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Statistical Summaries of Streamflow in Oklahoma Through 1999

By Robert L. Tortorelli

Water-Resources Investigations Report 02-4025

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On Cover: Baron Fork at Eldon, Oklahoma. Low-flow photograph was taken September 1998. High-flow photograph was taken June 2000.

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CONVERSION FACTORS, ABBREVIATIONS, AND VERTICAL DATUM

| Multiply | By | To obtain |
|--|---------|------------------------|
| inch (in.) | 25.4 | millimeter |
| mile (mi) | 1.609 | kilometer |
| square mile (mi ²) | 2.590 | square kilometer |
| cubic foot per second (ft ³ /s) | 0.02832 | cubic meter per second |

Sea level: In this report “sea level” refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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ABSTRACT

Statistical summaries of streamflow records through 1999 for gaging stations in Oklahoma and parts of adjacent states are presented for 188 stations with at least 10 years of streamflow record. Streamflow at 113 of the stations is regulated for specific periods. Data for these periods were analyzed separately to account for changes in streamflow due to regulation by dams or other human modification of streamflow.

A brief description of the location, drainage area, and period of record is given for each gaging station. A brief regulation history also is given for stations with a regulated streamflow record. This descriptive information is followed by tables of mean annual discharges, magnitude and probability of exceedance of annual high flows, magnitude and probability of exceedance of annual instantaneous peak flows, durations of daily mean flow, magnitude and probability of non-exceedance of annual low flows, and magnitude and probability of non-exceedance of seasonal low flows.

INTRODUCTION

Streamflow statistics are used by individuals and organizations involved in the planning of projects with surface-water resources. The last report that published summaries of streamflow statistics in Oklahoma used streamflow data through 1984 (Heimann and Tortorelli, 1988). The U. S. Geological Survey (USGS), in cooperation with the Oklahoma Department of Envi-

ronmental Quality, conducted an investigation to update streamflow statistics in Oklahoma.

At least 10 years of daily streamflow data exist for 174 streamflow gaging stations in Oklahoma and 14 in nearby parts of adjacent states. Since 1984 there have been several streamflow sites: 1) with additional years of record, or 2) not previously analyzed that are included because they now have 10 years or more of data, or 3) that are now regulated. Useful summaries for streamflow data represent mean annual flow, low- and high-flow frequency statistics, peak-flow statistics, and flow-duration statistics. Information about mean annual flow, low-flow and high-flow characteristics, and flow-duration statistics is essential to water-management agencies dealing with problems related to irrigation, municipal and industrial water supplies, and fish and wildlife conservation.

Low-flow statistics are particularly important to assess the capability of a stream to receive and assimilate treated wastewater. Low-flow statistics are used in developing wastewater permits and determining total maximum daily loads of streams. Annual and seasonal 7-day, 2-year low-flow streamflows are used as part of the criteria for developing wasteload allocations for permit purposes and is specifically cited in State statutes. Other low-flow durations (1, 3, 10, 30, and 60 days) and frequencies (5, 10, and 20 years) also are useful to characterize streamflow at a site.

Knowledge of high-flow and peak-flow statistics is required for the safe and economical design of highway bridges, culverts, dams, levees, and other structures on or near streams and for disaster planning. Flood plain management programs and flood-insurance rates also are based on peak-flow magnitude and frequency information.

Purpose and Scope

The purposes of this report are to: (1) update mean annual flow, annual low- and high-flow statistics, and flow-duration statistics for each streamflow gaging station with 10 years or more of streamflow record; (2) present seasonal low-flow statistics for these gaging stations for three Oklahoma growth seasons: (a) spring (April 1 - May 31), (b) summer (June 1 - October 31), and (c) winter (November 1 - March 31); (3) update annual peak-flow statistics of these gaging stations; and (4) present analyses of unregulated and regulated periods of record separately, to reconcile changes in streamflow due to regulating structures and other human modifications of streamflow.

The scope of this report was limited to stations with at least 10 years of unregulated or regulated streamflow records through September 1999. A total of 188 streamflow gaging station records were analyzed, with 174 stations in Oklahoma and 14 nearby stations in Kansas, Missouri, Arkansas, and Texas. The streamflow records are from unregulated streams with no significant flow regulation, irrigation or urbanization, and from streams that are significantly affected by regulation, irrigation, and urbanization. Significant regulation by dams or other human modification of streamflow is defined as 20 percent or more of the contributing drainage basin affected (Heimann and Tortorelli, 1988).

Acknowledgments

Several U.S. Geological Survey personnel in Oklahoma provided assistance with this report. Lan McCabe helped with the data analysis; Kristi Hamilton assisted with the data input into the report tables; and Michael Stallings produced the streamflow-gaging station site map. The author gratefully acknowledges and appreciates their contribution.

STATISTICAL SUMMARIES

Site Selection

The sites selected for analysis are shown in figure 1 and described in table 1. For major streams

flowing into Oklahoma, the nearest gaging stations in the nearby parts of adjacent states were selected for analysis. Fourteen stations on major rivers in adjacent states and 174 streamflow-gaging stations in Oklahoma were selected. Only continuous-record sites with at least 10 years of unregulated or regulated data were selected for analysis. Streamflow at 113 of the stations is known to be affected by regulation, urbanization, or irrigation well development (Wahl and Tortorelli, 1997) for specific periods. Fifty-two of the 113 stations were analyzed for both unregulated and human-modified periods. Two of the regulated sites in the 113 stations were analyzed for periods of flow regulation and separate periods of flow regulation with irrigation development. The drainage-area distribution of the streamflow gaging stations in the 242 analyses is shown in table 2.

A regulated period of record in this report is defined as the period during which at least 20 percent of the drainage area upstream of a station is controlled by dams, floodwater-retarding structures, or other human modification of streamflow (Heimann and Tortorelli, 1988). An urban period of record is defined as the period during which at least 20 percent of the drainage basin upstream of a station is impervious cover due to urbanization. An irrigation period of record is defined by those stations in the Beaver-North Canadian River above Canton Lake affected by irrigation well development in Wahl and Tortorelli (1997). Streamflow at some other stations likely has been affected by ground water development, but it has not been documented. If the flow at a streamflow station is regulated and the drainage basin area is significantly changed by further regulation or human modification, an attempt was made to define the regulated period when further change had substantively stopped. However, regulated statistics may be biased due to the extent regulation has changed during some regulated periods. The differences in statistical summaries for different periods of record at a site also may be the result of different climatic conditions rather than differences in regulation. The period of record by type of streamflow modification is listed in table 1.

Description of Streamflow Statistics Tables

The summary streamflow statistics tables presented in the back of this report for each station are

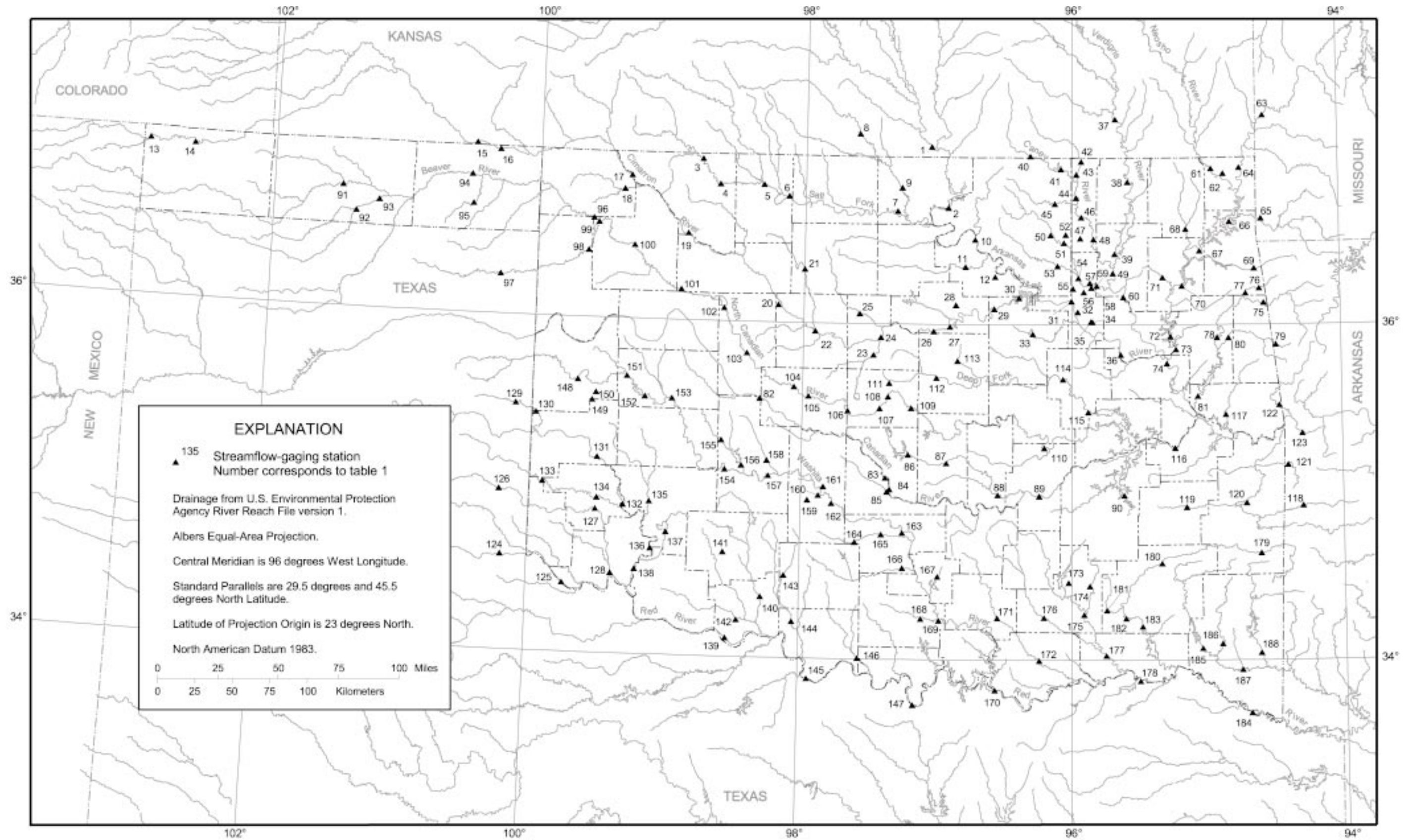


Figure 1. Location of streamflow-gaging stations with at least 10 years of streamflow data used in study.

Table 1. Summary of streamflow period of record used in study for selected continuous-record streamflow-gaging stations with at least 10 years of streamflow data from unregulated, regulated, and urban basins within and near Oklahoma

[I, irrigation; N, unregulated; R, regulated; U, urban; mi², square miles; dms, degrees, minutes, seconds; R., river; nr, near; Ck, Creek; abv, above; St, Street; L, Little; SWS, subwatershed; blw, below; Ave, Avenue; N., North; Lk, Lake; OKC, Oklahoma City; L&D, Lock and Dam; Fk, Fork; No., number; WY, water year]

| Site number (fig. 1) | Station number | Station name | Type of record (I/N/R/U) | Period of record (complete water year) | Contributing drainage area (mi ²) | Latitude (dms) | Longitude (dms) |
|----------------------|----------------|--|--------------------------|--|---|----------------|-----------------|
| 1 | 07146500 | Arkansas River at Arkansas City, Kans. | N R | 1903-05, 22-42 1943-99 | 36,106 | 370323 | 0970332 |
| 2 | 07148140 | Arkansas River near Ponca City, Okla. | R | 1977-1993 | 38,923 | 364136 | 0965548 |
| 3 | 07148350 | Salt Fork Arkansas R. nr Winchester, Okla. | N | 1960-93 | 856 | 365742 | 0984655 |
| 4 | 07148400 | Salt Fork Arkansas R. near Alva, Okla. | N | 1938-51, 80-99 | 1,009 | 364854 | 0983852 |
| 5 | 07149500 | Salt Fork Arkansas R. near Cherokee, Okla. | N | 1941-50 | 2,439 | 364906 | 0981908 |
| 6 | 07150500 | Arkansas River near Jet, Okla. | N R | 1938-40 1942-93 | 3,194 | 364509 | 0980743 |
| 7 | 07151000 | Salt Fork Arkansas R. at Tonkawa, Okla. | N R | 1936-40 1942-99 | 4,520 | 364019 | 0971833 |
| 8 | 07151500 | Chickaskia River near Corbin, Kans. | N | 1951-65, 76-99 | 794 | 370744 | 0973604 |
| 9 | 07152000 | Chickaskia River near Blackwell, Okla. | N | 1937-99 | 1,859 | 364841 | 0971637 |
| 10 | 07152500 | Arkansas River at Ralston, Okla. | N R | 1926-75 1977-99 | 46,850 | 363015 | 0964341 |
| 11 | 07153000 | Black Bear Creek at Pawnee, Okla. | N R | 1945-62 1968-99 | 576 | 362037 | 0964757 |
| 12 | 07153100 | Ranch Ck at Cleveland Dam nr Cleveland, Okla. | R | 1946-63 | 21.9 | 361700 | 0963435 |
| 13 | 07154500 | Cimarron River near Kenton, Okla. | N | 1951-99 | 1,038 | 365536 | 1025731 |
| 14 | 07155000 | Cimarron R. abv Ute Ck nr Boise City, Okla. | N | 1943-54 | 1,879 | 365446 | 1023708 |
| 15 | 07156900 | Cimarron River near Forgan, Okla. | N | 1966-86, 88-99 | 4,220 | 370040 | 1002929 |
| 16 | 07157000 | Cimarron River near Mocane, Okla. | N | 1943-65 | 4,305 | 365833 | 1001850 |
| 17 | 07157950 | Cimarron River near Buffalo, Okla. | N | 1961-94 | 7,191 | 365107 | 0991854 |
| 18 | 07157960 | Buffalo Creek near Lovedale, Okla. | N | 1967-93 | 408 | 364614 | 0992200 |
| 19 | 07158000 | Cimarron River near Waynoka, Okla. | N | 1938-99 | 8,504 | 363102 | 0985245 |
| 20 | 07158400 | Salt Creek near Okeene, Okla. | N | 1962-67, 75-79 | 196 | 360611 | 0981136 |
| 21 | 07159000 | Turkey Creek near Drummond, Okla. ¹ | N | 1948-70 | 248 | 361905 | 0980003 |
| 22 | 07159100 | Cimarron River near Dover, Okla. | N | 1974-99 | 10,787 | 355706 | 0975451 |
| 23 | 07159750 | Cottonwood Creek near Seward, Okla. | R | 1974-82, 91-99 | 320 | 354849 | 0972840 |
| 24 | 07160000 | Cimarron River near Guthrie, Okla. | N | 1938-76, 84-99 | 11,966 | 355514 | 0972532 |
| 25 | 07160500 | Skeleton Creek near Lovell, Okla. | N | 1950-93 | 410 | 360336 | 0973505 |
| 26 | 07161000 | Cimarron River at Perkins, Okla. | N | 1940-89 | 12,926 | 355727 | 0970154 |
| 27 | 07161450 | Cimarron River near Ripley, Okla. ² | N | 1988-99 | 13,053 | 355909 | 0965443 |
| 28 | 07163000 | Council Creek near Stillwater, Okla. | N | 1935-93 | 31.0 | 360658 | 0965203 |
| 29 | 07163500 | Cimarron River at Oilton, Okla. | N | 1935-45 | 13,743 | 360538 | 0963452 |
| 30 | 07164000 | Cimarron River at Mannford, Okla. | N | 1939-50, 60-62 | 13,923 | 360940 | 0962310 |

Table 1. Summary of streamflow period of record used in study for selected continuous-record streamflow-gaging stations with at least 10 years of streamflow data from unregulated, regulated, and urban basins within and near Oklahoma—Continued

| Site number (fig. 1) | Station number | Station name | Type of record (I/N/R/U) | Period of record (complete water year) | Contributing drainage area (mi ²) | Latitude (dms) | Longitude (dms) |
|----------------------|----------------|--|--------------------------|--|---|----------------|-----------------|
| 31 | 07164500 | Arkansas River at Tulsa, Okla. | N | 1926-64 | 62,074 | 360826 | 0960022 |
| | | | R | 1965-99 | | | |
| 32 | 07164600 | Joe Creek at 61st Street at Tulsa, Okla. | U | 1989-99 | 12.2 | 360432 | 0955737 |
| 33 | 07165500 | Polecat Creek below Heyburn Lake near Heyburn, Okla. | N | 1943-50 | 123 | 355642 | 0961739 |
| | | | R | 1951-79 | | | |
| 34 | 07165562 | Haikey Ck at 101st St South at Tulsa, Okla. | U | 1989-99 | 17.8 | 360101 | 0955055 |
| 35 | 07165565 | L Haikey Ck at 101st St South at Tulsa, Okla. | U | 1988-99 | 5.45 | 360103 | 0955138 |
| 36 | 07165570 | Arkansas River near Haskell, Okla. | R | 1973-99 | 62,932 | 354915 | 0953819 |
| 37 | 07170500 | Verdigris River at Independence, Kans. | N | 1896-1903, 22-59 | 2,892 | 371324 | 0954037 |
| | | | R | 1967-99 | | | |
| 38 | 07171000 | Verdigris River near Lenapah, Okla. | N | 1939-59 | 3,639 | 365104 | 0953509 |
| | | | R | 1967-99 | | | |
| 39 | 07171400 | Verdigris River near Oologah, Okla. | R | 1964-92 | 4,339 | 362514 | 0954103 |
| 40 | 07172000 | Caney River near Elgin, Kans. | N | 1940-64 | 445 | 370014 | 0961900 |
| | | | R | 1965-99 | | | |
| 41 | 07173000 | Caney River near Hulah, Okla. | N | 1938-50 | 733 | 365537 | 0960506 |
| | | | R | 1952-93 | | | |
| 42 | 07174000 | Little Caney River near Copan, Okla. | N | 1944-58 | 424 | 365815 | 0955605 |
| 43 | 07174200 | Little Caney River below Cotton Creek near Copan, Okla. ³ | N | 1959-64 | 502 | 365342 | 0955809 |
| | | | R | 1969-80 | | | |
| 44 | 07174400 | Caney R. abv Coon Ck at Bartlesville, Okla. | R | 1986-99 | 1,392 | 364520 | 0955819 |
| 45 | 07174600 | Sand Creek at Okesa, Okla. | N | 1960-93 | 139 | 364310 | 0960756 |
| 46 | 07174700 | Caney River near Ochelata, Okla. | R | 1957-76 | 1,753 | 363826 | 0955602 |
| 47 | 07175000 | Double Creek SWS 5 near Ramona, Okla. | R | 1956-69 | 2.39 | 363050 | 0955625 |
| 48 | 07175500 | Caney River near Ramona, Okla. | N | 1945-50 | 1,955 | 363032 | 0955030 |
| | | | R | 1984-99 | | | |
| 49 | 07176000 | Verdigris River near Claremore, Okla. | N | 1936-62 | 6,534 | 361826 | 0954152 |
| | | | R | 1964-99 | | | |
| 50 | 07176465 | Birch Ck blw Birch Lake near Barnsdall, Okla. | R | 1978-92 | 66.0 | 363200 | 0960943 |
| 51 | 07176500 | Bird Creek at Avant, Okla. | N | 1946-76 | 364 | 362912 | 0960350 |
| | | | R | 1978-99 | | | |
| 52 | 07176800 | Candy Creek near Wolco, Okla. | N | 1970-80 | 30.6 | 363206 | 0960254 |
| 53 | 07177000 | Hominy Creek near Skiatook, Okla. | N | 1945-80 | 340 | 362055 | 0960635 |
| 54 | 07177500 | Bird Creek near Sperry, Okla. | N | 1939-84 | 905 | 361642 | 0955714 |
| | | | R | 1985-99 | | | |
| 55 | 07177650 | Flat Rock Ck at Cincinnati Ave at Tulsa, Okla. | U | 1989-99 | 8.20 | 361255 | 0955942 |

