAE								
...SCHROEDERIA	--	-	510#	22	--	-	--	-
...COELASTRACEAE								
...COELASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
...GOLENKINIA	930	4	--	-	26	4	--	-
...MICRACTINIUM	--	-	--	-	26	4	--	-
...OOCYSTACEAE								
...ANKISTRODESMUS	930	4	--	-	51	7	130	2
...CHODATELLA	--	-	--	-	--	-	--	-
...DICTYOSPHAERIUM	--	-	--	-	--	-	2600#	43
...GLOEOACTINIUM	--	-	--	-	--	-	--	-
...KIRCHNERIELLA	1600	7	--	-	--	-	--	-
...OOCYSTIS	--	-	--	-	--	-	--	-
...SELENASTRUM	--	-	--	-	--	-	--	-
...TETRAEDRON	--	-	--	-	--	-	--	-
...TREUBARIA	230	1	--	-	--	-	130	2
...WESTELLA	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
...ACTINASTRUM	--	-	--	-	--	-	--	-
...CRUCIGENIA	--	-	--	-	--	-	--	-
...SCENEDESMUS	--	-	260	11	100	14	1500#	26
...TETRASTRUM	--	-	--	-	--	-	520	9
..TETRASPORALES								
...COCCOMYXACEAE								
...ELAKATOTHRIX	--	-	--	-	--	-	--	-
...VOLVOCALES								
...CHLAMYDOMONADACEAE	1200	5	--	-	77	11	--	-
...CHLAMYDOMONAS	--	-	260	11	--	-	130	2
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
...CYCLOTELLA	15000#	61	510#	22	77	11	520	9
...MELOSIRA	--	-	--	-	150#	21	--	-
...STEPHANODISCUS	--	-	--	-	--	-	260	4
...PENNALES								
...FRAGILARIACEAE								
...SYNEDRA	2100	9	--	-	--	-	--	-
...NITZSCHIA								
...NITZSCHIA	930	4	--	-	26	4	130	2
..CHRYSTOPHYCEAE								
...CHRYSDOMONADALES								
...OCHROMONADACEAE								
...DINOBYRON	--	-	--	-	--	-	--	-
...OCHROMONAS	--	-	--	-	--	-	--	-
..XANTHOPHYCEAE								
...HETEROCOCCALES								
...CENTRITRACTACEAE								
...CENTRITRACTUS	--	-	--	-	--	-	--	-

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 15,78 0930		MAR 21,79 1300		MAY 9,79 1250		JUN 13,79 1100	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
....CRYPTOMONADACEAE								
.....CRYPTOMONAS	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
....CHROOCOCCACEAE								
.....AGMENELLUM	--	-	--	-	--	-	--	-
.....ANACYSTIS	--	-	--	-	100	14	--	-
...HORMOGONALES								
....NOSTOCACEAE								
.....ANABAENA	--	-	--	-	--	-	--	-
....OSCILLATORIACEAE								
.....USCILLATORIA	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
.....EUGLENA	--	-	260	11	26	4	130	2
.....PHACUS	--	-	--	-	26	4	--	-
....TRACHELOMONAS	1400	6	510#	22	26	4	--	-

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 11,79 1310	AUG 8,79 1325	SEP 12,79 1030
TOTAL CELLS/ML	47000	7800	150000
DIVERSITY: DIVISION	1.7	1.4	1.4
..CLASS	1.7	1.5	1.5
..ORDER	2.0	2.0	2.0
...FAMILY	2.9	2.3	2.2
....GENUS	3.8	3.0	2.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...CHARACIACEAE						
...SCHROEDERIA	*	0	--	-	--	-
...COELASTRACEAE						
...COELASTRUM	2200	5	--	-	--	-
...MICRACTINIAEAE						
...GOLINKINIA	*	0	--	-	--	-
...MICRACTINIUM	2200	5	--	-	--	-
...OOCYSTACEAE						
...ANKISTRODESUS	*	0	190	2	1100	1
...CHODATELLA	*	0	--	-	--	-
...DICTYOSPHAERIUM	6100	13	150	2	14000	9
...GLOEOACTINIUM	880	2	--	-	4800	3
...KIRCHNERIELLA	440	1	--	-	*	0
...OOCYSTIS	--	-	77	1	1600	1
...SELENASTRUM	880	2	150	2	--	-
...TETRAEDRON	*	0	*	0	--	-
...TREUBARIA	--	-	--	-	--	-
...WESTELLA	1800	4	--	-	--	-
...SCENEDESMACEAE						
...ACTINASTRUM	3500	7	930	12	5300	3
...CRUCIGENIA	--	-	270	3	--	-
...SCENEDESMUS	1800	4	1300#	17	1800	1
...TETRASTRUM	1800	4	150	2	3700	2
...TETRASPOALES						
...COCCOMYXACEAE						
...ELAKATOTHRIX	--	-	--	-	*	0
...VOLVOCALES						
...CHLAMYDOMONADACEAE	--	-	--	-	--	-
...CHLAMYDOMONAS	1100	2	*	0	*	0
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
...CYCLOTELLA	2200	5	--	-	3700	2
...MELOSIRA	660	1	150	2	1800	1
...STEPHANODISCUS	9700#	21	--	-	--	-
...PENNALES						
...FRAGILARIACEAE						
...SYNEDRA	*	0	--	-	--	-
...NITZSCHIA	*	0	310	4	18000	12
..CHRYSOPHYCEAE						
...CHRYSONOMADALES						
...OCHROMONADACEAE						
...DINOBRYON	--	-	--	-	1100	1
...OCHROMONAS	--	-	150	2	--	-
..XANTHOPHYCEAE						
...HETEROCOCCALES						
...CENTRITRACTACEAE						
....CENTRITRACTUS	--	-	--	-	*	0

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 11,79 1310		AUG 8,79 1325		SEP 12,79 1030	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	1500	3	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	3700	2
....ANACYSTIS	1500	3	1200#	16	76000#	50
...HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	2500#	32	--	-
...OSCILLATORIACEAE						
....OSCILLATORIA	6600	14	--	-	13000	9
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	*	0	--	-
....PHACUS	*	0	--	-	--	-
....TRACHELOMUNAS	440	1	77	1	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

PERIPHYTON

Date	Length of Exposure (days)	Biomass (mg/m ²)		Chlorophyll a		Chlorophyll b	Sampling method
		Dry weight (00573)	Ash weight (00572)	(mg/m ²) (70957)	(mg/m ²) (70958)		
Dec. 13, 1978	28	.000	.000	.000	.000		Polyethylene Strip
Apr. 18, 1979	28	.000	.000	.000	.000		Polyethylene Strip
Aug. 8, 1979	28	10.9	10.5	.210	.000		Polyethylene Strip

CHARITON RIVER BASIN

06904050 CHARITON RIVER AT LIVONIA, MO

LOCATION.--Lat 40°29'00", long 92°41'10", in NW¼SE¼NW¼ sec.34, T.66 N., R.16 W., Schuyler County, Hydrologic Unit 10280201, on left bank 10 ft (3.0 m) downstream from bridge on U.S. Highway 136, 1 mi (1.6 km) upstream from Shoal Creek, and 0.5 mi (0.8 km) east of Livonia.

DRAINAGE AREA.--864 mi² (2,240 km²).

PERIOD OF RECORD.--May 1974 to current year. Occasional discharge measurements since October 1962.

GAGE.--Water-stage recorder. Datum of gage is 770.00 ft (234.696 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Several observations of water temperature were made during the year. Flow mostly regulated by Rathbun Lake.

AVERAGE DISCHARGE.--5 years, 559 ft³/s (15.83 m³/s), 405,000 acre-ft/yr (499 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,350 ft³/s (123 m³/s) Sept. 18, 1978; maximum gage height, 24.26 ft (7.394 m) July 4, 1974; minimum, 13 ft³/s (0.368 m³/s) Jan. 11 to Feb. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,880 ft³/s (110 m³/s) Mar. 29, gage height, 19.50 ft (5.944 m); minimum, 18 ft³/s (0.51 m³/s) Oct. 13; minimum gage height, 4.60 ft (1.402 m) Sept. 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	776	51	195	60	60	300	2150	934	402	858	166	85
2	756	51	174	60	60	300	687	1000	804	855	130	74
3	655	47	160	60	60	1000	424	2050	823	852	2620	65
4	693	44	119	60	60	3000	855	1610	820	528	1610	59
5	1050	44	110	60	60	2000	969	1240	828	172	336	52
6	817	46	116	60	60	1800	888	1020	800	164	610	46
7	1140	53	114	60	60	1600	850	968	800	628	963	44
8	1030	61	114	60	60	1400	850	937	900	850	1200	43
9	528	56	110	59	60	1200	850	918	1000	852	1200	42
10	89	50	81	60	60	1100	850	957	900	1050	1220	42
11	51	49	71	60	60	1000	1290	1060	700	1260	300	41
12	33	47	72	60	60	1000	1250	493	900	1310	200	41
13	195	61	77	60	60	2000	850	879	900	1310	200	39
14	743	131	80	60	100	2000	850	881	900	1210	100	39
15	750	96	80	60	200	1500	850	869	900	1600	100	32
16	748	79	80	60	250	1200	850	861	900	1010	50	32
17	750	952	77	60	250	1000	850	860	900	724	50	32
18	658	1060	68	60	250	1000	850	890	700	938	50	33
19	404	424	67	60	250	2000	850	933	500	1310	50	34
20	163	218	67	60	250	1500	1680	491	400	1310	50	37
21	77	128	78	60	250	1400	2290	806	500	1300	50	37
22	61	95	61	60	383	1280	1110	792	800	1290	50	37
23	58	98	70	60	500	2270	408	797	700	1290	567	37
24	56	108	62	60	500	2620	708	834	400	1230	228	37
25	58	91	65	60	400	2680	651	833	700	1250	88	37
26	55	88	61	60	300	2480	692	834	800	218	66	35
27	55	106	61	60	300	1800	849	839	700	144	76	36
28	55	110	54	60	300	1660	1100	834	493	1430	157	35
29	53	99	53	60	---	3000	976	826	167	1710	79	35
30	52	159	58	60	---	3230	768	821	391	585	58	35
31	51	---	60	60	---	2500	---	800	---	410	75	---
TOTAL	12658	4702	2715	1859	5263	52820	29095	28867	21428	29648	12699	1273
MEAN	408	157	87.6	60.0	188	1704	970	931	714	956	410	42.4
MAX	1140	1060	195	60	500	3230	2290	2050	1000	1710	2620	85
MIN	33	44	53	59	60	300	408	491	167	144	50	32
CFSM	.47	.18	.10	.07	.22	1.97	1.12	1.08	.83	1.11	.48	.05
AC-FT	25110	9330	5390	3690	10440	104800	57710	57260	42500	58810	25190	2520
CAL YR 1978 TOTAL	349762		MEAN 958	MAX 3930	MIN 33	CFSM 1.11	AC-FT 693800					
WTR YR 1979 TOTAL	203027		MEAN 556	MAX 3230	MIN 32	CFSM .64	AC-FT 402700					

CHARITON RIVER BASIN

06904500 CHARITON RIVER AT NOVINGER, MO

LOCATION.--Lat 40°14'05", long 92°41'14", on south line of SE¼NE¼ sec.28, T.63 N., R.16 W., Adair County, Hydrologic Unit 10280202, on right bank at the downstream side of center pier on bridge on State Highway 6, 0.6 mi (1.0 km) east of Novinger, 1 mi (1.6 km) downstream from Rye Creek, 2 mi (3.2 km) upstream from Spring Creek, and at mile 73.1 (117.6 km).

DRAINAGE AREA.--1,370 mi² (3,550 km²), approximately.

PERIOD OF RECORD.--October 1930 to September 1952. October 1954 to current year. Prior to February 1931 monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 896: 1939. WSP 1116: 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 737.65 ft (224.836 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 20, 1939, nonrecording gage at bridge over old channel, 500 ft (152 m) east, at same datum. Dec. 20, 1939, to Sept. 30, 1952, and Oct. 1, 1954, to Aug. 1, 1956, water-stage recorder, supplemented by nonrecording gage, at same site and datum. Aug. 2, 1956, to May 16, 1957, nonrecording gage at present site and datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year. Some regulation by Rathbun Lake.

AVERAGE DISCHARGE.--47 years, 776 ft³/s (21.98 m³/s), 7.69 in./yr (195 mm/yr), 562,200 acre-ft/yr (693 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,900 ft³/s (649 m³/s) June 7, 13, 1947, gage height, 28.50 ft (8.687 m); minimum, 0.1 ft³/s (0.003 m³/s) Aug. 31, Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 28.6 ft (8.72 m) in June 1917.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,500 ft³/s (184 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Mar. 4	0800	7,160	203	13.50	4.115	Apr. 11	2100	6,930	196	13.24	4.036
Mar. 23	2115	7,080	201	13.41	4.087	Apr. 20	1945	7,180	203	13.52	4.121
Mar. 29	1845	*12,400	351	*19.03	5.800						

Minimum discharge, 43 ft³/s (1.22 m³/s) Sept. 16, 17, 20; minimum gage height, 1.20 ft (0.366 m) Nov. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	992	68	447	241	110	600	3320	1220	670	877	543	262		
2	843	68	396	197	110	700	1640	1850	868	900	404	210		
3	676	66	506	150	110	4860	1150	3750	978	896	2640	172		
4	589	55	303	120	110	6350	1720	2400	979	802	2330	142		
5	1150	55	333	120	110	4210	2120	1770	992	500	755	110		
6	959	120	297	120	110	3580	1790	1430	980	300	687	92		
7	1230	150	154	120	110	3890	1550	1340	976	300	941	82		
8	1240	173	273	120	110	3840	1480	1190	1060	700	1200	73		
9	892	169	377	120	110	3520	1440	1000	1170	843	1220	66		
10	387	147	336	112	110	2450	1400	836	1090	926	1220	61		
11	236	139	297	110	110	2430	4130	3450	884	1230	877	57		
12	220	128	273	110	110	3240	4160	1030	900	1220	419	52		
13	150	191	273	110	110	5580	1900	1130	1000	1200	396	52		
14	780	283	276	110	150	5530	1750	1120	1200	1200	339	50		
15	892	237	273	110	300	4100	1550	1070	1000	2270	282	48		
16	877	200	225	110	300	3260	1440	1120	1020	1300	177	45		
17	881	2520	210	110	300	3130	1410	1020	950	900	144	47		
18	854	1850	197	110	300	3870	1380	926	800	800	132	50		
19	574	847	200	110	300	4970	1410	1360	700	1000	125	49		
20	429	468	200	110	400	3930	4150	775	600	1210	118	50		
21	188	364	164	110	400	2820	4340	942	500	1160	110	55		
22	117	403	177	110	500	1980	2670	964	600	1340	108	55		
23	120	423	162	110	1000	5920	1300	1000	800	1320	357	55		
24	106	416	142	110	2000	6530	1810	1020	700	1370	463	55		
25	96	410	137	110	1000	4760	2080	988	600	3820	246	55		
26	96	464	147	110	800	4170	1600	1010	600	1660	150	55		
27	92	482	144	110	700	3310	1290	968	800	474	150	55		
28	92	413	120	110	700	2780	1510	907	881	2610	200	55		
29	82	355	113	110	---	8340	1390	632	457	2930	162	55		
30	75	368	96	110	---	7910	1210	567	348	1510	127	55		
31	68	---	187	110	---	4580	---	259	---	955	142	---		
TOTAL	15983	12032	7435	3730	10580	127140	60090	39044	25103	38523	17164	2320		
MEAN	516	401	240	120	378	4101	2003	1259	837	1243	554	77.3		
MAX	1240	2520	506	241	2000	8340	4340	3750	1200	3820	2640	262		
MIN	68	55	96	110	110	600	1150	259	348	300	108	45		
CFSM	.38	.29	.18	.09	.28	2.99	1.46	.92	.61	.91	.40	.06		
IN.	.43	.33	.20	.10	.29	3.45	1.63	1.06	.68	1.05	.47	.06		
AC-FT	31700	23870	14750	7400	20990	252200	119200	77440	49790	76410	34040	4600		
CAL YR 1978	TOTAL	524695	MEAN	1438	MAX	13100	MIN	55	CFSM	1.05	IN	14.25	AC-FT	1041000
WTR YR 1979	TOTAL	359144	MEAN	984	MAX	8340	MIN	45	CFSM	.72	IN	9.75	AC-FT	712400

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO

LOCATION.--Lat 39°32'25", long 92°47'23", in NW¼SW¼ sec.26, T.55 N., R.17 W., Chariton County, Hydrologic Unit 10280202, on right bank on downstream side of road at bridge on State Highway 129, 3.2 mi (5.1 km) northwest of Prairie Hill, 13.5 mi (21.7 km) upstream from Puzzle Creek, and at mile 19.6 (31.5 km).

DRAINAGE AREA.--1,870 mi² (4,840 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Prior to Oct. 1, 1953, published as "near Keytesville". Prior to May 1929, monthly discharge only, published in WSP 1309.

GAGE.--Water-stage recorder. Datum of gage is 632.05 ft (192.649 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1953, nonrecording gage at site 8.2 mi (13.2 km) downstream at datum 13.68 ft (4.170 m) lower. Oct. 1, 1953, to July 2, 1958, nonrecording gage at present site and datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year. Some regulation by Rathbun Lake.

AVERAGE DISCHARGE.--51 years, 1,147 ft³/s (32.48 m³/s), 8.33 in/yr (212 mm/yr), 831,000 acre-ft/yr (1,020 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,900 ft³/s (903 m³/s) Apr. 23, 1973, gage height, 21.96 ft (6.693 m); maximum gage height, 25.3 ft (7.71 m) from floodmark, at site and datum then in use, June 8, 9, 1947; minimum, 4.6 ft³/s (0.13 m³/s) Aug. 7, 9, 10, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 9,000 ft³/s (255 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Mar. 4	0200	9440	267	13.25	4.039	Mar. 30	0700	11300	320	14.50	4.420
Mar. 13	2000	*13400	379	*15.80	4.816	Apr. 12	0945	9800	278	13.50	4.115
Mar. 19	1300	9220	261	13.10	3.993	Apr. 21	0815	9350	265	13.19	4.020
Mar. 23	2245	9170	260	13.06	3.981						

Minimum daily discharge, 50 ft³/s (1.42 m³/s) Sept. 30; minimum gage height observed, 1.91 ft (0.582 m) Sept. 28, 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1300	126	450	300	200	700	5000	1280	1080	411	940	500
2	1050	118	506	250	200	600	3160	1530	896	687	563	400
3	977	119	485	200	200	2000	1730	5390	845	860	402	365
4	935	118	538	200	200	7710	1480	4340	1020	860	2420	197
5	748	117	422	200	200	5680	1870	2510	1020	801	1860	176
6	1160	125	405	200	200	5210	1870	1930	1030	495	760	139
7	954	139	251	200	200	4640	1780	1580	1020	334	577	97
8	1160	189	305	200	200	4530	1600	1450	2140	346	889	95
9	1180	199	287	200	200	2920	1500	1360	1430	756	1150	90
10	917	204	300	200	200	2820	1510	1310	1660	815	1170	85
11	559	190	323	200	200	2500	4020	2710	1350	858	1160	76
12	327	177	340	200	200	2200	9300	3250	949	1150	885	76
13	287	192	353	200	200	7710	4600	1290	1270	1190	475	70
14	238	192	347	200	200	8410	2290	1300	1900	1170	378	64
15	548	282	344	200	200	5130	2000	1280	1130	1160	378	64
16	840	313	338	200	200	4060	1700	1220	1060	2150	353	60
17	826	368	300	200	200	3280	1590	1180	1020	1600	272	64
18	835	2740	251	200	300	3430	1550	1160	985	844	202	64
19	826	2000	233	200	300	8160	1520	1200	980	831	166	64
20	610	935	219	300	300	5930	2050	1650	937	1120	146	60
21	478	574	205	300	400	3910	8100	1020	671	1180	133	58
22	297	457	207	300	500	2610	4420	1040	573	1170	115	58
23	210	398	210	300	2000	6230	2610	1080	780	1160	115	60
24	183	443	200	300	3000	5130	1460	1040	909	1170	137	58
25	172	461	200	309	2000	4250	2180	1060	1070	1400	439	56
26	156	488	180	300	1000	5010	2150	1070	643	4210	273	56
27	146	760	160	200	800	4190	1840	1080	733	1440	180	55
28	139	784	160	200	800	3080	1460	1080	946	599	133	53
29	137	556	140	200	---	4670	1590	1070	937	2120	200	53
30	135	471	130	200	---	10400	1480	1060	579	2700	215	50
31	129	---	250	200	---	7120	---	1060	---	1390	286	---
TOTAL	18459	14235	9039	7059	14800	144220	79410	50580	31563	36977	17372	3363
MEAN	595	475	292	228	529	4652	2647	1632	1052	1193	560	112
MAX	1300	2740	538	309	3000	10400	9300	5390	2140	4210	2420	500
MIN	129	117	130	200	200	600	1460	1020	573	334	115	50
CFSM	.32	.25	.16	.12	.28	2.49	1.42	.87	.56	.64	.30	.06
IN.	.37	.28	.18	.14	.29	2.87	1.58	1.01	.63	.74	.35	.07
AC-FT	36610	28240	17930	14000	29360	286100	157500	100300	62610	73340	34460	6670

CAL YR 1978 TOTAL 677683 MEAN 1857 MAX 26100 MIN 117 CFSM .99 IN 13.48 AC-FT 1344000
WTR YR 1979 TOTAL 427077 MEAN 1170 MAX 10400 MIN 50 CFSM .63 IN 8.50 AC-FT 847100

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO.--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1962 to June 1963, August 1967 to July 1975, and January 1978 to September 1979.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1978 to current year.

WATER TEMPERATURES: March 1978 to current year.

REMARKS.--Water temperature and specific conductance collected daily by observer. Number of missing days of record exceeded 20 percent of year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT 18...	788	265	8.0	12.0	4.0	10.4	96	150	1700	110	16	35
NOV 15...	300	440	8.1	7.0	17	11.4	94	260	1800	210	62	61
DEC 13...	415	607	7.9	.5	10	12.0	83	50	750	270	70	77
JAN 23...	300	495	7.2	.0	10	7.1	49	140	560	210	68	60
FEB 13...	200	690	7.3	.0	2.0	7.2	49	16	150	290	89	82
MAR 21...	3760	300	7.6	10.0	1000	5.4	48	3000	9000	120	39	37
APR 18...	1580	350	8.1	14.5	92	9.0	87	500	--	150	32	43
MAY 09...	1350	332	7.9	22.0	72	7.8	89	280	100	150	42	45
JUN 13...	1180	290	7.5	24.5	240	7.2	86	6400	12000	130	33	39
JUL 11...	835	460	8.2	28.5	120	7.4	94	220	220	100	13	30
AUG 08...	826	305	7.5	30.5	150	6.4	84	760	350	120	21	36
SEP 12...	76	465	7.6	25.0	13	8.4	101	100	60	220	34	66

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 18...	6.6	6.0	5.0	120	0	29	6.5	.3	2.9	160	340	.69
NOV 15...	14	13	4.4	180	0	73	8.1	.2	5.6	275	223	.00
DEC 13...	18	16	4.1	240	0	100	9.4	.2	10	375	420	.50
JAN 23...	14	15	4.2	170	0	100	9.2	.1	9.9	329	266	.84
FEB 13...	20	20	3.2	242	0	120	9.8	.2	11	407	220	.60
MAR 21...	7.7	7.1	4.2	104	0	48	6.5	.2	8.1	187	1900	1.2
APR 18...	9.6	8.4	4.5	140	0	53	5.9	.2	7.6	209	892	.91
MAY 09...	10	8.2	4.6	136	0	51	5.9	.2	6.5	206	751	.84
JUN 13...	8.2	8.6	5.1	120	0	40	7.3	.2	6.3	203	647	2.1
JUL 11...	7.2	6.9	5.0	112	0	31	6.7	.2	5.0	155	349	1.1
AUG 08...	7.2	6.8	5.3	120	0	40	5.5	.2	7.8	163	364	.74
SEP 12...	14	16	5.4	230	0	70	9.3	.3	8.3	304	62.4	.07
DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 18...	.03	.83	.41	6.7	.130	.040	7.8	--	--	143	304	95
NOV 15...	.01	.55	.58	2.4	.090	.030	--	8.6	.6	18	15	88
DEC 13...	.12	.48	.47	4.3	.060	.030	5.4	--	--	--	--	--
JAN 23...	.26	.69	.58	6.8	.070	.020	6.9	--	--	18	15	83
FEB 13...	.30	.59	.51	5.3	.050	.020	--	3.3	.4	--	--	--
MAR 21...	.10	2.6	.65	17	.740	.040	--	--	--	2112	21400	79
APR 18...	.05	.88	.43	7.9	.210	.030	--	--	--	555	2370	50
MAY 09...	.02	.77	.37	7.1	.190	.040	--	6.9	2.7	332	1210	81
JUN 13...	.09	2.0	.93	18	.450	.040	17	--	--	1142	3640	65
JUL 11...	.09	.80	.39	8.4	.250	.030	9.5	--	--	444	1000	63
AUG 08...	.05	.52	.43	5.6	.370	.050	--	6.9	2.0	758	1690	76
SEP 12...	.11	1.3	.76	6.1	.070	.020	--	--	--	264	54	53

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
NOV 15...	1	1	100	0	0	0	0	0	0
FEB 13...	1	0	100	90	0	<1	0	0	2
MAR 21...	--	0	--	100	--	0	--	10	--
MAY 09...	2	0	100	0	0	3	10	0	7
AUG 08...	4	2	200	80	1	<1	40	10	6

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 15...	0	6	2	1300	30	10	0	100	50
FEB 13...	<3	6	1	270	20	40	4	520	490
MAR 21...	1	--	1	--	160	--	0	--	0
MAY 09...	0	4	0	6300	40	18	0	280	10
AUG 08...	<3	11	3	12000	40	11	0	540	2

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 15...	.0	.0	0	1	0	0	10	0
FEB 13...	.3	.0	1	0	1	1	20	4
MAR 21...	--	.1	3	0	--	0	--	20
MAY 09...	.2	.1	1	1	0	0	40	10
AUG 08...	.1	.1	1	1	0	0	30	<3

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO.--Continued

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	500	480			---	218	---	---	---	390	300
2	---	500	510			338	224	246	285	---	392	---
3	273	480	---			272	256	247	---	---	390	302
4	---	480	490			---	294	288	290	---	275	298
5	272	---	470			271	336	291	280	272	---	367
6	253	475	485			259	---	---	275	---	210	362
7	---	470	600			274	---	325	270	273	210	400
8	---	490	600			271	---	326	242	---	278	415
9	---	540	540			292	---	340	275	290	272	---
10	---	540	---			312	218	325	---	290	248	444
11	---	---	585			---	252	310	290	280	219	450
12	---	---	---			266	164	---	335	295	---	470
13	---	450	530			323	---	---	255	260	250	475
14	---	450	540			266	---	315	254	270	292	448
15	---	455	545			226	---	315	274	---	292	450
16	---	505	540			236	338	310	278	268	316	---
17	---	515	---			268	336	315	---	265	322	450
18	268	430	540			---	337	320	280	345	---	450
19	270	---	580			269	338	310	272	350	---	455
20	270	400	585			268	338	---	281	345	368	458
21	288	380	580			---	242	380	288	275	368	459
22	---	305	580			---	---	380	290	---	380	445
23	318	435	---			---	283	390	305	280	380	---
24	338	440	---			---	317	320	---	282	---	438
25	370	470	---			---	375	310	264	255	---	438
26	398	---	---			---	315	---	295	230	---	---
27	420	440	---			---	330	---	309	258	---	438
28	450	440	---			276	380	---	290	268	---	435
29	450	430	---			272	---	---	272	---	---	---
30	465	470	---			162	341	---	281	235	---	---
31	480	---	---			176	---	---	---	270	---	---
MEAN	349	460	543			265	297	318	281	280	308	419

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	12.0	4.0			---	8.0	---	---	---	26.0	23.0
2	---	11.5	2.0			1.0	8.0	13.0	23.0	---	26.5	---
3	18.0	12.0	---			1.5	6.0	14.0	---	---	24.5	25.0
4	---	14.0	1.5			---	6.5	13.0	24.5	---	25.0	24.0
5	15.0	---	2.0			2.0	6.0	13.5	21.0	22.0	---	24.0
6	15.0	11.0	1.0			2.5	---	---	23.0	---	26.0	24.5
7	---	8.0	.5			3.0	---	16.5	23.0	23.0	26.0	21.0
8	---	7.5	.0			2.0	---	17.0	23.0	---	31.0	19.0
9	---	8.0	.0			3.0	---	21.0	26.0	25.0	27.5	---
10	---	9.0	---			1.5	8.5	20.0	---	24.0	27.0	19.0
11	---	---	.0			---	9.0	18.5	21.0	27.5	26.0	19.5
12	---	---	---			3.5	11.0	---	22.0	25.5	---	21.5
13	---	14.0	.5			4.0	---	---	22.0	25.0	24.5	19.0
14	---	10.0	1.0			4.0	---	17.5	22.0	27.0	21.0	16.0
15	---	7.0	2.0			3.0	---	18.0	23.0	---	18.0	15.0
16	---	8.0	2.5			3.0	13.5	18.0	24.5	25.5	18.5	---
17	---	7.0	---			5.0	13.0	18.5	---	24.0	21.0	16.5
18	15.0	6.0	3.0			---	13.0	19.0	24.0	25.0	---	17.0
19	15.0	---	3.5			10.5	14.0	19.0	24.5	23.0	---	25.0
20	15.5	4.0	4.0			10.0	14.5	---	24.0	23.5	25.0	16.5
21	17.0	3.5	4.0			---	14.5	19.5	24.5	24.0	24.5	14.0
22	---	3.0	5.0			---	---	21.0	25.5	---	24.0	14.0
23	16.0	5.0	---			---	16.0	19.0	26.0	26.0	24.0	---
24	15.0	4.0	---			---	16.0	14.0	---	25.5	---	17.5
25	14.0	6.0	---			---	17.0	14.5	21.5	27.5	---	17.0
26	15.0	---	---			---	14.0	---	21.0	26.0	---	17.5
27	15.0	4.0	---			---	13.5	---	21.5	26.5	---	---
28	14.0	1.5	---			9.5	12.0	---	22.0	29.0	---	25.0
29	14.0	3.0	---			9.5	---	---	22.0	---	---	---
30	11.0	2.0	---			9.0	12.5	---	23.0	27.0	---	---
31	10.5	---	---			9.0	---	---	---	25.0	---	---
MEAN	14.5	7.0	2.0			5.0	11.5	17.0	23.0	25.5	24.5	19.5

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 15, 78 1245	MAR 21, 79 1440	MAY 9, 79 1500	JUN 13, 79 1300
TOTAL CELLS/ML	10000	780	7300	1200
DIVERSITY: DIVISION	1.6	1.5	1.6	1.3
..CLASS	1.6	1.5	1.6	1.3
..ORDER	2.2	1.8	1.8	1.8
...FAMILY	2.4	1.8	2.2	2.1
....GENUS	2.7	1.8	0.0	2.1

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....CHARACIACEAE								
....SCHROEDERIA	--	-	130#	17	--	-	100	8
....MICRACTINIACEAE								
....MICRACTINIUM	--	-	--	-	200	3	--	-
....DOCYSTACEAE								
....ANKISTRODESMUS	1500#	15	--	-	270	4	--	-
....CLUSTERIOPSIS	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	1500#	21	--	-
....GLOEOACTINIUM	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	130	1	--	-	--	-	--	-
....DOCYSTIS	330	3	--	-	*	0	--	-
....QUADRIGULA	--	-	--	-	--	-	--	-
....SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	--	-	--	-
....CRUCIGENIA	--	-	--	-	--	-	--	-
....SCENEDESMUS	--	-	--	-	130	2	410#	33
....TETRASTRUM	--	-	--	-	530	7	--	-
..TETRASPORALES								
...PALMELLACEAE								
...SPHAEROCYSTIS	--	-	--	-	--	-	--	-
...VOLVOCALES								
...CHLAMYDOMONADACEAE	--	-	--	-	*	0	--	-
...CHLAMYDOMONAS	200	2	130#	17	--	-	--	-
...ZYGNEATALES								
...DESMIDIACEAE								
...CLOSTERIUM	--	-	--	-	--	-	--	-
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	2200#	22	--	-	1700#	23	--	-
....MELOSIRA	390	4	--	-	1200#	17	410#	33
...PENNALES								
...FRAGILARIACEAE								
....SYNEDRA	2100#	21	130#	17	--	-	--	-
....NITZSCHIACEAE								
....NITZSCHIA	200	2	--	-	200	3	210#	17
....SURIPELLACEAE								
....SURIPELLA	66	1	--	-	--	-	--	-

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 15, 78 1245		MAR 21, 79 1440		MAY 9, 79 1500		JUN 13, 79 1300	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	470	6	--	-
....ANACYSTIS	2600#	26	--	-	830	11	--	-
...HORMOGONALES								
...OSCILLATORIACEAE								
....LYNGBYA	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
....EUGLENA	66	1	--	-	67	1	100	8
....PHACUS	--	-	--	-	*	0	--	-
....TRACHELOMONAS	200	2	390#	50	*	0	--	-

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 11,79 1500	AUG 8,79 1530	SEP 12,79 1230
TOTAL CELLS/ML	2300	810	42000
DIVERSITY: DIVISION	1.0	1.4	1.3
..CLASS	1.0	1.4	1.3
...ORDER	1.2	1.4	1.8
....FAMILY	1.3	1.8	2.3
.....GENUS	1.8	1.8	3.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....CHARACIACEAE						
....SCHROEDERIA	64	3	--	--	--	--
....MICRACTINIACEAE	--	--	--	--	--	--
....MICRACTINIUM	--	--	--	--	--	--
....OOCYSTACEAE						
....ANKISTRODESMUS	--	--	120	14	2200	5
....CLOSTERIOPSIS	--	--	--	--	*	0
....DICTYOSPHAERIUM	--	--	--	--	4800	11
....GLOEOACTINIUM	--	--	--	--	3900	9
....KIRCHNERIELLA	--	--	--	--	--	--
....OOCYSTIS	--	--	--	--	*	0
....QUADRIGULA	--	--	--	--	390	1
....SCENEDESMACEAE						
....ACTINASTRUM	--	--	--	--	3500	8
....CRUCIGENIA	--	--	--	--	1200	3
....SCENEDESMUS	--	--	230#	29	3200	8
....TETRASTRUM	260	11	--	--	1600	4
..TETRASPORALES						
...PALMELLACEAE						
....SPHAEROCYSTIS	--	--	--	--	*	0
..VOLVOCALES						
...CHLAMYDOMONADACEAE	--	--	--	--	--	--
....CHLAMYDOMONAS	64	3	--	--	290	1
..ZYGNEMATALES						
...DESMIDIACEAE						
....CLOSTERIUM	64	3	--	--	--	--
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
....COSCINODISCACEAE						
....CYCLOTELLA	320	14	350#	43	1100	3
....MELOSIRA	1400#	61	--	--	*	0
...PENNALES						
....FRAGILARIACEAE						
....SYNEDRA	--	--	--	--	--	--
....NITZSCHIACEAE						
....NITZSCHIA	--	--	--	--	1600	4
....SURIPELLACEAE						
....SURIPELLA	--	--	--	--	--	--

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 11,79 1500		AUG 8,79 1530		SEP 12,79 1230	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOMONADACEAE						
.....CRYPTOMONAS	130	6	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
....CHROOCOCCACEAE						
.....AGMENELLUM	--	-	--	-	6300	15
.....ANACYSTIS	--	-	--	-	6100	14
...HORMOGONALES						
....OSCILLATORIAEAE						
.....LYNGBYA	--	-	--	-	5300	13
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENACEAE						
.....EUGLENA	--	-	--	-	--	-
.....PHACUS	--	-	--	-	*	0
.....TRACHELOMONAS	--	-	120	14	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

PERIPHYTON

Date	Length of Exposure (days)	Biomass (mg/m ²)		Chlorophyll a	Chlorophyll b	Sampling method
		Dry weight (00573)	Ash weight (00572)	(mg/m ²) (70957)	(mg/m ²) (70958)	
Nov. 15, 1978	28	17.1	14.7	4.74	.000	Polyethylene Strip
Apr. 18, 1979	28	.80	.000	.000	.000	Polyethylene Strip
Sept. 12, 1979	32	70.5	67.2	3.56	.270	Polyethylene Strip

CHARITON RIVER BASIN

06906000 MUSSEL FORK NEAR MUSSELFORK, MO

LOCATION.--Lat 39°31'26", long 92°56'59", in SW¼SW¼SE¼ sec.32, T.55 N., R.18 W., Chariton County, Hydrologic Unit 10280202, on left bank at downstream side of pier of bridge on State Highway 5, 4.5 mi (7.2 km) southwest of Musselfork, and 1.5 mi (2.4 km) upstream from Long Branch.

DRAINAGE AREA.--267 mi² (692 km²).

PERIOD OF RECORD.--October 1948 to December 1951, October 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 639.25 ft (194.843 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1952, nonrecording gage at same site and datum.

REMARKS.--Records fair except periods of no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--20 years (1948-51, 1962-79), 212 ft³/s (6.004 m³/s), 10.78 in/yr (274 mm/yr), 153,600 acre-ft/yr (189 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,100 ft³/s (654 m³/s) Apr. 22, 1973, gage height, 22.11 ft (6.739 m); no flow Sept. 29 to Oct. 16, Oct. 30 to Nov. 2, 1963, Aug. 16-26, 27-29, Nov. 16-24, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Feb. 26	0845	*2610	73.9	*18.22	5.553
Mar. 4	2330	2020	57.2	17.03	5.191
Apr. 12	0230	2420	68.5	17.85	5.441

Minimum daily discharge, 0.57 ft³/s (0.016 m³/s) Sept. 21, 22; minimum gage height, 3.43 ft (1.045 m) Sept. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	15	52	11	20	980	394	64	14	14	30	58
2	21	15	41	12	20	787	199	71	14	11	36	72
3	20	16	38	12	20	1110	187	1060	14	11	22	71
4	20	15	33	12	20	1890	169	1560	14	9.2	14	34
5	20	15	27	12	20	1970	148	367	14	8.5	10	19
6	20	15	30	13	20	1560	184	173	14	8.0	7.9	13
7	20	15	31	13	20	503	170	120	20	7.5	6.5	9.3
8	20	16	24	13	20	603	117	86	50	7.4	5.5	7.0
9	19	21	22	14	20	349	106	65	200	7.3	4.6	5.4
10	18	21	22	14	20	368	88	53	1000	6.7	4.6	4.5
11	18	19	19	14	20	350	762	51	300	6.5	4.4	4.2
12	19	18	17	14	20	209	2230	211	100	6.4	4.1	3.7
13	22	16	17	15	20	259	2120	197	50	6.1	4.1	3.4
14	23	26	19	15	20	405	603	75	20	6.0	3.7	3.1
15	23	22	20	15	20	485	204	49	18	5.6	3.7	2.9
16	21	16	22	15	20	216	141	39	17	5.4	3.8	2.7
17	18	28	22	15	20	144	120	34	16	6.5	4.0	2.0
18	16	252	21	15	20	121	99	29	15	6.9	4.1	1.1
19	14	346	21	20	20	1080	60	27	15	6.6	4.3	.78
20	12	97	22	30	20	1330	66	28	15	5.9	4.4	.63
21	12	45	27	50	20	411	684	28	13	5.5	4.5	.57
22	12	31	22	60	100	218	1070	29	12	5.0	4.4	.57
23	12	26	27	80	500	1340	283	25	11	4.7	4.4	.69
24	13	24	21	70	1000	1690	170	20	11	4.6	4.6	.72
25	14	24	23	62	2000	852	226	18	9.9	4.9	4.9	.74
26	14	46	18	50	2550	346	264	17	9.9	5.5	4.9	.76
27	15	279	16	40	1730	307	172	16	10	60	4.3	.76
28	16	338	15	30	1070	234	134	15	11	42	4.4	.76
29	16	166	15	30	---	190	94	15	46	20	4.5	.75
30	17	76	15	20	---	377	70	14	24	19	4.8	.87
31	15	---	13	20	---	800	---	14	---	15	28	---
TOTAL	542	2059	732	806	9370	21484	11334	4570	2077.8	338.7	255.4	324.90
MEAN	17.5	66.6	23.6	26.0	335	693	378	147	69.3	10.9	8.24	10.8
MAX	23	346	52	80	2550	1970	2230	1560	1000	60	36	72
MIN	12	15	13	11	20	121	60	14	9.9	4.6	3.7	.57
CFSM	.07	.26	.09	.10	1.26	2.60	1.42	.55	.26	.04	.03	.04
IN.	.08	.29	.10	.11	1.31	2.99	1.58	.64	.29	.05	.04	.05
AC-FT	1080	4080	1450	1600	18590	42610	22480	9060	4120	672	507	644

CAL YR 1978 TOTAL 84111.10 MEAN 230 MAX 2500 MIN 4.6 CFSM .86 IN 11.72 AC-FT 166800
WTR YR 1979 TOTAL 53893.80 MEAN 148 MAX 2550 MIN .57 CFSM .55 IN 7.51 AC-FT 106900

LITTLE CHARITON RIVER BASIN

06906200 EAST FORK LITTLE CHARITON RIVER NEAR MACON, MO

LOCATION.--Lat 39°44'47", long 92°31'05", NW¼NW¼NW¼ sec.18, T.57 N., R.14 W., Macon County, Hydrologic Unit 10280203, on downstream end of right abutment of bridge on U.S. Highway 36, 1000 ft (308 m) downstream from Long Branch Lake and 3 mi (4.8 km) west of Macon.

DRAINAGE AREA.--112 mi² (290 km²).

PERIOD OF RECORD.--September 1971 to current year. Partial-record station since May 1970.

GAGE.--Water-stage recorder. Datum of gage is 741.43 ft (225.988 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Several observations of water temperatures were made during the year. Some regulation from Long Branch Lake.

AVERAGE DISCHARGE.--8 years, 110 ft³/s (3.115 m³/s), 79,700 acre-ft/yr (98.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,700 ft³/s (246 m³/s) Apr. 21, 1973, gage height, 20.60 ft (6.279 m); no flow in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 146 ft³/s (4.13 m³/s) Apr. 11, no peak above regulated base of 1,000 ft³/s (28.3 m³/s); maximum gage height, 7.98 ft (2.432 m) Sept. 10; no flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.30	.00	.00	.00	.00	36	38	32	46	43	23
2	.00	.25	.00	.00	.00	.00	36	41	32	47	42	23
3	.00	.35	.00	.00	.00	.00	36	38	32	47	42	23
4	.00	.20	.00	.00	.00	.00	36	37	32	47	42	23
5	.00	.20	.00	.00	.00	.00	36	37	44	47	42	23
6	.00	1.1	.00	.00	.00	.00	36	37	58	47	41	23
7	.00	1.4	.00	.00	.00	.00	36	37	58	47	42	24
8	.00	1.5	.00	.00	.00	.00	36	37	62	46	40	24
9	.00	1.3	.00	.00	.00	.00	36	37	60	47	39	24
10	1.5	.69	.00	.00	.00	.00	36	37	62	48	40	24
11	2.1	.69	.00	.00	.00	.00	60	38	59	46	40	16
12	.42	.15	.00	.00	.00	.00	43	37	58	46	39	11
13	.10	.00	.00	.00	.00	.00	41	38	60	46	39	26
14	.15	.00	.00	.00	.00	.00	40	36	60	47	40	24
15	.00	.00	.00	.00	.00	.00	40	36	62	47	39	23
16	.00	.00	.00	.00	.00	.00	41	35	60	44	39	23
17	.00	.00	.00	.00	.00	.00	40	36	58	43	38	23
18	.00	.00	.00	.00	.00	.00	40	36	63	43	37	23
19	.00	.00	.00	.00	.00	.00	39	35	55	43	37	27
20	.00	.00	.00	.00	.00	.00	40	35	49	43	37	24
21	.00	.00	.00	.00	.00	.00	39	35	49	42	37	22
22	.00	.00	.00	.00	.00	2.1	39	35	49	42	14	23
23	.00	.00	.00	.00	.00	.42	39	34	48	42	.75	23
24	.00	.00	.00	.00	.00	.40	39	34	48	45	7.8	24
25	.00	.00	.00	.00	.00	.39	39	34	47	44	8.4	23
26	.00	.00	.00	.00	.00	38	37	34	47	41	9.0	29
27	.00	.00	.00	.00	.00	37	36	33	47	42	9.6	27
28	.30	.00	.00	.00	.00	37	37	33	46	42	10	27
29	.02	.00	.00	.00	.00	37	37	33	46	42	12	27
30	.05	.00	.00	.00	.00	37	37	33	46	42	11	24
31	.20	---	.00	.00	.00	37	---	32	---	42	14	---
TOTAL	4.84	8.13	.00	.00	.00	346.10	1163	1108	1529	1383	931.55	703
MEAN	.16	.27	.000	.000	.000	11.2	38.8	35.7	51.0	44.6	30.1	23.4
MAX	2.1	1.5	.00	.00	.00	42	60	41	63	48	43	29
MIN	.00	.00	.00	.00	.00	.00	36	32	32	41	.75	11
CFSM	.001	.002	.000	.000	.000	.10	.35	.32	.46	.40	.27	.21
AC-FT	9.6	16	.00	.00	.00	686	2310	2200	3030	2740	1850	1390

CAL YR 1978 TOTAL 41383.81 MEAN 113 MAX 656 MIN .00 CFSM 1.01 AC-FT 82080
WTR YR 1979 TOTAL 7176.62 MEAN 19.7 MAX 63 MIN .00 CFSM .18 AC-FT 14230

LITTLE CHARITON RIVER BASIN

06906300 EAST FORK LITTLE CHARITON RIVER NEAR HUNTSVILLE, MO

LOCATION.--Lat 39°27'16", long 92°34'16", in NW¼NW¼NW¼ sec.26, T.54 N., R.15 W., Randolph County, Hydrologic Unit 10280203, on right bank 600 ft downstream from bridge on State Highway C, 1 mi (1.6 km) downstream from Sugar Creek, and 1.5 mi (2.4 km) northwest of Huntsville.

DRAINAGE AREA.--220 mi² (570 km²).

PERIOD OF RECORD.--October 1962 to current year. Occasional low-flow measurements, water years 1942-43, 1945-46.

GAGE.--Water-stage recorder. Datum of gage is 655.86 ft (199.906 m) National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission). From July 18, 1972, to Sept. 23, 1974, at datum 0.63 ft (0.192 m) higher and from Sept. 24, 1974, at present datum.

REMARKS.--Records poor. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--17 years, 174 ft³/s (4.928 m³/s), 10.74 in/yr (273 mm/yr), 126,100 acre-ft/yr (155 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s (850 m³/s) Apr. 21, 1973, gage height, 20.78 ft (6.333 m), at datum then in use, from rating curve extended above 4,000 ft³/s (110 m³/s) on basis of slope-area measurement of peak flow; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,400 ft³/s (39.6 m³/s) Feb. 25, gage height, 16.00 ft (4.877 m) highwater mark, no peak above base of 1500 ft³/s (42.5 m³/s); minimum discharge, 4.6 ft³/s (0.13 m³/s) Oct. 18; minimum gage height, 5.87 ft (1.789 m) Aug. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	15	7.2	36	20	25	300	80	70	52	61	52	292		
2	11	8.8	28	10	20	200	80	128	49	58	56	172		
3	16	8.8	32	10	10	400	70	428	49	57	42	60		
4	14	8.4	46	10	10	1000	70	244	42	54	40	39		
5	14	11	34	10	10	900	70	120	43	52	39	34		
6	13	11	30	10	10	500	60	93	41	52	38	31		
7	12	14	24	10	10	400	60	82	72	53	38	30		
8	11	28	23	10	10	400	60	73	304	50	36	27		
9	7.6	24	19	10	10	300	50	68	720	54	36	26		
10	5.4	18	16	10	10	300	50	63	328	51	36	26		
11	28	14	16	10	10	200	500	103	178	47	36	26		
12	68	14	19	10	10	150	1000	115	103	69	35	28		
13	26	15	25	10	10	200	400	76	120	56	34	18		
14	16	34	25	10	10	300	200	66	120	47	34	12		
15	8.4	50	23	10	10	72	100	62	95	46	37	25		
16	7.4	25	23	10	10	60	80	56	80	45	36	25		
17	5.2	71	19	10	10	60	70	58	72	43	35	26		
18	4.9	160	18	10	10	50	60	57	69	42	34	25		
19	4.9	58	21	10	10	50	60	63	68	40	33	26		
20	6.4	31	20	50	10	50	50	64	103	40	33	24		
21	7.4	22	20	40	10	50	50	55	72	40	33	22		
22	7.2	20	20	40	30	50	100	49	62	40	32	23		
23	6.0	20	20	40	50	50	200	48	62	40	36	23		
24	5.4	20	20	30	100	500	80	48	61	39	18	23		
25	5.2	20	20	30	300	200	87	46	57	55	8.4	23		
26	8.4	150	20	30	1000	200	128	44	57	53	7.0	21		
27	10	428	20	30	500	100	99	61	54	43	9.0	23		
28	8.0	146	18	30	316	100	78	51	223	41	9.4	24		
29	6.8	66	17	30	---	100	72	46	115	40	25	24		
30	7.0	43	18	30	---	90	69	45	70	40	63	27		
31	6.8	---	18	25	---	80	---	48	---	54	84	---		
TOTAL	372.4	1546.2	708	605	2531	7412	4133	2630	3541	1502	1084.8	1205		
MEAN	12.0	51.5	22.8	19.5	90.4	239	138	84.8	118	48.5	35.0	40.2		
MAX	68	428	46	50	1000	1000	1000	428	720	69	84	292		
MIN	4.9	7.2	16	10	10	50	50	44	41	39	7.0	12		
CFSM	.06	.23	.10	.09	.41	1.09	.63	.39	.54	.22	.16	.18		
IN.	.06	.26	.12	.10	.43	1.25	.70	.44	.60	.25	.18	.20		
AC-FT	739	3070	1400	1200	5020	14700	8200	5220	7020	2980	2150	2390		
CAL YR 1978	TOTAL	66385.6	MEAN	182	MAX	1460	MIN	2.5	CFSM	.83	IN	11.23	AC-FT	131700
WTR YR 1979	TOTAL	27270.4	MEAN	74.7	MAX	1000	MIN	4.9	CFSM	.34	IN	4.61	AC-FT	54090

LAMINE RIVER BASIN

06907500 SOUTH FORK BLACKWATER RIVER NEAR ELM, MO

LOCATION.--Lat 38°49'08", long 94°02'08", in SE4SW4 sec.5, T.46 N., R.28 W., Johnson County, Hydrologic Unit 10300104, on left bank at downstream side of bridge on county highway, 2.5 mi (4.0 km) southeast of Elm, and 3 mi (4.8 km) upstream from mouth.

DRAINAGE AREA.--16.6 mi² (43.0 km²).

PERIOD OF RECORD.--June 1954 to September 1979 (discontinued). Prior to October 1, 1963 published as "East Branch South Fork Blackwater River."

REVISED RECORDS.--WSP 1919: * 1958(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is about 795 ft (242.3 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except periods of no gage-height record which are poor. Runoff affected at times by many soil conservation ponds upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years, 11.5 ft³/s (0.326 m³/s), 9.41 in/yr (239 mm/yr), 8,330 acre ft/yr (10.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,600 ft³/s (159 m³/s) Apr. 15, 1960, gage height, 12.0 ft (3.66 m), from rating curve extended above 420 ft³/s (11.9 m³/s) on basis of contracted-opening and flow over-road measurement of peak flow; no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1951 reached a stage of 14.8 ft (4.51 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,170 ft³/s (33.1 m³/s) at 2045 Feb. 22, gage height, 6.09 ft (1.856 m), no other peak above base of 1,100 ft³/s (31.2 m³/s); no flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY*	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.28	.01	.27	15	13	3.1	.47	.00	10	4.4
2	.00	.00	.23	.00	.19	12	11	34	.28	.00	6.0	3.6
3	.00	.00	.26	.00	.12	60	7.6	52	.24	.00	3.0	.36
4	.00	.00	.17	.00	.10	22	23	13	.21	.00	2.0	.05
5	.00	.00	.10	.00	.07	8.6	19	7.4	.54	.64	1.0	.00
6	.00	.00	.06	.00	.06	6.1	9.4	5.2	.66	25	.50	.00
7	.00	.00	.07	.01	.04	5.3	7.4	4.0	.27	17	.00	.00
8	.00	.00	.03	.00	.02	3.8	27	2.9	.42	4.5	.00	.00
9	.00	.00	.01	.00	.01	12	13	2.4	16	2.4	.00	.00
10	.00	.00	.00	.05	.01	13	10	2.2	39	1.5	.00	.00
11	.02	.00	.00	.01	.01	6.1	205	3.4	7.7	1.0	.00	.00
12	.00	.00	.01	.00	.02	4.5	47	2.3	3.9	3.0	.00	.00
13	.00	.00	.03	.01	.12	3.8	17	2.0	2.6	2.0	.00	.00
14	.00	.00	.07	.01	.59	2.9	11	1.8	1.8	1.0	.00	.00
15	.00	.00	.05	.01	2.2	2.2	8.0	1.4	1.0	.50	.05	.00
16	.00	.00	.03	.01	4.9	1.9	7.0	1.6	.55	.20	.21	.00
17	.00	2.5	.03	.01	6.1	2.4	6.0	1.4	.44	.10	.02	.00
18	.00	1.0	.03	.11	2.9	49	5.1	1.0	.56	.00	.00	.00
19	.00	.46	.04	13	1.7	49	4.8	.95	.21	.00	.00	.00
20	.00	.15	.15	25	4.2	16	4.5	2.3	.06	.00	.00	.00
21	.00	.04	.15	9.8	170	10	4.4	2.1	.00	.00	.00	.00
22	.00	.01	.05	5.9	429	15	3.5	1.1	.00	.00	.00	.00
23	.00	.01	.01	3.8	228	43	3.2	.68	.00	.00	.00	.00
24	.00	.00	.01	3.1	47	23	3.3	.54	.00	.00	.00	.00
25	.00	.19	.01	2.7	24	13	3.5	.42	.00	2.0	.00	.00
26	.00	16	.00	1.7	17	9.4	3.4	5.7	.00	20	.00	.00
27	.00	6.1	.00	1.3	20	8.2	2.6	8.3	.00	10	.00	.00
28	.00	2.0	.00	.94	23	7.5	2.1	2.8	.00	7.0	.00	.00
29	.00	.95	.00	.69	---	8.5	1.9	1.4	.00	5.0	.00	.00
30	.00	.49	.01	.40	---	24	2.1	1.0	.01	4.0	.00	.00
31	.00	---	.01	.32	---	10	---	.65	---	3.0	.00	---
TOTAL	.02	29.90	1.90	68.89	981.63	467.2	485.8	169.04	118.50	173.20	22.78	8.41
MEAN	.001	1.00	.061	2.22	35.1	15.1	16.2	5.45	3.95	5.59	.73	.28
MAX	.02	16	.28	25	429	60	205	52	42	64	10	4.4
MIN	.00	.00	.00	.00	.01	1.9	1.9	.42	.00	.00	.00	.00
CFSM	.000	.06	.004	.13	2.11	.91	.98	.33	.24	.34	.04	.02
IN-	.00	.07	.00	.15	2.20	1.05	1.09	.38	.27	.39	.05	.02
AC-FT	.04	59	3.8	137	1950	927	964	335	235	344	45	17
CAL YR 1978 TOTAL	2671.53		MEAN 7.32	MAX 189	MIN .00	CFSM .44	IN 5.99	AC-FT 5300				
WTR YR 1979 TOTAL	2527.27		MEAN 6.92	MAX 429	MIN .00	CFSM .42	IN 5.66	AC-FT 5010				

LAMINE RIVER BASIN

06908000 BLACKWATER RIVER AT BLUE LICK, MO

LOCATION.--Lat 38°59'25", long 93°12'14", in NW¼NE¼ sec.34, T.49 N., R.21 W., Saline County, Hydrologic Unit 10300104, on right bank upstream from county bridge, 0.8 mile (1.3 km) downstream from Finney Creek, 1 mi (1.6 km) south of Blue Lick, and at mile 30.8 (49.6 km).

DRAINAGE AREA.--1,120 mi² (2,900 km²), approximately.

PERIOD OF RECORD.--June 1922 to September 1933, May 1938 to current year.

REVISED RECORDS.--WSP 1006: 1929.

GAGE.--Water-stage recorder. Datum of gage is 593.79 ft (180.987 m) National Geodetic Vertical Datum of 1929. Prior to July 25, 1925, nonrecording gage at site 75 ft (23 m) downstream at datum 0.10 ft (0.030 m) lower. July 25, 1925, to Sept. 30, 1933, and May 23, 1938, to Dec. 3, 1956, nonrecording gage at site 25 ft (7.6 m) downstream at same datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--52 years, 705 ft³/s (19.97 m³/s), 8.54 in/yr (217 mm/yr), 510,800 acre-ft/yr (630 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,000 ft³/s (1,530 m³/s) Nov. 18, 1928, gage height, 41.25 ft (12.573 m) from floodmarks, from rating curve extended above 32,000 ft³/s (906 m³/s) by logarithmic plotting; minimum, 0.08 ft³/s (0.002 m³/s) Aug. 9, 10, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,700 ft³/s (416 m³/s) at 0615 Mar. 20, gage height, 32.93 ft (10.037 m), no other peak above base of 10,000 ft³/s (283 m³/s); minimum, 0.48 ft³/s (0.014 m³/s) Oct. 27, gage height, 5.61 ft (1.710 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	3.9	3.6	66	3.0	20	200	1000	143	79	20	263	892		
2	2.3	4.1	45	3.0	20	200	900	252	48	20	199	1110		
3	4.0	5.5	38	3.0	20	1000	500	1300	40	20	96	439		
4	4.2	6.0	32	3.0	20	900	2000	700	32	20	60	165		
5	8.9	4.3	30	3.0	20	600	1000	300	27	300	40	93		
6	11	3.9	20	3.0	20	500	600	200	44	400	31	59		
7	12	7.7	20	3.0	10	400	500	200	97	300	24	40		
8	10	56	20	3.0	10	374	2000	100	161	200	20	29		
9	6.4	52	20	3.0	10	316	800	100	600	204	16	24		
10	4.4	24	10	3.0	10	549	600	100	700	143	12	21		
11	17	13	10	3.0	10	591	4260	200	200	126	10	19		
12	89	10	10	3.0	10	374	5160	200	100	560	9.5	17		
13	54	8.6	9.0	3.0	10	297	5320	140	50	243	8.6	15		
14	33	8.9	8.0	3.0	10	265	5470	130	40	123	9.1	14		
15	20	25	7.0	3.0	40	188	4260	120	30	78	11	11		
16	12	39	7.0	3.0	80	107	863	120	30	54	84	8.1		
17	8.2	147	6.0	3.0	200	68	513	114	30	38	117	6.3		
18	5.6	67	6.0	30	150	69	355	111	30	31	58	7.0		
19	4.2	36	5.0	200	100	4510	284	94	26	28	34	7.3		
20	3.0	29	5.0	1000	200	9630	258	89	20	23	22	7.7		
21	2.3	20	10	1000	2000	1540	1250	108	20	20	17	7.1		
22	1.6	20	7.0	700	3000	658	649	128	20	17	14	5.2		
23	1.7	20	6.0	400	1000	2820	314	97	20	14	9.6	4.2		
24	1.4	10	5.0	310	500	1500	287	81	20	13	7.3	3.6		
25	1.3	10	5.0	200	400	1000	302	64	20	516	9.1	2.7		
26	1.5	1000	4.0	100	300	800	298	58	20	2180	21	2.3		
27	.87	300	4.0	80	200	800	269	166	20	382	17	2.0		
28	1.7	200	4.0	60	300	600	195	123	20	137	16	2.5		
29	1.1	100	4.0	50	---	700	159	122	20	109	29	3.6		
30	.99	98	4.0	40	---	2000	147	76	20	127	721	2.9		
31	2.2	---	3.0	30	---	1000	---	142	---	106	1690	---		
TOTAL	329.76	2328.6	430.0	4251.0	8670	34556	40513	5878	2584	6552	3675.2	3020.5		
MEAN	10.6	77.6	13.9	137	310	1115	1350	190	86.1	211	119	101		
MAX	89	1000	66	1000	3000	9630	5470	1300	700	2180	1690	1110		
MIN	.87	3.6	3.0	3.0	10	68	147	58	20	13	7.3	2.0		
CFSM	.009	.07	.01	.12	.28	1.00	1.21	.17	.08	.19	.11	.09		
IN.	.01	.08	.01	.14	.29	1.15	1.35	.20	.09	.22	.12	.10		
AC-FT	654	4620	853	8430	17200	68540	80360	11660	5130	13000	7290	5990		
CAL YR 1978	TOTAL	172232.86	MEAN	472	MAX	9160	MIN	.00	CFSM	.42	IN	5.72	AC-FT	341600
WTR YR 1979	TOTAL	112788.06	MEAN	309	MAX	9630	MIN	.87	CFSM	.28	IN	3.75	AC-FT	223700

LAMINE RIVER BASIN

06908800 LAMINE RIVER NEAR BLACKWATER, MO

LOCATION.--Lat 38°56'47", long 92°56'53", in NW¼NE¼SE¼ sec.10, T.48 N., R.18 W., Cooper county, hydrologic unit 10300103 at bridge on county road 6.4 mi (10.5 km) downstream from Blackwater River.

DRAINAGE AREA.--2610 mi² (6760 km²).

PERIOD OF RECORD.--March to September 1979.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March to September 1979.

WATER TEMPERATURE: March to September 1979.

REMARKS.--Water temperature and specific conductance collected daily by observer. Number of missing days exceed 20 percent of year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHQS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
MAR 20...	3720	435	7.7	11.5	32	8.0	73	1800	9900	170	55	50
APR 19...	874	408	7.7	16.0	66	7.4	75	--	--	140	29	41
MAY 08...	965	395	7.7	18.0	26	7.2	75	500	600	170	45	48
JUN 12...	2160	260	7.5	23.0	210	4.5	52	3400	5600	100	29	31
JUL 10...	214	278	7.3	28.0	140	5.6	71	1600	1300	100	28	28
AUG 07...	--	270	7.5	31.0	120	3.0	38	450	300	93	15	27
SEP 11...	--	330	7.3	23.5	66	4.3	50	1000	300	110	13	29

LAMINE RIVER BASIN

06908800 LAMINE RIVER NEAR BLACKWATER, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
MAR 20...	11	20	5.1	140	0	21	21	.2	9.0	266	2670	2.1
APR 19...	10	18	4.2	140	0	37	28	.2	10	228	538	2.4
MAY 08...	12	17	4.1	152	0	41	23	.2	8.4	238	620	2.1
JUN 12...	6.5	9.2	5.4	92	0	27	10	.3	8.4	199	1160	3.5
JUL 10...	7.4	12	4.3	88	0	30	15	.2	8.2	174	101	3.0
AUG 07...	6.3	18	6.3	96	0	21	35	.3	8.4	152	--	1.1
SEP 11...	9.4	23	6.1	120	0	21	35	.2	8.7	200	--	.84

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
MAR 20...	.50	1.8	1.2	17	.390	.080	9.7	--	--	366	3680	99
APR 19...	.27	1.0	.70	15	.220	.080	--	--	--	133	314	43
MAY 08...	.13	.98	.67	14	.180	.090	--	9.2	2.0	--	--	--
JUN 12...	.11	2.2	1.6	25	.430	.260	18	--	--	609	3550	78
JUL 10...	.16	.99	.72	18	.330	.170	15	--	--	480	277	68
AUG 07...	.07	1.1	.70	9.7	.300	.080	--	6.9	2.3	391	--	67
SEP 11...	.11	.46	.19	5.8	.210	.060	--	--	--	403	--	60

LAMINE RIVER BASIN

06908800 LAMINE RIVER NEAR BLACKWATER, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
MAY									
08...	2	1	100	100	1	0	10	0	4
AUG									
07...	4	2	300	100	0	<1	10	0	2

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
MAY									
08...	0	2	0	1300	90	110	0	160	80
AUG									
07...	<3	5	2	5000	30	8	0	420	210

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
MAY								
08...	.4	.1	1	1	0	0	40	20
AUG								
07...	.1	.2	1	0	0	0	20	7

LAMINE RIVER BASIN

06908800 LAMINE RIVER NEAR BLACKWATER, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	350	445	520	362	400	200
2						---	322	342	560	155	390	180
3						---	355	348	625	150	362	150
4						---	375	350	600	162	360	180
5						---	400	405	670	165	360	210
6						---	402	405	660	188	300	210
7						---	425	400	675	193	295	220
8						---	410	398	650	253	260	260
9						---	470	440	265	260	300	260
10						---	400	430	280	264	300	280
11						---	320	480	277	250	310	280
12						---	186	355	315	352	335	306
13						---	178	350	305	345	380	375
14						---	215	360	372	330	420	375
15						---	242	325	380	325	420	470
16						---	300	345	400	322	445	465
17						---	338	440	440	303	420	465
18						---	370	390	410	310	445	465
19						---	388	500	480	350	445	510
20						400	428	445	515	350	370	510
21						332	405	460	520	350	470	512
22						325	347	450	620	410	700	588
23						350	385	560	630	410	440	588
24						267	385	590	640	410	460	590
25						266	378	580	640	440	350	655
26						260	420	570	600	445	560	660
27						258	435	580	600	480	500	660
28						282	437	675	640	400	520	670
29						290	470	660	630	515	380	675
30						365	450	540	370	510	460	675
31						408	---	540	---	560	440	---
MEAN						317	366	457	510	333	406	421

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	11.5	17.0	24.0	25.5	28.0	24.0
2						---	11.0	16.5	23.5	23.0	27.5	23.0
3						---	10.5	16.0	24.0	23.0	28.0	24.0
4						---	9.5	15.0	23.5	26.0	29.0	26.0
5						---	10.0	20.0	24.5	25.0	29.0	25.0
6						---	9.5	19.0	24.5	22.0	36.0	25.5
7						---	11.5	18.5	25.5	22.0	35.0	26.5
8						---	10.5	21.0	20.0	23.0	33.5	25.5
9						---	10.5	22.0	24.0	23.0	34.0	26.0
10						---	10.0	22.0	23.5	32.0	29.0	25.0
11						---	10.5	21.0	24.0	28.0	27.0	25.0
12						---	11.0	21.0	23.5	26.0	26.5	25.0
13						---	12.0	20.5	23.5	27.0	25.5	24.0
14						---	14.0	20.0	26.0	30.0	24.0	23.0
15						---	14.5	21.5	25.5	31.0	23.5	21.0
16						---	15.0	21.0	27.0	29.0	24.0	22.0
17						---	14.5	21.5	27.0	30.0	25.0	20.5
18						---	16.0	20.0	28.5	29.0	30.0	21.0
19						---	16.0	21.0	28.0	29.5	29.0	25.0
20						12.5	18.0	21.0	26.0	30.0	28.5	24.0
21						13.5	17.0	23.0	20.5	30.0	27.0	23.5
22						13.0	18.0	22.0	30.5	30.0	26.5	26.0
23						13.5	18.5	21.5	30.0	29.5	26.0	26.5
24						11.0	18.0	21.0	27.5	29.5	25.0	25.0
25						11.0	19.0	22.5	26.0	31.0	24.0	23.0
26						9.5	18.5	20.5	27.0	30.5	26.0	23.5
27						9.0	18.5	21.0	26.5	27.0	26.5	23.0
28						13.5	17.0	21.5	25.5	26.5	26.0	21.0
29						13.0	17.5	22.5	26.0	28.0	28.0	21.5
30						13.0	17.0	23.0	25.5	27.5	27.0	20.5
31						12.5	---	23.0	---	28.5	27.5	---
MEAN						12.0	14.0	20.5	25.5	27.5	28.0	24.0

LAMINE RIVER BASIN

06908800 LAMINE RIVER NEAR BLACKWATER, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	MAR 20,79 1200	MAY 8,79 1140	JUN 12,79 1100	JUL 10,79 1200	AUG 7,79 1230	SEP 11,79 1000
TOTAL CELLS/ML	2300	10000	880	2000	320	7000
DIVERSITY: DIVISION	1.6	1.2	0.9	1.1	0.7	1.1
..CLASS	1.6	1.2	0.9	1.1	0.7	1.1
..ORDER	2.3	1.5	1.1	1.1	0.7	1.2
...FAMILY	2.6	1.9	1.1	1.1	0.7	1.8
....GENUS	2.6	2.2	1.1	1.1	1.5	2.0

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
..CHLOROPHYCEAE												
...CHLOROCOCCALES												
....MICRACIINIACEAE												
.....MICRACIINIUM	--	-	140	1	--	-	--	-	--	-	220	3
....DOCYSTACEAE												
.....ANKISTRODESMUS	--	-	410	4	--	-	--	-	--	-	*	0
.....DICTYOSPHAERIUM	--	-	630	6	--	-	--	-	--	-	--	-
.....KIRCHNERIELLA	--	-	590	6	--	-	--	-	--	-	--	-
....SCENEDESMACEAE												
.....ACTINASTRUM	200	9	--	-	--	-	--	-	--	-	96	1
.....CRUCIGENIA	--	-	79	1	--	-	--	-	--	-	--	-
....SCENEDESMUS	--	-	570	6	620#	71	--	-	--	-	*	0
....TETRASTRUM	--	-	240	2	--	-	310#	15	--	-	55	1
..VOLVOCELES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	860#	38	59	1	--	-	--	-	--	-	--	-
....PHACOTACEAE												
....PTEROMONAS	--	-	*	0	--	-	--	-	--	-	--	-
CHRYSOPHYTA												
..BACILLARIOPHYCEAE												
...CENTRALES												
....COSCINODISCACEAE												
.....CYCLOTELLA	500#	22	550	5	--	-	--	-	130#	40	260	4
.....MELOSIRA	--	-	--	-	210#	24	--	-	130#	40	150	2
...PENNALES												
....CYMBELLACEAE												
.....CYMBELLA	50	2	--	-	--	-	--	-	--	-	--	-
....FRAGILARIACEAE												
.....SYNEDRA	--	-	*	0	--	-	--	-	--	-	--	-
....NAVICULACEAE												
.....NAVICULA	100	4	--	-	--	-	--	-	--	-	*	0
....NITZSCHACEAE												
.....NITZSCHIA	150	7	59	1	52	6	--	-	--	-	--	-
....SURIRELLACEAE												
.....SURIRELLA	50	2	--	-	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)												
..CRYPTOPHYCEAE												
...CRYPTOMONADALES												
....CRYPTOMONADACEAE												
.....CRYPTOMONAS	--	-	*	0	--	-	77	4	65#	20	41	1

LAMINE RIVER BASIN

06908800 LAMINE RIVER NEAR BLACKWATER, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	MAR 20,79 1200		MAY 8,79 1140		JUN 12,79 1100		JUL 10,79 1200		AUG 7,79 1230		SEP 11,79 1000	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)												
..CYANOPHYCEAE												
...CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	100	4	490	5	--	-	--	-	--	-	55	1
...HORMOGONALES												
...NOSTOCACEAE												
....APHANIZOMENON	--	-	--	-	--	-	--	-	--	-	930	13
...OSCILLATORIACEAE												
....OSCILLATORIA	--	-	6300#	62	--	-	1500#	77	--	-	4500#	64
EUGLENOPHYTA (EUGLENOIDS)												
..EUGLENOPHYCEAE												
...EUGLENALES												
...EUGLENACEAE												
....EUGLENA	--	-	--	-	--	-	--	-	--	-	110	2
....PHACUS	--	-	*	0	--	-	--	-	--	-	--	-
....TRACHELOMONAS	250	11	--	-	--	-	77	4	--	-	480	7
PYRRHOPHYTA (FIRE ALGAE)												
..DINOPHYCEAE												
...GYMNODINIALES												
...GYMNODINIACEAE												
....GYMNODINIUM	--	-	*	0	--	-	--	-	--	-	--	-
...PERIDINIALES												
...PERIDINIACEAE												
....PERIDINIUM	--	-	--	-	--	-	--	-	--	-	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

MISSOURI RIVER MAIN STEM

06909000 MISSOURI RIVER AT BOONVILLE, MO

LOCATION.--Lat 38°58'42", long 92°45'13", sec.35, T.49 N., R.17 W., Cooper County, Hydrologic Unit 10300102, on downstream side of second pier from right abutment of Missouri-Kansas-Texas Railroad Co. bridge at Boonville. River mile 196.6 (316.3 km).

DRAINAGE AREA.--501,700 mi² (1,299,000 km²), approximately.

PERIOD OF RECORD.--October 1925 to current year. Gage-height records collected at same site 1893-99 are contained in reports of Missouri River Commission; since 1900 in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 565.42 ft (172.340 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1928, nonrecording gage at site 0.4 mi (0.6 km) downstream at datum 3.14 ft (0.957 m) lower. Oct. 1, 1928, to May 9, 1931, nonrecording gage at site 50 ft (15 m) upstream from present site at present datum. May 10, 1931, to Apr. 12, 1934, water-stage recorder at site 0.4 mi (0.6 km) downstream at different datum.

REMARKS.--Records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--54 years, 58,480 ft³/s (1,656 m³/s), 42,370,000 acre-ft/yr (52,240 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 550,000 ft³/s (15,580 m³/s) July 17, 1951; maximum gage height, 32.82 ft (10.004 m) July 17, 1951; minimum discharge, about 1,800 ft³/s (51.0 m³/s) Jan. 10, 1940; minimum gage height, -0.85 ft (-0.259 m) Jan. 13, 1937.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 21, 1844, reached a stage of 32.7 ft (9.97 m) discharge, about 710,000 ft³/s (20,110 m³/s), computed by Corps of Engineers. Flood of June 6, 1903, reached a stage of 30.5 ft (9.30 m) discharge, about 612,000 ft³/s (17,330 m³/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 238,000 ft³/s (6,740 m³/s) Mar. 27, gage height, 24.38 ft (7.431 m); minimum, 14,800 ft³/s (419 m³/s) Jan. 7, gage height, 1.77 ft (0.539 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70400	63600	77500	38300	27000	92600	168000	86800	69500	95000	114000	80000
2	69800	63300	77000	37100	27000	87000	162000	87800	68900	88000	99800	68500
3	67100	63800	77700	34700	28000	105000	145000	107000	67700	80200	90200	72200
4	63800	63700	76300	32800	29000	159000	134000	143000	67700	75000	82500	83000
5	63800	63500	73200	18900	29000	220000	130000	152000	69000	71100	80900	65500
6	63100	64100	67100	16600	29000	228000	129000	136000	78400	80600	72800	55900
7	63300	65900	62500	16400	30000	195000	128000	109000	74800	86500	69700	52900
8	63000	66000	58400	18400	31000	194000	124000	92900	79700	77500	66200	56300
9	64200	66700	53700	24000	31000	200000	122000	88400	114000	73600	63100	63200
10	64000	66900	48900	24000	31000	170000	120000	87500	117000	80800	62200	62800
11	63300	67800	45500	24000	32000	147000	130000	87500	106000	88700	60200	55500
12	63400	67200	43900	24000	32000	131000	169000	96200	93800	78000	58500	52200
13	64000	68200	42500	24000	34000	124000	168000	95500	86500	74700	57800	51200
14	63000	69900	40900	25000	34000	130000	148000	95500	82900	73300	57100	49800
15	62400	72100	40800	24000	35000	129000	131000	100000	81900	69900	56500	48800
16	62100	74500	40800	25000	36000	151000	117000	94400	78100	68600	58200	47700
17	62200	77200	41200	25000	36000	127000	108000	86800	76100	78500	59300	48000
18	63500	79200	41200	25000	36000	118000	101000	84700	75100	92600	58900	49300
19	65800	89900	41000	24000	35000	132000	94900	84200	75100	83800	56200	49900
20	66100	94100	41200	23000	38000	195000	94400	82900	76100	78500	52800	51100
21	66100	83000	41900	22000	45000	216000	105000	84300	75700	76300	52900	51300
22	66600	77000	42500	21000	50000	214000	120000	83500	78900	74000	57800	50300
23	65500	72800	42100	23000	60000	210000	115000	82500	72000	71900	56100	49100
24	65400	75200	41500	25000	75000	214000	105000	80100	72000	71000	63900	48700
25	66100	75000	41600	26000	111000	222000	99400	77800	71000	72400	63400	49600
26	66000	100000	40700	30000	93600	229000	96200	76900	78000	109000	60900	49700
27	66100	100000	39900	30000	89600	236000	92400	75400	77000	118000	58000	49500
28	65900	95000	39300	30000	97000	232000	97500	74300	80000	94300	53000	49600
29	65200	88400	38600	29000	---	205000	99900	73000	80000	85000	52000	48900
30	63900	80800	37700	28000	---	181000	92000	71500	85000	92500	55100	48000
31	63500	---	37900	27000	---	174000	---	70100	---	115000	75500	---
TOTAL	2008600	2254800	1535000	795200	1261200	5367600	3645700	2847500	2407900	2574300	2025500	1658500
MEAN	64790	75160	49520	25650	45040	173100	121500	91850	80260	83040	65340	55280
MAX	70400	100000	77700	38300	111000	236000	169000	152000	117000	118000	114000	83000
MIN	62100	63300	37700	16400	27000	87000	92000	70100	67700	68600	52000	47700
CFSM	.13	.15	.10	.05	.09	.35	.24	.18	.16	.17	.13	.11
AC-FT	3984000	4472000	3045000	1577000	2502000	10650000	7231000	5648000	4776000	5106000	4018000	3290000
CAL YR 1978 TOTAL	28251100	MEAN	77400	MAX	256000	MIN	16800	CFSM	.15	AC-FT	56040000	
WTR YR 1979 TOTAL	28381800	MEAN	77760	MAX	236000	MIN	16400	CFSM	.16	AC-FT	56300000	

PERCHE CREEK BASIN

06910230 HINKSON CREEK AT COLUMBIA, MO

LOCATION.--Lat 38°55'42", long 92°20'26", in NE¼NW¼SW¼ sec.24, T.48 N., R.13 W., Boone County, Hydrologic Unit 10300102, on left bank 400 ft (122 m) downstream from bridge on State Highway 163, 0.5 mi (0.8 km) south of Columbia, and 1 mi (1.6 km) upstream from Flat Branch.

DRAINAGE AREA.--70.2 mi² (182 km²).

PERIOD OF RECORD.--October 1966 to current year. Occasional low-flow measurements, 1942, 1943, 1946, 1952, 1953, 1962, 1963.

GAGE.--Water-stage recorder. Datum of gage is 583.52 ft (177.857 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--13 years, 53.6 ft³/s (1.518 m³/s), 10.37 in/yr (263 mm/yr), 38,830 acre-ft/yr (47.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,000 ft³/s (283 m³/s) Apr. 11, 1979, gage height, 19.62 ft (5.980 m); no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,000 ft³/s (283 m³/s) at 1830 Apr. 11, gage height, 19.62 ft (5.980 m), no other peak above base of 2000 ft³/s (56.6 m³/s); no flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.30	3.3	5.0	2.0	70	28	16	3.5	3.2	51	154
2	4.4	.30	2.5	3.0	1.0	60	27	82	3.2	2.4	14	19
3	9.9	.30	8.4	3.0	1.0	60	25	262	3.2	1.7	6.6	6.6
4	4.4	.40	15	3.0	1.0	50	25	64	2.7	1.4	4.0	3.5
5	3.0	.40	7.0	3.0	1.0	50	24	36	2.4	1.3	3.0	2.2
6	2.0	4.7	4.2	3.0	.80	56	21	24	2.2	1.1	2.2	1.5
7	1.0	4.1	6.2	3.0	.80	50	19	18	2.0	.96	1.7	1.1
8	.50	2.0	2.9	3.0	.80	40	21	15	12	.84	1.3	.60
9	.10	1.0	3.3	3.0	.80	56	31	13	26	.84	1.2	.48
10	1.0	1.0	3.2	3.0	.60	105	25	10	66	.48	.84	.60
11	.50	1.0	2.6	2.0	.80	44	3180	34	12	13	.72	.48
12	.10	1.0	3.3	2.0	.80	36	1310	20	6.1	86	.48	.48
13	.10	1.6	4.7	2.0	1.0	33	180	14	5.6	10	.36	.48
14	.10	1.5	3.4	2.0	1.0	31	104	11	4.0	4.7	1.2	.48
15	.10	2.3	2.7	2.0	2.0	26	72	8.6	3.2	3.0	1.3	.48
16	.10	4.7	3.4	3.0	4.0	23	62	7.5	2.4	2.1	.36	.24
17	.10	15	2.9	3.0	6.0	23	54	7.5	2.0	1.5	.24	.24
18	.10	5.4	2.2	3.0	8.0	44	36	7.2	1.7	.96	.24	.24
19	.10	2.2	2.5	3.0	10	174	25	10	1.6	.48	.12	.36
20	.10	1.6	4.4	4.0	100	62	34	7.8	1.3	.60	.12	.36
21	.10	1.0	4.4	3.0	528	41	90	6.4	1.3	.12	.12	.48
22	.10	1.0	3.9	3.0	400	37	44	4.9	1.2	.00	72	.36
23	.10	1.0	2.8	3.0	200	353	32	4.0	1.1	.24	5.2	.24
24	.10	1.0	2.4	3.0	200	90	74	3.9	1.2	.12	2.4	.00
25	.10	3.0	1.8	2.0	100	51	70	3.5	.96	.24	1.6	.00
26	.10	60	1.0	2.0	100	42	72	3.5	.84	.00	1.5	.00
27	.10	49	1.0	2.0	80	40	41	5.6	2.4	.00	.84	.00
28	.10	17	1.0	2.0	70	43	26	5.2	46	7.8	.72	.00
29	.20	8.1	1.0	2.0	---	39	19	3.7	10	8.9	4.9	.00
30	.26	5.2	2.3	2.0	---	34	17	4.0	4.7	405	3.7	.00
31	.30	---	6.9	2.0	---	29	---	4.4	---	350	106	---
TOTAL	29.36	197.10	116.6	84.0	1821.40	1892	5788	716.7	232.80	908.98	289.96	194.50
MEAN	.95	6.57	3.76	2.71	65.1	61.0	193	23.1	7.76	29.3	9.35	6.48
MAX	9.9	60	15	5.0	528	353	3180	262	66	405	106	154
MIN	.10	.30	1.0	2.0	.60	23	17	3.5	.84	.00	.12	.00
CFSM	.01	.09	.05	.04	.93	.87	2.75	.33	.11	.42	.13	.09
IN.	.02	.10	.06	.04	.97	1.00	3.07	.38	.12	.48	.15	.10
AC-FT	58	391	231	167	3610	3750	11480	1420	462	1800	575	386
CAL YR 1978 TOTAL	13923.12			MEAN 38.1	MAX 1830	MIN .00	CFSM .54	IN 7.38	AC-FT 27620			
WTR YR 1979 TOTAL	12271.40			MEAN 33.6	MAX 3180	MIN .00	CFSM .48	IN 6.50	AC-FT 24340			

OSAGE RIVER BASIN

Q6916650 MARAIS DES CYGNES RIVER NEAR WORLAND, MO.

LOCATION.--Lat 38°13'07", long 94°36'45", in NW¼ sec.6, T.39 N., R.33 W., Bates County, Hydrologic Unit 10290102, at county road bridge on Kansas-Missouri State line and 2.2 mi (3.6 km) northwest of Worland.

DRAINAGE AREA.--3,230 mi² (8,366 km²).

PERIOD OF RECORD.--August 1962 to June 1963, October 1972 to July 1975, July 1977 to current year.

REMARKS.--Records of discharge are given for gaging station near Kansas-Missouri State line, 6.8 mi (10.9 km) upstream.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 12...	1028	29001	460	8.0	19.0	8.0	85	15	440	140
NOV 07...	1028	29001	520	8.1	13.0	8.6	81	59	40	--
DEC 05...	1028	29001	430	7.6	4.0	10.6	81	26	150	--
JAN 09...	1028	29001	560	8.0	.0	15.6	107	18	4	210
FEB 13...	1028	29001	562	7.5	.5	10.6	74	26	2	--
MAR 06...	1028	29001	280	7.6	4.5	11.4	88	50	1500	--
APR 03...	1028	29001	385	7.3	8.5	9.4	80	--	2400	--
MAY 09...	1028	29001	420	7.8	19.5	7.7	83	24	60	--
JUN 05...	1028	29001	1400	7.0	23.5	5.2	60	96	1300	--
JUL 25...	1028	29001	355	7.6	26.0	5.8	71	53	7000	150
AUG 14...	1028	29001	365	7.9	26.5	5.2	64	10	20	--
SEP 13...	1028	29001	360	7.6	23.0	6.2	71	34	140	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	ALKA- LINITY (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 12...	0	45	7.4	--	2.1	188	0	154	3.0	71
NOV 07...	--	--	--	--	--	204	0	167	2.6	--
DEC 05...	--	--	--	--	--	164	0	135	6.6	--
JAN 09...	31	63	12	32	3.7	220	0	180	3.5	60
FEB 13...	--	--	--	--	--	224	0	184	11	--
MAR 06...	--	--	--	--	--	116	0	95	4.7	--
APR 03...	--	--	--	--	--	188	0	154	15	--
MAY 09...	--	--	--	--	--	184	0	151	4.7	--
JUN 05...	--	--	--	--	--	172	0	141	28	--
JUL 25...	12	46	8.3	9.5	3.7	168	0	138	6.8	30
AUG 14...	--	--	--	--	--	184	0	151	3.7	--
SEP 13...	--	--	--	--	--	148	0	121	5.9	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CHLORO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)
OCT 12...	30	.3	301	41	<.10	.10	.160	5	3	60
NOV 07...	--	--	--	21	.10	<.10	.100	--	--	--
DEC 05...	--	--	--	17	.50	<.10	.170	--	--	--
JAN 09...	19	.3	305	14	.40	<.10	.110	1	1	23
FEB 13...	--	--	--	16	1.3	.50	.230	--	--	--
MAR 06...	--	--	--	452	3.6	.40	.620	--	--	--
APR 03...	--	--	--	--	--	--	--	--	--	--
MAY 09...	--	--	--	119	1.3	<.10	.150	--	--	--
JUN 05...	--	--	--	1080	1.8	.80	1.07	--	--	--
JUL 25...	4.4	.2	236	428	.46	<.05	.070	0	<2	15
AUG 14...	--	--	--	49	.84	<.02	.020	--	--	--
SEP 13...	--	--	--	72	.81	<.01	.160	--	--	--

[illegible]

OSAGE RIVER BASIN

06918080 OSAGE RIVER NEAR SCHELL CITY, MO.
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 38°03'20", long 94°08'44", Bates County, Hydrologic Unit 10290105, at bridge on county road.

DRAINAGE AREA.--5500 mi² (14,200 km²) approximately above gage.

PERIOD OF RECORD.--March to September 1979.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March to September 1979

WATER TEMPERATURES: March to September 1979

REMARKS.--Water temperature and specific conductance collected daily by observer. Number of missing days of record exceeded 20 percent of year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER AS (31673)	HARD- NESS (MG/L CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
MAR 06...	13700	275	7.6	5.0	360	10.2	80	1100	20000	130	44	45
APR 03...	4000	435	7.6	9.5	76	8.8	77	900	2000	200	52	64
MAY 09...	2000	435	7.7	19.5	54	7.4	80	200	180	210	66	63
JUN 05...	4200	221	6.9	23.5	1500	4.0	47	27000	--	91	22	28
JUL 25...	590	410	7.6	28.0	38	6.3	80	360	--	210	52	65
AUG 14...	356	455	7.8	26.0	24	7.0	85	30	45	220	73	70
SEP 13...	200	314	7.6	23.0	76	6.4	74	190	--	110	23	36

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
MAR 06...	5.3	7.1	3.3	110	0	41	7.1	.2	8.1	170	6290	2.7
APR 03...	9.7	14	3.4	180	0	71	12	.2	8.5	278	3000	2.0
MAY 09...	12	13	3.6	172	0	67	9.7	.2	5.1	262	1420	.79
JUN 05...	5.0	6.2	4.3	84	0	30	6.6	.3	3.7	154	1750	1.4
JUL 25...	11	13	3.8	190	0	65	8.2	.3	6.6	286	456	.66
AUG 14...	12	--	4.5	184	0	90	13	.3	9.2	297	285	.59
SEP 13...	5.7	9.5	6.2	110	0	46	7.2	.3	8.4	185	99.9	1.2

OSAGE RIVER BASIN

06918080 OSAGE RIVER NEAR SCHELL CITY, MO.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDEED TOTAL (MG/L AS C) (00689)	SEDI- MENT, DIS- CHARGE, SUS- PENDEED (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDEED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
MAR 06...	.24	2.4	.96	23	.170	.060	18	--	--	741	27400	91
APR 03...	.11	1.0	.60	13	.210	.040	8.4	--	--	248	2680	90
MAY 09...	.06	.77	.42	6.9	.170	.030	--	6.2	2.5	165	891	85
JUN 05...	.30	8.3	2.0	43	.870	.120	64	--	--	4400	49900	93
JUL 25...	.80	.64	.42	5.8	.150	.040	6.6	--	--	440	701	66
AUG 14...	.01	.55	.43	5.0	.100	.050	--	7.3	.6	230	221	64
SEP 13...	.10	.65	.35	8.2	.170	.040	9.9	--	--	191	103	74

OSAGE RIVER BASIN

06918080 OSAGE RIVER NEAR SCHELL CITY, MO.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
------	--	---	--	---	--	---	---	--	--

MAY 09...	2	1	100	0	1	1	10	10	6
AUG 14...	2	2	200	100	0	0	30	20	0

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
------	---	--	---	--	---	--	---	--	---

MAY 09...	0	2	0	4500	30	10	0	260	50
AUG 14...	0	5	2	1900	10	30	0	120	20

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
------	--	---	---	--	--	---	--	---

MAY 09...	.2	.0	1	1	0	0	40	20
AUG 14...	.0	.0	1	1	0	0	20	<3

OSAGE RIVER BASIN

06918080 OSAGE RIVER NEAR SCHELL CITY, MO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	450	484	440	270	460	325
2						---	455	457	485	285	280	216
3						---	450	444	470	290	215	205
4						---	457	418	480	330	300	181
5						---	460	458	255	358	365	181
6						---	420	396	260	310	360	205
7						285	405	420	280	250	380	220
8						322	408	418	320	250	400	---
9						350	416	421	228	225	420	223
10						372	428	430	210	235	430	249
11						390	378	435	187	260	430	254
12						415	268	460	180	250	405	272
13						342	289	490	205	280	430	278
14						420	308	520	225	330	500	278
15						432	330	460	280	365	485	298
16						435	367	495	278	380	---	304
17						445	391	500	320	420	216	308
18						440	403	510	405	362	254	320
19						380	410	480	440	370	278	345
20						350	421	480	450	400	310	354
21						345	424	330	440	405	367	352
22						---	---	360	415	400	385	354
23						---	450	372	405	405	362	360
24						312	460	400	315	410	366	362
25						---	467	420	158	430	360	366
26						335	478	430	195	420	360	372
27						358	482	440	200	350	354	370
28						375	490	450	198	203	364	373
29						405	495	480	233	300	407	375
30						420	498	490	---	480	620	380
31						439	---	460	---	350	465	---
MEAN						380	419	445	309	335	378	299

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	12.5	16.0	21.5	24.0	26.0	25.0
2						---	11.0	17.0	22.5	24.0	24.5	22.0
3						---	10.0	16.5	22.0	24.0	24.5	22.0
4						---	9.5	15.0	22.5	25.5	25.0	22.0
5						---	8.5	15.5	21.0	26.0	26.5	23.0
6						---	8.5	16.0	22.0	24.0	28.0	24.0
7						6.0	9.0	17.0	22.5	21.0	28.5	24.0
8						5.0	11.0	18.5	23.0	21.0	28.5	---
9						5.5	11.0	20.0	22.0	21.0	28.5	23.5
10						5.0	11.0	21.5	21.5	21.5	28.5	23.0
11						5.0	11.0	20.0	21.5	22.5	27.5	23.5
12						6.5	11.5	19.0	22.0	23.0	26.0	23.5
13						12.0	12.0	20.0	22.5	24.5	25.0	24.0
14						8.0	13.0	20.5	23.0	26.0	26.0	22.5
15						8.0	14.0	20.5	23.0	27.0	23.5	21.0
16						8.5	14.5	20.0	24.0	25.5	22.0	20.0
17						9.5	15.0	20.5	24.0	27.0	19.0	19.5
18						10.0	15.5	22.0	24.5	26.0	22.0	20.0
19						11.5	15.5	22.0	25.0	26.0	24.5	21.0
20						12.0	16.5	22.0	25.5	26.0	26.0	21.0
21						12.0	17.0	19.5	25.5	26.0	26.0	21.0
22						---	---	20.0	26.5	26.0	26.5	19.5
23						---	18.0	20.5	26.5	26.0	26.5	19.0
24						10.5	18.0	20.0	23.5	26.5	26.5	20.0
25						---	18.5	20.0	22.0	26.0	26.5	20.5
26						9.0	17.5	20.5	23.0	27.0	26.0	21.0
27						9.0	17.5	21.0	23.5	26.0	25.5	21.0
28						9.0	16.5	21.5	24.0	26.0	26.0	21.0
29						11.5	17.0	22.0	24.0	26.0	26.0	21.0
30						13.0	17.0	22.0	---	27.0	26.0	21.0
31						13.0	---	22.5	---	27.0	25.0	---
MEAN						9.0	13.5	19.5	23.0	25.0	25.5	21.5

OSAGE RIVER BASIN

06918080 OSAGE RIVER NEAR SCHELL CITY, MO.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	MAR 6,79 1330	MAY 9,79 0830	JUN 5,79 1630	JUL 25,79 1430	AUG 14,79 1400	SEP 13,79 1100				
TOTAL CELLS/ML	1700	3800	0	410	3100	950				
DIVERSITY: DIVISION	0.6	1.1	0.0	1.9	2.1	1.4				
..CLASS	0.6	1.1	0.0	1.9	2.1	1.4				
..ORDER	1.2	1.5	0.0	1.9	2.6	2.3				
...FAMILY	1.2	2.7	0.0	1.9	3.1	2.6				
....GENUS	1.2	0.0	0.0	1.9	3.9	3.2				
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....CHARACIACEAE										
....SCHROEDERIA	--	-	--	-	--	-	16	1	--	-
....COELASTRACEAE										
....COELASTRUM	--	-	570	15	--	-	--	-	--	-
....MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	--	-	--	-	--	-
....MICRACTINIUM	--	-	340	9	--	-	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	220	13	320	8	--	-	96	3	14	2
....CHODATELLA	--	-	110	3	--	-	16	1	--	-
....DICTYOSPHAERIUM	--	-	360	9	--	-	460	15	57	6
....FRANCEIA	--	-	36	1	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	71	2	--	-	64	2	14	2
....OOCYSTIS	--	-	180	5	--	-	--	-	--	-
...SCENEDESMACEAE										
....CRUCIGENIA	--	-	--	-	--	-	64	2	--	-
....SCENEDESMUS	--	-	390	10	--	-	430	14	110	12
....TETRASTRUM	--	-	71	2	--	-	64	2	57	6
...VOLVOCALES										
...CHLAMYDOMONADACEAE			200	5	--	-	--	-	--	-
....CHLAMYDOMONAS	--	-	71	2	--	-	16	1	100	11
...PHACOTACEAE										
....PTEROMONAS	--	-	--	-	--	-	--	-	14	2
CHRYSTOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
....COSCINODISCAEAE										
....CYCLOTELLA	--	-	500	13	--	-	240	8	57	6
....MELOSIRA	--	-	360	9	--	-	80	3	230#	24
...PENNALES										
....NAVICULACEAE										
....DIPLONEIS	--	-	--	-	--	-	16	1	--	-
....NAVICULA	--	-	*	0	--	-	--	-	--	-
....NITZSCHIAEAE										
....NITZSCHIA	--	-	--	-	--	-	250	8	190#	20
...XANTHOPHYCEAE										
...HETEROCOCCALES										
...CENTRITRACTACEAE										
....CENTRITRACTUS	--	-	--	-	--	-	16	1	--	-

OSAGE RIVER BASIN

06918080 OSAGE RIVER NEAR SCHELL CITY, MO.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	MAR 6,79 1330	MAY 9,79 0830	JUN 5,79 1630	JUL 25,79 1430	AUG 14,79 1400	SEP 13,79 1100
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOMONADACEAE						
.....CRYPTOMONAS	--	-	36	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
....CHROOCOCCACEAE						
.....AGMENELLUM	--	-	--	-	--	-
.....ANACYSTIS	290#	17	210	6	--	-
...HORMOGONALES						
....OSCILLATORIA						
.....LYNGBYA	--	-	--	-	--	-
.....OSCILLATORIA	1200#	70	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENA	--	-	--	-	--	-
.....LEPOCINCLIS	--	-	--	-	--	-
.....PHACUS	--	-	--	-	--	-
.....TRACHELOMONAS	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...PERIDINIALES						
....GLENODINTACEAE						
.....GLENODINIUM	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

PERIPHYTON

Date	Length of Exposure (days)	Biomass (mg/m ²) Dry weight (00573)	Ash weight (00572)	Chlorophyll a (mg/m ²) (70957)	Chlorophyll b (mg/m ²) (70958)	Sampling method
Aug. 14 1979	20	.160	.160	.000	.000	Polyethylene Strip

OSAGE RIVER BASIN

06918440 SAC RIVER NEAR DADEVILLE, MO

LOCATION.--Lat 37°26'35", long 93°41'05", in NE¼NE¼NW¼ sec.9, T.31 N., R.25 W., Dade County, Hydrologic Unit 10290106, on downstream side of bridge on State Highway 245, 2 mi (3.2 km) upstream from Cave Spring Branch and 2 mi (3.2 km) south of Dadeville.

DRAINAGE AREA.--257 mi² (666 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1966 to current year. Annual maximum, water years 1965-66.

GAGE.--Water-stage recorder. Datum of gage is 869.78 ft (265.109 m) National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission). Prior to June 1966, crest-stage gage at same site and datum.

REMARKS.--Water-discharge records good except during periods of no gage-height record which are fair. Several observations of water temperature were made during the year. No maximum and minimum daily water temperature available this year.

AVERAGE DISCHARGE.--13 years, 229 ft³/s (6.485 m³/s), 12.10 in/yr (307 mm/yr), 165,900 acre-ft/yr (205 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,030 ft³/s (227 m³/s) Nov. 1, 1972, gage height, 20.63 ft (6.288 m) from floodmark; minimum discharge, 8.4 ft³/s (0.238 m³/s) June 14, 1977; minimum gage height, 4.34 ft (1.323 m) Aug. 21, 1972.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Apr. 12	0830	3,120	88.4	13.36	4.072
May 20	2330	*7,310	207	*19.77	6.026
June 24	Unknown	5,000	142	Unknown	

Minimum discharge, 16 ft³/s (0.45 m³/s) Oct. 1, 2, gage height, 4.59 ft (1.399 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	17	117	50	100	533	386	260	196	730	194	75
2	16	19	104	50	90	505	543	245	179	788	159	142
3	17	19	102	50	90	638	471	525	175	529	138	173
4	19	19	112	50	90	703	449	1250	175	430	123	118
5	18	19	113	50	90	595	422	1000	362	375	111	106
6	17	19	103	50	90	520	382	807	339	344	103	95
7	17	19	107	50	80	466	357	690	533	316	96	83
8	17	19	92	50	80	420	344	604	854	294	91	75
9	17	19	84	50	80	385	330	544	543	273	87	69
10	17	19	83	47	80	352	314	498	511	251	83	65
11	18	19	73	48	80	324	1300	477	500	232	98	60
12	18	19	70	48	80	307	2520	436	450	217	89	57
13	18	20	66	50	100	290	1270	374	400	202	81	55
14	17	20	68	50	200	272	918	325	350	189	77	51
15	17	40	72	50	300	256	727	289	320	179	77	48
16	17	50	74	50	500	244	601	256	300	168	75	47
17	17	60	74	50	500	237	517	226	280	162	72	45
18	17	54	75	50	500	236	455	202	260	155	68	44
19	17	50	76	60	450	279	408	194	250	144	65	43
20	17	46	78	100	600	293	367	2410	240	135	62	41
21	17	42	76	170	863	290	426	3780	220	130	62	41
22	17	38	74	140	993	312	345	1200	210	122	59	40
23	17	37	72	130	1080	530	314	897	1000	120	57	38
24	17	37	70	140	765	592	300	703	2500	117	54	37
25	17	37	66	140	613	549	292	566	700	113	51	34
26	17	60	62	130	509	493	571	462	500	110	52	33
27	17	180	60	120	448	441	440	433	388	112	72	31
28	17	160	58	110	465	407	363	368	377	248	118	30
29	17	150	56	110	---	379	319	299	553	153	66	29
30	17	128	58	100	---	358	285	253	427	121	61	29
31	17	---	60	100	---	331	---	222	---	139	62	---
TOTAL	531	1435	2455	2443	9916	12537	16736	20795	14092	7598	2663	1834
MEAN	17.1	47.8	79.2	78.8	354	404	558	671	470	245	85.9	61.1
MAX	19	180	117	170	1080	703	2520	3780	2500	788	194	173
MIN	16	17	56	47	80	236	285	194	175	110	51	29
CFSM	.07	.19	.31	.31	1.38	1.57	2.17	2.61	1.83	.95	.33	.24
IN.	.08	.21	.36	.35	1.44	1.81	2.42	3.01	2.04	1.10	.39	.27
AC-FT	1050	2850	4870	4850	19670	24870	33200	41250	27950	15070	5280	3640
CAL YR 1978	TOTAL	65076	MEAN 178	MAX 3010	MIN 16	CFSM .69	IN 9.42	AC-FT 129100				
WTR YR 1979	TOTAL	93035	MEAN 255	MAX 3780	MIN 16	CFSM .99	IN 13.47	AC-FT 184500				

OSAGE RIVER BASIN

06918460 TURNBACK CREEK ABOVE GREENFIELD, MO

LOCATION.--Lat 37°24'09", long 93°48'06", on line between secs. 21 and 28, T.31 N., R.26 W., Dade County, Hydrologic Unit 10290106, on downstream side of left pier of bridge on State Highway O, 1.5 mi (2.4 km) downstream from Limestone Creek, and 2 mi (3.2 km) southeast of Greenfield.

DRAINAGE AREA.--252 mi² (653 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 870.34 ft (265.280 m) National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission).

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--14 years, 248 ft³/s (7.023 m³/s), 13.36 in/yr (339 mm/yr), 179,700 acre-ft/yr (222 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,100 ft³/s (654 m³/s) Nov. 1, 1972, gage height, 24.45 ft (7.452 m) from floodmark; minimum, 13 ft³/s (0.37 m³/s) Aug. 21, 1972; minimum gage height, 5.15 ft (1.570 m) Nov. 19, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Apr. 11	1945	3,600 102	13.70 4.176
May 20	1945	*11,200 317	*19.29 5.880
June 23	2045	8,530 242	18.05 5.502

Minimum discharge, 21 ft³/s (0.59 m³/s) Oct. 22, gage height, 5.84 ft (1.780 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	23	105	60	100	503	417	379	277	459	270	73
2	25	23	97	50	100	466	473	365	262	439	195	392
3	26	23	92	50	90	729	424	594	254	385	168	218
4	29	23	89	50	90	730	410	1470	237	345	149	147
5	26	23	86	50	90	622	385	1110	553	313	136	123
6	23	23	80	40	90	540	352	893	399	293	124	108
7	22	24	85	40	90	484	330	733	811	279	116	97
8	23	24	77	40	80	432	319	620	1410	264	110	89
9	23	23	71	40	80	394	307	536	754	245	104	83
10	23	23	69	40	80	359	294	476	604	229	100	77
11	24	23	65	42	80	327	1570	445	506	214	125	73
12	25	23	64	40	80	302	2050	404	440	201	109	69
13	23	26	67	40	100	282	1160	366	396	188	98	67
14	22	32	71	40	200	262	890	336	354	177	92	63
15	22	53	76	40	443	246	727	313	320	167	88	60
16	22	59	77	40	530	233	628	293	296	161	87	57
17	22	79	78	40	530	226	550	274	275	157	82	55
18	22	76	78	40	523	230	488	260	260	150	79	53
19	22	62	81	70	463	325	447	252	245	140	75	51
20	22	54	84	142	494	310	416	3800	230	134	74	50
21	22	47	82	200	860	304	637	2950	217	127	73	49
22	22	45	79	150	871	338	450	1050	206	122	71	48
23	23	43	76	140	871	712	405	773	2480	118	67	45
24	24	41	74	150	657	564	384	620	2250	115	63	43
25	24	41	71	150	542	506	378	520	759	113	61	43
26	23	143	68	140	465	459	921	456	555	116	63	42
27	23	222	64	130	419	417	602	440	449	112	74	40
28	23	150	61	120	472	386	516	384	465	450	75	38
29	23	130	60	120	---	363	458	348	687	211	73	36
30	23	116	61	110	---	338	413	320	488	166	67	35
31	23	---	68	100	---	313	---	296	---	198	64	---
TOTAL	725	1697	2356	2504	9490	12702	17801	22076	17439	6788	3132	2424
MEAN	23.4	56.6	76.0	80.8	339	410	593	712	581	219	101	80.8
MAX	29	222	105	200	871	730	2050	3800	2480	459	270	392
MIN	22	23	60	40	80	226	294	252	206	112	61	35
CFSM	.09	.23	.30	.32	1.35	1.63	2.35	2.83	2.31	.87	.40	.32
IN.	.11	.25	.35	.37	1.40	1.88	2.63	3.26	2.57	1.00	.46	.36
AC-FT	1440	3370	4670	4970	18820	25190	35310	43790	34590	13460	6210	4810

CAL YR 1978	TOTAL	79107	MEAN	217	MAX	3190	MIN	22	CFSM	.86	IN	11.68	AC-FT	156900
WTR YR 1979	TOTAL	99134	MEAN	272	MAX	3800	MIN	22	CFSM	1.08	IN	14.63	AC-FT	196600

OSAGE RIVER BASIN

06918740 LITTLE SAC RIVER NEAR MORRISVILLE, MO

LOCATION.--Lat 37°28'58", long 93°29'07", SW¼SW¼ sec.20, T.32 N., R.23 W., Polk County, Hydrologic Unit 10290106, on downstream side of center pier of Hamilton Bridge on State Highway 215, 0.7 mi (1.1 km) upstream from Slagle Creek and 3 mi (4.8 km) west of Morrisville.

DRAINAGE AREA.--237 mi² (614 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 881 ft (268.5 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except during periods of no gage-height record which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--11 years, 230 ft³/s (6.514 m³/s), 13.18 in/yr (335 mm/yr), 166,600 acre-ft/yr (205 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,200 ft³/s (374 m³/s) Nov. 1, 1972, gage height, 21.95 ft (6.690 m) from rating curve extended above 4,000 ft³/s (113 m³/s); minimum, 3.2 ft³/s (0.091 m³/s) Aug. 21, 1972; minimum gage height, 2.04 ft (0.622 m) June 10, 11; 12, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Apr. 11	2100	7,340 208	15.18 4.627	June 23	Unknown	5,000 142	Unknown
May 4	0200	3,420 96.9	9.79 2.984	July 1	1530	*7,700 218	*15.63 4.764
May 20	1715	7,440 211	15.31 4.666				

Minimum discharge, 12 ft³/s (0.340 m³/s) Oct. 10, gage height, 2.27 ft (0.692 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	18	211	100	130	746	681	246	170	3180	184	50
2	17	18	186	90	120	572	769	234	160	1770	157	150
3	15	19	224	90	120	774	517	1080	150	738	114	100
4	14	19	295	90	120	724	446	2440	140	436	86	90
5	15	19	242	90	120	535	390	1260	330	323	68	80
6	14	18	206	80	110	447	336	810	300	298	57	70
7	13	19	193	80	110	388	301	587	500	267	51	60
8	13	18	166	80	110	349	295	455	1000	254	46	50
9	13	18	146	80	110	320	301	379	700	239	42	45
10	13	18	132	83	110	292	277	334	500	298	40	40
11	70	18	121	80	105	269	3430	384	450	236	60	38
12	127	18	116	80	101	254	3000	387	400	197	54	36
13	65	20	119	80	138	239	1280	324	350	164	50	34
14	50	27	116	80	196	225	846	292	300	139	48	32
15	43	92	114	80	784	204	618	269	270	116	46	30
16	36	161	109	80	743	181	488	244	250	100	44	28
17	31	329	101	80	440	168	408	211	230	284	42	26
18	28	226	98	80	328	168	354	191	220	334	40	26
19	26	158	101	100	278	361	318	208	210	222	38	26
20	24	123	102	391	367	337	297	4340	200	155	36	25
21	23	98	98	336	1170	290	368	2160	190	116	36	24
22	21	85	91	227	1620	300	316	887	180	88	34	24
23	21	78	88	209	1510	976	283	568	3000	76	34	22
24	21	69	86	213	985	910	276	414	1000	67	32	21
25	21	67	80	215	698	610	274	338	600	60	30	19
26	20	935	78	189	531	450	456	287	300	54	30	18
27	19	794	75	184	440	370	388	262	124	51	35	17
28	19	420	75	173	618	323	330	234	132	85	50	17
29	18	301	78	160	---	295	294	214	181	100	40	16
30	18	246	115	150	---	274	267	186	139	87	36	16
31	17	---	155	140	---	246	---	180	---	80	34	---
TOTAL	862	4449	4117	4190	12212	12597	18604	20405	12676	10614	1694	1230
MEAN	27.8	148	133	135	436	406	620	658	423	342	54.6	41.0
MAX	127	935	295	391	1620	976	3430	4340	3000	3180	184	150
MIN	13	18	75	80	101	168	267	180	124	51	30	16
CFSM	.12	.62	.56	.57	1.84	1.71	2.62	2.78	1.79	1.44	.23	.17
IN.	.14	.70	.65	.66	1.92	1.98	2.92	3.20	1.99	1.67	.27	.19
AC-FT	1710	8820	8170	8310	24220	24990	36900	40470	25140	21050	3360	2440

CAL YR 1978	TOTAL	68050.9	MEAN 186	MAX 5040	MIN 9.1	CFSM .79	IN 10.68	AC-FT 135000
WTR YR 1979	TOTAL	103650.0	MEAN 284	MAX 4340	MIN 13	CFSM 1.20	IN 16.27	AC-FT 205600

OSAGE RIVER BASIN

06918990 STOCKTON LAKE NEAR STOCKTON, MO

LOCATION.--Lat 37°41'38", long 93°45'55", SW¼SE¼SW¼ sec.10, T.34 N., R.26 W., Cedar County, Hydrologic Unit 10290106, in power house at dam on Sac River, 2 mi (3.2 km) east of Stockton.

DRAINAGE AREA.--1,160 mi² (3,004 km²).

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Nonrecording gage prior to May 30, 1973. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Lake is formed by a rock shell earth-fill dam (crest elevation, 911 ft or 277.7 m). Spillway is equipped with 4 tainter gates, 40 ft (12.2 m) by 30.5 ft (9.30 m), crest elevation, 861.5 ft or (262.59 m). Embankment closed and river diverted on Sept. 23, 1968. Gates closed and storage began on Dec. 12, 1969; minimum power elevation 830.0 ft (252.98 m) reached on May 1, 1970. Gross storage at top of flood control pool is 1,666,659 acre-ft (2,055 hm³) at elevation 892 ft (271.88 m), of which 779,550 acre-ft (961 hm³) between elevations 867 ft (264.3 m) and 892 ft (271.9 m) is used for flood control, and 887,109 acre-ft (1,093 hm³) between elevations 760 ft (231.6 m) and 867 ft (264.3 m) is used for multipurpose and power. Sedimentation reserve is 25,000 acre-ft (30.8 hm³). Lake is used for flood control, power, and recreational purposes.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,450,000 acre-ft (1,790 hm³) Apr. 28, 1973, elevation, 885.94 ft (270.034 m); minimum, since initial filling to minimum power pool level, 352,000 acre-ft (434 hm³) Aug. 27 to Sept. 4, 1970, elevation, 839.60 ft (255.910 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,140,000 acre-ft (1,410 hm³) May 21, 22; maximum elevation, 876.14 ft (267.047 m) May 21; minimum contents, 721,000 acre-ft (889 hm³) Nov. 11-14; minimum elevation, 859.88 ft (262.091 m) Nov. 14.

Capacity table (elevation, in feet NGVD, and contents, in acre-ft)

859	701,700	870	963,400
862	768,300	875	1,100,000
866	862,500	877	1,158,000

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	766000	722000	745000	759000	773000	848000	937000	1070000	1070000	1000000	916000	880000
2	766000	722000	747000	760000	774000	854000	940000	1080000	1060000	1010000	917000	893000
3	761000	722000	748000	759000	774000	862000	943000	1090000	1050000	1000000	918000	893000
4	756000	722000	749000	760000	774000	875000	945000	1110000	1040000	1000000	918000	897000
5	752000	722000	750000	760000	775000	875000	947000	1110000	1030000	996000	918000	895000
6	751000	722000	750000	761000	775000	875000	949000	1120000	1030000	992000	917000	892000
7	749000	722000	752000	761000	774000	876000	951000	1120000	1020000	986000	915000	890000
8	749000	722000	752000	761000	774000	878000	954000	1130000	1020000	980000	912000	890000
9	749000	722000	753000	760000	774000	881000	956000	1130000	1030000	975000	908000	890000
10	747000	722000	753000	759000	774000	887000	958000	1130000	1030000	970000	906000	887000
11	747000	721000	753000	759000	774000	889000	976000	1120000	1020000	972000	906000	883000
12	747000	721000	754000	760000	774000	889000	998000	1120000	1020000	971000	906000	880000
13	745000	721000	754000	759000	773000	891000	1000000	1110000	1010000	963000	902000	880000
14	743000	721000	755000	761000	773000	893000	1010000	1110000	1010000	961000	898000	877000
15	743000	723000	755000	761000	775000	894000	1020000	1110000	1000000	956000	896000	877000
16	743000	725000	754000	759000	781000	892000	1020000	1100000	996000	955000	894000	877000
17	740000	726000	755000	758000	782000	891000	1020000	1100000	996000	952000	891000	875000
18	738000	728000	756000	758000	784000	892000	1020000	1110000	993000	950000	891000	873000
19	736000	728000	754000	759000	786000	895000	1020000	1090000	990000	945000	891000	871000
20	733000	728000	755000	761000	791000	898000	1030000	1120000	987000	941000	889000	871000
21	731000	728000	756000	761000	803000	899000	1030000	1140000	979000	938000	886000	868000
22	731000	729000	756000	765000	813000	902000	1040000	1140000	972000	939000	883000	868000
23	731000	729000	756000	766000	830000	906000	1040000	1130000	985000	934000	881000	868000
24	728000	729000	757000	768000	836000	911000	1040000	1130000	993000	931000	879000	865000
25	724000	729000	757000	769000	843000	915000	1040000	1120000	992000	929000	879000	861000
26	724000	730000	757000	770000	843000	919000	1050000	1110000	987000	925000	879000	858000
27	724000	738000	758000	774000	845000	923000	1060000	1110000	981000	922000	878000	854000
28	724000	741000	758000	776000	844000	927000	1060000	1100000	979000	924000	881000	851000
29	724000	743000	759000	776000	---	930000	1070000	1090000	975000	925000	879000	851000
30	723000	744000	759000	774000	---	931000	1070000	1090000	978000	921000	876000	851000
31	723000	---	759000	774000	---	932000	---	1080000	---	920000	882000	---
(+)	859.97	860.93	861.59	862.24	865.25	868.79	873.90	874.17	870.55	868.30	866.80	865.53
(#)	-4.30	+21.0	+15.0	+15.0	+70.0	+88.0	+138.0	+10.0	-102.0	-58.0	-38.0	-31.0
MAX	766000	744000	759000	776000	845000	932000	1070000	1140000	1070000	1010000	918000	897000
MIN	723000	721000	745000	758000	773000	848000	937000	1070000	972000	920000	876000	851000
CAL YR 1978.....†	-13.0											
WTR YR 1979.....†	+85.0											

(+) Elevation, in feet NGVD, at end of month.

(#) Change in contents, in thousands of acre-feet.

OSAGE RIVER BASIN

06919000 SAC RIVER NEAR STOCKTON, MO

LOCATION.--Lat 37°41'51", long 93°45'43", in SE¼NW¼SE¼ sec.10, T.34 N., R.26 W., Cedar County, Hydrologic Unit 10290106, on left bank 0.5 mi (0.8 km) upstream from bridge on State Highway 32, 0.5 mi (0.8 km) downstream from Stockton Dam, 2.0 mi (3.2 km) upstream from Bear Creek, 2.0 mi (3.2 km) east of Stockton, and at mile 49.5 (79.6 km).

DRAINAGE AREA.--1,160 mi² (3,000 km²), approximately.

PERIOD OF RECORD.--July 1921 to current year.

REVISED RECORDS.--WSP 926: 1940.

GAGE.--Water-stage recorder. Datum of gage is 764.12 ft (232.904 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1973, all previous gages at site 0.5 mi (0.8 km) downstream and at present datum. Prior to May 4, 1960, nonrecording gage.

REMARKS.--Records poor. Several observations of water temperature were made during the year. Flow regulated by Stockton Lake since Dec. 12, 1969.

AVERAGE DISCHARGE.--58 years, 971 ft³/s (27.50 m³/s), 703,500 acre-ft/yr (867 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120,000 ft³/s (3,400 m³/s) May 19, 1943, gage height, 31.8 ft (9.693 m); no flow Sept. 9-23, 1954, Oct. 14, 17-20, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1943, 29.3 ft (8.93 m) in July 1909.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 5,210 ft³/s (148 m³/s) May 30, June 3, 4; minimum measured, 14 ft³/s (0.40 m³/s) Oct. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	25	46	78	72	80	100	153	5200	1220	2070	50
2	2450	43	43	700	700	876	800	100	5180	2320	152	50
3	2530	43	46	54	75	100	123	100	5210	3460	48	50
4	2670	43	40	54	75	80	679	100	5210	3440	56	1290
5	114	46	43	57	72	2220	78	100	5200	3400	53	1460
6	802	54	49	54	1000	1870	55	100	5180	3580	686	1540
7	40	43	52	54	800	1100	42	1590	5190	3590	1270	1520
8	37	37	49	900	800	163	48	1340	4400	3610	1320	105
9	1090	40	43	600	700	150	53	1540	100	3600	1830	54
10	1130	43	40	63	100	135	1970	2910	70	3410	1300	1460
11	1100	43	43	60	80	120	1400	3090	1880	209	67	1520
12	1050	46	40	60	800	117	1000	3480	4130	1230	54	1780
13	1000	49	46	60	800	108	2610	3450	3120	3500	1810	99
14	80	52	40	66	78	983	388	3460	3500	2000	1250	842
15	40	52	854	800	70	2380	276	2870	3550	2000	1250	76
16	800	52	129	700	70	1600	2170	2420	3590	1800	1260	50
17	1100	49	49	75	70	84	1170	3040	161	2000	1270	1050
18	800	43	1010	75	70	78	224	3120	1910	2000	111	1090
19	900	40	57	420	70	286	126	3020	1520	2010	65	870
20	1000	37	57	147	70	126	126	1300	1800	2290	1470	451
21	400	37	63	132	70	102	172	3100	3820	2090	1810	1350
22	50	43	69	371	70	105	120	5020	3820	139	1260	91
23	1200	43	63	549	70	100	102	4980	3680	1950	776	41
24	2000	46	66	117	70	100	96	5080	3520	2040	1050	1610
25	200	52	60	69	70	100	99	5120	1990	2050	102	1680
26	14	50	63	81	1770	100	60	3210	3810	2070	54	1610
27	40	50	60	60	1740	100	60	1720	3760	2070	823	1970
28	40	50	60	60	100	99	262	5160	3720	135	1020	1370
29	50	52	472	1600	---	1080	208	5160	3610	39	2020	93
30	69	49	75	900	---	1400	179	5210	187	2220	1580	50
31	50	---	81	800	---	99	---	5180	---	2060	1490	---
TOTAL	22883	1352	3908	9816	10532	16041	14796	86223	98018	67532	29377	25272
MEAN	738	45.1	126	317	376	517	493	2781	3267	2178	948	842
MAX	2670	54	1010	1600	1770	2380	2610	5210	5210	3610	2070	1970
MIN	14	25	40	54	70	78	42	100	70	39	48	41
CFSM	.64	.04	.11	.27	.32	.45	.43	2.40	2.82	1.88	.82	.73
AC-FT	45390	2680	7750	19470	20890	31820	29350	171000	194400	133900	58270	50130
CAL YR 1978 TOTAL	276543			758	5500	MIN 14	CFSM .65	AC-FT	548500			
WTR YR 1979 TOTAL	385750			1057	5210	MIN 14	CFSM .91	AC-FT	765100			

OSAGE RIVER BASIN

06919020 SAC RIVER AT HIGHWAY J BELOW STOCKTON, MO

LOCATION.--Lat 37°44'11", long 93°46'26", NW¼ sec.3, T.34 N., R.26 W., Cedar County, Hydrologic Unit 10290106, on right bank 500 ft (152.4 m) upstream from bridge on State Highway J, 4.5 mi (7.2 km) downstream from Bear Creek, 6.3 mi (10.1 km) downstream from Stockton Lake, 3 mi (4.8 km) north of Stockton and at mile 44.9 (72.2 km).

DRAINAGE AREA.--1,292 mi² (3,346 km²) approximately.

PERIOD OF RECORD.--October 1973 to current year. Occasional discharge measurements in water year 1973.

GAGE.--Water-stage recorder. Datum of gage is 750.19 ft (228.658 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Several observations of water temperature were made during the year. Mostly regulated by Stockton Lake.

AVERAGE DISCHARGE.--6 years, 1102 ft³/s (31.21 m³/s), 798,400 acre-ft/yr (984 hm³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum observed discharge, 7,720 ft³/s (219 m³/s) Nov. 11, 1972, gage height, 21.20 ft (6.462 m); minimum, 24 ft³/s (0.68 m³/s) Mar. 25, 26, 1977, gage height, 4.76 ft (1.451 m).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 5,280 ft³/s (150 m³/s) June 2, 4, 5, 7; minimum daily, 47 ft³/s (1.33 m³/s) Nov. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN.	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	52	81	99	143	406	213	194	5240	1530	2090	816
2	1760	47	76	747	767	934	1300	248	5280	3150	545	1530
3	2240	49	74	77	127	481	226	1470	5270	3630	129	364
4	2380	50	69	70	124	573	934	1500	5280	3650	116	1200
5	522	50	65	70	133	1850	278	684	5280	3620	108	1470
6	697	52	63	72	1050	1510	176	417	5260	3630	439	1720
7	77	51	69	72	788	1070	164	1400	5280	3810	1270	1640
8	54	50	65	893	792	241	164	1300	3790	3800	1380	328
9	986	49	61	632	687	215	170	1500	294	3780	1720	124
10	726	48	57	77	116	198	1320	2600	255	3680	1470	1370
11	1060	49	56	72	112	181	3010	2900	3270	550	223	1610
12	1020	48	56	74	782	171	2070	3500	3800	785	95	1680
13	1020	51	58	77	828	163	2120	3400	3490	3750	1590	291
14	80	55	58	94	141	719	1500	3300	3670	2090	1350	704
15	51	68	745	875	328	1810	500	2900	3720	2060	1330	201
16	852	69	377	782	647	1650	1680	2600	3700	2020	1330	101
17	1090	76	72	101	398	164	1260	1050	272	2060	1330	867
18	908	71	1080	91	242	145	282	2730	2210	2080	323	808
19	1060	63	106	379	191	307	210	3500	1960	2170	92	894
20	1040	58	102	248	291	207	201	2970	2070	2290	1310	411
21	519	55	108	251	1060	174	271	5020	3910	2180	1810	1200
22	58	54	100	352	950	179	210	5150	3920	483	1280	305
23	1420	54	94	576	825	544	186	5140	4110	1670	965	83
24	2160	52	90	212	412	356	181	5230	3910	2030	990	992
25	278	55	86	167	309	282	178	5230	2380	2050	320	1480
26	51	272	83	154	1590	240	1200	1650	3930	2100	89	1520
27	58	326	79	141	1770	212	425	3950	3950	2090	662	2060
28	61	138	77	138	406	194	312	5230	3910	503	1170	1380
29	60	103	441	1700	---	904	255	5260	3820	129	1810	290
30	58	90	95	948	---	1200	220	5270	538	1920	1850	85
31	59	---	95	820	---	194	---	5260	---	2080	1800	---
TOTAL	22463	2305	4738	11061	16009	17474	21216	92553	103769	71370	30956	27524
MEAN	725	76.8	153	357	572	564	707	2986	3459	2302	999	917
MAX	2380	326	1080	1700	1770	1850	3010	5270	5280	3810	2090	2060
MIN	51	47	56	70	112	145	164	194	255	129	89	83
CFSM	.56	.06	.12	.28	.44	.44	.55	2.31	2.68	1.78	.77	.71
AC-FT	44560	4570	9400	21940	31750	34660	42080	183600	205800	141600	61400	54590
CAL YR 1978 TOTAL	319000	MEAN	874	MAX	6130	MIN 44	CFSM .68	AC-FT	632700			
WTR YR 1979 TOTAL	421438	MEAN	1155	MAX	5280	MIN 47	CFSM .89	AC-FT	835900			

OSAGE RIVER BASIN

06919500 CEDAR CREEK NEAR PLEASANT VIEW, MO

LOCATION.--Lat 37°50'03", long 93°52'31", in NE¼ sec.2, T.35 N., R.27 W., Cedar County, Hydrologic Unit 10290106, on-downstream side of right pier of bridge on State Highway 39, 1.5 mi (2.4 km) north of Pleasant View, 1.8 mi (2.9 km) downstream from Alder Creek, and 5.8 mi (9.3 km) upstream from mouth.

DRAINAGE AREA.--420 mi² (1,090 km²), approximately.

PERIOD OF RECORD.--April 1923 to September 1926, October 1948 to current year.

REVISED RECORDS.--WSP 1146: 1923-26, drainage area. WSP 1176: 1924(M).

GAGE.--Water-stage recorder. Datum of gage is 739.5 ft (225.40 m) National Geodetic Vertical Datum of 1929. Apr. 22, 1923, to Sept. 30, 1926, and Oct. 1, 1948, to May 10, 1950, nonrecording gage at site 50 ft (15 m) downstream at same datum. May 11, 1950 to Dec. 17, 1952, nonrecording gage, at present site and datum.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--34 years, 296 ft³/s (8.383 m³/s), 9.57 in/yr (243 mm/yr), 214,500 acre-ft/yr (264 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,900 ft³/s (960 m³/s) July 17, 1958, gage height, 27.35 ft (8.336 m); no flow at times in 1953-54, 1956, 1959-61, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 27.7 ft (8.44 m) July 20, 1909, from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s (99.1 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Apr. 12	1045	*8210	233	*20.81	6.343	June 24	1500	4960	140	17.55	5.349
May 4	1630	3580	101	14.93	4.551	Sept. 3	0700	6750	191	19.74	6.017
May 20	1815	5490	155	18.32	5.584						

Minimum discharge, 0.20 ft³/s (0.006 m³/s) Nov. 2, 3, 4, 5, 6, gage height, 2.91 ft (0.887 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	.23	50	20	96	1140	151	127	127	1150	28	1420
2	1.4	.23	37	18	97	806	195	148	107	1270	29	3880
3	1.3	.23	31	15	93	793	219	2180	95	497	27	5520
4	1.1	.23	25	13	84	1330	190	3220	86	352	23	835
5	.92	.20	21	12	75	796	167	2090	277	299	21	367
6	.75	.23	17	11	72	470	148	898	451	674	18	257
7	.66	.26	17	11	70	366	127	589	236	1030	15	194
8	.60	.26	15	10	65	301	118	421	673	564	14	152
9	.60	.26	13	9.9	55	263	113	314	1030	403	13	125
10	.60	.23	12	9.8	54	231	109	255	1200	308	12	102
11	1.7	.23	10	10	52	203	3300	559	932	247	51	82
12	1.1	.23	9.6	11	57	180	7210	504	476	203	30	68
13	1.0	.35	9.6	12	62	161	3410	340	320	176	40	57
14	.88	.82	11	12	79	140	816	251	269	143	31	46
15	.77	1.8	12	11	381	114	569	204	205	121	151	39
16	.75	2.2	14	10	1840	101	440	171	163	107	66	34
17	.70	5.1	16	12	1000	94	350	147	133	130	27	30
18	.70	11	17	13	800	96	295	123	110	111	17	27
19	.63	9.1	22	91	700	195	253	237	91	86	12	24
20	.52	5.8	25	726	1200	306	221	4280	87	67	16	21
21	.47	3.9	25	865	2090	231	205	4020	135	56	13	19
22	.44	3.4	27	570	2390	203	189	1430	96	47	10	17
23	.44	3.8	29	381	2330	358	167	541	1590	41	9.4	16
24	.38	3.9	27	310	1210	521	172	379	4100	37	8.3	14
25	.32	6.0	25	265	646	358	176	296	2370	33	6.8	13
26	.32	92	22	229	457	263	290	243	569	31	8.4	12
27	.29	269	21	196	373	213	499	221	373	30	72	11
28	.26	240	20	161	580	184	288	199	366	31	216	10
29	.26	142	18	131	---	165	186	168	1020	29	216	9.4
30	.23	79	18	131	---	151	149	150	557	26	177	8.6
31	.23	---	19	108	---	144	---	131	---	27	222	---
TOTAL	22.02	881.99	635.2	4384.7	17008	10877	20722	24836	18244	8326	1599.9	13410.0
MEAN	.71	29.4	20.5	141	607	351	691	801	608	269	51.6	447
MAX	1.7	269	50	865	2390	1330	7210	4280	4100	1270	222	5520
MIN	.23	.20	9.6	9.8	52	94	109	123	86	26	6.8	8.6
CFSM	.002	.07	.05	.34	1.45	.84	1.65	1.91	1.45	.64	.12	1.06
IN.	.00	.08	.06	.39	1.51	.96	1.84	2.20	1.62	.74	.14	1.19
AC-FT	44	1750	1260	8700	33740	21570	41100	49260	36190	16510	3170	26600

CAL YR 1978 TOTAL 70520.24 MEAN 193 MAX 7550 MIN .20 CFSM .46 IN 6.25 AC-FT 139900
WTR YR 1979 TOTAL 120946.81 MEAN 331 MAX 7210 MIN .20 CFSM .79 IN 10.71 AC-FT 239900

OSAGE RIVER BASIN

06919900 SAC RIVER NEAR CAPLINGER MILLS, MO

LOCATION.--Lat 37°52'12", long 93°48'11", in NW¼NE¼SW¼ sec.21, St. Clair County, Hydrologic Unit 10290106, on right downstream wingwall of bridge on State Highway W, 1.5 mi (2.4 km) downstream from Cedar Creek and 5 mi (8.0 km) north of Caplinger Mills.

DRAINAGE AREA.--1,810 mi² (4,690 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 720.82 ft (219.602 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except during periods of no gage-height record, which are poor. Several observations of water temperature were made during the year. Some regulation from Stockton Lake.

AVERAGE DISCHARGE.--5 years, 1270 ft³/s (35.97 m³/s), 920,100 acre-ft/yr (1,040 hm³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,900 ft³/s (507 m³/s) Nov. 4, 1974, gage height, 25.99 ft (7.921 m) from floodmark; minimum, 48 ft³/s (1.36 m³/s) Sept. 13, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,700 ft³/s (303 m³/s) Apr. 11, gage height, 19.62 ft (5.980 m); minimum daily, 69 ft³/s (1.95 m³/s) Oct. 16, Nov. 2-4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	78	199	134	300	1700	412	313	5300	2570	2060	3150
2	314	69	170	602	900	1820	1240	357	5250	4790	1610	5320
3	2100	69	150	269	300	1480	848	3720	5270	3900	239	6540
4	2300	69	145	92	250	2260	748	5630	5240	4000	170	1850
5	1720	71	141	80	250	2320	1110	3680	5340	3950	155	1800
6	372	72	130	80	1000	2270	409	1760	5600	3970	143	2000
7	344	80	130	80	900	1880	362	1450	5340	5000	691	1800
8	73	78	120	700	900	764	346	1720	5600	4350	1320	700
9	542	72	120	800	800	602	349	1820	2850	4170	1530	300
10	932	71	115	100	300	533	542	2200	1390	4060	1730	1500
11	995	72	114	101	250	471	7400	4150	1800	1750	1020	1700
12	965	74	112	98	800	428	10100	4240	5040	388	123	1800
13	935	81	115	98	900	400	6130	3780	3390	3290	484	500
14	449	92	115	98	300	420	2670	3660	4010	2190	1450	800
15	78	90	119	612	700	1700	1070	3160	3680	2140	1350	300
16	69	90	949	1200	2500	2340	1750	2860	3750	2190	1300	150
17	1190	100	148	611	1400	588	2090	2920	1750	2110	1260	900
18	872	103	655	136	1000	320	858	2740	635	2130	1110	900
19	870	95	388	416	900	501	528	3080	3350	2100	105	428
20	1170	90	160	1130	1500	699	428	8920	713	2290	280	863
21	996	85	165	1260	3000	510	466	7830	3810	2290	1630	588
22	106	83	163	784	3500	454	424	6900	3870	1550	1370	1150
23	644	83	160	838	3300	893	357	5740	5420	578	1180	141
24	1860	78	150	560	2000	1080	350	5530	7970	1980	764	665
25	1070	78	141	346	1000	750	357	5480	5340	2030	994	1350
26	102	273	137	280	2000	560	1250	5200	4300	2040	103	1580
27	74	400	132	225	2480	449	1210	1210	4090	2070	145	2100
28	81	475	128	189	1860	392	684	5060	4170	1640	484	1400
29	79	313	287	1310	---	893	449	5320	4620	245	1540	500
30	79	249	218	1400	---	1230	365	5330	1800	571	2140	100
31	80	---	137	1000	---	779	---	5300	---	2110	1670	---
TOTAL	21546	3733	6113	15629	35290	31486	45302	121060	120688	78442	30150	42875
MEAN	695	124	197	504	1260	1016	1510	3905	4023	2530	973	1429
MAX	2300	475	949	1400	3500	2340	10100	8920	7970	5000	2140	6540
MIN	69	69	112	80	250	320	346	313	635	245	103	100
CFSM	.38	.07	.11	.28	.70	.56	.83	2.16	2.22	1.40	.54	.79
AC-FT	42740	7400	12130	31000	70000	62450	89860	240100	239400	155600	59800	85040
CAL YR 1978 TOTAL	385979			1057	10000	60	CFSM .58	AC-FT	765600			
WTR YR 1979 TOTAL	552314			1513	10100	69	CFSM .84	AC-FT	1096000			

OSAGE RIVER BASIN

06921070 POMME DE TERRE RIVER NEAR POLK, MO

LOCATION.--Lat 37°40'56", long 93°22'12", in NE¼NW¼NW¼ sec.17, T.34 N., R.22 W., Polk County, Hydrologic Unit 10290107, on right bank 150 ft (46 m) upstream from Jefferson Bridge on State Highway D and 5 mi (8.0 km) southwest of Polk.

DRAINAGE AREA.--276 mi² (715 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 872.61 ft (265.971 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--11 years, 258 ft³/s (7.307 m³/s), 12.69 in/yr (322 mm/yr), 186,900 acre-ft/yr (230 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,300 ft³/s (575 m³/s) Nov. 1, 1972, gage height, 21.88 ft (6.669 m); minimum, 3.2 ft³/s (0.091 m³/s) Sept. 18, 1976; minimum gage height, 1.26 ft (0.384 m) Sept. 1, 2, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 5,500 ft³/s (156 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Apr. 12	0915	11400	323	15.56	4.743
May 20	1315	*12000	340	*16.05	4.892
Aug. 28	0300	5540	157	10.50	3.200

Minimum discharge, 5.4 ft³/s (0.15 m³/s) Oct. 9, 10, gage height, 1.67 ft (0.509 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	8.2	127	106	112	914	1020	161	164	729	129	65
2	6.8	8.5	108	86	141	608	1320	153	131	624	134	162
3	6.4	8.5	323	87	131	1050	685	2750	117	293	100	352
4	6.4	8.5	284	82	106	1050	545	3470	107	180	78	143
5	6.4	9.8	155	70	107	641	473	1330	119	153	64	102
6	6.4	9.6	121	63	114	493	367	819	117	173	55	81
7	6.0	10	115	61	108	413	303	576	136	170	50	68
8	5.7	11	96	52	103	353	298	432	727	155	43	56
9	5.7	11	80	52	77	313	335	331	312	150	37	49
10	5.4	11	69	52	97	279	278	270	181	146	42	43
11	8.2	11	69	49	95	238	5110	954	137	124	357	39
12	11	11	65	48	118	212	6070	750	108	101	62	34
13	16	14	71	49	204	193	1160	415	95	87	45	31
14	20	23	77	46	312	172	781	296	84	76	37	27
15	16	43	78	42	1820	151	585	230	74	66	35	24
16	13	101	83	46	1190	140	467	192	65	60	101	22
17	11	241	77	47	568	135	383	163	57	223	81	21
18	10	206	71	56	395	138	318	139	52	137	58	19
19	9.9	102	76	168	325	601	270	137	47	87	46	18
20	9.1	72	89	804	696	599	238	8830	120	68	39	17
21	8.5	56	77	553	1920	400	401	3260	53	57	32	17
22	8.2	48	68	344	2030	368	319	871	42	50	30	16
23	8.2	44	61	288	2050	1400	256	589	905	45	27	15
24	7.8	40	56	282	995	1240	267	437	476	41	24	15
25	7.4	40	53	270	680	684	327	341	159	54	22	14
26	7.4	1460	49	275	509	494	506	270	95	178	23	14
27	8.2	969	45	223	421	386	361	234	72	148	35	13
28	8.2	374	43	180	656	326	265	197	74	335	1530	12
29	8.2	227	42	139	---	290	213	167	170	259	141	10
30	8.2	161	51	172	---	271	182	147	106	129	92	9.5
31	8.2	---	99	134	---	243	---	166	---	110	74	---
TOTAL	275.3	4339.1	2878	4926	16080	14795	24103	29077	5102	5208	3623	1508.5
MEAN	8.88	145	92.8	159	574	477	803	938	170	168	117	50.3
MAX	20	1460	323	804	2050	1400	6070	8830	905	729	1530	352
MIN	5.4	8.2	42	42	77	135	182	137	42	41	22	9.5
CFSM	.03	.53	.34	.58	2.08	1.73	2.91	3.40	.62	.61	.42	.18
IN.	.04	.58	.39	.66	2.17	1.99	3.25	3.92	.69	.70	.49	.20
AC-FT	546	8610	5710	9770	31890	29350	47810	57670	10120	10330	7190	2990

CAL YR 1978 TOTAL 72676.8 MEAN 199 MAX 8290 MIN 5.4 CFSM .72 IN 9.80 AC-FT 144200
WTR YR 1979 TOTAL 111914.9 MEAN 307 MAX 8830 MIN 5.4 CFSM 1.11 IN 15.08 AC-FT 222000

OSAGE RIVER BASIN

06921200 LINDLEY CREEK NEAR POLK, MO

LOCATION.--Lat 37°45'02", long 93°15'58", in NE¼SE¼ sec.29, T.35 N., R.21 W., Polk County, Hydrologic Unit 10290107, on left bank 30 ft (9 m) upstream from county highway bridge, 0.5 mi (0.8 km) downstream from Panther Creek, 2.5 mi (4.0 km) northeast of Polk, and 11 mi (17.7 km) upstream from Ingalls Creek.

DRAINAGE AREA.--112 mi² (290 km²).

PERIOD OF RECORD.--April 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 884.08 ft (269.468 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 25, 1957, nonrecording gage at site 30 ft (9 m) downstream at same datum.

REMARKS.--Records good except periods of no gage-height record which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--22 years, 89.8 ft³/s (2.543 m³/s), 10.88 in/yr (276 mm/yr), 65,060 acre-ft/yr (80.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft³/s (793 m³/s) May 5, 1961, gage height, 23.60 ft (7.193 m), from rating extended above 12,000 ft³/s (340 m³/s) on basis of slope-conveyance study; no flow on many days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in September 1914, reached a stage of about 25.2 ft (7.68 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Apr. 11	1515	*8390	238	*17.39	5.300	May 20	1600	3270	92.6	13.23	4.032
May 3	0900	4400	125	14.64	4.462	Aug. 11	0300	2000	56.6	11.10	3.383

No flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	31	32	40	217	261	76	34	23	6.0	11
2	.00	.00	28	27	50	149	182	76	30	30	7.0	74
3	.00	.00	28	23	40	516	136	1870	30	23	6.0	48
4	.00	.00	27	21	38	297	130	1260	27	17	5.0	28
5	.00	.00	24	21	38	182	119	283	38	100	4.8	21
6	.00	.00	21	20	40	151	101	159	33	97	3.1	16
7	.00	.00	21	18	36	139	93	108	36	104	3.1	13
8	.00	.00	21	17	32	124	107	83	40	56	2.9	10
9	.00	.00	20	16	30	117	124	69	58	457	2.5	7.9
10	.00	.00	18	16	34	110	100	62	39	88	115	6.4
11	.00	.00	16	16	40	100	3410	63	31	52	491	5.1
12	.00	.00	20	16	46	94	861	61	25	38	38	4.3
13	.00	.00	20	18	100	90	252	53	24	32	23	3.8
14	.00	.10	25	16	200	84	167	49	21	26	16	3.3
15	.00	1.2	34	14	1000	79	127	43	18	22	14	2.7
16	.00	3.1	43	14	800	77	107	38	14	20	15	2.5
17	.00	41	40	17	400	75	94	33	12	26	13	2.5
18	.00	33	38	23	300	78	83	29	11	20	9.3	2.3
19	.00	19	51	116	200	142	76	32	7.7	15	6.9	2.9
20	.00	13	62	332	344	106	74	1680	312	13	5.3	3.1
21	.00	9.8	47	140	1030	93	102	245	42	10	4.6	3.1
22	.00	8.4	39	82	786	131	78	108	22	7.7	6.7	3.0
23	.00	8.9	34	82	529	389	73	80	80	4.6	8.1	3.2
24	.00	8.0	32	74	238	202	80	63	87	4.0	8.1	3.7
25	.00	10	30	56	173	145	80	53	32	5.0	8.0	3.7
26	.00	610	27	54	138	121	667	47	21	7.0	11	4.2
27	.00	142	24	52	124	108	149	44	16	6.0	18	4.4
28	.00	64	22	50	224	101	126	40	16	10	42	3.2
29	.00	48	22	59	---	95	100	36	77	7.0	26	2.5
30	.00	38	33	70	---	92	85	33	29	5.0	18	2.3
31	.00	---	37	50	---	86	---	38	---	4.8	12	---
TOTAL	.00	1057.50	935	1562	7050	4490	8144	6914	1262.7	1330.1	949.4	301.1
MEAN	.000	35.3	30.2	50.4	252	145	271	223	42.1	42.9	30.6	10.0
MAX	.00	610	62	332	1030	516	3410	1870	312	457	491	74
MIN	.00	.00	16	14	30	75	73	29	7.7	4.0	2.5	2.3
CFSM	.000	.32	.27	.45	2.25	1.30	2.42	1.99	.38	.38	.27	.09
IN.	.00	.35	.31	.52	2.34	1.49	2.70	2.30	.42	.44	.32	.10
AC-FT	.00	2100	1850	3100	13980	8910	16150	13710	2500	2640	1880	597

CAL YR 1978 TOTAL 28867.60 MEAN 79.1 MAX 5770 MIN .00 CFSM .71 IN 9.59 AC-FT 57260
WTR YR 1979 TOTAL 33995.80 MEAN 93.1 MAX 3410 MIN .00 CFSM .83 IN 11.29 AC-FT 67430

OSAGE RIVER BASIN

06921325 POMME DE TERRE LAKE NEAR HERMITAGE, MO

LOCATION.--Lat 37°54'06", long 93°19'05", in NE¼ sec.2, T.36 N., R.22 W., Hickory County, Hydrologic Unit 10290107, in intake tower at dam on Pomme de Terre River, and 3 mi (4.8 km) southwest of Hermitage.

DRAINAGE AREA.--611 mi² (1,583 km²).

PERIOD OF RECORD.--June 1960 to current year.

GAGE.--Water-stage recorder. Nonrecording gage prior to Nov. 9, 1961. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Lake is formed by earth fill embankment with a concrete gravity section-type dam. Closure operation began on June 28, 1960; conservation pool level reached June 15, 1963. Capacity nominal top of flood control pool, 648,700 acre-ft (800 hm³) at elevation, 874 ft or 266.4 m, crest of spillway, of which 407,200 acre-ft (502 hm³) between elevations 839 ft or 255.7 m and 874 ft or 266.4 m is used for flood control, and 228,700 acre-ft (282 hm³) between elevations 783 ft or 238.7 m and 839 ft or 255.7 m is used for conservation and 12,840 acre-ft (15.8 hm³) below elevation 783 ft or 238.7 m is sediment storage. Lake used for flood control and recreational purposes.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 481,000 acre-ft (593 hm³) Apr. 30, 1973, elevation, 862.35 ft (262.844 m), minimum, since initial filling to conservation pool level, 215,880 acre-ft (266 hm³) Mar. 3, 1964, elevation, 835.61 ft (254.694 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 365,000 acre-ft (450 hm³) May 21, elevation, 852.49 ft (259.839 m); minimum daily, 229,000 acre-ft (282 hm³) Nov. 6, 8-13; minimum elevation, 837.32 ft (255.215 m) Nov. 12, 13.

Capacity table (elevation, in feet NGVD, and contents, in acre-ft)

837	226,200	847	310,400
840	249,500	850	339,600
843	274,500	853	370,700

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	235000	230000	247000	248000	260000	303000	280000	337000	295000	246000	245000	247000
2	235000	230000	248000	248000	259000	305000	284000	331000	287000	247000	245000	247000
3	234000	230000	248000	248000	259000	300000	285000	339000	280000	248000	245000	247000
4	234000	230000	249000	248000	257000	300000	287000	356000	272000	247000	245000	247000
5	234000	230000	249000	249000	256000	297000	289000	363000	265000	248000	245000	246000
6	234000	229000	249000	249000	255000	293000	290000	362000	251000	247000	244000	245000
7	234000	230000	249000	249000	254000	289000	291000	358000	251000	247000	244000	244000
8	233000	229000	248000	249000	253000	289000	292000	354000	249000	247000	244000	244000
9	233000	229000	247000	249000	257000	291000	293000	349000	250000	247000	244000	243000
10	233000	229000	247000	249000	256000	292000	294000	348000	251000	248000	244000	242000
11	233000	229000	246000	249000	255000	292000	292000	344000	250000	248000	244000	242000
12	233000	229000	245000	249000	255000	294000	330000	344000	250000	247000	245000	242000
13	233000	229000	244000	250000	255000	294000	341000	344000	249000	247000	245000	241000
14	233000	230000	243000	250000	254000	295000	338000	342000	248000	246000	245000	241000
15	233000	230000	243000	250000	255000	295000	333000	341000	248000	245000	246000	241000
16	233000	230000	243000	250000	260000	290000	334000	340000	247000	244000	246000	241000
17	233000	231000	243000	250000	264000	284000	330000	338000	246000	244000	246000	241000
18	232000	232000	243000	250000	265000	279000	330000	336000	245000	244000	245000	240000
19	232000	232000	244000	251000	266000	279000	331000	335000	244000	244000	245000	240000
20	232000	232000	244000	253000	266000	281000	332000	339000	244000	244000	245000	240000
21	232000	232000	245000	256000	273000	282000	334000	364000	244000	244000	245000	240000
22	232000	232000	246000	257000	281000	283000	336000	362000	244000	244000	245000	240000
23	232000	232000	246000	258000	291000	287000	337000	357000	244000	244000	245000	240000
24	231000	232000	246000	260000	296000	287000	338000	350000	248000	244000	245000	240000
25	231000	232000	246000	260000	298000	284000	339000	344000	249000	244000	244000	239000
26	231000	236000	247000	260000	299000	279000	346000	338000	248000	243000	244000	239000
27	231000	243000	247000	261000	300000	279000	349000	331000	248000	243000	245000	239000
28	231000	245000	247000	261000	301000	279000	351000	325000	247000	244000	246000	239000
29	231000	246000	247000	261000	---	279000	347000	318000	247000	244000	248000	239000
30	230000	247000	247000	260000	---	280000	342000	310000	246000	244000	248000	239000
31	230000	---	248000	260000	---	280000	---	302000	---	244000	247000	---
(†)	837.55	839.66	839.75	841.32	845.97	843.59	850.22	846.16	839.61	839.34	839.73	838.65
(‡)	-5,000	+17,000	+1,000	+12,000	+41,000	-21,000	+62,000	-40,000	-56,000	-2,000	+3,000	-8,000
MAX	235000	247000	249000	261000	301000	305000	351000	364000	295000	248000	248000	247000
MIN	230000	229000	243000	248000	253000	279000	280000	302000	244000	243000	244000	239000

CAL YR 1978.....‡ +6,000

WTR YR 1979.....‡ +4,000

(†) Elevation, in feet NGVD, at end of month.

(‡) Change in contents in acre-feet.

OSAGE RIVER BASIN

06921350 POMME DE TERRE RIVER NEAR HERMITAGE, MO

LOCATION.--Lat 37°54'20", long 93°19'45", in NW¼NW¼ sec.2, T.36 N., R.22 W., Hickory County, Hydrologic Unit 10290107, on right bank 2,000 ft (610 m) downstream from outlet of Pomme de Terre Lake, 2.5 mi (4.0 km) south west of Hermitage, 4.5 mi (7.2 km) upstream from Green Branch, and at mile 43.4 (69.8 km).

DRAINAGE AREA.--615 mi² (1,590 km²).

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 749.33 ft (228.396 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow regulated by Pomme de Terre Lake.

AVERAGE DISCHARGE.--19 years, 468 ft³/s (13.25 m³/s), 339,100 acre-ft/yr (418 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,000 ft³/s (255 m³/s) May 9, 1961, gage height, 15.02 ft (4.578 m); no flow Sept. 10, 1960, Mar. 9-17, 1971, Nov. 4-6, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,230 ft³/s (120 m³/s) May 24; maximum gage height, 10.23 ft (3.118 m) Mar. 2; minimum discharge, 34 ft³/s (0.96 m³/s) Mar. 20, 21, 22, Apr. 5, gage height, 1.84 ft (0.561 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	49	45	50	409	426	396	2780	4150	493	84	400
2	45	49	46	49	409	2310	398	1680	4170	493	84	400
3	45	49	47	48	406	3310	232	117	4140	493	84	400
4	45	50	48	48	409	2820	35	905	4140	496	84	400
5	45	51	213	48	409	2800	35	2340	4170	496	84	400
6	45	52	488	48	406	2800	37	2760	3640	499	84	400
7	45	52	488	47	406	1660	37	2760	1950	496	85	400
8	45	50	488	47	409	50	38	2760	678	496	86	400
9	45	51	487	47	406	50	39	1900	463	499	86	400
10	45	50	487	47	406	51	1170	1550	462	499	86	400
11	45	50	485	46	403	54	1700	1890	459	499	86	45
12	45	50	485	45	403	54	90	1070	459	499	86	45
13	47	51	485	46	403	56	1470	1070	461	499	86	45
14	48	51	483	47	403	218	3150	1070	462	502	86	45
15	48	51	336	47	409	1550	1690	1070	462	502	88	45
16	48	51	48	46	409	2740	914	1070	463	354	87	45
17	48	51	48	44	409	2730	2050	1070	465	79	87	45
18	48	48	48	45	409	1710	84	1080	465	79	87	45
19	48	48	48	46	409	36	84	1080	465	79	87	45
20	48	47	49	46	412	34	85	1100	468	79	87	45
21	48	47	49	46	418	34	87	1940	317	79	87	45
22	49	47	48	45	423	36	87	3620	93	80	87	45
23	49	47	49	45	420	1030	88	3860	93	80	87	45
24	49	50	50	213	423	2800	88	4000	92	80	87	45
25	49	50	50	412	426	2790	96	3560	253	82	87	44
26	49	50	50	409	426	1860	99	3560	493	83	88	44
27	49	50	50	412	423	392	94	3540	493	83	87	44
28	49	50	50	412	426	392	1140	3450	493	83	87	44
29	49	50	49	412	---	392	2490	3950	493	83	87	45
30	50	50	50	412	---	393	2780	4170	490	83	103	45
31	50	---	51	412	---	392	---	4140	---	84	125	---
TOTAL	1463	1492	5898	4167	11529	35970	20783	70912	35902	9631	2726	4896
MEAN	47.2	49.7	190	134	412	1160	693	2287	1197	291	87.9	163
MAX	50	52	488	412	426	3310	3150	4170	4170	502	125	400
MIN	45	47	45	44	403	34	35	117	92	79	84	44
CFSM	.08	.08	.31	.22	.67	1.89	1.13	3.72	1.95	.47	.14	.27
AC-FT	2900	2960	11700	8270	22870	71350	41220	140700	71210	17910	5410	9710
CAL YR 1978 TOTAL	151866			MEAN 416	MAX 2710	MIN 42	CFSM .68	AC-FT 301200				
WTR YR 1979 TOTAL	204769			MEAN 561	MAX 4170	MIN 34	CFSM .91	AC-FT 406200				

OSAGE RIVER BASIN

06922200 TEBO CREEK AT LEESVILLE, MO

LOCATION.--Lat 38°22'04", long 93°32'41" in SE¼NW¼ sec.2, T.41 N., R.24 W., Henry County, Hydrologic Unit 10290108, at bridge on County Highway PP, 1.5 mi (2.4 km) north of Leesville.

PERIOD OF RECORD.--Water year 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)
OCT 12...	20	1690	7.6	19.5	5.8	62	48	580	430	160	44	430
NOV 07...	3.6	1900	7.7	11.0	7.8	71	75	910	790	230	82	47
DEC 05...	29	1030	7.5	4.0	10.6	81	130	550	470	150	42	32
JAN 09...	5.0	1800	7.5	.5	12.3	85	10	700	580	180	61	44
FEB 12...	21	990	7.3	1.0	11.8	83	4	510	400	130	46	33
MAR 06...	--	425	7.6	4.5	11.4	88	170	180	120	47	14	11
APR 03...	--	670	7.6	8.5	10.0	85	160	340	250	84	31	23
MAY 08...	--	540	7.9	21.0	8.9	99	92	220	150	58	18	15
JUN 05...	--	459	7.5	25.5	6.8	83	8	210	130	60	15	13
JUL 25...	--	400	7.4	27.5	3.0	38	<2	180	55	52	11	11
AUG 14...	--	395	7.7	26.5	5.0	62	2	180	56	52	12	11
SEP 13...	--	375	7.3	24.5	5.8	69	<4	150	38	46	9.2	9.6

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)
OCT 12...	4.8	188	0	780	380	.4	5.6	1470	.18	.54	.060
NOV 07...	8.0	150	0	850	7.1	.3	7.9	1370	.04	.57	.040
DEC 05...	6.4	100	0	480	6.5	.3	6.4	792	.25	.36	.050
JAN 09...	6.6	144	0	640	9.7	.3	8.0	1090	.20	.01	.040
FEB 12...	5.1	140	0	450	10	.3	10	789	.63	.50	.040
MAR 06...	4.1	72	0	130	10	.2	9.3	290	1.2	.98	.080
APR 03...	4.4	108	0	270	8.9	.2	10	503	.28	.47	.040
MAY 08...	4.5	84	0	--	--	--	--	--	.08	1.0	.010
JUN 05...	5.3	100	0	140	6.7	.3	.9	297	.04	1.6	.060
JUL 25...	5.1	146	0	71	7.4	.2	2.4	245	.05	.86	.070
AUG 14...	5.1	150	0	78	7.9	.2	2.1	233	.02	.78	.040
SEP 13...	8.0	140	0	67	7.6	.4	2.8	226	.21	1.4	.030

OSAGE RIVER BASIN

06922200 TEBO CREEK AT LEESVILLE, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01108)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G) AS CD) (01028)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01029)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G) AS CU) (01043)
OCT								
12...	420	14	2	0	0	9	5	10
JAN								
09...	160	2700	0	0	10	10	2	7
APR								
03...	280	240	1	0	10	4	5	8
JUL								
25...	380	0	2	0	20	1	47	0

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G) AS FE) (01170)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G) AS PB) (01052)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G) AS ZN) (01093)
OCT								
12...	920	980000	31	18	780	900	20	50
JAN								
09...	790	6700	2	10	980	940	30	20
APR								
03...	810	6500	6	10	950	640	30	18
JUL								
25...	640	0	17	0	310	120	70	1

OSAGE RIVER BASIN

06923500 BENNETT SPRING AT BENNETT SPRINGS, MO

LOCATION.--Lat 37°43'03", long 92°51'26", in NW¼ sec.1, T.34 N., R.18 W., Dallas County, Hydrologic Unit 10290110, on left bank 300 ft (91 m) downstream from spring outlet, 1.5 mi (2.4 km) upstream from Niangua River and at Bennett Springs.

PERIOD OF RECORD.--September 1916 to March 1920, October 1928 to September 1941, October 1965 to current year. Prior to March 1920 and October 1939 to September 1941 monthly discharge only published in WSP 1310. Occasional discharge measurements 1923, 1954, 1964, 1965.

GAGE.--Nonrecording gage. Datum of gage 864.71 ft (263.564 m) National Geodetic Vertical Datum of 1929. Sept. 1916 to Mar. 1920, in the vicinity, datum unknown; Oct. 17, 1928, to Apr. 11, 1934, at site 1,780 ft (543 m) downstream at datum 2.30 ft (0.70 m) lower; Apr. 12 to Dec. 13, 1934, nonrecording gage, and Dec. 14, 1934, to Sept. 17, 1941, water-stage recorder at present site and datum.

REMARKS.--Records fair. Occasional runoff from drainage area of 42.4 mi² (109.8 km²) included in records.

AVERAGE DISCHARGE.--30 years (1916-19, 1928-41, 1965-79), 158 ft³/s (4.475 m³/s), 114,500 acre-ft/yr (141 hm³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,000 ft³/s (255 m³/s) Nov. 1, 1973, gage height, 9.14 ft (2.786 m) from floodmark, includes about 7,200 ft³/s (204 m³/s) from Spring Creek, by indirect measurement of peak flow over dam; minimum, about 55 ft³/s (1.6 m³/s) Nov. 13, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,000 ft³/s (142 m³/s) Apr. 11, gage height, 7.00 ft (2.134 m), from graph; minimum measured discharge, 86 ft³/s (2.44 m³/s) Nov. 2; minimum gage height, 1.36 ft (0.415 m) Jan. 16, 17, 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	87	240	110	138	294	222	220	260	156	179	248
2	100	87	210	115	136	279	400	212	248	156	170	227
3	100	88	199	113	134	282	350	300	245	152	162	199
4	100	89	200	106	132	306	330	450	239	166	156	179
5	100	90	250	103	128	288	306	680	234	276	154	164
6	100	90	166	103	126	270	288	545	230	237	152	156
7	100	91	156	100	124	259	270	470	224	207	148	152
8	100	91	146	100	124	248	264	410	219	190	146	140
9	100	92	135	98	117	232	260	361	209	306	144	134
10	100	93	125	97	117	222	250	354	200	259	144	132
11	100	94	124	97	120	217	1110	450	197	222	177	130
12	100	95	122	97	120	205	1180	491	197	202	160	130
13	100	95	122	95	130	200	734	455	185	188	150	128
14	100	98	122	95	142	192	603	400	183	179	146	124
15	100	100	122	94	179	179	518	380	179	170	142	119
16	98	110	120	94	288	174	450	344	177	164	140	119
17	98	130	120	94	260	170	399	321	174	222	140	119
18	96	180	120	94	240	170	354	309	172	183	140	119
19	96	130	115	106	220	200	337	312	168	170	136	120
20	94	120	113	194	217	220	318	551	174	164	130	119
21	94	110	109	190	337	227	297	550	170	158	130	115
22	92	100	106	180	455	222	288	450	168	154	128	113
23	92	100	100	172	638	285	280	412	164	152	126	111
24	90	100	100	199	518	306	270	369	177	152	126	112
25	90	100	100	190	500	288	267	333	170	150	124	112
26	88	270	97	177	450	280	262	324	164	158	122	113
27	88	400	97	172	400	260	256	315	160	162	130	111
28	87	350	100	165	350	248	245	300	160	194	202	111
29	87	300	100	160	---	227	239	285	160	207	170	111
30	87	270	100	150	---	217	230	280	160	194	160	111
31	87	---	100	144	---	212	---	270	---	190	200	---
TOTAL	2964	4150	4136	4004	6840	7379	11577	11903	5767	5840	4634	4078
MEAN	95.6	138	133	129	244	238	386	384	192	188	149	136
MAX	100	400	250	199	638	306	1180	680	260	306	202	248
MIN	87	87	97	94	117	170	222	212	160	150	122	111
AC-FT	5880	8230	8200	7940	13570	14640	22960	23610	11440	11580	9190	8090
CAL YR 1978 TOTAL	50737		MEAN 139	MAX 674	MIN 79	AC-FT 100600						
WTR YR 1979 TOTAL	73272		MEAN 201	MAX 1180	MIN 87	AC-FT 145300						

OSAGE RIVER BASIN

06925500 LAKE OF THE OZARKS NEAR BAGNELL, MO

LOCATION.--Lat 38°12'19", long 92°37'21", in SE¼ sec.19, T.40 N., R.15 W., Miller County, Hydrologic Unit 10290111, at left end of powerhouse section near left end of Bagnell Dam on Osage River, 2 mi (3.2 km) southwest of Bagnell, and at mile 81.7 (131.5 km).

DRAINAGE AREA.--14,000 mi² (36,000 km²), approximately.

PERIOD OF RECORD.--April 1931 to current year. Gage-height records collected at same site since 1932 and are contained in reports of the National Weather Service, published as Osage River at Bagnell Dam, Lakeside.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum, adjustment of 1912. To obtain National Geodetic Vertical Datum of 1929 subtract 0.88 ft (0.286 m).

REMARKS.--Lake is formed by concrete gravity dam. Spillway is equipped with 12 taintor gates 34 ft (10 m) wide by 22 ft (6.7 m) high. Storage began in 1931. Usable capacity 1,218,000 acre-ft (1.50 km³) between elevations 630.00 ft or 192.024 m (maximum draw-down) and 660.00 ft or 201.168 m (top of gates). Dead storage, 708,800 acre-ft (874 hm³). Figures given herein are usable contents. Water is used for generating electricity.

COOPERATION.--Records furnished by Union Electric Company of Missouri.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,527,000 acre-ft (1.88 km³), May 22, 1943, elevation, 665.45 ft (202.829 m); minimum, 322,100 acre-ft (397 hm³) Feb. 13, 1948, elevation, 639.95 ft (195.057 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,134,000 acre-ft (1.40 km³) Nov. 26, elevation, 658.54 ft (200.723 m); minimum, 678,800 acre-ft (0.837 km³) Feb. 20, elevation, 649.30 ft (197.907 m).

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	657.84	1,095,000	-----
Oct. 31	658.37	1,125,000	+30,000
Nov. 30	657.96	1,102,000	-23,000
Dec. 31	657.58	1,081,000	-21,000
CAL YR 1978	-----	-----	-41,000
Jan. 31	655.32	962,200	-118,800
Feb. 28	652.72	834,300	-127,900
Mar. 31	653.65	878,600	+44,300
Apr. 30	655.10	950,900	+72,300
May 31	655.71	982,300	+31,400
June 30	657.66	1,085,000	+102,700
July 31	657.74	1,090,000	+5,000
Aug. 31	657.96	1,102,000	+12,000
Sept. 30	657.29	1,065,000	-37,000
WTR YR 1979	-----	-----	-30,000

OSAGE RIVER BASIN

06926000 OSAGE RIVER NEAR BAGNELL, MO

LOCATION.--Lat 38°12'27", long 92°36'20", in N½SE¼ sec.21, T.40 N., R.15 W., Miller County, Hydrologic Unit 10290111, on left bank 1.5 mi (2.4 km) upstream from Bagnell, 3 mi (4.8 km) downstream from hydroelectric plant of Union Electric Company of Missouri, and at mile 78.5 (126.3 km).

DRAINAGE AREA.--14,000 mi² (36,300 km²), approximately.

PERIOD OF RECORD.--October 1880 to current year. Monthly discharge only for some periods published in WSP 1310. Gage-height records collected in this vicinity 1880-1931 are contained in reports of Missouri River Commission or National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 548.87 ft (167.296 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 15, 1930, nonrecording gage at present site and datum. Since Oct. 1, 1940, auxiliary water-stage recorder at power plant 3 mi (4.8 km) upstream from base gage.

REMARKS.--Records poor. Flow regulated by Lake of the Ozarks.

AVERAGE DISCHARGE.--99 years, 9,586 ft³/s (271.5 m³/s), 6,945,000 acre-ft/yr (8,560 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 220,000 ft³/s (6,230 m³/s) May 19, 1943, gage height, 48.8 ft (14.87 m); minimum, 183 ft³/s (5.18 m³/s) Sept. 9, 1969; minimum daily discharge, 220 ft³/s (6.23 m³/s) Dec. 12, 1917.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1943, 43.1 ft (13.14 m) in June 1844, discharge, 164,000 ft³/s (4,640 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 35,800 ft³/s (1,010 m³/s) Apr. 11, 12, gage height, 15.84 ft (4.828 m); minimum daily, 363 ft³/s (10.3 m³/s) Dec. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	513	633	1410	1310	10200	21000	4110	7420	9290	8580	2580	559
2	504	1950	1730	2830	14800	22000	13000	5110	10800	23700	4800	6430
3	540	583	2780	3890	14600	24000	10900	10000	2440	19800	4410	1380
4	613	526	6210	1020	12600	28000	5600	12000	8390	18800	3220	2540
5	513	463	876	3420	13400	32600	7460	18000	9010	18600	2560	4270
6	446	1850	1150	3960	13900	23600	6230	10000	11300	12900	6940	5010
7	475	1180	2000	1700	9500	22100	1150	13000	10400	16000	5460	6590
8	475	521	737	8140	14100	17800	492	14000	13100	14000	9570	3730
9	479	1130	2710	8510	12200	23100	8500	15000	15600	13600	6160	692
10	475	623	1210	6120	800	20700	4980	13000	17100	15100	5490	9030
11	479	430	7000	3800	500	22200	17000	12000	17000	16700	1150	6820
12	638	427	7360	1800	7000	17700	35700	1000	20200	16400	458	7850
13	467	1810	9020	4520	8000	12000	34900	500	23900	16900	454	1490
14	788	1210	5470	3170	7000	12000	34500	14000	16700	17100	463	8160
15	450	4260	788	3880	10000	11900	34400	15000	15600	13700	479	1960
16	2240	814	769	2160	10000	7790	33800	12000	18100	14900	483	492
17	3430	7380	1010	3680	7000	3470	34300	4000	11000	17000	944	2420
18	496	1010	5340	3430	1500	513	34300	1000	14600	15600	517	3410
19	458	450	4840	3330	5000	8060	31100	5000	14500	14900	454	3440
20	458	526	1990	4390	11000	8460	19800	1000	24800	13400	463	4220
21	454	420	884	3640	7000	6000	9750	13000	23400	8800	1190	1090
22	775	438	479	3880	16000	9390	3190	14000	15600	529	540	450
23	1010	430	554	6910	17000	17400	19000	16000	8910	5360	488	483
24	438	430	388	6040	17000	25200	6980	17000	6210	5690	670	593
25	454	500	405	5360	18000	15400	12400	14000	12800	5390	467	1070
26	471	21700	513	4740	13000	17700	10300	15000	14900	4230	463	488
27	438	22300	694	834	14000	19000	7490	13000	15500	5430	1610	998
28	450	8530	808	583	16000	20500	1680	12000	12900	2700	913	5570
29	446	7220	363	6440	---	19800	952	11900	16300	571	841	2250
30	1740	3730	1210	7290	---	20600	11200	10100	18100	7630	540	1380
31	999	---	891	7820	---	15200	---	6570	---	6770	975	---
TOTAL	22612	93474	71589	128597	301100	525183	455164	325600	428450	370780	65752	94865
MEAN	729	3116	2309	4148	10750	16940	15170	10500	14280	11960	2121	3162
MAX	3430	28300	9020	8510	18000	32600	35700	18000	24800	23700	9570	9030
MIN	438	420	363	583	500	513	492	500	2440	529	454	450
CFSM	.05	.22	.17	.30	.77	1.21	1.08	.75	1.02	.85	.15	.23
AC-FT	44850	185400	142000	255100	597200	1042000	902800	645800	849800	735400	130400	188200
CAL YR 1978 TOTAL	2657944			MEAN 7282	MAX 42600	MIN 363	CFSM .52	AC-FT 5272000				
WTR YR 1979 TOTAL	2883166			MEAN 7899	MAX 35700	MIN 363	CFSM .56	AC-FT 5719000				

OSAGE RIVER BASIN

06926500 OSAGE RIVER NEAR ST. THOMAS, MO

LOCATION.--Lat 38°20'20", long 92°13'34", in SE¼SW¼ sec.35, T.42 N., R.12 W., Cole County, Hydrologic Unit 10290111, on left bank 0.5 mi (0.8 km) downstream from Sugar Creek, 2.5 mi (4.0 km) south of St. Thomas, and at mile 43.1 (69.3 km).

DRAINAGE AREA.--14,500 mi² (37,600 km²), approximately.

PERIOD OF RECORD.--August 1931 to current year.

GAGE.--Water-stage recorder. Datum of gage is 528.06 ft (160.953 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except periods of no gage-height record which are poor. Flow regulated by Lake of the Ozarks.

AVERAGE DISCHARGE.--48 years, 9,942 ft³/s (281.6 m³/s), 7,203,000 acre-ft/yr (8,880 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 216,000 ft³/s (6,120 m³/s) May 20, 1943, gage height, 43.8 ft (13.35 m); minimum, 346 ft³/s (9.80 m³/s) July 12, 1959, Sept. 18, 1960; minimum gage height, 1.28 ft (0.390 m) Sept. 18, 1960; minimum daily discharge, 373 ft³/s (10.6 m³/s) July 12, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1943, about 39.4 ft (12.0 m) in June 1844.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 51,800 ft³/s (1470 m³/s) Apr. 12, gage height, 19.16 ft (5.840 m); minimum daily discharge, 466 ft³/s (132.2 m³/s) Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	626	1400	3320	1210	9000	16000	12100	10300	8010	16500	6320	1080
2	577	975	1890	2710	11000	21000	7450	7260	9490	13000	3920	1180
3	591	1820	2120	3100	14000	22000	11900	7720	10100	20600	5000	6090
4	604	1080	3900	2650	14000	24000	9660	10900	4370	21400	4950	2080
5	656	751	4300	2050	12000	30000	6590	12800	8620	20200	4050	3140
6	686	725	1430	3560	13000	25100	8480	16800	9960	12400	3790	4480
7	557	2000	1530	3290	13000	23200	5800	10900	11400	14700	6640	5420
8	504	1310	2120	4180	11000	18800	2060	13900	11000	14400	6110	6120
9	504	1000	1220	8000	13000	22300	3020	14200	13000	14200	9350	3900
10	511	1210	2450	9000	12000	20200	10000	13200	16700	13200	5830	1760
11	537	1150	1930	7000	1000	22300	12000	13100	17300	16300	5600	7780
12	537	678	5950	2820	700	20800	47700	11200	18000	16100	1330	6210
13	648	564	7040	2000	7000	10200	40100	2720	23600	16900	671	6930
14	656	2170	7220	4000	8000	12100	36300	2970	19500	18000	492	2140
15	708	1980	4240	4000	7000	9960	35100	12900	16200	16400	473	7240
16	725	3540	1250	4000	10000	9450	34500	15800	17100	13600	550	2100
17	2110	2540	1110	3000	10000	7090	33900	10300	16400	17000	511	1090
18	2370	5200	1810	3000	7000	3020	34000	4430	10600	16400	848	2840
19	1020	1490	4980	4000	1500	2220	32600	1950	12600	16300	794	3680
20	671	920	4190	4000	5000	9560	30400	4450	21500	14300	570	2430
21	597	830	2650	4000	11000	6410	9800	4750	22900	13100	466	4430
22	577	708	1360	4000	8000	7470	9980	12400	20800	7130	993	1760
23	821	663	920	5000	16000	13000	9200	13200	11500	1690	848	1040
24	1340	641	993	7000	17000	28300	13500	15000	9910	5420	618	759
25	803	633	742	6270	17000	16700	8400	16000	8090	5990	537	701
26	633	16300	708	6000	18000	17500	13800	13700	13000	5710	550	1390
27	626	28200	803	5000	13000	19800	9890	15000	14500	5150	510	1050
28	591	10600	1030	2000	14000	19800	7070	10900	15300	5480	1520	1260
29	577	8000	1160	700	---	20800	3000	10800	14500	3920	1210	5230
30	584	6070	920	7000	---	20000	3790	8840	16300	2220	1110	2680
31	2480	---	2110	7000	---	18900	---	8140	---	7190	808	---
TOTAL	25427	105148	77396	131540	293200	517980	502090	326530	422250	384900	76969	97990
MEAN	820	3505	2497	4243	10470	16710	16740	10530	14080	12420	2483	3266
MAX	2480	28200	7220	9000	18000	30000	47700	16800	23600	21400	9350	7780
MIN	504	564	708	700	700	2220	2060	1950	4370	1690	466	701
CFSM	.06	.24	.17	.29	.72	1.15	1.15	.73	.97	.86	.17	.23
AC-FT	50430	208600	153500	260900	581600	1027000	995900	647700	837500	763400	152700	194400
CAL YR 1978 TOTAL	2756906	MEAN	7553	MAX	41900	MIN	504	CFSM	.52	AC-FT	5468000	
WTR YR 1979 TOTAL	2961420	MEAN	8113	MAX	47700	MIN	466	CFSM	.56	AC-FT	5874000	

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO
(National stream-quality accounting network station)

LOCATION.--Lat 38°25'18", long 92°12'31", Cole County, Hydrologic Unit 10290111, at bridge on State Highway B, 3.8 mi (6.1 km) north of St. Thomas, 8.6 mi (14 km) downstream from gaging station, and at mile 34.5 (55.5 km).

DRAINAGE AREA.--14,500 mi² (37,600 km²) approximately above gage.

PERIOD OF RECORD.--Water years 1975-79.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURES: October 1974 to current year.

REMARKS.--Water temperature and specific conductance samples collected daily by observer. Records of discharge are given for gaging station 06926500 Osage River near St. Thomas.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 377 micromhos Mar. 31, 1978; minimum daily, 175 micromhos Nov. 26, 1978.

WATER TEMPERATURES: Maximum daily, 30.0°C July 29, 1977; minimum daily, 0.0°C Jan. 21, 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 352 micromhos Mar. 10, 12; minimum daily, 175 micromhos Nov. 26.

WATER TEMPERATURES: Maximum daily, 29.0°C July 29, 30; minimum daily, 1.5°C Feb. 4.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (000061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (000095)	PH (UNITS) (000400)	TEMPER- ATURE (DEG C) (000010)	TUR- BID- ITY (NTU) (000076)	OXYGEN, DIS- SOLVED (MG/L) (000300)	OXYGEN, DIS- SOLVED SATUR- ATION (000301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT 19...	1200	280	8.0	15.0	2.5	8.5	84	26	--	140	20	39
NOV 16...	5080	270	7.6	12.0	3.9	9.2	85	890	290	130	6	35
DEC 14...	8400	315	7.8	8.0	11	10.4	87	20	80	140	12	36
JAN 18...	3700	300	8.0	2.0	6.4	12.7	91	4	260	130	13	33
FEB 07...	11000	320	7.9	1.0	5.5	9.6	68	<4	56	140	14	37
MAR 22...	7530	342	7.8	8.0	15	11.0	92	35	520	160	33	41
APR 19...	32400	274	8.1	11.5	20	9.7	89	--	--	120	25	34
MAY 10...	11700	282	7.8	15.5	11	8.2	82	12	700	140	35	38
JUN 14...	18100	262	7.8	20.5	12	6.3	70	35	100	130	24	36
JUL 12...	14200	282	7.5	25.0	7.6	4.4	53	16	40	140	32	42
AUG 09...	8600	298	7.5	27.0	5.8	4.3	54	52	1300	120	10	34
SEP 13...	7740	260	7.4	23.5	3.4	5.0	58	64	--	150	31	42

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT												
19...	9.8	5.4	2.9	144	0	23	5.2	.4	4.8	160	518	.03
NOV												
16...	11	5.0	2.8	154	0	26	4.9	.1	5.3	160	2200	.16
DEC												
14...	11	5.6	2.9	150	0	26	5.5	.1	5.0	168	3810	.22
JAN												
18...	11	5.2	2.8	140	0	27	6.8	.1	5.0	180	1800	.24
FEB												
07...	12	5.3	2.9	156	0	27	5.7	.1	5.8	167	4960	.28
MAR												
22...	13	6.0	2.9	150	0	33	7.7	.1	5.0	181	3680	.54
APR												
19...	9.3	5.7	3.1	120	0	29	6.5	.1	6.3	141	12300	1.4
MAY												
10...	11	5.9	2.9	128	0	31	6.4	.1	5.4	168	5310	1.1
JUN												
14...	9.8	5.7	2.8	130	0	33	6.1	.1	4.1	168	8210	.78
JUL												
12...	9.3	4.9	2.7	136	0	28	6.3	.2	2.8	161	6170	.39
AUG												
09...	8.5	4.3	3.5	134	0	27	5.7	.3	4.8	163	3790	.37
SEP												
13...	10	5.2	3.2	140	0	26	5.3	.2	5.1	160	3340	.21

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT												
19...	.01	.47	.54	2.2	.030	.030	4.4	--	--	209	677	18
NOV												
16...	.01	.59	.38	3.3	.060	.040	--	5.0	.5	--	--	--
DEC												
14...	.01	.31	.24	2.3	.060	.050	5.0	--	--	76	1720	71
JAN												
18...	.00	.00	.02	1.1	.050	.030	4.5	--	--	--	--	--
FEB												
07...	.02	3.6	.31	17	.020	.010	--	4.2	.6	52	1540	59
MAR												
22...	.07	.44	.27	4.3	.030	.010	4.0	--	--	151	3070	60
APR												
19...	.15	.53	.48	8.5	.070	.030	--	--	--	--	--	--
MAY												
10...	.02	.86	.25	8.7	.050	.020	--	5.1	.6	--	--	--
JUN												
14...	.02	.66	.54	6.4	.040	.010	4.4	--	--	189	9240	42
JUL												
12...	.06	.47	.10	3.8	.050	.020	4.6	--	--	206	7900	56
AUG												
09...	.01	.45	.36	3.6	.050	.030	--	5.9	.5	--	--	--
SEP												
13...	.12	20	.87	89	.040	.020	--	--	--	--	--	--

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
NOV 16...	1	1	100	0	0	0	0	0	0
FEB 07...	1	1	100	60	1	2	0	0	0
MAY 10...	1	1	100	100	0	2	10	0	3
AUG 09...	3	2	100	60	1	<1	10	0	0

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 16...	0	4	5	390	20	9	0	80	10
FEB 07...	<3	6	3	400	10	6	1	60	5
MAY 10...	0	3	0	730	50	9	34	60	10
AUG 09...	<3	6	2	660	10	6	0	180	20

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 16...	.0	.0	0	1	0	0	10	0
FEB 07...	.1	.0	0	0	3	0	10	<3
MAY 10...	.1	.1	1	1	0	0	30	20
AUG 09...	.2	.0	0	0	0	0	30	<3

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	295	290	286	302	290	329	266	288	278	290	290	282
2	290	296	286	298	291	328	270	287	278	290	295	283
3	290	282	288	292	291	328	268	285	275	290	291	283
4	285	282	294	290	298	329	266	287	278	288	290	278
5	285	282	286	284	298	329	266	290	275	288	290	278
6	285	282	282	304	305	333	262	286	270	290	290	284
7	285	282	288	284	326	331	262	288	275	289	290	281
8	285	284	294	292	339	338	272	287	275	290	290	283
9	285	282	292	284	329	341	272	290	275	290	288	281
10	285	282	292	280	322	352	258	286	275	290	290	281
11	285	282	292	288	333	351	256	290	272	291	290	285
12	290	282	284	288	332	352	192	290	275	295	290	281
13	285	288	282	288	325	351	188	290	275	291	290	281
14	285	282	282	292	323	345	260	285	275	285	290	281
15	285	280	288	294	323	341	258	282	283	288	292	282
16	285	282	282	294	320	341	262	280	286	288	---	281
17	285	280	286	288	318	341	268	290	288	285	273	279
18	290	284	292	284	327	339	268	288	289	285	291	278
19	280	280	292	280	329	339	276	290	290	290	286	280
20	280	282	286	271	322	329	285	290	287	285	280	280
21	275	286	282	283	276	329	282	275	294	288	282	---
22	280	290	292	281	271	298	282	280	290	285	284	281
23	280	290	296	280	304	298	283	280	273	291	285	282
24	280	300	296	282	304	306	282	280	276	298	284	270
25	280	300	302	284	318	284	282	280	288	288	278	272
26	285	175	306	291	321	284	283	280	290	280	273	272
27	285	260	306	292	325	284	287	275	290	280	273	273
28	285	276	310	289	328	278	289	280	291	285	278	271
29	285	280	310	300	---	268	292	275	288	288	279	270
30	290	280	306	288	---	272	300	275	290	288	276	266
31	285	---	300	290	---	266	---	275	---	288	277	---
MEAN	285	280	292	288	314	320	268	284	281	288	285	279

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	15.0	11.5	2.0	2.0	4.0	7.5	14.0	18.0	24.0	26.0	25.5
2	20.0	17.5	11.0	2.5	2.0	4.0	7.5	14.0	18.0	23.0	27.0	26.0
3	20.0	17.5	10.0	2.0	2.0	4.0	7.0	14.0	17.5	23.5	26.0	26.0
4	20.0	16.0	9.0	2.0	1.5	4.5	8.0	13.0	18.0	23.0	26.0	26.0
5	19.0	16.0	9.5	2.5	2.0	5.0	8.5	14.0	20.0	23.0	27.0	25.5
6	19.0	15.5	8.0	2.5	3.0	5.0	9.0	14.5	20.0	22.5	27.0	25.5
7	18.0	15.0	7.5	3.0	3.5	5.5	10.5	15.0	19.0	22.0	27.0	25.0
8	18.0	14.0	5.5	2.0	2.0	6.0	9.0	16.0	20.0	23.0	27.0	24.5
9	18.0	13.0	4.5	2.0	3.0	4.5	9.5	16.0	20.0	24.0	27.0	24.0
10	17.0	15.0	3.5	2.0	3.0	4.5	10.0	16.5	20.0	24.0	25.5	24.0
11	18.0	16.0	5.5	2.0	3.5	4.5	10.0	16.5	19.5	24.0	26.0	23.5
12	18.0	15.0	8.0	2.0	4.0	5.0	10.0	17.0	19.5	25.0	25.5	24.0
13	18.0	15.0	8.5	2.0	4.0	6.5	10.0	18.0	20.0	25.0	25.5	23.0
14	17.0	13.0	8.0	2.0	4.5	6.0	10.5	19.0	20.0	25.0	25.0	23.0
15	16.5	12.0	7.5	2.0	5.0	5.0	10.5	18.5	21.0	25.0	23.5	22.0
16	16.0	12.0	7.0	2.0	4.0	5.0	11.0	18.0	21.5	25.0	---	22.5
17	15.0	12.0	7.5	2.5	4.0	7.0	11.5	18.0	22.0	24.0	23.0	23.5
18	15.5	12.0	7.5	2.5	3.5	8.5	11.0	21.0	22.0	24.0	25.5	23.0
19	15.5	13.0	7.5	2.5	3.0	8.5	11.5	22.0	23.0	25.0	26.0	23.5
20	15.0	12.0	7.5	2.5	4.5	8.5	12.0	22.5	22.0	25.5	26.0	24.5
21	16.0	11.0	8.0	2.5	5.0	8.0	12.5	20.0	23.5	25.0	27.0	---
22	18.0	10.0	8.0	2.5	5.0	8.5	13.0	19.5	23.5	25.0	27.0	23.5
23	17.0	10.0	7.5	2.0	4.0	9.0	13.0	17.5	23.0	27.0	27.0	23.0
24	17.0	11.0	7.0	2.0	4.0	5.5	12.5	17.0	22.0	26.0	26.0	24.0
25	16.0	10.0	6.0	2.0	4.5	6.0	13.0	17.5	22.0	27.0	26.5	23.5
26	16.0	9.5	5.5	2.0	4.0	6.0	13.0	17.0	22.5	26.0	27.0	24.0
27	15.0	10.0	6.0	2.0	4.0	6.0	12.0	17.0	22.0	26.0	28.5	23.0
28	15.0	10.5	6.5	2.5	4.0	7.0	14.0	19.5	22.0	25.0	28.0	24.0
29	15.5	11.0	5.5	2.0	---	8.0	14.5	19.0	22.0	29.0	28.0	24.0
30	15.5	12.0	4.5	2.5	---	8.0	14.0	18.5	22.0	29.0	27.0	23.0
31	15.0	---	3.0	2.0	---	7.0	---	18.5	---	28.0	26.0	---
MEAN	17.0	13.0	7.0	2.0	3.5	6.0	11.0	17.5	21.0	25.0	26.5	24.0

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 16,78 1130	MAR 22,79 1000	MAY 10,79 1110	JUN 14,79 1000
TOTAL CELLS/ML	630	2800	710	950
DIVERSITY: DIVISION	1.0	1.3	1.7	1.6
..CLASS	1.0	1.3	1.7	1.6
..ORDER	1.0	1.9	2.2	2.3
...FAMILY	1.7	2.3	2.3	2.9
....GENUS	1.7	2.6	2.7	3.1

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHARACIACEAE								
....SCHROEDERIA	--	-	--	-	--	-	39	4
....COELASTRACEAE								
....COELASTRUM	--	-	76	3	--	-	--	-
...HYDRODICTYACEAE								
....PEDIASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
....MICRACTINIUM	--	-	--	-	--	-	52	5
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	150	5	28	4	--	-
....CHODATELLA	--	-	--	-	14	2	--	-
....OOCYSTIS	--	-	--	-	--	-	26	3
....TETRAEDRON	--	-	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	--	-	13	1
...SCENEDESMACEAE								
....CRUCIGENIA	--	-	76	3	--	-	--	-
....SCENEDESMUS	--	-	110	4	28	4	150#	16
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	28	4	77	8
...ZYGNEATALES								
...DESMIDIACEAE								
....COSMARIUM	--	-	--	-	--	-	--	-
....STAUSTRUM	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	--	-	1400#	50	110#	16	39	4
....MELOSIRA	--	-	150	5	170#	24	230#	24
...PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	--	-	--	-	--	-
....COCCONEIS	22	3	--	-	--	-	--	-
...DIATOMACEAE								
....DIATOMA	110#	17	--	-	--	-	--	-
...FRAGILARIACEAE								
....ASTERIONELLA	--	-	250	9	--	-	--	-
....FRAGILARIA	--	-	--	-	--	-	170#	18
....SYNEDRA	44	7	19	1	--	-	--	-
...NAVICULACEAE								
....NAVICULA	22	3	19	1	--	-	13	1
...NITZSCHIACEAE								
....NITZSCHIA	44	7	--	-	70	10	--	-
...SURIPELLACEAE								
....SURIPELLA	--	-	38	1	--	-	--	-
..CHRYSOPHYCEAE								
...CHRYSOMONADALES								
...OCHROMONADACEAE								
....OCHROMONAS	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	56	8	39	4

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 16,78 1130		MAR 22,79 1000		MAY 10,79 1110		JUN 14,79 1000	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	100	11
....ANACYSTIS	--	-	--	-	--	-	--	-
...GOMPHOSPHAERIA	--	-	150	5	--	-	--	-
..HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	--	-	320	11	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE								
....LYNGBYA	390#	62	--	-	--	-	--	-
....OSCILLATORIA	--	-	--	-	210#	29	--	-
...RIVULARIACEAE								
....RAPHIIDIOPSIS	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....TRACHELOMONAS	--	-	57	2	--	-	--	-

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 12, 79 1215	AUG 9, 79 1315	SEP 13, 79 1000
TOTAL CELLS/ML	3600	23000	8400
DIVERSITY: DIVISION	1.1	0.2	0.5
..CLASS	1.1	0.2	0.5
..ORDER	1.3	0.2	1.2
...FAMILY	1.4	0.9	1.5
....GENUS	1.5	0.9	2.2

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....CHARACIACEAE						
....SCHROEDERIA	--	-	--	-	--	-
....COELASTRACEAE						
....COELASTRUM	--	-	* 0		--	-
....HYDRODICTYACEAE						
....PEDIASTRUM	--	-	--	-	220	3
....MICRACTINIACEAE						
....MICRACTINIUM	--	-	--	-	--	-
....OOCYSTACEAE						
....ANKISTRODESMUS	--	-	--	-	* 0	
....CHODATELLA	--	-	--	-	--	-
....OOCYSTIS	52	1	--	-	--	-
....TETRAEDRON	* 0		--	-	--	-
....TREUBARIA	--	-	* 0		--	-
....SCENEDESMACEAE						
....CRUCIGENIA	--	-	--	-	--	-
....SCENEDESMUS	100	3	* 0		--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	26	1	--	-	* 0	
..ZYGNEATALES						
...DESMIDIACEAE						
....COSMARIMUM	--	-	--	-	* 0	
....STAUSTRUM	* 0		--	-	--	-
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	64	2	* 0		82	1
....MELUSIRA	680#	19	120	1	--	-
...PENNALES						
....ACHNANTHACEAE						
....ACHNANTHES	--	-	* 0		--	-
....COCONEIS	--	-	* 0		* 0	
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
....FRAGILARIACEAE						
....ASTERIONELLA	--	-	--	-	--	-
....FRAGILARIA	52	1	* 0		--	-
....SYNEDRA	26	1	* 0		--	-
....NAVICULACEAE						
....NAVICULA	* 0		* 0		--	-
....NITZSCHIA						
....NITZSCHIA	--	-	150	1	140	2
....SURIRELLACEAE						
....SURIRELLA	--	-	--	-	--	-
..CHRYSTOPHYCEAE						
...CHRYDOMONADALES						
....UCHROMUNADACEAE						
....UCHROMONAS	--	-	--	-	120	1
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOCHRYSIDACEAE						
....CHROMONAS	* 0		--	-	--	-
....CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	--	-	* 0	

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 12,79 1215		AUG 9,79 1315		SEP 13,79 1000	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	--	-
....ANACYSTIS	*	0	*	0	1300#	16
....GOMPHOSPHERIA	--	-	--	-	--	-
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	*	0	--	-
....APHANIZOMENON	--	-	--	-	140	2
...OSCILLATORIA						
....LYNGBYA	--	-	--	-	2100#	25
....OSCILLATORIA	2600#	71	19000#	82	3900#	46
...RIVULARIACEAE						
....RAPHIDIOPSIS	--	-	3500#	15	250	3
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENACEAE						
....TRACHELOMONAS	--	-	--	-	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

PERIPHYTON

Date	Length of Exposure (days)	Biomass (mg/m ²)		Chlorophyll		Sampling method
		Dry weight (00573)	Ash weight (00572)	a (mg/m ²) (70957)	b (mg/m ²) (70958)	
Nov. 16, 1978	27	19.9	16.4	23.9	6.04	Polyethylene Strip
May 10, 1979	21	81.0	77.6	27.2	1.22	Polyethylene Strip
Aug. 9, 1979	29	3.94	3.54	6.10	.660	Polyethylene Strip

GASCONADE RIVER BASIN

06927800 OSAGE FORK AT DRYNOB, MO

LOCATION.--Lat 37°38'00", long 92°27'12", in NW¼NE¼ sec.27, T.34 N., R.14 W., Laclede County, Hydrologic Unit 10290201, on downstream end of right bridge pier on State Highway 32, 0.1 mi (0.2 km) downstream from Walker Hollow, 0.6 mi (1.0 km) southwest of Drynob, 1.6 mi (2.6 km) upstream from Core Creek, and 12 mi (19.3 km) southeast of Lebanon.