Table 1. Summary of streamflow period of record used in study for selected continuous-record streamflow-gaging stations with at least 10 years of streamflow data from unregulated, regulated, and urban basins within and near Oklahoma—Continued

| Site number (fig. 1) | Station number | Station name | Type of record (I/N/R/U) | Period of record (complete water year) | Contributing drainage area (mi ²) | Latitude (dms) | Longitude (dms) |
|----------------------|----------------|---|--------------------------|--|---|----------------|-----------------|
| 56 | 07177800 | Coal Creek at Tulsa, Okla. | U | 1989-99 | 7.53 | 361140 | 0955450 |
| 57 | 07178000 | Bird Creek near Owasso, Okla. | R | 1988-99 | 1,022 | 361454 | 0955201 |
| 58 | 07178040 | Mingo Ck at 46th Street North at Tulsa, Okla. | U | 1988-97 | 59.9 | 361314 | 0955130 |
| 59 | 07178200 | Bird Ck at State Highway 266 nr Catoosa, Okla. | R | 1989-99 | 1,103 | 361323 | 0954909 |
| 60 | 07178600 | Verdigris River near Inola, Okla. | N | 1945-62 | 7,911 | 360943 | 0953707 |
| | | | R | 1964-70 | | | |
| 61 | 07185000 | Neosho River near Commerce, Okla. | N | 1940-62 | 5,876 | 365543 | 0945726 |
| | | | R | 1964-99 | | | |
| 62 | 07185095 | Tar Creek at 22nd Street Bridge at Miami, Okla. | U | 1985-93 | 44.7 | 365400 | 0945205 |
| 63 | 07186000 | Spring River near Waco, Mo. ⁴ | N | 1925-99 | 1,164 | 371444 | 0943358 |
| 64 | 07188000 | Spring River near Quapaw, Okla. | N | 1940-99 | 2,510 | 365604 | 0944446 |
| 65 | 07189000 | Elk River near Tiff City, Mo. | N | 1940-99 | 872 | 363753 | 0943512 |
| 66 | 07189500 | Neosho River near Grove, Okla. | N | 1925-39 | 9,969 | 363645 | 0944925 |
| 67 | 07190500 | Neosho River near Langley, Okla. | R | 1940-99 | 10,335 | 362620 | 0950254 |
| 68 | 07191000 | Big Cabin Creek near Big Cabin, Okla. | N | 1948-99 | 450 | 363406 | 0950907 |
| 69 | 07191220 | Spavinaw Creek near Sycamore, Okla. | N | 1962-99 | 133 | 362007 | 0943827 |
| 70 | 07191500 | Neosho River near Chouteau, Okla. | N | 1938-39 | 11,534 | 361346 | 0951057 |
| | | | R | 1965-99 | | | |
| 71 | 07192000 | Pryor Creek near Pryor, Okla. | N | 1948-63 | 229 | 361652 | 0951932 |
| 72 | 07192500 | Neosho River near Wagoner, Okla. | N | 1925, 38-39 | 12,307 | 355544 | 0951608 |
| | | | R | 1940-49 | | | |
| 73 | 07193500 | Neosho River below Fort Gibson Lake near Fort Gibson, Okla. | R | 1954-89 | 12,495 | 355110 | 0951344 |
| 74 | 07194500 | Arkansas River near Muskogee, Okla. | N | 1926-52 | 84,133 | 354610 | 0951755 |
| | | | R | 1965-70 | | | |
| 75 | 07195500 | Illinois River near Watts, Okla. | N | 1956-99 | 635 | 360748 | 0943419 |
| 76 | 07195855 | Flint Creek near West Siloam Springs, Okla. | R | 1980-99 | 59.8 | 361258 | 0943615 |
| 77 | 07196000 | Flint Creek near Kansas, Okla. | N | 1956-99 | 110 | 361111 | 0944224 |
| 78 | 07196500 | Illinois River near Tahlequah, Okla. | N | 1936-99 | 959 | 355522 | 0945524 |
| 79 | 07196900 | Baron Fork at Dutch Mills, Ark. | N | 1959-99 | 40.6 | 355248 | 0942911 |
| 80 | 07197000 | Baron Fork at Eldon, Okla. | N | 1949-99 | 307 | 355516 | 0945018 |
| 81 | 07198000 | Illinois River near Gore, Okla. ⁵ | N | 1925, 40-51 | 1,626 | 353423 | 0950407 |
| | | | R | 1953-99 | | | |
| 82 | 07228500 | Canadian River at Bridgeport, Okla. | N | 1945-64 | 20,475 | 353237 | 0981903 |
| | | | R | 1970-99 | | | |
| 83 | 07229100 | Canadian River near Noble, Okla. | N | 1960-64 | 21,110 | 350455 | 0972252 |
| | | | R | 1965-75 | | | |
| 84 | 07229200 | Canadian River at Purcell, Okla. | R | 1980-83, 86-99 | 21,138 | 350050 | 0972050 |
| 85 | 07229300 | Walnut Creek near Purcell, Okla. | N | 1966-93 | 202 | 345956 | 0972200 |

Table 1. Summary of streamflow period of record used in study for selected continuous-record streamflow-gaging stations with at least 10 years of streamflow data from natural unregulated, regulated, and urban basins within and near Oklahoma—Continued

| Site number (fig. 1) | Station number | Station name | Type of record (I/N/R/U) | Period of record (complete water year) | Contributing drainage area (mi ²) | Latitude (dms) | Longitude (dms) |
|----------------------|----------------|---|--------------------------|--|---|----------------|-----------------|
| 86 | 07230000 | Little River below Lake Thunderbird near Norman, Okla. ⁶ | N R | 1953-64 1966-99 | 257 | 351318 | 0971249 |
| 87 | 07230500 | Little River near Tecumseh, Okla. | N R | 1944-64 1966-99 | 456 | 351021 | 0965554 |
| 88 | 07231000 | Little River near Sasakwa, Okla. | N R | 1943-61 1966-99 | 884 | 345755 | 0963044 |
| 89 | 07231500 | Canadian River at Calvin, Okla. | N R | 1906, 39-42, 45-64 1965-99 | 23,151 | 345840 | 0961436 |
| 90 | 07232000 | Gaines Creek near Krebs, Okla. | N | 1943-63 | 588 | 345846 | 0953718 |
| 91 | 07232500 | Beaver River near Guymon, Okla. ⁷ | N I | 1938-71 1978-93 | 1,175 | 364317 | 1012921 |
| 92 | 07232900 | Coldwater Creek near Guymon, Okla. ⁷ | I | 1981-99 | 725 | 363419 | 1012252 |
| 93 | 07233000 | Coldwater Creek near Hardesty, Okla. ⁷ | N | 1940-64 | 767 | 363838 | 1011238 |
| 94 | 07234000 | Beaver River at Beaver, Okla. ⁷ | N IR | 1938-71 1979-99 | 3,685 | 364920 | 1003108 |
| 95 | 07234100 | Clear Creek near Elmwood, Okla. | N | 1966-93 | 170 | 363842 | 1003007 |
| 96 | 07234500 | Beaver River near Fort Supply, Okla. | N | 1938-50 | 5,068 | 363530 | 0993530 |
| 97 | 07235000 | Wolf Creek at Lipscomb, Tex. ⁷ | N R IR | 1938-42 1962-71 1978-99 | 475 | 361419 | 1001631 |
| 98 | 07236000 | Wolf Creek near Fargo, Okla. ⁷ | N | 1943-71 | 1,386 | 362357 | 0993722 |
| 99 | 07237000 | Wolf Creek near Fort Supply, Okla. ⁷ | N R IR | 1938-41 1943-71 1978-93 | 1,498 | 363400 | 0993305 |
| 100 | 07237500 | North Canadian River at Woodward, Okla. ⁷ | N IR | 1939-71 1979-99 | 6,777 | 362612 | 0991641 |
| 101 | 07238000 | North Canadian River near Seiling, Okla. ⁷ | N IR | 1947-71 1979-99 | 7,414 | 361100 | 0985515 |
| 102 | 07239000 | North Canadian River at Canton, Okla. | N R | 1938-47 1949-93 | 7,601 | 360437 | 0983547 |
| 103 | 07239300 | N.Canadian R. blw Weavers Ck nr Watonga,Okla. | R | 1984-99 | 7,837 | 354843 | 0982514 |
| 104 | 07239450 | North Canadian River near Calumet, Okla. | R | 1989-99 | 8,063 | 353701 | 0980354 |
| 105 | 07239500 | North Canadian River near El Reno, Okla. | N R | 1903-07, 38-47 1949-99 | 8,143 | 353347 | 0975726 |
| 106 | 07241000 | N. Canadian R. blw Lk Overholser nr OKC, Okla. | R | 1953-99 | 8,323 | 352843 | 0973947 |
| 107 | 07241500 | North Canadian R. near Oklahoma City, Okla. ⁸ | R | 1940-53, 60 | 8,455 | 352940 | 0972540 |
| 108 | 07241520 | North Canadian R. at Britton Road at OKC, Okla. | R | 1989-99 | 8,514 | 353356 | 0972201 |
| 109 | 07241550 | North Canadian River near Harrah, Okla. | R | 1969-99 | 8,602 | 353001 | 0971137 |
| 110 | 07242000 | North Canadian River near Wetumka, Okla. | R | 1938-99 | 9,391 | 351556 | 0961221 |

Table 1. Summary of streamflow period of record used in study for selected continuous-record streamflow-gaging stations with at least 10 years of streamflow data from unregulated, regulated, and urban basins within and near Oklahoma—Continued

| Site number (fig. 1) | Station number | Station name | Type of record (I/N/R/U) | Period of record (complete water year) | Contributing drainage area (mi ²) | Latitude (dms) | Longitude (dms) |
|----------------------|----------------|---|--------------------------|--|---|----------------|-----------------|
| 111 | 07242350 | Deep Fork near Arcadia, Okla. | U | 1970-86 | 105 | 353850 | 0972135 |
| | | | UR | 1988-93 | | | |
| 112 | 07242380 | Deep Fork near Warwick, Okla. | N | 1984-86 | 532 | 354051 | 0970029 |
| | | | R | 1988-99 | | | |
| 113 | 07243000 | Dry Creek near Kendrick, Okla. | N | 1956-94 | 69.0 | 354655 | 0965114 |
| 114 | 07243500 | Deep Fork near Beggs, Okla. | N | 1939-67 | 2,018 | 354026 | 0960406 |
| | | | R | 1968-99 | | | |
| 115 | 07244000 | Deep Fork near Dewar, Okla. | N | 1938-50 | 2,307 | 352843 | 0955257 |
| 116 | 07245000 | Canadian River near Whitefield, Okla. | N | 1939-63 | 37,876 | 351550 | 0951421 |
| | | | R | 1965-99 | | | |
| 117 | 07245500 | Sallisaw Creek near Sallisaw, Okla. | N | 1943-63 | 182 | 352752 | 0945143 |
| | | | R | 1964-76 | | | |
| 118 | 07247000 | Poteau River at Cauthron, Ark. | N | 1940-72 | 203 | 345508 | 0941755 |
| | | | R | 1975-99 | | | |
| 119 | 07247500 | Fourche Maline near Red Oak, Okla. | N | 1939-63 | 122 | 345445 | 0950920 |
| | | | R | 1966-99 | | | |
| 120 | 07248500 | Poteau River near Wister, Okla. | N | 1939-48 | 993 | 345615 | 0944254 |
| | | | R | 1950-84 | | | |
| 121 | 07249400 | James Fork near Hackett, Ark. | N | 1959-99 | 147 | 350945 | 0942425 |
| 122 | 07249985 | Lee Creek near Short, Okla. ⁹ | N | 1931-99 | 420 | 353109 | 0942758 |
| 123 | 07250550 | Arkansas River at James W. Trimble L&D near Van Buren, Ark. ¹⁰ | N | 1928-63 | 128,306 | 352056 | 0941754 |
| | | | R | 1970-98 | | | |
| 124 | 07299540 | Prairie Dog Town Fork Red R. nr Childress, Tex. | N | 1966-99 | 2,958 | 343409 | 1001137 |
| 125 | 07299570 | Red River near Quanah, Tex. | N | 1961-82 | 3,552 | 342447 | 0994403 |
| 126 | 07300000 | Salt Fork Red River near Wellington, Tex. ¹¹ | N | 1953-66 | 1,013 | 345727 | 1001314 |
| | | | R | 1968-99 | | | |
| 127 | 07300500 | Salt Fork Red River at Mangum, Okla. | N | 1938-99 | 1,357 | 345130 | 0993030 |
| 128 | 07301110 | Salt Fork Red River near Elmer, Okla. | N | 1980-99 | 1,669 | 342844 | 0992255 |
| 129 | 07301410 | Sweetwater Creek near Kelton, Tex. | N | 1963-99 | 267 | 352823 | 1000714 |
| 130 | 07301420 | Sweetwater Creek near Sweetwater, Okla. | N | 1987-99 | 404 | 352520 | 0995808 |
| 131 | 07301500 | North Fork Red River near Carter, Okla. ¹² | N | 1945-99 | 1,938 | 351005 | 0993025 |
| 132 | 07303000 | North Fork Red River below Altus Dam near Lugert, Okla. | R | 1951-62, 65-69, 76-99 | 2,116 | 345326 | 0991822 |
| 133 | 07303400 | Elm Fork of North Fk Red R. nr Carl, Okla. | N | 1960-79, 95-99 | 416 | 350042 | 0995412 |
| 134 | 07303500 | Elm Fork of North Fk Red R. nr Mangum, Okla. | N | 1906-07, 31, 38-47 66-67, 69-76 | 838 | 345536 | 0993000 |
| 135 | 07304500 | Elk Creek near Hobart, Okla. | N | 1905-07, 50-66 | 549 | 345451 | 0990649 |
| | | | R | 1967-93 | | | |