DRAINAGE AREA.--404 mi² (1,046 km²).

PERIOD OF RECORD.--August 1962 to current year. Occasional low-flow measurements 1942, 1944-47, 1952, 1953, 1956.

REVISED RECORDS.--WSP 2119: 1963, 1965(M).

GAGE.--Water-stage recorder. Datum of gage is 927.85 ft (282.809 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for period of no gage-height record, which are poor. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--17 years, 296 ft³/s (8.383 m³/s), 9.95 in/yr (253 mm/yr), 214,500 acre-ft/yr (264 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,300 ft³/s (603 m³/s) Apr. 12, 1979, gage height, 17.96 ft (5.474 m); minimum, 7.2 ft³/s (0.20 m³/s) Sept. 19, 1976, gage height, 1.86 ft (0.567 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known about 31 ft (9.45 m) in 1903, flood in September 1914 reached a stage of 29.3 ft (8.93 m), flood in May 1943 reached a stage of 28.5 ft (8.69 m), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (142 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Feb. 23	1000	5550	157	11.61	3.539	May 11	2130	9280	262	13.80	4.206
Apr. 12	0900	*21300	603	*17.96	5.474	May 21	0030	6150	174	12.05	3.673
May 3	1615	5590	158	11.64	3.548	July 29	0030	10500	297	14.31	4.362

Minimum discharge, 22 ft³/s (0.62 m³/s) Oct. 7, 8, 9, 10, 11; minimum gage height, 2.33 ft (0.710 m) Nov. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	35	400	112	150	777	1170	304	282	143	917	342
2	29	36	300	122	150	717	2810	290	259	130	751	605
3	28	35	250	100	150	663	1340	3850	242	123	597	446
4	27	35	300	100	150	740	1000	4630	229	125	499	332
5	26	35	350	100	150	640	832	2430	218	1250	396	251
6	24	35	250	100	150	563	682	1400	205	451	314	398
7	22	36	200	100	150	514	588	1020	212	275	270	328
8	22	35	180	100	150	472	543	789	263	228	235	209
9	22	35	170	100	150	434	552	643	284	521	210	170
10	22	35	170	100	150	398	514	556	233	877	194	146
11	26	37	163	100	150	363	5500	4910	200	444	213	130
12	26	36	154	100	150	336	14800	2810	181	306	182	118
13	32	37	151	100	200	319	2500	1110	169	241	162	108
14	43	46	148	100	281	303	1460	781	160	199	152	98
15	43	68	142	100	297	282	1080	607	149	172	153	90
16	42	86	136	100	1060	266	874	532	140	153	149	83
17	39	214	128	100	500	255	745	458	132	152	147	79
18	37	447	119	100	300	249	653	398	124	131	136	76
19	36	308	112	100	276	373	589	383	115	117	127	72
20	36	234	108	178	294	869	518	3610	178	106	119	69
21	35	188	104	375	645	787	462	3760	134	95	119	69
22	34	161	95	359	2160	675	426	1220	110	88	122	66
23	35	147	88	313	4880	1460	396	825	105	83	108	64
24	35	135	80	330	2270	1440	385	615	491	79	102	62
25	35	120	76	327	1330	989	375	510	305	107	96	60
26	35	300	71	324	995	757	413	438	201	841	91	57
27	34	1000	65	299	812	629	438	387	163	801	91	54
28	35	900	63	200	721	554	391	351	144	5190	102	51
29	35	700	65	180	---	523	352	319	141	3440	103	50
30	35	500	71	170	---	534	322	300	147	1030	160	49
31	35	---	102	160	---	561	---	318	---	775	241	---
TOTAL	997	6016	4811	5149	18821	18442	42710	40554	5916	18673	7258	4732
MEAN	32.2	201	155	166	672	595	1424	1308	197	602	234	158
MAX	43	1000	400	375	4880	1460	14800	4910	491	5190	917	605
MIN	22	35	63	100	150	249	322	290	105	79	91	49
CFSM	.08	.50	.38	.41	1.66	1.47	3.53	3.24	.49	1.49	.58	.39
IN.	.09	.55	.44	.47	1.73	1.70	3.93	3.73	.54	1.72	.67	.44
AC-FT	1980	11930	9540	10210	37330	36580	84720	80440	11730	37040	14400	9390
CAL YR 1978	TOTAL	89584	MEAN 245	MAX 6780	MIN 18	CFSM .61	IN 8.25	AC-FT 177700				
WTR YR 1979	TOTAL	174079	MEAN 477	MAX 14800	MIN 22	CFSM 1.18	IN 16.03	AC-FT 345300				

GASCONADE RIVER BASIN

06928600 GASCONADE RIVER NEAR HOOKER, MO

LOCATION.--Lat 37°53'31", long 92°04'53" in SW 1/4 sec.36, T.37 N., R.11 W., Pulaski County, Hydrologic Unit 10290201, at bridge on State highway 28 2.5 mi (4.0 km) northwest of Hooker.

PERIOD OF RECORD.--July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARDNESS (MG/L AS CaCO3) (00900)
OCT 17...	1028	29001	190	362	7.9	13.0	9.8	92	18	32	170
NOV 20...	1028	29001	1600	350	7.6	8.0	10.7	90	11	780	--
DEC 15...	1028	29001	620	375	7.8	3.0	12.6	93	5	72	--
JAN 29...	1028	29001	820	310	7.2	.5	13.8	96	1	72	150
FEB 27...	1028	29001	4800	235	7.9	7.0	11.4	94	17	150	--
MAR 20...	1028	29001	1250	325	7.7	12.5	10.0	93	3	100	--
APR 11...	1028	29001	1150	270	7.9	12.0	9.9	92	14	--	130
MAY 23...	1028	29001	5000	227	7.5	18.0	7.8	81	36	1000	--
JUN 12...	1028	29001	245	338	7.3	21.0	6.6	73	14	12	--
JUL 02...	1028	29001	420	330	7.6	25.0	10.3	124	1	50	170
AUG 30...	1028	29001	395	320	7.9	23.0	7.4	85	1	96	--
SEP 14...	1028	29001	410	368	7.3	19.0	9.0	96	4	4	--

DATE	HARDNESS, NONCARBONATE (MG/L AS CaCO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)	MAGNESIUM DIS-SOLVED (MG/L AS Mg) (00925)	SODIUM, DIS-SOLVED (MG/L AS Na) (00930)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	BICARBONATE (MG/L AS HCO3) (00440)	CARBONATE (MG/L AS CO3) (00445)	ALKALINITY (MG/L AS CaCO3) (00410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS Cl) (00940)
OCT 17...	0	49	10	2.0	.8	240	0	197	4.8	<1.0	14
NOV 20...	--	--	--	--	--	232	0	190	9.3	--	--
DEC 15...	--	--	--	--	--	208	0	171	5.3	--	--
JAN 29...	17	29	18	2.6	1.2	164	0	135	17	5.8	4.5
FEB 27...	--	--	--	--	--	128	0	105	2.6	--	--
MAR 20...	--	--	--	--	--	194	0	159	6.2	--	--
APR 11...	0	27	15	2.6	1.7	172	0	141	3.5	10	3.5
MAY 23...	--	--	--	--	--	116	0	95	5.9	--	--
JUN 12...	--	--	--	--	--	192	0	157	15	--	--
JUL 02...	4	34	20	2.4	1.8	204	0	167	8.2	<5.0	11
AUG 30...	--	--	--	--	--	204	0	167	4.1	--	--
SEP 14...	--	--	--	--	--	188	0	154	15	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

[illegible]

GASCONADE RIVER BASIN

06930000 BIG PINEY RIVER NEAR BIG PINEY, MO

LOCATION.--Lat 37°39'58", long 92°03'02", in NE&SE sec.8, T.34 N., R.10 W., Pulaski County, Hydrologic Unit 10290202, on downstream side of left pier of Ross bridge, 3 mi (4.8 km) east of Big Piney, 14.8 mi (23.8 km) upstream from Spring Creek, and at mile 22 (35.4 km).

DRAINAGE AREA.--560 mi² (1,450 km²), approximately.

PERIOD OF RECORD.--October 1921 to current year.

REVISED RECORDS.--WSP 826: 1935. WSP 1176: 1943, 1945. WSP 1340: 1922-23, 1927-28(M), 1933(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 800.99 ft (244.142 m) National Geodetic Vertical Datum of 1929, Prior to July 12, 1961, nonrecording gage at same site and datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--58 years, 540 ft³/s (15.29 m³/s), 13.10 in/yr (333 mm/yr), 391,200 acre-ft/yr (482 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,700 ft³/s (926 m³/s) Dec. 27, 1942, gage height, 20.7 ft (6.31 m) from floodmark; minimum, 69 ft³/s (1.95 m³/s) Sept. 17, 18, 1954; minimum gage height, 1.60 ft (0.488 m) July 30, 31, 1926, Sept. 5, 6, 9-11, 17, 18, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,800 ft³/s (193 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Feb. 23	1415	10800	306	13.19	4.020	May 4	1315	13500	382	14.49	4.417
Apr. 12	1615	*21500	609	*17.67	5.386	July 29	0230	19200	544	16.82	5.127

Minimum discharge, 107 ft³/s (3.03 m³/s) Oct. 7, 8, 9, gage height, 2.07 ft (0.631 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117	124	429	190	130	1520	1130	803	503	252	2350	420
2	114	124	368	220	130	1620	2570	751	474	272	2030	788
3	116	123	340	190	130	1330	1930	5990	452	260	1360	776
4	114	123	406	180	130	2140	1420	7850	432	260	1060	506
5	113	123	470	170	130	1780	1180	3940	416	477	894	412
6	111	124	405	160	130	1310	980	2560	398	1140	776	358
7	109	127	371	150	130	1090	838	1940	409	600	694	323
8	109	124	562	150	130	941	769	1570	629	491	629	289
9	107	124	609	150	130	834	767	1310	739	750	583	264
10	115	124	486	140	130	744	778	1120	525	1500	546	244
11	131	123	407	130	130	664	3240	1140	447	874	536	232
12	130	122	359	130	130	612	17800	1740	399	606	501	223
13	146	122	325	120	130	572	5770	1510	363	496	482	213
14	146	130	297	120	130	531	2510	1220	340	430	467	208
15	149	145	275	120	130	496	1890	1030	319	394	462	202
16	139	173	258	120	244	467	1540	920	306	358	444	196
17	133	473	244	120	472	444	1310	936	293	341	430	192
18	128	1060	230	174	399	430	1150	836	285	332	417	189
19	125	517	219	250	244	664	1030	753	276	315	400	182
20	124	368	210	300	203	1390	936	1560	272	310	385	181
21	124	296	205	449	217	2610	863	3240	264	302	371	182
22	124	258	199	435	1630	1260	800	1920	256	310	366	181
23	127	232	191	332	8810	2530	766	1380	256	306	356	177
24	127	214	183	300	4370	2780	777	1100	268	302	352	174
25	128	206	179	280	2290	1740	859	907	272	302	336	171
26	127	291	174	250	1830	1310	1270	784	272	323	324	169
27	128	1710	167	220	1520	1050	1490	711	260	561	320	165
28	128	1190	161	200	1310	921	1180	645	256	8850	323	165
29	127	717	160	180	---	855	1010	588	256	9910	305	164
30	126	531	161	160	---	893	891	552	256	1930	324	165
31	127	---	181	140	---	1090	---	524	---	1360	318	---
TOTAL	3869	10118	9231	6230	25489	36618	59444	51830	10893	34914	19141	8111
MEAN	125	337	298	201	910	1181	1981	1672	363	1126	617	270
MAX	149	1710	609	449	8810	2780	17800	7850	739	9910	2350	788
MIN	107	122	160	120	130	430	766	524	256	252	305	164
CFSM	.22	.60	.53	.36	1.63	2.11	3.54	2.99	.65	2.01	1.10	.48
IN.	.26	.67	.61	.41	1.69	2.43	3.95	3.44	.72	2.32	1.27	.54
AC-FT	7670	20070	18310	12360	50560	72630	117900	102800	21610	69250	37970	16090

CAL YR 1978 TOTAL 158388 MEAN 434 MAX 17200 MIN 107 CFSM .78 IN 10.52 AC-FT 314200
WTR YR 1979 TOTAL 275888 MEAN 756 MAX 17800 MIN 107 CFSM 1.35 IN 18.33 AC-FT 547200

GASCONADE RIVER BASIN

06930450 BIG PINEY RIVER AT DEVILS ELBOW, MO

LOCATION.--Lat 37°50'53", long 93°03'44" in SE4NE4 sec.18, T.36 N., R.10 W., Pulaski County, Hydrologic Unit 10290202, at bridge on county highway V at Devils Elbow.

PERIOD OF RECORD.--July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHUS) (00095)	PH (UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARD-NESS (MG/L AS CaCO3) (00900)
OCT 17...	1028	29001	210	362	7.9	12.0	10.0	93	12	240	120
NOV 20...	1028	29001	380	270	7.6	8.0	10.4	87	20	1600	--
DEC 15...	1028	29001	320	335	8.0	3.5	11.8	89	13	8	--
JAN 29...	1028	29001	550	318	8.0	.0	14.0	96	11	6	150
FEB 27...	1028	29001	1700	220	7.6	7.0	12.0	99	13	15	--
MAR 20...	1028	29001	1370	245	7.6	14.0	9.2	88	11	100	--
APR 10...	1028	29001	300	255	8.0	12.5	11.1	104	7	18	130
MAY 23...	1028	29001	1100	240	7.4	17.5	9.4	98	3	220	--
JUN 12...	1028	29001	145	278	--	21.5	7.6	85	6	24	--
JUL 02...	1028	29001	330	300	7.6	23.0	9.4	108	4	300	160
AUG 30...	1028	29001	325	260	7.7	21.5	6.2	70	10	150	--
SEP 14...	1028	29001	255	375	7.5	18.5	9.2	97	5	40	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L AS CaCO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg) (00925)	SODIUM, DIS-SOLVED (MG/L AS Na) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE (MG/L AS HCO3) (00440)	CAR-BONATE (MG/L AS CO3) (00445)	ALKA-LINITY (MG/L AS CaCO3) (00410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT 17...	0	30	10	1.2	.6	236	0	194	4.8	<1.0	20
NOV 20...	--	--	--	--	--	166	0	136	6.7	--	--
DEC 15...	--	--	--	--	--	188	0	154	3.0	--	--
JAN 29...	8	30	18	2.7	.9	176	0	144	2.8	5.7	4.1
FEB 27...	--	--	--	--	--	126	0	103	5.1	--	--
MAR 20...	--	--	--	--	--	168	0	138	6.8	--	--
APR 10...	0	24	15	1.7	1.1	158	0	130	2.5	<10	2.7
MAY 23...	--	--	--	--	--	120	0	98	7.6	--	--
JUN 12...	--	--	--	--	--	148	0	121	--	--	--
JUL 02...	9	31	18	2.7	1.4	180	0	148	7.2	<5.0	9.0
AUG 30...	--	--	--	--	--	182	0	149	5.8	--	--
SEP 14...	--	--	--	--	--	180	0	148	9.1	--	--

GASCONADE RIVER BASIN

06930800 GASCONADE RIVER ABOVE JEROME, MO
(National stream-quality accounting network station)

LOCATION.--Lat 37°55'12", long 91°58'33", in NE¼ sec. 24, T.27N, R.10W., Phelps County, Hydrologic Unit 10290203, at bridge on County Highway D at Jerome, 150 ft (46 m) upstream from Little Piney Creek, 0.7 mi (1.1 km) upstream from gaging station.

DRAINAGE AREA.--2570 mi² (6660 km²).

PERIOD OF RECORD.--January 1978 to September 1979.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1978 to September 1979.

WATER TEMPERATURE: March 1978 to September 1979.

REMARKS.--Water temperature and specific conductance samples collected daily by observer.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 347 micromhos Sept. 23, 1978; minimum, 144 micromhos Mar. 27, 1978.

WATER TEMPERATURES: Maximum daily, 30.5°C June 19; minimum 0.0°C on many days during winter period.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 347 micromhos Sept. 23, minimum, 144 micromhos March 27.

WATER TEMPERATURES: Maximum daily, 30.5°C June 19, minimum 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW; INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, .0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT 17...	450	350	7.9	13.0	1.5	10.4	98	28	4	190	24	39
NOV 20...	2670	320	8.1	8.0	26	10.1	85	1900	1600	180	0	35
DEC 15...	1110	350	7.7	3.5	14	12.2	92	48	32	180	12	36
JAN 29...	2630	330	7.7	.5	2.8	13.4	93	10	40	160	13	33
FEB 27...	7670	235	7.9	5.0	9.0	11.5	90	100	4600	120	17	28
MAR 20...	2630	268	7.9	13.0	6.9	9.8	92	55	30	150	19	32
APR 24...	2560	273	8.0	15.5	1.0	8.3	83	95	140	140	0	28
MAY 23...	12400	250	7.7	18.0	36	8.0	83	1200	1400	110	8	23
JUN 12...	1670	326	7.5	21.0	20	8.4	93	36	--	150	5	33
JUL 02...	910	320	7.9	22.5	2.5	8.0	91	100	34	150	14	30
AUG 30...	990	300	8.0	23.0	1.2	7.0	80	30	870	150	0	31
SEP 14...	800	294	7.8	20.0	1.1	9.0	98	42	--	150	0	31

GASCONADE RIVER BASIN

06930800 GASCONADE RIVER ABOVE JEROME, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 17...	22	2.6	1.6	230	0	6.9	4.1	.2	6.5	187	227	.13
NOV 20...	22	2.8	2.2	218	0	11	5.1	.1	6.8	192	1380	.18
DEC 15...	21	2.5	1.7	200	0	11	6.0	.1	7.6	185	554	.75
JAN 29...	19	3.1	1.2	180	0	13	6.2	.1	6.1	169	1200	.78
FEB 27...	13	2.4	1.7	130	0	13	4.8	.0	8.1	141	2920	1.1
MAR 20...	18	2.5	3.1	160	0	17	6.7	.2	5.5	177	1260	.64
APR 24...	16	2.4	1.3	170	0	10	4.6	.1	7.9	152	1050	.78
MAY 23...	12	2.5	2.5	120	0	11	3.5	.1	6.4	134	4490	.33
JUN 12...	17	3.5	1.0	180	0	11	4.5	.1	3.7	164	739	.25
JUL 02...	19	4.0	1.8	170	0	9.3	4.3	.1	7.6	151	371	.38
AUG 30...	18	2.4	1.4	192	0	11	4.0	.1	3.3	159	425	.08
SEP 14...	18	2.9	2.9	190	0	15	3.8	.2	6.7	171	369	.25

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 17...	.01	.14	.15	1.2	.120	.060	1.9	--	--	--	--	--
NOV 20...	.01	.50	.41	3.0	.110	--	--	3.4	2.1	78	562	84
DEC 15...	.01	.26	.11	4.5	.060	.040	2.0	--	--	35	105	13
JAN 29...	.02	.18	.32	4.3	.020	.010	1.9	--	--	3	21	30
FEB 27...	.06	.38	.31	6.6	.090	.070	--	3.9	--	93	1930	--
MAR 20...	.03	.14	.16	3.5	.030	.020	1.3	--	--	18	128	87
APR 24...	.01	.26	.13	4.6	.030	.010	1.9	--	--	13	90	90
MAY 23...	.10	.73	.72	4.7	.040	.040	--	7.5	--	85	2850	79
JUN 12...	.03	.55	.56	3.5	.030	.010	4.5	--	--	250	1130	54
JUL 02...	.05	.11	.03	2.2	.120	.120	1.8	--	--	206	506	50
AUG 30...	.19	.62	.05	3.1	.010	.010	--	5.6	.1	183	489	52
SEP 14...	.05	3.6	.59	17	.010	.010	--	--	--	--	--	--

GASCONADE RIVER BASIN

06930800 GASCONADE RIVER ABOVE JEROME, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
NOV 20...	1	0	100	60	0	<1	0	0	0
FEB 27...	1	0	0	0	0	0	10	10	3
MAY 23...	1	1	0	0	0	1	0	0	0
AUG 30...	1	1	0	60	0	<1	10	10	0

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 20...	<3	3	2	920	30	1	1	120	6
FEB 27...	0	8	2	580	40	18	0	80	0
MAY 23...	0	14	3	1900	40	34	2	100	0
AUG 30...	<3	2	1	90	20	9	0	20	7

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 20...	.1	.0	0	0	0	0	20	<3
FEB 27...	.2	.0	1	0	0	0	30	20
MAY 23...	.3	.1	1	0	0	0	40	10
AUG 30...	.0	.0	0	0	0	0	0	10

GASCONADE RIVER BASIN

06930800 GASCONADE RIVER ABOVE JEROME, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	303	385	298	334	330	268	288	300	280	310	254	---
2	---	370	300	335	345	268	392	---	278	310	240	---
3	---	360	304	335	348	271	265	290	280	366	264	---
4	---	360	318	338	332	272	250	---	285	315	---	260
5	318	365	320	345	331	268	258	---	290	275	298	260
6	321	360	314	345	371	269	270	220	295	247	---	273
7	326	360	324	339	340	289	292	242	298	236	287	---
8	327	360	326	345	339	277	295	260	---	226	332	---
9	---	370	326	---	355	285	303	278	298	224	298	---
10	326	365	326	345	336	292	---	295	305	140	300	320
11	332	365	332	---	342	297	140	265	295	262	---	315
12	325	---	330	339	382	305	150	---	295	266	---	314
13	328	365	330	341	339	304	116	---	---	247	---	---
14	332	360	338	345	332	308	---	260	295	---	292	297
15	---	430	345	360	289	307	220	278	290	---	---	312
16	332	---	334	359	335	311	248	280	300	290	318	---
17	---	400	331	305	336	313	---	280	315	312	310	---
18	---	360	339	350	322	321	282	---	---	---	---	392
19	340	350	329	348	356	311	---	230	318	---	303	---
20	346	360	352	345	279	308	---	225	305	312	302	319
21	350	338	345	---	272	265	---	210	310	---	312	317
22	---	316	351	350	248	285	---	185	318	328	340	314
23	---	316	343	---	213	265	---	203	---	---	---	315
24	342	338	420	---	171	242	287	235	285	---	315	328
25	329	332	---	322	174	255	290	255	285	314	---	314
26	345	---	345	321	208	258	293	---	282	302	312	315
27	356	308	340	341	247	265	---	265	282	---	312	328
28	352	272	340	321	251	275	---	270	300	182	313	319
29	352	306	341	321	---	278	---	275	310	---	315	347
30	360	300	---	317	---	288	297	275	305	147	297	---
31	360	---	329	320	---	288	---	275	---	---	---	---
MEAN	336	351	333	337	304	284	260	256	296	267	301	314

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	14.5	9.0	.0	1.0	5.0	9.5	17.0	23.0	24.0	24.5	---
2	---	14.5	8.0	---	1.0	5.0	8.5	---	22.0	26.0	25.0	---
3	---	14.5	7.0	.0	1.0	5.0	7.0	13.0	23.0	28.5	24.5	---
4	---	15.5	7.5	---	.0	5.5	7.0	---	24.0	28.0	---	25.0
5	18.0	15.5	8.0	---	---	5.5	8.0	---	24.0	24.0	27.0	24.0
6	17.0	9.0	7.0	.0	---	6.0	9.0	15.0	25.0	22.5	---	24.0
7	15.5	9.0	4.0	---	1.0	4.0	10.0	19.0	25.0	23.0	26.0	---
8	16.0	10.0	4.0	.0	---	5.0	9.0	19.5	---	24.0	30.0	---
9	---	12.0	3.0	---	---	5.0	9.5	20.0	26.0	25.0	28.5	---
10	18.0	13.0	3.5	---	.0	6.0	---	21.0	25.0	25.0	29.0	23.5
11	15.0	12.0	4.5	---	1.0	8.0	10.0	18.0	24.0	25.0	---	24.5
12	15.0	---	5.5	---	.0	10.0	13.0	---	23.0	24.5	---	24.0
13	16.0	17.0	4.0	---	2.0	10.0	11.0	---	24.0	24.5	---	---
14	15.5	12.0	5.0	.0	1.0	8.0	---	18.0	27.5	---	23.0	22.0
15	---	9.0	5.0	---	1.0	8.0	10.0	14.0	27.0	---	---	21.0
16	12.0	---	6.0	.0	.5	9.0	12.0	17.5	27.5	27.0	25.0	---
17	---	9.0	4.0	.0	---	9.0	---	20.0	27.5	26.0	25.0	---
18	---	9.0	4.0	2.0	.0	9.5	20.0	---	27.5	---	---	22.5
19	15.0	8.0	7.0	1.0	2.0	11.0	---	17.0	30.5	---	26.0	---
20	16.0	8.0	7.0	1.0	2.0	12.0	---	19.0	29.0	25.0	28.0	22.0
21	15.0	9.0	7.0	---	3.0	12.0	---	18.0	28.0	---	27.0	19.5
22	---	7.0	5.0	.0	3.0	10.0	---	20.0	25.0	27.0	26.0	19.0
23	---	10.0	5.0	---	4.0	9.0	---	19.5	---	---	---	22.0
24	15.5	9.5	5.0	---	3.0	9.0	17.0	19.0	25.0	---	27.0	21.5
25	15.0	10.0	3.0	1.0	2.0	8.0	14.0	17.0	24.5	27.0	---	22.5
26	15.0	---	3.5	1.0	4.0	9.0	17.0	---	25.0	27.0	24.5	23.0
27	15.5	9.0	3.0	1.0	5.0	9.5	---	19.0	25.0	---	24.5	---
28	13.5	8.0	3.0	---	4.0	12.0	---	22.0	28.0	24.5	26.0	---
29	11.5	8.5	5.0	---	---	10.5	---	19.5	26.0	---	25.0	---
30	14.0	9.0	.5	.0	---	10.5	15.0	22.0	27.0	---	24.0	---
31	14.0	---	1.0	---	---	9.0	---	22.0	---	26.5	---	---
MEAN	15.5	11.0	5.0	.5	2.0	8.0	11.5	18.5	25.5	25.5	26.0	22.5

GASCONADE RIVER BASIN

06930800 GASCONADE RIVER ABOVE JEROME, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979.

PHYTOPLANKTON

DATE TIME	NOV. 20, 78 1100	MAR 20, 79 1330	MAY 23, 79 1045	JUN 12, 79 1045
TOTAL CELLS/ML	460	1200	260	210
DIVERSITY: DIVISION	0.6	1.5	1.0	0.5
..CLASS	0.6	1.5	1.0	0.5
..ORDER	1.5	2.1	1.5	1.1
...FAMILY	2.4	2.8	2.2	2.3
....GENUS	2.7	3.0	2.4	2.3

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...MICRACTINIACEAE								
....MICRACTINIUM	--	-	61	5	--	-	--	-
....OOCYSTACEAE								
....ANKISTRODESMUS	14	3	--	-	13	5	--	-
....SELENASTRUM	--	-	--	-	13	5	--	-
....TREUBARIA	--	-	--	-	13	5	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	31	2	--	-	--	-
....CRUCIGENIA	--	-	46	4	--	-	--	-
....SCENEDESMUS	58	13	46	4	77#	30	--	-
..TETRASPORALES								
...COCCOMYXACEAE								
....OUROCOCCUS	--	-	--	-	--	-	--	-
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	15	1	--	-	26	13
..ZYGEMATALES								
...DESMIDIACEAE								
....COSMARIUM	--	-	--	-	--	-	--	-
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCEACEAE								
....CYCLOTELLA	72#	16	440#	35	39	15	26	13
....MELOSIRA	120#	25	8	1	--	-	--	-
..PENNALES								
...ACHNANTHACEAE								
....COCCONEIS	--	-	--	-	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	--	-	15	1	--	-	52#	25
...DIATOMACEAE								
....DIATOMA	29	6	8	1	--	-	--	-
....OPEPHORA	--	-	--	-	--	-	--	-
...FRAGILARIACEAE								
....FRAGILARIA	--	-	69	6	--	-	--	-
....SYNEDRA	--	-	--	-	--	-	13	6
...GUMPHONEMACEAE								
....GUMPHONEMA	29	6	53	4	--	-	--	-
...NAVICULACEAE								
....NAVICULA	100#	22	92	7	26	10	--	-
...NITZSCHACEAE								
....NITZSCHIA	43	9	38	3	77#	30	77#	38
...SURIRELLACEAE								
....SURIRELLA	--	-	31	2	--	-	13	6

GASCONADE RIVER BASIN

06930800 GASCONADE RIVER ABOVE JEROME, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 20,78 1100		MAR 20,79 1330		MAY 23,79 1045		JUN 12,79 1045	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
....CRYPTOMONADACEAE								
.....CRYPTOMONAS	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
....CHROOCOCCACEAE								
.....ANACYSTIS	--	-	270#	22	--	-	--	-
EUGLENOPHYTA (EUGLENIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
.....EUGLENA	--	-	23	2	--	-	--	-

GASCONADE RIVER BASIN

06930800 GASCONADE RIVER ABOVE JEROME, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 2,79 1100	AUG 30,79 1215	SEP 14,79 1300
TOTAL CELLS/ML	52	950	160
DIVERSITY: DIVISION	0.8	1.0	0.4
..CLASS	0.8	1.0	0.4
...ORDER	0.8	1.6	1.1
....FAMILY	0.8	3.0	2.6
....GENUS	0.8	3.0	2.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...MICRACTINIAEAE						
....MICRACTINIUM	--	-	--	-	--	-
...DOCYSTACEAE						
....ANKISTRODESMUS	--	-	18	2	14	9
...SELENASTRUM	--	-	--	-	--	-
...TREUBARIA	--	-	--	-	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	--	-	--	-
....CRUCIGENIA	--	-	--	-	--	-
...SCENEDESMUS	--	-	--	-	--	-
...TETRASPORALES						
...COCCOMYXACEAE						
...OUROCOCCUS	--	-	9	1	--	-
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	--	-	230#	24	--	-
...ZYGNEATALES						
...DESMIDIACEAE						
...COSMARITUM	--	-	18	2	--	-
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	--	-	18	2	29#	18
....MELOSIRA	--	-	70	7	--	-
...PENNALES						
...ACHNANTHACEAE						
...CUCCONEIS	39#	75	35	4	29#	18
...CYMBELLACEAE						
....CYMBELLA	--	-	44	5	--	-
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
....OPEPHURA	--	-	9	1	--	-
...FRAGILARIACEAE						
....FRAGILARIA	--	-	--	-	29#	18
...SYNEDRA	--	-	70	7	--	-
...GOMPHONEMACEAE						
....GOMPHONEMA	--	-	18	2	29#	18
...NAVICULACEAE						
....NAVICULA	--	-	170#	18	29#	18
...NITZSCHACEAE						
....NITZSCHIA	--	-	230#	24	--	-
...SURIPELLACEAE						
....SURIPELLA	--	-	--	-	--	-

GASCONADE RIVER BASIN

06930800 GASCONADE RIVER ABOVE JEROME, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 2,79 1100		AUG 30,79 1215		SEP 14,79 1300	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	13#	25	18	2	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

GASCONADE RIVER BASIN

06932000 LITTLE PINEY CREEK AT NEWBURG, MO

LOCATION.--Lat 37°54'35", long 91°54'12", in SE¼ sec.22, T.37 N., R.9 W., Phelps County, Hydrologic Unit 10290203, on left bank at downstream side of bridge on State Highway P and T at Newburg, and 2 mi (3.2 km) upstream from Mill Creek.

DRAINAGE AREA.--200 mi² (520 km²), approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 693.40 ft (211.348 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1951, all gages at datum 3.0 ft (0.914 m) higher. Prior to Nov. 21, 1963, nonrecording gage at site 100 ft (30 m) downstream. Nov. 21, 1963, to May 9, 1966, nonrecording gage at present site.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--51 years, 150 ft³/s (4.248 m³/s), 10.18 in/yr (259 mm/yr), 108,700 acre-ft/yr (134 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft³/s (920 m³/s) Aug. 14, 1946, gage height, 16.2 ft (4.94 m), present datum from floodmark, from rating curve extended above 21,000 ft³/s (595 m³/s) on basis of slope-area measurements at gage heights 15.0 ft (4.57 m) and 16.2 ft (4.94 m); maximum gage height, 16.26 ft (4.956 m) June 26, 1935, from floodmark, present datum; minimum discharge, 24 ft³/s (0.68 m³/s) Aug. 22-31, 1936, Sept. 19, 20, 1954, Oct. 10-16, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 16.7 ft (5.09 m) Aug. 20, 1915, from floodmark, present datum; discharge, 30,000 ft³/s (850 m³/s), from rating curve based on discharge measurements made in 1935 and extended above 25,000 ft³/s (708 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,900 ft³/s (139 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Apr. 11	1930	*13800	391	*13.61	4.148
July 28	0415	9150	259	11.29	3.441

Minimum discharge, 34 ft³/s (0.96 m³/s) Oct. 2, 3; minimum gage height, 1.99 ft (0.607 m) Sept. 26, 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	48	86	93	83	222	297	193	193	90	574	549
2	35	48	78	91	81	198	338	190	182	93	350	698
3	38	47	297	84	78	222	267	486	176	97	264	271
4	37	48	169	68	72	241	267	796	165	99	216	210
5	36	48	130	65	69	207	241	554	158	130	193	173
6	37	47	107	62	67	184	207	425	150	96	173	158
7	36	47	105	63	67	173	190	355	148	96	160	158
8	37	46	96	58	64	155	187	297	153	100	155	138
9	37	47	88	63	59	152	173	274	148	132	145	123
10	39	47	82	55	59	140	163	254	145	90	140	112
11	43	47	82	51	60	133	2560	317	140	88	130	104
12	39	46	81	52	69	126	2260	297	128	84	120	101
13	54	48	82	54	70	126	775	282	119	86	110	93
14	43	61	80	50	75	119	529	244	119	81	100	85
15	41	75	81	57	206	112	402	222	104	84	100	81
16	40	67	79	53	219	110	350	222	92	80	100	79
17	40	128	75	51	160	107	282	219	90	77	97	79
18	40	93	74	66	136	105	248	187	97	76	91	77
19	40	75	75	170	122	128	225	179	96	76	88	78
20	41	68	78	317	128	204	198	2640	98	73	86	76
21	40	65	74	236	232	244	182	1060	89	74	88	72
22	41	63	69	178	1280	325	165	678	90	71	86	72
23	44	64	68	367	1710	951	163	519	101	67	84	71
24	45	63	68	333	619	505	184	407	103	60	82	68
25	46	62	65	210	416	368	195	350	91	76	82	69
26	47	1120	63	171	309	285	606	309	98	90	81	67
27	46	325	60	155	261	241	363	285	93	101	81	67
28	47	171	60	128	238	207	289	257	94	4770	84	66
29	47	124	62	108	---	244	248	225	115	574	84	67
30	47	100	71	102	---	248	207	219	97	402	93	65
31	47	---	82	94	---	216	---	219	---	329	93	---
TOTAL	1288	3338	2767	3705	7009	6998	12761	13161	3672	8442	4330	4127
MEAN	41.5	111	89.3	120	250	226	425	425	122	272	140	138
MAX	54	1120	297	367	1710	951	2560	2640	193	4770	574	698
MIN	35	46	60	50	59	105	163	179	89	60	81	65
CFSM	.21	.56	.45	.60	1.25	1.13	2.13	2.13	.61	1.36	.70	.69
IN.	.24	.62	.51	.69	1.30	1.30	2.37	2.45	.68	1.57	.81	.77
AC-FT	2550	6620	5490	7350	13900	13880	25310	26100	7280	16740	8590	8190

CAL YR 1978	TOTAL	41942	MEAN 115	MAX	2400	MIN 34	CFSM .58	IN 7.80	AC-FT	83190
WTR YR 1979	TOTAL	71598	MEAN 196	MAX	4770	MIN 35	CFSM .98	IN 13.32	AC-FT	142000

06933500 GASCONADE RIVER AT JEROME, MO

LOCATION.--Lat 37°55'35", long 91°58'40", in SE¼ sec.13, T.37 N., R.10 W., Phelps County, Hydrologic Unit 10290203, on left bank at Jerome, 0.5 mi (0.8 km) downstream from Little Piney Creek, and at mile 107 (172.2 km).

DRAINAGE AREA.--2,840 mi² (7,360 km²), approximately.

PERIOD OF RECORD.--April 1903 to July 1906 (published as "at Arlington") and January 1923 to current year. October to December 1922 monthly discharge only, published in WSP 1310. Gage-height records collected intermittently in the vicinity 1885-1926 and at same site since 1938 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 172: 1904. WSP 566: Drainage area. WSP 1340: 1903-04, 1928(M).

GAGE.--Water-stage recorder. Datum of gage is 657.64 ft (200.449 m) National Geodetic Vertical Datum of 1929. Prior to July 26, 1904, nonrecording gage at site 0.8 mi (1.3 km) downstream at different datum. July 26, 1904, to July 21, 1906, nonrecording gage at site 0.5 mi (0.8 km) upstream from present site at datum about 0.85 ft (0.259 m) higher than present gage. Jan. 3, 1923, to Sept. 29, 1928, nonrecording gage at site 400 ft (122 m) downstream from present site at datum 0.14 ft (0.043 m) lower than present datum. Sept. 30, 1928, to Jan. 17, 1939, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--59 years (1903-05, 1922-79), 2,500 ft³/s (70.80 m³/s), 11.96 in/yr (304 mm/yr), 1,811,000 acre-ft/yr (2,230 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 101,000 ft³/s (2,860 m³/s) Apr. 15, 1945, gage height, 27.7 ft (8.44 m); minimum, 254 ft³/s (7.19 m³/s) Sept. 21, 22, 1956, gage height, 1.24 ft (0.378 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 6, 1897 reached a stage about 29.0 ft (8.84 m) Jan. 6, 1897, discharge, 120,000 ft³/s (3,400 m³/s). A stage of 28.6 ft (8.72 m) was reached on Aug. 20, 22, 1915, discharge, 114,000 ft³/s (3,230 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 16,000 ft³/s (453 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Feb. 24	1315	23,700	671	14.35	4.374	May 22	0230	18,200	515	11.40	3.475
Apr. 13	1730	*52,200	1480	*22.13	6.745	July 31	1715	28,300	801	15.87	4.837
May 5	0200	22,500	637	13.91	4.240						

Minimum discharge, 454 ft³/s (12.9 m³/s) Oct. 9, 10; minimum gage height, 1.68 ft (0.512 m) Nov. 3, 4, 5, 8, 9, 10, 11, 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	564	502	3040	1200	1860	5280	3980	2740	2480	1020	7190	1500		
2	536	501	2520	1210	1720	5190	5300	2540	2300	1040	7480	2000		
3	526	502	2640	1420	1690	5080	8860	3830	2150	1170	6560	2000		
4	502	500	2550	1310	1570	5010	8690	16900	2020	1130	5080	1500		
5	491	501	2440	1390	1420	5650	6390	20600	1920	1340	3910	1300		
6	477	508	2310	1420	1360	5380	5200	15400	1830	2660	3190	1200		
7	469	510	2170	1350	1360	4580	4380	9890	1770	4480	2730	1100		
8	461	504	1980	1270	1320	3900	3780	7260	1740	3320	2400	1100		
9	457	508	2080	1180	1230	3420	3360	5800	1970	2450	2150	1000		
10	466	509	2040	1140	1120	3040	3130	4820	2000	6450	1950	1000		
11	497	511	2040	1110	1130	2710	7850	5020	1940	5500	2040	1000		
12	494	508	1900	1090	1150	2460	33500	8070	1870	3940	2210	1000		
13	557	515	1780	1090	1130	2250	48900	10700	1730	2690	1850	1000		
14	531	584	1670	1110	1140	2070	47200	6860	1630	2130	1670	900		
15	519	679	1600	1120	1410	1890	21400	5210	1540	1790	1630	900		
16	515	681	1540	963	2020	1740	8440	4350	1460	1560	1640	900		
17	511	874	1470	988	2890	1620	6550	3840	1380	1400	1580	900		
18	541	1230	1400	1010	4160	1540	5460	3580	1300	1290	1480	900		
19	555	1450	1360	1140	3610	1670	4710	3190	1220	1200	1370	881		
20	553	2560	1320	1670	3020	2700	4130	8610	1160	1150	1310	852		
21	545	1940	1280	2110	3390	4900	3690	15600	1110	1070	1250	840		
22	544	1520	1240	2620	6530	6870	3300	17100	1080	1020	1190	822		
23	540	1300	1190	3310	14700	8230	3060	12700	1360	983	1140	798		
24	531	1130	1160	3890	22400	9960	2940	7320	1550	969	1120	789		
25	531	1040	1120	3750	19900	9860	2890	5310	1160	959	1080	774		
26	524	3370	1090	3740	15500	7700	3460	4390	1120	1090	1050	759		
27	513	4190	1060	3570	7820	5750	3840	3780	1290	1360	1040	745		
28	511	5050	1020	3020	6170	4660	3740	3310	1230	8350	1030	731		
29	508	5490	1030	2600	---	4060	3360	2970	1160	21700	1030	721		
30	506	4080	1080	2340	---	3670	3010	2730	1070	22400	1000	705		
31	502	---	1160	2140	---	3570	---	2670	---	23500	1000	---		
TOTAL	15977	43747	52280	57271	132720	136410	274500	227090	47540	131111	71350	30617		
MEAN	515	1458	1686	1847	4740	4400	9150	7325	1585	4229	2302	1021		
MAX	564	5490	3040	3890	22400	9960	48900	20600	2480	23500	7480	2000		
MIN	457	500	1020	963	1120	1540	2890	2540	1070	959	1000	705		
CFSM	.18	.51	.59	.65	1.67	1.55	3.22	2.58	.56	1.49	.81	.36		
IN.	.21	.57	.68	.75	1.74	1.79	3.60	2.97	.62	1.72	.93	.40		
AC-FT	31690	86770	103700	113600	263300	270600	544500	450400	94300	260100	141500	60730		
CAL YR 1978	TOTAL	748882	MEAN	2052	MAX	35000	MIN	436	CFSM	.72	IN	9.81	AC-FT	1485000
WTR YR 1979	TOTAL	1220613	MEAN	3344	MAX	48900	MIN	457	CFSM	1.18	IN	15.99	AC-FT	2421000

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO

LOCATION.--Lat 38°42'36", long 91°26'21", in SW¼ sec.25, T.46 N., R.5 W., Montgomery County, Hydrologic Unit 10300200, on downstream side of third pier from right abutment of bridge on State Highway 19 at Hermann. River mile, 97.9 (157.5 km).

DRAINAGE AREA.--524,200 mi² (1,358,000 km²) approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1897 to current year. Prior to August 1928 monthly discharge only published in WSP 1310. Gage-height records 1873-99 collected at site 480 ft (146 m) downstream are contained in reports of Missouri River Commission; since 1900 in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Nonrecording gage and water-stage recorder. Datum of gage is 481.56 ft (146.779 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 26, 1930, nonrecording gage at site 480 ft (146 m) downstream at datum 0.07 ft (0.021 m) lower. Sept. 26, 1930, to Mar. 27, 1932, nonrecording gage, Mar. 28, 1932, to June 12, 1945, water-stage recorder, June 13, 1945, to Apr. 2, 1946, May 13 to Sept. 30, 1978, nonrecording gage at present site and datum.

REMARKS.--Records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs.

AVERAGE DISCHARGE.--82 years, 79,690 ft³/s (2,257 m³/s), 57,740,000 acre-ft/yr (71,190 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 676,000 ft³/s (19,140 m³/s) June 6, 7, 1903, gage height, 21.5 ft (8.99 m), discharge computed by Corps of Engineers; maximum gage height, 33.70 ft (10.272 m) Apr. 25, 1973; minimum, about 4,200 ft³/s (119 m³/s) Jan. 10-12, 1940; minimum gage height observed, -0.80 ft (-0.244 m) Jan. 5, 6, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1844 reached a stage of 35.5 ft (10.82 m), discharge, about 892,000 ft³/s (25,260 m³/s) computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 289,000 ft³/s (8,180 m³/s) Apr. 13, gage height, 28.10 ft (8.565 m) floodmark; minimum, 20,500 ft³/s (581 m³/s) Jan. 9, gage height, 1.80 ft (0.549 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78200	65500	93800	41100	40400	129000	198000	100000	86300	109000	133000	71800
2	75600	65900	83900	39900	40700	125000	188000	102000	83900	113000	136000	86000
3	74900	65200	80400	40100	44700	120000	188000	105000	84900	109000	107000	75200
4	73100	66300	80700	39000	43400	157000	173000	138000	82100	107000	94400	83900
5	70100	66000	81400	37100	43800	211000	162000	171000	77200	102000	88000	88700
6	68200	64700	77400	33100	45400	245000	155000	188000	82900	98800	85300	72900
7	67800	65600	71000	22200	45800	242000	150000	176000	89800	95200	77400	67700
8	67400	68600	64100	21100	45400	214000	140000	144000	91300	110000	75700	65500
9	66300	66200	60000	21900	43500	220000	129000	126000	101000	102000	73000	67000
10	68000	70000	52700	28100	45800	225000	132000	120000	126000	97000	72600	69800
11	67700	69300	50200	27000	42100	202000	160000	121000	131000	96800	68800	69000
12	67400	70800	47200	25300	34600	173000	274000	121000	118000	114000	66400	68400
13	67000	70700	49800	24800	34400	144000	282000	120000	107000	105000	60600	62300
14	66800	72700	49700	25300	40900	132000	254000	113000	105000	99000	58000	61700
15	65100	73700	48800	26400	44300	138000	221000	108000	97900	97800	57300	56600
16	64700	76400	44300	26300	48700	150000	209000	119000	93500	92400	55900	60500
17	65400	80100	42800	26000	53500	156000	184000	115000	92000	87500	56000	55500
18	66800	88400	42100	25400	51100	139000	150000	104000	87700	94100	57300	53400
19	67600	84300	42900	28000	45200	131000	133000	98800	83900	108000	57400	55300
20	66000	89900	45500	34500	42100	146000	127000	92100	86100	104000	56600	57300
21	66200	86000	45700	41100	62400	204000	122000	94000	94100	95400	53600	58300
22	65400	79500	44800	40100	90200	218000	114000	106000	93800	91900	52500	59500
23	66200	75100	44200	38300	127000	243000	126000	117000	94200	82300	56500	57100
24	65600	72400	43100	38700	139000	252000	127000	116000	86800	76800	57000	54800
25	66100	71400	43100	39200	157000	250000	114000	112000	86300	78200	62200	53500
26	66300	75800	43000	37400	155000	244000	113000	106000	84700	79300	63400	52600
27	66400	112000	42100	36200	137000	250000	115000	102000	93700	104000	61500	54000
28	65900	111000	40900	35000	142000	252000	106000	102000	93000	120000	60400	54200
29	66400	104000	40400	32600	---	242000	105000	95000	98800	107000	57500	52300
30	66000	101000	40700	33600	---	218000	103000	93800	98800	96600	56900	55400
31	65900	---	40600	39300	---	204000	---	90400	---	102000	59800	---
TOTAL	2100500	2328500	1677300	1004100	1885400	5976000	4754000	3616100	2831700	3075100	2178000	1900200
MEAN	67760	77620	54110	32390	67340	192800	158500	116600	94390	99200	70260	63340
MAX	78200	112000	93800	41100	157000	252000	282000	188000	131000	120000	136000	88700
MIN	64700	64700	40400	21100	34400	120000	103000	90400	77200	76800	52500	52300
CFSM	.13	.15	.10	.06	.13	.37	.30	.22	.18	.19	.13	.12
AC-FT	4166000	4619000	3327000	1992000	3740000	11850000	9430000	7173000	5617000	6099000	4320000	3769000
CAL YR 1978 TOTAL	33459900	MEAN	91670	MAX	340000	MIN	19900	CFSM	.18	AC-FT	66370000	
WTR YR 1979 TOTAL	33326900	MEAN	91310	MAX	282000	MIN	21100	CFSM	.17	AC-FT	66100000	

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1969 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURE: October 1974 to current year.

REMARKS.--Water temperature and specific conductance samples collected daily by observer.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: (water years 1976-79): Maximum daily, 1250 micromhos Dec. 9, 1978; minimum daily, 205 micromhos April 16, 1979.

WATER TEMPERATURES: (water years 1976-79): Maximum daily 30.0°C July 24, 26-30, 1976, July 18-25, 1977; July 6-9, 22, 23, 1978, Aug 10, 1979; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 710 micromhos Sept. 17; minimum daily, 254 micromhos Mar. 26.

WATER TEMPERATURES: Maximum daily, 30.0°C Aug. 10; minimum daily, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT 24...	65300	750	8.0	13.5	22	9.0	86	1100	100	230	67	58
NOV 28...	111000	490	7.6	5.5	70	10.3	82	11000	31000	180	40	45
DEC 21...	45000	650	7.5	4.0	23	12.4	95	1500	2000	250	67	63
JAN 19...	27800	695	7.9	.5	4.7	11.7	81	520	1200	240	42	61
FEB 15...	43800	640	8.0	.5	6.1	11.8	82	410	180	220	38	56
MAR 13...	150000	360	7.3	4.0	380	10.0	76	1100	23000	150	38	43
APR 25...	114000	490	7.7	16.0	12	8.2	83	1800	4100	190	38	53
MAY 22...	106000	590	7.9	19.0	87	7.6	81	1000	550	220	59	58
JUN 21...	95000	570	8.0	25.0	22	6.2	75	--	60	200	49	49
JUL 23...	82900	530	8.0	27.0	180	6.0	75	1800	850	240	78	54
AUG 21...	53400	760	8.4	28.0	24	6.8	86	920	350	220	51	56
SEP 26...	53500	710	8.3	21.0	23	8.2	91	600	--	250	74	64

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT												
24...	21	72	5.4	200	0	200	18	.5	8.9	461	81300	.40
NOV												
28...	17	43	4.7	174	0	130	12	.3	7.9	346	104000	.56
DEC												
21...	22	59	5.4	220	0	160	26	.3	11	426	51800	.78
JAN												
19...	21	60	6.2	240	0	150	22	.3	12	473	35500	.61
FEB												
15...	19	49	4.6	220	0	130	21	.3	12	419	49600	.67
MAR												
13...	11	17	5.3	140	0	52	11	.2	8.3	224	90700	1.3
APR												
25...	15	26	5.8	190	0	93	12	.3	11	322	99100	1.8
MAY												
22...	19	39	6.4	200	0	130	20	.3	8.8	394	113000	1.6
JUN												
21...	18	43	5.1	180	0	120	15	.4	6.2	359	92100	.64
JUL												
23...	26	42	8.0	200	0	130	21	.4	9.1	380	85100	1.2
AUG												
21...	20	62	5.6	192	8	200	20	.4	7.9	478	68900	.39
SEP												
26...	23	63	5.3	220	0	190	21	.4	9.9	495	71500	1.0

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT												
24...	.01	.60	.37	4.4	.230	.120	--	--	--	378	66600	.33
NOV												
28...	.09	.75	.75	5.8	.260	.070	--	7.4	1.9	1140	342000	23
DEC												
21...	.06	.66	.44	6.4	.170	.100	4.6	--	--	202	24500	45
JAN												
19...	.33	.90	.55	6.7	.130	.100	4.0	--	--	74	5550	60
FEB												
15...	.30	.64	.55	5.8	.150	.110	--	3.2	.5	126	14900	31
MAR												
13...	.46	.99	.81	10	.120	.060	21	--	--	1330	539000	68
APR												
25...	.03	2.4	.57	19	.530	.080	21	--	--	1430	440000	71
MAY												
22...	.06	1.4	.49	13	.110	.110	--	6.1	--	569	163000	50
JUN												
21...	.01	1.1	.01	7.7	.180	.050	6.6	--	--	633	162000	36
JUL												
23...	.04	.75	.32	8.6	.490	.170	13	--	--	672	150000	68
AUG												
21...	.00	.68	.68	4.7	.110	.080	--	5.6	.8	208	30000	44
SEP												
26...	.12	.70	.77	7.5	.360	.220	6.4	--	--	--	--	--

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
NOV 28...	3	1	0	80	0	2	10	20	3
FEB 15...	2	1	200	80	0	<1	10	0	2
MAY 22...	--	3	200	0	4	4	20	0	3
AUG 21...	3	3	0	100	1	1	0	0	2

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 28...	<3	20	8	7200	60	12	2	260	20
FEB 15...	<3	9	3	1000	10	15	8	60	9
MAY 22...	0	20	7	9400	40	36	20	200	0
AUG 21...	<3	8	6	1200	10	17	0	130	20

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 28...	.0	.0	2	1	0	0	20	8
FEB 15...	.0	.0	1	1	1	1	30	10
MAY 22...	.4	.1	2	2	0	0	40	20
AUG 21...	.0	.3	1	2	0	0	40	60

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	PCB, TOTAL (UG/L) (39516)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39519)	ALDRIN, TOTAL (UG/L) (39330)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39333)	CHLOR- DANE, TOTAL (UG/L) (39350)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39351)	DDD, TOTAL (UG/L) (39360)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39363)	DDE, TOTAL (UG/L) (39365)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39368)
NOV 28...	ND	--	ND	--	ND	--	ND	--	ND	--
MAR 13...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 22...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 21...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	DDT, TOTAL (UG/L) (39370)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39373)	DI- AZINON, TOTAL (UG/L) (39570)	DI- AZINON, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39571)	DI- ELDRIN TOTAL (UG/L) (39380)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39383)	ENDRIN, TOTAL (UG/L) (39390)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39393)	ETHION, TOTAL (UG/L) (39398)	ETHION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39399)
NOV 28...	ND	--	ND	--	ND	--	ND	--	ND	--
MAR 13...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 22...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 21...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39413)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG) (39423)	LINDANE TOTAL (UG/L) (39340)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39343)	MALA- THION, TOTAL (UG/L) (39530)	MALA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39531)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG) (39481)
NOV 28...	ND	--	ND	--	ND	--	ND	--	ND	--
MAR 13...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 22...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 21...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	METHYL PARA- THION, TOTAL (UG/L) (39600)	METHYL PARA- THION, TOT. IN BOTTOM MATL. (UG/KG) (39601)	METHYL TRI- THION, TOTAL (UG/L) (39790)	METHYL TRI- THION, TOT. IN BOTTOM MATL. (UG/KG) (39791)	PARA- THION, TOTAL (UG/L) (39540)	PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39541)	TOX- APHENE, TOTAL (UG/L) (39400)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39403)	TRI- THION, TOTAL (UG/L) (39786)	TRI- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39787)
NOV 28...	ND	--	ND	--	ND	--	ND	--	ND	--
MAR 13...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 22...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 21...	ND	--	ND	--	ND	--	ND	--	ND	--

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	596	680	555		---	390	367	530	590	502	432	610
2	630	700	640		---	415	376	500	580	502	400	460
3	640	700	650		---	418	384	480	575	440	485	540
4	640	725	650		---	445	365	540	620	438	508	455
5	650	725	640		---	445	375	480	---	482	540	505
6	648	700	640		---	450	400	410	585	490	620	490
7	660	725	625		---	375	395	400	600	550	605	485
8	660	700	650		---	358	420	400	550	502	610	500
9	665	700	---		---	352	430	420	545	464	670	502
10	665	700	---		---	355	430	440	545	490	665	570
11	660	700	800		---	359	410	490	495	498	725	595
12	650	700	640		---	359	320	485	440	480	760	552
13	660	725	630		---	366	265	510	465	478	760	550
14	650	675	600		---	395	256	495	465	450	800	552
15	640	650	590		---	402	222	495	510	450	825	610
16	690	675	610		540	420	205	530	535	490	820	583
17	698	650	625		520	430	230	540	535	510	830	640
18	698	650	620		542	410	---	530	535	506	830	660
19	655	675	690		538	397	---	560	555	522	845	658
20	670	650	680		460	430	---	595	560	514	845	645
21	650	625	675		460	445	---	505	545	480	845	640
22	680	600	690		386	385	---	580	545	470	850	640
23	680	580	700		329	355	---	455	550	518	850	655
24	680	700	700		296	334	---	450	580	580	800	680
25	650	700	690		292	338	---	510	600	580	840	690
26	675	650	700		---	336	495	540	585	620	850	690
27	675	450	700		292	324	465	545	570	620	850	710
28	675	460	710		391	342	500	540	542	560	770	710
29	675	560	710		---	337	530	565	490	482	740	720
30	680	560	710		---	340	545	570	510	430	750	670
31	680	---	700		---	368	---	570	---	418	610	---
MEAN	662	656	663		421	383	381	505	545	501	720	599

TEMPERATURE; WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	13.0	6.0		---	2.0	10.0	15.5	21.5	25.0	26.5	25.0
2	19.0	14.0	5.0		---	3.0	9.5	16.0	21.5	25.0	26.0	25.0
3	19.0	14.0	5.0		---	3.0	8.0	16.0	21.5	25.0	27.0	25.0
4	18.0	14.5	5.0		---	3.0	7.5	14.0	21.5	25.0	27.0	25.0
5	18.0	15.0	5.0		---	2.0	6.5	15.0	---	25.0	27.0	26.0
6	18.0	15.0	4.0		---	.0	6.0	15.0	23.0	25.0	28.5	25.5
7	17.0	12.5	3.0		---	2.0	6.0	16.0	25.0	25.0	28.5	25.0
8	17.0	12.0	.0		---	3.0	7.0	17.5	23.0	25.0	28.5	25.0
9	18.0	12.0	.0		---	4.0	7.0	18.0	23.0	25.0	29.0	25.0
10	18.0	12.0	.0		---	5.0	7.0	19.0	23.0	25.0	30.0	25.0
11	16.5	12.0	.0		---	5.0	9.0	19.0	24.0	25.0	29.5	25.0
12	17.0	12.0	.0		---	4.0	10.0	18.0	23.0	26.0	28.0	25.0
13	16.0	12.0	.0		---	5.0	11.0	18.0	23.0	26.5	27.0	25.0
14	15.0	11.5	1.0		---	5.0	12.0	18.0	23.0	26.5	25.0	25.0
15	15.0	10.0	1.0		---	5.0	13.0	18.0	23.5	26.5	25.0	25.0
16	15.0	10.0	1.0		.0	5.5	13.0	18.0	24.0	27.5	25.0	24.5
17	15.0	10.0	1.0		.0	5.5	14.0	17.0	25.0	28.0	25.5	24.0
18	15.0	10.0	1.0		.0	7.0	---	18.0	25.0	26.0	26.0	24.0
19	15.0	10.0	6.0		.0	7.5	---	18.0	25.0	25.5	26.0	24.0
20	15.0	8.0	6.0		.0	8.0	---	19.0	25.0	25.5	25.5	23.5
21	15.0	7.0	6.0		.0	9.5	---	20.0	25.0	25.0	25.5	23.0
22	15.0	7.0	3.0		1.0	9.5	---	20.0	25.0	26.0	25.5	23.0
23	15.0	7.0	3.0		2.0	10.0	---	20.0	25.0	26.5	25.5	22.5
24	15.0	5.0	3.0		1.5	9.0	---	20.0	25.0	28.0	26.5	22.5
25	15.0	5.0	2.0		2.0	8.0	---	20.0	25.0	27.5	26.0	23.0
26	15.0	5.0	2.0		1.0	6.0	16.0	20.0	25.0	26.5	26.0	23.0
27	14.5	6.0	3.0		2.0	5.0	16.0	20.0	25.0	26.0	26.0	23.0
28	14.0	6.0	3.0		2.0	6.5	16.0	20.0	25.0	26.5	25.5	23.0
29	15.0	6.0	3.0		---	7.5	17.0	20.0	25.0	28.0	25.5	23.0
30	13.0	6.0	3.0		---	8.5	15.0	21.0	25.0	26.5	25.0	23.0
31	13.0	---	3.0		---	9.0	---	22.0	---	26.5	25.0	---
MEAN	16.0	10.0	2.5		1.0	5.5	11.0	18.5	24.0	26.0	26.5	24.0

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 28,78 0930	MAR 13,79 1000	MAY 22,79 1100	JUN 21,79 1030
TOTAL CELLS/ML	2000	1600	1100	4100
DIVERSITY: DIVISION	1.4	1.0	1.4	1.5
...CLASS	1.4	1.0	1.4	1.5
...ORDER	1.8	1.4	1.7	2.0
...FAMILY	2.2	1.9	1.8	2.7
...GENUS	2.2	1.9	2.5	3.3

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHARACIACEAE								
...SCHROEDERIA	--	-	--	-	--	-	*	0
...COELASTRACEAE								
...COELASTRUM	--	-	--	-	--	-	130	3
...HYDRODICTYACEAE								
...PEDIASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
...GOLENKINIA	--	-	--	-	--	-	*	0
...DUCYSTACEAE								
...ANKISTRODESMUS	--	-	--	-	--	-	150	4
...DICTYOSPHAERIUM	--	-	870#	55	--	-	340	8
...GLOEOACTINIUM	--	-	--	-	--	-	--	-
...KIRCHNERIELLA	--	-	--	-	--	-	--	-
...OOCYSTIS	--	-	--	-	--	-	--	-
...SELENASTRUM	22	1	--	-	--	-	--	-
...TETRAEDRON	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
...ACTINASTRUM	--	-	--	-	410#	36	130	3
...SCENEDESMUS	220	11	--	-	--	-	910#	22
...TETRASTRUM	--	-	--	-	210#	18	200	5
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
...CHLAMYDOMONAS	22	1	--	-	--	-	*	0
...ZYGNEMATALES								
...DESMIDIACEAE								
...STAUSTRUM	--	-	--	-	--	-	*	0
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
...CYCLOTELLA	310#	15	290#	18	100	9	940#	23
...MELOSIRA	--	-	--	-	--	-	170	4
...STEPHANODISCUS	--	-	--	-	52	5	--	-
...PENNALES								
...ACHNANTHACEAE								
...ACHNANTHES	--	-	140	9	--	-	--	-
...COCONEIS	--	-	--	-	--	-	50	1
...DIATOMACEAE								
...DIATOMA	44	2	--	-	--	-	--	-
...FRAGILARIACEAE								
...FRAGILARIA	44	2	--	-	--	-	540	13
...GOMPHONEMATAACEAE								
...GOMPHONEMA	67	3	140	9	--	-	--	-
...NAVICULACEAE								
...NAVICULA	67	3	--	-	100	9	--	-
...NITZSCHACEAE								
...NITZSCHIA	110	5	140	9	52	5	50	1

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 28,78 0930		MAR 13,79 1000		MAY 22,79 1100		JUN 21,79 1030	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
....CRYPTOMONADACEAE								
.....CRYPTOMONAS	--	-	--	-	--	-	50	1
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
....CHROOCOCCACEAE								
.....ANACYSTIS	--	-	--	-	210#	18	320	8
...HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE								
....OSCILLATORIA	1100#	55	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
.....EUGLENA	--	-	--	-	--	-	34	1
....PHACUS	--	-	--	-	--	-	--	-
.....TRACHELOMONAS	--	-	--	-	--	-	*	0

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 23,79 1030	AUG 21,79 0930	SEP 26,79 1030
TOTAL CELLS/ML	1600	11000	20000
DIVERSITY: DIVISION	1.0	1.7	1.2
..CLASS	1.0	1.7	1.2
..ORDER	1.5	2.0	1.4
...FAMILY	1.5	2.7	2.2
....GENUS	1.7	3.5	2.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...CHARACIACEAE						
....SCHROEDERIA	--	-	* 0		--	-
...COELASTRACEAE						
....COELASTRUM	--	-	--	-	--	-
...HYDRODICTYACEAE						
....PEDIASTRUM	--	-	470 4		310 2	
...MICRACTINIACEAE						
....GOLENKINIA	--	-	--	-	150 1	
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	690 6		* 0	
...DICTYOSPHAERIUM	720# 44		130 1		5000# 25	
...GLOEOACTINIUM	--	-	340 3		--	-
...KIRCHNERIELLA	--	-	170 2		--	-
...OOCYSTIS	--	-	260 2		--	-
...SELENASTRUM	--	-	--	-	--	-
...TETRAEDRON	90 6		* 0		--	-
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	--	-	2500 12	
...SCENEDESMUS	--	-	1300 11		5900# 29	
...TETRASTRUM	--	-	340 3		310 2	
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
...CHLAMYDOMONAS	90 6		86 1		150 1	
...ZYGNEMATALES						
...DESMIDIACEAE						
...STAUSTRUM	--	-	--	-	--	-
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
...CYCLOTELLA	630# 39		1900# 16		1900 10	
...MELOSIRA	--	-	470 4		--	-
...STEPHANODISCUS	--	-	390 3		--	-
...PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
...CUCCONEIS	--	-	--	-	--	-
...DIATOMACEAE						
...DIATOMA	--	-	--	-	--	-
...FRAGILARIACEAE						
...FRAGILARIA	--	-	--	-	--	-
...GOMPHONEMACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
....NAVICULA	--	-	--	-	--	-
...NITZSCHACEAE						
....NITZSCHIA	90 6		520 5		230 1	

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 23,79 1030		AUG 21,79 0930		SEP 26,79 1030	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOMONADACEAE						
.....CRYPTOMONAS	--	-	*	0	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
....CHROOCOCCACEAE						
.....ANACYSTIS	--	-	220	2	3300#	16
...HORMOGONALES						
....NOSTOCACEAE						
.....ANABAENA	--	-	520	5	310	2
...OSCILLATORIA						
....OSCILLATORIA	--	-	3200#	29	--	-
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENACEAE						
.....EUGLENA	--	-	86	1	--	-
....PHACUS	--	-	*	0	--	-
.....TRACHELOMONAS	--	-	*	0	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

PERIPHYTON

Date	Length of Exposure (days)	Biomass (mg/m ²)		Chlorophyll	Chlorophyll	Sampling method
		Dry weight (00573)	Ash weight (00572)	a (mg/m ²) (70957)	b (mg/m ²) (70958)	
May 22, 1979	27	.790	.630	.200	.000	Polyethylene Strip

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO

LOCATION.--Lat 38°37'44", long 90°10'47", Hydrologic Unit 07140101, on downstream side of west pier of Eads Bridge at St. Louis, 15 mi (24 km) downstream from Missouri River, 19.2 mi (30.9 km) upstream from Meramec River, and at mile 180.0 (289.6 km) above the Ohio River.

DRAINAGE AREA --697,000 mi² (1,805,000 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: January 1861 to current year. Monthly discharge only for some periods, published in WSP 1311.

Gage heights: March 1933 to current year in reports of Geological Survey. Since January 1861 in reports of Mississippi River Commission. Since January 1890 in reports of National Weather Service.

REVISED RECORDS.--WRD MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 379.94 ft (115.806 m) National Geodetic Vertical Datum of 1929. Prior to May 5, 1934, nonrecording gage 0.4 mi (0.6 km) downstream and May 5, 1934, to Dec. 9, 1952, water-stage recorder at site 20 ft (6 m) downstream at present datum.

REMARKS.--Records excellent. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in Missouri River basin.

AVERAGE DISCHARGE.--118 years, 177,000 ft³/s (5,013 m³/s), 128,200,000 acre-ft/yr (158 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,019,000 ft³/s (28,900 m³/s) June 10, 11, 1903, gage height, 38.00 ft (11.582 m); maximum gage height, 43.23 ft (13.176 m) Apr. 28, 1973; minimum daily discharge, 18,000 ft³/s (510 m³/s) Dec. 21-23, 1863; minimum gage height, -6.11 ft (-1.862 m) Jan. 16, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 27, 1844, reached a stage of 41.32 ft (12.594 m), from flood-marks, discharge, 1,300,000 ft³/s (36,800 m³/s), computed by Corps of Engineers. Flood in April 1785 may have reached a stage of 42.0 ft (12.80 m).

EXTREMES FOR CURRENT YEAR --Maximum discharge, 694,000 ft³/s (19,700 m³/s) Apr. 14, gage height, 37.79 ft (11.518 m); minimum daily, 61,200 ft³/s (1,730 m³/s) Jan. 10; minimum gage height, -0.84 ft (-0.026 m) Jan. 9, 10.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.95	6.40	9.20	1.91	1.38	14.50	32.13	28.33	20.32	15.85	13.86	14.71
2	11.86	5.97	7.84	.82	1.70	14.44	32.00	27.92	19.79	16.66	16.48	16.45
3	11.21	5.13	7.00	1.15	1.77	15.37	31.84	27.92	19.21	16.53	15.78	17.93
4	10.86	5.70	7.80	1.29	1.85	18.02	31.70	27.82	18.67	15.91	13.41	17.51
5	9.88	5.95	6.05	1.10	2.35	21.28	31.52	28.52	17.82	15.35	13.50	17.32
6	9.10	5.85	6.85	1.32	2.27	23.21	31.10	29.88	16.57	15.67	13.45	17.28
7	9.13	5.99	7.29	1.70	2.25	24.54	30.74	30.76	15.96	15.60	12.78	16.24
8	9.14	5.57	6.86	.40	1.88	24.12	30.71	30.59	15.77	14.84	11.49	14.99
9	8.64	5.23	4.42	-4.8	2.05	23.18	30.56	29.97	16.65	15.52	10.99	14.28
10	8.79	5.45	3.25	-7.79	2.40	23.54	30.24	29.18	16.36	15.30	10.71	14.12
11	8.32	4.98	3.10	-.75	2.32	23.79	30.48	28.69	17.52	15.03	11.42	13.87
12	8.11	4.91	3.94	.27	2.43	22.73	33.80	28.26	18.12	14.83	10.91	12.84
13	9.01	5.30	3.60	.20	1.78	21.50	35.56	28.04	17.70	15.83	10.43	11.40
14	7.93	6.48	4.43	-.26	1.08	21.10	37.36	27.79	17.24	15.25	9.51	11.52
15	8.62	6.10	3.92	-.50	1.04	21.05	37.66	27.39	17.10	14.74	10.06	10.52
16	8.59	6.39	4.50	-.28	1.81	22.08	37.22	27.04	16.07	14.20	9.92	9.70
17	7.28	7.59	4.88	.00	2.25	22.81	36.28	27.01	15.81	14.37	9.52	9.74
18	7.80	8.13	4.43	.40	2.85	22.70	34.82	26.64	15.54	14.13	8.85	9.27
19	6.90	8.16	4.74	.20	3.25	22.22	33.40	25.83	14.92	14.55	9.57	7.86
20	7.53	9.12	5.12	.25	2.90	23.37	32.21	24.88	14.40	14.60	9.24	7.94
21	6.75	10.84	5.44	.64	2.57	24.59	31.25	24.09	14.41	13.89	11.29	7.53
22	6.42	10.58	4.36	1.52	3.71	26.96	30.51	23.54	14.28	12.90	13.57	5.71
23	5.70	9.75	4.60	1.92	10.65	28.62	29.90	23.45	14.58	11.78	14.63	6.27
24	5.36	9.58	3.75	2.07	15.25	30.06	29.99	23.55	14.85	11.58	15.37	6.75
25	5.03	8.77	3.59	1.53	17.86	31.00	29.91	23.33	15.02	10.69	15.59	5.47
26	6.94	8.49	3.85	1.74	18.37	31.64	29.89	22.89	14.73	10.83	15.61	6.33
27	6.34	9.39	3.32	2.30	17.60	32.23	29.69	22.46	14.53	11.99	15.65	6.43
28	6.56	10.97	2.66	2.05	15.22	32.71	29.50	22.05	14.71	13.49	15.28	6.50
29	6.79	11.26	2.35	1.62	---	33.10	29.03	21.73	15.71	14.15	14.94	5.34
30	5.78	10.78	2.75	1.26	---	33.05	28.66	21.22	16.04	13.38	15.25	4.22
31	6.55	---	3.27	1.55	---	32.65	---	20.87	---	12.73	14.95	---
MEAN	8.06	7.49	4.81	.84	5.10	24.59	31.99	26.18	16.35	14.26	12.71	10.87
MAX	12.95	11.26	9.20	2.30	16.37	33.10	37.66	30.76	20.32	16.66	16.48	17.93
MIN	5.03	4.91	2.35	-.79	1.04	14.44	28.66	20.87	14.28	10.69	8.85	4.22

WTR YR 1979 MEAN 13.64 MAX 37.66 MIN -.79

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	190000	122000	156000	80900	81700	243000	565000	427000	286000	227000	211000	216000
2	177000	112000	140000	72200	83600	248000	561000	422000	276000	236000	235000	240000
3	172000	110000	136000	74100	84300	262000	555000	420000	267000	231000	219000	257000
4	165000	111000	139000	75700	86400	320000	551000	419000	257000	224000	195000	250000
5	153000	118000	119000	76300	88900	376000	545000	435000	242000	218000	194000	249000
6	145000	116000	129000	79000	89100	411000	534000	460000	227000	222000	191000	246000
7	149000	116000	138000	77700	88700	429000	526000	474000	219000	218000	181000	229000
8	146000	112000	129000	68700	85000	415000	525000	470000	223000	212000	169000	214000
9	143000	112000	105000	63000	88000	401000	519000	456000	230000	221000	163000	207000
10	141000	111000	96000	61200	87700	405000	511000	443000	230000	220000	163000	205000
11	138000	111000	95300	62800	89100	402000	532000	434000	247000	215000	166000	201000
12	139000	110000	104000	68300	89700	370000	605000	428000	253000	217000	164000	186000
13	144000	112000	102000	68500	83300	348000	651000	424000	247000	225000	156000	174000
14	137000	122000	105000	65000	77600	337000	684000	420000	242000	217000	149000	170000
15	139000	119000	104000	64100	79300	342000	678000	411000	238000	209000	153000	160000
16	141000	124000	113000	65700	84900	362000	656000	405000	229000	205000	152000	150000
17	131000	139000	110000	66700	90100	382000	630000	403000	226000	205000	149000	151000
18	135000	143000	106000	67400	95700	379000	593000	393000	222000	203000	145000	144000
19	130000	147000	111000	67800	97400	376000	558000	377000	215000	208000	150000	131000
20	131000	161000	116000	69500	91800	398000	529000	360000	213000	205000	149000	129000
21	126000	177000	112000	71800	90700	427000	509000	346000	210000	197000	178000	127000
22	120000	173000	106000	76900	120000	470000	493000	336000	210000	184000	202000	111000
23	117000	163000	101000	84400	199000	500000	484000	337000	212000	172000	213000	115000
24	115000	160000	101000	85900	254000	530000	486000	339000	216000	167000	223000	117000
25	116000	151000	97100	83000	293000	550000	480000	335000	216000	160000	225000	113000
26	128000	155000	101000	82700	300000	563000	475000	328000	212000	165000	226000	119000
27	123000	165000	92300	86600	280000	577000	468000	322000	210000	178000	225000	122000
28	126000	182000	84600	85100	252000	587000	458000	316000	214000	199000	220000	121000
29	123000	181000	84200	82400	---	594000	445000	311000	224000	203000	218000	114000
30	117000	173000	92800	79100	---	592000	434000	303000	228000	194000	221000	102000
31	125000	---	92900	80600	---	578000	---	295000	---	191000	216000	---
TOTAL	4282000	4108000	3418200	2293100	3531000	13174000	16240000	12049000	6941000	6348000	5821000	5070000
MEAN	138100	136900	110300	73970	126100	425000	541300	388700	231400	204800	187800	169000
MAX	190000	182000	156000	86600	300000	594000	684000	474000	286000	236000	235000	257000
MIN	115000	110000	84200	61200	77600	243000	434000	295000	210000	160000	145000	102000
CFSM	.20	.20	.16	.11	.18	.61	.78	.56	.33	.29	.27	.24
AC-FT	8493000	8148000	6780000	4548000	7004000	26130000	32210000	23900000	13770000	12590000	11550000	10060000
CAL YR 1978	TOTAL	75435400	MEAN	206700	MAX	569000	MIN	71200	CFSM	.30	AC-FT	149600000
WTR YR 1979	TOTAL	83275300	MEAN	228200	MAX	684000	MIN	61200	CFSM	.33	AC-FT	165200000

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

WATER TEMPERATURES: October 1951 to current year.

SEDIMENT RECORDS: April 1948 to current year.

REMARKS.--Sediment discharge for many days computed from turbidity readings.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 6,420 mg/L June 7, 1951; minimum daily mean, 19 mg/L Jan. 21, 22, 1967.

SEDIMENT LOADS: Maximum daily, 7,010,000 tons (6,359,000 metric tons) May 5, 1951; minimum daily, 2,800 tons (2,540 metric tons) Jan. 21, 1967.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,520 mg/L Mar. 8; minimum daily mean, 12 mg/L Sept. 13.

SEDIMENT LOADS: Maximum daily, 5,740,000 tons (4,960,000 metric tons) Mar. 30; minimum daily, 5,830 tons (5,290 metric tons) Sept. 13.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	14.0	---	---	---	---	---	---	---	---	---	---
2	20.0	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	7.5	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	25.0	---	---
6	---	---	---	---	---	2.0	---	---	23.0	---	29.0	---
7	---	---	---	---	---	---	---	15.0	---	---	---	---
8	---	12.5	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	26.0	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	2.5	---	1.5	---	---	---	---	---	---	---
13	---	12.0	---	---	---	---	10.0	---	---	---	26.0	24.0
14	---	---	---	---	---	3.0	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	10.5	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	27.5	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	27.0	---	26.5	---
21	---	---	2.0	---	3.0	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	19.0	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	14.0	7.0	---	---	---	8.0	15.0	---	---	---	---	---
25	---	---	---	---	---	---	---	---	24.5	26.5	---	---
26	---	---	---	---	---	6.0	---	---	---	---	---	22.0
27	---	6.0	1.0	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM
MAR 14...	0	0	0	69	93	95	95	96	98	100
MAY 31...	0	0	0	2	27	67	82	89	94	98

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	190000	331	170000	122000	88	28900	156000	230	96900
2	177000	315	151000	112000	102	30800	140000	272	103000
3	172000	257	119000	110000	106	31500	136000	266	97700
4	165000	262	117000	111000	107	32100	139000	283	106000
5	153000	247	102000	118000	91	29100	119000	191	61400
6	145000	169	66200	116000	97	30300	129000	169	58900
7	149000	173	69600	116000	121	37900	138000	124	46200
8	146000	150	59100	112000	128	38700	129000	139	48400
9	143000	124	47900	112000	155	46900	105000	128	36300
10	141000	124	47200	111000	184	55100	96000	149	38600
11	138000	109	40600	111000	207	62000	95300	152	39100
12	139000	114	42800	110000	212	63000	104000	136	38200
13	144000	142	55200	112000	213	64400	102000	152	41900
14	137000	145	53600	122000	230	75800	105000	109	30900
15	139000	126	47300	119000	289	92900	104000	130	36500
16	141000	135	51400	124000	240	80400	113000	101	30800
17	131000	112	39600	139000	247	92700	110000	116	34500
18	135000	97	35300	143000	235	90700	106000	134	38400
19	130000	90	31400	147000	154	61100	111000	159	47700
20	131000	73	25700	161000	133	57800	116000	185	57900
21	126000	68	23100	177000	117	55900	112000	180	54400
22	120000	59	19200	173000	174	81300	106000	169	48400
23	117000	38	12100	163000	285	125000	101000	169	46100
24	115000	102	31700	160000	210	90700	101000	190	51800
25	116000	57	17900	151000	165	67300	97100	203	53200
26	128000	51	17700	155000	131	54800	101000	175	47700
27	123000	61	20100	165000	272	121000	92300	159	39600
28	126000	90	30500	182000	295	145000	84600	172	39300
29	123000	77	25500	181000	308	151000	84200	173	39300
30	117000	80	25200	173000	268	125000	92800	161	40300
31	125000	84	28300	---	---	---	92900	152	38100
TOTAL	4282000	---	1623200	4108000	---	2119100	3418200	---	1587500
JANUARY			FEBRUARY			MARCH			
1	80900	186	40600	81700	71	15700	243000	1600	1050000
2	72200	198	38600	83600	71	16000	248000	1310	877000
3	74100	209	41800	84300	90	20500	262000	1520	1080000
4	75700	178	36400	86400	81	18900	320000	1640	1420000
5	76300	176	36300	88900	92	22200	376000	1780	1810000
6	79000	165	35200	89100	104	25000	411000	1890	2100000
7	77700	163	34200	88700	137	32800	429000	1620	1880000
8	68700	126	23400	85000	684	157000	415000	4520	5060000
9	63000	187	31800	88000	69	16300	401000	3610	3910000
10	61200	189	31200	87700	69	16400	405000	3080	3370000
11	62800	127	21500	89100	77	18500	402000	2760	3000000
12	68300	178	32800	89700	81	19600	370000	2460	2460000
13	68500	167	30900	83300	71	16000	348000	2270	2130000
14	65000	128	22500	77600	75	15700	337000	2060	1870000
15	64100	121	20900	79300	77	16400	342000	1630	1510000
16	65700	108	19200	84900	87	20000	362000	1250	1220000
17	66700	100	17900	90100	77	18800	382000	1220	1260000
18	67400	111	20200	95700	103	26600	379000	1430	1460000
19	67800	116	21200	97400	94	24700	376000	1490	1510000
20	69500	107	20100	91800	82	20400	398000	1460	1570000
21	71800	102	19800	90700	65	15900	427000	1530	1760000
22	76900	120	24900	120000	112	36300	470000	1540	1950000
23	84400	154	35100	199000	514	276000	500000	1590	2150000
24	85900	176	40800	254000	1070	734000	530000	1960	2800000
25	83000	178	39900	293000	1930	1530000	550000	1440	2140000
26	82700	153	34200	300000	2150	1740000	563000	1310	1990000
27	86600	142	33200	280000	2130	1610000	577000	1230	1920000
28	85100	134	30800	252000	1340	912000	587000	1510	2390000
29	82400	122	27100	---	---	---	594000	1960	3140000
30	79100	103	22000	---	---	---	592000	3420	5470000
31	80600	89	19500	---	---	---	578000	659	1030000
TOTAL	2293100	---	904000	3531000	---	7391700	13174000	---	67287000

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	565000	662	1010000	427000	257	296000	286000	261	202000
2	561000	565	856000	422000	243	277000	276000	261	194000
3	555000	728	1090000	420000	336	381000	267000	256	185000
4	551000	929	1380000	419000	446	505000	257000	268	186000
5	545000	1200	1770000	435000	375	440000	242000	242	158000
6	534000	1210	1740000	460000	544	676000	227000	216	132000
7	526000	1270	1800000	474000	716	916000	219000	218	129000
8	525000	1160	1640000	470000	559	709000	223000	295	178000
9	519000	820	1150000	456000	608	749000	230000	329	204000
10	511000	858	1180000	443000	503	602000	230000	350	217000
11	532000	706	1010000	434000	444	520000	247000	377	251000
12	605000	737	1200000	428000	308	356000	253000	454	310000
13	651000	1060	1860000	424000	230	263000	247000	417	278000
14	684000	838	1550000	420000	251	285000	242000	330	216000
15	678000	892	1630000	411000	207	230000	238000	319	205000
16	656000	610	1080000	405000	229	250000	229000	277	171000
17	630000	540	919000	403000	227	247000	226000	240	146000
18	593000	500	801000	393000	190	202000	222000	248	149000
19	558000	400	603000	377000	234	238000	215000	261	152000
20	529000	405	578000	360000	282	274000	213000	252	145000
21	509000	398	547000	346000	286	267000	210000	264	150000
22	493000	422	562000	336000	252	229000	210000	292	166000
23	484000	491	642000	337000	216	197000	212000	265	152000
24	486000	351	461000	339000	228	209000	216000	241	141000
25	480000	362	469000	335000	224	203000	216000	261	152000
26	475000	522	669000	328000	216	191000	212000	265	152000
27	468000	554	700000	322000	182	158000	210000	255	145000
28	458000	462	571000	316000	201	171000	214000	894	517000
29	445000	455	547000	311000	221	186000	224000	734	444000
30	434000	296	347000	303000	223	182000	228000	799	492000
31	---	---	---	295000	228	182000	---	---	---
TOTAL	16240000	---	30362000	12049000	---	10591000	6941000	---	6319000
JULY			AUGUST			SEPTEMBER			
1	227000	988	606000	211000	855	487000	216000	232	135000
2	236000	960	612000	235000	820	520000	240000	175	113000
3	231000	407	254000	219000	532	315000	257000	171	119000
4	224000	427	258000	195000	591	311000	250000	187	126000
5	218000	498	293000	194000	581	304000	249000	210	141000
6	222000	431	258000	191000	344	177000	246000	211	140000
7	218000	495	291000	181000	281	137000	229000	177	109000
8	212000	427	244000	169000	253	115000	214000	140	80900
9	221000	373	223000	163000	323	142000	207000	176	98400
10	220000	328	195000	163000	304	134000	205000	182	101000
11	215000	322	187000	166000	254	114000	201000	120	65100
12	217000	339	199000	164000	174	77000	186000	97	48700
13	225000	271	165000	156000	117	49300	174000	12	5830
14	217000	234	137000	149000	116	46700	170000	111	50900
15	209000	149	84100	153000	100	41300	160000	79	34000
16	205000	439	243000	152000	82	33800	150000	92	37200
17	205000	250	138000	149000	81	32600	151000	55	22300
18	203000	187	102000	145000	82	31900	144000	55	21500
19	208000	153	85900	150000	115	46600	131000	59	20800
20	205000	153	84700	149000	80	32200	129000	58	20300
21	197000	154	81900	178000	95	45800	127000	56	19300
22	184000	187	92900	202000	201	110000	111000	60	18100
23	172000	261	121000	213000	165	94900	115000	60	18600
24	167000	319	144000	223000	210	126000	117000	60	18800
25	160000	257	111000	225000	201	122000	113000	59	18100
26	165000	280	125000	226000	229	140000	119000	58	18500
27	178000	241	116000	225000	266	162000	122000	58	19000
28	199000	226	121000	220000	216	128000	121000	58	18900
29	203000	303	166000	218000	152	89500	114000	61	18800
30	194000	446	234000	221000	179	107000	102000	68	18700
31	191000	660	340000	216000	224	131000	---	---	---
TOTAL	6348000	---	6312500	5821000	---	4403600	5070000	---	1676730
YEAR	83275300		140577330						

MERAMEC RIVER BASIN

07010350 MERAMEC RIVER AT COOK STATION, MO

LOCATION.--Lat 37°49'45", long 91°26'15", in NE¼ sec.23, T.36 N., R.5 W., Crawford County, Hydrologic Unit 07140102, on downstream side of right pier of bridge on State Highway M, 50 ft (15 m) downstream from Frisco Railroad bridge (Salem Branch), 1 mi (1.6 km) north of Cook Station, and 4 mi (6.4 km) upstream from Crooked Creek.

DRAINAGE AREA.--199 mi² (515 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 864.51 ft (263.503 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except periods of no gage-height record which are poor. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--14 years, 118 ft³/s (3.342 m³/s), 8.05 in/yr (204 mm/yr), 85,490 acre-ft/yr (105 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,900 ft³/s (988 m³/s) Feb. 10, 1966, gage height, 17.74 ft (5.047 m), from rating curve extended above 4,000 ft³/s (113 m³/s) on basis of slope-area measurement of peak flow; minimum discharge, 6.6 ft³/s (0.19 m³/s) Aug. 6,7,8, 1977; minimum gage height, 2.00 ft (0.610 m) Sept. 29, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Feb. 23	0115	2720	77.0	9.27	2.825	May 3	1330	9260	262	13.30	4.054
April 12	0530	*9750	276	*13.47	4.106	July 28	1345	3670	104	10.22	3.115

Minimum discharge, 9.5 ft³/s (0.27 m³/s) Oct. 8, Sept. 29; minimum gage height, 2.00 ft (0.610 m) Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	20	55	44	68	204	234	144	77	27	475	32
2	14	19	48	50	70	194	322	136	70	29	305	31
3	17	20	51	60	63	198	251	3240	65	35	195	28
4	18	20	50	50	56	322	224	1470	60	65	148	24
5	18	22	45	50	60	273	199	865	55	116	124	21
6	18	25	41	40	60	206	170	552	51	60	101	20
7	17	24	48	40	60	176	149	401	55	47	86	19
8	17	24	73	40	60	157	139	307	83	42	74	19
9	14	23	67	40	60	138	136	250	73	46	65	18
10	16	23	60	40	56	123	126	213	59	40	64	17
11	17	25	55	40	50	109	2430	248	52	35	109	16
12	19	23	52	40	45	99	5830	271	46	32	77	15
13	20	24	50	40	45	91	890	239	43	29	62	15
14	20	26	47	40	46	83	492	210	39	27	53	14
15	21	34	47	40	66	75	354	184	36	26	49	13
16	20	40	45	40	126	70	273	160	35	26	46	13
17	20	94	43	47	100	66	223	146	33	23	42	13
18	19	66	41	46	96	64	192	134	31	23	39	13
19	16	41	41	68	95	178	163	129	28	22	37	13
20	18	40	40	101	91	886	146	936	27	21	34	13
21	18	36	39	126	121	728	134	709	26	22	31	13
22	17	32	37	104	1080	334	124	352	25	24	30	13
23	21	30	35	122	1780	1290	122	261	27	25	27	13
24	20	27	34	141	589	936	166	208	29	27	25	13
25	22	25	34	134	316	443	226	176	31	28	22	12
26	23	184	33	109	226	318	766	151	28	35	21	12
27	22	256	32	96	182	247	473	130	28	67	20	11
28	22	122	31	86	158	209	285	116	28	2110	25	11
29	22	84	32	81	---	209	213	101	30	458	30	10
30	21	66	33	77	---	228	172	93	29	270	34	13
31	20	---	39	68	---	219	---	85	---	217	38	---
TOTAL	580	1495	1378	2100	5825	8873	15624	12617	1299	4054	2488	488
MEAN	18.7	49.8	44.5	67.7	208	286	521	407	43.3	131	80.3	16.3
MAX	23	256	73	141	1780	1290	5830	3240	83	2110	475	32
MIN	13	19	31	40	45	64	122	85	25	21	20	10
CFSM	.09	.25	.22	.34	1.05	1.44	2.62	2.05	.22	.66	.40	.08
IN.	.11	.28	.26	.39	1.09	1.66	2.92	2.36	.24	.76	.47	.09
AC-FT	1150	2970	2730	4170	11550	17600	30990	25030	2580	8040	4930	968

CAL YR 1978	TOTAL	30729	MEAN	84.2	MAX	2000	MIN	10	CFSM	.42	IN	5.74	AC-FT	60950
WTR YR 1979	TOTAL	56821	MEAN	156	MAX	5830	MIN	10	CFSM	.78	IN	10.62	AC-FT	112700

MERAMEC RIVER BASIN

07010500 MARAMEC SPRING NEAR ST. JAMES, MO

LOCATION.--Lat 37°57'20", long 91°32'57", in NW¼SE¼ sec.1, T.37 N., R.6 W., Phelps County, Hydrologic Unit 07140102, 650 ft (198 m) downstream from spring outlet, 1 mi (1.6 km) upstream from Meramec River, and 6 mi (9.7 km) southeast of St. James.

PERIOD OF RECORD.--March 1903 to July 1906, November 1921 to October 1929, October 1965 to current year. Monthly discharge only for some months prior to October 1905 published in WSP 1311. Occasional discharge measurements 1930, 1932, 1934, 1939-40, 1946, 1953-55, 1957, 1961-65.

GAGE.--Nonrecording gage. Datum of gage is 773.97 ft (235.906 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 11, 1921, gage at site 150 ft (45.7 m) upstream at different datum. Nov. 11, 1921, to June 4, 1928, at site 50 ft (15.2 m) upstream at datum 0.21 ft (0.064 m) higher.

REMARKS.--Records poor. Occasional backwater from Meramec River.

AVERAGE DISCHARGE.--23 years (1903-05, 1922-29, 1965-79), 148 ft³/s (4.191 m³/s), 107,200 acre-ft/yr (132 m³/s), hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 650 ft³/s (18.4 m³/s), estimated, several days during 1927 and 1928, backwater from Meramec River; minimum measured, 56 ft³/s (1.59 m³/s) Aug. 1, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 600 ft³/s (17.0 m³/s) April 12, backwater from Meramec River; minimum daily, 62 ft³/s (1.76 m³/s) Nov. 7-17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	70	126	108	90	272	238	283	170	126	510	126
2	74	74	112	99	82	244	283	244	170	126	460	126
3	74	74	104	94	82	238	277	283	145	130	381	145
4	74	66	165	94	74	227	238	500	145	150	323	150
5	74	66	135	86	70	206	238	420	140	196	283	150
6	70	66	117	86	74	185	227	398	135	170	249	145
7	70	62	104	78	70	185	212	358	135	140	227	150
8	70	62	104	78	70	185	196	329	135	130	201	150
9	70	62	104	78	70	108	185	306	145	130	175	150
10	70	62	104	78	70	99	227	283	135	130	165	140
11	70	62	104	78	70	94	375	266	135	130	185	140
12	70	62	104	78	70	86	600	255	130	130	170	140
13	70	62	104	78	70	122	500	277	130	126	155	140
14	70	62	104	78	74	104	450	272	130	122	145	140
15	70	62	99	78	130	104	410	294	130	122	126	130
16	70	62	99	78	272	90	398	288	126	122	135	130
17	70	62	99	78	227	90	375	260	126	122	135	126
18	70	78	86	94	185	90	340	255	122	122	130	126
19	70	86	86	135	150	112	317	272	122	122	126	130
20	70	86	86	260	165	201	306	441	122	122	126	130
21	70	86	86	222	212	306	272	485	117	126	126	130
22	70	86	86	160	352	294	249	441	112	130	126	130
23	70	82	82	190	400	393	249	387	112	130	126	126
24	70	82	78	306	400	422	249	346	122	135	122	122
25	70	160	78	244	380	364	283	311	122	130	122	122
26	70	352	66	190	364	323	416	255	122	130	122	117
27	70	393	66	170	311	272	416	238	122	244	126	117
28	70	294	66	126	288	238	364	201	112	460	126	112
29	70	201	66	99	---	227	317	180	126	429	126	112
30	70	165	66	99	---	227	306	175	135	364	126	112
31	70	---	66	99	---	238	---	180	---	340	135	---
TOTAL	2190	3249	2952	3819	4872	6346	9513	9483	3930	5286	5790	3964
MEAN	70.6	108	95.2	123	174	205	317	306	131	171	187	132
MAX	74	393	165	306	400	422	600	500	170	460	510	150
MIN	70	62	66	78	70	86	185	175	112	122	122	112
AC-FT	4340	6440	5860	7570	9660	12590	18870	18810	7800	10480	11480	7860

CAL YR 1978 TOTAL 45620 MEAN 125 MAX 550 MIN 62 AC-FT 90490
WTR YR 1979 TOTAL 61394 MEAN 168 MAX 600 MIN 62 AC-FT 121800

MERAMEC RIVER BASIN

07013000 MERAMEC RIVER NEAR STEELVILLE, MO

LOCATION.--Lat 37°59'58", long 91°21'39", in NE¼ sec.21, T.38 N., R.4 W., Crawford County, Hydrologic Unit 07140102, on left bank 20 ft (6 m) downstream from railroad bridge, 400 ft (123 m) upstream from highway bridge, 0.8 mi (1.3 km) upstream from Whittenburg Creek, 1.5 mi (2.4 km) north of Steelville, and at mile 149.4 (235.6 km).

DRAINAGE AREA.--781 mi² (2,023 km²).

PERIOD OF RECORD.--October 1922 to current year. Prior to January 1923 monthly discharges only, published in WSP 1311. Gage-height records for 1916-33 at site 1 mi (1.6 km) upstream in reports of National Weather Service.

REVISED RECORDS.--WSP 897: 1939. WSP 1007: Drainage Area.

GAGE.--Water-stage recorder. Datum of gage is 681.68 ft (207.776 m) National Geodetic Vertical Datum of 1929. Prior to May 24, 1934, July 20, 1966, to July 20, 1967, nonrecording gage, and May 24, 1934 to Oct. 10, 1942, water-stage recorder at site 400 ft (122 m) downstream. July 21, 1967 to Feb. 13, 1973 at site 1,900 ft (579 m) downstream and at datum 2.0 ft (0.61 m) lower.

REMARKS.--Records good. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--57 years, 562 ft³/s (15.92 m³/s), 9.77 in/yr (248 mm/yr), 407,200 acre-ft/yr (502 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,800 ft³/s (1,350 m³/s) June 26, 1935, gage height, 23.39 ft (7.129 m); maximum gage height, 24.30 ft (7.407 m) June 9, 1945; minimum discharge, 74 ft³/s (2.10 m³/s) July 22, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 20, 1915, reached a stage of 26.5 ft (8.08 m), discharge, 60,000 ft³/s (1,700 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,500 ft³/s (184 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Feb. 24	0100	11,300	320	11.83	3.606	May 4	1200	12,300	348	11.98	3.652
Apr. 12	1900	*27,600	782	*19.20	5.825	July 29	0700	10,900	309	11.57	3.527

Minimum discharge, 106 ft³/s (3.00 m³/s) Oct. 7, 8, 9, gage height, 1.52 ft (0.463 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	125	418	230	376	1080	1120	996	563	198	3440	226
2	111	128	353	250	357	1110	1410	910	491	198	2470	413
3	114	125	392	250	365	1050	1310	2450	448	198	1450	319
4	111	123	673	200	316	1340	1150	8600	425	195	1040	251
5	110	125	452	180	289	1330	1110	3650	401	317	824	225
6	109	132	361	170	303	1120	984	2300	383	491	690	211
7	108	127	322	160	309	945	875	1670	371	334	589	201
8	109	123	312	160	288	868	812	1390	385	278	517	194
9	110	122	326	160	251	789	756	1170	616	251	454	190
10	115	125	291	160	248	727	702	1020	519	240	420	186
11	122	122	262	160	261	673	3850	974	426	240	526	179
12	125	119	246	168	266	625	20100	1100	380	219	601	175
13	153	123	244	169	284	591	15400	1020	340	208	464	172
14	153	137	233	160	300	552	10000	926	318	185	386	173
15	164	162	226	169	366	511	7000	823	299	195	359	166
16	149	222	219	174	1060	480	4000	725	283	185	335	166
17	138	282	206	164	911	456	2000	689	271	177	311	165
18	133	478	204	181	745	442	1500	635	258	174	294	165
19	129	344	196	291	617	467	1080	622	246	172	276	162
20	125	270	196	816	575	958	1000	3320	240	168	262	162
21	127	212	191	985	770	2910	885	3110	233	165	251	162
22	127	193	186	776	1820	1810	787	2040	226	161	240	159
23	124	180	177	696	7150	2990	733	1550	219	159	229	156
24	122	168	172	1400	6590	4540	778	1090	233	159	222	156
25	127	165	165	1000	2200	2370	1120	916	233	162	213	159
26	129	1410	158	837	1630	1620	2330	798	226	168	207	156
27	125	1880	151	698	1300	1300	2980	718	215	202	201	154
28	125	1050	151	606	1110	1100	1710	653	208	3720	194	151
29	124	698	153	503	---	1000	1360	594	208	8190	195	149
30	129	528	162	468	---	1120	1150	563	202	1860	212	150
31	125	---	188	430	---	1160	---	696	---	1280	216	---
TOTAL	3883	9998	7986	12771	31057	38034	89992	47718	9866	20849	18088	5653
MEAN	125	333	258	412	1109	1227	3000	1539	329	673	583	188
MAX	164	1880	673	1400	7150	4540	20100	8600	616	8190	3440	413
MIN	108	119	151	160	248	442	702	563	202	159	194	149
CFSM	.16	.43	.33	.53	1.42	1.57	3.84	1.97	.42	.86	.75	.24
IN.	.18	.48	.38	.61	1.48	1.81	4.29	2.27	.47	.99	.86	.27
AC-FT	7700	19830	15840	25330	61600	75440	178500	94650	19570	41350	35880	11210

CAL YR 1978 TOTAL 165771 MEAN 454 MAX 10400 MIN 108 CFSM .58 IN 7.90 AC-FT 328800
WTR YR 1979 TOTAL 295895 MEAN 811 MAX 20100 MIN 108 CFSM 1.04 IN 14.09 AC-FT 586900

MERAMEC RIVER BASIN

07014500 MERAMEC RIVER NEAR SULLIVAN, MO

LOCATION.--Lat 38°09'30", long 91°06'30", in SE¼NE¼ sec.35, T.40 N., R.2 W., Crawford County, Hydrologic Unit 07140102, on right bank at upstream side of Sappington Bridge, 3.8 mi (6.1 km) downstream from Brazil Creek, 4.0 mi (6.4 km) southeast of Sullivan, and at mile 117.0 (188.3 km).

DRAINAGE AREA.--1,475 mi² (3,820 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1921 to September 1933, October 1943 to current year. Monthly discharge only for October 1943, published in WSP 1311.

REVISED RECORDS.--WSP 1007: 1922, 1923(M), 1924-30, 1933, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 581.82 ft (177.339 m) above mean sea level (levels by Corps of Engineers). Prior to Oct. 21, 1952, nonrecording gage at present site and datum.

REMARKS.--Records good. Water diverted from river 0.5 mi (0.8 km) above gage by mining company. Several observations of water temperature and specific conductance made during the year. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--48 years, 1,160 ft³/s (32.85 m³/s), 10.68 in/yr (271 mm/yr), 840,400 acre-ft/yr (1,040 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,300 ft³/s (2,190 m³/s) June 9, 1945, gage height, 32.0 ft (9.75 m); minimum discharge, 131 ft³/s (3.71 m³/s) Sept. 20, 22, 1956; minimum gage height, 1.00 ft (0.305 m) June 12, 13, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1915 reached a stage of 33.5 ft (10.21 m) from information by local residents, discharge 90,000 ft³/s (2,550 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,500 ft³/s (241 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 24	0200	16,200 459	15.68 4.779	May 5	0830	13,500 382	14.35 4.374
Mar. 24	1000	9,080 257	11.66 3.554	July 30	0145	9,550 270	12.09 3.685
Apr. 12	1545	*44,000 1,250	*25.41 7.745				

Minimum discharge, 235 ft³/s (6.66 m³/s) Oct. 8, 9, gage height, 1.40 ft (0.427 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	245	250	1020	494	751	1970	2240	2040	1140	416	2470	437
2	240	248	867	517	687	2020	2630	1840	993	434	3300	441
3	248	250	820	536	645	1930	2670	2790	925	420	2100	588
4	247	250	901	594	605	2290	2280	8340	879	402	1520	488
5	243	253	930	580	574	2570	2110	11200	837	388	1220	433
6	240	255	802	557	556	2170	1880	5270	796	557	1020	399
7	238	265	733	540	540	1830	1670	3500	778	585	870	378
8	236	258	723	514	520	1590	1530	2780	804	499	760	360
9	238	255	769	490	490	1400	1450	2350	1220	452	672	350
10	246	255	751	492	470	1270	1360	2050	1160	424	822	343
11	255	255	696	468	476	1160	8110	1910	946	407	1480	336
12	264	253	647	430	482	1060	35200	1970	829	391	891	330
13	315	253	608	424	490	1020	31900	1940	757	377	802	323
14	314	275	579	430	518	924	12900	1780	697	361	669	317
15	308	333	559	405	687	871	4240	1630	651	345	901	311
16	302	406	539	395	1280	830	3190	1490	614	332	692	305
17	283	737	512	405	1700	785	2670	1390	587	320	604	302
18	275	867	488	448	1390	721	2340	1310	563	309	551	302
19	270	848	468	639	1170	767	2120	1230	537	302	512	298
20	258	656	460	1190	1040	1450	1940	2000	520	297	484	295
21	253	539	448	1840	1260	5230	1780	7000	498	295	460	302
22	252	464	437	1630	3860	4790	1640	4400	479	291	441	311
23	251	425	421	1560	12700	5080	1560	2700	470	290	425	302
24	251	392	402	2110	15300	8670	2090	2130	471	290	410	295
25	250	378	410	2000	7090	6070	2820	1800	475	291	402	298
26	260	2380	395	1530	3400	3530	3620	1580	459	306	399	295
27	255	4290	381	1340	2530	2680	6350	1440	441	342	395	286
28	253	2720	370	1160	2080	2220	4150	1320	506	1290	408	286
29	250	1720	370	1010	---	1970	2830	1210	574	7150	406	286
30	250	1270	396	889	---	2110	2330	1250	437	5070	406	281
31	253	---	429	838	---	2340	---	1140	---	1820	421	---
TOTAL	8043	22000	18331	26455	63291	73318	153600	84780	21043	25453	26913	10278
MEAN	259	733	591	853	2260	2365	5120	2735	701	821	868	343
MAX	315	4290	1020	2110	15300	8670	35200	11200	1220	7150	3300	588
MIN	236	248	370	395	470	721	1360	1140	437	290	395	281
CFSM	.18	.50	.40	.58	1.53	1.60	3.47	1.85	.48	.56	.59	.23
IN.	.20	.55	.46	.67	1.60	1.85	3.87	2.14	.53	.64	.68	.26
AC-FT	15950	43640	36360	52470	125500	145400	304700	168200	41740	50490	53380	20390

CAL YR 1978 TOTAL 336600 MEAN 922 MAX 14600 MIN 236 CFSM .63 IN 8.49 AC-FT 667600
WTR YR 1979 TOTAL 533505 MEAN 1462 MAX 35200 MIN 236 CFSM .99 IN 13.46 AC-FT 1058000

MERAMEC RIVER BASIN

07014500 MERAMEC RIVER NEAR SULLIVAN, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1963 to July 1975, July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 26...	1028	29001	375	355	8.1	15.0	10.6	105	<1	16	--
NOV 30...	1028	29001	1210	300	7.6	8.5	10.6	91	7	110	--
DEC 20...	1028	29001	480	347	7.8	8.5	11.8	101	3	9	--
JAN 23...	1028	29001	1610	295	8.0	4.0	12.2	93	22	120	140
FEB 14...	1028	29001	520	355	7.9	4.5	14.2	109	<1	6	--
MAR 15...	1028	29001	925	298	7.7	10.5	11.6	104	2	--	--
APR 10...	1028	29001	1370	285	8.0	8.5	10.6	91	4	20	130
MAY 24...	1028	29001	2070	240	7.5	18.0	8.8	92	9	88	--
JUN 20...	1028	29001	520	255	7.9	26.0	7.8	95	2	--	--
JUL 25...	1028	29001	291	330	8.0	27.0	7.2	90	26	40	170
AUG 23...	1028	29001	391	332	7.7	25.5	8.2	100	2	30	--
SEP 19...	1028	29001	290	330	7.8	21.0	10.4	116	<1	10	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	ALKA- LINITY (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 26...	--	--	--	1.3	.6	232	0	190	2.9	10	10
NOV 30...	--	--	--	--	--	190	0	156	7.6	--	--
DEC 20...	--	--	--	--	--	210	0	172	5.3	--	--
JAN 23...	34	28	17	3.5	2.6	132	0	108	2.1	18	5.8
FEB 14...	--	--	--	--	--	196	0	161	3.9	--	--
MAR 15...	--	--	--	--	--	180	0	148	5.7	--	--
APR 10...	0	25	15	2.1	1.0	158	0	130	2.5	<10	2.7
MAY 24...	--	--	--	--	--	140	0	115	7.1	--	--
JUN 20...	--	--	--	--	--	196	0	161	3.9	--	--
JUL 25...	0	33	20	2.7	1.3	212	0	174	3.4	<5.0	2.1
AUG 23...	--	--	--	--	--	192	0	157	6.1	--	--
SEP 19...	--	--	--	--	--	254	0	208	6.4	--	--

MERAMEC RIVER BASIN

07014500 MERAMEC RIVER NEAR SULLIVAN, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	FLUORIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT 26...	<.1	227	2	<.10	<.10	.070	1	<1	5	2
NOV 30...	--	--	2	.50	<.10	.080	--	--	--	--
DEC 20...	--	--	2	.20	<.10	.060	--	--	--	--
JAN 23...	.1	155	11	.50	<.10	.050	3	2	180	95
FEB 14...	--	--	<1	.30	.10	.080	--	--	--	--
MAR 15...	--	--	15	.60	<.10	.080	--	--	--	--
APR 10...	--	106	52	--	--	.070	5	3	7	2
MAY 24...	--	--	6	.60	<.10	.060	--	--	--	--
JUN 20...	--	--	7	.40	<.10	<.020	--	--	--	--
JUL 25...	.1	198	5	.12	<.05	<.020	0	<2	4	4
AUG 23...	--	--	27	.19	<.02	.020	--	--	--	--
SEP 19...	--	--	1	.16	<.01	.040	--	--	--	--

[illegible]

MERAMEC RIVER BASIN

07015000 BOURBEUSE RIVER NEAR ST. JAMES, MO.

LOCATION.--Lat 38°02'00", long 91°38'53", in NW¼NW¼ sec.12, T.38 N., R.7 W., Phelps County, Hydrologic Unit 07140103, on left bank 650 ft (198 m) upstream from bridge on State Highway 68, 3 mi (4.8 km) northwest of St. James, and at mile 138.8 (223.3 km).

DRAINAGE AREA.--21.3 mi² (55.2 km²).

PERIOD OF RECORD.--November 1947 to current year.

GAGE.--Water-stage recorder. Datum of gage is 899.46 ft (274.155 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except during periods of no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years, 16.1 ft³/s (0.456 m³/s), 10.27 in/yr (261 mm/yr), 11,660 acre-ft/yr (14.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,390 ft³/s (238 m³/s) Apr. 11, 1979, gage height, 11.17 ft (3.405 m); no flow at times in 1953-57, 59-64, 66-75, 77, 78, 79.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 14.0 ft (4.267 m) June 8, 1945; flood of June 8, 1947, reached a stage of 12.04 ft (3.670 m), from floodmark and information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,390 ft³/s (238 m³/s) at 1745 Apr. 11, gage height, 11.17 ft (3.405 m), no other peak above base of 1500 ft³/s (42.5 m³/s); no flow, Oct. 2-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.03	3.4	26	9.2	30	21	5.5	13	.20	4.5	28
2	.00	.04	2.7	11	8.6	40	6.7	5.4	6.8	.20	1.1	11
3	.00	.05	222	6.5	8.1	50	1.6	91	3.3	.20	.35	2.3
4	.00	.05	40	6.0	6.2	40	3.6	135	2.1	.20	.18	2.0
5	.00	.06	19	5.3	5.1	20	1.3	43	1.5	.10	.13	1.8
6	.00	.06	10	5.1	5.1	18	.36	23	1.0	.10	.12	1.5
7	.00	.07	9.8	4.5	5.6	15	.15	15	.95	.10	.12	1.4
8	.00	.06	8.9	3.1	5.4	12	.09	9.1	.87	.10	.08	1.2
9	.00	.05	5.0	2.3	4.8	12	13	6.0	1.1	.10	.09	1.0
10	.00	.06	3.5	2.0	4.8	8.5	9.8	4.2	1.1	.10	9.8	.80
11	.00	.06	3.4	1.7	6.0	5.7	1260	31	.88	.10	20	.70
12	.01	.06	6.0	1.7	11	4.0	197	26	.30	.10	1.5	.60
13	.04	.07	9.8	2.0	9.8	3.3	71	19	.26	.10	.59	.50
14	.03	.10	7.0	2.0	17	2.5	36	13	.22	.20	.34	.30
15	.02	1.8	5.9	1.7	309	1.9	25	9.9	.41	.20	5.1	.20
16	.02	.77	5.6	1.7	150	1.5	11	9.5	.17	.20	2.2	.20
17	.02	6.8	3.8	2.3	110	1.3	8.5	7.4	.20	.20	.80	.20
18	.02	.46	3.3	4.0	70	1.1	6.3	5.3	.20	.17	.56	.20
19	.02	.20	3.7	8.0	60	2.8	4.9	3.4	.20	.15	.42	.20
20	.02	.09	5.3	12	40	12	3.8	189	.20	.13	.39	.20
21	.02	.08	4.3	20	100	9.6	3.1	87	.20	.29	.60	.20
22	.03	.08	2.8	31	180	15	2.8	32	.20	.16	.78	.20
23	.03	.12	2.1	140	400	109	3.6	16	.20	.22	.89	.20
24	.03	.23	2.3	150	200	23	34	8.8	.20	.21	1.0	.20
25	.03	1.1	1.9	47	60	11	47	4.9	.20	.41	1.4	.10
26	.02	333	1.5	27	40	5.3	194	3.0	.20	.25	.86	.10
27	.02	47	1.2	22	40	2.1	44	2.3	.10	1.2	.79	.10
28	.02	17	1.1	18	30	1.4	29	1.5	.10	83	.52	.10
29	.02	9.1	3.4	13	---	8.4	22	1.1	.10	1.0	.24	.10
30	.03	5.3	20	13	---	10	8.3	90	.10	.41	.32	.10
31	.03	---	23	11	---	4.2	---	38	---	.35	1.6	---
TOTAL	.49	423.95	441.7	600.9	1895.7	480.6	2068.90	935.3	36.36	90.45	57.37	55.70
MEAN	.016	14.1	14.2	19.4	67.7	15.5	69.0	30.2	1.21	2.92	1.85	1.86
MAX	.04	333	222	150	400	109	1260	189	13	83	20	28
MIN	.00	.03	1.1	1.7	4.8	1.1	.09	1.1	.10	.10	.08	.10
CFSM	.001	.66	.67	.91	3.18	.73	3.24	1.42	.06	.14	.09	.09
IN	.00	.74	.77	1.05	3.31	.84	3.61	1.63	.06	.16	.10	.10
AC-FT	1.0	841	876	1190	3760	953	4100	1860	72	179	114	110
CAL YR 1978 TOTAL	5191.73		MEAN 14.2	MAX 687	MIN .00	CFSM .67	IN 9.07	AC-FT 10300				
WTR YR 1979 TOTAL	7087.42		MEAN 19.4	MAX 1260	MIN .00	CFSM .91	IN 12.38	AC-FT 14060				

MERAMEC RIVER BASIN

07016500 BOURBEUSE RIVER AT UNION, MO

LOCATION.--Lat 38°26'45", long 90°59'30", in SE¼ sec.26, T.43 N., R.1 W., Franklin County, Hydrologic Unit 07140103, on right bank downstream side of pier of bridge on U.S. Highway 50, 800 ft (244 m) upstream from Flat Creek, 0.5 mi (0.8 km) east of Union, 7.0 mi (11.3 km) upstream from Birch Creek, and at mile 13.4 (21.6 km). Records include flow of Flat Creek.

DRAINAGE AREA.--808 mi² (2,093 km²), includes that of Flat Creek.

PERIOD OF RECORD.--June 1921 to current year. Gage-height record collected at same site since 1916 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 957: 1941. WSP 1147: Drainage area. WSP 1281: 1924.

GAGE.--Water-stage recorder. Datum of gage is 488.58 ft (148.919 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1948, datum of all gages 3.00 ft (0.914 m) higher. Prior to Oct. 21, 1933, nonrecording gage, at site 30 ft (9 m) upstream. Oct. 21, 1933, to June 11, 1944, nonrecording gage, at present site.

REMARKS.--Records good except those for periods of ice effect and no gage-height record, which are fair. Several observations of water temperature and specific conductance made during the year. National Weather Service gage height telemeter at station.

AVERAGE DISCHARGE.--58 years, 627 ft³/s (17.76 m³/s), 10.54 in/yr (268 mm/yr), 454,300 acre-ft/yr (560 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,100 ft³/s (937 m³/s) July 1, 1957, gage height, 24.44 ft (7.449 m); minimum, 11 ft³/s (0.31 m³/s) Oct. 10, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 22, 1915, reached a stage of 28.5 ft (8.69 m), present datum, from floodmarks, discharge, about 50,000 ft³/s (1,420 m³/s), determined from extension of rating curve for main channel based on measurements made since 1921 and study of overflow areas in vicinity of gaging station.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,500 ft³/s (212 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Jan. 22	0515	8,320	236	12.39	3.776
Feb. 25	0645	14,700	416	16.86	5.139
Apr. 14	1015	*28,200	799	*22.77	6.940

Minimum discharge, 32 ft³/s (0.91 m³/s) Sept. 30, gage height, 0.61 ft (0.186 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	38	53	532	409	560	824	1160	584	200	269	358	73		
2	37	51	416	569	475	845	1040	502	330	187	668	70		
3	40	49	416	621	425	925	1260	471	220	141	1210	66		
4	40	49	1260	590	385	1300	1070	573	178	121	519	64		
5	39	46	2620	599	365	1970	867	1600	150	102	372	63		
6	39	46	998	476	345	1400	972	1690	135	86	283	62		
7	38	52	643	360	340	939	829	1030	123	77	223	59		
8	38	48	488	297	330	723	643	717	115	70	175	55		
9	54	44	405	264	328	620	549	562	113	66	142	54		
10	69	42	349	237	323	557	501	467	109	62	119	66		
11	70	41	303	213	326	529	4980	420	103	59	109	62		
12	75	41	266	191	335	494	12900	395	95	58	1850	57		
13	93	44	246	176	375	457	17900	550	92	55	1440	52		
14	82	50	232	164	455	415	26200	687	86	53	541	49		
15	83	58	235	155	600	365	7330	528	81	51	394	45		
16	78	55	243	154	1100	347	1180	420	76	48	777	42		
17	78	84	255	151	2100	323	902	353	73	45	752	40		
18	79	67	243	149	3500	303	755	310	70	42	432	40		
19	77	73	229	193	2300	294	647	282	65	39	323	39		
20	73	90	221	409	1600	346	573	345	61	38	269	38		
21	67	130	213	4180	2000	740	516	1300	57	38	233	38		
22	63	151	210	7720	4000	616	469	1480	53	38	202	36		
23	62	128	213	4970	9620	1450	432	760	52	39	175	36		
24	62	105	210	3800	13000	5470	488	465	52	40	148	34		
25	61	93	197	4650	12400	3230	513	370	51	52	130	33		
26	60	570	176	3300	1860	1510	897	315	46	69	115	33		
27	60	3600	163	2100	1200	1180	1930	275	45	67	103	34		
28	59	6320	151	1500	934	938	1990	252	132	263	95	33		
29	55	1580	149	1150	---	757	1020	233	148	1330	88	33		
30	52	764	159	900	---	671	727	218	324	899	83	32		
31	51	---	179	730	---	902	---	205	---	487	77	---		
TOTAL	1872	14524	12620	41377	61581	31440	91240	18359	3435	4991	12405	1438		
MEAN	60.4	484	407	1335	2199	1014	3041	592	115	161	400	47.9		
MAX	93	6320	2620	7720	13000	5470	26200	1690	330	1330	1850	73		
MIN	37	41	149	149	323	294	432	205	45	38	77	32		
CFSM	.08	.60	.50	1.65	2.72	1.26	3.76	.73	.14	.20	.50	.06		
IN.	.09	.67	.58	1.90	2.84	1.45	4.20	.85	.16	.23	.57	.07		
AC-FT	3710	28810	25030	82070	122100	62360	181000	36420	6810	9900	24610	2850		
CAL YR 1978	TOTAL	204289	MEAN	560	MAX	10700	MIN	34	CFSM	.69	IN	9.41	AC-FT	405200
WTR YR 1979	TOTAL	295282	MEAN	809	MAX	26200	MIN	32	CFSM	1.00	IN	13.59	AC-FT	585700

MERAMEC RIVER BASIN

07018000 BIG RIVER NEAR DESOTO, MO

LOCATION.--Lat 38°07'20", long 90°40'33", in SW¼NW¼ sec.11, T.39 N., R.3 E., Jefferson County, Hydrologic Unit 07140104, near right bank on downstream side of pier of Mammoth Bridge, 300 ft (91 m) upstream from Mammoth Creek, 1.5 mi (2.4 km) downstream from Mineral Fork, 6.5 mi (10.5 km) west of De Soto, and at mile 59.2 (95.3 km). Records include flow from Mammoth Creek.

DRAINAGE AREA.--718 mi² (1,860 km²), includes that of Mammoth Creek.

PERIOD OF RECORD.--October 1948 to current year. Prior to May 1949 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 538.79 ft (164.223 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--31 years, 659 ft³/s (18.66 m³/s), 12.46 in/yr (316 mm/yr), 477,400 acre-ft/yr (589 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,800 ft³/s (1,580 m³/s) June 30, 1957, gage height, 27.15 ft (8.275 m); minimum discharge, 20 ft³/s (0.57 m³/s) Sept. 19, 1954; minimum gage height, 1.89 ft (0.576 m) Sept. 15, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1915 reached a stage of about 29.4 ft (8.96 m), from flood-mark, 1.0 mi (1.6 km) downstream adjusted to gage site by comparison with recorded flood 5.5 ft (1.68 m) lower; discharge, 70,500 ft³/s (2,000 m³/s,) from rating curve extended above 37,000 ft³/s (1,050 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,000 ft³/s (227 m³/s) and maximum(*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Feb. 23	1330	10,000	283	14.41	4.392
Apr. 12	1430	*32,800	929	*22.38	6.821
Apr. 24	2115	9,490	269	14.07	4.289

Minimum discharge, 72 ft³/s (2.04 m³/s) Oct. 7, gage height, 2.55 ft (0.777 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	90	367	325	278	1740	1680	854	381	157	1300	127
2	79	90	317	390	300	1660	2000	767	332	199	1170	124
3	80	94	313	365	268	2040	1470	1090	321	459	767	123
4	81	97	313	345	255	4620	1200	2400	302	321	502	122
5	78	99	292	310	258	2250	1110	2600	288	224	362	116
6	75	98	264	295	262	1320	946	1550	277	187	288	113
7	74	101	313	280	252	1030	820	1120	281	172	235	112
8	75	102	395	268	250	875	767	918	313	167	205	107
9	76	102	414	252	237	773	741	780	400	165	180	105
10	84	98	400	240	232	709	728	678	349	227	174	102
11	92	97	340	235	240	635	10600	666	299	167	254	98
12	98	96	302	229	218	575	31600	709	270	149	213	97
13	134	96	281	221	220	552	13000	703	250	144	189	95
14	139	102	267	218	320	507	2650	623	235	146	180	94
15	122	147	254	211	570	465	1690	557	224	140	325	91
16	112	221	238	200	1480	434	1270	507	210	135	390	92
17	105	400	230	205	2300	414	1090	475	205	129	262	94
18	98	372	221	270	1600	404	960	449	197	124	231	92
19	94	306	213	450	1160	449	834	429	187	121	191	91
20	92	241	210	1220	840	1000	760	2460	178	116	171	91
21	89	189	210	1480	660	3740	697	1340	176	115	155	94
22	88	170	200	1120	3610	1940	647	953	170	113	152	98
23	88	163	205	787	8630	5840	660	709	170	116	146	97
24	89	155	194	773	4080	4410	6070	592	227	122	148	96
25	90	147	185	741	1820	2030	6000	518	185	119	201	94
26	94	1220	176	629	1240	1470	4850	459	172	137	167	92
27	92	2150	168	568	1020	1180	3400	434	163	159	149	91
28	90	1000	165	515	974	1020	1780	404	167	3090	141	91
29	90	604	168	445	---	1020	1260	372	187	1630	138	91
30	90	454	176	370	---	2190	1000	354	167	890	132	92
31	89	---	221	322	---	2130	---	610	---	587	131	---
TOTAL	2859	9301	8012	14279	33574	49422	102280	27080	7283	10727	9249	3022
MEAN	92.2	310	258	461	1199	1594	3409	874	243	346	298	101
MAX	139	2150	414	1480	8630	5840	31600	2600	400	3090	1300	127
MIN	74	90	165	200	218	404	647	354	163	113	131	91
CFSM	.13	.43	.36	.64	1.67	2.22	4.75	1.22	.34	.48	.42	.14
IN.	.15	.48	.42	.74	1.74	2.56	5.30	1.40	.38	.56	.48	.16
AC-FT	5670	18450	15890	28320	66590	98030	202900	53710	14450	21280	18350	5990

CAL YR 1978	TOTAL	172787	MEAN	473	MAX	11100	MIN	69	CFSM	.66	IN	8.95	AC-FT	342700
WTR YR 1979	TOTAL	277088	MEAN	759	MAX	31600	MIN	74	CFSM	1.06	IN	14.36	AC-FT	549600

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO

LOCATION.--Lat 38°30'20", long 90°35'27", in SE¼ sec.32, T.44 N., R.4 E., St. Louis County, Hydrologic Unit 07140102, on right bank, 44 ft (13 m) upstream from bridge on north access roadway of I-44, 2.0 mi (3.2 km) east of Eureka, 3.0 mi (4.8 km) downstream from Big River, and at mile 34.1 (54.9 km).

DRAINAGE AREA.--3,788 mi² (9,811 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1903 to July 1906, October 1921 to current year. Monthly discharge only for January, February, and March 1904, published in WSP 1311.

REVISED RECORDS.--WSP 877: 1938(M). WSP 977: 1942. WSP 1007: Drainage area. WSP 1281: 1924-25.

GAGE.--Water-stage recorder. Datum of gage is 404.18 ft (123.194 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 17, 1933, nonrecording gage at site 200 ft (61 m) upstream at different datum. Jan. 17, 1933, to Sept. 22, 1937, nonrecording gage, and Sept. 23, 1937, to Sept. 30, 1971, water-stage recorder at present site at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records good except those for period of ice effect and no gage-height record, which are fair. Several observations of water temperature and specific conductance made during the year. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--60 years, 3,037 ft³/s (86.01 m³/s), 10.89 in/yr (277 mm/yr), 2,200,000 acre-ft/yr (2.71 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120,000 ft³/s (3,400 m³/s) June 11, 1945, gage height, 38.94 ft (11.869 m), present datum; minimum, 196 ft³/s (5.55 m³/s) Aug. 27, 31, Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 22, 1915, reached a stage of 42.2 ft (12.86 m), from flood-marks, present datum, discharge, 175,000 ft³/s (4,960 m³/s), by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 17,000 ft³/s (481 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Feb. 24	2400	30,400	861	19.04	5.803
Mar. 25	0230	20,800	589	14.40	4.389
Apr. 14	1845	*77,200	2,190	*33.43	10.189

Minimum daily discharge, 290 ft³/s (8.21 m³/s) Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	344	459	3210	1330	6200	5730	6670	5730	2270	1090	5210	765
2	338	456	2490	1520	5970	5950	6870	4840	2060	1010	5020	753
3	332	456	2290	1700	5600	5950	6720	4570	1880	963	6190	747
4	326	450	2230	1950	5100	8280	6700	5830	1740	963	5040	744
5	326	455	3390	2010	4540	10100	5850	10900	1660	1000	3290	792
6	320	455	3860	1720	4300	8220	4990	15800	1620	926	2520	748
7	314	468	2560	1400	4220	6260	4580	13400	1580	881	2060	711
8	308	468	2180	1370	3750	4960	3990	8120	1540	908	1760	684
9	302	469	2010	1310	3370	4200	3630	6130	1550	908	1560	668
10	302	466	1960	1330	3350	3700	3320	5020	1600	863	1420	644
11	290	456	1900	1310	3310	3300	15000	4330	1800	845	3010	632
12	314	457	1800	1280	3390	2990	40500	3930	1650	845	4110	625
13	572	457	1700	1270	3600	2760	56300	3800	1510	809	4090	619
14	587	490	1600	1280	3700	2540	74400	4010	1420	797	2710	598
15	596	518	1540	1290	3820	2320	70300	3820	1360	767	1830	591
16	620	556	1500	1210	6520	2130	45800	3370	1300	748	2480	576
17	605	989	1460	1230	10300	1990	14400	3020	1260	734	2600	569
18	591	1200	1430	1290	13500	1870	7890	2770	1220	715	2020	568
19	572	1250	1390	1360	10800	1820	6300	2590	1190	700	1520	560
20	543	1210	1360	2190	8290	1890	5350	2500	1160	690	1300	560
21	528	1140	1320	4340	5930	3410	4720	4800	1130	680	1170	558
22	504	1020	1280	8330	8160	8460	4270	7220	1090	666	1090	547
23	494	943	1260	14700	22100	12600	3930	7800	1060	657	1010	543
24	479	855	1240	14400	28700	18400	4610	5400	1030	656	956	536
25	483	789	1220	14100	29300	20000	11200	4060	1010	670	893	533
26	487	3150	1180	15300	28600	15100	13100	3360	1020	704	861	530
27	482	6670	1140	13800	12900	9280	12300	2950	982	764	865	520
28	477	10700	1100	11500	6650	6810	13300	2610	982	2360	841	513
29	472	10500	1080	9670	---	5530	10800	2410	1120	5100	813	511
30	467	4880	1100	8370	---	5050	7320	2230	1090	6880	815	500
31	462	---	1160	7480	---	6370	---	2100	---	8330	782	---
TOTAL	13837	52832	54940	151340	255970	197970	475110	159420	41884	44629	69836	18445
MEAN	446	1761	1772	4882	9142	6386	15840	5143	1396	1440	2253	615
MAX	620	10700	3860	15300	29300	20000	74400	15800	2270	8330	6190	792
MIN	290	450	1080	1210	3310	1820	3320	2100	982	656	782	500
CFSM	.12	.47	.47	1.29	2.41	1.69	4.18	1.36	.37	.38	.60	.16
IN.	.14	.52	.54	1.49	2.51	1.94	4.67	1.57	.41	.44	.69	.18
AC-FT	27450	104800	109000	300200	507700	392700	942400	316200	83080	88520	138500	36590

CAL YR 1978	TOTAL	954307	MEAN	2615	MAX	33300	MIN	290	CFSM	.69	IN	9.37	AC-FT	1893000
WTR YR 1979	TOTAL	1536213	MEAN	4209	MAX	74400	MIN	290	CFSM	1.11	IN	15.09	AC-FT	3047000

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--(continued)
(National stream-quality accounting network station)

WATER QUALITY RECORDS

PERIOD OF RECORD.--January 1978 to September 1979.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1978 to September 1979.

WATER TEMPERATURE: January 1978 to September 1979.

REMARKS.--Water temperature and specific conductance samples collected daily by observer.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 415 micromhos Jan. 14, 1979; minimum, 136 micromhos March 27, 1978.

WATER TEMPERATURES: Maximum daily, 32.0°C July 1, 9, 1978; minimum, 0.0°C many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 415 micromhos Jan. 14; minimum, 139 micromhos Feb. 26.

WATER TEMPERATURES: Maximum daily, 31.0°C July 1, 9; minimum 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	COLI- FORM, FECAL, (PER- CENT UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER (31673)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT 25...	482	395	8.0	14.0	4.0	9.2	88	4	12	200	12	39
NOV 30...	4060	240	7.9	9.0	42	10.7	92	2400	8800	120	0	25
DEC 21...	1320	362	8.2	3.5	3.3	12.1	91	23	33	190	22	40
JAN 23...	15100	270	7.8	1.0	24	12.4	87	750	2200	120	67	25
FEB 14...	3750	375	7.9	.0	2.4	13.8	95	14	980	170	11	34
MAR 14...	2720	326	7.3	9.0	8.8	10.8	93	4	32	160	29	36
APR 11...	9050	236	8.1	10.0	500	8.1	72	5400	8900	130	2	32
MAY 23...	7590	225	7.7	20.0	57	8.0	87	150	180	110	13	25
JUN 20...	1250	338	7.9	28.0	6.7	7.0	89	--	88	180	9	38
JUL 25...	670	366	8.2	29.5	5.7	7.6	99	84	<4	170	3	35
AUG 22...	1090	318	8.3	27.5	12	7.4	92	68	--	150	0	32
SEP 19...	560	365	8.1	20.5	4.6	8.8	98	20	25	200	10	40

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 25...	25	5.0	1.5	230	0	16	7.2	.1	3.7	217	282	.04
NOV 30...	14	3.9	2.5	148	0	20	5.2	.1	7.8	147	1610	.56
DEC 21...	21	6.6	1.5	200	0	23	6.9	.1	6.8	199	709	.47
JAN 23...	15	8.2	1.9	70	0	25	21	.1	6.2	160	6520	.60
FEB 14...	21	5.3	1.1	196	0	24	7.8	.1	5.0	196	1980	.50
MAR 14...	18	3.9	1.4	164	0	21	6.3	.0	7.8	172	1260	.74
APR 11...	11	4.9	2.0	150	0	23	4.8	.1	6.0	141	3450	.54
MAY 23...	12	2.5	1.8	120	0	15	3.1	.1	6.0	175	3590	.23
JUN 20...	21	4.4	6.4	210	0	27	7.8	.1	5.5	210	709	.24
JUL 25...	21	3.8	1.5	204	0	20	5.9	.1	7.2	213	385	.33
AUG 22...	18	5.4	1.8	192	0	25	5.5	.1	6.9	179	527	.15
SEP 19...	24	4.7	1.5	230	0	23	6.2	.1	4.9	202	305	.12

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 25...	.01	.76	.27	3.5	.030	.020	--	--	--	55	72	81
NOV 30...	.05	.72	--	5.7	.110	.040	--	5.9	1.4	87	954	95
DEC 21...	.01	.36	.21	3.7	.070	.030	2.3	--	--	24	86	93
JAN 23...	.14	.51	.29	4.9	.070	.040	5.5	--	--	120	4890	90
FEB 14...	.07	.32	.22	3.6	.070	.040	--	1.7	.4	8	81	79
MAR 14...	.05	.22	.13	4.3	.030	.020	2.2	--	--	--	--	--
APR 11...	.12	1.8	.50	10	.700	.060	30	--	--	1910	46700	82
MAY 23...	.09	.80	.27	4.6	.030	.010	--	4.7	--	133	2730	64
JUN 20...	.02	.43	.00	3.0	.030	.010	3.2	--	--	61	206	35
JUL 25...	.01	.47	.21	3.5	.030	.010	3.6	--	--	89	161	68
AUG 22...	.00	.42	.30	2.5	.210	.010	--	3.9	.5	86	253	66
SEP 19...	.03	.37	.18	2.2	.020	.010	2.8	--	--	91	138	69

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
NOV 30...	1	1	<100	90	0	3	0	10	2
FEB 14...	1	0	200	100	0	<1	0	0	2
MAY 23...	1	1	100	100	3	6	10	0	0
AUG 22...	1	1	300	200	1	<1	0	0	0

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 30...	<3	6	6	1700	100	31	5	120	10
FEB 14...	<3	3	2	180	20	10	5	40	30
MAY 23...	0	9	4	1000	80	63	4	120	10
AUG 22...	<3	4	1	730	110	16	2	90	30

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 30...	.1	.0	1	0	0	0	30	20
FEB 14...	.0	.0	0	0	1	1	20	7
MAY 23...	.4	.0	0	0	0	0	40	20
AUG 22...	.0	.0	0	0	0	0	10	20

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	370	405	302	315	---	---	265	---	318	345	230	340
2	376	410	270	320	---	223	255	288	320	328	260	344
3	375	405	275	---	---	255	260	290	270	340	240	---
4	378	410	290	320	---	---	265	305	322	355	220	348
5	374	---	262	346	---	225	305	280	318	373	---	---
6	378	410	252	378	---	188	272	195	322	370	240	---
7	380	410	280	380	308	235	268	220	---	365	250	350
8	377	410	282	374	---	246	---	240	---	---	280	---
9	370	410	---	378	---	253	---	255	330	---	290	---
10	368	410	315	368	---	254	295	265	---	---	260	354
11	374	410	292	380	---	277	---	272	340	---	265	---
12	---	410	320	380	---	277	---	280	---	---	280	---
13	380	400	290	382	---	280	---	290	315	---	160	---
14	367	395	326	415	---	308	---	288	---	---	---	---
15	368	405	330	398	---	---	---	288	340	---	---	364
16	370	405	296	---	---	---	---	292	345	---	---	365
17	---	370	348	385	---	320	---	300	345	---	---	---
18	378	385	328	395	231	312	---	310	355	---	---	370
19	372	385	212	405	246	312	---	---	350	---	---	370
20	378	390	---	379	---	325	---	315	355	---	260	372
21	---	390	340	332	240	345	---	315	355	---	265	366
22	---	390	310	296	224	248	305	245	350	---	---	---
23	373	---	322	258	177	255	300	---	360	363	318	374
24	378	---	312	274	185	245	325	270	362	355	324	373
25	384	360	350	241	140	185	240	---	360	355	327	372
26	398	360	358	234	139	194	257	262	370	300	---	---
27	400	260	---	229	201	222	---	285	360	260	337	328
28	400	225	240	241	262	238	245	295	358	265	352	---
29	400	205	225	244	---	240	235	298	335	280	366	---
30	400	250	236	266	---	278	247	290	330	295	315	380
31	400	---	308	---	---	295	---	308	---	165	---	---
MEAN	380	373	295	333	214	261	271	279	339	320	278	361

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	17.5	6.0	1.0	---	---	12.5	---	22.5	27.0	25.5	26.5
2	21.0	17.0	8.5	.0	---	7.0	11.0	17.0	23.5	27.5	26.5	26.5
3	21.0	17.0	9.5	---	---	9.0	10.0	16.5	21.0	28.5	27.0	---
4	19.0	17.5	7.0	.0	---	---	9.5	15.0	24.0	28.0	27.5	27.5
5	21.0	---	6.0	1.0	---	7.0	11.0	15.5	25.0	26.0	---	---
6	19.0	12.0	5.0	2.0	---	9.0	10.5	15.5	26.0	26.5	30.5	---
7	17.0	13.0	4.0	2.0	2.0	8.0	13.0	18.5	---	25.5	30.5	24.5
8	18.0	15.0	4.0	2.0	---	8.0	---	21.5	---	---	31.0	---
9	16.0	12.0	---	2.5	---	9.0	---	22.5	28.0	---	30.5	---
10	17.0	15.0	4.0	2.0	---	5.0	14.0	23.5	---	---	26.5	24.5
11	18.0	14.0	4.0	2.0	---	6.0	---	19.5	23.0	---	26.0	---
12	---	16.0	4.0	1.5	---	9.0	---	19.5	---	---	23.0	---
13	15.0	14.0	4.0	2.0	---	11.0	---	20.0	25.5	---	25.5	---
14	14.0	14.5	5.0	1.0	---	9.5	---	24.0	---	---	---	---
15	16.0	13.0	4.5	1.5	---	---	---	19.5	28.0	---	---	21.5
16	16.0	11.0	4.0	---	---	---	---	19.5	27.0	---	---	20.5
17	---	11.0	5.0	2.0	---	10.0	---	20.5	27.0	---	---	---
18	17.0	11.0	4.0	2.0	2.0	13.0	---	23.0	28.0	---	---	22.5
19	15.0	10.0	5.0	2.5	2.5	14.0	---	---	28.0	---	---	22.0
20	16.5	9.0	---	2.0	---	13.0	---	22.0	28.0	---	29.0	21.5
21	---	8.0	4.0	2.0	2.0	14.0	---	20.0	29.5	---	29.0	20.5
22	---	8.0	3.0	2.0	2.0	13.0	16.0	20.0	28.0	---	---	---
23	15.0	---	3.0	2.0	2.0	14.0	16.5	---	27.0	28.5	28.5	20.0
24	15.0	---	3.0	3.0	4.0	10.0	17.5	16.0	26.5	29.0	27.5	21.0
25	14.0	9.0	2.5	3.0	3.0	9.0	17.0	---	24.5	29.0	27.5	19.5
26	---	9.5	2.0	4.0	4.0	9.0	16.5	19.5	26.5	28.0	---	---
27	14.0	8.0	---	3.0	7.0	8.0	---	10.5	26.0	28.0	28.0	21.5
28	14.0	9.0	2.0	2.0	6.0	12.0	16.0	19.0	24.5	25.5	28.5	---
29	14.0	9.0	2.0	1.0	---	10.0	17.0	22.0	26.0	27.0	27.5	---
30	14.0	9.0	.0	2.0	---	11.0	14.0	22.0	26.5	27.5	26.0	23.0
31	17.0	---	1.0	---	---	12.0	---	23.0	---	26.5	---	---
MEAN	16.5	12.0	4.0	2.0	3.5	10.0	14.0	19.5	26.0	27.5	27.5	22.5

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 30,78 1500	MAR 14,79 1200	MAY 23,79 1530	JUN 20,79 1230
TOTAL CELLS/ML	4700	4400	4200	6600
DIVERSITY: DIVISION	0.9	1.3	1.3	1.4
..CLASS	0.9	1.3	1.3	1.4
...ORDER	1.5	1.7	2.1	1.9
....FAMILY	1.8	2.0	2.5	2.2
.....GENUS	1.9	0.0	2.6	2.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....COELASTRACEAE								
.....COELASTRUM	--	-	--	-	--	-	--	-
.....MICRACTINACEAE								
....GOLENKINIA	--	-	--	-	52	1	--	-
.....MICRACTINIUM	--	-	2400#	54	310	7	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	44	1	44	1	90	2	220	3
....DICTYOSPHAERIUM	--	-	--	-	--	-	61	1
....FRANCEIA	--	-	--	-	--	-	320	5
....KIRCHNERIELLA	--	-	--	-	--	-	61	1
...OOCYSTIS	89	2	--	-	--	-	--	-
....SELENASTRUM	67	1	22	1	90	2	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	--	-	81	1
....CRUCIGENIA	--	-	--	-	--	-	480	7
....SCENEDESMUS	180	4	--	-	280	7	810	12
....TETRASTRUM	--	-	--	-	52	1	--	-
....TETRASPORALES								
...PALMELLACEAE								
....SPHAEROCYSTIS	--	-	--	-	--	-	--	-
...VOLVOCALES								
...CHLAMYDOMONADACEAE	--	-	280	7	--	-	--	-
....CHLAMYDOMONAS	--	-	22	1	90	2	--	-
....CHLOROGONIUM	--	-	--	-	--	-	--	-
...VOLVOCAEAE								
....PANDORINA	--	-	--	-	--	-	--	-
...ZYGNEMATALES								
...DESMIDIACEAE								
....COSMARIUM	--	-	--	-	*	0	--	-
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
....COSCINODISCACEAE								
.....CYCLOTELLA	44	1	110	3	--	-	590	9
.....MELOSIRA	44	1	--	-	--	-	--	-
.....SKELETONEMA	*	0	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	270	6	--	-
...PENNALES								
....ACHNANTHACEAE								
.....ACHNANTHES	*	0	22	1	--	-	--	-
....CYMBELLACEAE								
.....CYMBELLA	89	2	44	1	--	-	--	-
...DIATOMACEAE								
....DIATOMA	*	0	22	1	--	-	--	-
....FRAGILARIACEAE								
.....FRAGILARIA	--	-	--	-	--	-	--	-
....SYNEDRA	--	-	--	-	*	0	--	-
...GOMPHONEMACEAE								
....GOMPHONEMA	--	-	22	1	--	-	--	-
...MERIDIONACEAE								
....MERIDION	--	-	22	1	--	-	--	-
...NAVICULACEAE								
....NAVICULA	110	2	--	-	90	2	--	-
....PINNULARIA	*	0	--	-	--	-	--	-
...NITZSCHACEAE								
....NITZSCHIA	130	3	130	3	240	6	40	1
....SURIRELLACEAE								
.....SURIRELLA	--	-	44	1	26	1	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
....CRYPTOCHRYSIDACEAE								
.....CHROOMONAS	--	-	--	-	--	-	40	1
....CRYPTOMONADACEAE								
.....CRYPTOMONAS	--	-	--	-	--	-	61	1

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 30, 78 1500		MAR 14, 79 1200		MAY 23, 79 1530		JUN 20, 79 1230	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	200	3
....ANACYSTIS	580	12	--	-	530	13	2800#	43
..HORMOGONALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	3200#	68	1200#	27	2100#	49	810	12
EUGLENOPHYTA (EUGLENIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	--	-	--	-
....TRACHELOMONAS	*	0	44	1	--	-	--	-

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 25,79 1615	AUG 22,79 1530	SEP 19,79 1330			
TOTAL CELLS/ML	4900	2400	2400			
DIVERSITY: DIVISION	0.7	1.2	1.5			
..CLASS	0.7	1.2	1.5			
..ORDER	1.3	2.3	2.2			
...FAMILY	1.4	3.0	2.5			
....GENUS	1.5	3.6	2.9			
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	--	-	52	2	290	12
...MICRACTINIACEAE						
....GOLENKINIA	--	-	--	-	--	-
...MICRACTINIUM	--	-	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	26	1	130	5		-
...DICTYOSPHAERIUM	--	-	--	-	--	-
...FRANCEIA	--	-	--	-	--	-
...KIRCHNERIELLA	--	-	--	-	--	-
...OOCYSTIS	--	-	52	2	--	-
...SELENASTRUM	--	-	77	3	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	--	-	57	2
....CRUCIGENIA	--	-	100	4	--	-
...SCENEDESMUS	230	5	360#	15	210	9
...TETRASTRUM	--	-	--	-	--	-
..TETRASPORALES						
...PALMELLACEAE						
...SPHAEROCYSTIS	--	-	150	6	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE	--	-	--	-	--	-
....CHLAMYDOMONAS	77	2	140	6	43	2
...CHLOROGONIUM	--	-	--	-	14	1
...VOLVOCAEAE						
...PANDORINA	--	-	210	9	--	-
..ZYGNEMATALES						
...DESMIDIACEAE						
...COSMARIUM	--	-	--	-	--	-
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	--	-	500#	21	340	14
....MELOSIRA	--	-	65	3	57	2
....SKELETONEMA	--	-	--	-	--	-
....STEPHANODISCUS	--	-	120	5	--	-
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
...CYMBELLACEAE						
....CYMBELLA	--	-	--	-	--	-
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
...FRAGILARIACEAE						
....FRAGILARIA	--	-	26	1	--	-
...SYNEDRA	--	-	100	4	14	1
...GOMPHONEMACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...MERIDIONACEAE						
....MERIDION	--	-	--	-	--	-
...NAVICULACEAE						
....NAVICULA	--	-	--	-	--	-
...PINNULARIA	--	-	--	-	--	-
...NITZSCHACEAE						
....NITZSCHIA	140	3	220	9	--	-
...SURIARELLACEAE						
....SURIARELLA	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	--	-	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	52	1	--	-	29	1

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	JUL 25,79 1615		AUG 22,79 1530		SEP 19,79 1330	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	310	6	--	-	660#	27
....ANACYSTIS	520	11	13	1	110	5
..HORMOGONALES						
...OSCILLATORIA						
....OSCILLATORIA	3500#	72	--	-	570#	24
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENACEAE						
.....EUGLENA	*	0	13	1	14	1
....TRACHELOMONAS	--	-	52	2	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

PERIPHYTON

Date	Length of Exposure (days)	Biomass (mg/m ²)		Chlorophyll		Sampling method
		Dry weight (00573)	Ash weight (00572)	a (mg/m ²) (70957)	b (mg/m ²) (70958)	
Nov. 30, 1978	36	.787	.709	.390	.160	Polyethylene Strip
Aug. 22, 1979	28	.870	.710	3.67	2.39	Polyethylene Strip

MISSISSIPPI RIVER MAIN STEM

07020500 MISSISSIPPI RIVER AT CHESTER, IL

LOCATION.--Lat 37°54'10", long 89°51'10", in SW¼ sec.24, T.7 S., R.7 W., third principal meridian, Randolph County, Hydrologic Unit 07140105, on downstream side of left pier of main truss of highway bridge at Chester, 8.1 mi (13.0 km) downstream from Kaskaskia River, and at mile 109.9 (176.8 km) above Ohio River.

DRAINAGE AREA.--708,600 mi² (1,835,000 km²), approximately.

PERIOD OF RECORD.--Discharge: October 1927 to current year in reports of Geological Survey. Monthly discharge only for some periods, published in WSP 1311. Since August 1873, results of discharge measurements in reports of Mississippi River Commission.

Gage heights: July 1942 to current year in reports of Geological Survey. Since May 1891, in reports of Mississippi River Commission and National Weather Service.

REVISED RECORDS.--WRD MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 341.05 ft (103.952 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 1, 1962, nonrecording gage 0.4 mi (0.6 km) downstream at present datum.

REMARKS.--Records excellent. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in Missouri River basin.

AVERAGE DISCHARGE.--52 years, 183,800 ft³/s (5,205 m³/s), 133,200,000 acre-ft/yr (164 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge determined, 886,000 ft³/s (25,100 m³/s) July 3, 1947, Apr. 30, 1973, (discharge including unmeasured overflow, was greater May 24, 1943; maximum gage height, 43.32 ft (13.204 m) Apr. 30, 1973; minimum daily discharge, 30,000 ft³/s (850 m³/s) Dec. 12, 1937; minimum gage height, -4.10 ft (-1.250 m) Jan. 2, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 30, 1844, reached a stage of 39.8 ft (12.13 m) and a discharge of 1,350,000 ft³/s (38,200 m³/s) computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 760,000 ft³/s (21,500 m³/s) Apr. 16; maximum gage height, 39.79 ft (12.128 m) Apr. 16; minimum daily discharge, 67,000 ft³/s (1,900 m³/s) Jan. 16.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.37	8.15	12.40	6.34	4.02*	18.56	33.83	30.25	21.47	17.23	16.01	16.50
2	14.01	7.90	11.10	4.50	3.97	18.19	33.64	29.87	20.97	17.25	17.62	16.57
3	13.13	7.23	9.85	3.20	4.29	18.98	33.43	29.71	20.44	17.78	18.58	18.25
4	12.66	6.91	9.64	2.80	4.30	21.11	33.18	29.55	19.96	17.41	17.26	19.10
5	12.03	7.01	9.70	3.00	4.33	23.85	33.07	29.45	19.34	17.04	15.74	18.75
6	11.10	7.49	8.48	3.76	4.52	25.70	32.79	29.91	18.40	16.65	15.42	18.60
7	10.47	7.44	9.03	4.81	4.62	27.05	32.51	30.66	17.56	16.79	15.18	18.30
8	10.69	7.30	9.72	4.58	4.50	27.58	32.27	31.35	17.02	16.43	14.35	17.11
9	10.44	6.97	8.64	3.28	4.40	26.98	32.14	31.30	17.55	16.13	13.49	16.25
10	10.25	7.01	6.74	1.83	4.30	26.52	31.91	30.82	17.67	16.68	12.95	15.72
11	10.04	6.85	5.76	2.68	4.40	26.56	31.89	30.19	17.82	16.50	13.02	15.56
12	9.78	6.87	5.43	6.51	4.40	26.22	34.49	29.60	18.91	16.13	13.16	15.21
13	9.96	6.87	5.93	9.72	4.41	25.04	36.22	29.22	18.94	16.44	13.16	14.01
14	10.29	7.01	5.93	11.71	3.71	24.23	37.18	28.98	18.60	16.84	12.46	13.21
15	9.73	7.95	6.09	12.88	2.91	23.62	39.10	28.67	18.29	16.32	12.00	12.75
16	9.76	7.89	5.96	12.58	3.67	23.91	39.74	28.27	17.84	15.74	12.06	12.07
17	9.65	8.48	6.74	12.45	4.01	24.64	39.47	27.96	17.21	15.61	11.84	11.31
18	9.07	9.64	6.55	16.82	4.63	25.05	38.43	27.74	16.94	15.50	11.64	11.26
19	9.04	9.91	6.21	17.21	5.49	24.70	37.23	27.24	16.58	15.52	11.30	10.64
20	8.74	10.32	6.74	17.79	5.77	24.72	35.85	26.57	16.00	15.80	11.52	9.53
21	8.63	11.53	7.16	17.30	5.23	25.90	34.50	25.64	15.80	15.67	11.48	9.30
22	8.37	12.59	6.88	16.50	5.60	27.23	33.37	24.86	15.70	15.12	13.66	9.00
23	7.66	12.18	6.33	15.97	11.25	29.21	32.42	24.44	15.75	14.13	15.47	8.20
24	7.28	11.51	5.91	16.01	17.73	30.74	32.19	24.36	16.20	13.36	16.28	8.00
25	7.01	10.87	5.73	16.46	20.69	31.65	32.08	24.22	16.35	13.00	16.86	7.91
26	7.21	10.80	5.51	16.88	21.48	32.40	31.79	23.91	16.30	12.62	17.01	7.59
27	8.03	11.89	5.70	17.37	21.68	32.84	31.70	23.53	16.15	12.93	17.19	7.94
28	7.84	12.35	5.00	17.81	19.81	33.32	31.36	23.08	15.97	15.71	16.98	8.05
29	8.12	13.58	4.16	6.26	---	33.83	31.02	22.75	16.43	17.57	16.62	7.72
30	7.93	13.50	4.05	4.79	---	34.24	30.67	22.34	16.92	17.18	16.64	6.96
31	7.68	---	5.01	4.01	---	34.29	---	21.87	---	16.15	16.77	---
MEAN	9.71	9.20	7.03	9.93	7.50	26.74	33.98	27.36	17.64	15.91	14.64	12.71
MAX	14.37	13.58	12.40	17.81	21.68	34.29	39.74	31.35	21.47	17.78	18.58	19.10
MIN	7.01	6.85	4.05	1.83	2.91	18.19	30.67	21.87	15.70	12.62	11.30	6.96

WTR YR 1979 MEAN 16.07 MAX 39.74 MIN 1.83

MISSISSIPPI RIVER MAIN STEM

07020500 MISSISSIPPI RIVER AT CHESTER, IL--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	195000	124000	169000	90000	85000	270000	621000	473000	295000	231000	211000	220000
2	189000	122000	154000	82000	90500	266000	606000	465000	287000	234000	237000	226000
3	178000	116000	141000	79000	92600	287000	593000	465000	279000	241000	246000	250000
4	173000	115000	142000	75000	92200	328000	585000	462000	272000	235000	226000	260000
5	163000	116000	141000	75000	92600	379000	580000	462000	262000	229000	210000	254000
6	151000	120000	132000	80000	93900	418000	570000	474000	248000	226000	208000	245000
7	146000	120000	138000	82000	94700	445000	561000	493000	237000	225000	204000	247000
8	148000	118000	143000	83000	93500	454000	553000	505000	232000	218000	192000	238000
9	144000	115000	130000	78000	92900	439000	547000	503000	241000	217000	182000	219000
10	142000	117000	122000	77000	91800	432000	541000	491000	243000	221000	176000	214000
11	139000	115000	107000	73000	92300	433000	550000	476000	250000	217000	180000	212000
12	138000	115000	106000	71000	93100	421000	612000	464000	266000	213000	180000	205000
13	144000	116000	109000	69000	91900	398000	654000	455000	267000	221000	179000	188000
14	145000	119000	110000	70000	86100	381000	692000	448000	260000	224000	171000	180000
15	142000	125000	110000	70000	81800	371000	743000	440000	254000	218000	167000	174000
16	143000	125000	110000	67000	87900	380000	760000	430000	245000	211000	166000	164000
17	142000	132000	116000	68000	91200	395000	747000	423000	236000	210000	163000	157000
18	138000	143000	113000	70000	97400	400000	711000	417000	230000	210000	159000	156000
19	135000	146000	111000	72000	103000	393000	668000	404000	223000	211000	157000	147000
20	133000	152000	115000	75000	105000	398000	624000	389000	214000	214000	158000	137000
21	129000	168000	119000	80000	101000	423000	589000	370000	211000	209000	162000	133000
22	125000	177000	115000	84000	112000	463000	560000	355000	209000	200000	190000	129000
23	117000	170000	111000	85000	182000	514000	538000	347000	211000	186000	212000	122000
24	113000	162000	106000	87000	265000	554000	532000	345000	215000	177000	223000	121000
25	110000	155000	106000	88000	309000	582000	525000	342000	218000	170000	229000	119000
26	116000	155000	104000	87000	324000	606000	518000	336000	216000	166000	231000	118000
27	121000	165000	105000	86000	321000	628000	512000	329000	212000	171000	231000	121000
28	121000	173000	99100	87000	288000	655000	504000	321000	212000	213000	227000	122000
29	123000	186000	93000	86000	---	657000	495000	315000	221000	232000	222000	117000
30	121000	183000	92000	84000	---	657000	484000	307000	229000	223000	223000	110000
31	121000	---	95000	82000	---	644000	---	301000	---	208000	224000	---
TOTAL	4345000	4165000	3664100	2442000	3751400	14071000	17775000	12807000	7195000	6581000	6146000	5297000
MEAN	140200	138800	118200	78770	134000	453900	592500	413100	239800	212300	198300	176600
MAX	195000	186000	169000	90000	324000	657000	760000	505000	295000	241000	246000	260000
MIN	110000	115000	92000	67000	81800	266000	484000	301000	209000	166000	157000	110000
CFSM	.20	.20	.17	.11	.19	.64	.84	.58	.34	.30	.28	.25
AC-FT	8618000	8261000	7268000	4844000	7441000	27910000	35260000	25400000	14270000	13050000	12190000	10510000
CAL YR 1978 TOTAL	79093600	MEAN	216700	MAX	632000	MIN	77200	CFSM	.31	AC-FT	156900000	
WTR YR 1979 TOTAL	88239500	MEAN	241800	MAX	760000	MIN	67000	CFSM	.34	AC-FT	175000000	

HEADWATER DIVERSION CHANNEL BASIN

07021000 CASTOR RIVER AT ZALMA, MO

LOCATION.--Lat 37°08'48", long 90°04'32", in SE¼ sec.29, T.29 N., R.9 E., Bollinger County, Hydrologic Unit 07140107, on downstream side of left bridge pier on State Highway 51 in Zalma, and 2.5 mi (4.0 km) downstream from Perkins Creek.

DRAINAGE AREA.--423 mi² (1,096 km²).

PERIOD OF RECORD.--January 1920 to current year. Prior to October 1921 monthly discharge only published in WSP 1931.

REVISED RECORDS.--WSP 1147: 1922-23(M). WSP 1281: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 350.38 ft (106.796 m) National Geodetic Vertical Datum of 1929. Prior to June 9, 1953, nonrecording gage. Prior to Oct. 1, 1925, at site 500 ft (152 m) upstream at datum 49.82 ft (15.185 m) lower, Oct. 1, 1925, to Nov. 12, 1930, at site 500 ft (152 m) upstream at datum 0.18 ft (0.055 m) higher. Nov. 13, 1930, to June 8, 1953, at present site and datum. Since Dec. 18, 1949, auxiliary nonrecording gage, 6.0 mi (9.7 km) downstream.

REMARKS.--Records good except those periods when fall was used as a factor, which are poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--59 years, 510 ft³/s (14.44 m³/s), 16.37 in/yr (416 mm/yr), 369,500 acre-ft/yr (456 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,800 ft³/s (1,160 m³/s) Mar. 28, 1977, gage height, 27.05 ft (8.245 m); maximum gage height, 28.20 ft (8.595 m) Mar. 11, 1935; minimum discharge, 16 ft³/s (0.453 m³/s) Aug. 31, 1936, gage height, 0.81 ft (0.247 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1915 reached a stage of 28.0 ft (8.53 m), present datum, from floodmark by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,000 ft³/s (227 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Jan. 2	0145	9,290	263	22.00	6.706	Apr. 13	0315	11,500	326	23.16	7.059
Mar. 4	1015	*24,800	702	*25.41	7.745	Apr. 25	1415	10,100	286	22.58	6.882
Mar. 31	1345	12,900	365	23.73	7.233						

Minimum daily discharge, 45 ft³/s (1.27 m³/s) Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	63	310	6140	428	1950	6670	735	265	89	517	79
2	48	63	274	6930	399	2210	4720	643	241	144	614	77
3	48	63	326	3050	369	4990	3040	2990	227	240	466	75
4	50	63	363	1380	335	20000	2000	6320	216	209	335	72
5	49	64	309	933	313	10400	1600	4960	201	202	269	70
6	48	63	281	677	291	3240	1260	2520	190	160	231	68
7	46	65	517	561	280	2280	981	1700	225	142	203	66
8	45	64	911	505	270	1560	863	1270	224	131	181	63
9	46	63	801	455	259	1190	1410	972	204	125	163	60
10	47	63	573	410	249	916	1330	764	183	139	151	59
11	51	63	452	365	239	677	1670	695	172	145	155	58
12	55	63	391	333	226	556	7020	978	162	130	155	57
13	59	63	357	297	219	497	8810	1010	154	123	142	57
14	63	67	331	285	214	448	4740	849	147	117	132	56
15	64	77	312	270	226	405	2080	727	140	111	126	55
16	65	95	299	261	302	373	1420	627	134	108	125	54
17	64	178	284	251	395	348	1110	555	128	103	122	54
18	63	212	274	277	396	329	881	493	124	98	116	54
19	62	197	265	354	367	315	712	442	119	93	110	54
20	61	160	270	653	354	318	622	450	115	90	105	54
21	60	138	279	971	435	337	555	1480	113	88	102	63
22	59	124	279	860	1300	349	502	1020	109	86	99	68
23	59	120	281	738	4560	2930	675	691	107	85	95	68
24	59	113	286	1360	6560	6100	4020	550	106	88	92	67
25	60	107	286	1370	6030	5100	9230	461	106	98	98	66
26	61	300	277	961	4760	2170	4670	401	102	134	88	64
27	62	733	263	777	2020	1390	2440	365	98	105	87	62
28	61	683	250	658	1610	1070	1570	338	95	148	86	61
29	62	462	241	558	---	1080	1190	308	94	224	85	60
30	62	364	256	493	---	4730	920	286	92	254	84	59
31	63	---	1160	447	---	11400	---	311	---	204	82	---
TOTAL	1749	4953	11758	33580	33406	89658	78711	35911	4593	4213	5416	1880
MEAN	56.4	165	379	1083	1193	2892	2624	1158	153	136	175	62.7
MAX	65	733	1160	6930	6560	20000	9230	6320	265	254	614	79
MIN	45	63	241	251	214	315	502	286	92	85	82	54
CFSM	.13	.39	.90	2.56	2.82	6.84	6.20	2.74	.36	.32	.41	.15
IN.	.15	.44	1.03	2.95	2.94	7.88	6.92	3.16	.40	.37	.48	.17
AC-FT	3470	9820	23320	66610	66260	177800	156100	71230	9110	8360	10740	3730
CAL YR 1978	TOTAL	91639	MEAN 251	MAX 4890	MIN 36	CFSM .59	IN 8.06	AC-FT 181800				
WTR YR 1979	TOTAL	305828	MEAN 838	MAX 20000	MIN 45	CFSM 1.98	IN 26.90	AC-FT 606600				

07022000 MISSISSIPPI RIVER AT THEBES, IL

LOCATION.--Lat 37°13'00", long 89°27'50", in NW¼ sec.17, T.15 S., R.3 W., Alexander County, Hydrologic Unit 07140105, near center span on downstream side of railroad bridge at Thebes, 5.0 mi (8.0 km) downstream from Headwater Diversion Channel, and at mile 43.7 (70.3 km) above Ohio River.

DRAINAGE AREA.--713,200 mi² (1,847,000 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: October 1932 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to April 1941, published as "at Cape Girardeau, Mo."

Gage heights: March 1933 to February 1938 and October 1939 to current year in reports of Geological Survey (prior to April 1941, published as "at Cape Girardeau, Mo."). Since November 1878, under name of "at Grays Point" in files of St. Louis District office of Corps of Engineers. January 1879 to May of 1896, published as "at Grays Point" and since May 1896, published as "at Cape Girardeau" in reports of Mississippi River Commission. February 1891 to February 1894 and since 1904, published as "at Cape Girardeau" in reports of National Weather Service.

REVISED RECORDS.--WSP 1341: 1844(M). WRD MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Mar. 17, 1933, to Dec. 21, 1934, nonrecording gage and Dec. 22, 1934, to Apr. 4, 1941, water-stage recorder, at site 8.2 mi (13.2 km) upstream at datum 4.65 ft (1.417 m) higher. Apr. 5, 1941, to Sept. 30, 1941, nonrecording gage at present site and datum and Oct. 1, 1941, to Oct. 11, 1943, at datum 0.07 ft (0.021 m) higher. Prior to Apr. 5, 1941, various auxiliary gages used. Since Oct. 1, 1943, former gage at Cape Girardeau used as auxiliary gage.

REMARKS.--Records good except for period of ice effect which are fair. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in Missouri River basin.

AVERAGE DISCHARGE.--47 years, 189,000 ft³/s (5,352 m³/s), 136,900,000 acre-ft/yr (169 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 893,000 ft³/s (25,300 m³/s) May 27, 1943, elevation, 340.33 ft (103.733 m), present datum; maximum elevation, 343.43 ft (104.678 m) Apr. 30, 1973; minimum discharge, 23,400 ft³/s (663 m³/s) Dec. 13, 1937, at site then in use; minimum elevation, 301.67 ft (91.949 m) Jan. 2, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 4, 1844, reached an elevation of 345.14 ft (105.199 m), present datum, at Grays Point, from floodmarks, discharge, 1,375,000 ft³/s (38,900 m³/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 791,000 ft³/s (22,240 m³/s) Apr. 17, elevation, 343.11 ft (104.580 m); minimum daily discharge, 69,400 ft³/s (1,970 m³/s) Jan. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	212000	124000	180000	96000	88000	312000	616000	509000	297000	232000	213000	225000
2	201000	125000	161000	85000	93300	306000	624000	493000	292000	232000	223000	224000
3	191000	121000	143000	80000	94800	330000	626000	490000	287000	236000	242000	238000
4	179000	116000	128000	78000	95600	382000	622000	491000	281000	237000	240000	257000
5	171000	115000	125000	80000	95400	414000	620000	490000	274000	232000	221000	259000
6	161000	116000	120000	80900	95100	442000	614000	493000	262000	227000	210000	255000
7	151000	119000	116000	83700	97200	468000	608000	507000	254000	226000	207000	252000
8	148000	119000	124000	85400	97200	488000	600000	522000	243000	224000	200000	241000
9	149000	117000	125000	82200	95600	484000	595000	530000	241000	222000	188000	227000
10	146000	114000	118000	81300	96000	468000	586000	527000	246000	225000	178000	218000
11	145000	115000	111000	78300	96400	459000	590000	517000	247000	224000	176000	215000
12	142000	113000	110000	74100	95400	450000	627000	506000	258000	219000	179000	212000
13	141000	114000	110000	73300	96300	432000	667000	495000	268000	218000	178000	202000
14	147000	116000	112000	74900	93100	408000	697000	486000	265000	225000	176000	188000
15	145000	121000	113000	75000	86800	390000	743000	475000	258000	223000	167000	180000
16	142000	126000	113000	71100	85900	382000	778000	465000	252000	217000	165000	174000
17	142000	132000	115000	69400	88500	388000	781000	456000	243000	212000	162000	167000
18	138000	140000	118000	74200	89700	396000	760000	448000	236000	211000	158000	164000
19	136000	145000	117000	75000	94500	394000	722000	439000	230000	210000	152000	161000
20	133000	149000	118000	78400	97200	387000	689000	426000	222000	211000	150000	149000
21	133000	160000	119000	83700	97400	397000	649000	411000	216000	212000	149000	141000
22	130000	175000	114000	86900	96300	416000	611000	390000	213000	206000	161000	135000
23	127000	180000	108000	88000	118000	449000	584000	376000	213000	197000	191000	127000
24	122000	171000	104000	89900	228000	483000	580000	366000	216000	216000	210000	122000
25	120000	161000	103000	92600	307000	502000	576000	358000	219000	176000	220000	125000
26	119000	160000	103000	91000	340000	516000	562000	349000	221000	169000	225000	124000
27	123000	167000	98000	88300	345000	529000	553000	339000	218000	165000	227000	125000
28	125000	172000	95000	88000	336000	544000	545000	329000	216000	181000	227000	127000
29	125000	181000	93000	93900	---	564000	535000	318000	219000	222000	223000	127000
30	126000	189000	95000	87100	---	593000	523000	309000	227000	231000	221000	121000
31	123000	---	96000	84500	---	610000	---	300000	---	222000	225000	---
TOTAL	4493000	4173000	3605000	2550100	3739700	13783000	18883000	13610000	7334000	6629000	6064000	5482000
MEAN	144900	139100	116300	82260	133600	444600	629400	439000	244500	213800	195600	182700
MAX	212000	189000	180000	96000	345000	610000	781000	530000	297000	237000	242000	259000
MIN	119000	113000	93000	69400	85900	306000	523000	300000	213000	165000	149000	121000
CFSM	.20	.20	.16	.12	.19	.62	.88	.62	.34	.30	.27	.26
AC-FT	8912000	8277000	7151000	5058000	7418000	27340000	37450000	27000000	14550000	13150000	12030000	10870000

CAL YR 1978 TOTAL 80990600 MEAN 221900 MAX 634000 MIN 80500 CFSM .31 AC-FT 160600000
WTR YR 1979 TOTAL 90345800 MEAN 247500 MAX 781000 MIN 69400 CFSM .35 AC-FT 179200000

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURES: October 1974 to current year.

REMARKS.--Water temperature and specific conductance samples collected daily at Cape Girardeau water plant intake.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 680 micromhos Feb. 1, 1977; minimum daily, 272 micromhos April 6, 1979.

WATER TEMPERATURES: Maximum daily, 31.5°C July 10-11, 1975, July 17, 1977; minimum daily 0.0°C on several days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 675 micromhos Dec. 28; minimum daily, 272 micromhos April 6.

WATER TEMPERATURES: Maximum daily, 29.0°C Aug 6, 7, 8, 9, 10; minimum daily, 0.0°C Jan. 11, Feb. 1, Feb. 3-15.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT 02...	200000	462	7.8	21.0	66	6.0	67	14000	900	180	50	48
NOV 29...	182000	590	8.1	6.0	68	9.8	79	--	7200	210	56	50
DEC 13...	110000	620	8.0	1.0	31	9.6	68	--	--	220	56	55
JAN 16...	70000	625	7.8	.0	4.8	11.6	79	1200	560	230	31	55
MAR 08...	474000	406	7.4	4.0	380	9.0	69	2000	1000	150	40	41
APR 04...	622000	380	7.5	8.5	200	9.4	80	24000	13000	170	50	43
MAY 30...	309000	452	7.6	21.0	30	7.0	78	4800	--	210	53	55
JUN 26...	222000	555	7.8	26.0	33	6.5	79	7500	800	200	61	49
JUL 18...	211000	506	7.8	28.0	150	6.0	76	5700	7000	180	29	46
AUG 28...	227000	525	8.0	25.0	87	4.9	59	7800	540	210	52	52
SEP 26...	124000	570	8.1	21.0	24	6.5	72	8400	--	260	60	65

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 02...	15	28	4.5	160	0	75	30	.3	9.8	284	153000	1.7
NOV 29...	20	36	2.2	184	0	110	19	.3	7.0	338	166000	1.3
DEC 13...	20	40	4.3	200	0	110	23	.3	7.4	382	113000	1.3
JAN 16...	22	31	4.1	240	0	74	26	.2	10	369	69700	1.5
MAR 08...	12	20	4.1	136	0	65	15	.3	8.1	237	303000	1.6
APR 04...	14	12	4.3	140	0	44	20	.2	10	232	390000	3.2
MAY 30...	17	15	3.5	188	0	70	17	.3	5.5	302	252000	2.3
JUN 26...	19	28	4.1	170	0	83	19	.3	6.5	331	198000	2.4
JUL 18...	17	22	4.1	190	0	68	17	.3	8.2	289	165000	2.2
AUG 28...	19	25	3.6	192	0	81	22	.4	9.3	297	182000	2.0
SEP 26...	23	38	4.2	240	0	110	22	.4	10	395	132000	2.0

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 02...	.02	1.2	.65	13	.460	.160	14	--	--	641	346000	58
NOV 29...	.17	1.2	.73	11	.310	.120	--	9.3	1.7	395	194000	33
DEC 13...	.20	.83	.61	9.4	.240	.120	7.3	--	--	191	56700	52
JAN 16...	.53	1.1	.83	12	.160	.110	2.6	--	--	42	7940	57
MAR 08...	.53	2.8	1.2	19	.180	.070	--	10	21	1450	1860000	83
APR 04...	.37	1.8	.83	22	.440	.060	16	--	--	872	1460000	63
MAY 30...	.01	1.1	.77	15	.210	.070	--	6.9	--	220	184000	88
JUN 26...	.01	.93	.42	15	.270	.120	8.1	--	--	423	254000	33
JUL 18...	.05	1.3	.42	16	.350	.090	13	--	--	878	500000	41
AUG 28...	.01	1.9	.69	17	.400	.130	--	5.9	--	321	197000	81
SEP 26...	.05	.76	.79	12	.250	.160	7.8	--	--	--	--	--

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
NOV 29...	3	1	<100	80	6	7	0	0	2
MAR 08...	4	1	300	200	9	5	30	0	9
MAY 30...	2	2	100	100	3	7	10	0	2
AUG 28...	4	2	<100	90	4	3	30	10	3

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 29...	<3	20	5	4900	60	88	82	280	9
MAR 08...	0	62	25	23000	140	12	9	990	90
MAY 30...	0	15	9	4900	40	85	70	300	10
AUG 28...	<3	40	8	6000	30	28	0	360	2

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 29...	.0	.0	2	2	0	0	90	7
MAR 08...	.1	.0	1	0	0	0	130	70
MAY 30...	.2	.1	1	1	0	0	50	50
AUG 28...	.0	.0	1	1	0	0	30	10

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	430	595	480	550	580	360	346	440	---	510	485	495
2	450	590	490	570	---	355	360	450	---	500	---	493
3	465	590	540	640	600	339	360	445	---	480	440	505
4	470	595	545	640	600	368	375	450	---	490	460	522
5	475	600	550	640	601	365	360	455	---	495	450	518
6	495	600	565	640	600	405	---	---	490	495	460	498
7	510	600	570	630	590	405	370	480	480	470	480	495
8	520	590	---	630	565	402	375	455	490	460	500	504
9	520	590	570	---	565	368	362	440	510	462	470	505
10	530	595	570	620	578	345	370	435	500	490	510	495
11	540	600	590	620	590	356	352	435	500	505	490	495
12	540	600	595	620	570	361	390	440	490	480	500	550
13	555	605	595	620	565	371	365	460	510	480	475	---
14	555	600	595	610	570	375	362	470	490	495	455	550
15	540	580	595	610	550	385	332	475	465	515	---	562
16	560	570	580	610	559	399	325	485	478	505	460	---
17	550	565	585	545	570	410	322	---	480	490	465	550
18	540	570	585	550	590	410	330	---	490	455	480	548
19	560	570	570	440	580	405	350	---	500	400	480	568
20	560	575	580	540	565	390	---	---	510	420	485	575
21	570	575	590	579	540	395	360	---	510	375	485	585
22	575	570	590	590	530	385	390	---	520	445	500	592
23	575	545	595	591	451	380	410	---	520	385	485	605
24	575	540	595	565	460	377	405	---	520	470	475	625
25	585	540	585	---	365	345	422	---	520	345	460	635
26	595	520	590	580	---	361	435	---	515	---	460	605
27	600	525	595	579	---	340	430	---	520	520	395	595
28	575	540	675	575	358	346	435	---	530	500	510	---
29	580	545	600	588	---	338	440	---	530	480	505	610
30	580	530	610	550	---	323	440	---	520	---	508	615
31	575	---	560	570	---	325	---	---	---	540	507	---
MEAN	540	574	578	589	548	371	378	454	504	471	477	552

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	15.0	6.0	2.5	.0	3.0	8.0	14.0	---	25.5	27.0	26.5
2	19.5	15.0	6.0	2.0	---	3.5	7.0	14.0	---	25.0	---	26.5
3	20.5	15.0	6.0	2.0	.0	3.5	8.0	14.0	---	25.0	28.0	27.0
4	17.0	14.0	5.0	1.0	.0	3.5	7.5	6.0	---	25.5	28.0	27.0
5	18.0	14.0	4.5	1.0	.0	3.5	7.0	6.0	---	26.0	28.5	25.0
6	18.0	14.0	5.0	1.0	.0	3.5	7.0	---	24.0	26.0	29.0	25.0
7	17.0	13.5	4.5	1.0	.0	3.0	10.0	15.0	24.0	26.0	29.0	25.0
8	17.0	13.0	---	1.0	.0	3.0	8.0	15.0	25.0	26.0	29.0	25.0
9	15.0	13.0	3.5	---	.0	3.0	7.0	17.0	25.0	26.0	29.0	25.0
10	16.0	13.0	3.5	.5	.0	3.0	7.0	19.0	25.0	26.5	29.0	25.0
11	16.0	13.0	4.5	.0	.0	3.0	6.0	19.5	25.0	26.0	28.5	25.0
12	15.0	13.0	3.5	1.0	.0	3.0	9.0	19.5	25.0	26.0	27.5	23.5
13	16.0	14.0	2.0	1.0	.0	3.5	11.0	16.0	25.0	26.5	27.0	---
14	15.0	14.0	2.0	1.0	.0	4.0	10.0	19.0	26.0	26.5	27.0	23.5
15	15.0	13.0	3.0	1.0	.0	4.5	10.0	16.0	26.0	27.0	25.0	23.5
16	15.0	12.0	3.5	1.0	1.5	4.5	10.5	16.0	26.0	27.0	25.0	---
17	15.0	12.0	4.0	1.0	1.0	6.0	10.5	---	26.0	27.0	25.0	23.0
18	14.0	12.0	2.0	1.0	.5	6.0	10.5	---	26.0	27.0	24.5	23.0
19	14.5	11.0	3.0	1.5	.5	7.0	12.0	---	26.5	27.5	24.5	23.0
20	15.0	10.5	3.0	1.5	.5	8.0	---	---	26.5	28.0	25.0	22.5
21	15.0	9.0	4.0	1.5	.5	8.0	12.0	---	26.5	26.5	25.5	22.5
22	15.0	9.0	3.5	1.5	3.5	8.0	11.5	---	26.5	26.5	25.0	22.0
23	15.5	9.5	4.0	1.5	2.5	8.0	13.0	---	26.5	26.5	26.5	21.5
24	14.5	9.5	4.0	1.5	2.5	7.0	13.0	---	26.5	26.5	26.0	21.5
25	14.0	9.0	4.0	---	2.5	7.0	14.0	---	26.5	26.0	25.5	21.5
26	14.5	8.5	3.0	1.5	---	8.0	14.0	---	26.5	---	25.5	22.0
27	14.5	8.5	3.0	1.0	---	8.0	14.0	---	27.0	27.0	25.5	25.0
28	15.0	8.0	3.0	1.0	3.0	8.0	14.0	---	25.0	26.5	25.5	23.0
29	14.5	6.0	3.0	1.0	---	8.0	14.0	---	25.0	26.5	25.5	23.0
30	14.5	7.0	3.0	1.5	---	8.0	14.0	---	25.5	---	25.0	23.5
31	15.0	---	3.0	1.5	---	8.0	---	---	---	27.0	26.0	---
MEAN	16.0	11.5	3.5	1.0	.5	5.5	10.5	15.0	25.5	26.5	26.5	24.0

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 29,78 1000	MAY 30,79 1400	JUN 26,79 1400	JUL 18,79 0700	AUG 28,79 1530	SEP 26,79 1030				
TOTAL CELLS/ML	11000	12000	1900	2400	5000	11000				
DIVERSITY: DIVISION	1.5	1.5	1.6	1.4	1.0	1.6				
..CLASS	1.6	1.5	1.6	1.4	1.0	1.6				
..ORDER	2.2	1.9	1.9	1.7	1.4	2.1				
...FAMILY	2.6	2.2	2.2	2.4	2.0	2.6				
....GENUS	3.6	2.6	2.5	2.7	2.2	3.4				
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....COELASTRACEAE										
.....COELASTRUM	--	-	--	-	--	-	--	-	730	7
...HYDRODICTYACEAE										
.....PEDIASTRUM	--	-	--	-	--	-	1700#	33	--	-
...MICRACTINIACEAE										
.....MICRACTINIUM	--	-	920	8	--	-	--	-	--	-
...OOCYSTACEAE										
.....ANKISTRODESMUS	150	1	190	2	100	5	28	1	--	-
.....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-	--	-
.....GLOEODACTINIUM	460	4	--	-	--	-	--	-	120	1
.....OOCYSTIS	200	2	--	-	100	5	83	3	310	3
.....SELENASTRUM	*	0	--	-	--	-	--	-	150	1
.....TREUBARIA	--	-	*	0	--	-	--	-	120	1
...SCENEDESMACEAE									*	0
.....ACTINASTRUM	410	4	310	3	--	-	110	5	--	-
.....CRUCIGENIA	610	6	--	-	--	-	--	-	310	3
.....SCENEDESMUS	150	1	1000	8	830#	43	250	10	--	-
.....TETRASTRUM	610	6	460	4	--	-	--	-	2600#	24
..TETRASPORALES									310	3
...PALMELLACEAE										
....SPHAEROCYSTIS	--	-	310	3	--	-	--	-	--	-
...VOLVOCALES										
....CHLAMYDOMONADACEAE										
.....CHLAMYDOMONAS	150	1	120	1	--	-	42	2	--	-
CHRYSTOPHYTA										
..RACILLARIOPHYCEAE										
...CENTRALES										
....COSCINODISCACEAE										
.....COSCINODISCUS	--	-	*	0	--	-	--	-	*	0
.....CYCLOTELLA	2700#	25	77	1	100	5	280	12	860#	17
.....MELOSIRA	2100#	20	1400	11	--	-	170	7	350	7
.....SKELETONEMA	150	1	--	-	--	-	--	-	970	9
.....STEPHANODISCUS	--	-	500	4	--	-	--	-	--	-
...PENNIALES										
....FRAGILARIACEAE										
.....ASTERIONELLA	360	3	190	2	--	-	--	-	--	-
.....FRAGILARIA	200	2	--	-	210	11	--	-	--	-
.....SYNEDRA	--	-	--	-	52	3	--	-	--	-
...GOMPHONEMACEAE										
.....GOMPHONEMA	100	1	--	-	--	-	--	-	--	-
...NAVICULACEAE										
.....NAVICULA	100	1	--	-	--	-	--	-	--	-
...NITZSCHIA										
.....NITZSCHIA	200	2	350	3	--	-	97	4	1000#	20
..CHRYSTOPHYCEAE										
...CHRYSOMONADALES										
....OCHROMONADACEAE										
.....OCHROMONAS	150	1	--	-	--	-	--	-	--	-

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PHYTOPLANKTON

DATE TIME	NOV 29,78 1000		MAY 30,79 1400		JUN 26,79 1400		JUL 18,79 0700		AUG 28,79 1530		SEP 26,79 1030	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)												
..CRYPTOPHYCEAE												
...CRYPTOMONADALES												
....CRYPTOMONADACEAE												
.....CRYPTOMONAS	*	0	--	-	52	3	--	-	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)												
..CYANOPHYCEAE												
...CHROOCOCCALES												
....CHROOCOCCACEAE												
.....AGMENELLUM	--	-	--	-	--	-	--	-	--	-	620	6
....ANACYSTIS	760	7	--	-	52	3	--	-	--	-	*	0
...HORMOGONALES												
....NOSTOCACEAE												
.....ANABAENA	--	-	--	-	410#	22	--	-	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-	490#	20	--	-	--	-
...OSCILLATORIACEAE												
....OSCILLATORIA	960	9	6200#	51	--	-	850#	35	--	-	1400	13
EUGLENOPHYTA (EUGLENOIDS)												
..EUGLENOPHYCEAE												
...EUGLENALES												
....EUGLENACEAE												
.....EUGLENA	--	-	77	1	--	-	--	-	--	-	*	0
....TRACHELOMONAS	150	1	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

PERIPHYTON

Date	Length of Exposure (days)	Biomass (mg/m ²)		Chlorophyll		Sampling method
		Dry weight (00573)	Ash weight (00572)	a (mg/m ²) (70957)	b (mg/m ²) (70958)	
Nov. 29, 1978	58	31.7	29.4	167	.000	Polyethylene Strip
May 30, 1979	56	10.9	8.82	63.9	.000	Polyethylene Strip

ST. FRANCIS RIVER BASIN

07037500 ST. FRANCIS RIVER NEAR PATTERSON, MO

LOCATION.--Lat 37°11'40", long 90°30'12", in NE¼ sec.16, T.29 N., R.5 E., Wayne County, Hydrologic Unit 08020202, near left bank on downstream side of pier of bridge on State Highway 34, 1 mi (1.6 km) upstream from Clark Creek, and 3 mi (4.8 km) east of Patterson.