Table 1. Summary of streamflow period of record used in study for selected continuous-record streamflow-gaging stations with at least 10 years of streamflow data from unregulated, regulated, and urban basins within and near Oklahoma—Continued

| Site number (fig. 1) | Station number | Station name | Type of record (I/N/R/U) | Period of record (complete water year) | Contributing drainage area (mi ²) | Latitude (dms) | Longitude (dms) |
|----------------------|----------------|---|--------------------------|--|---|----------------|-----------------|
| 136 | 07305000 | North Fork Red River near Headrick, Okla. | N | 1906-07, 38-43 | 3,845 | 343804 | 0990547 |
| | | | R | 1945-99 | | | |
| 137 | 07305500 | West Otter Creek at Synder Lake near Mountain Park, Okla. | N | 1904-07 | 132 | 344402 | 0985910 |
| | | | R | 1951-71, 73-75 | | | |
| | | | R | 1976-99 | | | |
| 138 | 07307028 | North Fork Red River near Tipton, Okla. | R | 1985-99 | 4,292 | 343025 | 0991228 |
| 139 | 07308500 | Red River near Burkburnett, Tex. | N | 1961-99 | 14,634 | 340636 | 0983153 |
| 140 | 07311000 | East Cache Creek near Walters, Okla. | N | 1939-60 | 675 | 342144 | 0981656 |
| | | | R | 1962-99 | | | |
| 141 | 07311200 | Blue Beaver Creek near Cache, Okla. | N | 1965-99 | 24.6 | 343724 | 0983348 |
| 142 | 07311500 | Deep Red Creek near Randlett, Okla. | N | 1950-99 | 617 | 341315 | 0982710 |
| 143 | 07313000 | Little Beaver Creek near Duncan, Okla. ¹³ | N | 1949-63 | 158 | 342936 | 0980642 |
| 144 | 07313500 | Beaver Creek near Waurika, Okla. | N | 1954-76 | 563 | 341300 | 0980257 |
| | | | R | 1978-93 | | | |
| 145 | 07315500 | Red River near Terral, Okla. | N | 1939-43 | 22,787 | 335243 | 0975603 |
| | | | R | 1945-99 | | | |
| 146 | 07315700 | Mud Creek near Courtney, Okla. | N | 1961-99 | 572 | 340015 | 0973400 |
| 147 | 07316000 | Red River near Gainesville, Tex. | N | 1937-43 | 24,846 | 334340 | 0970935 |
| | | | R | 1945-99 | | | |
| 148 | 07316500 | Washita River near Cheyenne, Okla. | N | 1938-60 | 794 | 353735 | 0994005 |
| | | | R | 1961-99 | | | |
| 149 | 07319500 | Sandstone Creek near Berlin, Okla. | R | 1953-72 | 40.9 | 353026 | 0993327 |
| 150 | 07323000 | Sandstone Creek near Cheyenne, Okla. | R | 1952-73 | 83.1 | 353310 | 0993150 |
| 151 | 07324200 | Washita River near Hammon, Okla. | R | 1970-87, 90-99 | 1,387 | 353923 | 0991821 |
| 152 | 07324400 | Washita River near Foss, Okla. | R | 1962-87, 90-99 | 1,551 | 353220 | 0991010 |
| 153 | 07325000 | Washita River near Clinton, Okla. | N | 1936-60 | 1,977 | 353151 | 0985800 |
| | | | R | 1962-99 | | | |
| 154 | 07325500 | Washita River at Carnegie, Okla. | N | 1938-60 | 3,129 | 350702 | 0983349 |
| | | | R | 1962-99 | | | |
| 155 | 07325800 | Cobb Creek near Eakly, Okla. | R | 1969-99 | 132 | 351726 | 0983538 |
| 156 | 07326000 | Cobb Creek near Fort Cobb, Okla. | N | 1940-58 | 307 | 350837 | 0982633 |
| | | | R | 1960-99 | | | |
| 157 | 07326500 | Washita River at Anadarko, Okla. | N | 1903-08, 36-37 | 3,656 | 350503 | 0981435 |
| | | | R | 1964-99 | | | |
| 158 | 07327000 | Sugar Creek near Gracemont, Okla. | N | 1956-62 | 208 | 351030 | 0981520 |
| | | | R | 1963-74 | | | |
| 159 | 07327490 | Little Washita River near Ninnekah, Okla. ¹⁴ | N | 1964-73 | 208 | 345641 | 0975708 |
| | | | R | 1974-85 | | | |
| 160 | 07328000 | Washita River near Tabler, Okla. | N | 1940-52 | 4,706 | 345818 | 0975221 |

Table 1. Summary of streamflow period of record used in study for selected continuous-record streamflow-gaging stations with at least 10 years of streamflow data from unregulated, regulated, and urban basins within and near Oklahoma—Continued

| Site number (fig. 1) | Station number | Station name | Type of record (I/N/R/U) | Period of record (complete water year) | Contributing drainage area (mi ²) | Latitude (dms) | Longitude (dms) |
|----------------------|----------------|---|--------------------------|--|---|----------------|-----------------|
| 161 | 07328070 | Winter Creek near Alex, Okla. | N | 1965-66 | 33.0 | 345935 | 0974540 |
| | | | R | 1967-86 | | | |
| 162 | 07328100 | Washita River at Alex, Okla. | R | 1965-86, 89-99 | 4,787 | 345533 | 0974625 |
| 163 | 07328500 | Washita River near Pauls Valley, Okla. | N | 1938-60 | 5,330 | 344517 | 0971504 |
| | | | R | 1962-99 | | | |
| 164 | 07329000 | Rush Creek at Purdy, Okla. | N | 1940-53 | 145 | 344146 | 0973555 |
| | | | R | 1983-93 | | | |
| 165 | 07329500 | Rush Creek near Maysville, Okla. ¹⁵ | N | 1955-64 | 206 | 344436 | 0972418 |
| | | | R | 1965-76 | | | |
| 166 | 07329700 | Wild Horse Creek near Hoover, Okla. | R | 1970-93 | 604 | 343229 | 0971449 |
| 167 | 07329852 | Rock Creek at Sulphur, Okla. | R | 1990-99 | 44.1 | 342943 | 0965918 |
| 168 | 07330500 | Caddo Creek near Ardmore, Okla. | N | 1937-50 | 298 | 341433 | 0970628 |
| | | | R | 1997 | | | |
| 169 | 07331000 | Washita River near Dickson, Okla. | N | 1929-60 | 7,202 | 341400 | 0965832 |
| | | | R | 1962-99 | | | |
| 170 | 07331600 | Red River at Denison Dam nr Denison, Tex. ¹⁶ | N | 1924-43 | 33,784 | 334908 | 0963347 |
| | | | R | 1945-89, 98-99 | | | |
| 171 | 07332400 | Blue River at Milburn, Okla. | N | 1966-86 | 203 | 341504 | 0963305 |
| 172 | 07332500 | Blue River near Blue, Okla. | N | 1937-99 | 476 | 335949 | 0961427 |
| 173 | 07333500 | Chickasaw Creek near Stringtown, Okla. ¹⁷ | N | 1956-68 | 32.7 | 342741 | 0960136 |
| 174 | 07333800 | McGee Creek near Stringtown, Okla. ¹⁷ | N | 1957-68 | 86.6 | 342633 | 0955210 |
| 175 | 07334000 | Muddy Boggy Creek near Farris, Okla. | N | 1938-86 | 1,087 | 341617 | 0955443 |
| | | | R | 1988-99 | | | |
| 176 | 07335000 | Clear Boggy Creek near Caney, Okla. | N | 1943-61 | 720 | 341509 | 0961219 |
| | | | R | 1965-89 | | | |
| 177 | 07335300 | Muddy Boggy Creek near Unger, Okla. | N | 1983-99 | 2,273 | 340136 | 0954500 |
| 178 | 07335500 | Red River at Arthur City, Tex. | N | 1906-11, 37-43 | 38,595 | 335230 | 0953006 |
| | | | R | 1945-99 | | | |
| 179 | 07335700 | Kiamichi River near Big Cedar, Okla. ¹⁸ | N | 1966-99 | 40.1 | 343818 | 0943645 |
| 180 | 07335790 | Kiamichi River near Clayton, Okla. | N | 1982 | 708 | 343429 | 0952026 |
| | | | R | 1984-99 | | | |
| 181 | 07336000 | Tenmile Creek near Miller, Okla. ¹ | N | 1956-70 | 68.0 | 341755 | 0954440 |
| 182 | 07336200 | Kiamichi River near Antlers, Okla. ¹⁸ | N | 1973-82 | 1,138 | 341455 | 0953618 |
| | | | R | 1984-99 | | | |
| 183 | 07336500 | Kiamichi River near Belzoni, Okla. | N | 1926-72 | 1,423 | 341202 | 0952903 |
| 184 | 07336820 | Red River near DeKalb, Tex. ¹⁹ | R | 1969-98 | 41,412 | 334059 | 0944139 |
| 185 | 07337500 | Little River near Wright City, Okla. | N | 1930-68 | 645 | 340410 | 0950247 |
| | | | R | 1970-89 | | | |

Table 1. Summary of streamflow period of record used in study for selected continuous-record streamflow-gaging stations with at least 10 years of streamflow data from unregulated, regulated, and urban basins within and near Oklahoma—Continued

| Site number (fig. 1) | Station number | Station name | Type of record (I/N/R/U) | Period of record (complete water year) | Contributing drainage area (mi ²) | Latitude (dms) | Longitude (dms) |
|----------------------|----------------|---|--------------------------|--|---|----------------|-----------------|
| 186 | 07337900 | Glover River near Glover, Okla. | N | 1962-99 | 315 | 340551 | 0945407 |
| 187 | 07338500 | Little River below Lukfata Creek near Idabel, Okla. ²⁰ | N R | 1947-68 1970-99 | 1,226 | 335628 | 0944530 |
| 188 | 07339000 | Mountain Fork near Eagletown, Okla. | N R | 1925, 1930-68 1969-99 | 787 | 340230 | 0943711 |

¹ Crest-stage partial-record site beginning WY 1971

² Statistical analyses include streamflow record from nearby station 07161000

³ Statistical analyses include streamflow record from nearby station 07174000

⁴ Historical record length assumed equal to that for nearby station 07188000 for peak-flow frequency analysis

⁵ Historical record length assumed to start from same year as that for nearby station 07196500 for peak-flow frequency analysis of unregulated streamflow period

⁶ Historical record length assumed equal to that for nearby station 07230500 for peak-flow frequency analysis of unregulated streamflow period

⁷ Pre- and post-irrigation development as defined in Wahl and Tortorelli (1997)

⁸ Historical record length assumed equal to that for nearby station 07241000 for peak-flow frequency analysis

⁹ Was 07250000, Lee Creek near Van Buren, Ark., prior to WY 1993 and above Lee Creek Reservoir.

¹⁰ Was 07250500, Arkansas River at Van Buren, Ark., prior to WY 1970

¹¹ Historical record length assumed to start from same year as that for nearby station 07299850 for peak-flow frequency analysis of unregulated streamflow period

¹² Statistical analyses include streamflow record from nearby station 07302000

¹³ Historical record length assumed equal to that for nearby station 07313500 for peak-flow frequency analysis

¹⁴ Statistical analyses include streamflow record from nearby station 07327500

¹⁵ Crest-stage partial-record site beginning WY 1977

¹⁶ Statistical analyses include streamflow record from nearby station 07332000

¹⁷ Crest-stage partial-record site beginning WY 1969

¹⁸ Historical record length assumed to start from same year as that for nearby station 07336500 for peak-flow frequency analysis of unregulated streamflow period

¹⁹ Historical record length assumed to start from same year as that for nearby station 07335500 for peak-flow frequency analysis of regulated streamflow period

²⁰ Statistical analyses include streamflow record from nearby station 07338000

Table 2. Summary of drainage area distribution of streamflow statistics analyses for streamflow-gaging sites

| Contributing drainage area (square miles) | Number of streamflow statistics analyses | | |
|--|--|------------------------------------|-------|
| | Unregulated | Regulated, Urban and Irrigation | Total |
| 1 to less than 10 | 0 | 4 | 4 |
| 10 to less than 100 | 9 | 11 | 20 |
| 100 to less than 500 | 35 | 19 | 54 |
| 500 to less than 1,000 | 23 | 17 | 40 |
| 1,000 to less than 5,000 | 31 | 29 | 60 |
| 5,000 to less than 10,000 | 13 | 15 | 28 |
| 10,000 to less than 50,000 | 13 | 17 | 30 |
| 50,000 or more | 3 | 3 | 6 |
| Total | 127 | 115 | 242 |

preceded by a station description and include mean annual discharges, magnitude and probability of exceedance of annual high flows, magnitude and probability of exceedance of annual instantaneous peak flows, durations of daily mean flow, magnitude and probability of non-exceedance of annual low flows, and magnitude and probability of non-exceedance of seasonal low flows. An alphabetical index is provided to assist the reader, listed by both stream and nearby municipality.

The beginning and end years are listed for complete water years in the period of record analyzed for mean annual discharges, magnitude and probability of exceedance of annual high flows, and durations of daily mean flow. The beginning and end years are listed for water years in the record analyzed for annual instantaneous peak flows. The beginning and end years are listed for complete climatic years or seasons in the period of record analyzed for annual and seasonal low flows. If there are gaps in the period of record at the site, or incomplete years of record, this is noted in the station description.

The mean daily streamflow values were retrieved with the computer program Automated Data Processing System (ADAPS) (USGS, 1998a) and

processed using the computer program Input and Output for Watershed Data Management (IOWDM) (USGS, 1998b). Mean annual statistics, high-flow, flow-duration, and low-flow statistics were then computed with the computer program Surface-Water Statistics (SWSTAT) (USGS, 1998c). Instantaneous peak-flow statistics were calculated using the Annual Flood Frequency Analysis computer program (PEAKFQ) (USGS, 1998d) as reported in Tortorelli and McCabe (2001).

Station descriptions

The station descriptions include: station location, drainage area, period of record, and remarks. Remarks include information on the chronological history of regulating structures and comments on the other factors that may affect natural flow.

Mean annual discharges

This table lists the mean annual discharge based on the period of record. The table value is based on water year, which is the 12-month period October 1 through September 30. The water year is designated by the calendar year which it ends; thus the water year

ending September 30, 1999, is called the "water year 1999".

Annual high-flow frequency

High-flow frequency data are developed from an annual series of the highest mean discharges for some specified "n"-day consecutive time period. For example, an annual series of 3-day high flows consists of the highest mean discharge that occurs over any 3-day consecutive period during each year of record. The annual "n"-day high flows commonly are computed for consecutive periods of 1, 3, 7, 10, 30, and 60 days.

The Pearson Type III distribution is a 3-parameter distribution that requires estimates of the population mean, standard deviation, and skew coefficient. For application of "n"-day high and low flows, the population values are assumed to be equal to the values computed from the station record. For application to peak flows, the population skew coefficient commonly is determined by weighting the station-record skew coefficient with values determined from a regional skew map as described in the annual instantaneous peak-flow frequency section of this report.

This table lists statistical data determined by fitting the logarithm of annual "n"-day high flow to a Pearson Type III distribution (USGS, 1998c; IACWD, 1982). Results from the log Pearson Type III analyses are shown for recurrence intervals of 2, 5, 10, 25, 50, and 100 years. The table also displays computed results in terms of exceedance probabilities in percent: 50, 20, 10, 4, 2, and 1 percent, respectively. Exceedance probability (in decimal form, before conversion to percent) is the reciprocal of the recurrence interval.

Each discharge in the table is a mean high flow for an "n"-day consecutive period of days that can be expected to be equaled or exceeded *on the average* once every "y"-years, where "y" is the recurrence interval. Similarly, each high flow in the table has an "x"-percent probability of exceedance in any given year, where "x" is the exceedance probability, in percent. For example, the high-flow corresponding to the 100-year recurrence interval and 3-day consecutive period of days can be expected to be equaled or exceeded *on the average* once every 100-years; similarly, a high flow corresponding to 1 percent exceedance probability and 3-day consecutive days will have a 1 percent chance of being equaled or exceeded in any given year.

For any "n"-day period, discharges increase for increasing recurrence interval and decreasing exceedance probability. Conversely, for any given recurrence interval, or exceedance probability, discharge decreases with increasing "n"-day period.

The high flows based on mean daily discharge will be lower than the instantaneous peak flows. More record is often available on instantaneous peaks and, therefore, are usually a more reliable estimate. These data will be described in the next section. High-flow frequency curves for 46 streamflow analyses were adjusted downward based on the instantaneous peak-flow frequency data, and an average of five values per analyses were corrected.

Annual instantaneous peak-flow frequency

Peak-flow frequency data are developed from an annual series of the highest instantaneous peak discharges for the period of record at a station. For example, an annual series of instantaneous peak flows consists of the highest instantaneous peak discharge that occurs during each year of record.

This table lists statistical data determined by fitting the logarithm of annual instantaneous peak flow to a Pearson Type III distribution (USGS, 1998d; IACWD, 1982). Results from the log Pearson Type III analyses are shown for recurrence intervals of 2, 5, 10, 25, 50, 100, and 500 years. The table also displays computed results in terms of exceedance probabilities in percent; 50, 20, 10, 4, 2, 1, and 0.2 percent, respectively. Exceedance probability is the reciprocal of the recurrence interval.

Each discharge in the table is an instantaneous peak flow that can be expected to be equaled or exceeded *on the average* once every "y"-years, where "y" is the recurrence interval. Similarly, each instantaneous peak flow in the table has an "x"-percent probability of exceedance in any given year, where "x" is the exceedance probability, in percent. For example, the instantaneous peak flow corresponding to the 100-year recurrence interval can be expected to be equaled or exceeded *on the average* once every 100-years; similarly, an instantaneous peak flow corresponding to 1 percent exceedance probability will have a 1 percent chance of being equaled or exceeded in any given year.

Skewness may be shown graphically as right or left relative to a normal distribution; in this report, it is described mathematically by a number, either negative or positive. As noted in the previous section, skew

values are used in the calculation of the frequency curve statistics (IACWD, 1982; Tortorelli and McCabe, 2001). Skew values are commonly reported with instantaneous peak-flow statistics, but not with low- or high-flow statistics.

The value of skew coefficient used for each station analysis listed at the bottom of the peak-flow frequency table. The skew is described as "Oklahoma weighted skew" if it was determined for those unregulated streamflow stations with drainage area of less than 2,500 square miles by weighting the station-record skew with skew from a generalized skew map developed for Oklahoma streams by Tortorelli and Bergman (1985) as described in Bulletin 17B (IACWD, 1982). The mean square error of the Oklahoma generalized skew map was used in the weighting process (Tortorelli and Bergman, 1985). The skew for those unregulated streamflow stations with a drainage area more than 2,500 square miles is described as "Water Resources Council weighted skew" if it was determined by weighting the station-record skew with skew from a generalized national skew map developed by the U.S. Water Resources Council as described in Bulletin 17B (IACWD, 1982). The mean square error of the U.S. Water Resources Council generalized skew map was used in this weighting process (IACWD, 1982).

The skew is described as "station skew" if station-record skew only was used for streamflow stations regulated by reservoirs and floodwater-retarding structures and human modifications of streamflow. No station with a drainage area more than 2,500 square miles was considered as regulated solely by floodwater-retarding structures.

A more detailed discussion of the log Pearson Type III analysis for instantaneous peak flow, including the use of historic years, and high- and low-outliers, may be found in Tortorelli and McCabe (2001).

Flow duration

Flow-duration data are developed from all the daily-mean discharge values over the entire period of record. This table lists data to plot a flow-duration curve (Searcy, 1959). A flow-duration curve is a cumulative frequency curve that shows how often a particular discharge has been exceeded based on the period of record. The flow-duration curve is not related to the sequence of flow events, but does include

the full range of daily-mean discharges at the station. For example, the discharge value on a flow-duration table that corresponds to a 10 percent exceedance is the value that was exceeded on 10 percent of the flow record without regard for when those days of exceedance occurred. The days of exceedance may not have been consecutive, and may have occurred either in a single year or have been distributed over several years (Ludwig, 1992).