DRAINAGE AREA.--956 mi² (2,476 km²).

PERIOD OF RECORD.--October 1920 to current year. Prior to June 1921, monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 732: 1922-23.

GAGE.--Water-stage recorder. Datum of gage is 370.45 ft (112.913 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1938, nonrecording gage at site 50 ft (15 m) upstream at datum 2.00 ft (0.610 m) higher. Oct. 1, 1938, to Apr. 12, 1939, nonrecording gage and Apr. 13, 1939, to Sept. 5, 1956, water-stage recorder at site 50 ft (15 m) upstream at present datum. Sept. 6, 1956, to Sept. 26, 1958, nonrecording gage at present site and datum.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--59 years, 1,098 ft³/s (31.10 m³/s), 15.60 in/yr (396 mm/yr), 795,500 acre-ft/yr (981 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79,200 ft³/s (2,240 m³/s) Mar. 11, 1935, gage height, 30.70 ft (9.357 m), from rating curve extended above 55,000 ft³/s (1,560 m³/s); maximum gage height, 31.0 ft (9.499 m) Apr. 14, 1945, (backwater from Wappapello Dam); minimum discharge, 8 ft³/s (0.23 m³/s) Aug. 28 to Sept. 1, 1936; minimum gage height, 1.32 ft (0.402 m) Aug. 16, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood on August 1915 reached a stage of 33.8 ft (10.302 m), present datum, from floodmarks, discharge, 100,000 ft³/s (2,830 m³/s), from rating curve extended above 55,000 ft³/s (1,560 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 21,000 ft³/s (595 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 4	0900	43,700	24.50	Apr. 25	0200	29,500	21.26
Apr. 12	1430	*43,900	*24.55	May 3	2000	30,700	21.57

Minimum discharge, 29 ft³/s (0.82 m³/s) Oct. 7, 8, 9, gage height, 3.13 ft (0.954 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	38	300	7000	770	4100	6150	1580	343	87	3960	112
2	31	38	300	7000	710	6300	8500	1340	315	114	6300	108
3	31	39	300	3000	652	18500	4880	17600	294	436	2960	106
4	31	82	300	2000	594	40200	3070	18000	270	610	1460	100
5	30	94	300	1000	520	15000	2580	10100	249	352	800	95
6	30	98	300	700	483	5020	2080	5020	236	240	610	91
7	30	102	500	600	456	3180	1640	3180	232	194	478	88
8	29	102	1000	600	448	2320	1520	2400	242	164	400	81
9	30	101	900	600	416	1780	2760	1780	224	147	326	78
10	30	81	600	600	385	1430	2490	1460	210	134	285	75
11	32	76	500	557	370	1160	9370	1280	200	180	300	73
12	32	72	400	520	355	915	40200	1340	190	230	263	69
13	35	72	350	456	355	755	17800	1430	176	178	261	67
14	39	71	300	456	355	650	6900	1370	167	150	273	64
15	40	95	300	416	385	574	4600	1130	156	127	230	62
16	40	112	300	400	636	494	3520	915	147	114	200	59
17	41	171	300	400	770	446	2670	755	139	111	188	58
18	49	303	300	432	1290	400	2160	650	133	102	200	58
19	49	355	300	730	1190	385	1710	574	127	95	196	58
20	47	300	300	1240	965	478	1430	650	127	88	175	58
21	46	200	300	2630	1120	4490	1130	2700	127	83	155	63
22	45	150	300	2630	3190	3880	1020	2240	115	80	142	64
23	44	100	300	1870	17500	11000	1100	1460	110	76	132	63
24	43	100	300	2080	12500	8000	15400	1040	107	77	126	62
25	42	100	300	2230	5760	5000	20000	800	102	82	120	61
26	40	300	300	1870	3670	3000	7350	670	99	86	122	61
27	40	1000	300	1590	2950	2580	7350	574	93	99	128	60
28	40	900	300	1290	2790	2000	3760	510	90	2640	124	61
29	39	500	300	1120	---	2650	2580	446	90	8060	116	61
30	39	400	300	940	---	15800	2000	400	88	5010	114	59
31	39	---	1000	865	---	14600	---	370	---	2970	115	---
TOTAL	1164	6152	12150	47822	61585	177087	187720	83764	5198	23116	21259	2175
MEAN	37.5	205	392	1543	2199	5712	6257	2702	173	746	686	72.5
MAX	49	1000	1000	7000	17500	40200	40200	18000	343	8060	6300	112
MIN	29	38	300	400	355	385	1020	370	88	76	114	58
CFSM	.04	.21	.41	1.61	2.30	5.98	6.55	2.83	.18	.78	.72	.08
IN.	.05	.24	.47	1.86	2.40	6.89	7.30	3.26	.20	.90	.83	.08
AC-FT	2310	12200	24100	94850	122200	351300	372300	166100	10310	45850	42170	4310

CAL YR 1978	TOTAL	197425	MEAN	541	MAX	21200	MIN 29	CFSM	.57	IN	7.68	AC-FT	391600
WTR YR 1979	TOTAL	629192	MEAN	1724	MAX	40200	MIN 29	CFSM	1.80	IN	24.48	AC-FT	1248000

ST. FRANCIS RIVER BASIN

07039000 WAPPAPELLO LAKE AT WAPPAPELLO, MO

LOCATION.--Lat 36°55'42", long 90°17'04", in NW¼SE¼ sec.3, T.26 N., R.7 E., Wayne County, Hydrologic Unit 08020202, at intake tower at dam on St. Francis River, 0.8 mi (1.2 km) southwest of Wappapello, and at mile 309.4 (497 km).

DRAINAGE AREA.--1,310 mi² (3,390 km²), approximately.

PERIOD OF RECORD.--April 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is 347.74 ft (105.991 m) National Geodetic Vertical Datum of 1929. Prior to June 19, 1941, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by earth-fill dam. Closure of channel at dam began July 10, 1940; river began to flow through outlet structure July 24, 1940. Stop logs placed in outlet structure and storage began Apr. 1, 1941; conservation pool level reached Apr. 20, 1941. Capacity at bottom of outlet tunnels (gage height, -9.0 ft or -2.743 m), 2,600 acre-ft (3.21 km³); at conservation pool level (gage height, 7.0 ft or 2.134 m), 30,900 acre-ft (38.1 hm³); at spillway crest (gage height, 47.0 ft or 14.326 m), 613,200 acre-ft (756 hm³); at maximum pool level (gage height, 62.4 ft or 19.020 m), uncontrollable above spillway crest, 1,022,000 acre-ft (1.26 km³). Figures given herein represent total contents. Under normal operating conditions lake surface will not be drawn below conservation pool level, which is maintained for purposes of conservation and recreation. Storage above this level used for flood control.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 729,800 acre-ft (900 hm³) Apr. 16, 1945, gage height, 51.35 ft (15.651 m); minimum, since initial filling to conservation pool level, 23,340 acre-ft (28.8 hm³) Mar. 1, 2, 3, 1970; minimum gage height, 4.20 ft (1.280 m) Sept. 26, 27, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 318,000 acre-ft (392 hm³) Apr. 14, gage height, 32.15 ft (9.799 m); minimum, 30,800 acre-ft (38.0 hm³) Feb. 9, gage height, 6.94 ft (2.115 m).

Capacity table (gage height, in feet NGVD, and contents, in acre-ft)

6.0	27,100	17.0	109,600
7.0	30,900	22.0	166,200
10.0	48,000	27.0	235,200
13.0	71,400	33.0	332,900

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62800	62500	80500	90200	65500	101000	164000	234000	92800	62600	85800	63100
2	62800	62600	80700	115000	58700	103000	169000	220000	86700	63500	91100	63300
3	63000	62800	81900	122000	52900	115000	179000	215000	79500	63700	99300	63700
4	63100	62800	83000	124000	48100	162000	183000	258000	73000	64700	102000	63800
5	63300	63100	83300	124000	43100	231000	184000	281000	69200	65400	103000	64000
6	63400	63800	84000	123000	39000	248000	184000	283000	65000	64500	102000	63800
7	63300	64300	84700	123000	35200	246000	181000	276000	63400	64300	101000	63600
8	63400	64400	88300	121000	32600	238000	179000	266000	62200	63400	97200	63000
9	63400	64500	89900	119000	30800	228000	178000	254000	61300	62600	91700	62600
10	63300	64500	91400	117000	31200	217000	178000	241000	61400	62100	85800	62400
11	63800	64300	92300	115000	32200	204000	179000	229000	61100	62100	79700	62100
12	63600	64000	92900	112000	32800	190000	216000	216000	61400	62800	73200	62100
13	63600	63700	93100	110000	32800	175000	297000	205000	61800	62800	67400	62500
14	63300	63600	91400	108000	32400	161000	318000	192000	62300	62900	65900	62600
15	62800	63800	89300	105000	32000	146000	314000	179000	62400	62900	66900	62600
16	62100	63700	87500	103000	32400	132000	305000	169000	62900	62800	67500	62100
17	61800	64500	85500	100000	32800	122000	294000	163000	63300	62600	68000	62400
18	61800	64200	83100	97600	36000	113000	283000	156000	63700	62600	68600	62600
19	61800	64200	82100	95700	37300	104000	270000	151000	63800	62400	69200	62600
20	61800	64300	78900	95300	37400	95400	257000	146000	63900	62400	69700	62600
21	61900	64100	77500	96800	36800	88000	242000	142000	64400	62500	70600	64000
22	62000	64000	75200	99500	36300	88400	229000	142000	64300	62600	71000	64300
23	62300	63900	73400	101000	47100	90000	214000	140000	64100	62600	70100	64400
24	62500	63700	72100	103000	76000	111000	215000	137000	63700	63100	69200	64400
25	62800	63100	69800	106000	98000	133000	249000	132000	63200	63600	68300	64600
26	63200	64500	68000	105000	103000	131000	272000	127000	63000	64400	67300	64700
27	63000	69700	66000	99400	103000	126000	271000	121000	62800	64500	66200	64900
28	62800	73900	63800	93200	102000	118000	268000	116000	62600	66500	65800	64500
29	62600	77600	62100	86800	---	110000	258000	110000	62600	73900	64800	64100
30	62300	79600	63000	80000	---	113000	247000	104000	62600	77000	63800	63700
31	62300	---	65600	72900	---	149000	---	98700	---	81000	62800	---
(†)	11.93	13.90	12.31	13.16	16.21	20.59	27.74	15.91	11.98	14.05	12.00	12.10
(‡)	-1,400	+17,300	-14,000	+7,300	+29,100	+47,000	+98,000	-148,000	-36,100	+18,400	-18,200	+900
MAX	63800	79600	93100	124000	103000	248000	318000	283000	92800	81000	103000	64900
MIN	61800	62500	62100	72900	30800	88000	164000	98700	61100	62100	62800	62100
CAL YR 1978.....‡	-3,100											
WTR YR 1979.....‡	0											

(†) Elevation, in feet NGVD, at end of month.

(‡) Change in contents, in acre-feet.

ST. FRANCIS RIVER BASIN

07039500 ST. FRANCIS RIVER AT WAPPAPELLO, MO

LOCATION.--Lat 36°55'41", long 90°15'55", in NW¼SE¼ sec.2, T.26 N., R.7 E., Wayne County, Hydrologic Unit 08020202, on right bank at downstream side of highway bridge, 0.5 mi (0.8 km) southeast of Wappapello and 1.25 mi (2.0 km) downstream from Wappapello Dam.

DRAINAGE AREA.--1,311 mi² (2,929 km²).

PERIOD OF RECORD.--October 1940 to current year. Since January 1939 in reports of Mississippi River Commission. Gage-height records collected in this vicinity since April 1920 are contained in reports of the Corps of Engineers.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 325.15 ft (99.106 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 14, 1940, nonrecording gages in the vicinity at same datum.

REMARKS.--Records good above 500 ft³/s (14.2 m³/s) and fair below. Discharge computed using gate openings and pool elevation at Wappapello Lake. Flow regulated by Wappapello Lake.

COOPERATION.--Records furnished by Corps of Engineers.

AVERAGE DISCHARGE.--39 years, 1,541 ft³/s (43.64 m³/s), 1,116,000 acre-ft/yr (1.38 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,300 ft³/s (632 m³/s) Apr. 16, 1945, gage height, 25.60 ft (7.803 m); no flow at times in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1920, 30.7 ft (9.36 m) May 15, 1933, discharge, 82,500 ft³/s (2,340 m³/s), determined by Corps of Engineers. Maximum discharge, 85,000 ft³/s (2,410 m³/s), determined by Corps of Engineers, Aug. 1915 (stage unknown).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 9,080 ft³/s (257 m³/s) Mar. 12; no flow Oct. 10, 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG.	SEP
1	6.0	41	627	240	4700	4940	8370	8920	3750	40	3620	40
2	3.0	38	686	814	4460	4970	7270	8900	3700	102	2480	40
3	5.0	34	769	2000	4000	5620	3970	8910	3670	234	1480	40
4	9.0	31	792	1840	3900	5790	3850	8940	3710	475	1490	40
5	5.0	27	778	2010	3630	6200	3870	8860	2280	600	1490	160
6	1.0	25	785	2000	3150	6580	3770	8870	2130	600	1490	220
7	3.0	29	864	2000	2880	7310	3770	8960	1900	600	2000	220
8	5.0	32	1090	2000	2010	8030	3770	8930	1140	580	2810	220
9	1.0	65	1120	2000	920	8180	3770	8960	876	580	3330	220
10	.00	247	1130	1970	180	8680	3770	8910	522	346	3700	220
11	49	268	1150	1970	180	8860	3870	8990	560	100	3650	120
12	112	264	1170	1960	450	9080	3930	9000	187	220	3550	40
13	148	259	1200	1960	740	8900	4490	8900	126	220	2560	40
14	201	325	1770	1960	730	8800	8640	8850	40	220	750	40
15	202	450	1830	1940	730	8700	8660	8160	40	220	40	40
16	198	458	1800	1930	740	8050	8600	6040	40	220	40	40
17	110	480	1750	1920	760	6060	8500	4920	40	220	40	40
18	.00	463	1690	1910	770	5700	8850	4420	40	220	40	40
19	39	456	1620	1900	1000	5580	8920	3790	149	40	40	40
20	47	456	1610	1900	1780	5470	8930	3770	227	40	40	40
21	15	455	1610	1910	2100	5400	8890	3740	165	40	40	40
22	4.0	453	1590	1920	2430	5390	8880	3730	413	40	320	40
23	11	455	1580	1920	3760	6240	8930	3710	413	40	760	40
24	18	451	1570	1940	6130	7410	8980	3690	413	40	760	40
25	25	451	1570	2120	6920	7530	8890	3780	413	40	760	40
26	42	556	1570	4220	6350	7490	9010	3760	280	100	760	40
27	169	517	1560	4900	4960	7370	9070	3860	220	600	760	100
28	196	325	1540	4830	4930	7180	9070	3800	220	1090	750	220
29	209	312	1160	4830	---	7830	8970	3790	220	3750	750	220
30	157	365	274	4880	---	7680	9000	3690	205	3760	740	220
31	51	---	190	4770	---	8200	---	3780	---	3770	390	---
TOTAL	2041.00	8788	38445	74464	75290	219220	209260	197330	28089	19147	41430	2900
MEAN	65.8	293	1240	2402	2689	7072	6975	6365	936	618	1336	96.7
MAX	209	556	1830	4900	6920	9080	9070	9000	3750	3770	3700	220
MIN	.00	25	190	240	180	4940	3770	3690	40	40	40	40
CFSM	.05	.22	.95	1.83	2.05	5.39	5.32	4.86	.71	.47	1.02	.07
AC-FT	4050	17430	76260	147700	149300	434800	415100	391400	55710	37980	82180	5750
CAL YR 1978 TOTAL	296964.00			814	MAX 7290	MIN .00	CFSM .62	AC-FT 589000				
WTR YR 1979 TOTAL	916404.00			2511	MAX 9080	MIN .00	CFSM 1.92	AC-FT 1818000				

ST. FRANCIS RIVER BASIN

07041000 LITTLE RIVER DITCH 81 NEAR KENNETT, MO

LOCATION.--Lat 36°14'10", long 89°58'58", in NE¼ sec.4, T.18 N., R.10 E., Dunklin County, Hydrologic Unit 08020204, on downstream side of bridge on State Highway 84, and about 4.0 mi (6.4 km) east of Kennett.

DRAINAGE AREA.--111 mi² (287 km²).

PERIOD OF RECORD.--October 1926 to September 1979 (discontinued).

REVISED RECORDS.--WSP 877: 1938.

GAGE.--Nonrecording gage and crest-stage gage. Datum of gage is 241.00 ft (73.457 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Oct. 19, 1966, at site 100 ft (30 m) upstream at present datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--53 years, 201 ft³/s (5.692 m³/s), 145,600 acre-ft/yr (180 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,280 ft³/s (92.9 m³/s) Apr. 2, 1979, gage height, 10.15 ft (3.094 m); maximum gage height, 15.1 ft (4.60 m) Apr. 21, 1927, including some overflow from levee breaks on St. Francis River; minimum discharge observed, 8.0 ft³/s (0.227 m³/s) Sept. 1, 1943, Sept. 18, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,280 ft³/s (92.9 m³/s) Apr. 2, gage height, 10.15 ft (3.094 m); minimum daily discharge, 35 ft³/s (0.99 m³/s) Sept. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	39	200	1430	168	1190	3020	268	202	108	120	54
2	44	39	158	709	160	972	3260	265	194	114	122	51
3	43	40	612	342	156	1430	3150	664	200	114	102	47
4	43	40	2340	258	154	1970	3040	2220	192	130	94	46
5	42	39	1850	235	150	1250	2820	2130	186	108	88	44
6	41	40	1390	210	146	835	2100	1360	180	122	81	44
7	42	42	1600	200	152	511	1350	899	178	112	78	44
8	42	39	2370	186	142	382	1040	559	176	124	78	40
9	42	38	2170	176	120	330	1410	402	172	104	72	40
10	41	37	1300	178	100	300	878	332	166	144	80	40
11	40	39	700	174	118	280	589	300	164	174	102	38
12	45	38	574	166	144	260	1590	290	160	140	94	38
13	50	39	535	160	140	242	823	328	156	120	82	38
14	48	42	445	158	178	235	496	310	154	110	70	39
15	40	55	370	156	532	218	422	262	152	106	65	37
16	41	375	320	154	763	212	398	238	152	104	62	36
17	43	1760	292	208	392	204	318	220	144	98	70	36
18	42	1130	272	365	278	200	300	212	138	90	63	36
19	41	368	245	784	184	194	285	214	134	90	61	35
20	40	176	212	1280	222	188	270	235	130	90	58	37
21	40	114	210	1170	661	184	260	592	132	90	54	70
22	39	98	224	484	850	214	258	469	124	87	53	924
23	37	150	200	568	2290	745	508	583	118	84	52	475
24	39	134	204	944	1920	646	1350	395	126	87	58	130
25	38	126	278	520	1940	365	1280	285	136	126	71	75
26	37	650	194	295	1320	275	829	258	142	308	72	63
27	54	2140	190	245	1070	248	586	242	122	302	65	55
28	47	1410	180	222	1070	230	402	298	118	210	63	53
29	44	721	170	202	---	268	338	235	114	194	58	51
30	41	342	186	182	---	1110	300	220	108	170	52	49
31	42	---	920	178	---	2350	---	210	---	140	56	---
TOTAL	1313	10300	20911	12539	15520	18038	33670	15495	4570	4100	2296	2765
MEAN	42.4	343	675	404	554	582	1122	500	152	132	74.1	92.2
MAX	54	2140	2370	1430	2290	2350	3260	2220	202	308	122	924
MIN	37	37	158	154	100	184	258	210	108	84	52	35
CFSM	.38	3.09	6.08	3.64	4.99	5.24	10.1	4.51	1.37	1.19	.67	.83
AC-FT	2600	20430	41480	24870	30780	35780	66780	30730	9060	8130	4550	5480
CAL YR 1978 TOTAL	81232			MEAN 223	MAX 2370	MIN 37	CFSM 2.01	AC-FT 161100				
WTR YR 1979 TOTAL	141517			MEAN 388	MAX 3260	MIN 35	CFSM 3.50	AC-FT 280700				

ST. FRANCIS RIVER BASIN

07042000 LITTLE RIVER DITCH 1 NEAR KENNETT, MO

LOCATION.--Lat 36°14'09", long 89°58'53", in NE¼ sec.4, T.18 N., R.10 E., Dunklin County, Hydrologic Unit 08020204, on downstream side of bridge on State Highway 84, and 4.0 mi (6.4 km) east of Kennett.

DRAINAGE AREA.--235 mi² (609 km²).

PERIOD OF RECORD.--October 1926 to September 1979 (discontinued).

GAGE.--Nonrecording gage, and crest-stage gage. Datum of gage is 241.00 ft (73.457 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Oct. 20, 1966, at site 100 ft (30 m) upstream at present datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--53 years, 421 ft³/s (11.92 m³/s), 305,000 acre-ft/yr (376 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,900 ft³/s (224 m³/s) Apr. 23, 1973, gage height, 14.55 ft (4.435 m); maximum gage height, 16.80 ft (5.121 m) Jan. 25, 1937; minimum discharge, 8.0 ft³/s (0.227 m³/s) Sept. 13-18, 1932.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,700 ft³/s (218 m³/s) Apr. 3, gage height, 14.40 ft (4.389 m); minimum daily discharge, 32 ft³/s (0.906 m³/s) Nov. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	37	1120	3540	292	3880	6720	466	292	174	148	69
2	46	38	632	2270	270	3110	7400	412	268	170	162	68
3	45	38	2480	1210	262	3000	7620	989	270	168	117	63
4	44	37	5550	790	248	4920	7530	5060	252	192	108	60
5	42	37	5120	472	232	3740	6850	5350	245	198	104	54
6	41	37	3920	433	226	2750	5060	4150	236	178	92	54
7	39	64	3440	400	226	1800	3250	3430	226	190	90	54
8	39	38	5540	355	220	1500	2140	2350	224	198	94	52
9	40	38	5180	330	200	1290	2530	1200	230	176	94	54
10	40	38	3650	315	175	1020	1820	670	224	275	106	56
11	39	37	2620	310	190	824	1120	530	216	674	118	56
12	43	36	2160	300	214	664	3300	569	202	902	114	52
13	56	35	1790	290	216	555	2650	688	202	709	106	51
14	58	32	1370	290	228	514	1260	534	202	448	96	60
15	52	90	940	270	605	454	776	439	204	298	88	52
16	42	765	720	250	1810	430	625	388	200	212	87	51
17	36	2410	712	292	1150	403	558	352	190	188	93	48
18	37	2760	664	614	793	391	502	332	182	180	94	46
19	38	1520	541	1220	484	376	466	325	180	170	88	46
20	38	730	460	2410	511	358	436	409	178	164	84	50
21	38	340	400	2620	940	352	415	1440	190	162	82	407
22	38	250	424	1570	2070	382	433	716	184	146	80	2120
23	37	178	400	1560	4920	916	702	646	184	130	78	1330
24	37	300	385	2080	5020	1590	3120	580	176	126	82	562
25	37	258	460	1540	5370	818	3080	451	232	156	80	255
26	36	1580	430	1020	3730	594	1840	391	228	275	87	160
27	56	4810	355	608	3130	499	1220	352	192	332	93	126
28	70	4020	320	451	3030	424	908	361	186	272	92	105
29	56	2670	290	409	---	430	698	328	180	245	104	93
30	41	1710	346	361	---	1390	541	332	176	214	84	86
31	40	---	1440	328	---	5160	---	310	---	170	74	---
TOTAL	1349	24933	53859	28908	36762	44534	75570	34550	6351	8092	3019	6340
MEAN	43.5	831	1737	933	1313	1437	2519	1115	212	261	97.4	211
MAX	70	4810	5550	3540	5370	5160	7620	5350	292	902	162	2120
MIN	36	32	290	250	175	352	415	310	176	126	74	46
CFSM	.19	3.54	7.39	3.97	5.59	6.12	10.7	4.75	.90	1.11	.41	.90
AC-FT	2680	49450	106800	57340	72920	88330	149900	68530	12600	16050	5990	12580
CAL YR 1978 TOTAL	185289			MEAN 508	MAX 5550	MIN 32	CFSM 2.16	AC-FT 367500				
WTR YR 1979 TOTAL	324267			MEAN 888	MAX 7620	MIN 32	CFSM 3.78	AC-FT 643200				

ST. FRANCIS RIVER BASIN

07042500 LITTLE RIVER DITCH 251 NEAR LILBOURN, MO

LOCATION.--Lat 36°33'20", long 89°40'12", SW¼SE¼ sec.8, T.22 N., R.13 E., New Madrid County, Hydrologic Unit 08020204, on right bank 150 ft (46 m) upstream from bridge on U.S Highway 62, 3.7 mi (6.0 km) southwest of Lilbourn, and 4.0 mi (6.4 km) northwest of Marston.

DRAINAGE AREA.--235 mi² (609 km²).

PERIOD OF RECORD.--October 1945 to current year. Prior to January 1946 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder, nonrecording gage and crest-stage gage. Datum of gage is 263.46 ft (80.303 m) National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission). Prior to Oct. 27, 1967, nonrecording gage at present site and datum.

REMARKS.--Records fair. Several observations of water temperature and specific conductance made during the year.

AVERAGE DISCHARGE.--34 years, 333 ft³/s (9.431 m³/s), 19.24 in/yr (489 mm/yr), 241,300 acre-ft/yr (298 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,580 ft³/s (186 m³/s) Mar. 29, 1975, gage height, 14.17 ft (4.319 m); maximum gage height, 15.16 ft (4.621 m) Feb. 15, 1950; minimum discharge, 29 ft³/s (0.82 m³/s) Sept. 20, 1954; minimum gage height, 1.94 ft (0.591 m) Sept. 21, 22, 23, 25, 26, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1945 reached a stage of 15.6 ft (4.75 m) from floodmark, discharge, 3,200 ft³/s (90.6 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,090 ft³/s (172 m³/s) Apr. 2, gage height, 14.43 ft (4.398 m); minimum daily, 63 ft³/s (1.78 m³/s) Oct. 21, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	76	558	2700	361	2950	5060	610	350	175	350	207
2	70	80	442	2000	341	2500	5910	542	335	223	315	190
3	72	71	3700	1200	341	3900	5670	3210	334	405	290	175
4	71	78	5150	860	321	3700	4530	4570	333	292	265	164
5	69	76	4150	640	286	3250	2640	4060	332	223	248	166
6	68	74	2560	520	285	2500	1750	3310	321	197	230	155
7	67	72	2220	445	284	1500	950	1670	335	196	220	153
8	66	78	4780	395	271	1150	1010	960	324	195	208	146
9	66	78	4050	364	292	969	1830	751	326	465	219	148
10	68	79	2220	340	261	847	1100	638	312	1280	209	144
11	77	74	1220	318	270	722	953	583	294	754	222	136
12	86	70	1210	304	272	600	2230	570	309	468	209	131
13	78	73	1240	293	275	548	1430	555	321	368	201	129
14	71	85	952	288	287	491	938	535	312	303	196	129
15	65	417	765	282	984	446	751	518	312	263	191	127
16	64	619	674	275	1350	422	641	493	277	238	194	127
17	64	2470	634	408	673	406	587	478	266	225	194	127
18	64	1620	627	559	449	390	533	468	262	212	187	127
19	64	599	569	1320	392	382	497	458	248	210	187	127
20	64	302	508	2000	353	367	496	543	244	210	185	127
21	63	213	481	1500	1190	355	469	607	230	220	178	1140
22	63	192	470	880	2000	352	451	614	233	217	182	1760
23	64	364	433	1160	4400	1140	1190	672	228	211	180	777
24	70	252	414	2210	4700	843	2950	535	267	300	201	382
25	80	185	411	1120	3400	638	2590	462	230	650	226	261
26	93	1920	401	764	2800	515	1630	433	212	1450	210	213
27	88	3890	367	617	2650	466	1400	433	210	880	186	198
28	81	2790	342	562	3250	449	938	446	197	650	279	191
29	78	1320	326	475	---	500	757	427	187	525	296	182
30	74	734	312	429	---	2020	665	380	180	445	225	169
31	73	---	1700	391	---	3990	---	368	---	385	220	---
TOTAL	2215	18951	43886	25619	32738	39308	52546	30899	8321	12835	6903	8208
MEAN	71.5	632	1416	826	1169	1268	1752	997	277	414	223	274
MAX	93	3890	5150	2700	4700	3990	5910	4570	350	1450	350	1760
MIN	63	70	312	275	261	352	451	368	180	175	178	127
CFSM	.30	2.69	6.03	3.52	4.97	5.40	7.46	4.24	1.18	1.76	.95	1.17
IN.	.35	3.00	6.95	4.06	5.18	6.22	8.32	4.89	1.32	2.03	1.09	1.30
AC-FT	4390	37590	87050	50820	64940	77970	104200	61290	16500	25460	13690	16280

CAL YR 1978 TOTAL 144298 MEAN 395 MAX 5150 MIN 63 CFSM 1.68 IN 22.84 AC-FT 286200
WTR YR 1979 TOTAL 282429 MEAN 774 MAX 5910 MIN 63 CFSM 3.29 IN 44.71 AC-FT 560200

ST. FRANCIS RIVER BASIN

07043000 CASTOR RIVER AT AQUILLA, MO

LOCATION.--Lat 36°57'08", long 89°54'25", in NE¼SE¼ sec.25, T.27 N., R.10 E., Stoddard County, Hydrologic Unit 08020204, on downstream side of right pier of bridge on State Highway 25, 0.5 mi (0.8 km) north of Aquilla, and 4.0 mi (6.4 km) north of Bloomfield.

DRAINAGE AREA.--175 mi² (453 km²).

PERIOD OF RECORD.--October 1945 to current year. Prior to January 1946 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 317.11 ft (96.655 m) National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission). Prior to Apr. 11, 1948, nonrecording gage at site 50 ft (15 m) downstream at same datum. Apr. 11, 1948, to July 31, 1968, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Several observations of water temperature and specific conductance were made during the year. Entire flow from headwaters of Castor River is diverted 22 mi (35 km) above station to Headwater diversion channel. See Castor River at Zalma for records of flow above diversion.

AVERAGE DISCHARGE.--34 years, 175 ft³/s (4.956 m³/s), 13.58 in/yr (345 mm/yr), 126,800 acre-ft/yr (156 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,510 ft³/s (213 m³/s) Mar. 28, 1977, gage height, 15.67 ft (4.776 m); no flow at times in several years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1945 reached a stage of 14.2 ft (4.33 m), from floodmark.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,930 ft³/s (111 m³/s) Feb. 23, gage height, 14.07 ft (4.289 m); minimum daily, 0.23 ft³/s (0.007 m³/s) Oct. 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.88	.34	809	1490	60	2250	2490	150	38	2.8	43	34
2	.78	.37	407	1460	45	2260	2460	100	28	122	31	22
3	.81	.47	1200	1350	40	2810	2030	1360	25	343	24	12
4	.71	.57	1350	1130	36	2670	1760	1970	22	452	18	5.5
5	.68	.62	1110	925	33	2160	1560	1980	22	572	13	3.5
6	.62	.70	878	700	28	1860	1320	1730	19	415	10	2.6
7	.58	.73	831	511	23	1690	929	1490	715	216	7.9	2.0
8	.54	.74	1130	351	22	1530	537	1190	1040	104	6.0	1.9
9	.54	.71	915	218	21	1310	540	723	837	478	5.2	1.8
10	.49	.70	656	121	19	906	470	309	550	422	4.6	2.0
11	.82	.59	383	87	18	399	539	179	323	256	4.0	2.4
12	.97	.58	217	64	17	162	1360	304	192	215	3.0	2.5
13	1.3	.59	190	48	24	91	1540	249	112	154	2.8	2.2
14	.95	.82	221	43	29	102	1530	189	69	81	2.7	1.9
15	.53	16	230	37	179	105	1390	134	45	43	3.3	1.5
16	.34	38	271	34	481	79	1090	90	31	24	3.6	1.4
17	.30	544	279	88	486	60	579	62	22	14	3.3	1.3
18	.26	426	215	196	395	54	236	46	16	8.5	2.7	1.3
19	.24	268	154	407	216	53	132	36	13	5.9	2.4	1.3
20	.24	164	143	766	140	55	94	54	9.3	4.4	2.1	1.3
21	.24	97	174	1030	214	70	79	119	7.6	3.9	53	3.6
22	.23	57	169	985	909	84	72	99	5.6	2.6	128	4.4
23	.23	41	121	857	3660	810	527	143	4.8	44	91	4.7
24	.24	28	143	1230	3050	1260	1660	205	7.3	275	167	5.9
25	.25	22	128	1210	3600	1300	1870	133	7.9	494	106	4.9
26	.42	966	98	961	2860	1170	1760	72	9.3	424	65	3.1
27	.45	1540	72	647	2410	929	1520	58	8.3	243	41	2.2
28	.42	1440	54	361	2210	548	1250	257	6.1	200	35	1.6
29	.39	1280	43	218	---	424	787	238	4.1	149	62	1.2
30	.34	1100	82	131	---	1820	324	118	3.1	96	60	1.1
31	.34	---	878	90	---	2480	---	69	---	63	48	---
TOTAL	16.13	8035.53	13551	17746	21225	31501	32435	13856	4192.4	5927.1	1048.6	137.1
MEAN	.52	268	437	572	758	1016	1081	447	140	191	33.8	4.57
MAX	1.3	1540	1350	1490	3660	2810	2490	1980	1040	572	167	34
MIN	.23	.34	43	34	17	53	72	36	3.1	2.6	2.1	1.1
CFSM	.003	1.53	2.50	3.27	4.33	5.81	6.18	2.55	.80	1.09	.19	.03
IN.	.00	1.71	2.88	3.77	4.51	6.70	6.89	2.95	.89	1.26	.22	.03
AC-FT	32	15940	26880	35200	42100	62480	64330	27480	8320	11760	2080	272
CAL YR 1978	TOTAL	66749.44	MEAN	183	MAX	1920	MIN	.23	CFSM	1.05	IN	14.19
WTR YR 1979	TOTAL	149670.86	MEAN	410	MAX	3660	MIN	.23	CFSM	2.34	IN	31.82
										AC-FT	132400	
										AC-FT	296900	

ST. FRANCIS RIVER BASIN

07043500 LITTLE RIVER DITCH 1 NEAR MOREHOUSE, MO

LOCATION.--Lat 36°50'03", long 89°43'48", in SW¼SE¼ sec.2, T.25 N., R.12 E., Stoddard County, Hydrologic Unit 08020204, on downstream side of second pier right of left abutment of bridge on State Highway 114, 1.5 mi (2.4 km) downstream from Little River ditch 39, and 2.0 mi (3.2 km) west of Morehouse.

DRAINAGE AREA.--450 mi² (1,166 km²).

PERIOD OF RECORD.--October 1945 to current year. Prior to January 1946 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 280.76 ft (85.576 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 17, 1949, June 11, 1951, to Feb. 22, 1962, nonrecording gage at same site and datum. Nov. 17, 1949, to June 10, 1951 nonrecording gage at site 50 ft (15 m) downstream at present datum.

REMARKS.--Records fair except those for no gage-height record which are poor. Several observations of water temperature and specific conductance were made during the year. This Little River ditch 1 flows into Little River ditch 251 at point 35.3 mi (56.8 km) downstream, and is independent of the ditch for which records are published as Little River 1 near Kennett.

AVERAGE DISCHARGE.--34 years, 536 ft³/s (15.18 m³/s), 16.18 in/yr (411 mm/yr), 388,300 acre-ft/yr (479 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,250 ft³/s (234 m³/s) May 10, 1961, gage height, 19.35 ft (5.898 m); maximum gage height, 19.81 ft (6.038 m) Mar. 11, 1964; minimum discharge, 21 ft³/s (0.59 m³/s) Sept. 18, 1954, gage height, 3.13 ft (0.954 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1945 reached a stage of 19.85 ft (6.050 m) from floodmark, discharge, 5,830 ft³/s (165 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,880 ft³/s (223 m³/s) Feb. 25, gage height, 14.77 ft (4.502 m); minimum daily, 70 ft³/s (1.98 m³/s) Nov. 5, 6, 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	72	1400	4750	342	4920	7470	705	281	208	310	175
2	81	72	1060	2790	313	4900	7510	610	268	480	270	163
3	81	72	3330	1930	282	6440	6520	3850	262	671	248	151
4	80	71	4570	1720	255	7340	4690	5930	256	500	238	143
5	79	70	2700	1320	245	7360	3320	4700	248	473	226	135
6	79	70	1680	780	243	6870	2530	2780	245	485	215	131
7	78	72	1800	526	243	5600	1940	2170	505	420	207	124
8	77	74	3520	424	241	3460	1680	1940	2370	365	192	120
9	77	73	2320	384	241	2660	2970	1660	1420	828	179	120
10	76	72	1460	315	245	2370	1580	1080	900	1640	179	120
11	76	71	1010	274	241	1900	1330	550	625	1100	175	118
12	78	71	736	262	231	1360	4190	876	280	390	171	118
13	86	70	614	260	231	909	4090	1100	261	325	167	117
14	83	70	677	265	231	702	2640	642	247	291	163	113
15	79	108	705	260	556	610	1940	594	234	270	159	112
16	77	147	1080	250	1720	586	1740	496	230	250	161	110
17	75	1030	1520	265	1070	568	1460	448	228	236	157	110
18	75	1000	994	597	981	545	892	426	225	225	155	113
19	74	419	796	1040	752	526	652	405	223	217	149	110
20	74	274	784	2110	529	520	620	490	225	209	145	110
21	73	212	1100	2290	914	496	590	475	218	201	149	155
22	73	179	730	1680	2640	635	577	485	220	199	183	147
23	72	176	562	1640	6690	2220	1110	520	238	198	189	127
24	72	161	716	3250	7290	3500	5440	460	225	381	260	120
25	73	147	812	2150	7590	1980	5430	400	218	1720	236	118
26	86	1810	529	1700	6010	1680	4600	352	215	2910	203	118
27	80	4510	436	1410	5520	1600	2890	322	214	1920	185	117
28	75	3500	381	1040	5070	1380	2090	347	213	1110	203	115
29	74	2140	345	744	---	1060	1790	361	211	892	195	112
30	73	1670	436	550	---	4930	1240	334	210	490	185	110
31	72	---	2410	409	---	7180	---	303	---	356	205	---
TOTAL	2389	18483	41213	37385	50916	86807	85521	35811	11715	19960	6059	3752
MEAN	77.1	616	1329	1206	1818	2800	2851	1155	391	644	195	125
MAX	86	4510	4570	4750	7590	7360	7510	5930	2370	2910	310	175
MIN	72	70	345	250	231	496	577	303	210	198	145	110
CFSM	.17	1.37	2.95	2.68	4.04	6.22	6.34	2.57	.87	1.43	.43	.28
IN.	.20	1.53	3.41	3.09	4.21	7.18	7.07	2.96	.97	1.65	.50	.31
AC-FT	4740	36660	81750	74150	101000	172200	169600	71030	23240	39590	12020	7440

CAL YR 1978	TOTAL	176522	MEAN	484	MAX	5690	MIN	70	CFSM	1.08	IN	14.59	AC-FT	350100
WTR YR 1979	TOTAL	400011	MEAN	1096	MAX	7590	MIN	70	CFSM	2.44	IN	33.07	AC-FT	793400

ST. FRANCIS RIVER BASIN

07044000 LITTLE RIVER DITCH 251 NEAR KENNETT, MO

LOCATION.--Lat 36°14'08", long 89°58'45", in NW¼ sec.3, T.18 N., R.10E., Dunklin County, Hydrologic Unit 08020204, on downstream side of bridge on State Highway 84, and 4.0 mi (6.4 km) east of Kennett.

DRAINAGE AREA.--883 mi² (2,287 km²), includes that of Little River ditch 66.

PERIOD OF RECORD.--November 1926 to September 1979 (discontinued).

GAGE.--Nonrecording gage. Datum of gage is 241.00 ft (73.457 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Oct. 20, 1966, at site 100 ft (30 m) upstream at present datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year. Since Oct. 27, 1965, some base flow has been diverted into ditch 66. Little River ditch 66 diverts water 7.6 mi (12.2 km) upstream. Ditches 66 and 66-A made one ditch in vicinity of gage on May 12, 1965. Prior to April 1951 above discharges of about 4,000 ft³/s (113.3 m³/s), a spillway 6.3 mi (10.1 km) upstream diverted water from ditches 66, 66-A and 251 to Little River ditch 1. On Mar. 11, 1964, old spillway between Cotton Belt and Frisco Railroads upstream near Peach Orchard was blasted to divert floodwater.

AVERAGE DISCHARGE.--52 years, 682 ft³/s (19.31 m³/s), 494,100 acre-ft/yr (609 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,380 ft³/s (237 m³/s) Nov. 20, 1957, gage height, 21.18 ft (6.456 m); maximum gage height, 21.80 ft (6.644 m) Mar. 11, 1964, minimum discharge, 22 ft³/s (0.62 m³/s) Sept. 23, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,460 ft³/s (183 m³/s) Apr. 3, gage height, 18.41 ft (5.611 m); minimum daily, 37 ft³/s (1.16 m³/s) Nov. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	38	1030	3000	413	3950	5560	898	330	118	324	142
2	47	41	842	2940	322	3480	6280	660	292	115	262	127
3	46	38	1510	1760	298	3130	6440	1170	273	158	217	108
4	45	38	4200	1200	273	4220	6110	4050	271	436	190	99
5	44	38	4560	917	254	4060	5330	4980	260	342	174	85
6	41	37	3460	709	252	3660	4110	4190	248	330	161	77
7	41	43	2480	488	241	3350	2670	2940	236	324	155	74
8	40	42	3510	440	229	2860	1940	1930	265	284	144	67
9	38	43	4180	420	210	2070	2300	1490	928	226	138	67
10	41	44	3160	380	190	1580	2380	1180	760	561	140	67
11	40	40	2000	360	210	1360	1670	901	578	817	142	66
12	47	38	1460	335	227	1070	2410	686	390	598	134	63
13	47	38	1310	310	226	806	3030	820	300	382	125	62
14	54	38	1020	275	229	630	2440	844	248	288	115	65
15	50	85	839	240	378	490	1800	613	219	245	111	65
16	43	312	728	232	1570	445	1350	481	202	190	108	62
17	42	1510	782	275	1380	428	1140	407	192	158	111	99
18	41	2570	885	488	941	411	971	374	181	136	104	59
19	40	1550	715	779	653	390	747	350	169	124	99	57
20	41	663	596	2020	613	378	561	378	161	120	93	56
21	40	407	566	2200	616	376	485	796	160	115	86	191
22	40	310	623	1760	1560	348	445	683	153	114	83	1690
23	38	258	510	1420	3560	806	801	796	144	111	85	1500
24	41	269	469	2620	4840	2160	2800	860	147	107	114	809
25	40	300	455	2290	5110	1900	3790	620	153	185	141	422
26	47	1010	474	1510	5080	1290	3270	481	141	825	142	250
27	56	3450	400	1070	4140	1050	2740	432	132	1190	135	174
28	53	3970	368	839	3700	882	2020	370	128	1120	129	138
29	48	2880	334	680	---	820	1580	426	124	836	188	122
30	42	1570	332	545	---	1370	1180	428	121	606	243	108
31	41	---	1150	462	---	3920	---	382	---	424	161	---
TOTAL	1362	21670	44948	32964	37715	53690	78350	35616	7906	11585	4554	6931
MEAN	43.9	722	1450	1063	1347	1732	2612	1149	264	374	147	231
MAX	56	3970	4560	3000	5110	4220	6440	4980	928	1190	324	1690
MIN	38	37	332	232	190	348	445	350	121	107	83	56
CFSM	.05	.82	1.64	1.20	1.53	1.96	2.96	1.30	.30	.42	.17	.26
AC-FT	2700	42980	89150	65380	74810	106500	155400	70640	15680	22980	9030	13750

CAL YR 1978 TOTAL 169643 MEAN 465 MAX 4560 MIN 37 CFSM .53 AC-FT 336500
WTR YR 1979 TOTAL 337291 MEAN 924 MAX 6440 MIN 37 CFSM 1.05 AC-FT 669000

ST. FRANCIS RIVER BASIN

07045000 LITTLE RIVER DITCH 66 NEAR KENNETT, MO

LOCATION.--Lat 36°14'09", long 89°58'48", in NE¼ sec.4, T.18 N., R.10 E., Dunklin County, Hydrologic Unit 08020204, on downstream side of bridge on State Highway 84, and 4.0 mi (6.4 km) east of Kennett.

PERIOD OF RECORD.--October 1926 to September 1979 (discontinued).

REVISED RECORDS.--WSP 877: 1938.

GAGE.--Nonrecording gage. Datum of gage is 241.00 ft (73.457 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Oct. 20, 1966, at site 100 ft (30 m) upstream at present datum.

REMARKS.--Records good. Several observations of water temperature were made during the year. Ditches 66 and 66-A made one ditch in vicinity of gage on May 12, 1965. Little River ditch 66 heads in Little River ditch 251 at a point 7.6 mi (12.2 km) upstream. Since Oct. 27, 1965, some base flow received from ditch 251.

AVERAGE DISCHARGE.--53 years, 385 ft³/s (10.90 m³/s), 278,900 acre-ft/yr (344 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft³/s (312 m³/s) Apr. 3, 1979, gage height, 18.42 ft (5.614 m); maximum gage height, 21.79 ft (6.642 m) Mar. 11, 1964; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,000 ft³/s (312 m³/s) Apr. 3, gage height, 18.42 ft (5.614 m); minimum daily, 148 ft³/s (4.19 m³/s) Nov. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	177	155	1540	4370	708	6590	9370	1420	603	291	613	342
2	174	155	1290	4590	610	5640	10700	1100	560	283	528	323
3	172	155	2560	2680	587	4960	10900	1740	538	376	465	304
4	172	155	6860	1910	554	6900	10300	6730	525	812	438	286
5	170	152	7500	1450	528	6740	8790	8200	515	671	414	270
6	166	152	5190	1250	522	6090	6670	6920	506	620	393	257
7	163	161	3170	1040	515	5530	3550	4480	484	626	376	247
8	161	159	4990	844	503	4610	2460	2740	691	535	359	237
9	159	157	6780	728	450	3220	2800	2120	1640	435	342	234
10	161	155	4770	650	400	2540	3250	1700	1260	1250	337	237
11	157	155	2640	600	429	2180	2110	1310	1000	1740	348	237
12	157	152	1880	560	438	1780	2920	1020	725	1160	340	234
13	170	150	1680	540	432	1390	4560	1280	610	809	332	232
14	183	148	1380	510	426	1180	3600	1300	531	640	318	234
15	172	255	1200	490	577	928	2580	960	484	564	313	237
16	161	557	1100	460	1970	865	1950	806	456	487	307	237
17	159	1630	1160	490	1940	848	1700	732	432	432	313	234
18	157	3020	1400	684	1680	816	1500	691	414	408	307	234
19	157	1780	1180	1240	1050	784	1220	660	399	388	294	232
20	157	893	1010	3410	879	764	944	664	382	373	286	237
21	155	623	992	3310	865	756	858	896	379	362	268	329
22	155	525	1110	2560	1990	715	826	872	356	351	257	1540
23	152	453	940	1860	4970	904	988	900	342	337	260	1330
24	155	459	900	3140	7790	2560	3280	952	356	340	307	705
25	152	525	872	3270	8420	2520	6310	879	362	450	332	441
26	161	1350	900	2190	8430	1840	5280	767	337	1420	337	351
27	181	4570	795	1600	6840	1560	4240	705	318	2040	329	318
28	159	6450	718	1270	6130	1430	2950	643	310	1700	318	299
29	161	4310	674	1060	---	1340	2360	684	302	1330	376	286
30	155	2260	664	908	---	2030	1800	718	296	1010	373	273
31	155	---	1500	820	---	6400	---	671	---	742	334	---
TOTAL	5046	31821	69345	50484	60633	86410	120766	55260	16113	22982	10914	10957
MEAN	163	1061	2237	1629	2165	2787	4026	1783	537	741	352	365
MAX	183	6450	7500	4590	8430	6900	10900	8200	1640	2040	613	1540
MIN	152	148	664	460	400	715	826	643	296	283	257	232
AC-FT	10010	63120	137500	100100	120300	171400	239500	109600	31960	45580	21650	21730
CAL YR 1978	TOTAL	280075	MEAN	767	MAX	7500	MIN	148	AC-FT	555500		
WTR YR 1979	TOTAL	540731	MEAN	1481	MAX	10900	MIN	148	AC-FT	1073000		

ST. FRANCIS RIVER BASIN

07046000 LITTLE RIVER DITCH 259 NEAR KENNETT, MO

LOCATION.--Lat 36°14'08", long 89°58'41", in NW¼ sec.3, T.18 N., R.10 E., Dunklin County, Hydrologic Unit 08020204, on downstream side of bridge on State Highway 84, and 4.0 mi (6.4 km) east of Kennett.

DRAINAGE AREA.--89.0 mi² (230.5 km²).

PERIOD OF RECORD.--November 1926 to September 1979 (discontinued).

REVISED RECORDS.--WSP 1281: 1932.

GAGE.--Nonrecording gage. Datum of gage is 241.00 ft (73.457 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Oct. 20, 1966, at site 100 ft (30 m) upstream at present datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year. Discharge affected by drainage from rice fields.

AVERAGE DISCHARGE.--52 years, 114 ft³/s (3.228 m³/s), 82,590 acre-ft/yr (102 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,140 ft³/s (117 m³/s), including some overflow from levee breaks on Mississippi River, Apr. 29, 1927, gage height, 15.57 ft (4.746 m); no flow on many days in several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,270 ft³/s (92.6 m³/s) Apr. 3, gage height, 11.66 ft (3.554 m); minimum daily, 7.0 ft³/s (0.20 m³/s) Sept. 18, 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	9.9	109	939	67	1210	2900	71	38	19	16	9.6
2	11	10	82	617	58	696	3120	67	33	20	16	9.6
3	11	10	862	260	47	947	3230	372	40	20	15	8.8
4	11	10	1780	116	48	1490	3180	1700	33	20	14	8.8
5	11	9.6	1610	83	51	795	2880	1650	32	20	13	8.5
6	10	9.6	1180	55	53	260	2010	980	30	20	13	8.5
7	9.9	11	1110	54	44	127	1290	498	31	19	13	8.5
8	10	9.9	1430	50	42	91	1020	257	28	20	13	7.9
9	10	9.9	1780	44	34	76	1190	148	29	45	12	7.9
10	9.9	10	1450	43	27	62	515	99	26	25	14	7.6
11	9.9	11	880	44	31	57	587	83	26	25	13	7.6
12	11	11	626	44	42	52	1620	138	25	25	14	7.3
13	10	11	441	41	90	49	1100	118	24	23	14	7.3
14	9.9	11	207	53	130	48	423	72	23	22	12	7.6
15	9.6	18	130	43	862	48	194	58	23	20	12	7.6
16	9.2	329	111	40	1040	47	124	52	23	19	11	7.6
17	8.8	1220	86	65	333	46	96	49	22	18	11	7.3
18	9.2	970	60	201	185	48	83	46	22	18	11	7.0
19	9.6	506	59	912	62	48	72	45	21	17	11	7.0
20	9.6	140	65	1430	120	42	66	64	21	16	10	14
21	9.9	55	72	1350	711	41	59	326	22	16	9.9	282
22	9.9	51	60	513	461	138	62	333	22	16	10	563
23	9.9	86	49	299	1920	862	426	734	20	15	11	376
24	9.6	72	48	819	1800	538	1280	405	25	15	10	183
25	9.6	70	46	515	1690	132	972	117	27	16	11	84
26	11	709	40	236	1160	92	515	60	28	18	11	43
27	9.9	1630	39	145	965	71	322	68	24	19	10	24
28	9.6	1390	36	180	828	50	204	193	23	19	11	17
29	9.9	806	33	118	---	80	120	82	21	18	9.6	14
30	9.9	277	88	84	---	772	80	47	20	17	9.9	13
31	9.9	---	855	74	---	1860	---	43	---	16	9.9	---
TOTAL	310.7	8472.9	15424	9467	12901	10875	29740	8975	782	616	371.3	1765.0
MEAN	10.0	282	498	305	461	351	991	290	26.1	19.9	12.0	58.8
MAX	11	1630	1780	1430	1920	1860	3230	1700	40	45	16	563
MIN	8.8	9.6	33	40	27	41	59	43	20	15	9.6	7.0
CFSM	.11	3.17	5.60	3.43	5.18	3.94	11.1	3.26	.29	.22	.14	.66
AC-FT	616	16810	30590	18780	25590	21570	58990	17800	1550	1220	736	3500
CAL YR 1978	TOTAL	53924.6	MEAN 148	MAX 1780	MIN 8.8	CFSM 1.66	AC-FT 107000					
WTR YR 1979	TOTAL	99699.9	MEAN 273	MAX 3230	MIN 7.0	CFSM 3.07	AC-FT 197800					

ST. FRANCIS RIVER BASIN
07046001 LITTLE RIVER DITCHES NEAR KENNETT, MO

WATER QUALITY RECORDS

LOCATION.--Lat 36°14'08", long 89°58'41", in NW¼ sec. 3, T.18 N., R.10 E., Dunklin County, at bridges on State highway 84, 4 mi (6.4 km) east of Kennett.

PERIOD OF RECORD.--November 1969 to June 1970, August 1972 to September 1973, July 1977 to current year.

REMARKS.--Analyses represent a composite of water from five ditches.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	AGENCY COL-LECTING SAMPLE (CODE (00027))	AGENCY ANALYZING SAMPLE (CODE (00028))	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARDNESS (MG/L AS CaCO3) (00900)
OCT 03...	1028	29001	296	300	8.1	18.5	7.6	80	17	440	110
NOV 28...	1028	29001	16700	51	7.0	8.0	9.2	77	23	2800	--
DEC 12...	1028	29001	9000	120	7.1	4.5	11.4	88	24	870	--
JAN 16...	1028	29001	1190	365	7.7	2.0	13.4	97	15	160	160
MAR 07...	1028	29001	11300	165	7.4	8.0	10.0	84	20	300	--
APR 03...	1028	29001	31400	40	6.5	13.0	9.5	90	--	21000	15
MAY 29...	1028	29001	1800	310	7.6	26.0	8.0	98	38	560	--
JUN 26...	1028	29001	889	365	8.1	28.5	9.6	123	20	280	--
JUL 17...	1028	29001	886	326	8.0	29.0	7.0	91	8	160	140
AUG 29...	1028	29001	726	360	8.2	23.0	6.7	77	11	1100	--
SEP 25...	1028	29001	1180	182	7.7	22.5	7.8	89	28	2900	--

DATE	HARDNESS, NONCARBONATE (MG/L AS CaCO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg) (00925)	SODIUM, DIS-SOLVED (MG/L AS Na) (00930)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	BICARBONATE (MG/L AS HCO3) (00440)	CARBONATE (MG/L AS CO3) (00445)	ALKALINITY (MG/L AS CaCO3) (00410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS Cl) (00940)
OCT 03...	0	37	4.2	5.7	1.0	200	0	164	2.5	16	32
NOV 28...	--	--	--	--	--	20	0	16	3.2	--	--
DEC 12...	--	--	--	--	--	28	0	23	3.6	--	--
JAN 16...	12	41	12	12	2.2	176	0	144	5.6	19	9.2
MAR 07...	--	--	--	--	--	76	0	62	4.8	--	--
APR 03...	10	4.0	1.1	1.1	1.2	6	0	5	3.0	--	.6
MAY 29...	--	--	--	--	--	172	0	141	6.9	--	--
JUN 26...	--	--	--	--	--	176	0	144	2.2	--	--
JUL 17...	6	40	10	11	2.1	168	0	138	2.7	14	14
AUG 29...	--	--	--	--	--	184	0	151	1.9	--	--
SEP 25...	--	--	--	--	--	92	0	75	2.9	--	--

07046001 LITTLE RIVER DITCHES NEAR KENNETT, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

[illegible]

WHITE RIVER BASIN

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07050580 JAMES RIVER NEAR STRAFFORD, MO

LOCATION.--Lat 37°12'11", long 93°04'47", in SW&NW&NW& sec.24, T.29 N., R.20 W., Greene County, Hydrologic Unit 11010002, on right bank 15 ft (5 m) downstream from proposed bridge site on county road, 1.6 mi (2.6 km) downstream from County Line Damsite, 1 mi (1.6 km) downstream from Davis Creek and 4 mi (6.4 km) south of Strafford.

DRAINAGE AREA.--165 mi² (427 km²).

PERIOD OF RECORD.--October 1973 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1207 ft (368 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except periods of no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--6 years, 175 ft³/s (4.956 m³/s) 14.40 in/yr (366 mm/yr) 126,800 acre-ft/yr (156 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,900 ft³/s (705 m³/s) Sept. 27, 1977, gage height, 18.90 ft (5.761 m); minimum, 1.2 ft³/s (0.034 m³/s) June 14-19, 1977, gage height, 2.01 ft (0.613 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base, 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Feb. 23	0300	3720	105	10.29	3.136	May 11	0445	3120	88.4	9.51	2.899
Apr. 1	1145	4770	135	11.57	3.527	May 20	1200	*19600	555	*17.84	5.438
Apr. 11	0445	8190	232	14.13	4.307	July 28	0015	14500	411	16.66	5.078

Minimum discharge, 6.0 ft³/s (0.17 m³/s) Nov. 6, 7, 8, 9; minimum gage height, 2.31 ft (0.704 m) Oct. 8, 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	6.8	116	39	78	437	2480	182	106	700	208	24
2	9.2	6.8	95	42	71	380	1050	164	98	500	178	47
3	8.5	6.8	130	50	64	402	572	714	90	300	146	65
4	8.4	6.8	113	48	61	410	450	1660	84	200	122	60
5	7.6	6.5	89	44	63	335	361	743	79	200	102	50
6	7.3	6.3	73	41	53	283	292	495	125	150	89	40
7	6.8	6.0	68	38	49	246	242	387	253	100	78	40
8	6.7	6.0	72	36	46	215	214	306	600	90	71	30
9	6.4	6.4	71	32	46	190	201	250	200	80	64	30
10	6.5	6.4	64	29	44	169	178	219	150	70	61	30
11	50	6.4	59	28	41	149	3070	1530	100	70	63	30
12	41	6.4	56	26	54	135	2380	622	90	67	58	20
13	35	6.4	53	26	107	122	751	413	80	59	54	20
14	27	7.1	50	29	150	109	525	315	70	53	49	20
15	23	16	47	26	680	98	425	250	60	47	52	18
16	19	36	44	24	631	91	353	204	50	47	53	18
17	17	148	41	23	374	88	293	168	40	50	48	18
18	15	127	39	29	276	82	250	144	40	42	42	18
19	14	89	38	49	221	630	218	136	30	39	38	18
20	12	65	37	196	219	508	231	7810	30	34	33	18
21	11	50	34	234	341	419	258	1300	30	33	31	16
22	9.8	42	33	186	1810	382	209	549	30	31	26	14
23	9.1	38	31	169	2330	1450	201	394	50	29	26	12
24	8.6	33	30	186	795	667	224	304	90	31	24	10
25	8.5	33	28	185	513	455	242	245	60	36	22	8.0
26	8.1	454	26	148	398	357	660	206	50	218	22	8.0
27	7.8	431	25	133	332	291	410	180	40	1870	24	8.0
28	7.5	264	24	111	344	249	318	156	50	4330	29	8.0
29	7.4	191	24	100	---	275	255	136	90	510	26	8.0
30	7.1	146	25	94	---	425	214	125	60	258	26	8.0
31	6.8	---	34	82	---	379	---	122	---	200	23	---
TOTAL	422.1	2254.1	1669	2483	10191	10428	17527	20429	2925	10444	1888	714.0
MEAN	13.6	75.1	53.8	80.1	364	336	584	659	97.5	337	60.9	23.8
MAX	50	454	130	234	2330	1450	3070	7810	600	4330	208	65
MIN	6.4	6.0	24	23	41	82	178	122	30	29	22	8.0
CFSM	.08	.46	.33	.49	2.21	2.04	3.54	3.99	.59	2.04	.37	.14
IN.	.10	.51	.38	.56	2.30	2.35	3.95	4.61	.66	2.35	.43	.16
AC-FT	837	4470	3310	4930	20210	20680	34760	40520	5800	20720	3740	1420

CAL YR 1978 TOTAL 46283.1 MEAN 127 MAX 5550 MIN 2.6 CFSM .77 IN 10.43 AC-FT 91800
WTR YR 1979 TOTAL 81374.2 MEAN 223 MAX 7810 MIN 6.0 CFSM 1.35 IN 18.35 AC-FT 161400

WHITE RIVER BASIN

07050700 JAMES RIVER NEAR SPRINGFIELD, MO

LOCATION.--Lat 37°08'59", long 93°12'10", in NE¼NW¼ sec.11, T.28 N., R.21 W., Greene County, Hydrologic Unit 11010002, on left bank on county road at Kinser bridge, 1.1 mi (1.8 km) downstream from Pearson Creek, and 2.5 mi (4.0 km) southeast of Springfield.

DRAINAGE AREA.--246 mi² (637 km²).

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,143.27 ft (348.469 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Dec. 19, 1955, nonrecording gage at same site and datum.

REMARKS.--Records fair except during periods of no gage-height record, which are poor. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--24 years, 221 ft³/s (6.259 m³/s), 12.20 in/yr (310 mm/yr), 160,100 acre-ft/yr (197 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,800 ft³/s (702 m³/s) Dec. 17, 1957, gage height, 18.20 ft (5.547 m); minimum, 0.1 ft³/s (0.003 m³/s) Sept. 16, 24, 25, 1956, gage height, 2.18 ft (0.664 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1909 reached a stage about 22 ft (6.7 m) from information by local resident, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft³/s (113 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Apr. 1	Unknown	5200	147	Unknown		May 20	1600	*21300	603	*17.45	5.319
Apr. 12	0100	11200	317	14.98	4.566	July 28	0400	19200	544	16.95	5.166

Minimum daily discharge, 12 ft³/s (0.34 m³/s) Oct. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	20	220	70	120	700	3500	311	208	674	673	70
2	20	20	200	80	120	630	1500	281	183	610	560	140
3	18	20	220	90	110	620	1000	485	166	380	448	150
4	17	20	200	90	100	700	800	1910	148	270	380	120
5	17	20	200	80	90	550	700	1100	139	311	320	100
6	15	20	150	80	90	500	550	774	127	317	267	90
7	14	15	150	80	80	450	500	610	293	290	223	80
8	13	15	130	70	80	400	450	485	414	267	192	70
9	12	17	120	60	70	350	420	405	287	360	164	60
10	14	16	110	60	70	330	380	365	225	299	150	50
11	200	16	110	60	80	300	3000	1410	188	238	158	50
12	150	16	100	50	80	270	5800	862	160	192	137	40
13	120	16	90	50	120	250	1200	574	139	162	120	40
14	100	30	90	50	170	220	700	454	123	136	110	35
15	80	70	90	50	500	200	600	377	108	113	127	35
16	70	100	80	50	1000	190	500	326	94	143	123	35
17	60	200	80	50	600	180	450	284	85	208	112	35
18	50	300	80	60	500	180	420	251	78	136	97	35
19	40	200	70	80	400	700	400	248	70	108	87	35
20	40	150	70	200	400	800	395	11100	64	88	78	35
21	30	120	70	300	600	650	508	3060	59	75	70	35
22	30	100	64	280	1500	550	430	1440	55	65	72	30
23	30	90	60	260	3000	1400	386	1160	80	57	63	25
24	30	80	60	270	1100	1000	386	944	123	54	57	24
25	30	100	50	260	800	750	365	774	93	56	57	22
26	20	400	50	230	700	550	809	547	72	371	56	22
27	20	700	50	210	600	466	663	436	61	958	56	21
28	20	450	50	180	550	450	511	357	70	9240	120	20
29	20	300	50	150	---	440	423	296	102	1100	100	20
30	20	250	60	150	---	580	360	256	78	777	70	18
31	20	---	80	130	---	580	---	243	---	649	60	---
TOTAL	1342	3871	3204	3880	13630	15936	28106	32125	4092	18704	5307	1542
MEAN	43.3	129	103	125	487	514	937	1036	136	603	171	51.4
MAX	200	700	220	300	3000	1400	5800	11100	414	9240	673	150
MIN	12	15	50	50	70	180	360	243	55	54	56	18
CFSM	.18	.52	.42	.51	1.98	2.09	3.81	4.21	.55	2.45	.70	.21
IN.	.20	.59	.48	.59	2.06	2.41	4.25	4.86	.62	2.83	.80	.23
AC-FT	2660	7680	6360	7700	27040	31610	55750	63720	8120	37100	10530	3060
CAL YR 1978 TOTAL	80218			220	6990	MIN: 12	CFSM .89	IN 12.13	AC-FT 159100			
WTR YR 1979 TOTAL	131739			361	11100	MIN: 12	CFSM 1.47	IN 19.92	AC-FT 261300			

WHITE RIVER BASIN

07050750 JAMES RIVER NEAR NIXA, MO

LOCATION.--Lat 37°06'13", long 93°15'49", in SE¼NE¼ sec.30, T.28 N., R.21 W., Greene County, Hydrologic Unit 11010002, temperature recorder at gaging station on left bank, 0.5 mi (0.8 km) downstream from Springfield Utilities Dam, and 4.5 mi (7.2 km) northeast of Nixa.

DRAINAGE AREA.--273 mi² (707 km²).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1966 to September 1975, March 1977 to current year.

INSTRUMENTATION.--Temperature recorder Nov. 1966 to Sept. 1975, Mar. 1977 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1966-75, 77-79), 43.0°C Aug. 11, 12, 21, 1975; minimum (water years 1966-75, 1977, 1979), 4.0°C Jan. 1, 2, 26, 1969.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 33.0°C Sept. 6; minimum, 6.5°C Jan. 2, 3.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	26.5	20.5	23.5	19.5	13.5	13.5	8.5	7.0	10.0	9.5	11.0	10.0
2	27.0	20.5	25.5	18.5	14.5	13.5	7.0	6.5	11.0	10.0	11.0	11.0
3	24.5	18.0	26.0	20.0	14.5	13.5	7.0	6.5	11.0	10.5	12.0	11.0
4	24.5	17.0	26.5	21.0	13.5	12.0	8.5	7.0	11.0	10.5	12.0	11.0
5	21.5	17.0	26.0	20.0	12.0	12.0	8.5	8.0	11.0	10.0	11.0	10.5
6	19.5	15.5	21.5	18.5	13.0	12.0	9.0	8.0	10.0	10.0	10.5	10.0
7	19.5	14.0	20.5	16.0	12.0	11.5	8.5	8.0	10.0	9.0	10.5	10.5
8	20.0	14.5	21.5	15.5	11.5	10.5	8.5	8.0	11.0	9.5	11.0	10.5
9	20.0	17.0	20.5	15.5	10.5	9.5	9.0	8.0	11.0	9.0	11.0	10.5
10	20.5	18.0	22.0	16.0	9.5	9.5	9.0	9.0	11.0	9.5	10.5	10.5
11	25.0	18.5	19.0	18.0	10.0	9.5	10.5	9.0	11.5	9.5	10.5	10.0
12	24.5	22.0	22.0	16.0	10.0	10.0	10.5	9.0	12.0	10.0	10.5	10.0
13	24.5	24.0	23.5	19.5	10.5	10.0	10.5	9.0	13.5	11.0	11.0	10.5
14	24.5	21.0	19.5	17.0	10.0	9.5	9.0	7.0	13.0	11.5	12.0	11.0
15	21.0	19.5	19.0	17.0	10.0	10.0	8.5	7.0	13.0	11.0	12.0	12.0
16	21.0	19.0	19.5	18.0	10.5	10.0	9.5	8.0	11.0	9.0	13.0	12.0
17	22.0	19.0	19.5	17.0	11.0	10.0	11.0	9.0	9.0	9.0	13.0	12.0
18	24.0	19.5	17.0	15.5	11.0	10.0	12.0	10.0	9.0	9.0	12.0	12.0
19	24.5	20.0	15.5	15.5	11.5	10.5	12.0	10.5	10.5	9.0	14.0	12.0
20	26.0	21.0	15.5	15.5	11.5	10.5	13.5	11.0	10.5	10.0	14.5	13.5
21	27.0	22.0	15.5	15.5	11.0	10.5	13.0	10.0	10.0	9.5	14.5	14.0
22	26.0	23.0	15.5	15.0	11.0	11.0	11.0	10.0	10.5	10.0	14.0	13.5
23	24.0	21.0	15.0	14.0	11.0	11.0	11.0	10.0	10.5	10.5	13.5	10.5
24	24.0	21.0	14.0	14.0	11.0	10.5	10.0	9.0	10.5	10.0	10.5	9.0
25	24.5	23.0	15.0	14.0	10.5	10.0	9.5	9.0	10.0	9.0	9.0	8.5
26	24.5	20.5	15.0	14.0	10.5	10.5	9.5	9.5	9.5	9.0	9.0	8.5
27	24.5	19.5	14.0	13.5	10.5	9.5	9.5	9.0	10.0	9.5	10.0	8.5
28	25.0	19.0	13.5	13.0	10.5	9.5	9.5	9.0	10.0	10.0	10.5	9.5
29	25.0	18.5	13.0	13.0	11.0	10.5	11.0	9.5	---	---	11.5	10.5
30	25.0	18.5	13.5	13.0	10.5	10.0	11.0	10.0	---	---	12.0	11.0
31	25.0	19.0	---	---	10.0	8.5	10.0	9.5	---	---	12.0	12.0
MONTH	27.0	14.0	26.5	13.0	14.5	8.5	13.5	6.5	13.5	9.0	14.5	8.5

WHITE RIVER BASIN

07050750 JAMES RIVER NEAR NIXA, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.0	10.0	13.0	11.5	22.0	20.5	26.0	24.0	23.5	22.0	28.5	26.0
2	10.0	10.0	15.0	13.0	22.0	21.5	24.0	23.0	24.5	23.5	28.5	27.0
3	10.0	9.0	15.5	15.0	21.5	21.0	24.5	23.0	25.0	23.5	29.5	27.0
4	9.0	9.0	15.0	11.0	21.5	20.5	25.0	24.5	25.5	24.0	30.0	28.5
5	9.0	8.5	11.0	10.5	22.0	21.5	25.5	25.0	26.5	25.0	31.5	29.5
6	9.5	9.0	13.0	11.0	23.5	22.0	25.5	25.0	26.5	25.5	33.0	30.0
7	9.5	9.0	14.5	13.0	23.5	23.5	25.0	24.0	27.0	26.0	31.5	28.5
8	10.0	9.5	17.0	14.5	23.5	23.0	24.0	23.0	28.5	26.5	30.5	27.0
9	10.5	10.0	18.0	17.0	23.0	23.0	26.0	23.5	29.0	27.0	28.0	25.5
10	11.0	10.5	19.5	18.0	24.0	23.0	26.0	25.0	29.5	28.0	29.0	24.5
11	10.5	9.5	19.0	15.5	24.0	23.5	26.5	24.5	29.0	26.5	29.0	24.5
12	9.5	9.0	15.5	14.0	24.5	23.5	26.0	25.5	26.5	25.5	27.0	25.5
13	10.0	9.5	14.5	14.0	24.5	24.0	26.5	25.0	26.0	24.5	27.0	24.5
14	10.5	9.5	16.5	14.5	25.0	24.0	26.0	25.5	25.0	24.5	26.0	23.5
15	11.5	10.5	18.0	16.5	26.0	25.0	28.0	26.0	24.5	24.0	24.5	21.0
16	13.0	11.5	19.0	17.0	27.0	25.0	30.0	26.5	24.0	23.5	23.5	19.0
17	14.5	12.0	19.5	18.0	27.0	25.5	29.5	28.0	24.0	23.0	23.5	19.5
18	14.5	14.0	20.0	19.0	28.0	26.0	28.0	26.0	24.5	23.0	23.0	19.5
19	16.0	14.0	21.5	20.0	27.0	26.0	28.0	26.0	25.5	24.0	23.0	19.5
20	16.0	15.0	21.5	17.0	29.5	27.0	29.0	25.5	26.5	25.0	20.5	20.5
21	15.0	13.5	17.0	16.0	30.5	27.0	27.0	25.5	29.0	26.0	20.5	19.5
22	14.0	13.5	16.0	15.0	30.5	28.5	28.0	25.0	29.0	25.0	23.0	18.5
23	14.0	13.5	15.5	15.5	29.0	28.5	28.5	25.5	29.5	26.0	23.0	18.0
24	14.0	13.5	15.5	15.5	28.5	27.0	30.0	26.5	29.5	26.5	23.5	18.0
25	16.5	14.0	16.0	15.5	28.0	25.5	29.5	28.0	30.0	26.5	24.0	18.5
26	15.5	13.5	16.0	16.0	27.0	25.0	29.0	29.0	29.0	26.5	24.0	18.5
27	14.0	11.5	16.5	16.0	27.0	25.0	29.0	25.0	29.5	26.0	24.0	18.5
28	12.0	10.5	19.5	16.5	26.0	25.5	25.0	21.5	28.5	26.5	25.0	18.5
29	10.5	10.5	20.5	19.5	27.0	25.5	22.0	21.5	28.0	25.5	25.0	18.5
30	11.5	10.5	21.0	20.0	26.5	26.0	23.0	21.5	28.5	26.0	26.5	19.5
31	---	---	20.5	20.5	---	---	23.5	23.0	28.5	26.0	---	---
MONTH	16.5	8.5	21.5	10.5	30.5	20.5	30.0	21.5	30.0	22.0	33.0	18.0

WHITE RIVER BASIN

07051600 JAMES RIVER NEAR WILSON CREEK, MO

LOCATION.--Lat 37°04'35", long 93°22'15", in SE¼ NW¼ sec.5, T.27 N., R.22 W., Christian County, Hydrologic Unit 11010002, at Nelson Mill Bridge on county road 2.5 mi (4.0 km) southeast of Wilson Creek, and 2 mi (3.2 km) upstream from Wilson Creek.

PERIOD OF RECORD.--August 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (000027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (000028)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (000061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (000095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (000110)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW UM-MF LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT											
11...	1028	29001	120	348	7.6	17.0	8.0	82	7	8700	140
NOV											
08...	1028	29001	43	425	7.9	12.0	8.4	78	8	52	--
DEC											
06...	1028	29001	160	350	7.6	8.5	8.2	70	<1	130	--
JAN											
11...	1028	29001	71	420	8.2	2.5	12.8	94	<1	38	180
FEB											
14...	1028	29001	160	375	7.7	9.0	10.6	91	9	8	--
MAR											
07...	1028	29001	800	290	7.5	9.0	11.1	96	1	24	--
APR											
04...	1028	29001	1050	270	7.7	10.0	6.0	53	--	1200	130
MAY											
16...	1028	29001	145	316	7.9	19.5	10.1	109	--	240	--
JUN											
06...	1028	29001	195	320	7.3	20.5	7.8	87	14	450	--
JUL											
24...	1028	29001	89	350	7.5	25.5	7.2	88	16	160	170
AUG											
15...	1028	29001	157	375	7.7	21.5	7.6	85	<1	100	--
SEP											
12...	1028	29001	80	392	7.5	20.5	7.0	78	11	250	--
DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE AS (MG/L HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	ALKA- LINITY AS (MG/L CACO3) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CU2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT											
11...	0	50	2.9	3.0	1.3	188	0	154	7.6	9.0	24
NOV											
08...	--	--	--	--	--	212	0	174	4.3	--	--
DEC											
06...	--	--	--	--	--	180	0	148	7.2	--	--
JAN											
11...	13	54	9.3	5.4	1.7	198	0	162	2.0	10	8.6
FEB											
14...	--	--	--	--	--	184	0	151	5.9	--	--
MAR											
07...	--	--	--	--	--	160	0	131	8.1	--	--
APR											
04...	0	41	5.2	3.6	1.3	156	0	128	5.0	--	4.6
MAY											
16...	--	--	--	--	--	160	0	131	3.2	--	--
JUN											
06...	--	--	--	--	--	176	0	144	14	--	--
JUL											
24...	0	56	6.2	4.8	2.1	212	0	174	11	8.0	5.4
AUG											
15...	--	--	--	--	--	200	0	164	6.4	--	--
SEP											
12...	--	--	--	--	--	208	0	171	11	--	--

WHITE RIVER BASIN

07051600 JAMES RIVER NEAR WILSON CREEK, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	FLUORIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM, TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT 11...	<.1	207	24	1.0	.50	.190	4	2	25	25
NOV 08...	--	--	3	.80	.10	.060	--	--	--	--
DEC 06...	--	--	8	1.8	<.10	.060	--	--	--	--
JAN 11...	.1	214	5	6.5	.40	.040	9	2	13	9
FEB 14...	--	--	20	2.0	.80	.160	--	--	--	--
MAR 07...	--	--	10	1.6	.10	.050	--	--	--	--
APR 04...	--	--	22	2.6	--	--	10	26	25	25
MAY 16...	--	--	--	--	--	--	--	--	--	--
JUN 06...	--	--	120	.50	.40	.070	--	--	--	--
JUL 24...	.1	212	15	1.2	.05	.020	0	<2	4	3
AUG 15...	--	--	16	1.4	<.02	.020	--	--	--	--
SEP 12...	--	--	18	1.2	<.01	.050	--	--	--	--

[illegible]

07052100 WILSONS CREEK NEAR SPRINGFIELD, MO

LOCATION.--Lat. 37°10'06", long 93°22'14", in NE¼NE¼ sec.6, T.28 N., R.22 W., Greene County, Hydrologic Unit 11010002, on right bank just downstream from bridge on county road, 1 mi (1.6 km) upstream from Southwest Sewage Treatment Plant of Springfield and South Creek and in Springfield.

DRAINAGE AREA.--31.4 mi² (81.3 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,149.65 ft (350.413 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Runoff affected by urbanized area.

AVERAGE DISCHARGE.--7 years, 31.5 ft³/s (0.892 m³/s), 13.62 in/yr (346 mm/yr), 22,820 acre-ft/yr (28.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,480 ft³/s (98.6 m³/s) May 20, 1979, gage height, 9.48 ft (2.890 m); no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s (28.3 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Mar. 19	0130	1120	31.7	5.99	1.826	June 5	0430	1170	33.1	6.10	1.859
Apr. 11	1645	2570	72.8	8.33	2.539	June 23	1845	1860	52.7	7.30	2.225
Apr. 26	0145	1810	51.3	7.22	2.201	July 1	1415	1780	50.4	7.18	2.188
May 20	1100	*3480	98.6	*9.48	2.890	July 27	2130	1060	30.1	5.86	1.786

Minimum discharge, 0.24 ft³/s (0.007 m³/s) Sept. 30, gage height, 1.37 ft (0.418 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	2.6	8.1	9.0	8.0	35	221	22	18	416	23	32
2	2.6	2.9	7.7	8.0	8.0	28	61	22	16	67	13	71
3	3.9	2.6	38	7.0	8.0	55	45	126	15	41	12	10
4	3.4	2.9	9.8	7.0	8.0	31	47	106	13	30	10	7.4
5	3.6	1.8	8.9	7.0	8.0	25	36	50	125	25	9.4	5.8
6	2.6	1.7	8.2	7.0	7.0	22	30	41	49	20	9.2	5.8
7	2.3	4.6	13	7.0	7.0	21	27	34	166	40	7.0	4.3
8	1.8	1.9	7.6	7.0	7.0	19	49	30	47	17	5.4	4.0
9	1.5	1.1	7.0	7.0	7.0	18	28	27	34	16	5.0	2.6
10	17	1.3	7.4	7.0	7.0	16	34	97	36	13	12	2.4
11	129	1.7	7.4	7.0	10	14	669	115	24	12	15	2.6
12	5.9	1.3	7.0	7.0	13	13	158	41	20	10	5.0	2.6
13	12	1.6	6.6	7.0	11	13	61	32	18	9.6	3.7	2.1
14	3.7	36	6.6	7.0	26	12	44	28	16	8.1	19	2.1
15	3.2	77	6.4	7.0	48	12	34	31	14	7.4	28	1.2
16	2.9	74	6.0	7.0	26	11	30	24	13	30	7.6	.70
17	3.2	38	5.5	34	17	12	27	21	12	13	5.2	.70
18	3.5	8.9	5.5	19	15	22	24	20	11	7.2	3.9	.98
19	3.4	6.6	5.5	27	21	150	22	58	11	6.0	3.0	1.2
20	3.5	5.9	5.4	16	52	31	74	1360	10	5.9	2.9	1.5
21	3.3	5.3	5.1	11	58	24	44	218	9.8	5.4	3.1	4.7
22	2.7	6.2	5.0	10	127	84	24	94	9.0	4.6	38	1.2
23	4.8	6.3	4.7	15	66	119	28	51	280	4.2	6.7	.35
24	2.7	4.9	4.4	10	41	56	39	35	49	4.4	5.3	.35
25	2.7	55	4.5	9.0	34	41	54	28	20	3.9	4.1	.35
26	2.0	120	4.3	8.0	27	34	293	23	14	7.6	9.3	.35
27	2.1	19	4.5	8.0	24	30	48	32	12	139	11	.38
28	2.1	12	4.9	8.0	64	27	36	21	111	40	25	.35
29	2.0	10	47	8.0	---	32	30	19	43	12	6.2	.31
30	1.6	9.3	14	8.0	---	25	25	61	20	10	5.5	.31
31	1.9	---	9.6	8.0	---	21	---	34	---	107	5.8	---
TOTAL	240.2	522.4	285.6	314.0	755.0	1053	2342	2901	1235.8	1132.3	319.3	169.63
MEAN	7.75	17.4	9.21	10.1	27.0	34.0	78.1	93.6	41.2	36.5	10.3	5.65
MAX	129	120	47	34	127	150	669	1360	280	416	38	71
MIN	1.5	1.1	4.3	7.0	7.0	11	22	19	9.0	3.9	2.9	.31
CFSM	.25	.55	.29	.32	.86	1.08	2.49	2.98	1.31	1.16	.33	.18
AC-FT	476	1040	566	623	1500	2090	4650	5750	2450	2250	633	336

CAL YR 1978 TOTAL 7947.16 MEAN 21.8 MAX 644 MIN .35 CFSM .69 AC-FT 15760
WTR YR 1979 TOTAL 11270.23 MEAN 30.9 MAX 1360 MIN .31 CFSM .98 AC-FT 22350

WHITE RIVER BASIN

07052100 WILSONS CREEK NEAR SPRINGFIELD, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973-79.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1972 to current year.

PH: October 1972 to current year.

WATER TEMPERATURES: October 1972 to current year.

DISSOLVED OXYGEN: October 1972 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1972.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1973,1977-79): Maximum, 1,520 micromhos Sept. 23, 1977; minimum, 70 micromhos Sept. 24, 1977.

PH (water years 1975-79): Maximum, 9.1 units Feb. 22, Mar. 25, 1977; minimum, 6.6 units Aug. 14-15, 1979.

WATER TEMPERATURES: Maximum, 29.5°C July 9, 1978; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN (water years 1975-79): Maximum, 19.0 mg/L Dec. 20, 1979; minimum, 0.4 mg/L May 26, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,130 micromhos Dec. 7; minimum, 92 micromhos July 27.

PH: Maximum 8.5 units Feb. 3; minimum, 6.4 units Aug. 11.

WATER TEMPERATURES: Maximum, 27.5°C July 24, Aug. 5-6; minimum, 0.0°C on many days during winter period.

DISSOLVED OXYGEN: Maximum, 19.0 mg/L Dec. 19; minimum, 2.7 mg/L Aug. 11.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	376	308	668	604	648	622	666	516	806	660	534	408
2	394	362	626	590	632	606	774	666	660	582	594	534
3	504	394	624	568	624	228	778	706	634	570	592	264
4	566	504	638	572	558	402	780	692	734	626	542	438
5	588	566	656	628	606	558	792	698	684	604	606	542
6	604	570	666	616	652	602	782	736	708	596	602	586
7	678	604	636	608	1130	510	782	746	704	606	670	576
8	696	638	740	620	878	520	790	746	702	638	682	584
9	707	669	746	688	872	672	826	742	724	652	632	574
10	669	584	688	616	736	662	792	738	742	590	630	584
11	---	---	616	560	728	680	816	726	866	586	594	564
12	---	---	574	532	712	664	830	774	886	754	578	550
13	---	---	560	510	664	624	800	710	754	654	580	528
14	502	470	672	186	828	630	---	---	686	484	652	538
15	666	502	---	---	786	622	---	---	484	414	664	538
16	706	606	---	---	663	625	---	---	538	424	656	534
17	620	594	---	---	637	604	---	---	622	538	606	530
18	634	602	622	614	657	600	---	---	612	580	652	584
19	626	588	624	616	622	544	---	---	692	586	592	118
20	646	606	620	618	620	556	---	---	610	240	518	456
21	654	644	620	616	620	574	---	---	476	292	554	514
22	666	652	642	618	632	578	---	---	452	220	606	210
23	778	656	682	632	674	600	640	562	532	366	410	220
24	768	710	640	568	692	614	624	542	570	514	510	410
25	710	564	---	---	636	610	710	602	560	536	538	510
26	568	542	---	---	620	576	658	600	570	560	556	538
27	644	556	---	---	606	570	830	652	612	564	576	544
28	702	644	586	526	676	584	886	694	650	306	584	550
29	714	680	646	586	704	200	848	736	---	---	600	458
30	744	714	644	596	390	246	740	642	---	---	534	436
31	730	660	---	---	530	390	688	634	---	---	582	532
MONTH	778	308	746	186	1130	200	886	516	886	220	682	118

WHITE RIVER BASIN

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07052100 WILSONS CREEK NEAR SPRINGFIELD, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	562	120	574	532	550	472	510	118	452	280	658	216
2	518	344	560	522	580	540	472	334	518	452	234	104
3	588	518	560	172	558	538	496	462	566	518	326	234
4	592	470	430	234	---	---	508	486	578	528	604	326
5	554	524	500	430	---	---	500	488	574	530	638	604
6	674	554	526	498	---	---	504	492	548	530	634	582
7	620	552	540	522	---	---	504	268	568	514	598	542
8	568	278	650	540	---	---	482	384	564	514	668	536
9	518	376	598	548	---	---	626	482	542	522	666	568
10	568	392	556	196	---	---	652	500	598	504	594	554
11	406	130	412	230	---	---	540	494	504	358	638	592
12	502	336	508	412	---	---	528	492	444	398	630	592
13	538	502	532	506	---	---	562	502	500	444	592	568
14	556	524	566	532	---	---	546	500	546	302	634	564
15	576	528	578	488	---	---	552	496	342	210	638	584
16	560	544	568	502	---	---	956	222	414	278	590	582
17	556	512	556	518	---	---	396	238	466	414	582	552
18	574	516	576	522	---	---	486	396	540	466	598	549
19	628	524	572	112	---	---	530	482	528	514	618	596
20	618	194	360	110	---	---	542	496	522	506	598	550
21	470	256	432	360	---	---	542	524	---	---	580	554
22	534	470	472	426	548	532	562	516	---	---	626	560
23	542	482	510	466	550	114	534	528	412	356	640	608
24	566	402	536	510	448	256	516	484	502	412	610	566
25	616	174	564	526	506	448	492	484	526	498	568	532
26	486	176	556	516	546	506	514	418	596	474	614	564
27	586	486	584	436	564	546	464	92	516	390	616	604
28	578	546	560	482	572	150	328	154	498	208	604	542
29	572	550	558	526	444	256	418	328	424	374	584	568
30	568	560	560	186	500	444	462	418	540	424	600	288
31	---	---	472	210	---	---	466	134	540	512	---	---
MONTH	674	120	650	110	580	114	956	92	598	208	668	104

WHITE RIVER BASIN

07052100 WILSONS CREEK NEAR SPRINGFIELD, MO--Continued

PM (STANDARD UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

WHITE RIVER BASIN

07052100 WILSONS CREEK NEAR SPRINGFIELD, MO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.5	16.0	13.0	10.5	10.5	7.5	3.0	.0	.0	.0	9.5	6.0
2	19.0	16.5	13.0	9.5	13.0	9.5	.5	.0	.0	.0	10.5	7.0
3	19.0	17.0	14.0	10.5	13.5	5.5	.5	.0	.5	.0	13.5	10.0
4	17.0	14.5	16.0	13.0	6.5	3.5	.5	.5	.5	.0	10.0	6.0
5	16.0	15.0	15.5	13.0	8.5	4.5	.5	.5	.5	.0	9.0	5.0
6	15.0	12.5	14.5	10.5	7.0	4.5	.5	.5	1.0	.0	9.5	5.0
7	13.0	10.5	11.0	9.0	4.5	3.0	.5	.5	1.5	.5	8.0	6.5
8	13.5	10.5	10.0	7.5	3.0	1.0	.5	.0	1.0	.0	9.5	5.5
9	15.0	13.0	10.5	7.0	1.5	.0	.5	.5	.5	.0	8.0	7.0
10	16.0	14.5	12.0	8.5	2.5	.0	.5	.5	.5	.0	9.5	5.5
11	17.5	13.0	12.5	11.5	4.0	1.5	.5	.5	3.5	.0	11.0	4.0
12	20.0	16.0	13.0	10.0	5.0	1.5	.5	.5	3.5	2.5	13.5	6.5
13	18.5	14.0	16.0	12.5	4.5	3.0	.5	.0	---	---	15.0	10.0
14	14.0	11.0	---	---	4.0	1.0	---	---	7.0	4.0	12.5	7.5
15	12.5	10.0	9.0	7.0	5.0	2.0	---	---	5.0	2.5	11.5	6.5
16	12.0	10.5	9.5	8.5	4.5	3.0	---	---	3.5	.5	12.0	7.5
17	11.5	9.5	9.5	8.5	3.5	1.0	---	---	3.0	1.0	11.5	8.5
18	13.5	10.5	10.0	7.0	6.0	3.5	---	---	5.5	3.0	12.5	10.5
19	13.5	12.0	10.0	7.0	11.0	6.0	---	---	7.5	2.0	16.5	12.5
20	14.0	11.0	9.0	8.0	11.5	7.5	---	---	6.0	3.5	16.5	12.5
21	15.5	12.5	8.0	7.5	7.5	4.0	---	---	8.0	4.0	15.0	12.0
22	16.0	14.0	9.0	7.5	4.0	2.0	---	---	10.5	6.0	14.0	12.5
23	15.5	12.5	11.5	9.0	5.5	2.5	3.5	.0	10.5	8.0	13.0	9.0
24	12.5	10.0	10.5	8.5	5.5	2.0	.0	.0	8.0	6.0	9.5	7.5
25	14.5	12.0	10.0	8.0	3.5	.5	.0	.0	8.5	4.5	11.5	6.0
26	14.0	11.5	10.5	8.5	3.5	2.0	2.0	.0	9.0	4.5	11.5	7.5
27	12.0	9.0	10.0	7.5	2.0	.5	2.0	.5	10.0	6.5	12.5	8.5
28	12.0	9.0	9.0	6.0	3.5	1.5	.5	.0	8.0	5.5	16.0	10.0
29	12.0	9.0	10.0	7.0	6.0	3.0	.0	.0	---	---	15.0	13.5
30	12.0	8.5	10.0	7.5	6.0	3.5	.0	.0	---	---	16.0	13.5
31	12.5	9.0	---	---	3.5	.5	.0	.0	---	---	13.5	11.0
MONTH	20.0	8.5	16.0	6.0	13.5	.0	3.5	.0	10.5	.0	16.5	4.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.5	9.0	19.5	13.0	20.5	16.5	20.5	18.0	24.5	21.5	23.5	22.0
2	11.5	9.5	17.0	15.0	19.0	16.5	21.0	18.5	25.0	20.5	24.0	20.0
3	10.5	8.0	16.5	12.5	20.0	14.5	23.0	18.5	26.0	21.5	24.5	20.5
4	10.0	8.5	13.5	12.0	21.0	18.0	24.0	19.5	26.5	23.0	23.5	21.0
5	15.0	7.0	17.5	10.5	20.5	16.5	22.5	20.0	27.5	24.0	23.5	21.0
6	14.5	8.5	19.5	12.5	19.0	16.5	20.0	18.5	27.5	25.0	24.0	22.0
7	16.5	9.0	21.0	14.5	20.0	14.5	21.0	17.5	26.5	24.0	24.0	21.5
8	14.0	11.5	23.0	17.0	---	---	23.0	19.0	26.5	24.0	21.5	19.5
9	13.5	9.0	22.0	18.0	---	---	24.5	20.5	26.0	24.5	21.0	18.5
10	14.0	9.5	22.5	18.0	---	---	25.0	21.5	26.0	24.5	21.0	18.5
11	13.0	10.0	19.5	14.5	---	---	25.5	21.0	25.5	21.0	21.0	18.5
12	15.5	11.5	18.5	13.0	---	---	25.5	21.0	21.5	18.5	21.0	19.5
13	17.0	12.5	19.0	13.5	---	---	26.0	21.5	22.0	19.5	20.5	19.0
14	18.0	11.5	20.5	15.0	---	---	26.5	23.0	24.0	20.5	19.0	17.0
15	18.5	12.5	18.5	16.0	---	---	26.0	23.5	23.5	19.0	17.0	15.0
16	17.5	13.5	20.0	15.0	---	---	25.0	23.0	21.0	18.0	17.0	14.0
17	19.5	14.0	22.0	16.5	---	---	24.0	22.5	23.5	20.0	17.5	14.5
18	17.0	14.5	21.0	17.5	---	---	23.5	21.0	24.0	22.0	19.0	16.5
19	20.5	14.0	22.5	17.5	---	---	23.0	21.0	25.5	23.0	19.0	17.0
20	19.0	16.0	19.5	16.0	---	---	24.5	21.0	25.0	23.5	18.5	18.0
21	17.0	15.0	16.0	14.5	---	---	24.0	22.5	---	---	18.5	17.5
22	16.5	14.0	16.0	14.0	25.0	22.5	25.0	22.5	---	---	17.5	15.5
23	15.5	14.5	18.5	14.5	24.5	20.5	27.0	23.5	23.5	21.0	17.5	14.5
24	17.5	15.0	17.0	13.5	20.5	18.5	27.5	24.5	23.0	21.0	18.0	14.5
25	21.0	13.5	17.5	13.5	22.0	17.0	25.5	24.5	22.5	21.0	19.5	16.0
26	16.5	12.5	17.0	13.5	22.5	17.5	25.5	23.5	23.5	22.0	20.0	17.0
27	14.5	12.0	20.0	14.5	23.0	18.5	25.0	22.0	23.5	21.5	20.0	17.5
28	15.5	10.0	20.0	16.0	22.5	19.5	25.5	21.0	25.0	21.5	20.0	16.5
29	16.5	12.0	20.5	17.0	23.5	18.5	26.5	22.5	24.5	22.5	20.5	17.5
30	18.0	11.5	21.5	17.5	21.5	18.5	27.0	23.5	24.5	23.0	20.5	17.0
31	---	---	21.0	18.0	---	---	26.0	23.0	24.5	23.0	---	---
MONTH	21.0	7.0	23.0	10.5	25.0	14.5	27.5	17.5	27.5	18.0	24.5	14.0

WHITE RIVER BASIN

07052100 WILSONS CREEK NEAR SPRINGFIELD, MO--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	6.4	4.3	10.7	6.5	12.2	9.4	10.7	9.7	16.2	11.4	12.2	10.1
2	7.3	5.8	11.3	6.7	12.1	9.9	11.1	9.5	16.4	11.6	12.3	10.0
3	7.5	5.8	11.7	6.9	9.9	8.7	11.2	10.5	16.8	11.5	10.3	9.0
4	8.1	6.7	11.9	6.6	11.9	9.8	11.2	10.4	17.5	12.3	11.4	9.8
5	7.1	6.6	11.8	5.6	11.7	10.3	10.6	10.3	17.8	12.7	12.7	10.3
6	8.8	6.8	7.4	5.7	10.7	10.0	10.6	10.1	16.7	12.1	12.6	10.0
7	9.2	7.6	11.8	6.1	9.6	10.2	10.6	10.1	17.7	11.8	11.4	10.0
8	9.5	7.8	13.0	7.7	10.4	10.3	11.4	10.0	17.7	12.0	13.5	10.2
9	---	---	12.1	7.6	12.2	10.5	11.4	10.2	18.5	12.4	12.5	10.1
10	---	---	12.5	7.6	13.1	10.8	11.0	10.1	18.4	12.4	14.8	9.1
11	---	---	11.8	7.2	13.4	11.0	10.5	9.9	18.2	11.2	15.4	10.0
12	18.2	6.5	13.2	7.0	13.7	11.1	11.4	9.9	13.7	10.6	16.5	9.8
13	7.4	6.4	12.4	7.2	14.3	11.0	---	---	16.7	10.6	17.2	9.2
14	7.9	6.5	---	---	15.2	11.5	---	---	16.5	10.1	16.9	9.1
15	---	---	---	---	15.7	10.4	---	---	10.9	10.2	17.1	9.2
16	9.7	6.6	---	---	15.8	10.3	---	---	13.7	10.5	17.1	9.3
17	10.5	8.3	---	---	15.3	9.6	---	---	13.9	10.8	15.1	8.9
18	10.7	8.5	12.8	9.7	17.6	8.1	---	---	15.5	10.9	11.4	8.7
19	10.5	8.0	12.8	11.7	19.0	9.6	---	---	16.6	10.6	9.9	7.6
20	10.6	8.0	12.7	10.8	13.5	8.1	---	---	12.2	9.5	10.5	8.0
21	10.0	7.2	11.7	11.4	13.6	8.2	---	---	11.7	10.3	11.5	8.4
22	9.3	6.1	11.4	9.9	13.6	8.3	---	---	10.7	9.9	10.4	7.3
23	9.3	5.5	10.8	8.8	14.0	8.3	12.4	11.6	11.1	9.5	8.0	7.5
24	9.9	7.5	11.8	8.7	13.2	8.1	12.8	10.1	11.4	10.5	9.0	8.0
25	8.8	6.4	10.3	9.3	13.6	8.5	13.8	10.9	12.5	10.3	10.8	8.4
26	8.8	5.7	9.9	9.4	13.5	8.5	13.4	10.7	13.0	10.4	11.2	9.2
27	9.0	6.5	10.2	9.5	13.0	8.5	14.9	6.6	13.2	10.2	12.5	9.8
28	9.1	6.4	11.0	9.1	13.6	8.6	14.8	6.6	10.2	9.4	13.1	9.3
29	9.3	6.4	11.1	9.1	10.4	8.1	14.9	11.3	---	---	11.0	8.6
30	9.7	6.4	11.3	9.4	11.1	10.2	14.0	10.9	---	---	13.2	8.0
31	10.1	6.8	---	---	10.5	9.3	15.2	11.0	---	---	13.8	9.1
MONTH	18.2	4.3	13.2	5.6	19.0	8.1	15.2	6.6	18.5	9.4	17.2	7.3
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.6	8.6	11.1	8.0	8.5	7.2	7.6	6.1	7.3	6.0	8.6	4.8
2	10.3	8.6	11.0	7.9	8.7	7.3	---	---	7.1	5.8	6.7	5.3
3	10.8	9.3	8.2	6.4	9.3	7.5	---	---	6.8	5.7	7.3	5.8
4	10.1	9.0	8.8	8.1	7.5	4.6	7.8	6.7	6.8	5.4	7.5	5.8
5	12.6	9.2	9.6	7.9	8.5	7.2	7.4	6.7	6.5	5.2	7.7	5.7
6	13.4	9.3	9.7	7.6	8.7	7.3	10.4	7.3	7.2	5.1	6.8	5.1
7	14.5	9.2	9.9	7.3	9.3	7.5	10.5	6.0	8.4	5.9	6.2	4.9
8	11.1	8.3	9.8	7.0	---	---	9.9	8.9	8.2	6.3	6.9	5.3
9	12.5	8.5	9.9	7.0	---	---	9.5	8.6	7.9	6.0	7.8	6.2
10	13.6	7.8	9.9	5.6	---	---	9.3	8.5	7.8	3.9	8.0	6.7
11	8.8	7.0	8.1	5.9	---	---	9.3	8.5	5.9	2.7	8.0	6.0
12	8.5	5.5	9.0	7.7	---	---	9.5	8.4	7.7	5.8	8.0	5.8
13	7.6	5.9	9.3	7.5	---	---	9.6	8.6	8.0	6.2	7.8	5.8
14	10.2	7.1	9.1	7.1	---	---	9.4	8.5	7.7	4.2	8.0	6.0
15	11.6	10.2	10.2	7.1	---	---	9.3	8.4	6.5	4.2	8.2	6.5
16	10.6	9.3	9.3	7.3	---	---	9.3	4.3	7.9	6.5	8.1	7.1
17	10.5	7.9	9.1	7.0	---	---	8.6	4.3	7.7	5.6	8.6	6.8
18	10.4	7.8	8.7	7.1	---	---	7.6	6.9	7.9	5.2	7.9	6.4
19	11.7	7.8	8.7	6.2	---	---	8.0	6.6	8.3	5.6	8.2	5.9
20	11.4	6.3	7.6	5.9	---	---	7.9	6.2	8.3	6.5	7.0	5.9
21	9.0	6.7	7.6	6.7	---	---	8.1	6.0	8.3	6.6	7.7	5.9
22	9.9	7.7	8.1	4.3	7.9	6.9	7.8	6.0	---	---	7.5	6.2
23	9.5	6.9	8.3	5.0	7.8	5.1	7.4	5.6	6.7	5.7	7.4	6.1
24	9.4	6.2	8.5	7.9	7.3	6.3	7.6	4.8	7.6	5.5	8.6	5.9
25	9.7	6.5	9.1	8.0	8.0	7.1	8.0	5.5	7.6	5.8	8.5	6.2
26	8.4	6.5	8.8	8.1	8.1	6.6	7.6	5.4	7.6	5.3	8.5	6.0
27	9.4	8.2	8.1	6.8	8.1	6.6	6.5	5.2	5.9	4.7	8.6	5.5
28	9.8	8.6	8.1	6.9	7.4	6.0	7.0	5.7	6.4	5.0	10.0	5.5
29	10.0	8.6	9.4	7.2	7.0	6.1	7.2	5.8	6.9	5.0	9.4	5.4
30	10.4	8.3	9.9	4.6	7.6	6.5	7.4	5.6	7.0	5.2	10.2	4.8
31	---	---	7.5	4.6	---	---	7.0	5.2	7.1	5.4	---	---
MONTH	14.5	5.5	11.1	4.3	9.3	4.6	10.5	4.3	8.4	2.7	10.2	4.8

WHITE RIVER BASIN

07052160 WILSONS CREEK NEAR BATTLEFIELD, MO

LOCATION.--Lat 37°07'02", long 93°24'14", in SW¼NW¼ sec.24, T.28 N., R.23 W., Greene County, Hydrologic Unit 11010002, on left bank 300 ft (91 m) downstream from bridge on county road, 0.3 mi (0.5 km) upstream from McElhane Branch, and 1.8 mi (2.9 km) west of Battlefield.

DRAINAGE AREA.--55.0 mi² (142.4 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1968 to September 1970, October 1972 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,100 ft (335.3 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 20, 1972, at site 300 ft (91 m) upstream.

REMARKS.--Records fair. Natural flow regulated at low flow and affected by sewage effluent.

AVERAGE DISCHARGE.--9 years, 97.4 ft³/s (2.758 m³/s), 24.05 in/yr (611 mm/yr), 70,570 acre-ft/yr (87.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,240 ft³/s (205 m³/s), May 20, 1979, gage height, 14.03 ft (4.276 m); minimum, 7.6 ft³/s (0.22 m³/s) Aug. 25, 27, 29, 1970, gage height, 1.42 ft (0.432 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (34.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Apr. 11	2000	2790	79.0	June 23	2030	1220	34.6
May 20	1315	*7240	205	July 1	1615	1390	39.4
			*14.03				6.07
			4.276				1.850
							6.48
							1.975

Minimum discharge, 16 ft³/s (0.45 m³/s) Nov. 10, gage height, 1.58 ft (0.482 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	28	70	56	60	208	488	140	115	472	168	71
2	35	27	62	53	57	187	352	131	105	244	122	150
3	38	28	107	53	59	220	267	226	99	167	104	73
4	37	26	76	54	55	189	242	291	93	136	89	59
5	37	23	68	52	53	170	205	230	213	124	84	56
6	36	25	66	49	58	156	178	203	122	109	79	55
7	31	27	75	47	54	147	165	182	371	128	76	49
8	30	27	64	47	57	139	182	165	227	104	71	45
9	32	26	57	49	51	126	161	154	169	99	67	41
10	33	24	55	45	53	122	156	187	154	80	65	42
11	205	26	61	48	58	117	885	297	132	79	87	42
12	50	23	62	49	75	116	640	181	125	79	64	41
13	54	25	57	46	69	105	389	156	105	79	56	40
14	39	70	53	43	88	102	292	142	101	71	67	41
15	34	124	53	43	162	97	240	139	95	70	89	37
16	33	115	52	47	159	92	205	129	85	85	61	35
17	33	128	47	58	136	89	184	120	79	89	55	37
18	32	57	47	64	121	90	165	115	77	72	49	36
19	33	45	48	73	119	286	148	130	78	67	48	40
20	31	41	48	83	174	168	190	2830	74	61	47	38
21	31	39	48	76	303	155	196	928	70	59	44	43
22	30	36	45	74	464	209	152	539	70	56	86	39
23	32	38	44	82	400	382	150	361	258	54	58	31
24	30	33	42	74	267	293	156	273	163	56	52	35
25	28	78	41	72	211	236	148	221	103	52	47	35
26	27	239	42	74	180	200	369	191	88	59	43	35
27	28	113	44	67	160	180	211	180	80	169	55	35
28	26	86	42	62	221	161	178	156	181	259	75	35
29	24	78	88	61	---	157	157	148	161	113	55	32
30	26	74	76	61	---	150	146	154	113	87	49	31
31	28	---	63	61	---	136	---	169	---	198	47	---
TOTAL	1201	1729	1803	1823	3924	5185	7597	9468	3906	3577	2159	1379
MEAN	38.7	57.6	58.2	58.8	140	167	253	305	130	115	69.6	46.0
MAX	205	239	107	83	464	382	885	2830	371	472	168	150
MIN	24	23	41	43	51	89	146	115	70	52	43	31
CFSM	.70	1.05	1.06	1.07	2.55	3.04	4.60	5.55	2.36	2.09	1.27	.84
AC-FT	2380	3430	3580	3620	7780	10280	15070	18780	7750	7090	4280	2740
CAL YR 1978	TOTAL	31406	MEAN	86.0	MAX	1340	MIN 23	CFSM 1.56	AC-FT	62290		
WTR YR 1979	TOTAL	43751	MEAN	120	MAX	2830	MIN 23	CFSM 2.18	AC-FT	86780		

WHITE RIVER BASIN

07052160 WILSONS CREEK NEAR BATTLEFIELD, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973-79.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1972 to current year.

PH: October 1972 to current year.

WATER TEMPERATURES: October 1972 to current year.

DISSOLVED OXYGEN: October 1972 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1972.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,430 micromhos Feb. 12, 1977; minimum, 100 micromhos June 23, 1976.

PH (water years 1974-79): Maximum, 8.4 units May 14, 1974; minimum, 6.5 units May 14, 1974.

WATER TEMPERATURES: Maximum, 27.0°C Aug. 13, 1976, Aug. 8, 1977; minimum, 2.5°C Jan. 10-11, 1977.

DISSOLVED OXYGEN (water years 1974-79): Maximum, 17.0 mg/L Feb. 5, 1980; minimum, 0.0 mg/L on many days during the year.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,120 micromhos Jan. 17; minimum, 164 micromhos July 27.

PH: Maximum, 8.1 units Feb. 10; minimum, 6.9 July 28.

WATER TEMPERATURES: Maximum, 24.5°C Aug. 10; minimum, 4.5°C Jan. 8, 14, Feb. 9.

DISSOLVED OXYGEN: Maximum, 17.0 mg/L Feb. 5; minimum, 3.3 mg/L Sept. 11, 12.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	820	780	838	786	718	672	740	708	798	712	546	490
2	780	750	838	792	742	702	716	698	770	734	568	532
3	800	760	882	812	746	454	758	706	770	730	592	482
4	830	790	886	828	614	570	808	742	742	700	506	484
5	800	780	876	810	736	614	820	794	710	678	516	498
6	850	800	868	804	758	724	856	782	780	680	578	514
7	836	790	822	738	796	716	858	792	940	756	604	540
8	820	790	866	784	766	690	792	754	966	844	612	572
9	806	770	882	832	776	688	798	754	870	782	616	576
10	788	724	854	772	798	746	826	794	810	776	654	610
11	798	336	894	842	816	770	872	822	830	734	630	586
12	698	568	896	866	870	765	870	814	786	694	628	568
13	704	584	872	756	868	832	870	820	778	696	710	628
14	716	678	756	448	914	868	894	856	798	740	730	662
15	718	676	590	284	920	864	856	796	830	536	758	696
16	702	674	---	---	946	878	1110	796	542	496	738	596
17	718	666	---	---	938	866	1120	974	584	526	684	610
18	772	712	---	---	866	702	1040	910	602	538	684	566
19	790	764	---	---	736	666	1030	862	580	550	594	232
20	806	772	---	---	830	718	862	728	590	506	556	432
21	814	772	---	---	850	746	776	654	536	410	594	524
22	802	776	784	722	866	770	682	636	460	350	650	366
23	776	718	790	742	876	768	704	658	454	406	450	354
24	758	694	780	702	838	786	712	674	508	454	488	446
25	804	754	744	360	818	774	766	704	534	488	492	470
26	834	788	500	226	774	752	786	712	510	492	534	486
27	844	808	550	474	890	636	770	664	532	506	572	534
28	858	808	618	550	932	890	770	674	578	478	606	558
29	808	766	656	618	954	478	692	666	---	---	618	570
30	808	782	722	654	670	486	702	658	---	---	602	548
31	816	752	---	---	740	670	728	702	---	---	656	588
MONTH	858	336	896	226	954	454	1120	636	966	350	758	232

WHITE RIVER BASIN

07052160 WILSONS CREEK NEAR BATTLEFIELD, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	650	242	582	544	562	502	---	---	568	388	890	560
2	474	384	608	568	606	562	---	---	584	544	640	306
3	520	474	610	274	572	550	572	482	618	572	564	500
4	534	510	468	324	580	548	588	536	670	604	614	560
5	562	520	484	450	622	226	574	514	676	598	812	610
6	586	534	484	456	568	506	630	574	634	596	818	750
7	626	578	506	470	570	260	622	500	736	588	816	758
8	596	470	572	506	542	400	582	514	632	574	854	780
9	566	476	582	544	540	506	586	536	650	574	858	770
10	638	564	614	284	558	512	648	584	808	620	792	732
11	574	176	498	318	588	506	674	604	852	578	856	728
12	430	312	516	450	612	546	640	586	708	656	928	826
13	508	430	528	500	600	530	692	636	662	618	946	882
14	482	466	592	506	598	592	764	660	860	616	948	902
15	488	466	610	542	630	564	794	706	760	486	972	910
16	534	478	628	542	618	558	728	560	690	592	964	848
17	564	534	670	566	606	550	616	484	766	690	876	776
18	548	520	692	566	568	542	698	610	792	724	854	728
19	564	526	642	250	628	568	700	664	814	736	942	854
20	654	372	310	310	656	594	762	692	824	732	956	880
21	490	392	384	310	636	576	782	742	842	726	904	772
22	510	484	416	376	664	590	820	714	910	496	---	---
23	540	504	446	406	706	180	762	692	794	638	---	---
24	594	540	484	444	428	274	774	614	802	752	---	---
25	572	504	510	476	501	428	660	614	800	740	---	---
26	564	190	532	504	644	501	658	590	822	762	---	---
27	518	482	522	478	728	642	628	164	814	652	---	---
28	528	506	518	476	738	246	374	176	766	560	---	---
29	530	516	544	500	454	340	404	364	796	728	---	---
30	544	516	626	520	556	450	428	400	818	766	---	---
31	---	---	520	310	---	---	528	232	842	788	---	---
MONTH	654	176	692	250	738	180	820	164	910	388	972	306

WHITE RIVER BASIN

07052160 WILSONS CREEK NEAR BATTLEFIELD, MO--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

WHITE RIVER BASIN

07052160 WILSONS CREEK NEAR BATTLEFIELD, MO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.5	18.0	18.5	15.5	15.0	12.5	8.0	6.5	9.5	5.0	12.0	10.0
2	22.0	19.0	19.0	14.5	15.5	14.0	7.5	5.0	9.5	7.5	12.5	11.0
3	21.0	18.5	20.0	15.5	15.0	11.0	9.0	6.5	9.5	8.0	13.5	11.5
4	21.0	17.0	20.0	17.0	12.5	10.5	10.0	7.5	9.5	6.0	11.5	10.5
5	20.0	18.0	19.5	16.5	13.5	11.0	9.0	8.0	9.5	5.5	12.0	10.0
6	19.0	16.0	18.0	15.0	12.5	11.0	9.0	7.5	9.0	7.5	12.5	10.0
7	18.5	15.5	16.5	14.5	11.0	10.0	9.0	7.0	9.0	7.0	11.5	11.0
8	19.0	15.5	16.5	13.0	10.0	9.0	7.5	4.5	9.0	7.5	12.5	11.0
9	19.5	17.5	17.0	13.5	10.5	8.5	9.0	5.0	8.5	4.5	12.0	11.0
10	19.5	16.5	17.5	14.5	11.0	8.0	8.5	8.0	10.5	6.0	13.0	10.0
11	19.0	15.0	17.5	16.5	11.5	9.0	9.0	8.0	11.0	7.0	13.5	10.0
12	21.5	17.5	17.5	14.5	12.5	10.0	11.5	8.5	10.5	7.0	14.0	10.5
13	19.0	16.5	19.0	17.0	11.0	9.5	10.5	6.0	10.5	8.0	15.5	12.0
14	18.0	15.5	17.0	14.0	11.5	8.5	7.0	4.5	11.5	9.0	15.0	11.5
15	18.0	15.0	14.5	9.5	13.0	9.5	8.5	5.5	10.5	8.5	14.5	11.5
16	17.5	14.5	---	---	12.0	10.0	9.0	7.0	10.0	7.5	15.0	12.0
17	17.5	14.0	---	---	11.0	8.5	11.0	9.0	9.5	8.0	14.5	12.0
18	19.0	15.5	---	---	12.5	10.5	9.0	7.0	10.5	9.0	14.0	13.0
19	19.0	16.0	---	---	15.0	12.0	10.0	8.0	11.5	8.5	15.5	13.5
20	19.0	15.5	---	---	14.5	11.5	8.5	7.0	10.5	9.0	15.5	13.5
21	20.0	16.0	---	---	12.0	10.0	9.0	8.0	11.0	7.5	15.0	13.0
22	19.5	17.0	14.5	13.0	12.5	9.5	10.0	8.0	11.0	9.0	14.5	13.5
23	19.0	16.5	15.5	14.0	12.0	9.5	9.5	6.0	11.5	11.0	13.5	11.5
24	17.5	14.5	15.0	12.5	11.5	9.0	9.0	6.0	11.0	10.5	12.0	11.0
25	18.5	16.5	14.5	10.0	12.0	8.5	10.0	6.5	11.0	9.5	13.0	10.5
26	18.0	15.5	13.0	10.5	11.0	9.0	9.5	8.0	11.5	9.5	13.0	11.0
27	18.0	14.0	12.5	12.5	10.0	8.0	9.0	7.5	12.5	10.5	13.5	12.0
28	18.0	14.5	14.0	12.0	10.5	9.0	8.5	6.5	11.0	9.5	15.5	12.5
29	17.5	14.0	14.0	12.5	12.5	7.5	9.0	5.5	---	---	14.5	14.5
30	18.0	13.5	14.5	12.5	9.5	8.5	9.5	7.5	---	---	15.5	14.0
31	18.5	14.5	---	---	9.0	7.5	9.0	6.0	---	---	14.5	13.5
MONTH	22.0	13.5	20.0	9.5	15.5	7.5	11.5	4.5	12.5	4.5	15.5	10.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.5	11.0	17.5	14.0	18.5	16.0	---	---	21.5	19.5	23.0	21.5
2	13.0	12.0	16.5	15.5	17.0	16.0	---	---	21.0	19.0	22.0	20.5
3	12.5	12.0	16.0	14.0	18.0	15.0	20.0	17.5	21.5	20.0	22.5	20.0
4	12.5	12.0	14.0	13.5	18.5	15.5	21.0	18.5	22.0	19.0	23.0	19.5
5	14.5	11.5	15.5	13.0	18.5	16.5	19.5	18.5	22.5	19.5	23.5	20.0
6	15.0	12.5	16.5	13.5	19.0	17.5	19.0	18.0	22.5	19.5	24.0	20.5
7	16.0	12.5	17.5	14.5	19.0	17.5	19.0	18.0	24.0	20.0	23.5	20.5
8	14.5	13.0	18.5	15.5	19.0	17.5	20.5	18.0	24.0	20.5	23.0	19.0
9	14.5	12.5	19.0	16.5	19.5	17.5	21.5	18.5	24.0	21.0	23.0	19.0
10	15.0	12.5	20.0	16.5	18.5	16.5	22.0	19.0	24.0	20.5	23.5	18.5
11	13.5	11.5	19.0	15.0	18.5	16.0	22.0	19.0	22.0	19.5	23.5	19.0
12	14.5	12.5	16.5	14.5	19.5	16.5	22.5	19.0	23.0	20.0	22.5	19.5
13	14.5	13.0	17.0	14.5	20.0	16.5	23.0	19.5	22.5	20.0	22.5	20.0
14	15.0	12.5	17.5	15.0	18.0	17.5	23.0	19.5	22.5	19.5	22.0	18.5
15	16.0	13.0	17.5	16.0	20.5	18.0	22.5	20.0	22.0	19.5	21.5	17.5
16	15.5	14.0	18.5	15.5	21.0	18.0	23.5	20.5	21.5	19.0	21.5	17.0
17	17.0	14.5	19.0	16.0	20.5	17.5	22.5	20.5	23.5	19.5	22.0	17.0
18	16.0	15.0	19.0	16.5	21.0	18.0	23.0	19.5	24.0	20.0	22.0	18.5
19	17.5	14.5	19.5	16.5	21.0	18.0	22.0	19.0	24.5	20.5	22.5	19.0
20	18.0	15.5	19.0	15.5	22.0	19.0	22.5	19.0	23.0	20.5	21.0	19.5
21	17.0	15.0	15.5	14.5	22.5	18.5	22.5	18.5	23.0	20.5	21.0	20.0
22	16.0	14.5	15.5	14.5	22.0	19.5	23.0	19.0	23.0	20.5	---	---
23	15.5	15.0	16.0	14.5	21.5	19.5	22.5	19.0	23.5	20.0	---	---
24	16.5	15.5	15.5	14.0	20.0	17.5	24.0	20.0	23.5	20.0	---	---
25	18.0	15.0	16.0	14.0	20.0	17.0	24.0	21.0	23.5	20.0	---	---
26	16.0	13.5	16.0	14.5	21.0	17.0	23.5	21.0	23.0	20.5	---	---
27	14.5	13.0	17.0	15.0	21.0	17.5	22.0	21.0	23.5	20.5	---	---
28	15.5	12.5	17.0	15.5	20.5	18.5	21.5	19.0	23.0	21.0	---	---
29	16.0	13.5	18.0	16.0	20.5	18.0	21.5	18.5	24.0	21.5	---	---
30	16.5	13.0	19.0	16.5	19.5	18.0	22.5	19.0	24.0	21.0	---	---
31	---	---	19.5	16.5	---	---	23.0	20.0	24.0	21.5	---	---
MONTH	18.0	11.0	20.0	13.0	22.5	15.0	24.0	17.5	24.5	19.0	24.0	17.0

WHITE RIVER BASIN

07052160 WILSONS CREEK NEAR BATTLEFIELD, MO--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX		MIN		MAX		MIN		MAX		MIN		MAX		MIN												
OCTOBER				NOVEMBER				DECEMBER				JANUARY				FEBRUARY				MARCH							
1	8.9	6.7	8.9	6.4	10.0	7.1	10.6	8.0	15.3	10.8	11.5	10.2	10.2	8.9	6.7	8.9	6.4	10.0	7.1	10.6	8.0	15.3	10.8	11.5	10.2		
2	9.2	6.6	8.4	5.9	9.2	8.1	10.6	8.1	15.9	10.7	11.5	9.8	9.3	8.9	6.8	9.8	5.4	10.5	8.4	11.2	8.2	15.8	9.7	11.8	9.3		
3	8.0	6.2	8.2	5.8	9.1	7.6	10.5	7.9	16.0	11.2	10.7	9.5	9.5	8.5	6.3	10.2	6.1	11.5	9.0	10.8	8.5	14.6	9.0	11.8	9.5		
4	9.2	6.3	8.8	5.7	10.2	7.6	10.2	7.6	16.3	11.6	11.3	10.0	10.0	8.3	6.3	8.4	6.9	12.3	9.0	12.9	11.1	14.5	9.8	15.0	8.3		
5	8.6	6.8	10.1	5.6	10.3	8.7	9.8	7.4	17.0	11.6	12.3	9.9	8.7	8.6	6.2	10.6	7.8	12.5	8.9	14.4	11.1	11.5	10.0	15.2	8.7		
6	8.1	6.0	7.7	6.0	10.1	8.8	10.8	7.5	15.3	10.1	12.2	9.8	8.1	8.1	6.0	7.7	6.0	10.1	8.8	10.8	7.5	15.3	10.1	12.2	9.8		
7	8.9	6.8	9.8	5.4	10.5	8.4	11.2	8.2	15.8	9.7	11.8	9.3	9.3	8.9	6.8	9.8	5.4	10.5	8.4	11.2	8.2	15.8	9.7	11.8	9.3		
8	9.3	6.8	10.4	5.6	10.5	8.9	10.8	8.6	14.6	7.9	12.8	9.4	9.4	9.3	6.8	10.4	5.6	10.5	8.9	10.8	8.6	14.6	7.9	12.8	9.4		
9	8.5	6.3	10.2	6.1	11.5	9.0	10.8	8.5	14.6	9.0	11.8	9.5	9.5	8.5	6.3	10.2	6.1	11.5	9.0	10.8	8.5	14.6	9.0	11.8	9.5		
10	8.3	6.1	11.9	5.9	11.5	9.5	11.3	8.8	15.6	9.6	13.7	9.9	9.9	8.3	6.1	11.9	5.9	11.5	9.5	11.3	8.8	15.6	9.6	13.7	9.9		
11	8.3	7.1	10.1	6.1	12.2	9.6	11.7	9.8	14.9	10.0	14.1	10.5	10.5	8.3	7.1	10.1	6.1	12.2	9.6	11.7	9.8	14.9	10.0	14.1	10.5		
12	8.2	6.5	11.1	6.3	12.2	9.5	12.3	9.9	14.9	10.4	14.2	9.5	9.5	8.2	6.5	11.1	6.3	12.2	9.5	12.3	9.9	14.9	10.4	14.2	9.5		
13	8.3	5.8	9.7	6.1	12.0	9.2	11.9	10.2	14.7	10.0	13.9	8.3	8.3	8.3	5.8	9.7	6.1	12.0	9.2	11.9	10.2	14.7	10.0	13.9	8.3		
14	7.8	6.3	8.4	6.9	12.3	9.0	12.9	11.1	14.5	9.8	15.0	8.3	8.3	7.8	6.3	8.4	6.9	12.3	9.0	12.9	11.1	14.5	9.8	15.0	8.3		
15	8.6	6.2	10.6	7.8	12.5	8.9	14.4	11.1	11.5	10.0	15.2	8.7	8.7	8.6	6.2	10.6	7.8	12.5	8.9	14.4	11.1	11.5	10.0	15.2	8.7		
16	8.8	6.5	---	---	13.3	8.8	14.4	9.1	12.6	9.9	15.6	7.4	7.4	8.8	6.5	---	---	13.3	8.8	14.4	9.1	12.6	9.9	15.6	7.4		
17	8.2	6.2	---	---	14.3	9.7	13.8	8.4	12.7	10.1	14.3	7.6	7.6	8.2	6.2	---	---	14.3	9.7	13.8	8.4	12.7	10.1	14.3	7.6		
18	9.7	5.9	---	---	14.3	8.6	12.5	8.9	13.7	10.3	10.4	7.8	7.8	9.7	5.9	---	---	14.3	8.6	12.5	8.9	13.7	10.3	10.4	7.8		
19	10.4	5.2	---	---	14.5	8.8	11.2	7.9	14.1	10.6	8.9	7.0	7.0	10.4	5.2	---	---	14.5	8.8	11.2	7.9	14.1	10.6	8.9	7.0		
20	8.8	6.1	---	---	11.1	7.6	10.3	8.6	11.9	10.0	11.2	8.7	8.7	8.8	6.1	---	---	11.1	7.6	10.3	8.6	11.9	10.0	11.2	8.7		
21	9.5	6.3	---	---	12.4	7.9	11.6	8.8	12.0	10.4	11.0	8.6	8.6	9.5	6.3	---	---	12.4	7.9	11.6	8.8	12.0	10.4	11.0	8.6		
22	---	---	9.4	8.7	12.6	7.7	12.1	8.8	11.6	10.5	10.2	8.3	8.3	---	---	9.4	8.7	12.6	7.7	12.1	8.8	11.6	10.5	10.2	8.3		
23	---	---	9.9	8.3	14.1	7.7	10.7	8.9	11.3	10.6	10.8	9.1	9.1	---	---	9.9	8.3	14.1	7.7	10.7	8.9	11.3	10.6	10.8	9.1		
24	---	---	10.3	8.3	13.2	7.5	12.4	9.5	11.3	10.8	10.4	9.1	9.1	---	---	10.3	8.3	13.2	7.5	12.4	9.5	11.3	10.8	10.4	9.1		
25	---	---	10.5	8.1	14.2	7.8	12.6	9.1	11.2	10.6	9.1	7.4	7.4	---	---	10.5	8.1	14.2	7.8	12.6	9.1	11.2	10.6	9.1	7.4		
26	9.0	6.1	10.8	5.6	13.7	7.8	13.3	9.3	11.2	10.1	10.9	7.0	7.0	9.0	6.1	10.8	5.6	13.7	7.8	13.3	9.3	11.2	10.1	10.9	7.0		
27	9.0	7.2	10.5	9.5	13.8	8.2	13.9	9.5	10.8	9.5	10.7	9.0	9.0	9.4	6.8	10.9	9.6	13.7	7.9	14.2	9.9	11.2	10.0	11.1	8.6		
28	9.4	6.8	10.9	9.6	13.7	7.9	14.2	9.9	11.2	10.0	11.1	8.6	8.6	10.7	7.1	10.6	9.2	10.1	7.6	14.9	10.2	---	---	10.2	8.7		
29	10.7	7.1	10.6	9.2	10.1	7.6	14.9	10.2	---	---	10.2	8.7	8.7	10.1	7.1	10.6	9.2	10.1	7.6	14.9	10.2	---	---	10.2	8.7		
30	10.1	7.5	10.4	8.6	9.1	7.6	15.3	10.4	---	---	10.7	8.8	8.8	10.1	7.5	10.4	8.6	9.1	7.6	15.3	10.4	---	---	10.7	8.8		
31	9.7	6.5	---	---	9.2	7.7	15.1	10.7	---	---	11.0	9.1	9.1	9.7	6.5	---	---	9.2	7.7	15.1	10.7	---	---	11.0	9.1		
MONTH	10.7	5.2	11.9	5.4	14.5	7.1	15.3	7.4	17.0	7.9	15.6	7.0	7.0	10.7	5.2	11.9	5.4	14.5	7.1	15.3	7.4	17.0	7.9	15.6	7.0		
APRIL				MAY				JUNE				JULY				AUGUST				SEPTEMBER							
1	11.2	9.3	10.8	8.6	8.8	8.0	---	---	8.0	4.4	7.9	5.6	5.6	11.2	9.3	10.8	8.6	8.8	8.0	---	---	8.0	4.4	7.9	5.6		
2	11.6	10.8	9.6	7.8	8.5	7.8	---	---	8.1	6.3	7.4	5.6	5.6	11.6	10.8	9.6	7.8	8.5	8.5	7.8	---	---	8.1	6.3	7.4	5.6	
3	11.3	10.3	9.4	7.7	8.7	7.5	8.3	7.2	8.4	6.8	8.2	6.6	6.6	11.3	10.3	9.4	7.7	8.7	8.0	6.8	8.0	7.2	8.4	6.8	8.2	6.6	
4	10.5	9.5	10.5	8.3	8.0	6.8	8.0	7.2	8.4	6.1	8.6	6.4	6.4	10.5	9.5	10.5	8.3	8.0	6.8	8.0	7.2	8.4	6.8	8.2	6.6		
5	10.4	8.5	10.2	8.8	8.0	6.4	7.6	7.2	7.4	5.7	7.5	4.5	4.5	10.4	8.5	10.2	8.8	8.8	8.0	6.4	7.6	7.2	7.4	5.7	7.5	4.5	
6	10.0	8.3	9.9	8.4	8.8	7.6	7.5	6.5	7.3	5.4	8.0	5.5	5.5	10.0	8.3	9.9	8.4	8.8	8.8	7.6	7.5	6.5	7.3	5.4	8.0	5.5	
7	9.9	7.6	10.0	8.2	8.6	7.1	7.2	6.5	6.7	4.7	6.5	4.9	4.9	9.9	7.6	10.0	8.2	8.6	8.6	7.1	7.2	6.5	6.7	4.7	6.5	4.9	
8	9.4	7.6	10.1	7.7	9.0	7.6	6.8	4.3	6.9	4.5	6.8	4.6	4.6	9.4	7.6	10.1	7.7	9.0	9.0	7.6	7.6	6.8	4.3	6.9	4.5	6.8	4.6
9	11.5	8.5	9.4	7.0	7.9	7.3	6.3	5.1	8.0	4.2	6.2	4.1	4.1	11.5	8.5	9.4	7.0	7.9	7.3	6.3	6.3	5.1	8.0	4.2	6.2	4.1	
10	11.7	9.6	10.2	5.6	7.7	6.6	5.9	3.9	8.6	5.7	5.7	3.5	3.5	11.7	9.6	10.2	5.6	7.7	6.6	5.9	3.9	8.6	5.7	5.7	5.7	3.5	
11	10.1	9.2	9.3	6.2	8.5	7.4	6.8	5.3	6.8	5.2	6.0	3.3	3.3	10.1	9.2	9.3	6.2	8.5	8.5	7.4	6.8	5.3	6.8	5.2	6.0	3.3	
12	10.2	9.8	10.7	8.9	8.9	7.7	7.2	5.8	8.6	5.6	7.2	3.3	3.3	10.2	9.8	10.7	8.9	8.9	8.9	7.7	7.2	5.8	8.6	5.6	7.2	3.3	
13	10.5	9.9	10.4	8.6	8.4	7.3	7.6	5.7	8.2	5.7	7.7	4.6	4.6	10.5	9.9	10.4	8.6	8.4	8.4	7.3	7.6	5.7	8.2	5.7	7.7	4.6	
14	10.1	9.4	10.0	7.6	7.8	7.6	7.0	5.7	6.8	5.1	9.3	5.3	5.3	10.1	9.4	10.0	7.6	7.8	7.8	7.6	7.6	7.0	5.7	6.8	5.1	9.3	5.3
15	10.0	9.1	9.9	7.5	8.5	7.1	6.9	5.6	5.8	5.0	9.0	5.6	5.6	10.0	9.1	9.9	7.5	8.5	8.5	7.1	6.9	5.6	5.8	5.0	9.0	5.6	
16	9.8	9.1	10.1	7.5	8.3	6.6	7.2	5.8	6.0	4.4	8.9	6.0	6.0	9.8	9.1	10.1	7.5	8.3	8.3	6.6	7.2	5.8	6.0	4.4	8.9	6.0	
17	9.9	8.9	10.2	7.4	8.4	7.0	6.5	5.7	5.7	3.6	9.3	6.2	6.2	9.9	8.9	10.2	7.4	8.4	8.4	7.0	6.5	5.7	5.7	3.6	9.3	6.2	
18	9.7	8.6	10.0	7.1	8.6	7.0	7.6	5.5	6.7	4.2	8.6	5.3	5.3	9.7	8.6	10.0	7.1	8.6	8.6	7.0	7.6	5.5	6.7	4.2	8.6	5.3	
19	9.9	8.4	9.6	6.8	8.5	6.9	7.9	5.4	7.5	4.6	9.5	6.2	6.2	9.9	8.4	9.6	6.8	8.5	8.5	6.9	7.9	5.4	7.5	4.6	9.5	6.2	
20	10.1	6.7	8.8	7.1	8.5	6.5	8.2	6.4	7.2	4.5	7.6	5.5	5.5	10.1	6.7	8.8	7.1	8.5	8.5	6.5	8.2	6.4	7.2	4.5	7.6	5.5	
21	9.8	7.5	9.2	8.8	8.4	6.3	7.7	6.0	6.5	4.3	8.6	6.0	6.0	9.8	7.5	9.2	8.8	8.8	8.4	6.3	7.7	6.0	6.5	4.3	8.6	6.0	
22	10.6	9.0	9.3	8.4	8.6	6.6	8.4	6.3	5.6	3.9	---	---	---	10.6	9.0	9.3	8.4	8.6	8.6	6.6	8.4	6.3	5.6	3.9	---	---	
23	10.1	8.7	9.3	8.6	7.8	5.8	8.3	6.2	5.5	3.9	---	---	---	10.1	8.7	9.3	8.6	7.8	7.8	5.8	8.3	6.2	5.5	3.9	---	---	
24	10.1	8.3	8.9	8.4	8.0	6.0	7.8	5.8	6.6	4.0	---	---	---	10.1	8.3	8.9	8.4	8.0	8.0	6.0	7.8	5.8	6.6	4.0	---	---	
25	1																										

WHITE RIVER BASIN

07052250 JAMES RIVER NEAR BOAZ, MO

LOCATION.--Lat 37°00'25", long 93°21'50", in NE¼NE¼NW¼ sec. 32, T.27 N., R.22 W., Christian County, Hydrologic Unit 11010002, on left bank 150 ft (46 m) downstream from Frazier bridge, 0.2 mi (0.3 km) upstream from Turkey Hollow, and 2 mi (3.2 km) southeast of Boaz.

DRAINAGE AREA.--462 mi² (1,200 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1972 to current year. Occasional miscellaneous discharge measurements 1966-67.

GAGE.--Water-stage recorder. Datum of gage is 1,035.35 ft (315.575 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Some regulation at low flow by Lake Springfield and sewage effluent from city of Springfield Southwest Treatment Plant.

AVERAGE DISCHARGE.--7 years, 585 ft³/s (16.57 m³/s), 17.19 in/yr (437 mm/yr), 423,800 acre-ft/yr (523 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,400 ft³/s (889 m³/s) July 1, 1973, gage height, 20.56 ft (6.267 m); minimum, 39 ft³/s (1.10 m³/s) Jan. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,000 ft³/s (198 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Apr. 2.	0200	7,480	212	9.64	2.938	May 21	0445	*24,200	685	*17.95	5.471
Apr. 12	1145	12,200	346	12.47	3.801	July 28	1645	16,700	473	14.75	4.496

Minimum discharge, 52 ft³/s (1.47 m³/s) Oct. 7, 8, 9, 10, gage height, 2.01 ft (0.613 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	63	309	150	220	1200	3430	586	508	1100	1240	201
2	66	63	275	140	204	1210	4750	528	453	1550	1000	482
3	60	60	291	130	203	1150	2570	648	421	814	779	430
4	60	60	286	120	192	1200	1940	2630	390	576	643	348
5	59	60	272	120	179	1070	1520	2500	472	470	536	303
6	56	60	248	120	176	895	1210	1770	390	473	449	273
7	56	64	233	120	175	780	990	1320	1720	474	394	250
8	52	66	225	120	171	691	878	1100	1690	440	355	222
9	52	68	209	120	166	612	793	950	995	431	325	201
10	53	66	200	110	159	551	712	803	734	465	299	188
11	190	65	196	110	159	499	2730	1730	581	396	352	175
12	230	66	193	110	176	471	9650	2020	502	350	314	165
13	177	66	181	110	181	432	3210	1220	435	318	277	153
14	146	110	171	110	229	406	2040	903	399	284	262	146
15	122	182	163	110	511	381	1470	775	362	269	286	134
16	106	159	161	110	1400	357	1100	680	333	253	270	126
17	98	326	153	112	1060	340	874	593	305	321	255	119
18	89	301	146	134	767	343	737	540	288	306	235	116
19	85	266	143	140	620	1250	631	482	266	262	222	112
20	81	221	140	196	606	1690	618	12000	257	230	205	112
21	77	195	136	324	1080	1360	1040	13300	241	206	196	112
22	75	169	130	362	1960	1140	754	3400	228	197	265	108
23	74	157	128	347	4790	2440	653	2320	269	183	263	102
24	74	147	127	345	2930	2490	622	1730	462	173	209	95
25	69	138	123	340	1860	1760	614	1310	309	161	188	93
26	66	398	120	326	1350	1340	1260	1050	263	244	178	90
27	66	849	117	311	1070	1050	1300	897	241	2000	178	90
28	66	614	114	283	996	866	960	746	279	12400	259	85
29	66	448	116	258	---	770	775	658	515	2900	272	84
30	63	361	188	244	---	860	669	581	344	1290	227	80
31	63	---	157	235	---	968	---	622	---	1140	204	---
TOTAL	2670	5868	5651	5867	23590	30572	50500	60392	14652	30676	11137	5195
MEAN	86.1	196	182	189	843	986	1683	1948	488	990	359	173
MAX	230	849	309	362	4790	2490	9650	13300	1720	12400	1240	482
MIN	52	60	114	110	159	340	614	482	228	161	178	80
CFSM	.19	.42	.39	.41	1.83	2.13	3.64	4.22	1.06	2.14	.78	.37
AC-FT	5300	11640	11210	11640	46790	60640	100200	119800	29060	60850	22090	10300
CAL YR 1978	TOTAL	172680	MEAN 473	MAX 10400	MIN 52	CFSM 1.02	AC-FT 342500					
WTR YR 1979	TOTAL	246770	MEAN 676	MAX 13300	MIN 52	CFSM 1.46	AC-FT 489500					

WHITE RIVER BASIN
07052250 JAMES RIVER NEAR BOAZ, MO--Continued
WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968-78.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1972 to current year.

PH: October 1972 to current year.

WATER TEMPERATURES: October 1972 to current year.

DISSOLVED OXYGEN: October 1972 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1972.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1974-79): Maximum, 914 micromhos Jan. 29, 1977; minimum, 87 micromhos July 28, 1979.

PH (water years 1974-79): Maximum, 8.7 units Apr. 11-12, 1975; minimum, 6.9 units Aug. 31, 1975, May 19, 1978, July 28, 1979.

WATER TEMPERATURES (water years 1974-79): Maximum, 31.0°C July 8-9, 1978; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN (water years 1974-79): Maximum, 17.4 mg/L Jan. 31, Feb. 2, 1978; minimum, 0.0 mg/L on several days during 1975, 1977-78.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 697 micromhos Dec. 30; minimum, 87 micromhos July 28.

PH: Maximum, 8.6 units Dec. 26, 27, 28, Aug. 16; minimum, 6.9 units July 28.

WATER TEMPERATURES: Maximum, 27.0°C July 24; minimum, 0.0°C Jan. 1, 2, 3, 4, 8, 9, 10, 11, 12, 13 Feb. 1, 9.

DISSOLVED OXYGEN: Maximum, 17.1 mg/L Feb. 11; minimum, 4.8 mg/L July 25.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	AGENCY COL-LECTING SAMPLE (CODE NUMBER)	AGENCY ANALYZING SAMPLE (CODE NUMBER)	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CaCO3)	
	(00027)	(00028)	(00061)	(00095)	(00400)	(00010)	(00300)	(00301)	(00335)	(31625)	(00900)
OCT 11...	1028	29001	360	554	7.6	15.5	7.6	76	37	4800	140
NOV 08...	1028	29001	68	620	8.0	11.0	9.0	82	23	40	--
DEC 06...	1028	29001	244	420	7.6	8.0	9.0	76	4	120	--
JAN 11...	1028	29001	128	485	8.1	1.0	13.3	94	2	60	200
FEB 14...	1028	29001	230	469	7.8	8.5	14.6	125	13	32	--
MAR 07...	1028	29001	770	365	7.7	10.0	11.0	97	8	32	--
APR 04...	1028	29001	1950	315	7.4	10.0	10.0	88	14	700	140
MAY 16...	1028	29001	680	354	7.8	18.0	9.8	102	--	640	--
JUN 06...	1028	29001	380	380	7.7	21.0	7.8	87	24	1400	--
JUL 24...	1028	29001	160	460	7.6	24.0	5.1	60	14	130	200
AUG 15...	1028	29001	260	535	7.6	21.5	7.0	79	10	4800	--
SEP 12...	1028	29001	170	500	7.5	20.0	6.2	67	12	100	--

WHITE RIVER BASIN

07052250 JAMES RIVER NEAR BOAZ, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	HARD- NESS, NONCAR- BONATE (MG/L CAC03) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	ALKA- LINITY (MG/L AS CAC03) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 11...	0	49	2.8	.9	3.7	184	0	151	7.4	43	59
NOV 08...	--	--	--	--	--	210	0	.172	3.4	--	--
DEC 06...	--	--	--	--	--	196	0	161	7.9	--	--
JAN 11...	44	66	8.2	19	2.8	188	0	154	2.4	35	36
FEB 14...	--	--	--	--	--	204	0	167	5.2	--	--
MAR 07...	--	--	--	--	--	182	0	149	5.8	--	--
APR 04...	6	49	4.7	5.9	1.5	168	0	138	11	--	6.7
MAY 16...	--	--	--	--	--	172	0	141	4.4	--	--
JUN 06...	--	--	--	--	--	176	0	144	5.6	--	--
JUL 24...	9	67	6.8	18	3.6	228	0	187	9.2	24	17
AUG 15...	--	--	--	--	--	212	0	174	8.5	--	--
SEP 12...	--	--	--	--	--	220	0	180	11	--	--

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT 11...	.2	341	93	6.2	.20	2.57	6	3	24	21
NOV 08...	--	--	3	6.5	.10	2.96	--	--	--	--
DEC 06...	--	--	2	2.5	<.10	.450	--	--	--	--
JAN 11...	.2	279	4	4.8	.10	.820	3	3	11	10
FEB 14...	--	--	.13	2.0	.20	.720	--	--	--	--
MAR 07...	--	--	6	1.8	.20	.230	--	--	--	--
APR 04...	--	--	21	2.5	--	--	4	2	4	2
MAY 16...	--	--	--	--	--	--	--	--	--	--
JUN 06...	--	--	147	2.4	.60	.420	--	--	--	--
JUL 24...	.1	281	10	2.2	<.05	.690	0	<2	4	6
AUG 15...	--	--	6	2.4	.54	.880	--	--	--	--
SEP 12...	--	--	20	3.2	.50	1.00	--	--	--	--

07052250 JAMES RIVER NEAR BOAZ, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

[illegible]

WHITE RIVER BASIN

07052250 JAMES RIVER NEAR BOAZ, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	621	595	570	567	399	387	467	461	435	421	357	345
2	615	551	581	569	411	399	475	463	455	425	353	349
3	565	553	601	573	491	393	469	457	447	433	373	351
4	555	547	605	589	399	385	471	453	451	437	349	337
5	575	545	605	589	411	399	479	463	453	435	343	339
6	597	575	611	597	437	411	485	473	449	439	355	343
7	603	593	601	579	469	437	487	475	471	447	357	353
8	621	593	601	579	471	453	497	483	511	469	367	357
9	615	601	585	567	453	435	497	481	515	489	371	365
10	603	591	585	567	445	435	503	483	495	477	389	371
11	591	309	613	583	469	445	509	485	485	477	389	379
12	395	307	605	597	481	469	531	505	523	479	381	359
13	459	395	603	577	489	467	531	517	509	463	381	361
14	457	421	645	577	497	485	535	527	477	455	397	375
15	449	427	645	351	503	485	549	533	515	403	399	387
16	457	449	427	333	511	493	555	515	403	329	411	385
17	457	441	479	343	509	495	585	511	329	317	387	371
18	459	449	411	391	511	487	689	585	343	327	393	371
19	485	459	427	411	487	461	677	595	353	341	399	279
20	511	485	435	427	461	443	633	543	379	353	323	317
21	515	503	441	433	469	451	543	443	399	351	321	311
22	525	515	469	439	491	469	443	419	353	321	331	321
23	531	525	499	467	493	481	431	421	321	215	383	293
24	537	521	499	483	493	479	435	415	285	223	293	271
25	535	507	495	467	487	473	419	409	307	285	311	293
26	531	507	549	321	489	471	425	419	323	307	335	311
27	557	531	377	343	481	471	421	407	345	323	357	335
28	563	555	375	359	497	473	417	407	373	345	367	357
29	567	559	377	359	521	497	413	401	---	---	369	363
30	578	567	387	375	697	467	421	403	---	---	375	351
31	578	567	---	---	467	453	421	409	---	---	359	353
MONTH	621	307	645	321	697	385	689	401	523	215	411	271
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	353	231	359	341	369	355	421	225	339	289	483	451
2	277	213	369	359	379	369	307	253	343	333	507	351
3	313	277	381	355	383	373	345	301	353	343	403	363
4	331	313	377	251	381	373	379	345	365	353	407	397
5	341	331	277	249	441	303	379	373	375	365	425	403
6	349	341	299	277	391	349	387	371	379	371	459	425
7	363	349	317	299	409	167	413	383	381	365	465	459
8	383	361	335	317	337	259	383	371	403	381	465	459
9	375	347	349	335	349	337	389	373	403	393	473	463
10	367	355	353	341	361	349	373	369	401	389	475	469
11	383	207	389	291	369	359	463	373	443	395	477	463
12	293	157	293	233	397	369	391	383	401	391	489	465
13	289	229	289	257	397	389	403	391	405	395	511	487
14	305	289	311	289	407	397	395	391	409	397	519	511
15	319	305	339	311	411	405	417	395	483	409	535	517
16	329	319	357	333	411	395	411	385	461	401	531	525
17	345	329	363	349	409	401	425	333	427	403	537	529
18	347	341	387	361	407	393	381	335	439	427	533	511
19	347	343	375	259	411	399	395	381	455	437	---	---
20	359	319	289	125	425	411	397	389	461	443	---	---
21	383	313	245	121	425	413	419	397	459	443	---	---
22	335	321	287	245	429	421	425	419	507	403	---	---
23	345	335	307	287	449	427	435	421	493	341	---	---
24	353	345	321	307	449	249	439	425	449	389	---	---
25	373	345	333	321	365	345	449	371	471	449	591	565
26	399	255	345	333	381	365	379	315	473	439	571	545
27	333	313	349	337	445	381	315	89	519	451	583	553
28	323	317	349	345	465	427	153	87	517	419	591	575
29	335	323	359	349	475	315	213	133	455	409	653	493
30	341	335	371	359	399	351	243	213	461	443	621	599
31	---	---	423	341	---	---	347	243	471	459	---	---
MONTH	399	157	423	121	475	167	463	87	519	289	653	351

WHITE RIVER BASIN

07052250 JAMES RIVER NEAR BOAZ, MO--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

WHITE RIVER BASIN

07052250 JAMES RIVER NEAR BOAZ, MO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20.5	17.5	14.0	11.5	11.0	9.5	2.0	.0	3.0	.0	10.0	8.5
2	21.0	18.0	14.0	11.5	13.0	11.0	1.0	.0	5.0	1.5	10.5	9.0
3	20.5	18.5	15.0	12.5	13.0	9.0	1.0	.0	6.5	5.0	13.0	10.5
4	19.0	16.0	16.5	14.0	9.0	7.0	1.5	.0	5.5	3.0	11.0	9.0
5	18.5	16.5	16.5	14.5	9.0	7.5	1.5	1.0	5.5	2.0	9.5	8.0
6	16.5	14.5	16.0	12.0	8.5	7.5	1.5	.5	5.5	3.5	10.0	7.5
7	15.5	13.0	12.5	11.0	7.5	6.0	2.5	1.0	6.5	4.5	9.5	8.5
8	15.0	13.0	11.0	9.0	6.0	4.0	1.0	.0	5.0	2.5	10.5	8.5
9	16.5	15.0	11.0	9.0	4.0	3.0	1.0	.0	3.5	.0	10.0	9.5
10	17.0	15.5	12.5	10.0	4.5	2.5	1.0	.0	5.0	.5	10.0	8.5
11	17.5	15.0	13.5	12.0	5.5	3.5	.5	.0	7.5	3.0	10.5	7.0
12	21.5	12.5	14.0	11.5	6.0	4.0	2.5	.0	8.0	6.5	12.0	9.0
13	21.5	17.0	16.0	14.0	7.0	5.0	3.0	.0	8.0	6.0	14.0	11.0
14	17.5	15.0	15.0	11.5	6.0	4.0	1.0	.5	10.5	7.5	13.0	10.5
15	16.5	14.0	11.5	10.0	6.5	4.0	1.0	.5	11.0	10.0	12.5	10.0
16	15.5	13.5	10.5	9.5	7.0	5.0	1.5	.5	10.0	5.5	13.0	10.5
17	15.0	12.0	11.5	10.5	6.0	4.0	3.5	.5	6.0	5.0	13.0	11.5
18	15.5	12.5	12.0	10.5	7.0	5.0	5.0	3.0	7.5	6.0	13.5	12.5
19	16.0	13.5	12.5	11.0	10.5	7.0	6.5	4.5	8.5	5.5	15.5	13.0
20	16.0	13.0	11.5	11.0	12.0	9.5	7.5	6.5	9.0	8.5	15.5	14.0
21	17.0	14.0	11.0	10.5	9.5	7.0	7.5	6.0	11.0	9.0	15.0	13.5
22	17.0	15.0	10.5	10.0	7.0	5.0	8.0	6.5	12.5	10.0	14.5	13.5
23	17.0	14.0	12.5	10.5	7.0	4.5	7.0	5.0	11.5	9.5	13.5	11.0
24	14.5	12.5	12.0	11.0	6.5	4.5	4.5	2.5	9.5	8.5	11.0	9.0
25	15.5	14.0	11.5	10.5	6.0	3.5	5.0	3.0	8.5	7.5	10.5	8.0
26	15.0	13.5	11.5	10.5	5.5	4.0	7.0	5.0	9.0	7.0	10.5	8.5
27	13.5	11.0	11.5	9.5	4.5	2.5	7.0	5.5	10.0	8.0	11.5	9.5
28	13.0	11.0	10.0	8.5	5.0	3.0	5.5	2.5	9.0	8.5	14.5	11.0
29	13.0	10.5	10.5	9.5	6.5	4.5	3.5	1.0	---	---	14.0	14.0
30	13.0	10.5	10.5	9.5	6.5	4.5	5.5	3.0	---	---	15.5	14.0
31	13.0	10.5	---	---	4.5	2.0	5.0	2.5	---	---	14.5	13.5
MONTH	21.5	10.5	16.5	8.5	13.0	2.0	8.0	.0	12.5	.0	15.5	7.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.0	12.0	17.0	14.5	20.0	18.0	21.5	20.0	22.5	21.0	23.5	22.0
2	12.0	11.0	17.0	16.0	19.5	17.5	22.0	21.0	23.0	20.5	22.5	20.5
3	11.5	10.5	16.5	15.5	20.0	16.5	22.5	19.5	23.5	21.0	23.5	21.0
4	11.0	10.5	15.5	13.5	21.0	18.0	23.5	21.0	24.0	22.0	24.0	21.5
5	13.0	9.5	15.0	12.5	20.5	18.5	23.0	21.5	25.0	22.5	24.5	22.0
6	13.5	10.5	16.5	13.0	20.5	19.0	21.5	21.0	25.5	23.0	24.5	22.5
7	15.0	11.5	18.0	15.0	20.0	18.5	22.0	20.5	26.0	23.0	25.0	22.0
8	14.5	13.5	20.0	16.5	21.0	18.5	23.5	20.5	26.5	23.5	23.5	20.5
9	14.0	12.0	20.5	18.5	21.5	19.0	23.5	21.5	26.5	24.0	23.5	20.0
10	14.5	12.0	21.0	19.0	20.5	19.0	25.0	22.5	26.5	24.0	23.5	19.5
11	13.5	12.5	20.0	17.5	20.5	17.5	25.5	22.5	25.0	22.0	23.5	20.0
12	14.0	12.0	18.0	16.0	21.0	18.0	25.5	23.0	23.5	20.5	22.0	20.5
13	15.0	13.0	18.0	15.0	22.0	19.0	26.0	23.5	24.0	20.5	22.5	20.0
14	16.0	12.5	18.5	15.5	22.5	19.5	26.5	24.0	24.0	21.5	21.0	18.5
15	17.0	13.5	18.5	16.5	23.0	20.0	26.0	24.5	23.0	20.5	20.5	17.0
16	17.0	15.0	20.0	17.0	23.5	20.5	26.5	24.0	21.5	19.5	20.0	16.0
17	18.5	15.5	21.0	18.0	23.5	21.0	25.0	23.5	24.0	20.5	20.0	16.0
18	18.5	17.0	20.5	18.5	24.5	21.5	26.5	23.5	25.5	22.0	20.5	17.5
19	20.0	17.0	22.0	19.0	24.0	21.5	25.5	23.0	26.5	23.0	---	---
20	19.5	18.0	19.5	16.5	25.5	22.0	25.0	22.5	24.5	23.5	---	---
21	18.5	18.0	18.0	16.0	26.5	23.0	25.5	22.0	24.5	22.5	---	---
22	18.5	17.0	16.0	15.0	26.0	23.5	25.5	22.0	24.5	22.0	---	---
23	17.5	17.0	17.0	15.0	24.0	22.0	25.5	22.5	24.0	21.5	---	---
24	18.0	17.0	17.0	15.0	22.0	21.0	27.0	23.5	24.5	21.5	---	---
25	19.0	16.0	17.0	14.5	23.5	20.0	26.5	24.5	24.5	21.5	21.0	17.5
26	18.5	15.5	17.0	15.0	24.0	20.5	26.5	25.0	24.0	22.0	21.5	18.0
27	17.0	14.5	18.5	15.5	24.0	21.0	26.5	21.5	24.5	21.5	21.0	18.0
28	15.5	13.0	18.5	16.5	22.5	20.5	22.0	20.5	24.0	22.0	21.0	18.0
29	16.0	13.0	19.5	17.5	23.0	20.0	22.0	20.5	25.0	22.5	21.5	18.5
30	16.5	13.0	20.5	18.0	22.0	20.5	23.0	20.5	25.0	23.0	21.5	18.5
31	---	---	19.5	18.5	---	---	22.5	21.5	24.5	23.0	---	---
MONTH	20.0	9.5	22.0	12.5	26.5	16.5	27.0	19.5	26.5	19.5	25.0	16.0

WHITE RIVER BASIN

07052250 JAMES RIVER NEAR BOAZ, MO--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	8.7	6.4	10.4	8.0	10.6	9.4	13.0	10.3	15.1	11.9	10.7	10.1
2	8.7	6.5	9.9	7.9	10.9	9.0	13.5	11.6	14.9	12.1	10.8	10.1
3	8.1	6.3	9.9	7.6	9.3	8.7	13.5	11.9	14.7	11.1	10.2	9.5
4	8.7	6.7	9.5	7.3	11.2	9.3	13.2	11.7	15.8	11.4	10.5	9.6
5	8.5	6.6	9.0	6.9	11.3	10.0	12.8	11.2	16.2	11.9	11.6	10.4
6	9.0	7.0	8.6	6.4	10.5	9.9	13.0	11.1	15.3	11.7	11.4	10.3
7	9.5	7.5	9.7	6.4	10.6	9.8	13.4	11.0	16.3	11.1	11.1	10.0
8	9.3	7.7	10.4	7.9	12.0	10.3	13.5	11.4	15.6	11.4	12.0	10.2
9	9.1	7.5	10.8	8.4	12.5	11.1	13.6	11.8	16.5	12.0	11.0	9.8
10	9.3	7.4	10.7	8.5	12.9	11.5	13.3	11.8	16.8	12.4	12.9	10.1
11	8.6	6.2	10.7	8.3	13.1	11.6	13.3	11.5	17.1	11.7	14.6	12.3
12	7.7	6.1	10.7	8.1	13.1	11.5	13.7	11.4	16.1	11.3	13.5	10.5
13	7.7	6.0	10.7	7.8	13.1	11.0	12.3	10.7	16.0	10.9	13.3	9.0
14	8.6	6.7	9.2	7.0	12.9	11.0	13.8	10.9	14.9	10.3	14.9	8.9
15	9.3	7.5	8.1	8.1	13.1	11.0	14.6	12.4	10.9	9.1	15.9	9.4
16	9.7	7.6	8.9	8.1	13.1	10.6	14.7	12.7	11.4	9.5	16.6	9.3
17	10.2	8.2	8.5	8.2	14.0	10.5	14.3	11.3	11.6	11.0	14.7	8.9
18	10.1	8.2	9.9	8.4	14.2	11.1	13.3	11.2	12.1	10.7	10.4	8.5
19	10.1	7.5	10.6	8.5	13.8	11.3	12.8	10.6	12.7	10.7	8.8	7.1
20	10.4	7.7	10.5	8.8	11.8	9.3	11.7	10.1	10.9	9.9	9.2	8.7
21	10.5	7.5	10.4	8.9	13.3	9.1	11.9	10.0	10.4	9.5	9.3	8.5
22	9.8	7.0	9.6	8.7	14.2	10.2	12.5	10.2	10.1	9.6	8.8	8.5
23	9.0	6.6	10.0	8.5	14.4	10.6	10.9	10.3	10.8	9.9	9.7	8.2
24	9.9	7.0	10.6	8.3	13.9	10.3	13.2	10.5	10.6	10.3	10.2	9.7
25	9.5	7.0	9.2	8.6	14.9	10.6	13.4	11.2	10.9	10.4	10.9	10.0
26	9.4	6.6	9.1	8.8	15.1	10.8	12.6	10.7	11.2	10.6	10.7	9.7
27	9.7	7.1	9.7	8.6	15.2	11.1	12.8	10.1	11.1	10.4	10.7	9.5
28	9.9	7.4	10.0	9.7	15.2	11.1	14.0	11.0	10.5	10.2	10.2	9.0
29	10.0	7.7	10.3	9.6	12.8	10.7	14.3	11.7	---	---	9.1	8.7
30	10.3	8.0	10.5	9.5	10.7	9.1	14.2	11.5	---	---	9.5	8.7
31	10.7	8.2	---	---	10.8	9.2	14.5	11.1	---	---	10.0	8.8
MONTH	10.7	6.0	10.8	6.4	15.2	8.7	14.7	10.0	17.1	9.1	16.6	7.1
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	9.3	8.5	12.6	8.1	10.6	7.3	7.1	6.4	7.2	6.6	7.5	5.8
2	9.2	8.7	11.0	7.7	9.0	7.2	7.3	6.6	7.6	6.9	6.5	6.1
3	9.5	9.1	8.2	7.4	11.2	7.5	7.0	6.5	7.7	6.9	7.7	6.4
4	9.7	9.3	9.1	7.8	11.1	7.1	7.2	6.3	7.9	6.8	8.0	6.3
5	---	---	9.3	8.7	7.7	6.6	7.1	6.3	7.9	6.5	8.2	6.2
6	---	---	9.7	8.4	8.7	6.8	7.6	6.7	8.4	6.2	8.1	6.1
7	---	---	9.7	8.1	7.6	6.8	7.8	6.8	9.0	6.3	8.6	6.1
8	---	---	9.9	7.7	7.5	6.9	8.3	6.7	9.4	6.0	8.7	6.1
9	---	---	10.1	7.2	7.9	6.9	8.0	6.5	10.0	5.8	9.2	6.5
10	---	---	10.3	7.1	8.2	6.9	8.0	6.4	10.0	5.8	9.0	6.2
11	9.5	9.1	8.1	6.1	8.9	7.2	8.1	6.1	7.4	5.9	9.3	6.0
12	9.6	9.3	8.5	7.9	9.6	7.1	8.2	6.1	9.9	6.1	8.5	5.9
13	9.7	9.3	9.5	8.0	9.7	7.0	8.3	5.9	10.2	6.3	9.7	6.1
14	9.7	9.2	9.9	8.0	10.5	6.7	8.1	5.7	10.0	6.3	10.1	6.5
15	9.7	8.9	10.1	6.6	10.8	6.5	7.9	5.7	7.3	5.6	10.5	6.9
16	9.7	8.9	11.5	8.0	11.5	6.3	8.3	5.8	9.4	5.7	10.6	7.0
17	9.7	8.5	11.9	7.5	11.1	6.1	6.7	5.9	10.0	6.0	10.7	7.0
18	9.5	8.3	11.3	7.2	10.9	6.0	7.9	5.6	10.5	5.6	10.3	6.9
19	9.9	8.1	12.6	7.0	9.8	6.0	7.8	5.7	11.0	5.9	---	---
20	9.6	7.9	7.8	6.7	9.7	5.9	8.1	5.7	9.7	5.7	---	---
21	8.8	7.2	8.2	6.6	9.6	5.6	8.4	5.9	10.3	5.9	---	---
22	9.5	8.1	8.3	8.0	9.0	5.4	8.5	5.7	8.8	5.9	---	---
23	8.8	8.1	8.3	7.9	6.9	5.7	7.9	5.6	7.6	5.1	---	---
24	8.5	8.0	8.4	7.9	6.7	5.5	7.4	5.3	8.9	5.4	---	---
25	10.0	7.6	8.7	7.9	8.1	6.5	7.6	4.8	9.4	5.8	9.8	6.6
26	8.4	7.0	8.7	8.1	8.3	6.4	7.0	5.2	8.3	5.9	9.5	6.4
27	8.9	7.8	8.9	7.9	8.1	6.3	6.9	5.3	8.9	5.9	9.4	6.2
28	10.1	8.2	9.3	6.8	6.6	6.0	6.7	6.3	7.7	6.1	9.3	6.2
29	10.7	8.4	9.7	7.7	6.9	6.1	6.9	6.6	8.1	5.8	9.1	6.0
30	11.7	8.4	9.9	7.3	7.5	6.1	6.9	6.7	8.0	5.8	8.8	5.9
31	---	---	8.3	6.7	---	---	6.9	6.5	7.9	5.8	---	---
MONTH	11.7	7.0	12.6	6.1	11.5	5.4	8.5	4.8	11.0	5.1	10.7	5.8

WHITE RIVER BASIN

07052500 JAMES RIVER AT GALENA, MO

LOCATION.--Lat 36°48'19", long 93°27'41", in SW¼SE¼SW¼ sec.6, T.24 N., R.23 W., Stone County, Hydrologic Unit 11010002, on downstream side of right pier of first arch span from left end of bridge on State Highways 13 and 248 in Galena, 0.7 mi (1.1 km) upstream from Railey Creek, and 42.3 mi (68.1 km) above mouth.

DRAINAGE AREA.--987 mi² (2,556 km²).

PERIOD OF RECORD.--October 1921 to current year (October 1921, monthly discharge only published in WSP 1311).

REVISED RECORDS.--WSP 977: 1935(M), 1941(M).

GAGE.--Water-stage recorder. Datum of gage is 921.37 ft (280.834 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 11, 1927, nonrecording gage at site 500 ft (152 m) downstream at datum 1.48 ft (0.451 m) higher. Dec. 11, 1927, to July 22, 1939, nonrecording gage, and July 23, 1939, to Sept. 30, 1953, water-stage recorder at present site and at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--58 years, 951 ft³/s (26.93 m³/s), 13.09 in/yr (332 mm/yr), 689,000 acre-ft/yr (850 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,700 ft³/s (1,490 m³/s) May 20, 1943, gage height, 29.82 ft (9.089 m) present datum; minimum discharge, 10 ft³/s (0.28 m³/s) Sept. 20, 1954; minimum gage height, 1.15 ft (0.351 m) Jan. 13, 1964 (result of ice conditions upstream).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 12,000 ft³/s (340 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Apr. 12	2000	21600	612	June 7	2045	21900	620
May 21	1000	*39000	1100	July 29	0115	20900	592
							17.47
							5.325
							17.01
							5.185

Minimum daily discharge, 110 ft³/s (3.12 m³/s) Nov. 8-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	140	120	747	318	533	2230	3170	1350	1350	1100	2590	495
2	140	120	639	300	400	2370	8380	1260	1280	3060	2170	1280
3	132	120	578	300	327	2190	4790	1420	1230	1830	1770	1400
4	130	120	573	300	308	2190	3430	2890	1160	1370	1460	1100
5	130	120	528	300	303	2100	2680	4380	1200	1140	1240	922
6	130	120	481	300	300	1840	2180	3350	1260	1220	1090	798
7	130	115	453	300	293	1640	1840	2630	7320	1090	963	714
8	130	110	430	300	293	1470	1650	2160	8700	1010	865	634
9	130	110	399	300	287	1330	1540	1850	3640	927	784	568
10	130	110	389	300	285	1210	1400	1600	2510	1010	713	523
11	161	110	370	300	265	1110	3780	1840	1950	952	758	493
12	331	110	358	300	258	1020	16800	3330	1600	839	778	459
13	328	110	346	293	285	962	9120	2320	1400	758	668	429
14	291	110	326	290	381	891	4710	1820	1240	690	604	402
15	241	245	315	290	706	827	3520	1570	1120	634	583	372
16	208	391	300	290	1770	774	2820	1390	1030	588	593	337
17	189	558	290	283	2280	726	2380	1240	933	583	548	318
18	178	734	277	274	1750	700	2050	1120	857	763	513	319
19	167	702	267	300	1340	1120	1820	1040	801	639	475	295
20	160	557	267	359	1200	2120	1700	14300	747	558	443	297
21	156	454	261	527	1420	2240	2150	33000	700	505	425	291
22	155	385	254	765	2310	2070	1920	7980	665	467	416	284
23	150	345	245	750	7720	3200	1690	4760	655	444	538	273
24	140	312	242	745	6630	4560	1580	3540	910	421	447	254
25	130	291	233	731	3610	3120	1520	2810	795	408	397	247
26	130	491	225	698	2650	2370	1780	2340	690	426	375	244
27	120	1350	222	671	2180	1960	2200	2090	618	864	428	239
28	120	1500	219	641	1990	1700	1920	1830	593	14200	470	235
29	120	1100	217	600	---	1530	1680	1620	988	10100	636	229
30	120	904	254	570	---	1490	1500	1480	892	2810	552	227
31	120	---	297	550	---	1570	---	1470	---	2120	491	---
TOTAL	5037	11924	11002	13245	42074	54630	97700	115780	48834	53526	24783	14678
MEAN	162	397	355	427	1503	1762	3257	3735	1628	1727	799	489
MAX	331	1500	747	765	7720	4560	16800	33000	8700	14200	2590	1400
MIN	120	110	217	274	258	700	1400	1040	593	408	375	227
CFSM	.16	.40	.36	.43	1.52	1.79	3.30	3.78	1.65	1.75	.81	.50
IN.	.19	.45	.41	.50	1.59	2.06	3.68	4.36	1.84	2.02	.93	.55
AC-FT	9990	23650	21820	26270	83450	108400	193800	229600	96860	106200	49160	29110
CAL YR 1978	TOTAL	334200	MEAN	916	MAX	22900	MIN	110	CFSM	.93	IN	12.60
WTR YR 1979	TOTAL	493213	MEAN	1351	MAX	33000	MIN	110	CFSM	1.37	IN	18.59
									AC-FT	662900	AC-FT	978300

WHITE RIVER BASIN

07053400 TABLE ROCK LAKE NEAR BRANSON, MO

LOCATION.--Lat 36°35'46", long 93°18'35", in NW¼ sec.22, T.22 N., R.22 W., Taney County, Hydrologic Unit 11010001, at dam on White River, 3 mi (4.8 km) upstream from Fall Creek, and 6.1 mi (9.82 km) southwest of Branson.

DRAINAGE AREA.--4,020 mi² (10,412 km²).

PERIOD OF RECORD.--September 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to July 18, 1958, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by a combination concrete-gravity and embankment type dam. Storage began on Sept. 9, 1956. Storage for purpose of filling to power pool level at elevation 881 ft (268.5 m) and capacity 1,520,500 acre-ft (1.87 km³) began Nov. 24, 1958, and was reached Dec. 19, 1959. Capacity is 3,567,500 acre-ft (4.40 km³) at top of spillway gates, elevation 933 ft (284.4 m). Capacity is 3,462,000 acre-ft (4.27 km³) at top of flood control pool, elevation 931 ft (283.8 m). Capacity between elevations 915 ft (278.9 m) and 931 ft (283.8 m) is reserved for flood control, 760,000 acre-ft (0.937 km³). Capacity between elevation 881 ft (268.5 m) and 915 ft (278.9 m) of 1,181,500 acre-ft (1.46 km³) is used for power generation. The capacity at the lowest outlet, elevation 721.96 ft (220.053 m), is 3,530 acre-ft (4.35 km³). Lake is used for flood control, power, and recreational purposes. Figures represent total contents. Contents computed from daily readings at 2400 and prior to Oct. 1, 1963 to five significant figures.

COOPERATION.--Records furnished by the Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,541,800 acre-ft (4.37 km³) May 10, 1961, elevation, 932.52 ft (284.232 m); minimum, since initial filling to bottom of power pool level, 1,535,500 acre-ft (1.89 km³) Feb. 8, 1965, elevation, 881.54 ft (268.693 m).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 2,870,000 acre-ft (3.54 km³) Apr. 13, 14, May 21-23, minimum daily contents, 2,310,000 acre-ft (2.85 km³) Jan. 16.

Capacity table (elevation, in feet NGVD, and contents, in acre-ft)

905	2,297,000	915	2,702,000
910	2,493,000	919	2,878,000

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	256000	242000	240000	238000	237000	265000	275000	271000	277000	280000	281000	263000
2	255000	242000	240000	237000	237000	267000	276000	271000	278000	280000	279000	264000
3	255000	242000	240000	237000	237000	269000	277000	273000	279000	280000	278000	264000
4	255000	242000	239000	237000	238000	270000	277000	276000	279000	279000	278000	265000
5	255000	242000	238000	237000	238000	272000	276000	278000	280000	279000	277000	265000
6	254000	242000	238000	238000	238000	273000	274000	278000	279000	279000	277000	265000
7	254000	242000	238000	238000	239000	273000	274000	278000	280000	279000	276000	264000
8	254000	241000	237000	237000	239000	272000	273000	277000	281000	280000	276000	264000
9	253000	241000	236000	236000	239000	272000	273000	276000	282000	280000	275000	263000
10	253000	241000	236000	235000	239000	271000	273000	276000	281000	280000	274000	262000
11	252000	241000	236000	234000	239000	271000	278000	276000	279000	280000	273000	262000
12	252000	241000	236000	234000	239000	270000	285000	277000	279000	280000	272000	262000
13	252000	240000	236000	233000	239000	271000	287000	277000	279000	280000	272000	261000
14	252000	239000	236000	232000	239000	270000	287000	277000	279000	280000	271000	261000
15	252000	238000	237000	232000	240000	270000	286000	276000	278000	280000	270000	261000
16	252000	238000	237000	231000	240000	270000	285000	276000	279000	280000	269000	261000
17	252000	237000	237000	232000	241000	270000	284000	276000	279000	280000	268000	261000
18	251000	237000	237000	232000	242000	270000	283000	276000	278000	280000	269000	261000
19	251000	237000	237000	233000	242000	270000	281000	277000	278000	280000	270000	261000
20	250000	237000	237000	233000	243000	271000	280000	281000	278000	280000	269000	260000
21	250000	237000	237000	234000	243000	272000	279000	287000	277000	280000	268000	260000
22	250000	236000	237000	234000	246000	273000	277000	287000	277000	280000	267000	260000
23	249000	236000	238000	234000	250000	274000	275000	287000	278000	279000	266000	260000
24	248000	236000	238000	234000	254000	275000	274000	286000	278000	279000	265000	260000
25	247000	237000	238000	234000	256000	276000	274000	285000	278000	279000	265000	259000
26	246000	239000	238000	235000	258000	276000	273000	284000	278000	279000	265000	259000
27	246000	239000	238000	235000	260000	275000	273000	282000	278000	281000	265000	258000
28	245000	239000	238000	235000	263000	273000	273000	281000	279000	282000	265000	258000
29	244000	240000	238000	236000	---	273000	272000	280000	279000	280000	263000	258000
30	243000	240000	238000	237000	---	273000	271000	279000	279000	284000	263000	258000
31	242000	---	239000	237000	---	273000	---	277000	---	282000	262000	---
(+)	908.21	907.59	907.35	906.94	913.22	915.61	915.24	916.68	917.05	917.79	913.11	912.10
(-)	-15.0	-2.0	-1.0	-2.0	+26.0	+10.0	-2.0	+6.0	+2.0	+3.0	-20.0	-4.0
MAX	2560000	2420000	2400000	2380000	2630000	2760000	2870000	2870000	2820000	2840000	2810000	2650000
MIN	2420000	2360000	2360000	2310000	2370000	2650000	2710000	2710000	2770000	2790000	2620000	2580000

CAL YR 1978.....+ 2.0

WTR YR 1979.....+ 1.0

(+) Elevation, in feet NGVD, at end of month.

(-) Change in contents, in thousands of acre-feet.

NOTE: Add zero to all values in daily table.

07053500 WHITE RIVER NEAR BRANSON, MO

LOCATION.--Lat 36°35'51", long 93°17'42", in SE¼NE¼ sec.22, T.22 N., R.22 W., Taney County, Hydrologic Unit 11010003, on left bank 0.9 mi (1.4 km) downstream from Table Rock Dam, 2.1 mi (3.4 km) upstream from Fall Creek, 5 mi (8.0 km) southwest of Branson, 7.4 mi (11.9 km) upstream from Missouri Pacific bridge, and at mile 527.8 (849.2 km).

DRAINAGE AREA.--4,022 mi² (10,417 km²).

PERIOD OF RECORD.--July 1909 to December 1910 (gage heights and discharge measurements only), October 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 696.00 ft (212.141 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). July 19, 1909 to Dec. 31, 1910, nonrecording gage at site 7.4 mi (11.9 km) downstream at different datum. Oct. 1, 1951 to Mar. 6, 1952, nonrecording gage at same site and datum.

REMARKS.--Records good except Feb. 22, 23 which are poor. Discharge computations based on power releases, conduit releases, fish hatchery releases, and pool elevation at Table Rock Lake. Fish hatchery releases began on Feb. 18, 1959. Regulated by Table Rock Lake since Sept. 9, 1956.

COOPERATION.--Records furnished by Corps of Engineers.

AVERAGE DISCHARGE.--28 years, 3,615 ft³/s (102.4 m³/s), 2,619,000 acre-ft/yr (3.23 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 89,100 ft³/s (2.523 m³/s) May 16, 1956, gage height, 36.9 ft (11.25 m); minimum, prior to building dam, 24 ft³/s (0.68 m³/s) Sept. 20, 1954; no outflow from reservoir at various times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 16, 1945 reached a stage of 52.8 ft (16.09 m), from floodmark, discharge, 203,000 ft³/s (5,750 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 13,400 ft³/s (379 m³/s) May 8, 22; minimum daily, 121 ft³/s (3.43 m³/s) Oct. 8 and Nov. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5650	2090	2670	3690	1870	130	6870	4650	406	254	12600	367
2	5760	289	1340	6200	1600	128	13300	2730	228	4890	12600	1070
3	3160	406	2160	2990	1200	282	12800	6460	207	3870	6390	745
4	1980	425	6980	904	377	6220	12400	10200	3680	4400	5000	4800
5	2420	267	2770	1580	2370	1110	12800	12700	4770	2550	5060	5550
6	2190	604	3770	140	1840	630	11900	12800	3210	742	5650	6010
7	2760	368	3940	983	1860	6560	9570	12800	5160	246	6640	5460
8	121	1160	8520	6960	2290	6880	6480	13400	10100	226	5900	4580
9	2270	1110	3930	5870	2400	7180	6350	12800	12600	968	5280	5210
10	3580	811	1290	5160	386	5980	6360	12900	12700	1680	5000	5390
11	2600	554	1640	5320	137	5920	6460	13100	7000	988	5990	4950
12	4210	573	472	4000	1760	4120	7400	12800	4160	1210	5750	5280
13	2960	3070	895	4650	1800	2460	11000	12700	2330	1240	5880	9460
14	734	5730	557	3940	1300	2300	10900	12700	2340	1610	6430	3330
15	1100	6550	130	4100	922	6540	10900	9760	3120	255	5850	1140
16	2600	6500	131	2020	958	1460	11000	6210	275	1440	8390	5990
17	2890	4680	132	206	397	1160	11000	3950	255	476	8370	7000
18	3310	1220	601	938	138	1140	11000	3060	4710	1320	556	5860
19	2390	321	124	328	315	3440	11700	306	2730	516	405	6170
20	1990	1820	431	618	135	4980	12800	475	5920	575	8400	6600
21	3100	3150	127	1210	133	3020	12700	7720	6550	247	8480	6660
22	584	4100	375	1090	128	6420	12600	13400	2060	256	8090	4350
23	5270	121	127	1600	127	6430	12800	12900	275	4140	8120	227
24	4420	2110	627	3200	1790	6230	12700	12800	285	3080	8540	5450
25	4510	410	130	1430	1630	6350	6970	12800	246	1430	237	5180
26	3820	1370	440	294	419	6300	8050	13300	246	2540	236	6010
27	2240	4540	134	1190	975	8970	8020	12700	255	3530	8450	6090
28	3740	2900	526	538	377	12700	8120	12900	246	8040	8290	2930
29	2530	2060	781	1280	---	6410	8110	12800	255	4850	8620	446
30	5550	1190	131	1260	---	7800	6440	12300	244	8130	8510	327
31	5620	---	135	1430	---	6390	---	11000	---	12500	8580	---
TOTAL	96059	60499	46016	75119	29634	145640	299500	311121	96563	78199	202294	132632
MEAN	3099	2017	1484	2423	1058	4698	9983	10040	3219	2523	6526	4421
MAX	5760	6550	8520	6960	2400	12700	13300	13400	12700	12500	12600	9460
MIN	121	121	124	140	127	128	6350	306	207	226	236	227
CFSM	.77	.50	.37	.60	.26	1.17	2.48	2.50	.80	.63	1.62	1.10
AC-FT	190500	120000	91270	149000	58780	288900	594100	617100	191500	155100	401300	263100
CAL YR 1978 TOTAL	1479134			4052	MAX 14900	MIN 40	CFSM 1.01	AC-FT 2934000				
WTR YR 1979 TOTAL	1573276			4310	MAX 13400	MIN 121	CFSM 1.07	AC-FT 3121000				

WHITE RIVER BASIN

07053700 LAKE TANEYCOMO AT BRANSON, MO

LOCATION.--Lat 36°38'09", Long 93°15'52" in SE¼ NW¼ sec.4, T22 N., R21 W., Taney County, Hydrologic Unit 1101003, 1000 ft (300 m) downstream from Turkey Creek, at bridge on Business Route 65 in Branson.

PERIOD OF RECORD.--July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)
OCT											
03...	1028	1028	--	--	--	--	--	--	55	--	--
03...	1028	1028	200	7.0	11.5	5.3	--	--	--	110	16
03...	1028	1028	200	7.0	11.5	5.1	--	--	--	110	15
10...	1028	29001	218	7.5	13.0	5.2	49	8	24	74	0
NOV											
07...	1028	29001	235	7.5	14.0	7.6	73	6	130	--	--
DEC											
06...	1028	29001	227	7.3	10.5	6.6	59	3	8	--	--
JAN											
10...	1028	29001	255	8.0	6.5	9.8	80	4	10	110	7
FEB											
14...	1028	29001	244	7.9	6.5	13.4	109	15	1	--	--
MAR											
07...	1028	29001	225	8.0	5.0	12.6	98	10	14	--	--
13...	1028	1028	--	--	--	--	--	--	0	--	--
13...	1028	1028	236	7.6	5.5	12.4	--	--	--	120	28
13...	1028	1028	232	7.7	5.5	12.4	--	--	--	110	17
APR											
04...	1028	29001	225	7.4	5.5	12.2	97	<5	12	100	0
MAY											
16...	1028	29001	262	7.7	8.5	9.7	83	--	100	--	--
JUN											
07...	1028	29001	370	7.1	14.0	8.0	77	22	400	--	--
12...	1028	1028	--	--	--	--	--	--	36	--	--
12...	1028	1028	242	7.8	6.5	9.2	--	--	--	120	19
12...	1028	1028	242	7.7	6.0	9.1	--	--	--	120	19
JUL											
26...	1028	29001	245	7.6	15.5	9.5	95	11	2300	110	0
AUG											
15...	1028	29001	250	7.7	11.0	5.6	51	2	11	--	--
23...	1028	1028	--	--	--	--	--	--	13	--	--
23...	1028	1028	220	7.2	11.0	6.2	--	--	--	110	16
23...	1028	1028	220	7.6	11.0	6.2	--	--	--	96	0
SEP											
11...	1028	29001	296	7.3	15.0	6.0	59	10	<1	--	--

WHITE RIVER BASIN

07053700 LAKE TANAYCOMO AT BRANSON, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L) AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L) AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L) AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L) AS CD) (01025)	COPPER, TOTAL RECOV- ERABLE (UG/L) AS CU) (01042)	COPPER, DIS- SOLVED (UG/L) AS CU) (01040)	
OCT											
03...	--	--	--	--	--	--	--	--	--	--	
03...	--	--	.46	.03	.52	.020	--	--	3	--	
03...	--	--	.46	.03	.35	.020	--	--	3	--	
10...	112	4	.40	.10	--	.050	3	3	6	4	
NOV											
07...	--	4	.40	.10	--	.060	--	--	--	--	
DEC											
06...	--	5	.30	.10	--	.050	--	--	--	--	
JAN											
10...	170	3	.20	<.10	--	.020	2	2	13	9	
FEB											
14...	--	3	.40	.20	--	.060	--	--	--	--	
MAR											
07...	--	4	.40	.10	--	.030	--	--	--	--	
13...	--	--	--	--	--	--	--	--	--	--	
13...	--	--	.30	.01	.15	.000	--	--	7	--	
13...	--	--	.30	.01	.22	.000	--	--	6	--	
APR											
04...	--	3	.50	--	--	--	3	3	12	3	
MAY											
16...	--	--	--	--	--	--	--	--	--	--	
JUN											
07...	--	--	.80	.50	--	.080	--	--	--	--	
12...	--	--	--	--	--	--	--	--	--	--	
12...	--	--	.65	.03	.56	.020	--	--	1	--	
12...	--	--	.64	.02	.42	.020	--	--	10	--	
JUL											
26...	154	6	.57	<.05	--	<.020	<0	2	2	<1	
AUG											
15...	--	10	.80	<.02	--	<.020	--	--	--	--	
23...	--	--	--	--	--	--	--	--	--	--	
23...	--	--	.65	.00	.10	.020	--	--	1	--	
23...	--	--	.63	.02	1.3	.200	--	--	4	--	
SEP											
11...	--	14	.47	<.01	--	.040	--	--	--	--	
DATE	CALCIUM DIS- SOLVED (MG/L) AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L) AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K) (00935)	BICAR- BONATE (MG/L) AS HCO3) (00440)	CAR- BONATE (MG/L) AS CO3) (00445)	ALKA- LINITY (MG/L) AS CACO3) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L) AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L) AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L) AS F) (00950)
OCT											
03...	--	--	--	--	--	--	--	--	--	--	--
03...	34	5.2	--	--	110	0	90	18	8.2	4.0	--
03...	34	5.0	--	--	110	0	90	18	7.7	4.0	--
10...	26	1.8	1.2	.7	120	0	98	6.1	7.0	17	<.1
NOV											
07...	--	--	--	--	124	0	102	6.3	--	--	--
DEC											
06...	--	--	--	--	128	0	105	10	--	--	--
JAN											
10...	33	5.9	4.0	1.5	124	0	102	2.0	<1.0	5.4	.4
FEB											
14...	--	--	--	--	136	0	112	2.7	--	--	--
MAR											
07...	--	--	--	--	128	0	105	2.0	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	37	6.2	--	--	110	0	90	4.4	6.6	4.7	--
13...	33	6.0	--	--	110	0	90	3.5	6.6	4.6	--
APR											
04...	32	5.6	3.6	1.3	136	0	112	8.7	--	3.6	--
MAY											
16...	--	--	--	--	128	0	105	4.1	--	--	--
JUN											
07...	--	--	--	--	168	0	138	21	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	36	6.7	--	--	120	0	98	3.0	6.7	5.7	--
12...	36	6.7	--	--	120	0	98	3.8	11	5.8	--
JUL											
26...	32	7.1	3.0	1.5	136	0	112	5.5	<5.0	3.6	.1
AUG											
15...	--	--	--	--	140	0	115	4.5	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	34	7.2	--	--	120	0	98	12	4.9	4.4	--
23...	30	5.0	--	--	120	0	98	4.8	6.1	4.7	--
SEP											
11...	--	--	--	--	120	0	98	9.6	--	--	--

WHITE RIVER BASIN

07053700 LAKE TANEYCOMO AT BRANSON, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

[illegible]

WHITE RIVER BASIN

07057500 NORTH FORK RIVER NEAR TECUMSEH, MO

LOCATION.--Lat 36°37'22", long 92°14'53", in NE¼SE¼ sec.35, T.23 N., R.12 W., Ozark County, Hydrologic Unit 11010006, on right bank 3.2 mi (5.2 km) downstream from Spring Creek, and 3.5 mi (5.6 km) northeast of Tecumseh.

DRAINAGE AREA.--561 mi² (1,453 km²).