Annual and seasonal low-flow frequencies

Annual low-flow frequency data are developed from an annual series of the lowest mean discharges for some specified "n"-day consecutive time period. For example, an annual series of 7-day low flows consists of the lowest mean discharge that occurs over any 7-day consecutive period during each year of record. The data in the annual low-flow frequency tables were produced by fitting the logarithms of annual "n"-day low flows to a Pearson Type III distribution (USGS, 1998c).

Seasonal low-flow frequency data are developed from an annual series of the lowest mean discharges for each of the spring (April through May), summer (June through October), and winter (November through March) seasons for some specified "n"-day consecutive time period. The data in the seasonal low-flow frequency tables were produced by fitting the logarithms of the annual series of seasonal "n"-day low flows to a Pearson Type III distribution.

The low-flow frequency data indicate lowest mean discharges for consecutive periods of 1, 3, 7, 10, 30, and 60 days and at recurrence intervals of 2, 5, 10, and 20 years, which correspond to non-exceedance probabilities of 50, 20, 10, and 5 percent, respectively.

Each discharge in the annual or seasonal low-flow table is a mean low flow within the year or season for an "n"-day consecutive period of days that can be expected to be lower *on the average* once every "y"-years, where "y" is the recurrence interval. Similarly, each low flow in the table has an "x"-percent probability that, in any given year, a smaller value "n"-day mean low flow will occur, where "x" is the non-exceedance probability, in percent. For example, the low-flow corresponding to the 2-year recurrence interval and 7-day consecutive period of days can be expected to be lower *on the average* once every 2-years; similarly, a low flow corresponding to 50-percent non-exceedance probability and 7-day consec-

utive days will have a 50-percent chance of being lower in any given year.

For any "n"-day period, discharges decrease for increasing recurrence interval and decreasing non-exceedance probability. Conversely, for any given recurrence interval, or non-exceedance probability, discharge increases with increasing "n"-day period.

Annual low flows are calculated based on a climatic year (April 1 to March 31); thus the period of record for a climatic year is one year less than for a water year (Riggs, 1972). Seasonal low flows are calculated based on the growth seasons defined earlier. The values listed in the tables were computed from U.S. Geological Survey computer program Surface-Water Statistics (USGS, 1998c) utilizing days of zero flow rather than omitting zero flow days as was done prior to Heimann and Tortorelli (1988). Values may differ, due to this updated method of computation, from those in the study by Huntzinger (1978b), because the frequency analysis for that report was determined graphically and utilized only flows greater than zero. These differences are especially significant for streams in drier regions of Oklahoma.

The low-flow frequency curves for given "n"-day periods were computed independently. Inclusion of zero-flow days in the independent analyses resulted in some anomalies in the frequency tables. The anomalies were some "n"-day low flows that did not consistently decrease with increasing recurrence interval, or low-flows for a given recurrence interval that did not consistently increase with increasing "n"-day period. These anomalies in the data are termed data reversals and were adjusted to produce consistent tabular results. Also in some instances, seasonal low flows for a given "n"-day period and recurrence interval were calculated to be smaller than the annual values, which usually occurred due to round-off error. Therefore, annual low flows were adjusted downward slightly to match the lowest seasonal low flows. Tables for 153 streamflow analyses were adjusted graphically for data reversals. An average of 6 values per analysis were adjusted.

SUMMARY

Information about mean annual flow, low-flow and high-flow characteristics, and flow-duration statistics is essential to water-management agencies dealing with problems related to irrigation, municipal and

industrial water supplies, and fish and wildlife conservation. Low-flow statistics are particularly important to assess the capability of a stream to receive and assimilate treated wastewater. Low-flow statistics are used in developing wastewater permits and determining total maximum daily loads of streams. Annual and seasonal 7-day, 2-year low-flow streamflows are used as part of the criteria for developing wasteload allocations for permit purposes and is specifically cited in State statutes. Other low-flow durations (1, 3, 10, 30, and 60 days) and frequencies (5, 10, and 20 years) also are useful to characterize streamflow at a site.

Knowledge of high-flow and peak-flow statistics is required for the safe and economical design of highway bridges, culverts, dams, levees, and other structures on or near streams and for disaster planning. Flood plain management programs and flood-insurance rates also are based on peak-flow magnitude and frequency information.

The purposes of this report are to: (1) update mean annual flow, annual low- and high-flow statistics, and flow-duration statistics for each streamflow gaging station with 10 years or more of streamflow record; (2) present seasonal low-flow statistics of these gaging stations for three Oklahoma growth seasons: (a) spring (April 1 - May 31), (b) summer (June 1 - October 31), and (c) winter (November 1 - March 31); (3) update peak-flow statistics of these gaging stations; and (4) present analyses of unregulated and regulated periods of record separately, to reconcile changes in streamflow due to regulating structures and other human modifications of streamflow.

Statistical summaries of streamflow records through 1999 for gaging stations in Oklahoma and parts of adjacent states are presented. Only continuous-record sites with at least 10 years of unregulated or regulated data were selected for analysis. A total of 188 streamflow-gaging stations were selected, 174 in Oklahoma and 14 on major rivers in adjacent states. Streamflow at 113 of the stations is affected by regulation, urbanization, or irrigation well development for specific periods. Fifty-two of the 113 stations were analyzed for both unregulated and human-modified periods. Two of the regulated sites in the 113 stations were analyzed for periods of flow regulation and separate periods of flow regulation with irrigation development.

SELECTED REFERENCES

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STATISTICAL SUMMARIES OF STREAMFLOW

ARKANSAS RIVER BASIN

07146500 ARKANSAS RIVER AT ARKANSAS CITY, KS

LOCATION.--Lat 37°03'23", long 97°03'32", in NE ¼ NE ¼ NE ¼ sec.35, T.34 S., R.3 E., Cowley County, Hydrologic Unit 11030013, on left bank at downstream side of bridge on U.S. Highway 166, 0.5 mi west of Arkansas City, 5.4 mi upstream from Walnut River, and at mile 701.4.

DRAINAGE AREA.--43,713 mi², of which 7,607 mi² is probably noncontributing.

PERIOD OF RECORD.--September 1902 to September 1906, September 1921 to current year. Published as "near Arkansas City" 1903-04. Monthly discharge only for some periods, published in Water Supply Paper (WSP) 1311.

REMARKS.--Flow slightly regulated since 1943 by John Martin Reservoir (station 07130000), and since 1964 by Cheney Reservoir (station 07144790). Diversions upstream from station for irrigation.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1903-1942

1,351

Magnitude and probability of annual high flow based on period of record 1903-1942

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 14,600 | 29,400 | 40,700 | 55,900 | 67,700 | 79,600 |
| 3 | 12,300 | 24,800 | 34,100 | 46,300 | 55,500 | 64,500 |
| 7 | 8,900 | 18,100 | 25,100 | 34,400 | 41,600 | 48,800 |
| 10 | 7,380 | 15,200 | 21,300 | 29,700 | 36,200 | 42,900 |
| 30 | 4,490 | 8,700 | 11,800 | 15,700 | 18,600 | 21,500 |
| 60 | 3,200 | 6,120 | 8,310 | 11,200 | 13,500 | 15,800 |

Magnitude and probability of annual instantaneous peak flow based on 25 years of record, 1903-1942

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 14,900 | 31,000 | 44,600 | 65,000 | 82,200 | 101,000 | 152,000 |

Water Resources Council weighted skew = - 0.210

Duration table of daily mean flow for period of record 1903-1942

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|------|------|
| 11,500 | 9,320 | 5,150 | 2,840 | 1,890 | 1,530 | 1,060 | 762 | 579 | 465 | 365 | 279 | 180 | 112 | 40.8 | 18.0 |

| Magnitude and probability of annual low flow based on period of record 1904-1942 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 116 | 47.7 | 28.4 | 18.0 |
| 3 | 125 | 51.7 | 30.7 | 19.4 |
| 7 | 137 | 61.5 | 38.9 | 26.1 |
| 10 | 144 | 67.8 | 44.3 | 30.7 |
| 30 | 193 | 103 | 73.1 | 54.8 |
| 60 | 292 | 151 | 101 | 70.5 |

| Magnitude and probability of annual low flow based on period of record 1903-1942 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 489 | 202 | 105 | 55.9 |
| 3 | 505 | 210 | 111 | 59.0 |
| 7 | 514 | 229 | 134 | 81.4 |
| 10 | 539 | 256 | 161 | 106 |
| 30 | 717 | 353 | 250 | 190 |
| 60 | 1,380 | 749 | 555 | 437 |

| Magnitude and probability of annual low flow based on period of record 1903-1941 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 157 | 75.0 | 52.9 | 40.5 |
| 3 | 163 | 79.6 | 56.8 | 43.9 |
| 7 | 174 | 87.8 | 64.6 | 51.4 |
| 10 | 178 | 92.1 | 68.8 | 55.5 |
| 30 | 228 | 128 | 100 | 83.7 |
| 60 | 345 | 182 | 135 | 107 |

| Magnitude and probability of annual low flow based on period of record 1903-1942 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 245 | 81.3 | 36.1 | 16.2 |
| 3 | 259 | 87.7 | 40.0 | 18.5 |
| 7 | 279 | 74.6 | 43.4 | 20.2 |
| 10 | 294 | 101 | 46.6 | 21.9 |
| 30 | 385 | 143 | 69.3 | 33.8 |
| 60 | 439 | 171 | 87.4 | 45.4 |

ARKANSAS RIVER BASIN
07146500 ARKANSAS RIVER AT ARKANSAS CITY, KS—Continued
REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1943-1999 |
| 2,157 |

| Magnitude and probability of annual high flow based on period of record 1943-1999 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 20,900 | 39,900 | 55,000 | 76,500 | 94,100 | 113,000 |
| 3 | 16,800 | 31,900 | 43,700 | 60,200 | 73,400 | 87,200 |
| 7 | 12,100 | 22,500 | 30,600 | 41,900 | 50,900 | 60,400 |
| 10 | 10,400 | 19,100 | 25,800 | 34,900 | 42,100 | 49,600 |
| 30 | 6,030 | 11,300 | 15,400 | 21,300 | 26,100 | 31,200 |
| 60 | 4,310 | 7,960 | 10,900 | 15,200 | 18,700 | 22,500 |

| Magnitude and probability of annual instantaneous peak flow based on 57 years of record, 1943-1999 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 22,900 | 44,100 | 61,200 | 86,000 | 106,00 | 128,000 | 186,000 |

station skew = - 0.201

| Duration table of daily mean flow for period of record 1943-1999 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 13,400 | 12,000 | 7,810 | 4,600 | 3,210 | 2,480 | 1,760 | 1,330 | 1,060 | 840 | 631 | 479 | 352 | 254 | 161 | 105 |

| Magnitude and probability of annual low flow based on period of record 1944-1999 | | | | |
|---|------------------|------------------|-------------------|------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 315 | 106 | 103 | 68.7 |
| 3 | 335 | 169 | 108 | 71.1 |
| 7 | 362 | 179 | 114 | 74.4 |
| 10 | 376 | 186 | 119 | 78.1 |
| 30 | 460 | 229 | 148 | 98.4 |
| 60 | 601 | 300 | 191 | 124 |

| Magnitude and probability of annual low flow based on period of record 1943-1999 spring season, April 1 through May 31 | | | | |
|---|------------------|------------------|-------------------|------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 776 | 449 | 335 | 261 |
| 3 | 795 | 461 | 344 | 268 |
| 7 | 837 | 485 | 363 | 286 |
| 10 | 878 | 504 | 376 | 295 |
| 30 | 1,220 | 649 | 473 | 367 |
| 60 | 2,080 | 1,000 | 690 | 508 |

| Magnitude and probability of annual low flow based on period of record 1943-1998 summer season, June 1 through October 31 | | | | |
|--|------------------|------------------|-------------------|------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 356 | 166 | 105 | 68.7 |
| 3 | 366 | 172 | 108 | 71.1 |
| 7 | 393 | 183 | 114 | 74.4 |
| 10 | 409 | 191 | 119 | 78.1 |
| 30 | 522 | 236 | 148 | 98.4 |
| 60 | 746 | 313 | 191 | 124 |

| Magnitude and probability of annual low flow based on period of record 1943-1999 winter season, November 1 through March 31 | | | | |
|--|------------------|------------------|-------------------|------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 429 | 252 | 188 | 145 |
| 3 | 475 | 283 | 210 | 162 |
| 7 | 536 | 316 | 231 | 176 |
| 10 | 562 | 332 | 244 | 186 |
| 30 | 684 | 401 | 294 | 224 |
| 60 | 780 | 449 | 329 | 252 |

ARKANSAS RIVER BASIN

07148140 ARKANSAS RIVER NEAR PONCA CITY, OK

LOCATION.--Lat 36°41'36", long 96°55'48", in NW ¼ NE ¼ sec.36, T.26 N., R.3 E., Kay County, Hydrologic Unit 11060001, 3,000 ft downstream from Kaw Lake, 8.0 mi east of Ponca City, and at mile 653.1.

DRAINAGE AREA.--46,530 mi², of which 7,607 mi² is probably noncontributing.

PERIOD OF RECORD.--April 1976 to September 1993.

REMARKS.--Flow completely regulated by Kaw Lake.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1977-1993

3,176

Magnitude and probability of annual high flow based on period of record 1977-1993

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 16,900 | 28,400 | 36,800 | 48,000 | 56,700 | 65,600 |
| 3 | 16,200 | 27,700 | 36,000 | 47,100 | 55,800 | 64,600 |
| 7 | 14,900 | 26,000 | 33,900 | 44,100 | 51,900 | 59,600 |
| 10 | 14,200 | 24,300 | 31,000 | 39,200 | 44,900 | 50,300 |
| 30 | 10,100 | 16,800 | 20,900 | 25,700 | 28,800 | 31,700 |
| 60 | 7,280 | 11,600 | 14,200 | 17,300 | 19,500 | 21,400 |

Magnitude and probability of annual instantaneous peak flow based on 17 years of record, 1977-1993

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 18,200 | 29,000 | 37,200 | 48,400 | 57,400 | 67,000 | 91,800 |

station skew = 0.037

Duration table of daily mean flow for period of record 1977-1993

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|--------|--------|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 13,300 | 12,800 | 11,300 | 8,750 | 6,600 | 5,080 | 3,280 | 2,210 | 1,400 | 922 | 531 | 319 | 180 | 150 | 114 | 47.6 |

| Magnitude and probability of annual low flow based on period of record 1978-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 89.7 | 22.9 | 0.00 | 0.00 |
| 3 | 158 | 55.3 | 23.5 | 0.00 |
| 7 | 185 | 66.2 | 28.9 | 0.00 |
| 10 | 188 | 68.0 | 30.3 | 0.00 |
| 30 | 265 | 117 | 74.3 | 50.5 |
| 60 | 432 | 183 | 112 | 72.3 |

| Magnitude and probability of annual low flow based on period of record 1977-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 392 | 90.2 | 31.6 | 0.00 |
| 3 | 807 | 306 | 177 | 110 |
| 7 | 1,020 | 439 | 272 | 179 |
| 10 | 1,160 | 491 | 299 | 193 |
| 30 | 1,860 | 736 | 415 | 246 |
| 60 | 3,510 | 1,550 | 979 | 659 |

| Magnitude and probability of annual low flow based on period of record 1977-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 128 | 53.7 | 31.6 | 0.00 |
| 3 | 153 | 71.4 | 46.1 | 0.00 |
| 7 | 202 | 85.3 | 48.4 | 0.00 |
| 10 | 209 | 85.8 | 47.6 | 0.00 |
| 30 | 358 | 150 | 95.1 | 65.5 |
| 60 | 580 | 251 | 171 | 128 |

| Magnitude and probability of annual low flow based on period of record 1977-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 199 | 84.0 | 47.2 | 27.4 |
| 3 | 253 | 101 | 55.7 | 32.0 |
| 7 | 279 | 102 | 57.4 | 34.8 |
| 10 | 308 | 111 | 61.8 | 37.0 |
| 30 | 441 | 194 | 132 | 97.9 |
| 60 | 683 | 322 | 224 | 169 |

ARKANSAS RIVER BASIN

07148350 SALT FORK ARKANSAS RIVER NEAR WINCHESTER, OK

LOCATION.--Lat 36°57'42", long 98°46'55", in NE ¼ SE ¼ sec.26, T.29 N., R.15 W., Woods County, Hydrologic Unit 11060002, near left bank on downstream side of pier of county road bridge, 1.0 mi northeast of Winchester, 2.5 mi upstream from Greenleaf Creek (formerly Greenwood Creek), 4.9 mi downstream from Yellowstone Creek, 5.0 mi downstream from State line, 19.0 mi northwest of Alva, and at mile 156.2.

DRAINAGE AREA.--856 mi².

PERIOD OF RECORD.--October 1959 to September 1993. Monthly discharge only for some periods, published in WSP 1731.

UNREGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1960-1993 |
| 96.0 |

| Magnitude and probability of annual high flow based on period of record 1960-1993 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,240 | 6,950 | 9,860 | 13,800 | 16,900 | 20,000 |
| 3 | 1,750 | 3,490 | 4,760 | 6,370 | 7,530 | 8,660 |
| 7 | 939 | 1,830 | 2,480 | 3,330 | 3,970 | 4,610 |
| 10 | 741 | 1,420 | 1,920 | 2,570 | 3,060 | 3,540 |
| 30 | 381 | 682 | 887 | 1,140 | 1,320 | 1,490 |
| 60 | 250 | 439 | 572 | 741 | 866 | 989 |

| Magnitude and probability of annual instantaneous peak flow based on 37 historic years of record, 1957-1993 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 6,690 | 16,100 | 25,100 | 39,800 | 53,300 | 69,100 | 115,000 |

Oklahoma weighted skew = - 0.156

| Duration table of daily mean flow for period of record 1960-1993 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 1,130 | 675 | 295 | 165 | 118 | 93.3 | 64.1 | 46.8 | 34.0 | 23.6 | 13.2 | 2.89 | 0.65 | 0.33 | 0.13 | 0.07 |

| Magnitude and probability of annual low flow based on period of record 1961-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.07 | 0.00 | 0.00 | 0.00 |
| 3 | 0.08 | 0.00 | 0.00 | 0.00 |
| 7 | 0.14 | 0.00 | 0.00 | 0.00 |
| 10 | 0.22 | 0.00 | 0.00 | 0.00 |
| 30 | 1.05 | 0.07 | 0.01 | 0.00 |
| 60 | 3.25 | 0.46 | 0.15 | 0.06 |

| Magnitude and probability of annual low flow based on period of record 1960-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 15.2 | 2.66 | 0.84 | 0.28 |
| 3 | 16.1 | 3.13 | 1.09 | 0.41 |
| 7 | 20.0 | 4.64 | 1.80 | 0.74 |
| 10 | 23.8 | 6.12 | 2.50 | 1.07 |
| 30 | 48.7 | 15.8 | 8.00 | 4.33 |
| 60 | 108 | 42.3 | 24.2 | 14.7 |

| Magnitude and probability of annual low flow based on period of record 1960-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.07 | 0.00 | 0.00 | 0.00 |
| 3 | 0.08 | 0.00 | 0.00 | 0.00 |
| 7 | 0.14 | 0.00 | 0.00 | 0.00 |
| 10 | 0.22 | 0.00 | 0.00 | 0.00 |
| 30 | 1.15 | 0.07 | 0.01 | 0.00 |
| 60 | 5.55 | 0.78 | 0.25 | 0.09 |

| Magnitude and probability of annual low flow based on period of record 1960-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.26 | 0.62 | 0.14 | 0.02 |
| 3 | 6.53 | 0.78 | 0.18 | 0.03 |
| 7 | 8.02 | 0.84 | 0.19 | 0.05 |
| 10 | 8.97 | 1.09 | 0.28 | 0.08 |
| 30 | 19.9 | 3.17 | 0.87 | 0.25 |
| 60 | 34.1 | 8.66 | 2.91 | 0.95 |

ARKANSAS RIVER BASIN

07148400 SALT FORK ARKANSAS RIVER NEAR ALVA, OK

LOCATION.--Lat 36°48'54", long 98°38'52", in SW 1/4 SW 1/4 sec.18, T.27 N., R.13 W., Woods County, Hydrologic Unit 11060002, at bridge on U.S. Highway 281, 1.0 mi northeast of Alva, 23.0 mi upstream from Medicine Lodge River, and at mile 141.0.

DRAINAGE AREA.--1,009 mi².

PERIOD OF RECORD.--April 1904 to December 1905 (gage heights only), October 1937 to September 1951, monthly discharge only for some periods, published in WSP 1311. Occasional low-flow measurements water years 1952-54, 1977-79. October 1979 to current year.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1938-1999

150

Magnitude and probability of annual high flow based on period of record 1939-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,300 | 7,090 | 10,300 | 15,200 | 19,300 | 23,800 |
| 3 | 1,990 | 4,090 | 5,850 | 8,460 | 10,700 | 13,100 |
| 7 | 1,170 | 2,340 | 3,280 | 4,630 | 5,740 | 6,920 |
| 10 | 936 | 1,860 | 2,600 | 3,660 | 4,520 | 5,430 |
| 30 | 504 | 936 | 1,260 | 1,700 | 2,040 | 2,390 |
| 60 | 367 | 662 | 876 | 1,160 | 1,370 | 1,580 |

Magnitude and probability of annual instantaneous peak flow based on 34 years of record, 1938-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 7,200 | 15,100 | 21,600 | 30,800 | 38,400 | 46,400 | 66,700 |

Oklahoma weighted skew= - 0.356

Duration table of daily mean flow for period of record 1938-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 1,860 | 1,070 | 502 | 292 | 202 | 155 | 102 | 71.7 | 49.6 | 35.8 | 23.8 | 10.7 | 1.96 | 0.71 | 0.28 | 0.14 |

| Magnitude and probability of annual low flow based on period of record 1939-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.02 | 0.00 | 0.00 | 0.00 |
| 3 | 1.26 | 0.13 | 0.00 | 0.00 |
| 7 | 1.72 | 0.14 | 0.00 | 0.00 |
| 10 | 2.08 | 0.14 | 0.00 | 0.00 |
| 30 | 5.06 | 0.70 | 0.00 | 0.00 |
| 60 | 16.4 | 2.46 | 0.52 | 0.07 |

| Magnitude and probability of annual low flow based on period of record 1938-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 29.3 | 7.74 | 3.10 | 1.08 |
| 3 | 30.9 | 8.58 | 3.58 | 1.32 |
| 7 | 35.0 | 10.6 | 4.82 | 1.98 |
| 10 | 39.7 | 14.2 | 7.52 | 3.78 |
| 30 | 99.2 | 33.1 | 16.3 | 8.38 |
| 60 | 194 | 84.3 | 53.2 | 35.9 |

| Magnitude and probability of annual low flow based on period of record 1938-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.02 | 0.00 | 0.00 | 0.00 |
| 3 | 1.26 | 0.14 | 0.00 | 0.00 |
| 7 | 1.84 | 0.14 | 0.00 | 0.00 |
| 10 | 2.20 | 0.14 | 0.00 | 0.00 |
| 30 | 5.24 | 0.86 | 0.08 | 0.00 |
| 60 | 21.6 | 4.30 | 1.40 | 0.36 |

| Magnitude and probability of annual low flow based on period of record 1939-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 11.1 | 2.11 | 0.00 | 0.00 |
| 3 | 12.4 | 2.33 | 0.00 | 0.00 |
| 7 | 14.5 | 2.68 | 0.00 | 0.00 |
| 10 | 16.5 | 2.70 | 0.20 | 0.00 |
| 30 | 34.0 | 5.87 | 1.01 | 0.00 |
| 60 | 40.0 | 14.1 | 6.61 | 2.63 |

ARKANSAS RIVER BASIN

07149500 SALT FORK ARKANSAS RIVER NEAR CHEROKEE, OK

LOCATION.--Lat 36°49'06", long 98°19'08", in SW 1/4 NW 1/4 sec.18, T.27 N., R.10 W., Woods County, Hydrologic Unit 11060002, at site of abandoned Atchison, Topeka, and Santa Fe Railway bridge, 0.7 mi downstream from Medicine Lodge River, 4.0 mi northeast of Cherokee, and at mile 106.3.

DRAINAGE AREA.--2,439 mi².

PERIOD OF RECORD.--October 1940 to September 1950.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1941-1950

393

Magnitude and probability of annual high flow based on period of record 1941-1950

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 9,040 | 16,800 | 22,900 | 31,500 | 38,600 | 46,100 |
| 3 | 6,330 | 12,000 | 16,400 | 22,400 | 27,300 | 32,300 |
| 7 | 3,960 | 7,380 | 9,900 | 13,200 | 15,800 | 18,300 |
| 10 | 3,050 | 5,680 | 7,610 | 10,200 | 12,100 | 14,100 |
| 30 | 1,400 | 2,650 | 3,770 | 5,600 | 7,290 | 9,300 |
| 60 | 989 | 1,820 | 2,510 | 3,540 | 4,430 | 5,420 |

Magnitude and probability of annual instantaneous peak flow based on 10 years of record, 1941-1950

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 13,600 | 23,700 | 31,500 | 42,500 | 51,400 | 61,000 | 85,600 |

Oklahoma weighted skew = - 0.095

Duration table of daily mean flow for period of record 1941-1950

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 5,760 | 3,430 | 1,630 | 743 | 438 | 316 | 216 | 162 | 126 | 95.7 | 65.4 | 31.8 | 2.03 | 0.59 | 0.23 | 0.12 |

| Magnitude and probability of annual low flow based on period of record 1942-1950 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 3.83 | 0.00 | 0.00 | 0.00 |
| 60 | 21.3 | 1.44 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1941-1950 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 78.7 | 35.7 | 20.4 | 11.8 |
| 3 | 81.1 | 38.2 | 22.9 | 14.0 |
| 7 | 85.8 | 46.9 | 32.5 | 23.4 |
| 10 | 106 | 53.3 | 36.2 | 26.0 |
| 30 | 247 | 109 | 68.4 | 45.7 |
| 60 | 507 | 198 | 119 | 77.1 |

| Magnitude and probability of annual low flow based on period of record 1941-1949 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 3.90 | 0.00 | 0.00 | 0.00 |
| 60 | 21.3 | 1.44 | 0.27 | 0.06 |

| Magnitude and probability of annual low flow based on period of record 1941-1950 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 38.0 | 16.4 | 0.00 | 0.00 |
| 3 | 41.5 | 16.9 | 0.00 | 0.00 |
| 7 | 50.5 | 20.4 | 0.00 | 0.00 |
| 10 | 53.3 | 21.1 | 0.00 | 0.00 |
| 30 | 76.7 | 29.0 | 15.0 | 7.96 |
| 60 | 103 | 56.9 | 39.8 | 28.8 |

ARKANSAS RIVER BASIN

07150500 ARKANSAS RIVER NEAR JET, OK

LOCATION.--Lat 36°45'09", long 98°07'43", in NE ¼ NE ¼ sec.11, T.26 N., R.9 W., Alfalfa County, Hydrologic Unit 11060004, near center of span on downstream side of county road bridge, 0.6 mi downstream from Great Salt Plains Dam, 4.0 mi upstream from Wagon Creek, 6.0 mi northeast of Jet, and at mile 102.7.

DRAINAGE AREA.--3,202 mi², of which 8 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1937 to September 1993.

REMARKS.--Flow regulated since June 1941 by Great Salt Plains Lake (station 07150000).

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1942-1993

407

Magnitude and probability of annual high flow based on period of record 1942-1993

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,310 | 6,060 | 8,040 | 10,200 | 11,700 | 12,900 |
| 3 | 3,160 | 5,910 | 7,700 | 9,800 | 11,200 | 12,500 |
| 7 | 2,710 | 5,120 | 6,740 | 8,670 | 9,990 | 11,200 |
| 10 | 2,390 | 4,570 | 6,770 | 7,900 | 9,190 | 10,400 |
| 30 | 1,380 | 2,740 | 3,770 | 5,150 | 6,210 | 7,290 |
| 60 | 928 | 1,920 | 2,730 | 3,900 | 4,860 | 5,870 |

Magnitude and probability of annual instantaneous peak flow based on 52 years of record, 1942-1993

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 3,320 | 6,070 | 8,050 | 10,600 | 12,500 | 14,400 | 18,800 |

station skew = - 0.474

Duration table of daily mean flow for period of record 1942-1993

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 4,820 | 3,320 | 1,760 | 981 | 653 | 483 | 314 | 218 | 145 | 88.5 | 39.2 | 15.9 | 5.36 | 2.51 | 1.16 | 0.81 |

| Magnitude and probability of annual low flow based on period of record 1943-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.18 | 0.64 | 0.21 | 0.00 |
| 3 | 4.20 | 0.97 | 0.40 | 0.13 |
| 7 | 5.06 | 1.33 | 0.65 | 0.31 |
| 10 | 5.45 | 1.51 | 0.77 | 0.38 |
| 30 | 10.1 | 2.82 | 1.45 | 0.84 |
| 60 | 23.8 | 5.49 | 2.41 | 1.18 |

| Magnitude and probability of annual low flow based on period of record 1942-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 54.3 | 9.57 | 2.94 | 0.86 |
| 3 | 62.2 | 12.8 | 4.83 | 1.99 |
| 7 | 77.0 | 18.5 | 7.73 | 3.53 |
| 10 | 90.1 | 21.8 | 9.04 | 4.06 |
| 30 | 227 | 58.4 | 24.4 | 10.8 |
| 60 | 456 | 137 | 65.9 | 34.0 |

| Magnitude and probability of annual low flow based on period of record 1942-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.77 | 1.70 | 1.03 | 0.68 |
| 3 | 5.83 | 2.23 | 1.41 | 0.99 |
| 7 | 7.01 | 2.85 | 1.88 | 1.37 |
| 10 | 7.83 | 3.41 | 2.37 | 1.81 |
| 30 | 14.4 | 6.17 | 4.26 | 3.25 |
| 60 | 41.1 | 13.1 | 7.26 | 4.46 |

| Magnitude and probability of annual low flow based on period of record 1942-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 13.6 | 1.36 | 0.28 | 0.03 |
| 3 | 16.5 | 1.95 | 0.50 | 0.13 |
| 7 | 20.8 | 2.83 | 0.88 | 0.31 |
| 10 | 23.2 | 3.28 | 1.05 | 0.38 |
| 30 | 48.6 | 7.87 | 2.54 | 0.91 |
| 60 | 80.3 | 14.8 | 4.89 | 1.75 |

ARKANSAS RIVER BASIN

07151000 SALT FORK ARKANSAS RIVER AT TONKAWA, OK

LOCATION.--Lat 36°40'19", long 97°18'33", in NW ¼ SE ¼ sec.4, T.25 N., R.1 W., Kay County, Hydrologic Unit 11060004, on left bank near end of bridge on U.S. Highway 77 in Tonkawa, 4 mi downstream from Thompson Creek, 7.8 mi upstream from Chikaskia River, and at mile 33.8.

DRAINAGE AREA.--4,528 mi², of which 8 mi² is probably noncontributing.

PERIOD OF RECORD.--September 1903 to October 1905 (gage heights only), October 1935 to current year. Monthly discharge only for some periods, published as Arkansas River (Salt Fork) near Tonkawa 1903-4 and as "near Tonkawa" 1905.

REMARKS.--Flow regulated since June 1941 by Great Salt Plains Lake, 69.5 mi upstream (station 07150000).

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1942-1999

942

Magnitude and probability of annual high flow based on period of record 1942-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 12,100 | 23,400 | 31,200 | 41,000 | 47,900 | 54,400 |
| 3 | 9,740 | 19,300 | 26,100 | 34,800 | 41,100 | 47,100 |
| 7 | 6,990 | 13,500 | 18,000 | 23,700 | 27,800 | 31,700 |
| 10 | 5,870 | 11,200 | 14,900 | 19,700 | 23,100 | 26,300 |
| 30 | 3,070 | 6,030 | 8,320 | 11,500 | 13,900 | 16,500 |
| 60 | 2,050 | 4,140 | 5,830 | 8,250 | 10,200 | 12,300 |

Magnitude and probability of annual instantaneous peak flow based on 58 years of record, 1942-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 13,000 | 25,700 | 36,600 | 53,000 | 67,200 | 83,000 | 127,000 |

station skew = - 0.078

Duration table of daily mean flow for period of record 1942-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 10,800 | 7,780 | 4,210 | 2,210 | 1,380 | 993 | 602 | 392 | 269 | 180 | 109 | 65.1 | 34.4 | 18.7 | 7.96 | 3.71 |

| Magnitude and probability of annual low flow based on period of record 1943-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 41.2 | 12.8 | 5.75 | 2.52 |
| 3 | 43.3 | 13.7 | 6.24 | 2.77 |
| 7 | 46.6 | 15.2 | 7.11 | 3.27 |
| 10 | 50.0 | 16.4 | 7.66 | 3.53 |
| 30 | 56.5 | 22.3 | 10.9 | 5.37 |
| 60 | 126 | 36.5 | 14.4 | 5.74 |

| Magnitude and probability of annual low flow based on period of record 1942-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 158 | 46.7 | 21.8 | 10.9 |
| 3 | 166 | 50.4 | 24.3 | 12.5 |
| 7 | 185 | 57.4 | 28.3 | 15.0 |
| 10 | 206 | 64.5 | 32.0 | 17.1 |
| 30 | 415 | 119 | 56.4 | 29.1 |
| 60 | 937 | 275 | 132 | 68.0 |

| Magnitude and probability of annual low flow based on period of record 1942-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 47.7 | 15.1 | 6.76 | 2.94 |
| 3 | 49.9 | 16.0 | 7.17 | 3.12 |
| 7 | 53.6 | 17.5 | 8.07 | 3.64 |
| 10 | 57.1 | 18.8 | 8.72 | 3.96 |
| 30 | 79.6 | 26.2 | 13.2 | 6.72 |
| 60 | 181 | 47.6 | 18.3 | 7.19 |

| Magnitude and probability of annual low flow based on period of record 1942-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 81.9 | 25.5 | 12.9 | 7.07 |
| 3 | 86.6 | 27.5 | 14.1 | 7.89 |
| 7 | 95.4 | 30.1 | 15.4 | 8.49 |
| 10 | 100 | 31.6 | 16.0 | 8.83 |
| 30 | 135 | 41.3 | 20.3 | 10.7 |
| 60 | 170 | 52.9 | 26.6 | 14.4 |

ARKANSAS RIVER BASIN

07151500 CHIKASKIA RIVER NEAR CORBIN, KS

LOCATION.--Lat 37°07'44", long 97°36'04", in NW 1/4 SW 1/4 SW 1/4 sec.36, T.33 S., R.3 W., Sumner County, Hydrologic Unit 11060005, on right bank at downstream side of bridge on Kansas Highway 49, 1.0 mi upstream from Prairie Creek, 3.0 mi west of Corbin, and at mile 67.5.

DRAINAGE AREA.--794 mi².

PERIOD OF RECORD.--August 1950 to September 1965, October 1975 to current year.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1951-1999

247

Magnitude and probability of annual high flow based on period of record 1951-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 5,750 | 12,900 | 18,800 | 27,200 | 34,000 | 41,000 |
| 3 | 3,380 | 7,490 | 10,900 | 15,600 | 19,400 | 23,400 |
| 7 | 2,020 | 4,220 | 5,940 | 8,280 | 10,100 | 11,900 |
| 10 | 1,630 | 3,300 | 4,570 | 6,250 | 7,520 | 8,790 |
| 30 | 838 | 1,620 | 2,210 | 2,990 | 3,590 | 4,190 |
| 60 | 537 | 1,060 | 1,480 | 2,060 | 2,540 | 3,040 |

Magnitude and probability of annual instantaneous peak flow based on 77 historic years of record, 1923-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 9,100 | 18,600 | 26,800 | 39,400 | 50,400 | 62,700 | 96,800 |

Oklahoma weighted skew = - 0.100

Duration table of daily mean flow for period of record 1951-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 3,190 | 1,750 | 768 | 431 | 302 | 235 | 164 | 124 | 95.0 | 74.2 | 55.9 | 39.1 | 19.6 | 7.86 | 0.82 | 0.41 |

| Magnitude and probability of annual low flow based on period of record 1952-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 11.7 | 1.50 | 0.00 | 0.00 |
| 3 | 12.1 | 2.02 | 0.00 | 0.00 |
| 7 | 13.6 | 3.25 | 0.00 | 0.00 |
| 10 | 15.1 | 3.80 | 0.00 | 0.00 |
| 30 | 26.9 | 5.36 | 1.42 | 0.00 |
| 60 | 48.8 | 10.1 | 2.77 | 0.52 |

| Magnitude and probability of annual low flow based on period of record 1951-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 74.8 | 36.5 | 23.4 | 15.5 |
| 3 | 77.2 | 37.8 | 24.4 | 16.5 |
| 7 | 83.8 | 41.4 | 27.0 | 18.4 |
| 10 | 88.7 | 44.0 | 28.9 | 19.8 |
| 30 | 137 | 68.5 | 45.0 | 30.8 |
| 60 | 276 | 131 | 88.4 | 63.5 |

| Magnitude and probability of annual low flow based on period of record 1951-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 11.9 | 1.50 | 0.00 | 0.00 |
| 3 | 12.3 | 2.02 | 0.00 | 0.00 |
| 7 | 13.6 | 3.25 | 0.00 | 0.00 |
| 10 | 15.1 | 3.80 | 0.00 | 0.00 |
| 30 | 27.3 | 5.36 | 1.42 | 0.00 |
| 60 | 51.3 | 10.1 | 2.77 | 0.59 |

| Magnitude and probability of annual low flow based on period of record 1951-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 62.2 | 20.6 | 6.04 | 1.16 |
| 3 | 70.0 | 24.5 | 7.20 | 1.60 |
| 7 | 75.0 | 28.5 | 8.90 | 2.20 |
| 10 | 80.0 | 30.5 | 10.0 | 2.65 |
| 30 | 89.4 | 37.4 | 16.8 | 6.18 |
| 60 | 90.2 | 43.0 | 26.7 | 17.2 |

ARKANSAS RIVER BASIN

07152000 CHIKASKIA RIVER NEAR BLACKWELL, OK

LOCATION.--Lat 36°48'41", long 97°16'37", in NE 1/4 NW 1/4 sec.23, T.27 N., R.1 W., Kay County Hydrologic Unit 11060005, near left bank on downstream side of State Highway 11 bridge at northeast edge of Blackwell, 0.1 mi downstream from Bitter Creek, and at mile 28.3.

DRAINAGE AREA.--1,859 mi².

PERIOD OF RECORD.--October 1935 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Some regulation at low flow by Lake Blackwell, capacity 3,600 acre-ft, 12.6 mi upstream from station. Small diversion made from reservoir for municipal supply of city of Blackwell.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1937-1999

578

Magnitude and probability of annual high flow based on period of record 1937-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 15,800 | 31,900 | 43,900 | 59,700 | 71,500 | 83,200 |
| 3 | 10,400 | 21,100 | 28,900 | 39,000 | 46,300 | 53,400 |
| 7 | 6,050 | 11,800 | 15,700 | 20,400 | 23,600 | 26,600 |
| 10 | 4,700 | 9,130 | 12,200 | 15,800 | 18,300 | 20,700 |
| 30 | 2,220 | 4,290 | 5,750 | 7,550 | 8,830 | 10,000 |
| 60 | 1,430 | 2,810 | 3,820 | 5,130 | 6,100 | 7,060 |

Magnitude and probability of annual instantaneous peak flow based on 77 historic years of record, 1923-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 18,700 | 38,000 | 55,200 | 82,200 | 106,000 | 134,000 | 215,000 |

Oklahoma weighted skew = 0.017

Duration table of daily mean flow for period of record 1937-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| 9,160 | 5,680 | 2,100 | 888 | 552 | 408 | 263 | 188 | 142 | 106 | 77.7 | 49.8 | 22.2 | 7.32 | 1.81 | 1.02 |

| Magnitude and probability of annual low flow based on period of record 1937-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 9.70 | 2.11 | 0.82 | 0.28 |
| 3 | 11.3 | 2.37 | 0.88 | 0.28 |
| 7 | 14.4 | 3.12 | 1.21 | 0.48 |
| 10 | 16.7 | 3.83 | 1.60 | 0.74 |
| 30 | 32.4 | 8.06 | 3.44 | 1.58 |
| 60 | 61.0 | 16.2 | 6.77 | 2.99 |

| Magnitude and probability of annual low flow based on period of record 1936-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 106 | 31.0 | 12.9 | 5.45 |
| 3 | 116 | 35.3 | 14.9 | 6.37 |
| 7 | 127 | 44.1 | 21.3 | 10.6 |
| 10 | 138 | 50.7 | 25.9 | 13.7 |
| 30 | 238 | 92.7 | 54.3 | 34.1 |
| 60 | 566 | 202 | 113 | 68.4 |

| Magnitude and probability of annual low flow based on period of record 1936-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 10.1 | 2.24 | 0.88 | 0.30 |
| 3 | 12.3 | 2.70 | 1.03 | 0.34 |
| 7 | 15.6 | 3.44 | 1.33 | 0.53 |
| 10 | 17.9 | 4.13 | 1.73 | 0.79 |
| 30 | 33.6 | 8.14 | 3.44 | 1.58 |
| 60 | 72.1 | 18.2 | 7.71 | 3.51 |

| Magnitude and probability of annual low flow based on period of record 1937-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 65.4 | 19.5 | 8.41 | 3.73 |
| 3 | 72.3 | 22.1 | 9.63 | 4.30 |
| 7 | 82.5 | 25.9 | 11.3 | 5.07 |
| 10 | 88.1 | 28.1 | 12.3 | 5.50 |
| 30 | 126 | 44.8 | 20.1 | 8.98 |
| 60 | 149 | 52.1 | 24.5 | 11.7 |

ARKANSAS RIVER BASIN

07152500 ARKANSAS RIVER AT RALSTON, OK

LOCATION.--Lat 36°30'15", long 96°43'41", in NE ¼ NE ¼ sec.2, T.23 N., R.5 E., Pawnee County, Hydrologic Unit 11060006, on right upstream abutment of bridge on State Highway 18 at Ralston, 2 mi downstream from Salt Creek, 2 mi upstream from Grayhorse Creek, and at mile 594.0. Prior to Feb. 10, 1988, gage was near left bank on downstream side of pier of bridge.

DRAINAGE AREA.--54,465 mi², of which 7,615 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1925 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected in this vicinity since 1922 are contained in reports of National Weather Service.

REMARKS.--Flow regulated since April 1976 by Kaw Lake (station 07148130) 59.7 mi upstream; some regulation by Great Salt Plains Lake (station 07150000) since 1941.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1926-1975

4,826

Magnitude and probability of annual high flow based on period of record 1926-1975

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 52,900 | 102,000 | 139,000 | 190,000 | 230,000 | 270,000 |
| 3 | 45,400 | 90,500 | 125,000 | 171,000 | 206,000 | 241,000 |
| 7 | 32,100 | 62,800 | 86,200 | 118,000 | 142,000 | 167,000 |
| 10 | 26,600 | 51,700 | 70,600 | 96,200 | 116,000 | 136,000 |
| 30 | 14,900 | 29,100 | 40,400 | 56,300 | 69,100 | 82,500 |
| 60 | 10,300 | 20,400 | 28,600 | 40,600 | 50,600 | 61,400 |

Magnitude and probability of annual instantaneous peak flow based on 53 historic years of record, 1923-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 56,900 | 110,000 | 152,000 | 211,000 | 259,000 | 310,000 | 438,000 |

Water Resources Council weighted skew = - 0.272

Duration table of daily mean flow for period of record 1926-1975

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|
| 16,300 | 15,600 | 13,600 | 10,200 | 7,170 | 5,410 | 3,570 | 2,530 | 1,930 | 1,470 | 1,060 | 733 | 461 | 306 | 172 | 113 |

| Magnitude and probability of annual low flow based on period of record 1927-1975 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 466 | 188 | 108 | 64.9 |
| 3 | 489 | 198 | 113 | 67.9 |
| 7 | 529 | 212 | 121 | 72.3 |
| 10 | 557 | 222 | 126 | 74.8 |
| 30 | 713 | 282 | 159 | 93.7 |
| 60 | 972 | 394 | 227 | 138 |

| Magnitude and probability of annual low flow based on period of record 1926-1975 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1,260 | 628 | 429 | 310 |
| 3 | 1,320 | 651 | 442 | 317 |
| 7 | 1,490 | 717 | 477 | 336 |
| 10 | 1,600 | 751 | 496 | 348 |
| 30 | 2,660 | 1,150 | 733 | 504 |
| 60 | 5,010 | 1,980 | 1,190 | 771 |

| Magnitude and probability of annual low flow based on period of record 1926-1974 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 531 | 202 | 113 | 66.7 |
| 3 | 548 | 210 | 117 | 69.5 |
| 7 | 580 | 222 | 124 | 73.8 |
| 10 | 619 | 235 | 130 | 76.5 |
| 30 | 847 | 308 | 167 | 96.2 |
| 60 | 1,420 | 498 | 265 | 150 |

| Magnitude and probability of annual low flow based on period of record 1926-1975 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 649 | 310 | 208 | 149 |
| 3 | 702 | 337 | 227 | 162 |
| 7 | 772 | 370 | 248 | 177 |
| 10 | 817 | 389 | 258 | 183 |
| 30 | 1,100 | 515 | 336 | 232 |
| 60 | 1,280 | 604 | 397 | 276 |

ARKANSAS RIVER BASIN
 07152500 ARKANSAS RIVER AT RALSTON, OK—Continued
 REGULATED STREAMFLOW PERIOD

| |
|--|
| Mean annual flow, in ft ³ /s, based on period of record 1977-1999 |
| 6,490 |

| Magnitude and probability of annual high flow based on period of record 1977-1999 | | | | | | |
|--|----------|----------|-----------|----------|----------|-----------|
| Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 45,900 | 80,000 | 104,000 | 137,000 | 161,000 | 185,000 |
| 3 | 38,000 | 64,800 | 84,000 | 109,000 | 129,000 | 148,000 |
| 7 | 30,300 | 51,300 | 66,900 | 88,000 | 105,000 | 122,000 |
| 10 | 27,600 | 46,700 | 60,800 | 80,100 | 95,300 | 111,000 |
| 30 | 18,300 | 30,700 | 39,600 | 51,300 | 60,200 | 69,300 |
| 60 | 14,000 | 22,400 | 28,300 | 36,000 | 41,800 | 47,600 |

| Magnitude and probability of annual instantaneous peak flow based on 23 years of record, 1977-1999 | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 47,600 | 87,200 | 117,000 | 158,000 | 190,000 | 223,000 | 303,000 |

station skew = - 0.311

| Duration table of daily mean flow for period of record 1977-1999 | | | | | | | | | | | | | | | |
|---|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|---------|---------|---------|---------|---------|
| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80 % | 90 % | 95 % | 98 % | 99 % |
| 16,300 | 16,000 | 15,000 | 13,300 | 11,600 | 9,840 | 6,670 | 4,510 | 3,090 | 2,150 | 1,400 | 881 | 492 | 348 | 230 | 174 |

| Magnitude and probability of annual low flow based on period of record 1978-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 391 | 165 | 102 | 66.6 |
| 3 | 413 | 182 | 116 | 77.4 |
| 7 | 441 | 206 | 137 | 96.4 |
| 10 | 461 | 215 | 144 | 102 |
| 30 | 634 | 303 | 208 | 153 |
| 60 | 982 | 488 | 334 | 242 |

| Magnitude and probability of annual low flow based on period of record 1977-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1,990 | 899 | 558 | 364 |
| 3 | 2,120 | 944 | 581 | 377 |
| 7 | 2,400 | 1,040 | 631 | 405 |
| 10 | 2,580 | 1,090 | 656 | 418 |
| 30 | 4,430 | 1,760 | 988 | 584 |
| 60 | 7,710 | 3,580 | 2,290 | 1,540 |

| Magnitude and probability of annual low flow based on period of record 1977-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 463 | 182 | 106 | 66.6 |
| 3 | 490 | 199 | 120 | 77.4 |
| 7 | 539 | 228 | 143 | 96.4 |
| 10 | 564 | 239 | 150 | 102 |
| 30 | 862 | 352 | 222 | 152 |
| 60 | 1,440 | 614 | 395 | 275 |

| Magnitude and probability of annual low flow based on period of record 1977-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 648 | 292 | 190 | 133 |
| 3 | 760 | 358 | 240 | 171 |
| 7 | 823 | 385 | 259 | 187 |
| 10 | 860 | 403 | 273 | 199 |
| 30 | 1,230 | 561 | 379 | 277 |
| 60 | 1,680 | 745 | 491 | 349 |

ARKANSAS RIVER BASIN

07153000 BLACK BEAR CREEK AT PAWNEE, OK

LOCATION.--Lat 36°20'37", long 96°47'57", on east line of SE 1/4 NE 1/4 sec.31, T.22 N., R.5 E., Pawnee County, Hydrologic Unit 11060006, on downstream side of left pier of bridge on State Highway 18 in north Pawnee, 300 ft downstream from Skedee Creek, and at mile 23.4.

DRAINAGE AREA.--576 mi².

PERIOD OF RECORD.--July 1944 to current year.

REMARKS.--Flow regulated since 1968 by numerous floodwater-retarding structures.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1945-1962

193

Magnitude and probability of annual high flow based on period of record 1945-1962

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 5,740 | 10,700 | 15,100 | 22,200 | 28,700 | 35,800 |
| 3 | 4,460 | 8,010 | 10,800 | 14,900 | 18,300 | 21,900 |
| 7 | 2,590 | 4,680 | 6,290 | 8,510 | 10,300 | 12,200 |
| 10 | 2,050 | 3,690 | 4,910 | 6,560 | 7,820 | 9,120 |
| 30 | 932 | 1,620 | 2,080 | 2,660 | 3,070 | 3,470 |
| 60 | 557 | 1,020 | 1,360 | 1,820 | 2,170 | 2,530 |

Magnitude and probability of annual instantaneous peak flow based on 55 historic years of record, 1908-1962

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 6,710 | 11,700 | 16,000 | 22,700 | 28,800 | 35,900 | 57,000 |

Oklahoma weighted skew = 0.364

Duration table of daily mean flow for period of record 1945-1962

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 4,010 | 2,680 | 935 | 243 | 112 | 66.3 | 34.8 | 18.6 | 9.76 | 5.49 | 3.58 | 2.12 | 0.87 | 0.44 | 0.17 | 0.09 |

| Magnitude and probability of annual low flow based on period of record 1946-1962 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.91 | 0.21 | 0.00 | 0.00 |
| 3 | 0.96 | 0.21 | 0.00 | 0.00 |
| 7 | 1.10 | 0.23 | 0.00 | 0.00 |
| 10 | 1.27 | 0.25 | 0.00 | 0.00 |
| 30 | 2.11 | 0.40 | 0.00 | 0.00 |
| 60 | 4.04 | 0.98 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1945-1962 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.75 | 1.19 | 0.64 | 0.38 |
| 3 | 4.54 | 1.36 | 0.69 | 0.38 |
| 7 | 5.32 | 1.55 | 0.78 | 0.44 |
| 10 | 6.22 | 1.84 | 0.94 | 0.52 |
| 30 | 38.3 | 7.13 | 2.82 | 1.28 |
| 60 | 237 | 58.1 | 23.3 | 9.90 |

| Magnitude and probability of annual low flow based on period of record 1945-1961 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.01 | 0.21 | 0.00 | 0.00 |
| 3 | 1.10 | 0.23 | 0.00 | 0.00 |
| 7 | 1.26 | 0.28 | 0.00 | 0.00 |
| 10 | 1.44 | 0.32 | 0.00 | 0.00 |
| 30 | 3.02 | 0.49 | 0.00 | 0.00 |
| 60 | 12.0 | 1.56 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1945-1962 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.94 | 0.29 | 0.00 | 0.00 |
| 3 | 2.30 | 0.31 | 0.00 | 0.00 |
| 7 | 2.57 | 0.35 | 0.00 | 0.00 |
| 10 | 2.76 | 0.39 | 0.00 | 0.00 |
| 30 | 3.98 | 1.09 | 0.00 | 0.00 |
| 60 | 5.79 | 1.71 | 0.91 | 0.55 |

ARKANSAS RIVER BASIN
07153000 BLACK BEAR CREEK AT PAWNEE, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1968-1999

254

| Magnitude and probability of annual high flow based on period of record 1968-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 4,760 | 8,600 | 11,400 | 15,100 | 17,900 | 20,700 |
| 3 | 3,870 | 7,450 | 10,100 | 13,700 | 16,400 | 19,100 |
| 7 | 2,420 | 5,100 | 7,290 | 10,400 | 12,900 | 15,600 |
| 10 | 1,960 | 4,150 | 5,910 | 8,380 | 10,300 | 12,400 |
| 30 | 978 | 2,010 | 2,790 | 3,820 | 4,600 | 5,360 |
| 60 | 649 | 1,310 | 1,790 | 2,400 | 2,840 | 3,260 |