PERIOD OF RECORD.--October 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 584.67 ft (178.207 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to May 12, 1945, nonrecording gage at same site at datum 0.22 ft (0.067 m) lower.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--35 years, 718 ft³/s (20.33 m³/s), 17.38 in/yr (441 mm/yr), 520,200 acre-ft/yr (641 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,900 ft³/s (1,073 m³/s) Apr. 22, 1974, gage height, 22.15 ft (6.751 m); minimum, 187 ft³/s (5.30 m³/s) Sept. 14-18, 1954, gage height, 2.06 ft (0.628 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (142 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 23	0445	5040 143	6.51 1.984	May 21	0330	12600 357	10.92 3.328
Apr. 12	1215	*14800 419	*12.05 3.673	July 28	1630	8240 233	8.55 2.606

Minimum discharge, 307 ft³/s (8.69 m³/s) Nov. 9, 10-13, 14, gage height, 2.32 ft (0.707 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	333	326	631	876	501	1660	2210	968	886	534	1000	737
2	332	323	585	899	495	1590	2940	960	850	533	1080	1190
3	333	323	553	758	482	2220	2390	1920	825	522	838	1110
4	329	322	533	673	470	2830	2060	2670	796	509	736	865
5	327	322	533	622	458	2100	1800	2500	772	584	672	751
6	323	321	520	585	452	1700	1590	2060	757	705	628	705
7	321	318	598	558	452	1490	1450	1770	804	591	596	726
8	318	318	764	525	446	1300	1400	1560	1060	559	572	657
9	322	312	742	490	428	1170	1360	1390	914	637	552	621
10	335	307	657	479	422	1060	1290	1260	811	757	551	596
11	376	307	598	461	416	965	3070	1690	751	649	603	579
12	418	307	556	452	422	902	9840	2340	710	587	606	570
13	449	307	526	454	422	858	4060	1920	685	551	568	561
14	444	307	495	439	422	816	2880	1660	669	531	541	553
15	414	349	476	408	440	772	2320	1460	651	513	536	538
16	392	365	464	411	452	752	1970	1310	642	499	533	527
17	376	508	440	404	508	739	1740	1200	631	489	534	527
18	366	750	428	436	501	723	1580	1120	618	479	524	525
19	361	591	422	484	488	716	1450	1070	603	469	512	519
20	356	514	415	564	482	1270	1360	4120	601	461	503	526
21	353	476	407	720	495	2080	1270	6870	669	461	551	534
22	349	452	393	728	1050	1730	1200	2930	591	456	710	522
23	346	452	383	742	4100	2380	1190	2150	587	452	594	517
24	343	440	378	677	2730	2380	1200	1760	589	448	550	510
25	343	452	370	637	2180	1890	1220	1490	573	446	527	503
26	341	1080	361	644	1880	1580	1200	1320	551	446	523	506
27	335	1770	351	631	1640	1420	1150	1210	537	557	520	501
28	332	1100	349	598	1500	1360	1100	1120	531	3630	541	507
29	328	841	350	552	---	1400	1050	1030	532	1720	651	505
30	328	720	354	533	---	1990	1010	988	531	1020	609	500
31	328	---	506	527	---	2280	---	951	---	825	574	---
TOTAL	10951	15280	15138	17967	24734	46123	60350	56767	20727	21620	19035	18488
MEAN	353	509	488	580	883	1488	2012	1831	691	697	614	616
MAX	449	1770	764	899	4100	2830	9840	6870	1060	3630	1080	1190
MIN	318	307	349	404	416	716	1010	951	531	446	503	500
CFSM	.63	.91	.87	1.03	1.57	2.65	3.59	3.26	1.23	1.24	1.09	1.10
IN.	.73	1.01	1.00	1.19	1.64	3.06	4.00	3.76	1.37	1.43	1.26	1.23
AC-FT	21720	30310	30030	35640	49060	91480	119700	112600	41110	42880	37760	36670
CAL YR 1978 TOTAL	238595			MEAN 654	MAX 9500	MIN 307	CFSM 1.17	IN 15.82	AC-FT 473300			
WTR YR 1979 TOTAL	327180			MEAN 896	MAX 9840	MIN 307	CFSM 1.60	IN 21.70	AC-FT 649000			

WHITE RIVER BASIN

07057500 NORTH FORK RIVER NEAR TECUMSEH, MO.--continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT											
10...	1028	29001	328	378	7.9	14.0	9.2	88	<1	100	120
NOV											
07...	1028	29001	308	440	7.5	13.5	9.6	91	8	18	--
DEC											
06...	1028	29001	520	325	7.5	9.5	10.8	94	4	96	--
JAN											
10...	1028	29001	520	345	8.1	7.0	13.2	109	<1	18	170
FEB											
15...	1028	29001	428	369	7.8	10.0	11.2	99	16	--	--
MAR											
08...	1028	29001	1300	250	8.1	10.0	11.2	99	8	28	--
APR											
05...	1028	29001	1800	260	7.7	10.0	10.0	88	<5	52	130
MAY											
10...	1028	29001	1270	335	7.7	15.5	9.5	95	11	230	--
JUN											
07...	1028	29001	764	418	7.2	12.0	9.4	87	24	520	--
JUL											
26...	1028	29001	458	385	7.9	19.5	9.1	98	9	24	190
AUG											
16...	1028	29001	533	360	7.9	16.5	9.0	92	4	36	--
SEP											
11...	1028	29001	578	445	7.8	19.0	10.0	106	9	1	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)	ALKA- LINITY (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT											
10...	0	32	8.5	.9	.6	248	0	203	5.0	16	20
NOV											
07...	--	--	--	--	--	246	0	202	12	--	--
DEC											
06...	--	--	--	--	--	180	0	148	9.1	--	--
JAN											
10...	0	36	19	1.6	1.1	208	0	171	2.6	<.1	2.6
FEB											
15...	--	--	--	--	--	240	0	197	6.1	--	--
MAR											
08...	--	--	--	--	--	158	0	130	2.0	--	--
APR											
05...	0	27	15	2.3	1.1	168	0	138	5.4	--	1.8
MAY											
10...	--	--	--	--	--	182	0	149	5.8	--	--
JUN											
07...	--	--	--	--	--	200	0	164	20	--	--
JUL											
26...	0	39	22	1.6	1.3	248	0	203	5.0	<5.0	1.6
AUG											
16...	--	--	--	--	--	216	0	177	4.4	--	--
SEP											
11...	--	--	--	--	--	220	0	180	5.6	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

[illegible]

WHITE RIVER BASIN

07058000 BRYANT CREEK NEAR TECUMSEH, MO

LOCATION.--Lat 36°37'33", long 92°18'16", in E½ sec.32, T.23 N., R.12 W., Ozark County, Hydrologic Unit 11010006, on left bank 0.8 mi (1.3 km) downstream from Pine Creek, 3 mi (4.8 km) northwest of Tecumseh, and 5 mi (8.0 km) upstream from mouth.

DRAINAGE AREA.--570 mi² (1,476 km²).

PERIOD OF RECORD.--October 1944 to current year.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1441: 1945, 1946-47(M), 1950. WSP 1731: 1945-47, 1950.

GAGE.--Water-stage recorder. Datum of gage is 573.15 ft (174.696 m) National Geodetic Vertical Datum of 1929. (levels by Corps of Engineers). Prior to July 30, 1945, nonrecording gage at same site and datum.

REMARKS.--Records good except periods of no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--35 years, 523 ft³/s (14.81 m³/s), 12.46 in/yr (316 mm/yr), 378,900 acre-ft/yr (467 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,200 ft³/s (940 m³/s) Mar. 11, 1973, gage height, 21.93 ft (6.684 m); minimum, 96 ft³/s (2.72 m³/s) Sept. 16, 17, 1954; minimum gage height, 1.98 ft (0.604 m) Aug. 13, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,000 ft³/s (170 m³/s) and minimum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Feb. 23	Unknown	7200	204	11.40	3.475	July 28	1900	9910	281	12.87	3.923
Apr. 12	1015	*19400	549	*16.76	5.108	Sept. 1	1400	9180	260	12.51	3.813
May 21	0515	16800	476	15.75	4.801						

Minimum daily discharge, 149 ft³/s (4.22 m³/s) Nov. 12; minimum gage height, 2.57 ft (0.783 m) Oct. 7, 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	167	160	526	836	320	1100	1500	539	616	317	846	2980
2	163	160	459	670	309	1000	2500	525	576	322	615	1740
3	163	163	481	541	303	1800	1780	990	564	306	520	805
4	161	160	508	464	288	2200	1490	1490	531	299	460	590
5	157	163	428	420	276	1500	1260	1480	504	294	414	480
6	154	163	390	387	270	1300	1070	1260	494	294	383	418
7	151	159	584	362	271	1000	930	1080	549	299	357	400
8	150	155	654	331	265	800	871	940	680	291	339	355
9	153	150	559	301	247	700	838	827	598	352	324	326
10	161	152	486	292	240	600	763	740	518	320	317	306
11	188	151	432	279	238	600	2820	816	475	299	374	291
12	224	149	391	272	240	560	13900	896	442	288	365	279
13	234	153	362	274	242	540	3560	791	419	280	324	272
14	257	156	333	267	247	500	2250	717	409	273	307	264
15	239	179	320	242	255	490	1710	663	393	266	307	249
16	219	203	308	250	283	444	1400	612	377	265	464	242
17	201	844	289	244	324	420	1210	559	371	346	333	234
18	189	759	275	260	329	405	1080	520	360	331	302	234
19	186	479	270	308	318	403	983	493	348	283	286	227
20	181	362	271	423	311	1090	915	3230	363	266	276	227
21	174	304	261	537	337	1340	839	10000	750	257	290	234
22	174	279	248	517	1000	1100	766	2390	388	250	276	223
23	174	272	241	489	4000	1690	755	1730	363	245	264	212
24	174	265	237	507	2500	1600	793	1360	358	242	257	205
25	174	267	232	471	1500	1280	761	1150	345	241	249	198
26	172	1410	225	453	1100	1060	732	1000	329	244	246	195
27	170	2170	217	445	1000	949	715	907	318	514	264	188
28	167	1080	212	416	900	880	663	828	316	5500	268	188
29	164	776	216	378	---	915	619	753	321	1590	295	181
30	161	627	221	360	---	1310	581	701	312	741	276	177
31	160	---	449	345	---	1380	---	668	---	661	264	---
TOTAL	5562	12470	11085	12341	17913	30956	50054	40655	13387	16476	10862	12920
MEAN	179	416	358	398	640	999	1668	1311	446	531	350	431
MAX	257	2170	654	836	4000	2200	13900	10000	750	5500	846	2980
MIN	150	149	212	242	238	403	581	493	312	241	246	177
CFSM	.31	.73	.63	.70	1.12	1.75	2.93	2.30	.78	.93	.61	.76
IN.	.36	.81	.72	.81	1.17	2.02	3.27	2.65	.87	1.08	.71	.84
AC-FT	11030	24730	21990	24480	35530	61400	99280	80640	26550	32680	21540	25630

CAL YR 1978	TOTAL	156809	MEAN	430	MAX	9400	MIN	146	CFSM	.75	IN	10.23	AC-FT	311000
WTR YR 1979	TOTAL	234681	MEAN	643	MAX	13900	MIN	149	CFSM	1.13	IN	15.32	AC-FT	465500

WHITE RIVER BASIN

07061300 EAST FORK BLACK RIVER AT LESTERVILLE, MO

LOCATION.--Lat 37°27'03", long 90°49'38", in NE¼SE¼ sec.16, T.32 N., R.2 E., Reynolds County, Hydrologic Unit 11010007, at bridge on State Highway 21 at Lesterville, and 0.8 mi (1.3 km) upstream from Black River.

DRAINAGE AREA.--94.5 mi² (244.8 km²).

PERIOD OF RECORD.--January 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 655.34 ft (199.748 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except periods of no gage-height record which are poor. Several observations of water temperature were made during the year. Low flow regulated by Union Electric Company Taum Sauk pumped-storage power plant lower reservoir, 4 mi (6.4 km) upstream, since Feb. 19, 1963, capacity 6,350 acre-ft (7.83 hm³).

AVERAGE DISCHARGE.--19 years, 106 ft³/s (3.002 m³/s), 76,800 acre-ft/yr (94.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,400 ft³/s (295 m³/s) Nov. 2, 1972, gage height, 11.13 ft (3.392 m); no flow Oct. 15 to Nov. 21, 1963, July 17-21, July 31 to Aug. 20, 1964, Nov. 13, 14, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1935 reached a stage of about 13.8 ft (4.21 m) from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,420 ft³/s (238 m³/s) Apr. 11, gage height, 10.19 ft (3.106 m); minimum discharge, 0.48 ft³/s (0.014 m³/s) Oct. 9, 10, minimum gage height, 1.37 ft (0.418 m) Nov. 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.83	1.0	82	60	17	954	370	145	43	5.2	1910	7.8
2	.69	.92	24	145	16	484	530	130	33	8.1	315	4.6
3	.71	.95	44	355	13	1550	213	2510	32	6.8	159	3.2
4	.63	.89	98	65	9.1	2210	330	1600	27	6.1	144	2.7
5	.62	.89	42	51	12	416	60	733	24	5.7	169	2.4
6	.59	.89	21	40	98	319	196	372	21	4.8	99	2.1
7	.60	1.0	55	30	117	92	189	249	35	4.0	20	2.0
8	.56	.96	311	30	12	220	142	189	37	4.0	24	1.9
9	.56	.86	29	20	9.5	161	33	152	21	4.1	40	1.1
10	.62	.79	100	50	11	35	34	127	17	4.4	29	4.6
11	.89	3.4	63	16	17	131	1660	156	12	4.5	22	3.1
12	.95	13	62	19	37	69	3910	181	9.4	5.7	21	2.7
13	1.6	21	105	20	41	61	2380	163	7.7	5.6	45	2.4
14	1.4	23	53	20	21	64	781	136	8.0	5.4	56	2.1
15	1.5	16	47	20	8.7	62	36	115	9.0	5.3	7.8	1.9
16	1.5	26	46	20	15	88	435	97	7.3	5.4	5.1	1.8
17	1.3	46	46	20	129	9.8	325	84	4.5	5.2	4.3	1.8
18	1.2	46	45	20	127	20	73	73	3.9	5.0	3.8	1.9
19	1.3	41	45	20	144	196	124	65	3.6	4.9	3.1	1.9
20	1.2	33	45	20	172	725	118	1420	3.7	4.8	4.7	1.9
21	.99	12	45	30	107	926	107	922	3.5	4.4	4.1	2.7
22	.93	8.1	45	50	1110	377	148	332	3.4	4.1	6.3	2.4
23	1.1	7.0	45	223	2380	1780	170	208	3.2	4.1	6.1	2.2
24	1.1	9.0	45	370	867	1200	2250	151	2.9	4.3	6.6	2.1
25	.98	26	44	210	336	134	1350	117	2.6	4.7	6.9	2.1
26	1.2	343	44	177	218	276	1580	97	4.1	4.7	32	2.2
27	1.2	629	44	43	180	219	694	83	6.2	7.9	24	2.2
28	1.1	52	43	60	300	196	346	70	5.9	26	5.3	2.2
29	1.0	163	38	99	---	260	230	60	5.5	11	9.3	2.2
30	1.1	50	39	117	---	1190	178	53	5.2	252	8.7	2.2
31	1.1	---	53	34	---	863	---	54	---	211	6.3	---
TOTAL	31.05	1576.65	1848	2454	6524.3	15287.8	18992	10844	401.6	639.2	3197.4	86.3
MEAN	1.00	52.6	59.6	79.2	233	493	633	350	13.4	20.6	103	2.88
MAX	1.6	629	311	370	2380	2210	3910	2510	43	252	1910	11
MIN	.56	.79	21	16	8.7	9.8	33	53	2.6	4.0	3.1	1.8
CFSM	.01	.56	.63	.84	2.47	5.22	6.70	3.70	.14	.22	1.09	.03
AC-FT	62	3130	3670	4870	12940	30320	37670	21510	797	1270	6340	171
CAL YR 1978	TOTAL	25170.91	MEAN	69.0	MAX	2380	MIN	.56	CFSM	.73	AC-FT	49930
WTR YR 1979	TOTAL	61882.30	MEAN	170	MAX	3910	MIN	.56	CFSM	1.80	AC-FT	122700

WHITE RIVER BASIN

07061500 BLACK RIVER NEAR ANNAPOLIS, MO

LOCATION.--Lat 37°20'10", long 90°47'19", in SW¼NW¼ sec.25, T.31 N., R.2 E.; Reynolds County, Hydrologic Unit 11010007, on right bank 0.4 mi (0.6 km) downstream from Mayberry Branch, 7 mi (11.2 km) southwest of Annapolis, 11 mi (17.7 km) downstream from East Fork, and at mile 278.5 (448.1 km).

DRAINAGE AREA.--484 mi² (1,254 km²).

PERIOD OF RECORD.--April 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 569.72 ft (173.651 m) National Geodetic Vertical Datum of 1929. (levels by Corps of Engineers). Prior to Aug. 21, 1942, at site 415 ft (126 m) upstream at same datum.

REMARKS.--Records good except periods of no gage-height record which are fair. Several observations of water temperature were made during the year. Small regulation from upstream reservoir since Feb., 1963.

AVERAGE DISCHARGE.--40 years, 566 ft³/s (16.03 m³/s), 15.88 in/yr (403 mm/yr), 401,100 acre-ft/yr (506 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,700 ft³/s (1,410 m³/s) Nov. 2, 1972, gage height, 21.55 ft (6.568 m); minimum discharge, 65 ft³/s (1.84 m³/s) Aug. 16, 17, 18, 1965; minimum gage height, 0.80 ft (0.244 m) Sept. 17, 19, 20, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,000 ft³/s (198 m³/s) and maximum(*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Feb. 23	1815	7460	211	8.46	2.579	May 4	0015	10600	300	10.14	3.091
Apr. 12	0515	*40000	1130	*19.31	5.886	May 20	1715	13800	391	11.54	3.527

Minimum discharge, 99 ft³/s (2.80 m³/s) Oct. 6, 7, 8, 9; minimum gage height, 0.80 ft (0.244 m) Sept. 17, 19, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	101	130	518	580	300	1960	1000	1110	467	162	3510	163
2	102	130	396	555	300	1730	1000	969	420	231	2450	162
3	103	132	378	822	300	3410	800	8780	397	249	1200	157
4	103	134	397	474	300	5050	600	6880	369	222	865	153
5	101	135	359	396	300	2590	500	4220	339	202	807	148
6	101	134	301	336	300	1710	400	2600	320	189	528	145
7	99	137	328	322	400	1200	300	1870	332	181	451	143
8	100	134	756	312	400	1110	300	1510	387	178	352	139
9	100	134	587	289	300	915	300	1250	357	175	322	137
10	104	134	490	304	300	697	300	1060	314	175	301	140
11	115	137	487	276	300	658	4100	1060	289	173	306	136
12	123	141	376	229	260	567	25400	1110	265	167	285	132
13	143	149	401	223	240	490	6360	1010	247	162	254	132
14	162	162	373	227	219	493	3280	897	238	157	282	130
15	166	185	316	227	195	406	1730	797	229	152	223	128
16	155	257	299	225	205	452	1610	705	221	149	207	125
17	145	353	287	226	305	333	1530	631	212	144	194	123
18	139	400	276	233	378	313	1050	570	204	139	187	125
19	137	365	264	258	368	330	962	520	198	134	179	124
20	132	309	264	310	446	2000	868	6930	197	132	173	123
21	129	269	257	436	359	4000	790	6140	189	129	170	137
22	127	234	252	476	1240	3000	855	2640	186	127	169	141
23	129	222	246	559	6160	4000	856	1760	181	125	169	138
24	129	210	245	811	4130	4920	4030	1360	186	125	167	136
25	129	212	239	581	1980	2400	4740	1100	183	134	162	135
26	132	439	234	608	1450	1710	4940	917	178	228	166	132
27	130	1750	229	406	1150	1470	4060	792	170	276	185	129
28	129	1010	226	390	1140	1190	2280	691	167	2140	174	130
29	129	817	222	400	---	1000	1660	607	170	1420	165	128
30	131	578	222	400	---	2000	1340	551	165	900	163	125
31	132	---	326	400	---	1500	---	522	---	772	168	---
TOTAL	3857	9533	10551	12291	23725	53604	77941	61559	7777	9849	14934	4096
MEAN	124	318	340	396	847	1729	2598	1986	259	318	482	137
MAX	166	1750	756	822	6160	5050	25400	8780	467	2140	3510	163
MIN	99	130	222	223	195	313	300	520	165	125	162	123
CFSM	.26	.66	.70	.82	1.75	3.57	5.37	4.10	.54	.66	1.00	.28
IN.	.30	.73	.81	.94	1.82	4.12	5.99	4.73	.60	.76	1.15	.31
AC-FT	7650	18910	20930	24380	47060	106300	154600	122100	15430	19540	29620	8120

CAL YR 1978	TOTAL	138490	MEAN	379	MAX	6980	MIN	97	CFSM	.78	IN	10.64	AC-FT	274700
WTR YR 1979	TOTAL	289717	MEAN	794	MAX	25400	MIN	99	CFSM	1.64	IN	22.27	AC-FT	574700

WHITE RIVER BASIN

07062000 CLEARWATER LAKE NEAR PIEDMONT, MO

LOCATION.--Lat 37°08'00", long 90°46'31", NW¼ sec.6, T.28 N., R.3 E., Wayne County, Hydrologic Unit 11010007, in intake tower at dam on Black River, 2.3 mi (3.70 km) upstream from Brewer Bay, 4.5 mi (7.24 km) west of Piedmont, and at mile 257.4 (414.16 km).

DRAINAGE AREA.--898 mi² (2,326 km²).

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

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Lake is formed by earth-fill dam. Storage began June 3, 1948; conservation pool level reached July 4, 1948. Capacity at crest of spillway 413,700 acre-ft (510 hm³) at elevation 567 ft (172.8 m), of which 391,800 acre-ft (483 hm³) is available for flood-control storage, and 21,920 acre-ft (27.0 hm³) is permanent storage which under normal operating conditions will be maintained for purposes of conservation and recreation at elevation 494 ft (150.6 m). Lake used for flood control and incidental recreational purposes.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 399,400 acre-ft (492 hm³) May 28, 1957, elevation, 565.59 ft (172.392 m); minimum, since initial filling to conservation pool level, 15,800 acre-ft (19.5 hm³) Jan. 20, 23, 1972, elevation, 490.00 ft (149.352 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 265,000 acre-ft (327 hm³) May 7, elevation, 550.48 ft (167.786 m); minimum, 21,800 acre-ft (26.8 hm³) Oct. 12, Jan. 6; minimum elevation, 493.90 ft (150.541 m) Jan. 6.

Capacity table (elevation, in feet NGVD, and contents, in acre-ft)

493	20,300	520	91,600
498	28,900	530	137,000
504	41,500	540	193,000
510	57,300	551	269,000

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23300	22000	22600	25900	21900	51400	98900	207000	204000	111000	62400	40300
2	23100	22000	22100	26700	22000	51500	107000	203000	199000	109000	67200	38900
3	23000	22000	22200	26100	22000	60800	110000	228000	195000	106000	68500	37700
4	22900	22000	22300	24200	22000	75300	110000	250000	190000	105000	68900	36300
5	22700	22000	22200	22200	21900	83700	109000	260000	184000	103000	69000	35000
6	22600	22100	22100	21800	22000	88200	107000	264000	179000	102000	68700	33700
7	22400	22100	22100	22500	22100	91400	105000	265000	174000	99500	68100	32400
8	22300	22000	22400	22600	22100	93700	102000	264000	171000	97200	67400	31000
9	22100	22000	22800	22400	21900	94800	101000	261000	167000	94900	66500	29600
10	22100	22000	22400	22000	22000	95100	99400	258000	164000	92700	65500	28300
11	22200	22000	22100	22000	22000	95100	108000	256000	161000	90500	64800	27500
12	21800	22000	21900	22200	22000	94700	174000	254000	157000	88200	63900	27000
13	21900	22000	22000	22300	21900	90800	189000	251000	154000	85800	62800	26600
14	22000	22100	22000	22300	22000	86900	195000	248000	152000	83700	61800	26100
15	22000	22400	22000	22300	22100	82100	196000	244000	149000	81300	60800	26000
16	22100	22600	21900	22200	22000	77300	195000	241000	147000	79000	59700	25200
17	22000	22900	21900	22100	22000	72000	193000	238000	145000	73700	58500	25100
18	22000	22800	22000	22100	22300	66800	190000	233000	142000	71700	57200	24900
19	22000	22600	22000	22200	22100	61600	187000	229000	140000	69400	56100	24800
20	22000	22400	22000	22200	22100	56800	182000	232000	138000	67100	55000	24500
21	22000	22200	21900	22300	22200	55600	178000	243000	135000	64900	53800	24200
22	22000	22100	21900	22400	22300	55800	174000	244000	133000	62700	52500	23800
23	22100	22100	22000	22500	32400	62800	171000	243000	130000	60400	51300	23500
24	22000	22100	22100	22500	43300	73900	182000	240000	128000	58400	50100	23300
25	22000	22200	22000	22500	48400	79200	194000	237000	125000	56100	48800	22900
26	22000	22800	22000	22200	52000	80300	203000	234000	123000	54500	47600	22800
27	22000	24700	22000	22100	53300	79400	209000	229000	120000	53400	46600	22800
28	22000	25500	22000	22100	52000	76800	210000	225000	118000	55400	45300	22800
29	22000	25200	22000	22000	---	74300	210000	220000	115000	57000	44000	22800
30	22000	23900	22200	22000	---	80900	209000	214000	113000	57000	42900	22600
31	22000	---	23900	22000	---	92100	---	209000	---	58200	41700	---
(†)	494.02	495.23	495.20	494.07	508.12	520.12	542.58	542.53	525.06	510.32	504.08	494.41
(‡)	-15.0	+19.0	0.0	-19.0	+300.0	+401.0	+1169.0	0.0	-960.0	-548.0	-165.0	-191.0
MAX	23300	25500	23900	26700	53300	95100	210000	265000	204000	111000	69000	40300
MIN	21800	22000	21900	21800	21900	51400	98900	203000	113000	534000	41700	22600

CAL YR 1978.....‡ +17.0

WTR YR 1979.....‡ -9.0

(†) Elevation, in feet NGVD, at end of month.

(‡) Change in contents, in hundreds of acre-feet.

WHITE RIVER BASIN

07062500 BLACK RIVER AT LEEPER, MO

LOCATION.--Lat 37°04'42", long 90°42'52", in SE¼SW¼ sec.22, T.28 N., R.3 E., Wayne County, Hydrologic Unit 11010007, on downstream side of pier at right end of left truss of bridge on State Highway 34, 0.5 mi (0.8 km) northwest of Leeper, 2 mi (3.2 km) downstream from McKenzie Creek, 6 mi (9.7 km) downstream from Clearwater Dam, and at mile 251.0 (403.9 km).

DRAINAGE AREA.--957 mi² (2,480 km²).

PERIOD OF RECORD.--June 1921 to current year.

REVISED RECORDS.--WSP 762: 1933(M). WSP 1007: 1943. WSP 1281: 1922-23, 1927-29(M).

GAGE.--Water-stage recorder. Datum of gage is 428.51 ft (130.610 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 22, 1937, nonrecording gage, Oct. 22, 1937, to Jan. 21, 1942, water-stage recorder, and Jan. 22 to Apr. 6, 1942, nonrecording gage, all at site 1,900 ft (579 m) downstream at datum 3.85 ft (1.173 m) lower.

REMARKS.--Records good. Flow regulated by Clearwater Lake since June 3, 1948. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--58 years, 953 ft³/s (26.99 m³/s), 690,400 acre-ft/yr (851 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 78,400 ft³/s (2,220 m³/s) May 14, 1933, gage height, 20.01 ft (6.099 m), site and datum then in use, from rating curve extended above 55,000 ft³/s (1,560 m³/s); minimum, 62 ft³/s (1.76 m³/s) Sept. 22-25, 1966, gage height, 0.42 ft (1.128 m), result of closure of Clearwater Dam; minimum, prior to regulation, 133 ft³/s (3.77 m³/s) Aug. 11, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1904 reached a stage of about 22.3 ft (6.80 m), present site and datum, from floodmarks, discharge, 125,000 ft³/s (3,540 m³/s), from rating curve extended above 55,000 ft³/s (1,560 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,810 ft³/s (193 m³/s) May 3, gage height, 7.67 ft (2.338 m); minimum discharge, 231 ft³/s (6.54 m³/s) Nov. 10-13, 14, 15; minimum gage height, 1.26 ft (0.384 m) Oct. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	297	237	1540	1070	530	2860	824	3330	3360	1640	1380	1080
2	297	237	1080	793	529	2790	777	3490	3220	1650	1250	1080
3	301	235	674	1270	522	3030	974	3470	3200	1600	1210	1070
4	300	234	548	2240	514	1320	2860	1350	3210	1380	1180	1060
5	299	237	591	2180	493	572	2870	932	3250	1350	1180	1050
6	297	234	590	1330	486	519	2900	1860	3240	1460	1180	1040
7	292	236	578	1000	437	571	3160	2510	3010	1610	1160	1060
8	290	247	585	800	336	527	3200	3400	2530	1600	1150	1050
9	290	243	620	583	336	847	1910	3520	2420	1600	1160	1030
10	291	231	896	550	333	1110	2700	3500	2400	1590	1140	1020
11	259	231	940	543	327	1120	3160	2860	2460	1580	1140	917
12	236	231	737	550	317	1410	1720	3010	2350	1570	1140	578
13	245	231	613	528	309	3280	846	3300	1740	1570	1140	534
14	267	233	551	500	309	3450	1190	3390	1710	1570	1120	519
15	270	248	565	500	400	3430	2480	3280	1710	1560	1130	514
16	270	237	528	500	400	3420	2700	2490	1720	1560	1130	510
17	282	298	453	499	400	3400	3050	3280	1710	1540	1120	401
18	280	486	431	475	400	3400	3470	3370	1730	1530	1120	372
19	266	571	427	460	400	3380	3560	3380	1740	1520	1110	364
20	261	573	429	462	428	3380	3560	3150	1740	1510	1110	410
21	245	568	486	505	404	3180	3570	2720	1730	1500	1090	481
22	244	481	447	512	695	2910	3580	3040	1720	1500	1080	476
23	248	373	375	584	1210	1980	3020	3340	1720	1490	1080	458
24	261	333	381	706	625	792	2170	3340	1700	1490	1080	436
25	261	328	408	738	712	650	1020	3330	1700	1490	1080	436
26	246	393	410	806	550	1790	1270	3340	1680	1480	1070	418
27	243	375	398	735	921	3120	2420	3340	1670	1500	1080	316
28	254	780	376	610	2880	3430	2660	3380	1670	1550	1090	298
29	254	1040	368	601	---	3160	2640	3500	1670	1280	1080	294
30	251	1550	358	576	---	2560	2770	3490	1660	1280	1060	328
31	245	---	1200	545	---	1010	---	3470	---	1210	1060	---
TOTAL	8342	11931	18583	23751	16203	68398	73031	95162	65370	46760	35100	19600
MEAN	269	398	599	766	579	2206	2434	3070	2179	1508	1132	653
MAX	301	1550	1540	2240	2880	3450	3580	3520	3360	1650	1380	1080
MIN	236	231	358	460	309	519	777	932	1660	1210	1060	294
CFSM	.28	.42	.63	.80	.61	2.31	2.54	3.21	2.28	1.58	1.18	.68
AC-FT	16550	23670	36860	47110	32140	135700	144900	188800	129700	92750	69620	38880
CAL YR 1978 TOTAL	228772			627	MAX 3720	MIN 231	CFSM .66	AC-FT 453800				
WTR YR 1979 TOTAL	482231			1321	MAX 3580	MIN 231	CFSM 1.38	AC-FT 956500				

WHITE RIVER BASIN

07063000 BLACK RIVER AT POPLAR BLUFF, MO

LOCATION.--Lat 36°45'34", long 90°23'17", in SW¼NW¼ sec.2, T.24 N., R.6 E., Butler County, Hydrologic Unit 11010007, on right bank at City Light and Water Plant in Poplar Bluff, 1,500 ft (457 m) upstream from bridge on U.S. Highway 60, 4.8 mi (7.7 km) downstream from Indian Creek, and at mile 211.2 (339.8 km).

DRAINAGE AREA.--1,245 mi² (3,225 km²).

PERIOD OF RECORD.--October 1936 to September 1937, October 1939 to current year. Gage-height records collected at site 1,800 ft (549 m) downstream September 1923 to July 1935, and since July 1935 at site 1,500 ft (457 m) downstream are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 317.38 ft (96.737 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1940, nonrecording gage at site 1,500 ft (457 m) downstream are at datum 2.00 ft (0.610) higher; Oct. 1, 1940, to June 7, 1955, at site 1,500 ft (457 m) downstream at present datum.

REMARKS.--Records good. Flow regulated by Clearwater Lake. Several observations of water temperatures made during the year.

AVERAGE DISCHARGE.--41 years, 1,283 ft³/s (36.33 m³/s), 929,500 acre-ft/yr (1,150 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,600 ft³/s (1,490 m³/s) May 12, 1943, from rating curve extended above 44,000 ft³/s (1,246 m³/s); maximum gage height, 20.80 ft (6.340 m) June 10, 1945, from graph based on gage readings; minimum discharge, 180 ft³/s (5.10 m³/s) Sept. 25, 26, 1966, gage height, 0.65 ft (0.198 m), closure of Clearwater Dam for repairs; minimum prior to regulation, 236 ft³/s (6.68 m³/s) Aug. 12, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1904 reached a maximum discharge of 100,000 ft³/s (2,830 m³/s) and flood on Mar. 12, 1935 reached a stage of 21.1 ft (6.43 m), present datum (affected by levees constructed since 1904).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,840 ft³/s (250 m³/s) May 4, gage height, 17.69 ft (5.392 m); minimum, 402 ft³/s (11.4 m³/s) Nov. 2, 3-14, 15, gage height, 1.09 ft (0.332 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	424	405	1580	4790	1040	3630	6580	3220	3950	1850	1580	1220
2	419	405	1550	3360	1010	3860	5120	3630	3840	1930	1740	1230
3	418	402	1750	1750	899	5590	3470	5180	3690	1890	1550	1220
4	417	402	1580	1950	862	8010	2680	8180	3630	1800	1480	1220
5	415	402	1080	2390	877	6470	3530	7060	3620	1660	1430	1210
6	413	402	987	2240	842	3550	3600	4310	3640	1570	1400	1200
7	413	402	1110	1480	759	2040	3540	3390	3930	1670	1380	1200
8	413	402	1710	1020	725	1590	3710	3330	3640	1800	1360	1200
9	413	402	1340	1010	823	1440	3820	3880	3020	1810	1350	1190
10	413	402	1160	1150	834	1560	3030	4070	2790	1820	1340	1180
11	438	402	1260	1000	676	1670	3670	4110	2720	1790	1330	1170
12	410	402	1240	967	662	1650	7190	3990	2740	1780	1330	1070
13	408	402	1110	850	723	1940	6900	4030	2610	1770	1310	851
14	405	402	1010	861	717	3120	4050	4190	2120	1770	1300	790
15	405	471	956	854	690	3520	2800	4170	1980	1760	1300	759
16	405	455	941	844	906	3590	3150	4020	1960	1760	1300	745
17	405	767	894	872	861	3610	3300	3340	1960	1740	1290	734
18	405	587	825	883	797	3620	3530	3600	1950	1730	1280	663
19	408	672	796	1000	748	3630	3860	3860	1950	1720	1270	617
20	405	716	798	1310	924	3660	3990	4040	1960	1710	1260	603
21	405	726	807	1480	1080	3820	3990	4080	1990	1700	1260	688
22	405	729	814	1340	1570	3680	4000	3550	1950	1690	1250	701
23	405	697	773	1310	4410	4690	4150	3660	1940	1730	1240	688
24	405	585	729	1900	4240	5570	6650	3870	1930	1700	1240	676
25	405	550	722	1690	4970	3440	7640	3870	1910	1690	1250	651
26	405	1560	729	1570	4530	2060	4760	3840	1900	1770	1240	643
27	405	2540	719	1570	2730	2650	3160	3840	1880	1700	1230	632
28	405	1200	701	1350	2400	3830	3230	3820	1870	1860	1240	561
29	405	1140	682	1200	---	4010	3270	3840	1870	1760	1250	531
30	405	1280	737	1160	---	6000	3190	3940	1860	1570	1240	522
31	405	---	1540	1090	---	8300	---	3960	---	1490	1230	---
TOTAL	12707	20309	32630	46241	42305	115800	125560	127870	76800	53990	41250	26365
MEAN	410	677	1053	1492	1511	3735	4185	4125	2560	1742	1331	879
MAX	438	2540	1750	4790	4970	8300	7640	8180	3950	1930	1740	1230
MIN	405	402	682	844	662	1440	2680	3220	1860	1490	1230	522
CFSM	.33	.54	.85	1.20	1.21	3.00	3.36	3.31	2.06	1.40	1.07	.71
AC-FT	25200	40280	64720	91720	83910	229700	249000	253600	152300	107100	81820	52290
CAL YR 1978 TOTAL	351976			964	4580	402		.77		698100		
WTR YR 1979 TOTAL	721827			1978	8300	402		1.59		1432000		

WHITE RIVER BASIN

07065000 ROUND SPRING AT ROUND SPRING, MO

LOCATION.--Lat 37°16'57", long 91°24'27", in SW¼NW¼ sec.20, T.30 N., R.4 W., Shannon County, Hydrologic Unit 11010008, inside spring basin at Round Spring, 1,500 ft (457 m) upstream from Current River on State Highway 19 in Ozark National Scenic Riverways, and 10 mi (16.9 km) northwest of Eminence.

PERIOD OF RECORD.--October 1928 to September 1939, August 1965 to December 1979 (discontinued). Occasional discharge measurements in 1923-35, 1948, 1954, 1956, 1964-65.

GAGE.--Nonrecording gage. Datum of gage is 665.06 ft (202.710 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--25 years (1928-39, 1965-79), 46.9 ft³/s (1.328 m³/s), 33,980 acre-ft/yr (41.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 520 ft³/s (14.7 m³/s) May 14, 1933, during period of backwater from Current River; maximum gage height, 15.4 ft (4.69 m) from floodmark, Apr. 17, 1939, backwater from Current River; minimum discharge observed, 10 ft³/s (0.28 m³/s) Dec. 10-12, 1937.

EXTREMES FOR CURRENT PERIOD.--Maximum daily discharge estimated, 400 ft³/s (11.3 m³/s) Apr. 12 (backwater from Current River); minimum daily discharge, 19 ft³/s (0.54 m³/s) Oct. 15-22, 31, Nov. 1-13, 1978, Feb. 11, 12; minimum gage height, 1.27 ft (0.387 m) Nov. 13, 1978.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	19	71	21	25	109	98	100	55	39	200	44
2	20	19	71	21	25	200	115	100	56	41	186	44
3	20	19	71	23	25	200	130	350	56	39	152	41
4	20	19	71	23	24	180	110	350	52	39	121	41
5	20	19	66	24	24	150	90	300	50	38	109	40
6	20	19	56	24	23	120	80	280	46	38	87	38
7	20	19	54	24	23	100	76	260	51	38	87	38
8	20	19	49	24	21	98	98	240	47	35	71	36
9	20	19	44	23	21	71	104	220	45	36	71	36
10	20	19	42	23	20	56	71	200	49	35	66	36
11	20	19	41	22	19	52	100	186	45	35	61	36
12	20	19	41	22	19	39	400	186	44	33	56	36
13	20	19	39	22	20	38	350	172	44	33	56	35
14	20	21	39	22	25	37	300	158	39	32	55	36
15	19	21	36	22	24	36	250	145	35	33	54	36
16	19	21	35	22	25	35	200	139	35	35	52	36
17	19	21	32	23	25	33	180	133	36	35	52	36
18	19	23	31	23	24	30	160	104	38	36	51	34
19	19	23	26	23	23	40	140	98	38	36	48	34
20	19	21	24	23	21	70	120	120	38	38	48	33
21	19	21	21	23	25	100	115	139	39	39	51	35
22	19	21	21	23	121	200	87	127	36	39	51	36
23	20	21	20	24	300	200	87	115	36	39	47	35
24	20	21	20	25	250	200	104	98	38	41	47	34
25	20	25	20	25	150	200	150	98	36	50	45	33
26	20	87	21	26	98	180	200	98	36	158	47	34
27	20	98	21	26	71	150	150	87	35	250	46	33
28	20	92	21	26	66	120	130	76	39	350	50	33
29	20	87	21	26	---	100	121	66	38	300	48	33
30	20	76	21	26	---	98	104	61	38	200	46	33
31	19	---	20	26	---	98	---	61	---	186	42	---
TOTAL	616	947	1166	730	1537	3340	4420	4867	1270	2376	2203	1085
MEAN	19.9	31.6	37.6	23.5	54.9	108	147	157	42.3	76.6	71.1	36.2
MAX	25	98	71	26	300	200	400	350	56	350	200	44
MIN	19	19	20	21	19	30	71	61	35	32	42	33
AC-FT	1220	1880	2310	1450	3050	6620	8770	9650	2520	4710	4370	2150
CAL YR 1978	TOTAL	15172	MEAN 41.6	MAX 400	MIN 19	AC-FT 30090						
WTR YR 1979	TOTAL	24557	MEAN 67.3	MAX 400	MIN 19	AC-FT 48710						

WHITE RIVER BASIN

07065000 ROUND SPRING AT ROUND SPRING, MO--continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	24	21									
2	30	24	21									
3	31	24	21									
4	32	24	21									
5	33	24	21									
6	35	24	23									
7	34	26	23									
8	33	26	21									
9	33	31	21									
10	31	31	21									
11	31	30	21									
12	32	28	21									
13	32	28	21									
14	30	28	21									
15	30	30	25									
16	30	31	24									
17	31	28	24									
18	31	31	24									
19	35	33	23									
20	35	33	23									
21	31	28	23									
22	31	26	23									
23	31	24	76									
24	29	22	82									
25	29	22	66									
26	28	22	52									
27	28	26	44									
28	25	24	37									
29	25	23	28									
30	25	22	30									
31	25	---	30									
TOTAL	946	797	932									
MEAN	30.5	26.6	30.1									
MAX	35	33	82									
MIN	25	22	21									
AC-FT	1880	1580	1850									
CAL YR 1979	TOTAL	24503	MEAN 67.1	MAX 400	MIN 19	AC-FT	48600					

WHITE RIVER BASIN

07065500 ALLEY SPRING AT ALLEY, MO

LOCATION.--Lat 37°09'14", long 91°26'29", in NW¼SE¼ sec.25, T.29 N., R.5 W., Shannon County, Hydrologic Unit 11010008, in Ozark National Scenic Riverways, 200 ft (61 m) below spring outlet, 0.6 mi (1.0 km) upstream from Jacks Fork, and 5 mi (8.0 km) west of Eminence.

PERIOD OF RECORD.--October 1928 to September 1939, October 1965 to December 1979 (discontinued). Occasional discharge measurements 1922, 1925, 1939-41, 1954-55, 1964-65.

GAGE.--Nonrecording gage. Datum of gage is 663.01 ft (202.085 m) National Geodetic Vertical Datum of 1929. Prior to June 26, 1929, at site 230 ft (70 m) downstream and June 26, 1929, to Sept. 30, 1939, at site 200 ft (61 m) downstream; datum of gages 1.72 ft (0.524 m) higher prior to December 1964.

REMARKS.--Records poor. Occasional runoff from drainage area of 15.8 mi² (40.9 km²) included in records.

AVERAGE DISCHARGE.--25 years (1928-39, 1965-79), 135 ft³/s (3.823 m³/s), 97,810 acre-ft/yr (121 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,750 ft³/s (77.9 m³/s) Apr. 22, 1974, gage height, 7.67 ft (2.338 m) from floodmark; minimum, 54 ft³/s (1.53 m³/s) Oct. 15-18, 1934.

EXTREMES FOR CURRENT PERIOD.--Maximum discharge, 2,260 ft³/s (64.0 m³/s) Apr. 11, gage height, 7.00 ft (2.134 m) from graph; minimum discharge, 69 ft³/s (1.95 m³/s) Nov. 1-6, 1978; minimum gage height, 1.38 ft (0.421 m) Jan. 12, 15, 17-19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	69	88	143	94	252	315	210	162	122	375	120
2	80	69	80	130	90	270	360	300	162	122	360	120
3	80	69	80	120	90	285	332	590	157	122	315	122
4	80	69	80	110	93	365	302	577	157	122	270	118
5	80	69	81	101	90	350	270	472	155	174	245	118
6	82	69	81	100	91	322	235	437	153	155	237	116
7	80	70	82	90	90	272	215	402	150	141	230	116
8	86	71	90	91	90	200	208	360	150	136	210	112
9	90	71	90	88	90	180	201	337	150	155	198	112
10	80	70	90	90	90	162	365	317	143	145	177	112
11	80	71	93	90	90	160	725	305	134	132	174	112
12	82	70	93	86	88	169	602	302	129	127	169	110
13	80	71	90	90	90	160	465	295	127	122	162	110
14	78	71	90	90	90	150	427	290	122	122	155	110
15	80	71	90	86	92	143	385	272	116	122	155	110
16	80	70	90	90	90	140	367	252	114	122	157	110
17	80	70	90	86	90	130	332	247	112	118	136	110
18	74	70	84	86	90	129	315	222	116	118	136	109
19	70	70	86	86	100	172	260	213	114	114	134	109
20	74	71	90	90	100	335	237	220	122	114	132	109
21	74	70	86	90	100	387	230	260	114	114	127	109
22	70	70	86	138	200	357	217	267	118	114	129	109
23	73	70	90	130	322	380	198	250	118	110	132	109
24	70	71	90	125	340	390	267	222	122	110	125	109
25	70	70	90	100	307	370	322	203	122	132	125	107
26	71	109	90	105	270	320	367	198	122	969	122	107
27	70	130	90	100	267	290	365	193	122	447	125	107
28	71	112	90	101	230	260	332	184	122	640	125	107
29	70	100	90	101	---	270	270	177	122	470	122	107
30	71	91	90	100	---	280	230	169	122	440	122	107
31	71	---	100	100	---	302	---	162	---	405	122	---
TOTAL	2385	2294	2730	3133	3864	7952	9716	8905	3949	6556	5503	3343
MEAN	76.9	76.5	88.1	101	138	257	324	287	132	211	178	111
MAX	90	130	100	143	340	390	725	590	162	969	375	122
MIN	70	69	80	86	88	129	198	162	112	110	122	107
AC-FT	4730	4550	5410	6210	7660	15770	19270	17660	7830	13000	10920	6630

CAL YR 1978 TOTAL 47454 MEAN 130 MAX 565 MIN 69 AC-FT 94120
WTR YR 1979 TOTAL 60330 MEAN 165 MAX 969 MIN 69 AC-FT 119700

WHITE RIVER BASIN

07065500 ALLEY SPRING AT ALLEY, MO--continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	94	103	---	---							
2	105	94	103	---	---							
3	105	94	103	---	---							
4	105	94	100	---	---							
5	105	94	100	---	---							
6	105	94	94	---	---							
7	103	94	97	---	---							
8	103	100	97	---	---							
9	103	193	94	---	---							
10	103	155	94	---	---							
11	103	141	94	---	---							
12	103	132	92	---	---							
13	101	132	92	---	---							
14	101	122	92	---	---							
15	101	118	92	---	---							
16	101	118	92	---	---							
17	101	114	92	---	---							
18	101	110	92	---	---							
19	101	110	92	---	---							
20	100	110	92	---	---							
21	100	107	92	---	---							
22	100	107	107	---	---							
23	100	103	230	91	---							
24	97	103	247	---	---							
25	97	110	232	---	---							
26	94	107	222	---	---							
27	97	107	198	---	---							
28	97	103	184	---	165							
29	97	103	155	---	---							
30	97	103	114	---	---							
31	94	---	114	---	---							
TOTAL	3125	3366	3802	---	---							
MEAN	101	112	123	---	---							
MAX	105	193	247	---	---							
MIN	94	94	92	---	---							
AC-FT	6200	6680	7540	---	---							
CAL YR 1979	TOTAL	63214	MEAN	173	MAX	969	MIN	86	AC-FT	125400		

WHITE RIVER BASIN

07066000 JACKS FORK AT EMINENCE, MO

LOCATION.--Lat 37°09'18", Long 91°21'31", in SW¼NW¼ sec.26, T.29 N., R.4 W., Shannon County, Hydrologic Unit 11010008, on left bank 50 ft (15 m) upstream from bridge on State Highway 19, at Eminence, 1.5 mi (2.4 km) downstream from Mahans Creek, and 8.0 mi (12.9 km) upstream from mouth.

DRAINAGE AREA.--398 mi² (1,031 km²).

PERIOD OF RECORD.--October 1921 to current year. Monthly discharge only for October 1921, published in WSP 1311.

REVISED RECORDS.--WSP 787: 1928(M), 1934. WSP 877: 1938. WSP 927: Drainage area. WSP 1281: 1929.

GAGE.--Water-stage recorder. Datum of gage is 617.87 ft (188.327 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 27, 1934, nonrecording gage at site 1,350 ft (411 m) upstream at datum 2.11 ft (0.643 m) higher. Jan. 27, 1934, to Jan. 10, 1935, nonrecording gage at site 75 ft (22.239 m) downstream at datum 0.04 ft (0.012 m) lower. Jan. 11, 1935, to July 9, 1964, nonrecording gage at site 50 ft (15 m) downstream at present datum.

REMARKS.--Records good except periods of no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--58 years, 444 ft³/s (12.57 m³/s), 15.15 in/yr (385 mm/yr), 321,700 acre-ft/yr (397 hm³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 40,000 ft³/s (1,130 m³/s) June 13, 1928, gage height, about 17.2 ft (5.24 m), present site and datum, from rating curve extended above 21,000 ft³/s (595 m³/s); minimum, 0.64 ft³/s (0.018 m³/s) Aug. 28, 1936; minimum gage height, 0.64 ft (0.195 m) Sept. 18, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in 1895 and March 1904 reached a stage of about 25 ft (7.6 m) present site and datum, from information by local residents

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,900 ft³/s (110 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Mar. 4	0530	4780	135	6.25	1.905	May 21	0530	5100	144	5.46	1.969
Apr. 12	0345	*18400	521	*12.13	3.697	July 28	Unknown	8100	229	8.06	2.457
May 4	1830	8470	240	8.24	2.512	Aug. 1	Unknown	6890	195	7.45	2.271

Minimum discharge, 120 ft³/s (3.40 m³/s) Oct. 29, 30, 31, Nov. 1, 2, 3, 4; minimum gage height, 0.83 ft (0.253 m) Oct. 5, 6, 7, 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	123	323	533	220	1260	1550	967	589	317	3000	256
2	130	122	280	624	211	1270	2460	987	560	328	2000	279
3	132	122	261	441	206	1560	1770	4280	543	327	1340	404
4	130	122	247	360	200	2500	1460	4100	526	329	1060	320
5	128	124	247	315	191	1740	1280	2860	493	1500	879	275
6	127	124	236	284	186	1250	1100	2240	488	863	753	256
7	127	124	257	261	185	1030	980	1780	488	582	667	246
8	125	126	472	240	185	853	940	1540	1120	479	603	230
9	126	124	544	210	172	727	838	1280	864	598	550	219
10	134	126	416	220	175	651	838	1200	642	739	520	217
11	146	126	339	213	173	579	4270	1450	543	595	505	215
12	159	126	295	204	173	537	9500	1990	483	485	482	211
13	169	126	265	205	171	497	3080	1540	445	431	451	208
14	163	123	247	197	176	462	2200	1450	412	404	428	209
15	160	137	236	174	184	431	1770	1200	402	374	411	198
16	150	142	226	194	200	404	1490	1130	380	358	395	193
17	144	192	213	185	253	386	1340	1130	366	343	379	194
18	137	331	204	191	249	376	1190	992	348	337	364	195
19	134	265	195	218	235	377	1100	928	340	332	350	189
20	133	216	192	305	222	1250	1010	1450	322	330	336	185
21	129	189	189	527	226	2750	914	3000	327	323	323	194
22	131	176	184	526	326	1790	845	1720	319	323	317	192
23	131	171	178	441	2470	1920	845	1360	323	319	318	185
24	128	163	173	406	1980	2120	1200	1130	319	309	313	182
25	129	163	171	376	1360	1520	1490	992	317	300	295	183
26	128	269	168	343	1120	1190	1840	928	298	2000	285	186
27	127	1150	163	326	981	1030	1820	802	297	1000	277	183
28	125	832	163	300	932	963	1430	740	306	6760	278	181
29	125	516	163	271	---	1040	1220	678	311	3000	275	183
30	122	378	166	245	---	1630	1080	618	315	2000	273	179
31	122	---	269	236	---	1770	---	612	---	1000	257	---
TOTAL	4183	7028	7682	9571	13362	35863	52850	47074	13486	27385	18684	6547
MEAN	135	234	248	309	477	1157	1762	1519	450	883	603	218
MAX	169	1150	544	624	2470	2750	9500	4280	1120	6760	3000	404
MIN	122	122	163	174	171	376	838	612	297	300	257	179
CFSM	.34	.59	.62	.78	1.20	2.91	4.43	3.82	1.13	2.22	1.52	.55
IN.	.39	.66	.72	.89	1.25	3.35	4.94	4.40	1.26	2.56	1.75	.61
AC-FT	8300	13940	15240	18980	26500	71130	104800	93370	26750	54320	37060	12990

CAL YR 1978	TOTAL	139391	MEAN	382	MAX	9630	MIN	122	CFSM	.96	IN	13.03	AC-FT	276500
WTR YR 1979	TOTAL	243715	MEAN	668	MAX	9500	MIN	122	CFSM	1.68	IN	22.78	AC-FT	483400

07067000 CURRENT RIVER AT VAN BUREN, MO

LOCATION.--Lat 36°59'29", long 91°00'53", in NE¼NW¼ sec.25, T.27 N., R.1 W., Carter County, Hydrologic Unit 11010008, near right bank on downstream side of pier of bridge on U.S. Highway 60 in Van Buren, 0.4 mi (0.6 km) downstream from Pike Creek, 4.7 mi (7.6 km) upstream from Big Spring, and at mile 90.4 (145.5 km).

DRAINAGE AREA.--1,667 mi² (4,318 km²).

PERIOD OF RECORD.--October 1912 to current year. Prior to July 1921 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 877: 1938. WSP 897: 1939. WSP 927: Drainage area. WSP 1281: 1929.

GAGE.--Water-stage recorder. Datum of gage is 442.78 ft (134.959 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 1, 1926, nonrecording gage at site 100 ft (30 m) downstream at different datum. Sept. 1, 1926, to Oct. 19, 1934, nonrecording gage and Oct. 20, 1934, to Sept. 30, 1939, water-stage recorder, at present site at datum 3.00 ft (0.914 m) higher, set to read same as gage 100 ft (30 m) downstream.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--67 years, 1,865 ft³/s (52.82 m³/s), 15.20 in/yr (386 mm/yr), 1,351,000 acre-ft/yr (1,670 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 125,000 ft³/s (3,540 m³/s) Aug. 21, 1915, gage height, 25.9 ft (7.89 m), present datum, from rating curve extended above 62,000 ft³/s (1,760 m³/s); minimum discharge, 473 ft³/s (13.4 m³/s) Oct. 7, 8, 1956; minimum gage height, 1.55 ft (0.472 m) Sept. 16, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1904, reached a stage of 29.0 ft (8.84 m), present datum, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 14,000 ft³/s (396 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Apr. 12	2245	*56700 1610	*19.92 6.072
May 4	1215	34200 969	15.89 4.843
July 29	0745	14600 413	10.57 3.222

Minimum discharge, 626 ft³/s (17.7 m³/s) Nov. 13, 14; minimum gage height, 1.82 ft (0.555 m) Oct. 6, 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	707	657	1350	2200	1070	3590	5650	3900	2570	1360	4240	1110
2	697	652	1230	1920	1020	3860	6600	3620	2440	1530	5180	1120
3	695	652	1160	1710	1000	5830	6070	13500	2400	1460	3960	1170
4	695	652	1110	1470	979	7720	5090	28800	2300	1410	3270	1230
5	692	652	1070	1340	942	6440	4440	13400	2230	1640	2840	1110
6	676	647	1050	1260	910	4710	3920	8710	2150	2450	2510	1050
7	668	647	1120	1180	903	3930	3550	6880	2160	1850	2290	1010
8	670	647	1450	1100	895	3450	3400	6460	2480	1650	2120	964
9	675	642	1700	1040	871	3080	3510	5690	2820	1660	1990	940
10	687	634	1540	967	842	2780	3300	5130	2440	1820	1880	928
11	754	636	1380	934	837	2530	7520	5140	2200	1830	1820	918
12	762	636	1260	908	832	2340	38700	5440	2030	1660	1770	910
13	803	626	1170	900	832	2210	28700	5310	1910	1550	1700	901
14	823	641	1100	898	834	2080	8750	4840	1830	1460	1620	889
15	787	704	1050	877	862	1960	6590	4430	1760	1420	1550	870
16	748	784	1010	857	898	1870	5550	4090	1690	1400	1510	861
17	724	927	971	848	1040	1800	4900	3860	1640	1380	1460	851
18	701	1120	934	856	1170	1770	4430	3690	1600	1330	1410	858
19	695	1210	908	931	1130	1760	4070	3500	1570	1290	1380	854
20	687	1010	906	1120	1080	2790	3780	3840	1560	1270	1360	850
21	686	893	898	1440	1100	5970	3550	6690	1550	1250	1330	900
22	681	833	870	1690	1500	5590	3350	6040	1500	1260	1290	895
23	680	817	844	1640	4710	6020	3360	4840	1480	1240	1270	861
24	684	790	834	1580	6880	7810	4840	4230	1500	1270	1270	842
25	676	766	818	1510	5170	5920	5480	3790	1470	1280	1230	833
26	680	1200	797	1460	4140	4690	5790	3510	1430	3980	1180	824
27	678	2200	775	1420	3600	4110	7560	3300	1400	4020	1140	815
28	669	2490	760	1350	3360	3720	5780	3120	1390	9220	1150	814
29	659	1880	756	1270	---	3970	4860	2930	1410	10700	1200	812
30	657	1540	773	1190	---	6390	4320	2790	1380	4760	1160	810
31	657	---	1780	1130	---	6250	---	2720	---	3720	1130	---
TOTAL	21753	28185	33374	38996	49407	126940	207410	184190	56290	74120	59210	27800
MEAN	702	940	1077	1258	1765	4095	6914	5942	1876	2391	1910	927
MAX	823	2490	1780	2200	6880	7810	38700	28800	2820	10700	5180	1230
MIN	657	626	756	848	832	1760	3300	2720	1380	1240	1130	810
CFSM	.42	.56	.65	.76	1.06	2.46	4.15	3.56	1.13	1.43	1.15	.56
IN.	.49	.63	.74	.87	1.10	2.83	4.63	4.11	1.26	1.65	1.32	.62
AC-FT	43150	55900	66200	77350	98000	251800	411400	365300	111700	147000	117400	55140

CAL YR 1978	TOTAL	558614	MEAN	1530	MAX	18700	MIN	626	CFSM	.92	IN	12.47	AC-FT	1108000
WTR YR 1979	TOTAL	907675	MEAN	2487	MAX	38700	MIN	626	CFSM	1.49	IN	20.26	AC-FT	1800000

LOCATION.--Lat 36°57'05", long 90°59'36", in SW¼NE¼ sec.6, T.26 N., R.1 E., Carter County, Hydrologic Unit 11010008, on right bank 400 ft (122 m) downstream from spring outlet, 0.4 mi (0.6 km) upstream from Current River, and 3.5 mi (5.6 km) southeast of Van Buren.

REVISED RECORDS.--WSP 1311: 1922-23, 1928(M), 1929.

REMARKS.--Records good except those for periods of backwater from Current River, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,300 ft³/s (36.8 m³/s), estimated, sometime in June 1928, during period of backwater from Current River; minimum, 236 ft³/s (6.68 m³/s) Oct. 6, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 930 ft³/s (26.3 m³/s) April 12, during period of backwater from Current River; minimum daily discharge, 307 ft³/s (8.69 m³/s) Nov. 3-5, 12.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	329	310	438	735	382	600	840	790	604	509	690	426
2	329	310	419	672	376	620	880	800	601	509	650	426
3	326	307	407	594	376	760	860	810	583	509	620	435
4	326	307	401	573	370	780	860	830	580	509	604	422
5	323	307	388	552	364	760	840	840	576	562	569	413
6	323	310	382	536	364	750	840	830	566	562	546	407
7	323	312	401	519	358	740	820	830	576	566	532	410
8	323	310	413	503	358	720	820	820	569	549	509	404
9	323	310	401	477	352	700	800	810	562	549	503	404
10	326	310	394	464	352	680	800	800	562	542	499	404
11	326	310	385	451	347	670	870	800	549	536	499	407
12	326	307	379	438	347	664	930	800	549	529	489	407
13	323	310	376	432	347	641	920	790	549	529	483	407
14	323	312	370	413	347	623	900	790	542	523	480	401
15	323	312	370	401	347	612	880	780	542	523	474	404
16	323	312	364	388	347	604	880	780	542	509	464	404
17	323	341	355	388	352	583	880	770	536	509	464	404
18	323	329	352	388	352	576	860	760	529	502	461	407
19	323	323	355	388	352	569	860	760	529	502	461	407
20	318	321	352	438	352	580	850	820	529	499	451	407
21	318	318	350	426	347	700	820	830	542	509	451	410
22	318	318	347	445	516	720	800	810	542	516	448	404
23	315	318	347	438	560	760	800	780	542	529	448	404
24	315	315	341	438	580	800	880	760	529	529	445	407
25	312	312	335	438	630	780	840	730	523	529	445	407
26	312	509	332	426	620	780	830	700	509	486	442	401
27	312	619	332	426	600	780	820	687	509	516	454	401
28	312	583	329	413	600	755	820	664	509	540	458	404
29	310	519	329	401	---	780	800	641	509	560	445	404
30	310	480	329	394	---	860	800	641	509	580	442	404
31	310	---	583	388	---	840	---	619	---	620	442	---
TOTAL	9926	10561	11656	14383	11595	21787	25400	23872	16398	16441	15368	12252
MEAN	320	352	376	464	414	703	847	770	547	530	496	408
MAX	329	619	583	735	630	860	930	840	604	620	690	435
MIN	310	307	329	388	347	569	800	619	509	486	442	401
AC-FT	19690	20950	23120	28530	23000	43210	50380	47350	32530	32610	30480	24300
CAL YR 1978	TOTAL	153068	MEAN	419	MAX	1000	MIN	307	AC-FT	30360		

WHITE RIVER BASIN

07068000 CURRENT RIVER AT DONIPHAN, MO

LOCATION.--Lat 36°37'19", long 90°50'51", in NW¼NW¼ sec.27, T.23 N., R.2 E., Ripley County, Hydrologic Unit 11010008, on right bank 0.5 mi (0.8 km) upstream from U.S. Highway 160, 1 mi (1.6 km) west of Doniphan, 2.5 mi (4.0 km) upstream from Brian Creek, and at mile 51.3 (82.5 km).

DRAINAGE AREA.--2,038 mi² (5,278 km²).

PERIOD OF RECORD.--October 1918 to current year. Prior to July 1921 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 877: 1937-38(M). WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 321.21 ft (97.905 m), National Geodetic Vertical Datum of 1929. July 3, 1936, to Sept. 30, 1971, datum is 1.00 ft (0.305 m) higher. Prior to July 3, 1936, nonrecording gages at several sites 0.5 mi (0.8 km) downstream at various datums.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--61 years, 2,712 ft³/s (76.80 m³/s), 18.07 in/yr (459 mm/yr), 1,965,000 acre-ft/yr (2.42 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 94,400 ft³/s (2,670 m³/s) Mar. 12, 1935, gage height, 23.0 ft (7.01 m), present site and datum, from rating curve extended above 60,000 ft³/s (1,700 m³/s); minimum, 852 ft³/s (24.1 m³/s) Oct. 8-19, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1904 reached a stage of 25.9 ft (7.89 m), from floodmarks, present site and datum, discharge, 130,000 ft³/s (3,680 m³/s) from rating curve extended above 60,000 ft³/s (1,700 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 14,000 ft³/s (396 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Mar. 4	0500	14,100	399	9.03	2.752
Apr. 13	1715	*41,500	1180	*17.00	5.182
May 5	0645	27,200	770	13.86	4.225

Minimum discharge, 1120 ft³/s (31.7 m³/s) Nov. 10, 11, 12, 13, 14; minimum gage height, 1.23 ft (0.375 m) Oct. 7, 8, 9, Nov. 10, 11, 12, 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	1200	1150	2260	5440	1910	5520	9600	5790	3890	2510	4470	1930	
2	1200	1140	2080	3850	1840	5780	9490	5400	3750	2580	5580	1900	
3	1190	1140	2130	3390	1790	9690	8830	7640	3650	2600	5100	1900	
4	1190	1140	1990	2980	1760	12500	7820	17100	3550	2550	4200	1960	
5	1190	1140	1920	2740	1710	9620	6920	23900	3450	2870	3700	1930	
6	1170	1150	1860	2560	1680	7460	6200	12700	3370	3160	3360	1850	
7	1170	1150	1980	2430	1650	6230	5630	9920	3440	3160	3120	1810	
8	1150	1140	2260	2290	1620	5460	5310	8630	3390	2840	2960	1760	
9	1160	1130	2410	2170	1590	4910	5340	7720	3680	2710	2800	1710	
10	1170	1120	2410	2070	1550	4480	5180	7040	3630	2780	2710	1680	
11	1300	1120	2250	2000	1530	4150	6650	6850	3370	2840	2650	1660	
12	1270	1120	2100	1940	1520	3880	16200	7230	3190	2780	2580	1640	
13	1300	1120	1990	1900	1520	3680	34400	7290	3090	2640	2540	1610	
14	1310	1150	1920	1870	1530	3490	20400	6780	3000	2540	2460	1590	
15	1310	1250	1860	1800	1560	3330	9590	6270	2930	2460	2400	1570	
16	1260	1290	1800	1740	1600	3200	8120	5850	2880	2420	2370	1570	
17	1230	1570	1770	1710	1660	3090	7250	5500	2830	2380	2340	1550	
18	1200	1550	1720	1700	1800	3040	6590	5260	2790	2330	2300	1550	
19	1190	1690	1690	1760	1830	3010	6090	5050	2750	2300	2260	1530	
20	1180	1630	1690	1950	1820	3220	5700	6060	2740	2260	2240	1530	
21	1180	1510	1660	2290	1840	5670	5390	7090	2920	2250	2240	1610	
22	1180	1450	1630	2490	2000	7310	5170	8390	2730	2230	2230	1570	
23	1170	1420	1610	2600	4500	8220	5240	6900	2680	2230	2180	1540	
24	1170	1380	1600	2620	7710	8950	7540	6020	2660	2230	2180	1510	
25	1170	1370	1570	2500	9340	8710	7950	5450	2640	2260	2140	1500	
26	1170	2370	1540	2410	6950	6980	7580	5050	2590	2390	2080	1490	
27	1170	3040	1530	2340	5730	6100	8530	4780	2550	2510	2040	1480	
28	1160	3360	1500	2260	5230	5550	8240	4550	2530	2510	2070	1470	
29	1150	3010	1490	2160	---	5450	7050	4340	2510	10400	2020	1470	
30	1150	2540	1540	2050	---	9780	6320	4160	2510	7580	2030	1470	
31	1150	---	3120	1970	---	11100	---	4030	---	4750	1970	---	
TOTAL	37160	46340	58880	73980	76770	189560	260320	228740	91690	99730	85320	49340	
MEAN	1199	1545	1899	2386	2742	6115	8677	7379	3056	3217	2752	1645	
MAX	1310	3360	3120	5440	9340	12500	34400	23900	3890	10400	5580	1960	
MIN	1150	1120	1490	1700	1520	3010	5170	4030	2510	2230	1970	1470	
CFSM	.59	.76	.93	1.17	1.35	3.00	4.26	3.62	1.50	1.58	1.35	.81	
IN.	.68	.85	1.07	1.35	1.40	3.46	4.75	4.18	1.67	1.82	1.56	.90	
AC-FT	73710	91920	116800	146700	152300	376000	516300	453700	181900	197800	169200	97870	
CAL YR 1978 TOTAL	800420	MEAN	2193	MAX	18300	MIN	1120	CFSM	1.08	IN	14.61	AC-FT	1588000
WTR YR 1979 TOTAL	1297830	MEAN	3556	MAX	34400	MIN	1120	CFSM	1.75	IN	23.69	AC-FT	2574000

WHITE RIVER BASIN

07068863 FOURCHE RIVER NEAR POYNOR, MO

LOCATION.--Lat 36°30'43", long 90°56'52", in N $\frac{1}{2}$ SE $\frac{1}{4}$ sec.34, T.22 N., R.1 E., Ripley County, Hydrologic Unit 11010009, on right bank, 0.5 mi (0.8 km) downstream from West Fork Fourche Creek, and 2 mi (3.2 km) south-west of Poynor.

DRAINAGE AREA.--87.2 mi² (225.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 340 ft (104 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except for periods of no gage-height record which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,400 ft³/s (719 m³/s) Mar. 27, 1977, gage height, 15.91 ft (4.849 m); minimum discharge, 4.2 ft³/s (0.119 m³/s) October 28, 29, 1976; minimum gage height, 0.97 ft (0.296 m) Sept. 15, 16-18, 19, 1979.

EXTREMES FOR CURRENT PERIOD.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Nov. 26	1600	7720	219	9.85	3.002	Apr. 1	0915	7580	215	9.78	2.981
Dec. 3	1000	3200	90.6	6.77	2.063	Apr. 11	2100	*17700	501	*13.74	4.188
Jan. 2	Unknown	5840	165	8.73	2.661	Apr. 23	2300	6120	173	8.91	2.716
Feb. 23	0315	4680	133	7.95	2.423	May 20	1515	3680	104	7.21	2.198
Mar. 30	1045	9620	272	10.81	3.295						

Minimum discharge, 7.3 ft³/s (0.21 m³/s) Sept. 15, 16-18, 19, gage height, 0.97 ft (0.296 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	10	86	300	60	600	2890	147	77	24	30	15
2	12	10	75	2000	60	540	1280	137	72	24	22	15
3	12	10	907	500	60	800	655	564	70	24	22	14
4	9.5	10	321	400	60	700	540	930	65	24	21	14
5	8.5	11	173	200	60	500	354	540	60	170	18	12
6	8.1	10	123	150	60	480	279	330	58	57	14	12
7	8.1	9.5	258	100	60	342	231	252	244	42	13	10
8	8.1	9.5	357	70	60	246	334	198	79	37	12	10
9	8.1	9.5	200	70	60	202	397	169	65	38	12	10
10	8.5	9.5	145	60	60	175	276	149	56	57	12	9.0
11	12	9.5	121	60	60	151	3670	666	51	50	12	8.5
12	12	9.5	109	60	56	150	1460	808	47	35	12	8.1
13	12	9.5	102	50	68	140	930	387	43	29	12	8.1
14	12	18	96	50	66	130	520	270	40	41	12	7.7
15	12	34	90	50	76	120	339	200	37	42	10	7.7
16	10	31	84	50	109	110	273	179	35	26	10	7.3
17	9.5	268	76	50	96	100	231	159	31	24	10	7.3
18	9.5	68	73	50	89	100	202	137	29	22	10	7.3
19	9.5	44	70	50	80	90	181	123	29	22	10	7.7
20	9.5	34	68	50	77	90	169	985	31	20	10	9.0
21	9.5	27	63	50	100	100	157	608	31	20	12	21
22	9.5	25	60	50	482	150	153	345	29	19	12	14
23	9.5	29	56	50	2100	200	1130	300	29	21	12	12
24	9.0	30	55	50	1020	250	1740	202	30	24	12	10
25	9.5	29	52	60	1960	220	608	163	29	24	11	10
26	10	2620	50	80	785	210	378	139	27	36	11	10
27	10	630	47	70	496	200	261	123	26	39	10	9.5
28	9.5	243	46	60	488	200	208	107	26	124	12	9.5
29	9.5	141	46	60	---	727	179	98	26	61	13	9.0
30	9.5	104	57	60	---	3540	159	93	25	48	14	9.0
31	9.5	---	100	60	---	1110	---	96	---	36	17	---
TOTAL	307.9	4502.5	4166	5020	8808	12673	20184	9604	1497	1260	420	313.7
MEAN	9.93	150	134	162	315	409	673	310	49.9	40.6	13.5	10.5
MAX	12	2620	907	2000	2100	3540	3670	985	244	170	30	21
MIN	8.1	9.5	46	50	56	90	153	93	25	19	10	7.3
CFSM	.11	1.72	1.54	1.86	3.61	4.69	7.72	3.56	.57	.47	.16	.12
IN.	.13	1.92	1.78	2.14	3.76	5.41	8.61	4.10	.64	.54	.18	.13
AC-FT	611	8930	8260	9960	17470	25140	40030	19050	2970	2500	833	622

CAL YR 1978	TOTAL	35320.8	MEAN	96.8	MAX	2620	MIN	7.7	CFSM	1.11	IN	15.07	AC-FT	70060
WTR YR 1979	TOTAL	68756.1	MEAN	188	MAX	3670	MIN	7.3	CFSM	2.16	IN	29.33	AC-FT	136400

WHITE RIVER BASIN

07068863 FOURCHE RIVER NEAR POYNOR, MO.--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: January 1976 to current year.

INSTRUMENTATION.--Temperature recorder since January 1976.

REMARKS.--Temperature recorder inoperative Dec. 31 to Feb. 12.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 33.0°C July 15, 1977; minimum, 0.5°C Jan. 29, 1977, Feb. 25, 1979.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 31.5°C July 15, 16; minimum, 0.5°C Feb. 25.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX.	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	19.5	16.0	15.5	13.0	10.0	9.0			---	---	6.0	5.0
2	19.5	15.5	15.5	13.0	11.0	10.0			---	---	9.0	6.0
3	18.5	16.5	15.0	13.0	13.0	10.5			---	---	9.5	8.5
4	18.5	14.5	15.5	13.0	11.0	8.0			---	---	9.5	7.0
5	18.0	15.5	16.0	13.5	9.0	6.5			---	---	9.5	6.0
6	16.5	14.0	15.0	13.5	9.0	8.5			---	---	10.0	6.0
7	16.0	13.5	14.0	12.0	8.5	8.5			---	---	9.5	8.0
8	16.0	13.0	13.5	10.5	8.5	5.5			---	---	9.5	6.0
9	15.0	14.0	13.5	10.0	5.5	5.0			---	---	9.5	8.0
10	14.5	14.0	13.5	10.0	5.5	4.5			---	---	9.5	8.0
11	17.0	14.0	14.5	11.5	6.0	4.5			---	---	9.5	6.0
12	19.5	15.5	14.0	13.0	6.5	5.0			---	---	11.5	7.0
13	19.0	15.0	15.5	13.0	6.5	5.5			4.5	3.5	13.5	10.5
14	15.0	13.5	15.0	13.0	6.5	5.0			4.5	4.0	13.5	10.5
15	15.0	12.0	13.0	11.5	6.0	5.0			6.5	4.5	11.5	9.0
16	14.5	13.0	11.5	11.0	8.5	6.0			6.0	3.5	11.5	8.5
17	14.5	12.0	12.0	11.0	8.0	5.5			3.5	2.0	13.0	10.5
18	15.0	11.5	12.0	10.5	7.0	6.0			4.5	2.0	13.5	11.5
19	15.0	13.0	10.5	9.5	10.0	7.0			5.0	2.0	15.0	13.5
20	15.5	13.0	10.5	10.0	12.0	10.0			4.5	3.5	14.5	13.0
21	16.5	13.5	11.0	10.0	11.0	8.5			8.5	3.5	14.0	11.5
22	16.5	14.0	10.5	10.5	8.0	6.0			8.5	7.0	13.5	12.0
23	16.0	14.5	11.5	10.5	7.0	6.0			9.5	7.0	13.5	11.0
24	15.0	13.0	12.0	11.0	7.0	6.0			9.0	5.0	11.0	9.5
25	14.5	13.5	11.5	11.0	6.0	5.0			5.0	.5	11.5	7.0
26	15.0	14.5	11.5	10.0	6.5	5.5			5.5	3.0	10.5	8.5
27	14.5	12.0	10.5	10.0	5.5	4.5			6.5	3.5	10.5	9.5
28	14.5	11.5	10.0	9.0	5.0	4.5			6.0	5.0	13.0	10.5
29	14.5	11.5	10.0	9.0	6.5	5.0			---	---	13.0	13.0
30	14.5	11.5	10.0	9.0	7.0	6.5			---	---	13.5	13.0
31	16.0	13.5	---	---	---	---			---	---	13.5	13.0
MONTH	19.5	11.5	16.0	9.0	13.0	4.5			9.5	.5	15.0	5.0

WHITE RIVER BASIN

07068863 FOURCHE RIVER NEAR POYNOR, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.0	11.0	18.5	15.0	23.0	21.0	25.0	23.0	29.5	27.0	26.0	24.5
2	13.5	11.5	18.0	16.0	21.5	19.5	26.5	23.0	29.0	25.5	27.0	23.5
3	14.0	10.5	16.5	16.0	22.0	19.0	29.0	24.5	28.0	25.0	29.0	24.0
4	13.0	11.5	16.0	14.0	23.5	19.5	30.0	25.5	29.5	25.0	29.0	24.5
5	14.0	10.0	17.0	13.5	25.0	21.0	27.0	24.0	30.0	25.5	27.0	24.0
6	13.5	11.5	15.5	14.5	23.5	23.0	24.5	23.0	31.0	25.5	28.0	23.5
7	14.5	11.0	20.0	14.5	25.0	22.0	24.5	22.0	31.0	26.0	26.5	23.5
8	14.5	13.5	22.0	18.5	27.0	23.5	26.0	23.0	31.0	26.0	24.5	21.0
9	13.5	11.5	23.0	19.5	28.5	24.5	26.5	24.0	30.0	26.0	24.5	20.0
10	13.0	11.0	22.0	20.0	26.5	23.5	28.0	24.5	29.0	26.0	25.0	20.0
11	14.5	12.0	21.5	16.5	25.0	21.0	29.0	25.5	26.5	25.0	25.5	20.5
12	16.5	13.5	18.0	14.5	25.5	21.5	27.0	25.5	26.0	22.0	25.0	21.0
13	16.0	14.0	18.0	14.5	25.0	21.5	30.0	24.5	26.0	21.5	22.0	20.5
14	16.5	12.0	20.0	15.5	26.5	22.0	30.5	26.5	28.0	21.5	22.0	19.0
15	16.5	14.0	19.5	17.0	26.5	23.0	31.5	27.0	25.5	21.5	21.0	17.0
16	16.5	14.5	19.0	16.5	27.0	23.0	31.5	28.0	24.5	21.0	21.0	16.5
17	18.0	14.5	20.5	16.5	28.0	23.5	30.0	27.0	26.5	21.0	21.0	18.5
18	18.0	15.0	21.0	18.0	28.5	24.5	29.0	25.0	28.0	22.0	21.5	20.0
19	18.0	16.0	23.5	19.5	29.0	24.5	29.0	25.0	29.0	24.0	23.5	19.0
20	18.5	15.5	22.0	19.5	29.0	25.5	28.5	24.5	28.5	24.5	21.0	20.0
21	18.5	16.5	19.5	18.0	29.5	25.0	28.0	24.0	28.0	24.5	20.0	19.0
22	16.5	16.0	18.0	16.5	29.0	25.0	28.5	24.0	28.0	24.5	21.0	18.0
23	16.0	15.5	20.5	17.0	26.5	25.0	28.5	24.5	28.5	23.5	21.0	16.5
24	17.0	15.5	20.0	18.0	25.5	23.5	30.0	26.0	26.0	23.5	21.0	16.5
25	18.5	16.0	20.0	16.0	25.5	21.5	29.5	27.0	25.5	23.5	21.0	16.5
26	19.0	16.5	20.0	16.0	26.0	21.5	28.0	26.5	26.0	23.5	21.5	18.0
27	16.5	14.5	21.0	18.0	26.5	21.5	26.5	26.0	26.5	23.5	22.0	18.0
28	16.5	13.5	22.0	19.5	26.0	23.0	28.5	25.0	26.0	23.5	22.0	18.5
29	16.0	14.5	22.0	20.0	28.0	23.5	29.5	26.0	26.5	24.5	23.5	19.0
30	18.0	14.5	22.0	20.5	27.0	23.5	31.0	27.0	26.5	24.5	22.0	18.5
31	---	---	23.0	20.5	---	---	30.5	28.0	28.5	24.5	---	---
MONTH	19.0	10.0	23.5	13.5	29.5	19.0	31.5	22.0	31.0	21.0	29.0	16.5

WHITE RIVER BASIN

07071000 GREER SPRING AT GREER, MO

LOCATION.--Lat 36°47'11", long 91°20'53", in SE¼SW¼ sec.36, T.25 N., R.4 W., Oregon County, Hydrologic Unit 11010011, on right bank 300 ft (91 m) downstream from lower outlet of spring, 1 mi (1.6 km) north of Greer, and 1 mi (1.6 km) upstream from Eleven Point River.

PERIOD OF RECORD.--August to December 1904 (gage heights and discharge measurements only), October 1921 to current year. October to December 1921 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 564.00 ft (171.907 m) National Geodetic Vertical Datum of 1929. Aug. 10 to Dec. 31, 1904, nonrecording gage at site 250 ft (76 m) downstream at different datum. Nov. 17, 1921, to June 25, 1934, nonrecording gage at site 250 ft (76 m) downstream at datum 0.74 ft (0.226 m) lower than present datum.

REMARKS.--Records good. Occasional runoff from drainage area of 2.97 mi² (7.69 km²) included in records.

AVERAGE DISCHARGE.--58 years, 337 ft³/s (9.544 m³/s) 244,200 acre-ft/yr (301 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,510 ft³/s (42.8 m³/s) Nov. 17, 1958, includes about 900 ft³/s (25 m³/s) of surface runoff, gage height, 2.63 ft (0.802 m) from rating curve extended about 700 ft³/s (20 m³/s) maximum excluding surface runoff, 903 ft³/s (25.57 m³/s) May 26, 1927; minimum, 104 ft³/s (2.95 m³/s) Nov. 16-19, 1956, Jan. 18, 19, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 995 ft³/s (28.2 m³/s) Apr. 11, gage height, 2.00 ft (0.610 m); minimum, 181 ft³/s (5.13 m³/s) Nov. 12, 13, gage height, 0.48 ft (0.146 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	225	193	288	297	288	485	591	570	601	495	432	372
2	221	193	288	297	279	480	606	560	596	490	432	377
3	221	189	288	292	271	560	596	591	591	485	432	386
4	221	189	288	336	266	570	591	617	580	490	423	386
5	221	189	288	368	262	550	586	617	580	520	423	377
6	217	189	288	363	258	530	575	612	575	530	418	372
7	217	189	284	359	254	520	575	601	575	530	414	368
8	217	185	284	359	258	505	570	591	570	525	414	368
9	213	185	284	359	254	490	565	586	570	525	409	363
10	213	185	284	354	254	470	560	580	565	530	405	363
11	217	185	284	359	254	456	622	586	560	525	400	359
12	221	181	284	354	254	451	681	591	555	515	405	359
13	225	181	284	349	254	442	664	591	550	505	405	354
14	229	181	284	349	254	428	654	591	545	500	400	349
15	229	189	284	345	254	423	638	580	545	495	400	345
16	225	189	279	331	258	414	633	575	540	485	400	340
17	221	209	275	327	254	409	633	570	535	485	395	336
18	221	213	271	327	254	400	627	565	535	480	395	336
19	217	209	271	336	254	395	622	555	530	475	395	340
20	213	205	271	345	254	437	617	643	525	475	391	336
21	209	201	271	345	249	485	617	654	520	470	391	336
22	209	201	266	345	292	490	612	643	515	461	391	336
23	205	201	266	340	428	520	612	633	515	461	391	331
24	201	201	262	340	456	530	633	627	510	456	382	327
25	201	205	258	331	495	520	627	622	505	446	377	322
26	201	279	254	318	490	510	627	617	500	437	377	322
27	197	292	254	314	480	495	612	612	500	432	377	318
28	197	288	249	309	475	490	601	606	500	442	372	314
29	197	288	245	301	---	505	591	606	500	442	372	314
30	193	288	245	297	---	601	580	606	500	442	372	314
31	193	---	271	292	---	586	---	601	---	437	372	---
TOTAL	6607	6272	8492	10338	8553	15147	18318	18599	16288	14986	12362	10420
MEAN	213	209	274	333	305	489	611	600	543	483	399	347
MAX	229	292	288	368	495	601	681	654	601	530	432	386
MIN	193	181	245	292	249	395	560	555	500	432	372	314
AC-FT	13100	12440	16840	20510	16960	30040	36330	36890	32310	29720	24520	20670

CAL YR 1978 TOTAL 114823 MEAN 315 MAX 675 MIN 181 AC-FT 227800
WTR YR 1979 TOTAL 146382 MEAN 401 MAX 681 MIN 181 AC-FT 290300

WHITE RIVER BASIN

07071500 ELEVEN POINT RIVER NEAR BARDLEY, MO

LOCATION.--Lat 36°38'55", long 91°12'03", in NE¼SE¼ sec.17, T.23 N., R.2 W., Oregon County, Hydrologic Unit 11010011, on downstream side of right pier of main truss of bridge on U.S. Highway 160, 7 mi (11.3 km) southwest of Bardley, 7.5 mi (12.1 km) upstream from Fredericks Fork, and at mile 53.7 (86.4 km).

DRAINAGE AREA.--793 mi² (2,050 km²).

PERIOD OF RECORD.--October 1921 to current year. October 1921 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP-827: 1927-28, 1935. WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 410.84 ft (125.224 m) National Geodetic Vertical Datum of 1929. Prior to June 26, 1934, nonrecording gage at site 100 ft (30 m) upstream at datum 0.06 ft (0.018 m) higher. June 26, 1934, to Oct. 19, 1939, nonrecording gage, at present site and datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--58 years, 761 ft³/s (21.55 m³/s), 13.03 in/yr (331 mm/yr), 551,300 acre-ft/yr (680 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft³/s (1,133 m³/s) Apr. 14, 1927, gage height, 18.74 ft (0.48 m), from floodmarks from rating curve extended above 25,000 ft³/s (708 m³/s); minimum, 152 ft³/s (4.30 m³/s) Jan. 27, 1956, Jan. 11, 1957; minimum gage height, 1.06 ft (0.323 m) Sept. 6-11, 1925, (present site and datum).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 19.7 ft (6.00 m) in August 1915, from floodmarks, discharge, 44,000 ft³/s (1,250 m³/s) from rating curve extended above 25,000 ft³/s (708 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft³/s (113 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Mar. 3	2245	6910	196	8.43	2.569	Apr. 12	1645	*11700	331	*11.09	3.380
Mar. 30	1700	7620	216	8.88	2.707	May 21	0630	8930	253	9.64	2.938

Minimum discharge, 280 ft³/s (7.93 m³/s) Nov. 12, 13, 14, gage height, 2.34 ft (0.713 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	307	292	730	2810	561	2070	4200	1700	1550	873	875	599		
2	305	292	681	1570	545	1970	4580	1670	1500	877	848	594		
3	306	289	675	1200	540	4470	3530	2100	1480	865	816	590		
4	305	288	651	1040	530	5090	3130	3020	1430	866	788	587		
5	303	288	628	921	513	3020	2770	2990	1400	1320	773	582		
6	300	289	599	856	502	2330	2450	2660	1360	1480	756	579		
7	297	287	611	815	502	2040	2240	2380	1360	1070	747	567		
8	294	282	705	762	492	1840	2180	2180	1290	981	730	561		
9	296	284	693	717	476	1700	2220	2030	1260	1030	722	558		
10	304	284	651	687	460	1590	2060	1920	1220	977	717	555		
11	349	284	622	657	455	1500	3440	1960	1180	958	722	546		
12	359	280	594	633	451	1430	10500	2170	1150	926	702	544		
13	352	281	577	628	456	1390	5230	2170	1120	899	692	542		
14	350	288	556	611	461	1390	3460	2040	1100	881	686	537		
15	339	317	545	572	472	1360	2850	1920	1070	867	681	529		
16	327	319	540	561	485	1280	2520	1820	1050	858	673	525		
17	318	390	524	551	483	1260	2310	1740	1030	852	664	524		
18	312	394	502	551	480	1230	2160	1690	1010	832	660	524		
19	308	358	502	577	478	1240	2050	1640	993	818	650	522		
20	309	340	502	687	480	1490	1950	4080	980	807	644	526		
21	308	326	502	794	499	2450	1870	7260	966	800	644	553		
22	309	322	476	762	628	2070	1800	3530	961	793	642	532		
23	305	326	456	742	1680	2260	1800	2730	956	782	636	517		
24	303	326	456	742	1680	2440	2260	2350	950	782	626	512		
25	306	326	451	711	2960	2160	2380	2120	929	786	620	508		
26	306	1020	436	687	2380	1960	2170	1980	911	781	617	505		
27	300	2280	422	687	1890	1850	2010	1890	901	787	609	503		
28	297	1160	412	657	1760	1750	1900	1800	897	933	614	502		
29	293	897	412	628	---	1800	1820	1720	898	892	613	500		
30	296	794	417	605	---	5180	1760	1660	884	848	605	497		
31	295	---	905	588	---	4920	---	1620	---	819	597	---		
TOTAL	9658	13903	17433	25009	23299	68530	85600	72540	33786	28040	21369	16220		
MEAN	312	463	562	807	832	2211	2853	2340	1126	905	689	541		
MAX	359	2280	905	2810	2960	5180	10500	7260	1550	1480	875	599		
MIN	293	280	412	551	451	1230	1760	1620	884	781	597	497		
CFSM	.39	.58	.71	1.02	1.05	2.79	3.60	2.95	1.42	1.14	.87	.68		
IN.	.45	.65	.82	1.17	1.09	3.21	4.02	3.40	1.58	1.32	1.00	.76		
AC-FT	19160	27580	34580	49610	46210	135900	169800	143900	67010	55620	42390	32170		
CAL YR 1978	TOTAL	239795	MEAN	657	MAX	4560	MIN	280	CFSM	.83	IN	11.25	AC-FT	475600
WTR YR 1979	TOTAL	415387	MEAN	1138	MAX	10500	MIN	280	CFSM	1.44	IN	19.49	AC-FT	823900

ARKANSAS RIVER BASIN

07185700 SPRING RIVER AT LARUSSELL, MO

LOCATION.--Lat 37°09'13", long 94°03'21", SW¼SW¼ sec.12, T.28 N., R.29 W., Lawrence County, Hydrologic Unit 11070207, on right bank on upstream side of Bower Mills Bridge, 0.8 mi (1.3 km) north of Larussell, and 2.5 mi (4.0 km) upstream from Cave Spring Branch.

DRAINAGE AREA.--306 mi² (793 km²).

PERIOD OF RECORD.--April 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1014.63 ft (309.259 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 18, 1961, nonrecording gage at same site and datum.

REMARKS.--Records good except periods of no gage-height record which are poor. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--22 years, 252 ft³/s (7.137 m³/s), 11.18 in/yr (284 mm/yr), 182,600 acre-ft/yr (225 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,500 ft³/s (637 m³/s) Nov. 1, 1972, gage height, 17.58 ft (5.358 m); minimum discharge, 15 ft³/s (0.425 m³/s) Dec. 21, 1963, result of ice conditions upstream; minimum gage height, 3.87 ft (1.180 m) Sept. 12, 13, 1959.

EXTREMES FOR CURRENT YEAR.--Peak discharges above 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Apr. 12	0845	3850	109	10.70	3.261	June 24	0215	4890	138	11.55	3.520
May 20	1545	*19800	561	*16.85	5.136	July 28	1815	3950	112	10.79	3.289
June 8	1100	4690	133	11.41	3.478						

Minimum discharge, 33 ft³/s (0.93 m³/s) Jan. 15, gage height, 4.50 ft (1.372 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	56	147	72	135	533	514	348	386	500	866	190
2	74	56	137	72	134	451	893	336	356	450	554	930
3	73	54	130	65	127	689	519	408	352	400	444	704
4	71	54	129	61	121	708	469	962	315	350	386	370
5	70	53	122	60	116	565	434	735	540	320	342	308
6	68	53	114	60	115	508	396	581	459	300	309	275
7	67	54	122	59	115	471	368	511	1070	290	290	254
8	66	54	109	55	113	438	353	454	2840	280	271	234
9	65	52	98	57	105	412	338	418	988	270	255	220
10	65	52	93	53	98	376	322	391	767	270	245	204
11	65	52	89	51	98	349	1060	386	662	270	271	190
12	64	52	89	51	104	332	2620	374	587	261	253	181
13	64	54	93	53	118	316	1020	336	530	248	227	175
14	63	66	93	48	155	295	780	311	482	235	214	165
15	62	108	97	49	442	277	675	300	445	227	205	158
16	61	116	97	48	450	263	604	285	413	219	198	153
17	60	144	95	49	356	257	548	266	386	214	192	149
18	60	122	93	57	321	260	502	256	361	208	183	144
19	60	99	95	92	302	362	466	252	336	194	175	139
20	58	87	95	179	384	368	447	10500	319	188	171	135
21	58	81	90	222	718	340	988	5880	300	182	168	135
22	58	76	85	214	704	338	566	1220	288	172	161	129
23	59	73	83	221	747	665	487	918	1640	166	157	127
24	60	69	81	204	548	538	459	751	2270	162	150	122
25	59	73	78	191	471	461	436	646	718	156	145	119
26	59	206	75	186	426	425	635	571	566	166	148	115
27	58	255	72	182	397	398	501	762	487	166	178	112
28	58	205	67	168	448	374	431	618	783	2180	533	109
29	58	179	67	153	---	359	400	520	811	657	279	107
30	56	162	70	153	---	359	369	468	500	404	207	107
31	56	---	77	148	---	334	---	431	---	605	185	---
TOTAL	1952	2817	2982	3333	8368	12821	18600	31195	20957	10710	8362	6460
MEAN	63.0	93.9	96.2	108	299	414	620	1006	699	345	270	215
MAX	77	255	147	222	747	708	2620	10500	2840	2180	866	930
MIN	56	52	67	48	98	257	322	252	288	156	145	107
CFSM	.21	.31	.31	.35	.98	1.35	2.03	3.29	2.28	1.13	.88	.70
IN.	.24	.34	.36	.41	1.02	1.56	2.26	3.79	2.55	1.30	1.02	.79
AC-FT	3870	5590	5910	6610	16600	25430	36890	61880	41570	21240	16590	12810
CAL YR 1978 TOTAL	112257			MEAN 308	MAX 4060	MIN 52	CFSM 1.01	IN 13.65	AC-FT 222700			
WTR YR 1979 TOTAL	128557			MEAN 352	MAX 10500	MIN 48	CFSM 1.15	IN 15.63	AC-FT 255000			

ARKANSAS RIVER BASIN

07185765 SPRING RIVER AT CARTHAGE, MO

LOCATION.--Lat 37°11'11", long 94°18'56", in N¹SW⁴SE⁴ sec.33, T.29 N., R.31 W., Jasper County, Hydrologic Unit 11070207, on downstream side of second pier from left abutment of Missouri Pacific Railroad bridge in Carthage and 600 ft (183 m) downstream from U.S. Highway 71 bridge.

DRAINAGE AREA.--425 mi² (1,100 km²).