Magnitude and probability of annual instantaneous peak flow based on 32 years of record, 1968-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 5,390 | 9,310 | 12,300 | 16,400 | 19,600 | 23,000 | 31,600 |

station skew = - 0.162

Duration table of daily mean flow for period of record 1968-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 4,180 | 2,780 | 1,330 | 567 | 303 | 183 | 77.8 | 37.8 | 22.3 | 15.2 | 9.11 | 5.02 | 1.95 | 0.78 | 0.31 | 0.16 |

| Magnitude and probability of annual low flow based on period of record 1969-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.96 | 0.00 | 0.00 | 0.00 |
| 3 | 1.00 | 0.02 | 0.00 | 0.00 |
| 7 | 1.26 | 0.08 | 0.00 | 0.00 |
| 10 | 1.57 | 0.12 | 0.00 | 0.00 |
| 30 | 3.95 | 0.78 | 0.19 | 0.00 |
| 60 | 9.65 | 1.92 | 0.56 | 0.16 |

| Magnitude and probability of annual low flow based on period of record 1968-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 13.0 | 3.79 | 1.78 | 0.77 |
| 3 | 21.2 | 4.15 | 1.91 | 0.85 |
| 7 | 20.3 | 4.58 | 2.11 | 0.90 |
| 10 | 23.1 | 5.30 | 2.13 | 0.93 |
| 30 | 94.3 | 27.9 | 14.8 | 8.86 |
| 60 | 338 | 120 | 64.5 | 37.0 |

| Magnitude and probability of annual low flow based on period of record 1968-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.06 | 0.00 | 0.00 | 0.00 |
| 3 | 1.15 | 0.02 | 0.00 | 0.00 |
| 7 | 1.43 | 0.10 | 0.00 | 0.00 |
| 10 | 1.93 | 0.13 | 0.00 | 0.00 |
| 30 | 4.74 | 0.86 | 0.20 | 0.00 |
| 60 | 16.7 | 2.38 | 0.61 | 0.16 |

| Magnitude and probability of annual low flow based on period of record 1968-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.14 | 0.92 | 0.00 | 0.00 |
| 3 | 5.81 | 0.96 | 0.12 | 0.01 |
| 7 | 6.47 | 1.14 | 0.32 | 0.07 |
| 10 | 6.66 | 1.30 | 0.41 | 0.10 |
| 30 | 10.6 | 2.61 | 1.13 | 0.45 |
| 60 | 17.8 | 4.60 | 2.30 | 1.31 |

ARKANSAS RIVER BASIN

07153100 RANCH CREEK AT CLEVELAND DAM NEAR CLEVELAND, OK

LOCATION.--Lat 36°17'00", long 96°34'35", in SW 1/4 NE 1/4 sec.20, T.21 N., R.7 E., Pawnee County, Hydrologic Unit 11060006, on intake at Cleveland Dam on Ranch Creek, 0.3 mi upstream from Carpenter Creek, 0.5 mi upstream from Turkey Creek, and 6.5 mi southwest of Cleveland,.

DRAINAGE AREA.--21.9 mi².

PERIOD OF RECORD.--November 1944 to September 1963. Monthly discharge only for some periods, published in WSP 1731.

REMARKS.--Flow regulated since 1944 by Cleveland Reservoir.

REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1946-1963 |
| 10.3 |

| Magnitude and probability of annual high flow based on period of record 1946-1963 | | | | | | |
|--|---|------------------|-------------------|------------------|------------------|-------------------|
| Period (consecutive days) | Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 565 | 1,450 | 2,100 | 2,860 | 3,350 | 3,780 |
| 3 | 236 | 594 | 871 | 1,220 | 1,470 | 1,700 |
| 7 | 117 | 300 | 447 | 640 | 782 | 917 |
| 10 | 88.1 | 226 | 337 | 480 | 584 | 681 |
| 30 | 40.5 | 97.6 | 137 | 182 | 210 | 233 |
| 60 | 25.3 | 61.8 | 86.2 | 113 | 129 | 142 |

| Magnitude and probability of annual instantaneous peak flow based on 19 years of record, 1945-1963 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 1,480 | 3,800 | 5,840 | 8,860 | 11,300 | 13,900 | 20,300 |

station skew = - 0.553

| Duration table of daily mean flow for period of record 1946-1963 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 271 | 125 | 260 | 6.26 | 2.37 | 0.99 | 0.86 | 0.74 | 0.62 | 0.49 | 0.37 | 0.25 | 0.12 | 0.06 | 0.02 | 0.01 |

| Magnitude and probability of annual low flow based on period of record 1946-1963 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1945-1963 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.52 | 0.00 | 0.00 | 0.00 |
| 60 | 9.38 | 1.77 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1945-1962 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1946-1963 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

ARKANSAS RIVER BASIN

07154500 CIMARRON RIVER NEAR KENTON, OK

LOCATION.--Lat 36°55'36", long 102°57'31", in SW 1/4 sec.4, T.5 N., R.1 E., Cimarron County, Hydrologic Unit 11040001, near right bank on downstream side of pier of county road bridge, 1.5 mi upstream from North Carrizo Creek, 1.7 mi northeast of Kenton, 2.2 mi downstream from Carrizozo Creek, and at mile 594.0.

DRAINAGE AREA.--1,106 mi², of which 68 mi² is probably noncontributing.

PERIOD OF RECORD.--April 1904 to July 1905 (gage heights only), October 1950 to current year.

REMARKS.--Extensive diversions for irrigation above station.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1951-1999

17.3

Magnitude and probability of annual high flow based on period of record 1951-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,060 | 2,950 | 4,810 | 7,860 | 10,600 | 13,700 |
| 3 | 506 | 1,350 | 2,140 | 3,350 | 4,400 | 5,530 |
| 7 | 258 | 677 | 1,060 | 1,620 | 2,100 | 2,600 |
| 10 | 195 | 503 | 774 | 1,170 | 1,500 | 1,840 |
| 30 | 83.2 | 204 | 308 | 457 | 576 | 700 |
| 60 | 51.4 | 123 | 182 | 265 | 330 | 396 |

Magnitude and probability of annual instantaneous peak flow based on 86 historic years of record, 1914-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 4,790 | 10,800 | 16,500 | 26,000 | 35,000 | 45,700 | 78,700 |

Oklahoma weighted skew = 0.035

Duration table of daily mean flow for period of record 1951-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 304 | 110 | 254 | 7.77 | 4.78 | 3.47 | 2.21 | 1.46 | 0.97 | 0.78 | 0.58 | 0.39 | 0.19 | 0.10 | 0.04 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1952-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.22 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1951-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.04 | 0.00 | 0.00 | 0.00 |
| 10 | 0.08 | 0.00 | 0.00 | 0.00 |
| 30 | 0.33 | 0.06 | 0.02 | 0.01 |
| 60 | 2.89 | 0.61 | 0.28 | 0.16 |

| Magnitude and probability of annual low flow based on period of record 1951-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.01 | 0.00 | 0.00 | 0.00 |
| 60 | 1.23 | 0.04 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1951-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.05 | 0.00 | 0.00 | 0.00 |
| 3 | 0.09 | 0.00 | 0.00 | 0.00 |
| 7 | 0.19 | 0.00 | 0.00 | 0.00 |
| 10 | 0.27 | 0.00 | 0.00 | 0.00 |
| 30 | 0.73 | 0.07 | 0.00 | 0.00 |
| 60 | 0.94 | 0.21 | 0.05 | 0.00 |

ARKANSAS RIVER BASIN

07155000 CIMARRON RIVER ABOVE UTE CREEK NEAR BOISE CITY, OK

LOCATION.--Lat 36°54'46", long 102°37'08", in SE ¼ sec.10, T.5 N., R.4 E., on right bank 1,000 ft downstream from Kohler's Dam, 1.0 mi upstream from Cold Springs Creek, 5.5 mi upstream from Ute Creek, 14 mi northwest of Boise City, and at mile 560.0.

DRAINAGE AREA.--1,955 mi², of which 76 mi² is probably noncontributing.

PERIOD OF RECORD.--May 1905 to August 1907 (published as "near Garrett"), October 1942 to September 1954.

REMARKS.--Records include water diverted at Kohler's dam 1,000 ft above gage for sluicing of canal, from which the water returns to stream just below the gage control, and for irrigation of about 650 acres below station, from which the return flow enters stream 8.3 miles below gage. Diversions for irrigation of about 8,600 acres above station.

UNREGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1943-1954 |
| 40.8 |

| Magnitude and probability of annual high flow based on period of record 1943-1954 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 2,640 | 4,630 | 6,070 | 7,940 | 9,360 | 10,800 |
| 3 | 1,270 | 2,000 | 2,460 | 3,010 | 3,380 | 3,730 |
| 7 | 644 | 1,070 | 1,380 | 1,800 | 2,130 | 2,470 |
| 10 | 484 | 809 | 1,050 | 1,370 | 1,620 | 1,880 |
| 30 | 204 | 360 | 484 | 667 | 821 | 991 |
| 60 | 146 | 250 | 328 | 436 | 524 | 615 |

| Magnitude and probability of annual instantaneous peak flow based on 49 historic years of record, 1906-1954 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 8,600 | 16,000 | 21,800 | 30,100 | 36,800 | 43,900 | 62,000 |

Oklahoma weighted skew = - 0.206

| Duration table of daily mean flow for period of record 1943-1954 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 673 | 311 | 110 | 56.6 | 34.8 | 21.2 | 9.59 | 4.84 | 203 | 0.89 | 0.66 | 0.44 | 0.22 | 0.11 | 0.04 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1944-1954 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1943-1954 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.21 | 0.00 | 0.00 | 0.00 |
| 60 | 9.50 | 0.11 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1943-1953 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 1.10 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1943-1954 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.96 | 0.00 | 0.00 | 0.00 |
| 60 | 1.48 | 0.00 | 0.00 | 0.00 |

ARKANSAS RIVER BASIN

07156900 CIMARRON RIVER NEAR FORGAN, OK

LOCATION.--Lat 37°00'40", long 100°29'29", in SE ¼ SE ¼ sec.8, T.35 S., R.29 W., Meade County, KS, Hydrologic Unit 11040006, on downstream side of bridge on Kansas State Highway 23, 0.8 mi north of Oklahoma-Kansas State Line, 7.8 mi north of Forgan, and at mile 375.7.

DRAINAGE AREA.--8,536 mi², of which 4,316 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1965 to September 1986, October 1987 to current year.

REMARKS.--Extensive diversions for irrigation above station.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1966-1999

59.0

Magnitude and probability of annual high flow based on period of record 1966-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 342 | 1,180 | 2,440 | 5,670 | 10,100 | 17,500 |
| 3 | 215 | 673 | 1,360 | 3,150 | 5,690 | 10,000 |
| 7 | 141 | 390 | 744 | 1,620 | 2,820 | 4,820 |
| 10 | 122 | 312 | 572 | 1,190 | 2,020 | 3,360 |
| 30 | 85.3 | 174 | 277 | 491 | 742 | 1,110 |
| 60 | 73.0 | 130 | 190 | 303 | 425 | 591 |

Magnitude and probability of annual instantaneous peak flow based on 33 years of record, 1966-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 861 | 3,130 | 6,160 | 12,700 | 20,300 | 31,000 | 73,300 |

Water Resources Council weighted skew = 0.022

Duration table of daily mean flow for period of record 1966-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 245 | 149 | 105 | 84.5 | 76.2 | 67.9 | 59.4 | 52.0 | 46.8 | 42.3 | 37.9 | 32.9 | 27.6 | 23.4 | 19.4 | 17.4 |

| Magnitude and probability of annual low flow based on period of record 1967-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 21.3 | 16.7 | 14.8 | 13.2 |
| 3 | 22.4 | 17.6 | 15.6 | 13.9 |
| 7 | 24.1 | 19.1 | 17.0 | 15.3 |
| 10 | 25.0 | 19.8 | 17.6 | 16.0 |
| 30 | 29.1 | 22.4 | 19.7 | 17.8 |
| 60 | 32.6 | 24.8 | 21.8 | 19.7 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 37.2 | 29.1 | 25.3 | 22.5 |
| 3 | 39.0 | 30.4 | 26.4 | 23.4 |
| 7 | 41.1 | 32.1 | 28.0 | 25.0 |
| 10 | 42.9 | 33.3 | 29.1 | 25.9 |
| 30 | 49.8 | 37.5 | 33.1 | 30.2 |
| 60 | 54.0 | 41.4 | 38.3 | 36.8 |

| Magnitude and probability of annual low flow based on period of record 1966-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 22.5 | 17.1 | 14.9 | 13.2 |
| 3 | 23.4 | 18.0 | 15.6 | 13.9 |
| 7 | 24.8 | 19.3 | 17.0 | 15.3 |
| 10 | 25.7 | 20.0 | 17.6 | 16.0 |
| 30 | 29.2 | 22.4 | 19.7 | 17.8 |
| 60 | 32.9 | 24.8 | 21.8 | 19.7 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 29.4 | 22.6 | 19.3 | 16.8 |
| 3 | 31.8 | 24.1 | 20.5 | 17.8 |
| 7 | 35.1 | 27.3 | 23.7 | 21.0 |
| 10 | 36.7 | 29.1 | 25.7 | 23.2 |
| 30 | 44.1 | 36.1 | 32.8 | 30.4 |
| 60 | 48.4 | 39.5 | 35.8 | 33.1 |

ARKANSAS RIVER BASIN

07157000 CIMARRON RIVER NEAR MOCANE, OK

LOCATION.--Lat 36°58'33", long 100°18'50", in SW 1/4 NW 1/4 sec.24, T.6 S., R.25 E., near right bank on downstream side of pier of bridge on county road, 6.5 mi northeast of Mocane, 14.7 mi upstream from Crooked Creek, and at mile 364.1.

DRAINAGE AREA.--8,670 mi², of which 4,365 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1942 to September 1965.

REMARKS.--Extensive diversions for irrigation above station.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1943-1965

101

Magnitude and probability of annual high flow based on period of record 1943-1965

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,640 | 4,560 | 8,050 | 15,200 | 23,200 | 34,200 |
| 3 | 904 | 2,400 | 4,130 | 7,590 | 11,400 | 16,600 |
| 7 | 557 | 1,390 | 2,330 | 4,160 | 6,170 | 8,900 |
| 10 | 446 | 1,090 | 1,820 | 3,260 | 4,860 | 7,070 |
| 30 | 243 | 509 | 786 | 1,290 | 1,820 | 2,500 |
| 60 | 180 | 344 | 501 | 773 | 1,040 | 1,380 |

Magnitude and probability of annual instantaneous peak flow based on 23 years of record, 1943-1965

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 5,210 | 11,800 | 18,600 | 30,900 | 43,300 | 59,200 | 114,000 |

Water Resources Council weighted skew = 0.301

Duration table of daily mean flow for period of record 1943-1965

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 874 | 463 | 226 | 141 | 109 | 977.5 | 81.1 | 70.2 | 61.4 | 53.9 | 46.4 | 38.8 | 27.1 | 19.6 | 12.4 | 8.42 |

| Magnitude and probability of annual low flow based on period of record 1944-1965 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 11.5 | 5.91 | 2.43 | 0.00 |
| 3 | 15.5 | 5.46 | 2.44 | 1.08 |
| 7 | 18.1 | 9.08 | 5.91 | 4.00 |
| 10 | 20.1 | 10.9 | 7.49 | 5.37 |
| 30 | 29.9 | 16.8 | 11.8 | 8.74 |
| 60 | 37.4 | 25.1 | 19.6 | 15.9 |

| Magnitude and probability of annual low flow based on period of record 1943-1965 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 30.7 | 22.9 | 19.4 | 16.8 |
| 3 | 33.7 | 25.5 | 21.8 | 19.0 |
| 7 | 41.0 | 31.1 | 26.5 | 23.0 |
| 10 | 45.2 | 34.4 | 29.1 | 25.1 |
| 30 | 58.6 | 46.9 | 43.0 | 40.6 |
| 60 | 77.0 | 52.6 | 47.2 | 44.6 |

| Magnitude and probability of annual low flow based on period of record 1943-1964 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 13.6 | 6.38 | 2.43 | 0.00 |
| 3 | 16.8 | 5.70 | 2.49 | 1.08 |
| 7 | 18.3 | 9.08 | 5.91 | 4.00 |
| 10 | 20.2 | 10.9 | 7.49 | 5.37 |
| 30 | 30.8 | 16.8 | 11.8 | 8.74 |
| 60 | 43.6 | 25.6 | 19.6 | 15.9 |

| Magnitude and probability of annual low flow based on period of record 1943-1965 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 19.3 | 11.8 | 8.72 | 6.65 |
| 3 | 23.1 | 14.0 | 10.3 | 7.71 |
| 7 | 35.0 | 22.8 | 17.3 | 13.4 |
| 10 | 40.3 | 27.1 | 20.6 | 15.9 |
| 30 | 56.8 | 44.0 | 36.9 | 31.2 |
| 60 | 63.6 | 53.7 | 48.8 | 45.0 |

ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, OK

LOCATION.--Lat 36°51'07", long 99°18'54", in SE ¼ NE ¼ sec.2, T.27 N., R.20 W. Harper County, Hydrologic Unit 11050001., near left bank on downstream side of pier of U.S. Highway 64, 0.5 mi downstream from Keno Creek, 17.0 mi northeast of Buffalo, and at mile 289.1.

DRAINAGE AREA.--12,004 mi², of which 4,813 mi² is probably noncontributing.