PERIOD OF RECORD.--October 1966 to current year. Occasional discharge measurements 1951-54. Intermittent gage readings since Oct. 31, 1945, collected by Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 923.68 ft (281.538 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 26, 1967, nonrecording gage at site 600 ft (183 m) upstream at same datum.

REMARKS.--Records good. Several observations of water temperature were made during the year. Low-flow slightly regulated by gristmills upstream.

AVERAGE DISCHARGE.--13 years, 404 ft³/s (11.44 m³/s), 12.91 in/yr (328 mm/yr), 292,700 acre-ft/yr (361 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,800 ft³/s (702 m³/s) Nov. 1, 1972, gage height, 17.15 ft (5.227 m); minimum, 37 ft³/s (1.05 m³/s) July 26, 27, 1972, June 13, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 18, 1943, reached a stage of 22.0 ft (6.71 m) by highwater mark 1,800 ft (549 m) upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s (99.1 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Apr. 12	1915	4290	121	10.35	3.155	June 8	2245	4240	120	10.31	3.142
May 20	2400	*18200	515	*15.79	4.813	June 24	1200	5990	170	11.50	3.505

Minimum discharge, 60 ft³/s (1.70 m³/s) Nov. 10, 11, gage height, 2.79 ft (0.850 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	65	181	111	208	754	478	455	556	626	761	225
2	90	65	169	104	202	612	960	442	521	638	598	875
3	88	65	164	98	199	873	648	476	512	534	457	1010
4	87	63	156	92	191	1050	568	1150	483	472	401	444
5	86	63	154	92	185	741	536	1010	464	429	365	355
6	85	63	148	92	185	653	496	773	711	407	338	312
7	83	63	151	92	184	597	463	674	751	394	317	283
8	83	63	145	98	179	551	448	608	2940	394	301	263
9	83	63	136	85	169	517	435	554	1470	364	286	245
10	83	62	130	88	167	485	425	525	828	350	283	232
11	81	62	126	86	164	453	1440	530	700	331	280	222
12	80	62	124	84	167	432	3550	500	617	317	291	200
13	81	67	124	80	181	414	1540	459	564	304	270	203
14	77	77	125	80	215	395	1030	428	522	291	260	194
15	76	113	126	85	602	373	872	410	484	280	250	187
16	75	122	129	85	684	360	774	396	453	279	240	180
17	74	137	133	86	508	353	705	379	423	270	230	174
18	74	142	133	88	447	358	650	363	399	262	220	168
19	73	128	132	121	409	452	601	359	382	249	220	165
20	73	115	136	219	488	499	568	4620	364	242	210	162
21	72	105	133	313	1070	446	1090	11200	350	234	210	161
22	70	100	127	302	1010	437	824	2810	336	226	208	156
23	73	99	124	303	1060	594	631	1270	628	222	205	151
24	72	95	121	294	750	680	596	1000	4640	218	194	147
25	72	100	117	277	619	563	566	855	942	211	189	142
26	70	164	115	270	548	518	642	762	641	209	190	140
27	70	318	110	261	514	486	722	960	530	212	198	137
28	69	256	107	245	558	465	561	851	708	808	285	134
29	68	217	104	228	---	449	517	719	1270	1540	441	132
30	68	197	102	224	---	438	482	644	691	445	257	130
31	65	---	111	216	---	428	---	593	---	442	227	---
TOTAL	2394	3311	4093	4899	11863	16426	23818	36775	24880	12200	9182	7529
MEAN	77.2	110	132	158	424	530	794	1186	829	394	296	251
MAX	93	318	181	313	1070	1050	3550	11200	4640	1540	761	1010
MIN	65	62	102	80	164	353	425	359	336	209	189	130
CFSM	.18	.26	.31	.37	1.00	1.25	1.87	2.79	1.95	.93	.70	.59
IN.	.21	.29	.36	.43	1.04	1.44	2.08	3.22	2.18	1.07	.80	.66
AC-FT	4750	6570	8120	9720	23530	32580	47240	72940	49350	24200	18210	14930
CAL YR 1978	TOTAL	137799	MEAN 378	MAX 6270	MIN 62	CFSM .89	IN 12.06	AC-FT 273300				
WTR YR 1979	TOTAL	157370	MEAN 431	MAX 11200	MIN 62	CFSM 1.01	IN 13.77	AC-FT 312100				

07186000 SPRING RIVER NEAR WACO, MO

LOCATION.--Lat 37°14'44", long 94°33'58", on line between SE¼ sec. 7 and NE¼ sec.18, T.29 N., R.33 W., Jasper County, Hydrologic Unit 11070207, on left bank on downstream side of left pier of county highway bridge, 0.8 mi (1.3 km) downstream from Blackberry Creek, 1.5 mi (2.4 km) east of Waco, and 47.6 mi (76.6 km) upstream from mouth.

DRAINAGE AREA.--1,164 mi² (3,015 km²).

PERIOD OF RECORD.--April 1924 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 833.23 ft (253.969 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 23, 1935, nonrecording gage at same site and datum.

REMARKS.--Records good except during periods of no gage-height record, which are poor. Low flow slightly regulated by gristmills above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--55 years, 851 ft³/s (24.10 m³/s), 9.93 in/yr (252 mm/yr), 616,500 acre-ft/yr (760 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 103,000 ft³/s (2,920 m³/s) May 19, 1943, gage height, 30.94 ft (9.431 m), from floodmark; minimum discharge, 4.2 ft³/s (0.119 m³/s) Aug. 28, 1954; minimum gage height, 0.80 ft (0.244 m) July 24, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27,900 ft³/s (790 m³/s) at 1300 May 21, gage height, 22.35 ft (6.812 m), no other peak above base of 13,000 ft³/s (368 m³/s); minimum discharge, 68 ft³/s (1.93 m³/s) Nov. 5, 6, 8, 9-11, 12, 13; minimum gage height, 1.78 ft (0.543 m) Oct. 21-23, 24, 28, 29, 30, 31, Nov. 1-3, 4, 5, 6, 8, 9-11, 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	72	240	130	320	2270	650	567	842	1580	759	360
2	104	72	221	130	310	1970	1270	567	754	1180	878	3120
3	100	72	201	120	300	1950	1340	1240	698	1010	623	3380
4	95	74	188	120	290	2920	965	3390	654	824	511	1770
5	95	68	182	120	290	1890	826	2730	589	701	439	772
6	94	70	184	110	280	1230	743	1500	799	712	395	546
7	91	70	180	110	280	1040	662	1070	2100	645	363	442
8	89	70	175	110	270	931	608	885	3360	596	327	380
9	89	68	166	110	270	843	577	760	3420	596	301	334
10	89	68	143	100	260	766	551	682	2620	537	293	301
11	89	68	138	100	260	699	2170	1100	1990	464	340	278
12	84	68	144	100	260	645	9250	1070	1240	419	310	261
13	84	72	150	100	300	609	7970	831	925	390	297	233
14	84	91	150	100	346	581	4210	638	774	367	280	228
15	84	124	150	100	701	533	1750	553	678	349	280	221
16	82	136	150	100	2290	490	1350	509	606	327	260	211
17	79	175	149	100	2330	473	1150	466	547	372	253	203
18	79	179	151	366	1500	478	1020	434	506	358	246	199
19	79	175	151	2660	1000	833	879	428	459	314	239	186
20	79	151	162	2000	976	1150	805	9310	419	289	239	177
21	79	130	166	2400	2490	872	949	22000	390	272	242	174
22	74	117	162	1310	5060	762	1320	14500	363	260	230	169
23	74	108	157	1000	4900	1370	868	5010	521	253	302	166
24	77	107	152	700	3370	1710	784	1900	5300	246	221	160
25	77	188	150	500	1510	1240	739	1330	6440	239	207	156
26	74	759	140	400	1080	951	700	1140	2750	235	201	153
27	74	938	140	400	932	807	1400	1720	1080	228	216	147
28	74	554	130	370	985	725	1180	1710	2110	232	551	143
29	72	353	126	350	---	674	760	2390	9360	1800	598	139
30	72	277	122	345	---	652	638	1520	3640	730	444	136
31	72	---	119	320	---	682	---	980	---	569	369	---
TOTAL	2595	5474	4939	14981	33160	32746	48084	82930	55934	17094	11214	15145
MEAN	83.7	182	159	483	1184	1056	1603	2675	1864	551	362	505
MAX	107	938	240	2660	5060	2920	9250	22000	9360	1800	878	3380
MIN	72	68	119	100	260	473	551	428	363	228	201	136
CFSM	.07	.16	.14	.42	1.02	.91	1.38	2.30	1.60	.47	.31	.43
IN.	.08	.17	.16	.48	1.06	1.05	1.54	2.65	1.79	.55	.36	.48
AC-FT	5150	10860	9800	29710	65770	64950	95370	164500	110900	33910	22240	30040
CAL YR 1978 TOTAL	276269			MEAN 757	MAX 15400	MIN 68	CFSM .65	IN 8.83	AC-FT 548000			
WTR YR 1979 TOTAL	324296			MEAN 888	MAX 22000	MIN 68	CFSM .76	IN 10.36	AC-FT 643200			

ARKANSAS RIVER BASIN

07186400 CENTER CREEK NEAR CARTERVILLE, MO

LOCATION.--Lat 37°08'26", long 94°22'57", in NW¼NW¼NW¼ sec.24, T.28 N., R.32 W., Jasper County, Hydrologic Unit 11070207, at downstream side of right pier of bridge on State Highway HH, 1.5 mi (2.4 km) downstream from Grove Creek, 3 mi (4.8 km) east of Carterville, and 17 mi (27.4 km) above mouth.

DRAINAGE AREA.--232 mi² (601 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 913.21 ft (278.346 m) National Geodetic Vertical Datum of 1929. (levels by Missouri State Highway Commission).

REMARKS.--Records fair except those of no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--17 years, 195 ft³/s (5.522 m³/s), 11.41 in/yr (290 mm/yr), 141,300 acre-ft/yr (174 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,300 ft³/s (1,030 m³/s) July 3, 1976, gage height, 17.68 ft (5.388 m); minimum, 9.4 ft³/s (0.266 m³/s) Aug. 20, 21, 1972; minimum gage height, 0.28 ft (0.085 m) Oct. 20, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 2, 1959, reached a stage of 18.57 ft (5.660 m), from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base 2,500 ft³/s (71 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Apr. 11	1430	2940	83.3	7.42	2.262
May 20	1945	*6840	194	*11.88	3.621

Minimum discharge, 25 ft³/s (0.71 m³/s) Oct. 22; minimum gage height, 0.47 (0.143 m) Oct. 22, 31, Nov. 1, 2, 3, 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	28	139	60	130	358	223	240	221	257	438	78
2	42	28	126	60	120	330	238	230	205	230	232	181
3	40	30	118	60	110	496	227	300	194	199	184	170
4	38	30	102	50	100	653	224	500	179	177	157	138
5	36	28	92	50	90	473	215	400	169	161	139	122
6	33	32	88	50	90	412	205	300	165	152	126	113
7	33	35	98	50	90	370	195	250	201	145	116	103
8	32	33	84	50	90	329	191	220	447	137	107	94
9	32	32	76	50	90	301	185	216	275	129	100	87
10	32	29	70	40	80	274	180	205	235	124	96	83
11	30	28	65	40	80	250	1370	250	205	116	102	77
12	30	27	60	40	77	230	1230	214	186	110	100	74
13	32	32	60	40	93	214	652	199	171	104	87	72
14	30	53	72	40	161	196	522	188	159	99	84	67
15	28	117	78	40	787	185	450	177	153	94	81	66
16	28	105	82	40	489	173	399	165	143	90	76	63
17	28	124	82	40	380	167	357	157	139	104	72	64
18	28	109	78	50	329	172	324	149	133	150	67	61
19	27	93	80	100	291	242	297	143	129	114	62	61
20	27	77	78	305	275	235	270	3520	123	103	68	59
21	27	67	74	369	341	230	500	3430	120	93	67	58
22	27	60	69	305	355	233	350	949	114	86	59	54
23	32	58	64	281	393	265	300	650	161	75	62	52
24	33	52	60	260	347	274	300	524	746	72	55	49
25	32	56	56	240	312	266	250	441	240	73	52	49
26	30	157	52	207	280	255	400	382	188	73	62	47
27	30	260	48	192	258	242	350	346	159	71	66	47
28	28	211	44	180	275	229	300	312	252	274	127	45
29	28	182	42	160	---	219	280	280	382	140	157	43
30	28	157	42	151	---	210	250	270	240	96	97	43
31	28	---	64	140	---	197	---	240	---	284	83	---
TOTAL	974	2330	2343	3740	6513	8680	11234	15847	6434	4132	3381	2320
MEAN	31.4	77.7	75.6	121	233	280	374	511	214	133	109	77.3
MAX	45	260	139	369	787	653	1370	3520	746	284	438	181
MIN	27	27	42	40	77	167	180	143	114	71	52	43
CFSM	.14	.34	.33	.52	1.00	1.21	1.61	2.20	.92	.57	.47	.33
IN.	.16	.37	.38	.60	1.04	1.39	1.80	2.54	1.03	.66	.54	.37
AC-FT	1930	4620	4650	7420	12920	17220	22280	31430	12760	8200	6710	4600
CAL YR 1978 TOTAL	65176				3610	MIN 27	CFSM .77	IN 10.45	AC-FT 129300			
WTR YR 1979 TOTAL	67928				3520	MIN 27	CFSM .80	IN 10.89	AC-FT 134700			

ARKANSAS RIVER BASIN

07186480 CENTER CREEK NEAR SMITHFIELD, MO.

LOCATION.--Lat 37°09'20", long 94°36'10", NW¼ sec.14, T.28 N., R.34 W., Jasper County, Hydrologic Unit 11070207, at bridge on county road 1 mi (1.6 km) south of Smithfield.

PERIOD OF RECORD.--October 1968 to July 1975, July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	AGENCY COL-LECTING SAMPLE (CODE 000027)	AGENCY ANA-LYZING SAMPLE (CODE 000028)	STREAM-FLOW, INSTANTANEOUS (CFS) (000061)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (000095)	PH (UNITS) (000400)	TEMPER-ATURE (DEG C) (000110)	OXYGEN, DIS-SOLVED (MG/L) (000300)	OXYGEN, DEMAND, CHEM-ICAL (LOW SATUR-ATION) (MG/L) (000301)	OXYGEN, DEMAND, CHEM-ICAL (LOW SATUR-ATION) (MG/L) (000335)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARD-NESS (MG/L AS CaCO3) (000900)
OCT 11...	1028	29001	48	478	7.6	20.5	10.8	120	<1	34	150
NOV 07...	1028	29001	56	590	8.1	12.0	10.2	94	5	54	--
DEC 06...	1028	29001	105	460	7.6	5.0	9.6	75	10	52	--
JAN 09...	1024	29001	66	555	8.2	1.0	14.2	100	<1	4	210
FEB 14...	1028	29001	145	438	7.6	4.5	9.8	75	12	300	--
MAR 06...	1028	29001	390	340	7.7	9.0	11.3	97	8	44	--
APR 04...	1028	29001	300	305	7.8	9.0	9.0	78	--	140	160
MAY 09...	1028	29001	28	380	7.6	21.0	9.2	102	11	56	--
JUN 06...	1028	29001	22	570	7.3	21.5	7.4	83	57	1500	--
JUL 24...	1028	29001	125	395	8.0	27.0	9.0	112	8	20	180
AUG 15...	1028	29001	120	375	7.6	22.5	7.0	80	18	1200	--
SEP 12...	1028	29001	57	560	7.6	22.0	9.8	111	17	10	--
DATE	HARD-NESS, NONCAR-BONATE (MG/L AS CaCO3) (000902)	CALCIUM DIS-SOLVED (MG/L AS Ca) (000915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg) (000925)	SODIUM, DIS-SOLVED (MG/L AS Na) (000930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (000935)	BICAR-BONATE (MG/L AS HCO3) (000440)	CAR-BONATE (MG/L AS CO3) (000445)	ALKA-LINITY (MG/L AS CaCO3) (000410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (000405)	SULFATE DIS-SOLVED (MG/L AS SO4) (000945)	CHLO-RIDE, DIS-SOLVED (MG/L AS Cl) (000940)
OCT 11...	35	59	1.4	6.7	.8	144	0	118	5.8	<5.0	26
NOV 07...	--	--	--	--	--	176	0	144	2.2	--	--
DEC 06...	--	--	--	--	--	140	0	115	5.6	--	--
JAN 09...	72	78	4.2	14	1.4	172	0	141	1.7	72	10
FEB 14...	--	--	--	--	--	152	0	125	6.1	--	--
MAR 06...	--	--	--	--	--	130	0	107	4.2	--	--
APR 04...	37	60	3.0	7.4	1.4	154	0	126	3.9	--	6.4
MAY 09...	--	--	--	--	--	146	0	120	5.9	--	--
JUN 06...	--	--	--	--	--	148	0	121	12	--	--
JUL 24...	50	65	3.0	8.0	1.7	154	0	126	2.5	55	6.5
AUG 15...	--	--	--	--	--	148	0	121	5.9	--	--
SEP 12...	--	--	--	--	--	152	0	125	6.1	--	--

[illegible]

ARKANSAS RIVER BASIN

07187000 SHOAL CREEK ABOVE JOPLIN, MO

LOCATION.--Lat 37°01'23", long 94°30'58", in SE¼NE¼NE¼ sec.34, T.27 N., R.33 W., Newton County, Hydrologic Unit 11070207, on right bank 250 ft (76 m) upstream from mouth of Spring Creek, 1,400 ft (427 m) downstream from bridge on State Highway 86, 0.5 mi (0.8 km) south of city limits of Joplin and 13.2 mi (21.2 km) above mouth.

DRAINAGE AREA.--427 mi² (1,106 km²).

PERIOD OF RECORD.--October 1941 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 886.87 ft (270.318 m) National Geodetic Vertical Datum of 1929. Prior to July 21, 1966, water-stage recorder at site 1.8 mi (2.9 km) upstream, at datum 15.5 ft (4.72 m) higher.

REMARKS.--Records good except during periods of no gage-height record which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--38 years, 401 ft³/s (11.36 m³/s), 12.75 in/yr (324 mm/yr), 290,500 acre-ft/yr (358 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,100 ft³/s (1,730 m³/s) May 18, 1943, gage height, 16.8 ft (5.12 m) former site and datum; minimum, 12 ft³/s (0.340 m³/s) Sept. 7, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,430 ft³/s (125 m³/s) Apr. 12, gage height, 8.41 ft (2.563 m), no peak above base of 6,000 ft³/s (170 m³/s); minimum, 88 ft³/s (2.49 m³/s) Nov. 9, 10, gage height, 2.38 ft (0.725 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	91	191	108	243	600	393	338	347	429	1530	181
2	121	91	179	108	229	550	662	343	343	1140	1070	243
3	116	93	174	108	225	700	553	365	347	538	733	257
4	115	93	161	108	214	800	516	471	321	430	604	229
5	115	92	152	100	206	700	491	522	299	374	514	209
6	110	92	141	103	200	600	456	511	299	348	442	198
7	110	93	164	98	190	550	427	488	748	353	393	190
8	112	90	163	95	190	500	410	466	2780	361	361	182
9	111	91	151	98	180	460	398	444	1070	327	333	173
10	110	91	142	95	180	430	375	433	845	302	309	168
11	108	90	137	90	170	400	1670	540	715	278	340	162
12	108	91	137	90	170	380	3070	488	626	261	327	161
13	104	98	138	90	200	360	1790	454	566	249	286	164
14	101	139	138	90	250	356	1060	424	506	236	270	157
15	104	208	139	90	500	334	870	405	459	231	259	151
16	103	204	138	90	600	315	755	385	426	225	249	147
17	102	233	135	90	500	308	678	365	400	228	242	145
18	103	210	132	90	400	313	619	352	375	221	229	146
19	104	177	130	150	350	372	570	338	347	208	221	146
20	103	156	132	250	500	489	534	874	329	199	234	144
21	101	142	126	350	900	464	570	2750	312	198	232	149
22	99	135	118	340	1000	467	546	983	303	193	215	158
23	95	134	115	330	900	501	482	696	347	186	236	155
24	96	130	114	330	800	522	460	608	361	183	209	144
25	98	131	108	320	600	513	438	542	307	180	199	136
26	98	241	105	310	500	494	417	494	282	194	197	137
27	95	290	102	300	500	463	411	464	267	210	190	136
28	94	274	98	290	500	440	390	432	410	372	204	133
29	94	235	98	280	---	423	370	405	512	392	204	133
30	94	211	99	268	---	409	352	390	370	258	194	130
31	93	---	115	257	---	387	---	370	---	1310	183	---
TOTAL	3240	4446	4172	5516	11397	14600	20733	17140	15619	10614	11209	4964
MEAN	105	148	135	178	407	471	691	553	521	342	362	165
MAX	123	290	191	350	1000	800	3070	2750	1310	1530	257	257
MIN	93	90	98	90	170	308	352	338	267	180	183	130
CFSM	.25	.35	.32	.42	.95	1.10	1.62	1.30	1.22	.80	.85	.39
IN.	.28	.39	.36	.48	.99	1.27	1.81	1.49	1.36	.92	.98	.43
AC-FT	6430	8820	8280	10940	22610	28960	41120	34000	30980	21050	22230	9850
CAL YR 1978	TOTAL	143037	MEAN 392	MAX 4530	MIN 90	CFSM .92	IN 12.46	AC-FT 283700				
WTR YR 1979	TOTAL	123650	MEAN 339	MAX 3070	MIN 90	CFSM .79	IN 10.77	AC-FT 245300				

ARKANSAS RIVER BASIN

07189000 ELK RIVER NEAR TIFF CITY, MO

LOCATION.--Lat 36°37'50", long 94°35'12", in NE¼ sec.22, T.22 N., R.34 W., McDonald County, Hydrologic Unit 11070208, on downstream side of right pier of bridge on State Highway 43, 0.8 mi (1.3 km) downstream from Blackfoot Branch, 2.8 mi (4.5 km) upstream from Buffalo Creek, 3.0 mi (4.8 km) southeast of Tiff City, and at mile 15.8 (25.4 km).

DRAINAGE AREA.--872 mi² (2,258 km²).

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WSP 927: 1940. WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 750.61 ft (228.786 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Sept. 6, 1960, to Aug. 24, 1961, at site 100 ft (30.5 m) downstream.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--40 years, 798 ft³/s (22.60 m³/s), 12.42 in/yr (315 mm/yr), 578,200 acre-ft/yr (713 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 137,000 ft³/s (3,880 m³/s) Apr. 19, 1941, gage height, 28.4 ft (8.66 m), from floodmark, from rating curve extended above 60,000 ft³/s (1,700 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 5.1 ft³/s (0.14 m³/s), Sept. 5, 6, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,600 ft³/s (583 m³/s) at 1115 Apr. 12, gage height, 16.91 ft (5.154 m), no other peak above base of 9,000 ft³/s (255 m³/s); minimum, 87 ft³/s (2.46 m³/s) Oct. 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	107	93	493	150	546	1100	1250	611	474	300	4660	234		
2	104	92	427	140	522	1370	2750	570	484	408	2170	226		
3	101	93	391	130	471	1610	2370	884	541	377	1340	230		
4	97	92	352	120	440	2420	1910	4080	601	327	941	225		
5	94	92	317	130	358	2150	1580	3950	530	295	702	212		
6	92	93	294	140	328	1690	1340	2620	492	334	579	202		
7	92	97	355	150	326	1400	1170	1960	623	402	515	189		
8	92	97	377	140	318	1200	1050	1560	993	382	469	179		
9	95	96	356	130	312	1040	961	1310	989	353	433	171		
10	94	97	331	120	301	915	885	1130	821	321	446	163		
11	92	97	307	130	293	811	1890	1040	694	297	389	157		
12	91	97	288	140	306	730	12600	1010	606	275	407	153		
13	88	108	270	170	348	669	5130	900	544	259	375	149		
14	89	144	255	160	442	618	3210	826	491	239	343	144		
15	98	190	242	160	788	569	2350	763	450	224	322	140		
16	99	236	230	169	1050	528	1870	705	415	212	310	136		
17	97	292	216	171	992	505	1560	661	387	224	302	133		
18	96	300	206	282	884	499	1340	619	356	256	289	133		
19	95	271	199	889	787	1110	1180	585	333	254	278	133		
20	95	238	194	1460	716	2660	1050	595	315	231	274	133		
21	95	210	190	1370	678	2270	1090	611	309	210	266	140		
22	93	204	184	1120	669	1870	1180	613	304	194	261	138		
23	96	202	178	948	746	1680	965	584	393	175	258	133		
24	97	196	173	845	960	1630	875	542	404	165	256	130		
25	98	201	169	742	1000	1470	810	505	370	168	247	126		
26	97	513	163	652	945	1310	756	469	332	168	240	125		
27	96	1200	159	602	893	1170	729	451	303	184	239	122		
28	97	933	155	574	906	1060	702	439	287	375	521	120		
29	95	709	153	569	---	968	666	503	292	516	322	117		
30	95	582	156	562	---	921	633	577	298	419	262	117		
31	94	---	140	553	---	852	---	518	---	2730	244	---		
TOTAL	2961	7865	7920	13618	17325	38795	55852	32191	14431	11274	18660	4710		
MEAN	95.5	262	255	439	619	1251	1862	1038	481	364	602	157		
MAX	107	1200	493	1460	1050	2660	12600	4080	993	2730	4660	234		
MIN	88	92	140	120	293	499	633	439	287	165	239	117		
CFSM	.11	.30	.29	.50	.71	1.44	2.14	1.19	.55	.42	.69	.18		
IN.	.13	.34	.34	.58	.74	1.66	2.38	1.37	.62	.48	.80	.20		
AC-FT	5870	15600	15710	27010	34360	76950	110800	63850	28620	22360	37010	9340		
CAL YR 1978	TOTAL	331953	MEAN	909	MAX	20100	MIN	88	CFSM	1.04	IN	14.16	AC-FT	658400
WTR YR 1979	TOTAL	225602	MEAN	618	MAX	12600	MIN	88	CFSM	.71	IN	9.62	AC-FT	447500

DISCHARGE AT PARTIAL-RECORD STATIONS

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 discharge measurements made by indirect measurements of peak flow or by current meter. 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, water year							
Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Date	Annual Maximum Gage height (feet)	Dis-charge (ft ³ /s)
Fox River basin							
05495100	Big Branch Tributary near Wayland	Lat 40°18'52", long 91°34'34", in NW¼SE¼ sec.29, T.64 N., R.6 W., Clark County, at culvert under U.S. Highway 61 and 5.6 mi (9.0 km) south of Wayland.	0.70 (1.81)	1955-65 1966-69f 1970-79d	3-4-79	6.74	100
Wyaconda River basin							
05496000	Wyaconda River above Canton	Lat 40°08'30", long 91°33'55", in SE¼ sec. 28, T.62 N., R.6 W., Lewis County, on downstream side of bridge on State Highway 16.	393 (1020)	1922-32 1933-72‡ 1976-79	4-25-76 + 10-8-77 4-11-79	28.50 + 25.13 22.91	13,000 <25 8,340 6,230
Fabius River basin							
05497500	Middle Fabius River near Baring	Lat 40°19'55", long 92°12'50", in NW¼NW¼ sec.26, T.64 N., R.12 W., Scotland County, at bridge on State Highway 15, 1 mi (1.6 km) downstream from confluence of North and South Forks of Middle Fabius River, and 6 mi (9.7 km) north of Baring.	185 (479)	1931-60‡ 1961-79	3-23-79	22.67	6,300
05497700	Bridge Creek Branch near Baring	Lat 40°15'30", long 92°13'00", in NE¼NE¼ sec.22, T.63 N., R.12 W., Knox County, at culvert under State Highway 15 and about 1 mi (1.6 km) northwest of Baring.	2.38 (6.16)	1955-60 1961-63f 1972-79d	4-11-79	11.67	270
North River basin							
05500500	North River at Bethel	Lat 39°52'29", long 92°01'26", in NE¼NW¼ sec. 33, R.59 N., R.10 W., Shelby County, on left downstream abutment of State Highway 15 bridge at Bethel.	58 (150)	1937-73‡ 1975-79d	5-7-75 4-24-76 + 10-8-77 +	13.15 12.60 + 17.76 +	1,400 1,250 <10 3,600 <10
South River basin							
05501200	Nichols Branch near Palmyra	Lat 39°44'39", long 91°31'52", in SE¼SE¼ sec.11, T.57 N., R.6 W., Marion County, at culvert on county road 4 mi (6.4 km) south of Palmyra.	2.58 (6.68)	1955-79d	+	+	<100
Salt River basin							
05502700	Easdale Branch near Shelbyville	Lat 39°48'17", long 92°00'27", in SE¼SW¼ sec.22, T.58 N., R.10 W., Shelby County, at culvert under Missouri State Highway 168, 1.8 mi (2.9 km) east of Shelbyville.	0.71 (1.84)	1958-69 1970-71f 1972-79d	3-4-79	5.04	230
05503000	Oak Dale Branch near Emden	Lat 39°45'30", long 91°55'08", in NW¼NW¼ sec. 9, T.57 N., R.9 W., Shelby County, 25' (7.62 m) upstream from highway culvert 4 miles (6.4 km) southwest of Emden.	2.64 (6.84)	1956-75‡ 1976-79d	3-27-76 9-13-77 5-13-78 3-3-79	4.09 4.85 4.82 3.28	460 600 590 330
05504700	Bean Creek near Mexico	Lat 39°15'30", long 91°49'50", in NW¼SW¼ sec.29, T.52 N., R.8 W., Audrain County, at culvert under State Highway J, 6.5 mi (10.5 km) north of Mexico.	3.02 (7.82)	1960-79d	3-4-79	7.26	230

Explanation of symbols and footnotes are at the end of list.

DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual Date	maximum Gage height (feet)	Dis-charge (ft ³ /s)
Salt River basin--Continued							
05506000	Youngs Creek near Mexico	Lat 39°18'39", long 91°56'51", in NW¼SW¼ sec.5, T.52 N., R.9 W., Audrain County, on downstream side of bridge on State Highway 15, 6 mi (9.7 km) upstream from mouth and 11 mi (17.7 km) north of Mexico.	67.4 (175)	1931-69† 1970-79	4-11-79	13.60	3,760
Kings Lake basin							
05513600	Camp Creek near Elsberry	Lat 39°06'56", long 90°46'23", in SW portion of Survey 1724, T.50 N., R.2 E., Lincoln County, at culvert on State Highway 79, 3.6 mi (5.8 km) south of Elsberry.	1.50 (3.88)	1955-79d	4-11-79	3.57	370
05513650	Hurricane Creek near Elsberry	Lat 39°06'29", long 90°46'13", in SW portion of Survey 1724, T.50 N., R.2 E., Lincoln County, at culvert on State Highway 79, 4.1 mi (6.6 km) south of Elsberry.	3.6 (7.92)	1955-79d	4-11-79	0.86	1,900
Cuivre River basin							
05513700	Mams Slough Creek near Wellsville	Lat 39°09'45", long 91°39'40", in NW¼NW¼ sec.35, T.51 N., R.7 W., Audrain County, at bridge on U.S. Highway 54, 8 mi (12.8 km) north-west of Wellsville.	5.08 (13.2)	1955-57 1961-79d	4-11-79	14.69	1,600
05514200	Reid Branch near Bowling Green	Lat 39°15'15", long 91°02'50", in SE¼ west part of Survey No. 1685, T.52 N., R.1 W., Pike County, upstream from culvert on U.S. Highway 61, 3.9 mi (6.3 km) south of Cyrene and 10 mi (16.1 km) south of Bowling Green.	0.54 (1.40)	1955-79d	4-11-79	8.32	520
05514500	Cuivre River near Troy	Lat 39°00'59", long 90°59'00", in SE¼ sec.14, T.49 N., R.1 W., Lincoln County, on downstream side of center pier of U.S. Highway 61 bridge, 2 miles (3.2 km) north of Troy.	903 (2339)	1922-72† 1974-79	5-30-74 4-25-75 4-25-76 3-28-77 3-28-78 4-12-79	27.17 26.10 24.32 24.97 25.94 28.96	37,300 29,900 21,900 24,600 29,100 54,800
Little Tarkio Creek basin							
06815550	Staples Branch near Burlington Junction	Lat 40°26'15", long 95°12'05", in SW¼SE¼ sec.17, T.65 N., R.38 W., Atchison County, at culvert under U.S. Highway 136, about 7.3 mi (11.7 km) west of Burlington Junction.	0.49 (1.27)	1959-65 1966-71† 1972-79d	8-29-79	12.74	165
Platte River (Iowa-Missouri) basin							
06818900	Platte River at Ravenwood	Lat 40°20'24", long 94°41'09", in SE¼SE¼ sec.14, T.64 N., R.34 W., Nodaway County, on downstream side of left pier of U.S. Highway 136 bridge, 0.8 mile (1.3 km) west of Ravenwood.	486 (1259)	1922-71† 1972-79d	9-13-72 2-2-73 6-9-74 6-11-75 + 9-4-77 4-18-78 8-29-79	14.90 16.70 19.05 14.35 + 10.55 15.95 21.45	8,090 9,730 13,000 7,600 <1000 4,220 9,040 16,500
06820000	White Cloud Creek near Maryville	Lat 40°23'22", long 94°54'33", in NW¼NW¼ sec.1, T.64 N., R.36 W., Nodaway County, at bridge on U.S. Highway 71, 4 mi (6.4 km) upstream from Big Slough and 4.5 mi (7.2 km) northwest of Maryville.	6.06 (15.7)	1948-70† 1971-79d	3-3-79	9.37	537
06820300	Big Slough near Wilcox	Lat 40°23'23", long 94°55'32", on south line of SW¼ sec.35, T.65 N., R.36 W., Nodaway County, at culvert on U.S. Highway 71, 3 mi (4.8 km) southeast of Wilcox.	1.30 (3.37)	1950-79d	8-29-79	4.40	540

DISCHARGE AT PARTIAL-RECORD STATIONS

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Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum Date	maximum Gage height (feet)	Dis-charge (ft ³ /s)
Platte River (Iowa-Missouri) basin--Continued							
06821130	First Creek near Nashua	Lat 39°17'20", long 94°35'05", in NW¼SW¼ sec.26, T.52 N., R.33 W., Clay County, at culvert on farm road 150 ft (45.7 m) east of U.S. Highway 169, and 1 mi (1.6 km) south of Nashua.	0.55 (1.42)	1959-65 1966-74f 1975-79	6-8-79	10.48	135
06896000	Wakenda Creek at Carrollton	Lat 39°20'50", long 93°29'45", in NE¼SE¼ sec.5, T.52 N., R.23 W., Carrollton County, on left bank near upstream side of U.S. Highway 65 bridge in Carrollton.	248 (642)	1948-70† 1972-79	3-2-72 4-21-73 5-18-74 4-25-75 + 7-11-77 3-23-78 4-11-79	22.46 22.96 24.01 23.54 + 22.24 22.49 20.44	5,440 6,240 8,030 7,200 <1,000 5,080 5,480 3,400
Grand River basin							
06896180	DeMoss Branch near Stanberry	Lat 40°13'35", long 94°33'35", in NE¼SE¼ sec.36, T.63 N., R.33 W., Gentry County, at culvert on U.S. Highway 136, 0.8 mi (1.3 km) west of Stanberry.	0.38 (0.98)	1955-59 1960-64f 1965-79d	3-3-79	14.10	57
06896700	O'Neill Branch at Osborn	Lat 39°45'25", long 94°20'35", in SW¼NE¼ sec.14, T.57 N., R.31 W., DeKalb County, under U.S. Highway 36, 1 mi (1.6 km) northeast of Osborn and 5.5 mi (8.8 km) northwest of Cameron.	0.80 (2.07)	1955-62 1963-66f 1967-79d	7-24-79	14.77	155
06897200	Simpson Branch near Bethany	Lat 40°15'55", long 93°58'55", in SE¼SW¼ sec.7, T.63 N., R.27 W., Harrison County, at bridge on U.S. Highway 136, 2.3 mi (3.7 km) east of Bethany.	4.72 (12.2)	1955-70 1971-72f 1973-79d	+	+	<30
06897700	Grand River Tributary near Utica	Lat 39°44'22", long 93°38'18", in SW¼NE¼ sec. 19, T.57 N., R.24 W., Livingston County, at culvert under U.S. Highway 36, 0.2 mi (0.3 km) west of Utica.	1.44 (3.73)	1958 1960-79	+	+	<200
06901300	Moffet Branch near Reger	Lat 40°07'53", long 93°14'30", in NW¼ sec.34, T.62 N., R.21 W., Sullivan County, at culvert under State Highway 6, 2.5 mi (4.0 km) west of Reger, and 3.8 mi (6.1 km) east of Humphreys.	0.13 (0.34)	1955-63 1964-66f 1967-79d	+	+	<150
06901500	Locust Creek near Linneus	Lat 39°53'45", long 93°14'10", in NW¼NE¼ sec.34, T.59 N., R.21 W., Linn County, on right bank 25 ft (7.61 m) downstream from county highway bridge, 3.2 mi (5.1 km) north of Linneus.	550 (1424)	1929-72† 1973-79	5-1-73 5-18-74 4-23-75 4-20-76 3-28-77 4-10-78 3-3-79	22.80 19.87 17.18 14.18 19.33 18.53 17.28	15,000 9,200 6,700 4,500 9,000 8,000 6,800
06902800	Onion Branch at St. Catherine	Lat 39°47'46", long 92°59'17", in NE¼SE¼ sec.35, T.58 N., R.19 W., Linn County, at culvert under State Highway 11, 0.3 mi (0.5 km) northeast of St. Catherine and 5 mi (8.0 km) northeast of Brookfield.	1.04 (2.69)	1955-61 1962-66f 1967-79d	3-3-79	12.73	84
Chariton River basin							
06904300	Shoal Creek near Hartford	Lat 40°29'00", long 92°46'20", in NE¼NE¼ sec.35, T.66 N., R.17 W., Putnam County, at bridge on U.S. Highway 136, 3 mi (4.8 km) north-east of Hartford.	155 (401)	1963-79	3-29-79	16.03	2700
06904700	Strop Branch near Novinger	Lat 40°13'05", long 92°42'55", in NE¼SW¼ sec.32, T.63 N., R.16 W., Adair County, at culvert under State Highway K about 1 mi (1.6 km) southwest of Novinger.	0.96 (2.49)	1955-71 1972-77f 1978-79d	7-25-79	14.13	210

DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual Date	maximum Gage height (feet)	Dis-charge (ft ³ /s)
Chariton River basin--Continued							
06905000	Chariton River at Elmer	Lat 39°57'08", long 92°39'54", in E½ sec.3, T.59 N., R.16 W., Macon County, at bridge on State Highway J, 0.8 mi (1.3 km) southwest of Elmer.	1,660 (4,300)	1921-30† 1961-79	3-29-79	18.53	11,800
06905700	Puzzle Creek near Salisbury	Lat 39°26'30", long 92°47'30", in SW¼NW¼ sec.35, T.54 N., R.17 W., Chariton County, at culvert on State Highway 129, 0.8 mi (1.3 km) north of Salisbury.	0.80 (2.07)	1955-79d	3-29-79	6.45	210
Lamine River basin							
06907000	Lamine River at Clifton City	Lat 38°45'26", long 93°01'20", in NW¼ sec.16, T.46 N., R.19 W., Cooper County, on downstream side of highway bridge, 0.8 mi (1.28 km) east of Clifton City.	598 (1549)	1922-71† 1972-79	5-2-72 4-21-73 3-11-74 4-25-75 3-5-76 7-9-77 5-13-78 4-11-79	19.57 29.77 27.87 26.17 23.15 21.03 23.12 22.42	7,660 34,900 23,900 16,200 10,900 8,830 10,800 10,100
06907200	Shaver Creek Tributary near Clifton City	Lat 38°45'29", long 93°04'25", in NE¼SW¼ sec.13, T.46 N., R.20 W., Pettis County, at culvert under State Highway 135, about 2 mi (3.2 km) southwest of Clifton City and 9.5 mi (15.2 km) north-east of Sedalia.	1.65 (4.27)	1955-61 1962-63f 1964-79d	4-11-79	6.79	239
06908300	Trent Branch near Waverly	Lat 39°12'06", long 93°34'46", in SE¼NE¼ sec.19, T.51 N., R.24 W., Lafayette County, at culvert on U.S. Highway 24, 3.8 mi (6.1 km) west of Waverly.	0.97 (2.57)	1955-59 1960-62f 1963-79d	+	+	<50
06908500	Shiloh Branch near Marshall	Lat 39°07'00", long 93°05'50", in NW¼ sec.15, T.50 N., R.20 W., Saline County, at culvert on State Highway 41, in front of Shiloh Church, 5.5 mi (8.8 km) east of Marshall.	2.87 (7.43)	1952-65† 1966-79d	+	+	<100
Bonne Femme Creek basin							
06909400	Cottonwood Creek Tributary at Estill	Lat 39°02'55", long 92°44'38", in NW¼SW¼NE¼ sec. 17, T.49 N., R.16 W., Howard County, at culvert under State Highway 5, 0.2 mi (0.03 km) north of Estill and 2 mi (3.2 km) north of New Franklin.	0.30 (0.78)	1958-79d	+	+	<20
Moniteau Creek basin							
06909500	Moniteau Creek near Fayette	Lat 39°07'15", long 92°33'40", in SE¼SE¼ sec.14, T.50 N., R.15 W., Howard County, at "Buoy" bridge, 1 mi (1.6 km) downstream from Hungry Mother Creek, 7 mi (11.2 km) east of Fayette and 15 mi (24 km) upstream from mouth.	81 (210)	1948-60 1962-69† 1970-79	4-11-79	18.29	2,830
Petite Saline Creek basin							
06909700	Petite Saline Creek Tributary near Bellair	Lat 38°50'34", long 92°50'31", in SW¼NE¼ sec.13, T.47 N., R.18 W., Cooper County, at culvert under State Highway 5, at junction of highways 5 and F, 0.5 mi (0.8 km) north of Bellair and 10.5 mi (16.9 km) southwest of Boonville.	0.49 (1.27)	1955-64 1965-69f 1970-79d	4-11-79	13.33	118

DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations--Continued

Annual maximum discharge at crest-stage partial-record stations--Continued						Annual maximum	
Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Date	Gage height (feet)	Dis- charge (ft ³ /s)
Perche Creek basin							
06910200	Cow Branch near Columbia	Lat 39°00'10", long 92°19'25", in NW¼ sec.30, T.49 N., R.12 W., Boone County, on right bank just upstream from U.S. Highway 63, 2.7 mi (4.3 km) north of Columbia.	1.01	1954-75	3-28-77	10.41	190
			(2.62)	1977-79d	11-1-77	11.11	280
					4-11-79	12.42	500
Bonne Femme Creek basin							
06910250	Traxler Branch near Columbia	Lat 38°51'15", long 92°19'45", in NE¼SE¼ sec.13, T.47 N., R.13 W., Boone County, at culvert under State Highway N about 5.5 mi (8.8 km) south of Columbia.	0.55 (1.42)	1958-63f 1964-79	4-11-79	15.31	704
Cedar Creek basin							
06910410	Cedar Creek near Columbia	Lat 38°57'16", long 92°08'57", in NW¼SW¼ sec.10, R.48 N., R.11 W., Boone County, on downstream side of right pier, north outer road of Interstate 70, 9.5 mi (15.2 km) east of Columbia.	44.8	1964-75†	3-4-76	13.03	2,360
			(116.0)	1976-79	3-28-77	10.58	1,340
					3-24-78	10.85	1,420
					4-11-79	15.23	4,260
Grays Creek basin							
06910430	Dickerson Creek Tributary near Jefferson City	Lat 38°34'55", long 92°16'43", in SW¼NW¼ sec. 8, T.44 N., R.12 W., Cole County, on left bank up- stream from culvert under U.S. Highway 50, 0.25 mi (0.3 km) up- stream from mouth, and 1.9 mi (3.1 km) west of Jefferson City.	0.10 (0.26)	1970-79	4-11-79	8.70	66
Moreau River basin							
06910500	Moreau River near Jefferson City	Lat 38°31'44", long 92°11'31", in SE¼NW¼SE¼ sec.25, T.44 N., R.12 W., Cole County, on downstream side of bridge on Tanner Bridge Road, 3 mi (4.8 km) south of Jefferson City.	561	1947-74‡	1-31-75	23.00	11,500
			(1453)	1975-79	12-15-75	21.27	9,200
					+	+	<6,000
					5-22-78	18.87	7,320
				4-12-79	28.21	23,100	
06910700	Hazel Branch Tribu- tary near Wards- ville	Lat 38°28'15", long 92°12'35", in NE¼SE¼ sec.14, T.43 N., R.12 W., Cole County, at culvert on county road 2.5 mi (4.0 km) southwest of of Wardsville.	0.13 (0.34)	1957-79	4-11-79	10.58	96
Osage River basin							
06918200	North Fork Panther Creek Tributary near Appleton City	Lat 38°11'38", long 94°04'53", in SW¼NW¼ sec.2, T.39 N., R.29 W., Bates County, at culvert under State Highway 52, 0.25 mi (0.3 km) south of Hudson, 3 mi (4.8 km) west of Appleton City, and 18 mi (29.0 km) southeast of Butler.	0.08 (0.21)	1955-79d	11-26-78	4.26	60
06918300	West Fork Clear Creek Tributary near Nevada	Lat 37°51'43", long 94°13'51", in SW¼SW¼ sec.27, T.36 N., R.30 W., Vernon County, at culvert under U.S. Highway 54, 0.2 mi (0.3 km) east of State Highway C and 7.5 mi (12.1 km) northeast of Nevada.	0.51 (1.32)	1955-75 1976-77f 1978-79d	3-23-79	5.20	100
06918400	Pickereel Creek Trib- utary near Republic	Lat 37°07'09", long 93°31'28", in NW¼SE¼ sec.23, T.28 N., R.24 W., Greene County, at culvert under State Highway 174, 2.0 mi (3.2 km) west of Republic.	0.57 (1.48)	1957-79	7-28-79	10.33	275
06918700	Oak Grove Branch near Brighton	Lat 37°24'11", long 93°21'21", in SE¼NW¼ sec.21, T.31 N., R.22 W., Greene County, on culvert under Highway BB, 0.6 mi (0.9 km) west of junction State Highway 13.	1.3	1956-75†	4-20-76	2.46	153
			(3.4)	1976-79d	9-27-77	4.02	334
					5-23-78	2.94	205
					4-11-79	3.11	225

DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual Date	Maximum Gage height (feet)	Dis-charge (ft ³ /s)
Osage River basin--Continued							
06918750	Franca Branch near Brighton	Lat 37°29'57", long 93°21'00", in SE¼NW¼SE¼ sec.16, T.32 N., R.22 W., Polk County, at culvert under State Highway 13, 3 mi (4.9 km) north of Brighton, and 8.7 mi (14.0 km) southeast of Bolivar.	0.59 (3.96)	1955-79d	4-11-79	12.64	125
06919200	Sac River Tributary near Caplinger Mills	Lat 37°48'22", long 93°51'00", in NE¼NE¼ sec.13, T.35 N., R.27 W., Cedar County, at culvert under State Highway 39, 6.2 mi (10 km) south of junction of U.S. Highway 54 and State Highway 39, 2.5 mi (4.0 km) west of Caplinger Mills and 10.5 mi (16.9 km) southeast of Eldorado Springs.	0.14 (0.36)	1955-62 1963-79d	4-11-79	8.24	138
06920800	Big Muddy Creek at Lowry City	Lat 38°09'29", long 93°43'22", in SE¼NE¼ sec.12, T.39 N., R.26 W., St. Clair County, at culvert under State Highway 13, 1 mi (1.6 km) north of Lowry City.	0.31 (0.93)	1955-72 1973-77f 1978-79	4-11-79	5.22	225
06921400	Ferguson Branch at Nemo	Lat 37°52'50", long 93°15'30", in NE¼SE¼ sec. 8, T.36 N., R.21 W., Hickory County, at culvert under State Highway D, 0.5 mi (0.8 km) northeast of Nemo.	0.18 (0.47)	1957-79	4-11-79	6.31	31
06921720	Big Creek at Blairstown	Lat 38°33'17", long 93°57'54", in NE¼SW¼ sec.36, T.44 N., R.28 W., Henry County, on downstream side of right pier of bridge on State Highway N, 0.3 mi (0.5 km) west of Blairstown.	414 (1072)	1960-73‡ 1974-79	11-3-74 7-3-76 6-24-77 5-7-78 6-10-79	22.83 22.07 22.87 22.70 22.53	6,390 4,900 6,510 6,050 5,470
06921740	Brushy Creek near Blairstown	Lat 38°31'42", long 94°00'37", in NE¼SE¼ sec.9, T.43 N., R.28 W., Henry County, just upstream from State Highway B, 3.5 mi (5.6 km) southwest of Blairstown.	1.15 (2.89)	1960-75‡ 1976-79	12-15-75 6-24-77 11-1-77 2-21-79	3.98 8.52 6.95 4.00	203 899 601 205
06921800	Granddaddy Creek near Urich	Lat 38°21'49", long 94°00'47", in NW¼NW¼SW¼ sec.10, T.41 N., R.28 W., Henry County, at culvert under State Highway K, 0.3 mi (0.5 km) north of junction of State Highway K and State Highway 18, and 6.5 mi (10.5 km) south of Urich.	0.92 (2.38)	1958-75 1976-79	3-3-79	6.43	120
06922000	South Grand River near Brownington	Lat 38°15'45", long 93°45'50", in NW¼ sec.17, T.40 N., R.25 W., Henry County, at county highway bridge, 200 ft downstream from St. Louis-San Francisco RR bridge and 1 mi (1.6 km) north of Brownington.	1660 (4299)	1915‡ 1922-71‡ 1974-77d	3-11-74 11-3-74 3-4-76 6-24-77	29.20 24.06 16.20 17.14	21,500 13,100 6,530 7,160
06922600	Little Turkey Creek Tributary near Warsaw	Lat 38°10'30", long 93°17'30", in NW¼SW¼ sec.1, T.39 N., R.22 W., Benton County, at culvert on State Highway 7, 1.5 mi (2.4 km) east of junction of State Highway 7 and U.S. Highway 65, and 5 mi (8.0 km) southeast of Warsaw.	0.18 (0.47)	1959-69 1970-77f 1978-79	4-11-79	11.12	155
06922700	Chub Creek near Lincoln	Lat 38°26'12", long 93°18'07", in NW¼ sec.12, T.42 N., R.22 W., Benton County, at culvert on U.S. Highway 65, 3.4 mi (5.5 km) north of Lincoln.	2.86 (7.48)	1958-63 1964-70f 1971-79	7-28-79	19.03	670
06922800	Big Buffalo Creek near Stover	Lat 38°20'04", long 93°05'04", in NE¼SE¼SW¼ sec.12, T.41 N., R.20 W., Benton County, on right bank 9 mi (14.4 km) southwest of Stover.	24.2 (62.7)	1965-77‡ 1978-79	7-15-78 4-12-79	6.95 6.52	2,410 1,880

DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual Date	Maximum Gage height (feet)	Dis- charge (ft ³ /s)
Osage River basin--Continued							
06923000	Niangua Branch at Marshfield	Lat 37°20'50", long 92°54'45", in SE¼NE¼ sec.4, T.30 N., R.18 W., Webster County, at concrete culvert under county road at Marshfield.	0.82 (2.12)	1950-57† 1958f 1960-79d	4-11-79	5.68	280
06925200	Starks Creek at Preston	Lat 37°56'27", long 93°11'48", in SW¼NW¼ sec. 24, T.37 N., R.21 W., Hickory County, attached to right downstream wingwall of U.S. Highway 54 bridge, 0.6 mi (1.0 km) east of Preston.	4.18 (10.83)	1956-76† 1977-79d	9-26-77 7-11-78 4-11-79	10.78 7.04 8.18	2,200 620 893
06925300	Prairie Branch near Decaturville	Lat 37°52'30", long 92°42'30", in SE¼NE¼ sec.8, T.36 N., R.16 W., Laclede County, at bridge on State Highway 5, 2.4 mi (3.9 km) south of Decaturville.	1.48 (3.83)	1955-69 1970-72f 1973-79d	4-11-79	10.16	349
06925450	Little Gravois Creek near Versailles	Lat 38°23'58", long 92°49'30", in NE¼SW¼ sec.17, T.42 N., R.17 W., Morgan County, at bridge on State Highway TT, and 2.5 mi (4.0 km) south of Versailles.	4.74 (12.3)	1955-79d	4-11-79	13.69	1,750
06926150	Jack Buster Creek at Eugene	Lat 38°21'10", long 92°24'00", in NW¼NE¼ sec.31, T.42 N., R.13 W., Cole County, at culvert on State Highway 17 at Eugene.	0.17 (0.44)	1961-79	4-11-79	7.98	220
06926200	Van Cleve Branch near Meta	Lat 38°13'35", long 92°09'40", in SE¼NE¼ sec.8, T.40 N., R.11 W., Maries County, 20 ft (6.1 m) upstream from culvert under State Highway 133, 7 mi (11.3 km) south of Meta.	0.75 (1.94)	1957-72f 1973-79	4-11-79	3.79	262
06926800	Long Branch near Vienna	Lat 38°11'00", long 92°05'05", in SW¼NW¼ sec.30, T.40 N., R.10 W., Maries County, at culvert on State Highway 42, 7.5 mi (12.1 km) west of Vienna.	0.32 (0.83)	1958-79	4-11-79	8.80	265
06927000	Maries River at Westphalia	Lat 38°25'55", long 91°59'23", in NE¼ sec.35, T.43 N., R.10 W., Osage County, at bridge on U.S. Highway 63, 0.8 mi (1.3 km) southeast of Westphalia, 1.2 mi (1.9 km) downstream from Little Maries Creek, and at mile 9.9 (15.8 km).	257 (666)	1947-70† 1971-79	4-12-79	20.06	24,300
Auxvasse Creek basin							
06927100	Doane Branch near Kingdom City	Lat 38°56'20", long 91°49'40", in NE¼ sec.17, T.48 N., R.8 W., Callaway County, at culvert on access road to Interstate Highway 70, 0.9 mi (1.5 km) east of Auxvasse Creek and about 6 mi (9.7 km) east of Kingdom City.	0.54 (1.40)	1955-59 1960-62f 1963 1965-79d	4-11-79	10.87	80
Gasconade River basin							
06927600	Wheeler Branch near Mountain Grove	Lat 37°06'52", long 92°16'37", in SW¼NE¼ sec.17, T.28 N., R.12 W., Wright County, on State Highway D 0.8 mi (1.3 km) southwest of Mountain Grove.	1.34 (3.47)	1955-79d	4-11-79	4.63	460
06928000	Gasconade River near Hazelgreen	Lat 37°45'33", long 92°27'06", in SE¼SE¼ sec. 15, T.35 N., R.14 W., Laclede County, at bridge on south access road, 400 ft (122 m) upstream from east bound lane of Interstate 44, 1.5 mi (2.4 km) west of Hazelgreen.	1250 (3240)	1929-71† 1973-79	5-8-73 11-25-73 2-23-75 4-21-76 3-29-77 3-24-78 4-12-79	22.50 18.24 8.75 10.92 17.55 22.65 27.03	35,000 21,700 6,050 8,680 20,100 35,600 55,200

DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of Record	Annual maximum Date	Gage height (feet)	Dis- charge (ft ³ /s)
Gasconade River basin--Continued							
06928700	Beeler Branch near Cabool	Lat 37°06'12", long 92°04'17", in SE¼NE¼SE¼ sec.18, T.28 N., R.10 W., Texas County, at bridge on U.S. Highway 60 & 63, 2.1 mi (3.4 km) southeast of Cabool.	7.78 (20.15)	1968-76† 1977-79	6-29-77 3-25-78 4-11-79	6.67 5.92 7.51	1,390 1,000 1,920
06929000	Coyle Branch at Houston	Lat 37°19'25", long 91°57'12", in NW¼NW¼ sec.8, T.30 N., R.9 W., Texas County, at double culvert on U.S. Highway 63, at east edge of Houston.	1.10 (2.85)	1940-55† 1959-79d	5-3-79	6.29	760
06930750	Prewett Hollow near Dixon	Lat 37°57'25", long 92°04'50", in SW¼SE¼ sec.1, T.37 N., R.11 W., Pulaski County, at culvert on State Highway D, 2 mi southeast of Dixon.	0.46 (1.19)	1960-64 1966f 1967-71 1972-77f 1978-79d	4-11-79	14.41	430
06931000	Beaver Creek near Rolla	Lat 37°52'45", long 91°47'45", in SW¼SE¼ sec.34, T.37 N., R.8 W., Phelps County, at bridge on U.S. Highway 63, 5 mi (8.0 km) south of Rolla.	13.7 (35.5)	1949-58† 1960-79d	7-28-79	9.50	12,000
06931500	Little Beaver Creek near Rolla	Lat 37°56'06", long 91°50'11", in NW¼NW¼ sec.17, T.37 N., R.8 W., Phelps County, on right bank 1700 ft (518 m) downstream from Interstate 44, 3 mi (4.8 km) west of Rolla.	6.41 (16.6)	1947-75† 1976-79d	5-31-76 3-28-77 3-24-78 4-11-79	4.38 5.33 6.91 7.65	780 1,440 3,680 5,150
06931600	Paulsell Branch near Rolla	Lat 37°55'15", long 91°49'40", in NW¼NE¼ sec.20, T.37 N., R.8 W., Phelps County, at culvert on St. Louis-San Francisco RR, 0.8 mi (1.3 km) above confluence with Little Beaver Creek and 3.5 mi (5.6 km) southwest of Rolla.	2.33 (6.03)	1949-79d	4-11-79	7.00	10,000
06933700	Penzer Hollow near Rolla	Lat 38°00'40", long 91°50'05", in NE¼NW¼ sec.20, T.38 N., R.8 W., Phelps County, at culvert on State Highway E, 5.0 mi (8.0 km) north of Rolla.	0.27 (0.70)	1965-64 1966f 1967-79d	4-11-79	17.81	210
Loutre River basin							
06934600	Rumbo Branch at Danville	Lat 38°55'00", long 91°32'03", in SW¼NE¼ sec.24, T.48 N., R.6 W., Montgomery County, at culvert on State Highway 161, 0.5 mi (0.8 km) north of Danville.	1.40 (3.63)	1954-58 1959-79d	4-11-79	6.98	470
Little Berger Creek basin							
06934750	Little Berger Creek Tributary near Hermann	Lat 38°40'10", long 91°22'25", in NW¼NE¼ sec.9, T.45 N., R.4 W., Gasconade County, at culvert on State Highway 100, 4 mi (6.4 km) southeast of Hermann.	0.25 (0.65)	1955-70 1971-77f 1978-79d	4-11-79	15.05	100
Bonhomme Creek basin							
06935800	Shotwell Creek near Ellisville	Lat 38°37'05", long 90°35'00", in NW¼NW¼ sec.28, T.45 N., R.4 E., St. Louis County, at culvert on State Highway 340, 1.8 mi (2.9 km) north of Ellisville.	0.81 (2.10)	1960-62 1963-78f 1979d	4-11-79	9.05	600
Meramec River basin							
07011200	Love Creek near Salem	Lat 37°38'10", long 91°33'35", in W¼NE¼ sec.23, T.34 N., R.6 W., Dent County, at culvert under State Highways 32 and 72, 0.5 mi (0.8 km) west of Salem.	0.89 (2.13)	1955-59 1960-63f 1964-79d	4-11-79	7.13	365

DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum Date	Gage height (feet)	Dis-charge (ft ³ /s)
Meramec River basin--Continued							
07011300	Ragan Branch near Rolla	Lat 37°49'05", long 91°41'45", in NE¼NE¼ sec.28, T.36 N., R.7 W., Phelps County, at bridge on State Highway 72, 3 mi (4.8 km) northwest of Lake Spring and 9 mi (14.5 km) southeast of Rolla.	6.58 (17.0)	1949-79d	4-11-79	6.07	1,650
07011600	Love Branch at Rolla	Lat 37°56'23', long 91°46'11", in NE¼NE¼SE¼ sec.11, T.37 N., R.8 W., Phelps County, at culvert under State Highway 72, 0.5 mi (0.8 km) from junction U.S. 63 & 72, in Rolla.	1.72 (4.45)	1978-79	3-23-78 4-11-79	2.64 4.37	460 1,700
07012000	Behmke Branch near Rolla	Lat 37°56'05", long 91°42'35", in NE¼NE¼ sec.17, T.37 N., R.7 W., Phelps County, 300 ft (91.4 m) upstream from county highway bridge and 3.5 mi (5.6 km) south-east of Rolla.	1.05 (2.72)	1945-49† 1960-79d	2-22-79	5.59	4,000
07015800	Langenberg Branch near Rosebud	Lat 38°23'03", long 91°25'41", in SE¼NE¼ sec.13, T.42 N., R.5 W., Gasconade County, at culvert under State Highway 28, 1.7 mi west of Rosebud.	0.64 (1.66)	1960-64 1966-70f 1971-79d	4-11-79	10.29	270
07017500	Dry Branch near Bonne Terre	Lat 37°55'46", long 90°27'40", at west-central edge of Survey 3062, T.37 N., R.5 E., St. Francois County, on bridge on State Highway K, 4.5 mi (7.2 km) east of Bonne Terre.	3.35 (8.68)	1956-75† 1976-79	6-1-76 3-28-77 12-5-77 4-11-79	3.01 3.19 2.51 5.47	420 480 230 1,450
07017700	Fountain Farm Branch near Potosi	Lat 37°58'20", long 90°43'40", in SE¼NE¼ sec.32, T.38 N., R.3 E., Washington County, at culvert under State Highway E, about 4 mi (6.4 km) northeast of Potosi.	2.16 (5.59)	1957-79	4-11-79	14.66	880
Plattin Creek basin							
07019820	Murphy Branch near Crystal City	Lat 38°11'12", long 90°23'46", in NW portion of Missouri Survey No. 1995, T.40 N., R.6 E., Jefferson County, at culvert under U.S. Highway 61, and 2.5 mi (4.0 km) southwest of Crystal City.	0.45 (1.14)	1955-60 1961-63f 1964-79d	4-11-79	7.73	198
Apple Creek basin							
07020700	Hoehs Branch near Uniontown	Lat 37°37'50", long 89°43'50", in SW¼SE¼ sec.20, T.34 N., R.12 E., Perry County, on bridge on U.S. Highway 61, 1.2 mi (1.9 km) north of Uniontown.	1.66 (4.03)	1955-79d	4-11-79	10.97	520
Headwater diversion channel basin							
07021200	Sunnybrook Creek at Lutesville	Lat 37°17'05", long 89°58'55", in NW¼SE¼ sec.7, T.30 N., R.10 E., Bollinger County, on bridge under State Highway 51, 0.5 mi (0.8 km) south of Lutesville.	0.52 (1.35)	1955-79d	4-11-79	1.85	90
St. Francis River basin							
07033000	Wolf Creek near Farmington	Lat 37°45'45", long 90°23'15", in SE¼ sec.5, T.35 N., R.6 E. St. Francois County, at bridge on State Highway 00, 1.5 mi (0.8 km) southeast of Farmington.	40.3 (104)	1940† 1955-79d	4-11-79	16.19	4,700
07035500	Barnes Creek near Fredericktown	Lat 37°34'20", long 90°23'00", in SW¼SE¼ sec.4, T.33 N., R.6 E., Madison County, on Highway 72 bridge, 5.3 mi (8.5 km) west of Fredericktown.	4.03 (10.44)	1956-75† 1976-79	7-3-76 3-28-77 12-13-77 4-11-79	5.26 7.36 3.83 8.13	850 2,140 289 2,830

DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual Date	maximum Gage height (feet)	Dis-charge (ft ³ /s)
St. Francis River basin--Continued							
07037700	Clark Creek near Piedmont	Lat 37°11'08", long 90°37'47", in SE¼NE¼ sec.17, T.29 N., R.4 E., Wayne County, at bridge on State Highway 34, 3.5 mi (5.6 km) north-east of Piedmont.	4.39 (11.37)	1957-76† 1977-79	+ + 4-11-79	+ + 2.02	<1 <1 2.6
07038000	Clark Creek at Patterson	Lat 37°11'25", long 90°32'20", in NE¼ sec.18, T.29 N., R.5 E., Wayne County, at bridge on State Highway 34, 0.6 mi (1.0 km) east of Patterson.	37.5 (97.1)	1940† 1955-79d	12-31-78	9.00	3,500
07040040	Delaware Creek Tributary near Bloomfield	Lat 36°51'35", long 89°56'10", in NW¼NE¼ sec.35, T.26 N., R.10 E., Stoddard County, at culvert under State Highway 25, 1.8 mi (2.9 km) southwest of Bloomfield.	0.38 (0.98)	1955-71 1972-77f 1978-79d	5-20-79	16.62	370
White River basin							
07050800	Maple Grove Branch near Ozark	Lat 37°04'20", long 93°13'05", in SW¼NE¼ sec.3, T.27 N., R.21 W., Christian County, at culvert under State Highway MN, 3.4 mi (5.5 km) north of Ozark.	0.64 (1.66)	1957-65 1966-71f 1972-79	7-28-79	9.90	640
07052050	North Fork Wilsons Creek at Springfield	Lat 37°12'19", long 93°20'52", in SE¼SE¼NE¼ sec.20, T.29 N., R.22 W., Greene County, on culvert wingwall on State Highway 13 & U.S. Highway 160 at Springfield.	5.12 (13.26)	1973-79	+ 3-11-74 6-17-75 + + 3-24-78 5-20-79	10.75 9.35 9.65 + + 8.30 11.84	+ 1,350 900 + + 220 1,500
07052700	Brawley Hollow near Cassville	Lat 36°38'50", long 93°54'15", in NE¼SE¼ sec.1, T.22 N., R.28 W., Barry County, at culvert under State Highway 37, 3.1 mi (5.0 km) southwest of Cassville.	2.61 (6.76)	1960-66 1967-77f 1978-79d	4-11-79	13.63	220
07053950	Ingenthron Hollow near Forsyth	Lat 36°43'52", long 93°07'30", in SW¼NE¼ sec.17, T.24 N., R.20 W., Taney County, at culvert under State Highway H, 2 mi (3.2 km) north of Forsyth.	0.65 (1.68)	1957-62 1963-66f 1967-79	5-20-79	14.59	220
07054100	Cedar Hollow at Bradleyville	Lat 36°46'45", long 92°55'25", in NE¼SW¼ sec.10, T.24 N., R.18 W., Taney County, at culvert under State Highway 76, 0.8 mi (1.3 km) southwest of Bradleyville.	0.83 (2.15)	1957-79	5-20-79	6.57	350
07054200	Yandell Branch near Kirbyville	Lat 36°36'36", long 93°05'47", in SW¼ sec.27, T.23 N., R.20 W., Taney County, at culvert on State Highway K, 2.8 mi (4.5 km) southeast of Kirbyville.	0.33 (0.85)	1955-66 1967-72f 1973-79d	3-3-79	13.93	32
07054300	Gray Branch at Lutie	Lat 36°35'05", long 92°42'30", in NE¼SW¼ sec.15, T.22 N., R.16 W., Ozark County, at culvert under U.S. Highway 160, 1.7 mi (2.7 km) west of Lutie.	0.23 (0.60)	1955-59 1960-62f 1963-71 1973-79d	4-11-79	13.62	222
07061800	Brawley Hollow near Centerville	Lat 37°20'59", long 90°58'14", in SE¼NW¼ sec.29, T.31 N., R.1 E., Reynolds County, at culvert under State Highway 21, about 6 mi (9.6 km) south of Centerville.	1.00 (2.59)	1955-79d	5-3-79	4.00	110
07064300	Fudge Hollow near Licking	Lat 37°31'50", long 91°44'15", in NW¼SW¼ sec.29, T.33 N., R.7 W., Texas County, at bridge on State Highway 32, 7.5 mi (12.0 km) east of junction U.S. 63 & 32.	1.72 (4.45)	1957-76† 1977-79	3-28-77 5-8-78 4-11-79	4.16 4.50 5.18	102 149 270

DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual Date	maximum Gage height (feet)	Dis- charge (ft ³ /s)
White River basin--Continued							
07064500	Big Creek near Yukon	Lat 37°13'57", long 91°50'59", in SW¼NW¼ sec.5, T.29 N., R.8 W., Texas County, on left pier, downstream side of State High- way 137 bridge, 3 mi (4.8 km) south of Yukon.	8.36 (21.65)	1949-75† 1976-79d	4-20-76 3-28-77 3-23-78 7-28-79	2.19 5.82 6.01 6.70	10 1,510 1,700 2,460
07066800	Sycamore Creek near Winona	Lat 37°02'45", long 91°19'30", in S¼SW¼ sec.31, T.28 N., R.3 W., Shannon County, at culvert under State Highway 19, about 3 mi (4.8 km) north of Winona.	0.88 (2.28)	1955-64 1966-71f 1972-79d	4-11-79	6.64	360
07068200	North Prong Little Black River at Hunter	Lat 36°53'25", long 90°50'30", in NE¼SE¼ sec.21, T.26 N., R.2 E., Carter County, at culvert under State Highway 21, at Hunter.	1.23 (3.18)	1958-64 1966-71f 1972-79	4-11-79	11.97	185
07068500	Little Black River near Fairdealing	Lat 36°39'40", long 90°34'25", in NW¼NW¼ sec.7, T.23 N., R.5 E., Ripley County, at bridge on U.S. Highway 160, 2.5 mi (4.0 km) east of Fairdealing.	187 (484)	1940-42† 1955-79	4-11-79	19.82	8,320
07069100	Adams Branch near West Plains	Lat 36°41'35", long 91°48'06", in SE¼NW¼ sec.1, T.23 N., R.8 W., Howell County, at culvert under U.S. Highway 63, 4 mi (6.4 km) southeast of West Plains.	2.27 (5.88)	1955-70 1971-77f 1978-79d	4-11-79	4.84	310
07070200	Burnham Branch near Willow Springs	Lat 36°56'00", long 91°56'00", in NW¼NE¼ sec.16, T.26 N., R.9 W., Howell County, at culvert under U.S. Highway 63, 4.5 mi (7.2 km) southeast of Willow Springs.	1.27 (3.29)	1955-72 1973-77f 1978-79d	4-11-79	12.36	210
07071800	Williams Spring Branch near Alton	Lat 36°40'35", long 91°20'10", in SE¼SW¼ sec.6, T.23 N., R.3 W., Oregon County, on bridge on U.S. Highway 160 and 4 mi (6.4 km) east of Alton.	4.24 (11.0)	1954-79d	4-11-79	15.02	1,110
Arkansas River basin							
07185600	South Fork Stahl Creek near Miller	Lat 37°11'15", long 93°50'25", in NE¼NE¼ sec.35, T.29 N., R.27 W., Lawrence County, at culvert on State Highway 39, 2 mi (3.2 km) south of Miller.	0.94 (2.43)	1951-70 1976-79d	5-20-79	7.08	818
07186950	North Fork Carver Branch at Diamond	Lat 36°59'45", long 94°19'50", in SW¼SW¼ sec.4, T.26 N., R.31 W., Newton County, at culvert under State Highway V, 0.8 mi (1.3 km) west of Diamond.	0.33 (0.85)	1955-60 1961-66f 1967-79d	4-11-79	7.78	86

+ Not determined.

† Operated as a continuous-record gaging station.

f Discharge measurements, daily gage height, and rainfall records available.

g Figures of drainage area in parentheses are in square kilometres (km²).

< Less than.

Water-quality partial-record stations are particular sites where chemical-quality, biological and or sediment data are collected systematically over a period of years for use in hydrologic analysis. The data are collected usually less than quarterly.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)
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07064400 - MONTAUK SPRINGS AT MONTAUK, MD (LAT 37°27'36" LONG 091°40'59")

MAY , 1979										
15...	140	177	7.2	13.5	8.8	84	24	62	100	0
SEP										
04...	70	295	7.4	14.5	8.4	82	17	58	160	0

07064440 - CURRENT RIVER BELOW MONTAUK STATE PARK (LAT 37°27'01" LONG 091°29'41")

MAY , 1979										
15...	181	184	7.1	14.0	10.2	98	20	86	96	0
SEP										
04...	90	308	7.8	18.0	10.4	108	14	150	180	0

07064530 - WELCH SPRING NEAR AKERS MD (LAT 37°23'38" LONG 091°34'25")

MAY , 1979										
15...	387	197	7.3	13.5	9.6	91	24	100	112	0
SEP										
04...	127	340	7.3	14.5	9.1	88	8	80	200	0

07064555 - PULLITE SPRING NEAR ROUND SPRING, MD (LAT 37°20'03" LONG 091°29'24")

MAY , 1979										
15...	110	183	7.2	13.5	8.6	82	32	62	108	0
SEP										
05...	57	292	7.6	14.5	8.6	83	2	10	180	0

07065000 - ROUND SPRING AT ROUND SPRING MD (LAT 37°16'57" LONG 091°24'27")

MAY , 1979										
16...	118	195	7.4	13.5	9.2	88	38	140	120	0
SEP										
05...	40	330	7.1	15.0	8.2	81	11	13	190	0

07065500 - ALLEY SPRING AT ALLEY MD (LAT 37°09'14" LONG 091°26'29")

MAY , 1979										
16...	320	150	7.1	13.5	9.2	88	88	130	106	0
SEP										
05...	118	295	7.4	14.5	8.6	83	21	33	170	0

07066110 - JACKS FORK ABOVE TWO RIVERS (LAT 37°10'53" LONG 091°17'36")

MAY , 1979										
16...	980	242	7.5	16.0	9.6	97	74	130	160	0
SEP										
05...	293	345	8.1	24.5	9.6	114	12	24	220	0

07066510 - CURRENT RIVER ABOVE POWDER MILL (LAT 37°10'32" LONG 091°12'48")

MAY , 1979										
16...	3000	238	7.6	15.5	9.6	96	18	38	150	0
SEP										
05...	894	338	8.0	24.5	9.0	107	6	8	200	0

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML) (60050)
07064400 - MONTAUK SPRINGS AT MONTAUK, MD (LAT 37°27'36" LONG 091°40'59")										
MAY , 1979										
15...	.62	.01	.02	.67	.010	3	140	0	20	--
SEP										
04...	.90	.01	.09	1.0	.020	0	2	0	0	--
07064440 - CURRENT RIVER BELOW MONTAUK STATE PARK (LAT 37°27'01" LONG 091°29'41")										
MAY , 1979										
15...	.45	.01	.07	.55	.010	6	45	0	10	110
SEP										
04...	.77	.05	.05	.89	.040	0	1	0	0	160
07064530 - WELCH SPRING NEAR AKERS MD (LAT 37°23'38" LONG 091°34'25")										
MAY , 1979										
15...	.81	.01	.14	.96	.010	10	98	0	20	--
SEP										
04...	.67	.11	.29	1.1	.010	0	1	0	0	--
07064555 - PULLTITE SPRING NEAR ROUND SPRING, MD (LAT 37°20'03" LONG 091°29'24")										
MAY , 1979										
15...	.36	.01	.09	.48	.010	11	150	0	100	--
SEP										
05...	.54	.01	.09	.66	.010	0	2	0	40	--
07065000 - ROUND SPRING AT ROUND SPRING MD (LAT 37°16'57" LONG 091°24'27")										
MAY , 1979										
16...	.43	.01	.04	.50	.010	9	120	0	10	--
SEP										
05...	.41	.00	.10	.51	.010	0	3	0	0	--
07065500 - ALLEY SPRING AT ALLEY MD (LAT 37°09'14" LONG 091°26'29")										
MAY , 1979										
16...	.53	.01	.06	.62	.020	8	74	0	10	--
SEP										
05...	.67	.01	.09	.79	.010	0	2	0	70	--
07066110 - JACKS FORK ABOVE TWO RIVERS (LAT 37°10'53" LONG 091°17'36")										
MAY , 1979										
16...	.22	.01	.04	.29	.010	9	100	0	10	110
SEP										
05...	.28	.01	.05	.34	.010	0	0	0	0	480
07066510 - CURRENT RIVER ABOVE POWDER MILL (LAT 37°10'32" LONG 091°12'48")										
MAY , 1979										
16...	.31	.01	.04	.38	.010	5	47	0	20	240
SEP										
05...	.31	.01	.10	.42	.010	0	4	0	0	--

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	BICAR- BONATE (MG/L AS HCO3) (00440)	CAR- BONATE (MG/L AS CO3) (00445)
07066550 - BLUE SPRING NEAR EMINENCE, MO. (LAT 37°09'58" LONG 091°09'47")										
MAY , 1979										
16...	273	143	7.1	13.5	9.8	93	2	22	68	0
SEP										
05...	103	310	7.2	15.5	9.8	98	3	1	170	0
07067500 - BIG SPRING NEAR VAN BUREN MO (LAT 36°57'05" LONG 090°59'36")										
MAY , 1979										
17...	790	210	7.1	13.0	9.2	87	18	700	140	0
SEP										
06...	408	355	7.4	15.0	8.8	87	12	10	220	0
07067800 - CURRENT RIVER BELOW HAWES CAMPGROUND (LAT 36°49'08" LONG 090°56'48")										
MAY , 1979										
17...	4500	222	7.6	16.0	9.0	91	66	440	144	0
SEP										
06...	1480	340	7.9	22.0	8.6	98	9	14	210	0

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML) (60050)
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07066550 - BLUE SPRING NEAR EMINENCE, MO. (LAT 37°09'58" LONG 091°09'47")

MAY , 1979										
16...	.56	.01	.04	.63	.010	9	100	0	10	--
SEP										
05...	.44	.00	.46	.90	.010	0	3	0	0	--

07067500 - BIG SPRING NEAR VAN BUREN MO (LAT 36°57'05" LONG 090°59'36")

MAY , 1979										
17...	.43	.01	.03	.47	.010	8	95	0	20	--
SEP										
06...	.35	.00	.10	.45	.010	0	3	0	0	--

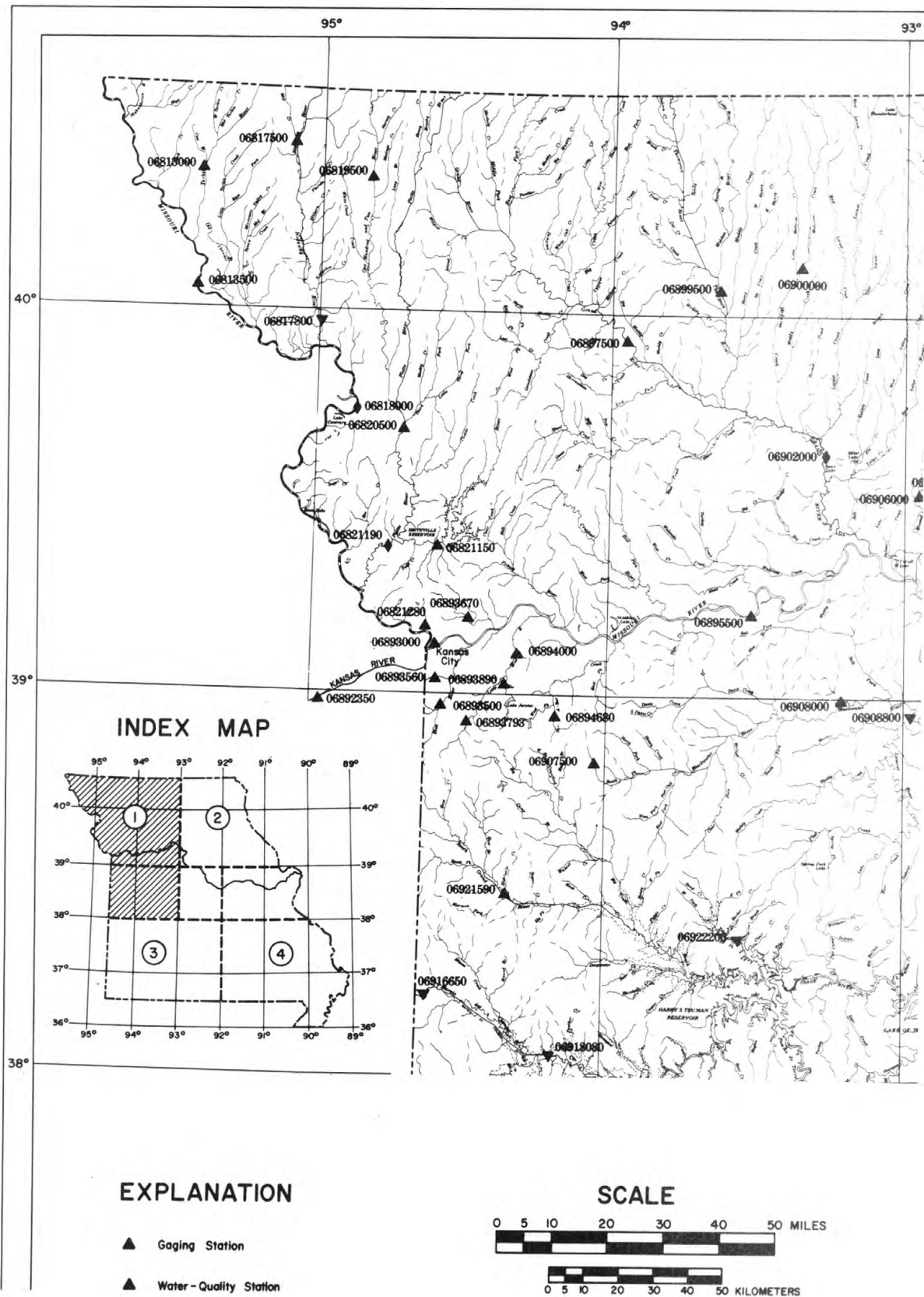
07067800 - CURRENT RIVER BELOW HAWES CAMPGROUND (LAT 36°49'08" LONG 090°56'48")

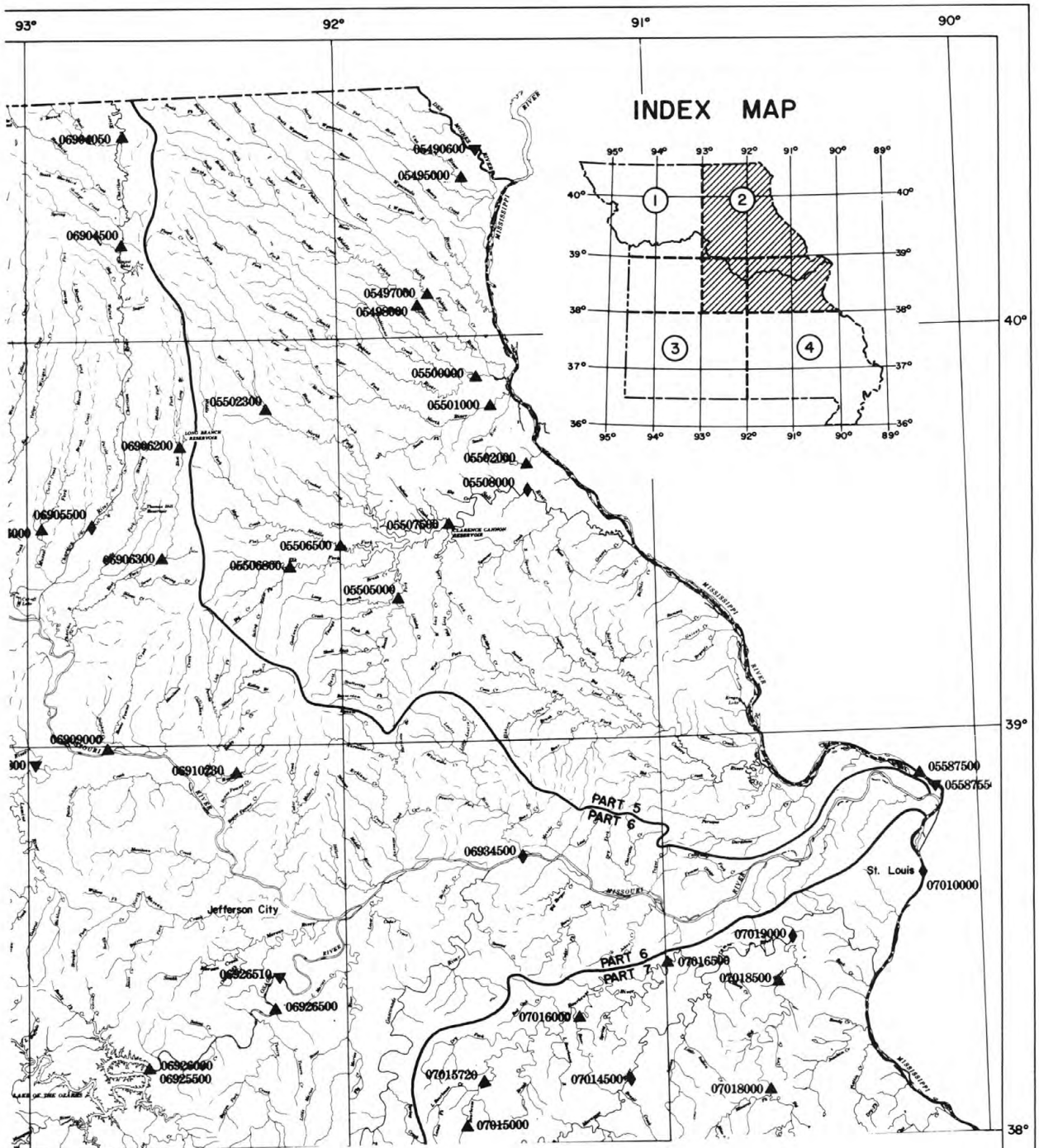
MAY , 1979										
17...	.30	.00	.03	.35	.010	4	57	0	10	900
SEP										
06...	.25	.01	.18	.44	.010	0	2	0	0	--

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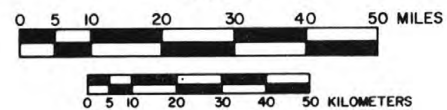


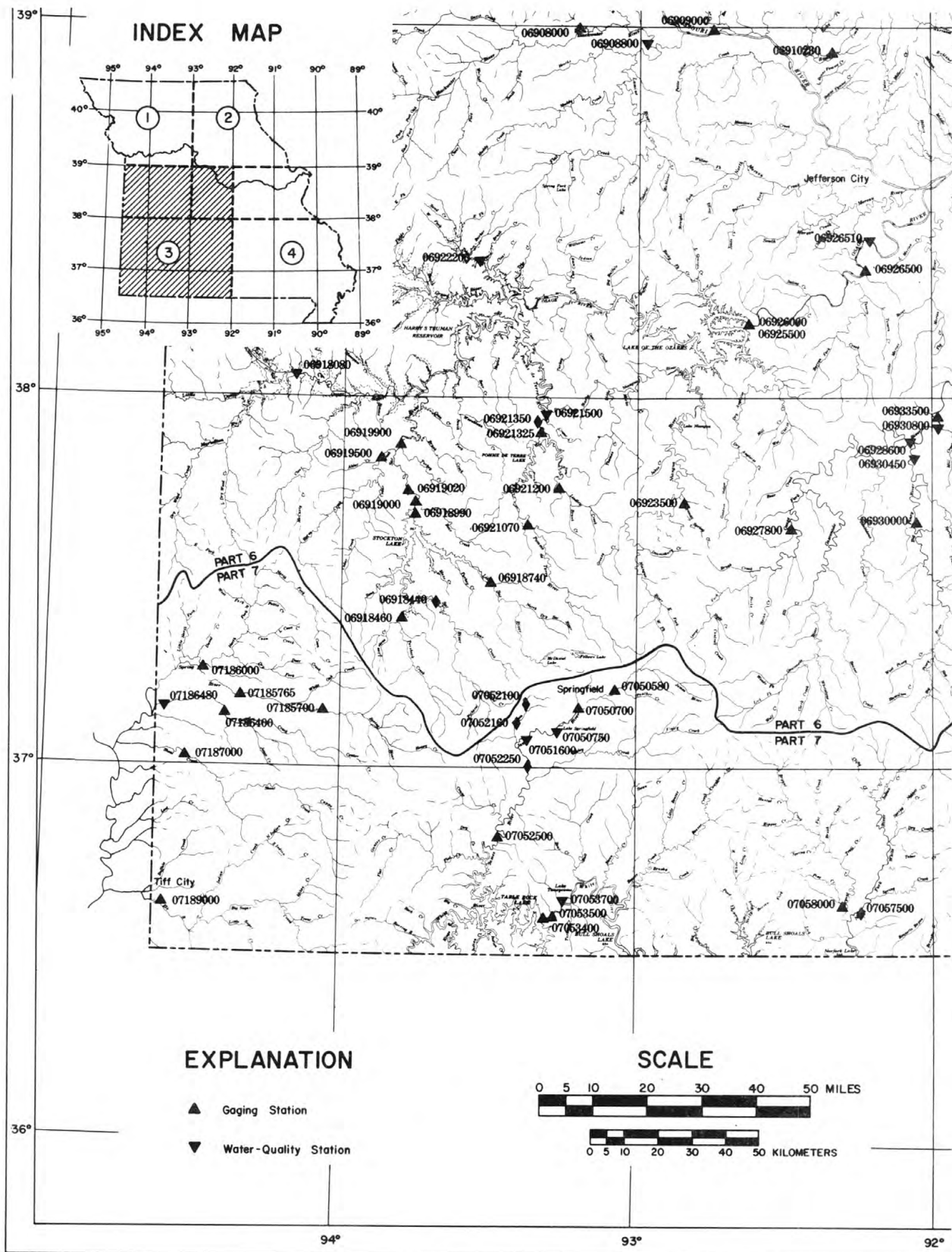


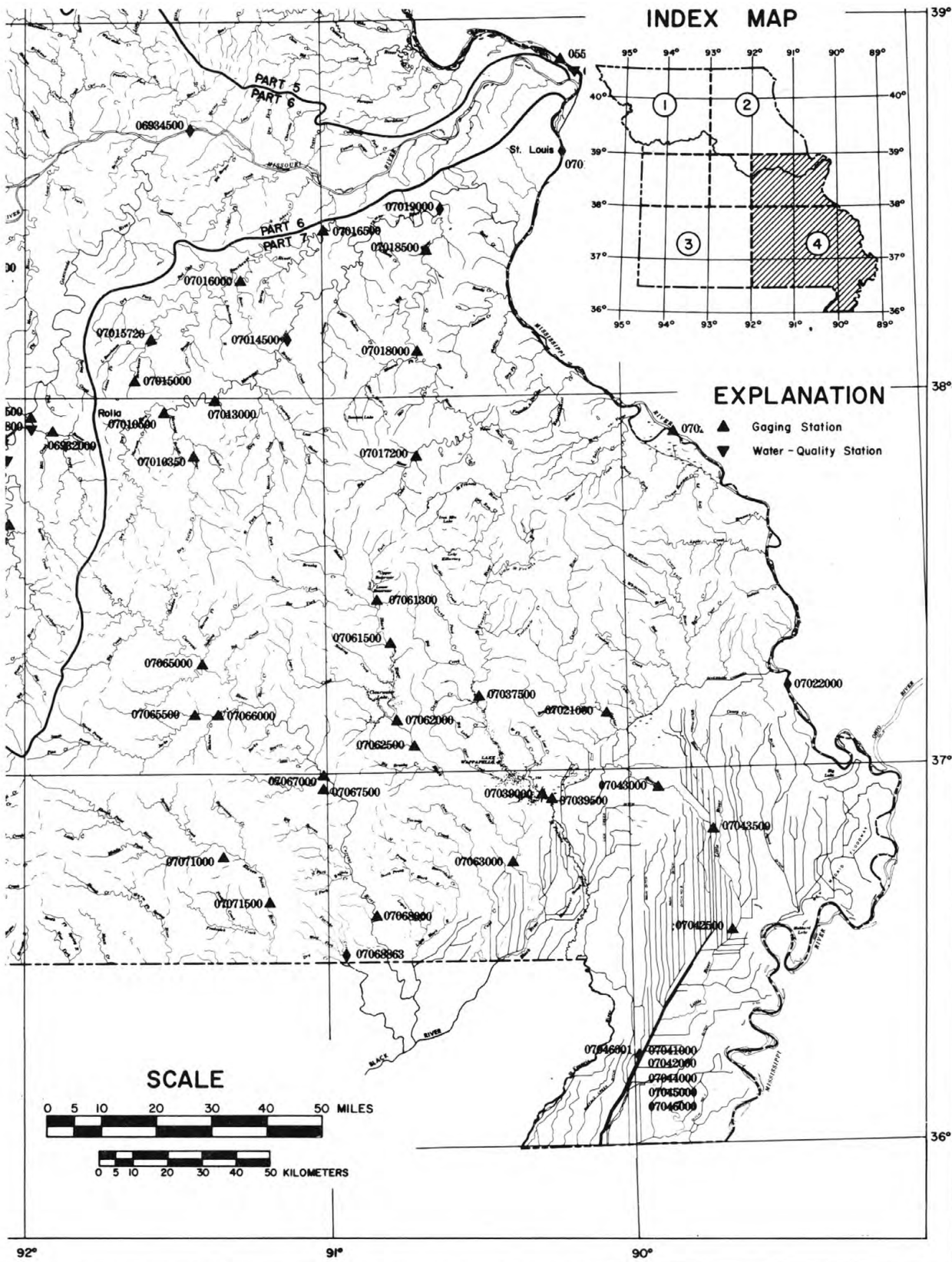
EXPLANATION

- ▲ Gaging Station
- ▼ Water-Quality Station

SCALE







FACTORS FOR CONVERTING ENGLISH UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the English units published herein to the International System of Units (SI). Subsequent reports will contain both the English and SI unit equivalents in the station manuscript descriptions until such time that all data will be published in SI units.

Multiply English units	By	To obtain SI units
<i>Length</i>		
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)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	*hectares (ha)
	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)
<i>Volume</i>		
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 (10 ⁶ gal)	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 [(ft ³ /s) · d]	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)
<i>Flow</i>		
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 (mgal/d)	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	tonnes (t)

*The unit hectare is approved for use with the International System (SI) for a limited time. See NBS Special Bulletin 330, p.15, 1972 edition.

**The unit liter is accepted for use with the International System (SI). See NBS Special Bulletin 330, p. 13, 1972 edition.

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