PERIOD OF RECORD.--May 1960 to September 1994.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1961-1994

128

Magnitude and probability of annual high flow based on period of record 1961-1994

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 2,260 | 5,060 | 7,160 | 9,830 | 11,700 | 13,500 |
| 3 | 1,520 | 3,230 | 4,490 | 6,080 | 7,220 | 8,300 |
| 7 | 931 | 1,950 | 2,730 | 3,760 | 4,550 | 5,320 |
| 10 | 768 | 1,560 | 2,170 | 2,980 | 3,600 | 4,220 |
| 30 | 418 | 800 | 1,100 | 1,530 | 1,880 | 2,250 |
| 60 | 296 | 522 | 692 | 924 | 1,110 | 1,300 |

Magnitude and probability of annual instantaneous peak flow based on 35 years of record, 1960-1994

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 3,410 | 8,480 | 13,100 | 20,100 | 26,200 | 32,700 | 50,000 |

Water Resources Council weighted skew = - 0.410

Duration table of daily mean flow for period of record 1961-1994

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 1,540 | 924 | 402 | 241 | 181 | 146 | 107 | 78.3 | 56.4 | 35.5 | 18.6 | 4.45 | 0.66 | 0.33 | 0.13 | 0.07 |

| Magnitude and probability of annual low flow based on period of record 1962-1994 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.69 | 0.00 | 0.00 | 0.00 |
| 60 | 4.74 | 0.37 | 0.05 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1961-1994 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 11.1 | 0.66 | 0.00 | 0.00 |
| 3 | 12.0 | 0.98 | 0.03 | 0.00 |
| 7 | 14.5 | 3.06 | 0.54 | 0.00 |
| 10 | 19.4 | 3.64 | 1.21 | 0.43 |
| 30 | 38.9 | 12.6 | 6.88 | 4.15 |
| 60 | 111 | 41.4 | 23.7 | 14.7 |

| Magnitude and probability of annual low flow based on period of record 1960-1993 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.82 | 0.00 | 0.00 | 0.00 |
| 60 | 5.93 | 0.40 | 0.05 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1961-1994 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 8.56 | 0.67 | 0.02 | 0.00 |
| 3 | 11.7 | 1.40 | 0.07 | 0.00 |
| 7 | 14.9 | 2.34 | 0.59 | 0.11 |
| 10 | 17.3 | 2.81 | 0.71 | 0.13 |
| 30 | 41.2 | 10.8 | 4.27 | 1.74 |
| 60 | 60.0 | 28.2 | 17.3 | 11.0 |

ARKANSAS RIVER BASIN

07157960 BUFFALO CREEK NEAR LOVEDALE, OK

LOCATION.--Lat 36°46'14", long 99°22'00", in SW ¼ SW ¼ sec.33, T.27 N., R.20 W. Harper County, Hydrologic Unit 11050001,, near center of channel on downstream side of pier of bridge on State Highway 34, 1.2 mi east of Lovedale, 1.3 mi upstream from Sleeping Bear Creek, and at mile 7.6.

DRAINAGE AREA.--408 mi².

PERIOD OF RECORD.--August 1966 to September 1993.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1967-1993

13.3

Magnitude and probability of annual high flow based on period of record 1967-1993

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 437 | 1,470 | 2,630 | 4,700 | 6,700 | 9,080 |
| 3 | 231 | 670 | 1,120 | 1,860 | 2,540 | 3,330 |
| 7 | 121 | 326 | 530 | 865 | 1,170 | 1,530 |
| 10 | 93.1 | 242 | 389 | 631 | 854 | 1,110 |
| 30 | 48.8 | 115 | 173 | 262 | 338 | 421 |
| 60 | 32.6 | 70.8 | 101 | 141 | 172 | 202 |

Magnitude and probability of annual instantaneous peak flow based on 28 years of record, 1966-1993

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 1,050 | 4,110 | 7,980 | 15,700 | 23,800 | 34,200 | 68,800 |

Oklahoma weighted skew = - 0.303

Duration table of daily mean flow for period of record 1967-1993

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 161 | 74.0 | 36.1 | 21.4 | 16.1 | 12.6 | 7.45 | 4.06 | 2.14 | 1.24 | 0.85 | 0.57 | 0.28 | 0.14 | 0.06 | 0.03 |

| Magnitude and probability of annual low flow based on period of record 1968-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.10 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1967-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.07 | 0.02 | 0.00 | 0.00 |
| 3 | 2.10 | 0.08 | 0.00 | 0.00 |
| 7 | 2.30 | 0.14 | 0.00 | 0.00 |
| 10 | 2.35 | 0.16 | 0.00 | 0.00 |
| 30 | 4.72 | 0.69 | 0.17 | 0.02 |
| 60 | 16.5 | 4.14 | 1.70 | 0.74 |

| Magnitude and probability of annual low flow based on period of record 1967-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.30 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1967-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.46 | 0.00 | 0.00 | 0.00 |
| 3 | 0.66 | 0.00 | 0.00 | 0.00 |
| 7 | 0.75 | 0.00 | 0.00 | 0.00 |
| 10 | 0.90 | 0.00 | 0.00 | 0.00 |
| 30 | 1.24 | 0.13 | 0.00 | 0.00 |
| 60 | 1.76 | 0.48 | 0.22 | 0.08 |

ARKANSAS RIVER BASIN

07158000 CIMARRON RIVER NEAR WAYNOKA, OK

LOCATION.--Lat 36°31'02", long 98°52'45", in NW ¼ NE ¼ sec.35, T.24 N., R.16 W., Woods County, Hydrologic Unit 11050001, near left bank on downstream side of bridge on U.S. Highway 281, 4.0 mi south of Waynoka, and at mile 247.0.

DRAINAGE AREA.--13,334 mi², of which 4,830 mi² is probably noncontributing.

PERIOD OF RECORD.--September 1903 to December 1905 (gage heights and discharge measurements only), October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Extensive diversions for irrigation above station.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1938-1999

302

Magnitude and probability of annual high flow based on period of record 1938-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 7,640 | 16,400 | 22,900 | 31,400 | 37,600 | 43,600 |
| 3 | 4,410 | 9,620 | 13,900 | 20,100 | 25,100 | 30,300 |
| 7 | 2,470 | 5,420 | 8,080 | 12,300 | 16,000 | 20,300 |
| 10 | 1,950 | 4,260 | 6,400 | 9,880 | 13,100 | 16,800 |
| 30 | 1,000 | 2,110 | 3,100 | 4,690 | 6,140 | 7,810 |
| 60 | 672 | 1,420 | 2,140 | 3,360 | 4,520 | 5,940 |

Magnitude and probability of annual instantaneous peak flow based on 62 years of record, 1938-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 14,400 | 32,400 | 46,800 | 66,600 | 82,000 | 97,700 | 134,000 |

Water Resources Council weighted skew = - 0.574

Duration table of daily mean flow for period of record 1938-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 4,370 | 2,400 | 986 | 499 | 338 | 265 | 181 | 126 | 87.4 | 57.0 | 32.1 | 10.9 | 0.93 | 0.46 | 0.19 | 0.09 |

| Magnitude and probability of annual low flow based on period of record 1939-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.02 | 0.00 | 0.00 | 0.00 |
| 30 | 2.38 | 0.00 | 0.00 | 0.00 |
| 60 | 13.7 | 0.75 | 0.03 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1938-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 18.5 | 1.84 | 0.02 | 0.00 |
| 3 | 20.6 | 2.75 | 0.09 | 0.00 |
| 7 | 28.7 | 3.88 | 1.05 | 0.31 |
| 10 | 35.3 | 6.90 | 2.56 | 1.04 |
| 30 | 97.3 | 30.8 | 16.6 | 9.85 |
| 60 | 297 | 93.8 | 49.5 | 28.6 |

| Magnitude and probability of annual low flow based on period of record 1938-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.02 | 0.00 | 0.00 | 0.00 |
| 30 | 2.66 | 0.00 | 0.00 | 0.00 |
| 60 | 21.6 | 1.16 | 0.09 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1938-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 15.8 | 0.29 | 0.00 | 0.00 |
| 3 | 18.6 | 1.40 | 0.00 | 0.00 |
| 7 | 22.2 | 1.90 | 0.01 | 0.00 |
| 10 | 24.8 | 1.91 | 0.09 | 0.00 |
| 30 | 49.1 | 10.2 | 3.26 | 1.00 |
| 60 | 77.5 | 24.7 | 11.3 | 5.35 |

ARKANSAS RIVER BASIN

07158400 SALT CREEK NEAR OKEENE, OK

LOCATION.--Lat 36°06'11", long 98°11'36", in SW 1/4 sec.20, T.19 N., R.9 W., Kingfisher County, near left bank on downstream wingwall of county bridge, 2.2 mi downstream from Spring Creek, 7.0 mi east of Okeene, and at mile 2.2.

DRAINAGE AREA.--196 mi².

PERIOD OF RECORD.--June 1961 to September 1967, December 1973 to September 1979.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1962-1979

41.1

Magnitude and probability of annual high flow based on period of record 1962-1979

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 2,150 | 3,610 | 4,730 | 6,320 | 7,610 | 9,000 |
| 3 | 987 | 1,740 | 24,000 | 3,430 | 4,360 | 5,440 |
| 7 | 500 | 866 | 1,160 | 1,570 | 1,920 | 2,300 |
| 10 | 368 | 628 | 828 | 1,110 | 1,340 | 1,580 |
| 30 | 159 | 305 | 448 | 700 | 951 | 1,270 |
| 60 | 103 | 192 | 269 | 388 | 494 | 615 |

Magnitude and probability of annual instantaneous peak flow based on 23 historic years of record, 1957-1979

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 4,590 | 7,130 | 9,060 | 11,800 | 14,000 | 16,500 | 22,900 |

Oklahoma weighted skew = 0.201

Duration table of daily mean flow for period of record 1962-1979

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 795 | 330 | 108 | 42.2 | 27.6 | 20.7 | 13.7 | 10.5 | 8.45 | 6.85 | 5.69 | 4.40 | 2.73 | 1.95 | 1.14 | 0.66 |

| Magnitude and probability of annual low flow based on period of record 1963-1979 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.91 | 0.59 | 0.27 | 0.13 |
| 3 | 2.05 | 0.64 | 0.30 | 0.14 |
| 7 | 2.31 | 0.75 | 0.36 | 0.18 |
| 10 | 2.54 | 0.86 | 0.42 | 0.21 |
| 30 | 3.62 | 1.97 | 1.35 | 0.96 |
| 60 | 5.17 | 3.40 | 2.61 | 2.04 |

| Magnitude and probability of annual low flow based on period of record 1962-1979 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.66 | 2.60 | 1.66 | 1.11 |
| 3 | 5.81 | 2.70 | 1.75 | 1.20 |
| 7 | 6.30 | 2.90 | 1.91 | 1.34 |
| 10 | 6.64 | 3.18 | 2.15 | 1.55 |
| 30 | 17.1 | 7.08 | 4.39 | 2.93 |
| 60 | 50.1 | 19.6 | 11.2 | 6.88 |

| Magnitude and probability of annual low flow based on period of record 1962-1978 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.98 | 0.59 | 0.27 | 0.13 |
| 3 | 2.09 | 0.64 | 0.30 | 0.14 |
| 7 | 2.31 | 0.76 | 0.36 | 0.18 |
| 10 | 2.54 | 0.86 | 0.42 | 0.21 |
| 30 | 3.62 | 1.97 | 1.35 | 0.96 |
| 60 | 6.50 | 3.58 | 2.76 | 2.27 |

| Magnitude and probability of annual low flow based on period of record 1962-1979 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.70 | 2.12 | 1.68 | 1.43 |
| 3 | 4.76 | 2.65 | 2.02 | 1.63 |
| 7 | 5.30 | 3.06 | 2.37 | 1.94 |
| 10 | 5.60 | 3.28 | 2.54 | 2.09 |
| 30 | 6.70 | 3.85 | 2.94 | 2.38 |
| 60 | 7.62 | 4.57 | 3.59 | 2.98 |

ARKANSAS RIVER BASIN

07159000 TURKEY CREEK NEAR DRUMMOND, OK

LOCATION.--Lat 36°19'05", long 98°00'03", in NE ¼ NE ¼ sec.12, T.21 N., R.8 W., Garfield County, near right bank on downstream side of pile bent of bridge on county road, 2.2 mi northeast of Drummond, 2.5 mi downstream from Clear Creek, and 9 mi southwest of Enid.

DRAINAGE AREA.--248 mi².

PERIOD OF RECORD.--October 1947 to September 1970, crest-stage partial record site October 1970 to September 1974.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1948-1970

48.9

Magnitude and probability of annual high flow based on period of record 1948-1970

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,510 | 3,470 | 5,180 | 7,740 | 9,900 | 12,200 |
| 3 | 1,060 | 2,370 | 3,420 | 4,860 | 5,980 | 7,100 |
| 7 | 596 | 1,480 | 2,240 | 3,380 | 4,310 | 5,290 |
| 10 | 456 | 1,130 | 1,720 | 2,560 | 3,250 | 3,970 |
| 30 | 189 | 494 | 774 | 1,200 | 1,570 | 1,960 |
| 60 | 113 | 308 | 505 | 832 | 1,130 | 1,480 |

Magnitude and probability of annual instantaneous peak flow based on 43 historic years of record, 1932-1974

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 2,630 | 7,200 | 12,200 | 21,500 | 31,100 | 43,300 | 85,000 |

Oklahoma weighted skew = 0.031

Duration table of daily mean flow for period of record 1948-1970

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 1,340 | 747 | 143 | 34.4 | 17.7 | 12.0 | 6.24 | 3.53 | 2.00 | 1.16 | 0.82 | 0.54 | 0.27 | 0.14 | 0.05 | 0.03 |

| Magnitude and probability of annual low flow based on period of record 1949-1970 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.20 | 0.00 | 0.00 | 0.00 |
| 60 | 0.58 | 0.10 | 0.01 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1948-1970 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.45 | 0.00 | 0.00 | 0.00 |
| 3 | 0.52 | 0.00 | 0.00 | 0.00 |
| 7 | 0.67 | 0.07 | 0.00 | 0.00 |
| 10 | 0.83 | 0.13 | 0.04 | 0.00 |
| 30 | 3.91 | 0.72 | 0.30 | 0.14 |
| 60 | 31.5 | 5.86 | 2.25 | 0.98 |

| Magnitude and probability of annual low flow based on period of record 1948-1969 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.02 | 0.00 | 0.00 | 0.00 |
| 30 | 0.26 | 0.00 | 0.00 | 0.00 |
| 60 | 1.01 | 0.12 | 0.01 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1948-1970 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.46 | 0.00 | 0.00 | 0.00 |
| 3 | 0.62 | 0.00 | 0.00 | 0.00 |
| 7 | 0.84 | 0.06 | 0.00 | 0.00 |
| 10 | 0.97 | 0.08 | 0.00 | 0.00 |
| 30 | 1.12 | 0.23 | 0.09 | 0.04 |
| 60 | 1.74 | 0.45 | 0.21 | 0.11 |

ARKANSAS RIVER BASIN

07159100 CIMARRON RIVER NEAR DOVER, OK

LOCATION.--Lat 35°57'06", long 97°54'51", in SW 1/4 NE 1/4 sec.14, T.17 N., R.7 W., Kingfisher County, Hydrologic Unit 11050002, near right bank on downstream bridge on U.S. Highway 81, 1.0 mi downstream from Turkey Creek, 2.0 mi south of Dover, 2.5 mi upstream from Kingfisher Creek, and at mile 160.6.

DRAINAGE AREA.--15,713 mi², of which 4,926 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1973 to current year.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1974-1999

942

Magnitude and probability of annual high flow based on period of record 1974-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 18,400 | 34,700 | 49,100 | 72,100 | 93,000 | 117,000 |
| 3 | 12,800 | 23,900 | 33,500 | 48,700 | 62,300 | 78,000 |
| 7 | 7,520 | 13,900 | 19,500 | 28,400 | 36,500 | 45,800 |
| 10 | 6,240 | 11,500 | 15,900 | 22,800 | 28,900 | 35,800 |
| 30 | 3,390 | 5,900 | 7,790 | 10,400 | 12,500 | 14,600 |
| 60 | 2,330 | 3,890 | 5,020 | 6,540 | 7,720 | 8,930 |

Magnitude and probability of annual instantaneous peak flow based on 26 years of record, 1974-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 26,700 | 51,200 | 71,700 | 102,000 | 128,000 | 157,000 | 237,000 |

Water Resources Council weighted skew = - 0.066

Duration table of daily mean flow for period of record 1974-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 10,800 | 7,500 | 3,620 | 1,930 | 1,280 | 948 | 586 | 406 | 292 | 219 | 159 | 104 | 61.9 | 44.6 | 30.1 | 21.0 |

| Magnitude and probability of annual low flow based on period of record 1975-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 38.0 | 17.2 | 11.1 | 7.74 |
| 3 | 39.4 | 18.4 | 12.3 | 8.81 |
| 7 | 43.1 | 21.2 | 14.8 | 11.1 |
| 10 | 46.3 | 23.0 | 16.2 | 12.2 |
| 30 | 65.8 | 33.7 | 23.8 | 17.9 |
| 60 | 113 | 52.7 | 38.8 | 26.8 |

| Magnitude and probability of annual low flow based on period of record 1974-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 190 | 92.4 | 62.7 | 45.2 |
| 3 | 198 | 95.9 | 64.8 | 46.6 |
| 7 | 218 | 105 | 70.3 | 50.0 |
| 10 | 239 | 114 | 75.3 | 52.9 |
| 30 | 484 | 208 | 129 | 85.3 |
| 60 | 1,310 | 544 | 324 | 206 |

| Magnitude and probability of annual low flow based on period of record 1974-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 38.2 | 17.2 | 11.1 | 7.74 |
| 3 | 39.6 | 18.4 | 12.3 | 8.81 |
| 7 | 43.2 | 21.2 | 14.8 | 11.1 |
| 10 | 46.4 | 23.0 | 16.2 | 12.2 |
| 30 | 70.3 | 34.1 | 23.8 | 17.9 |
| 60 | 148 | 52.7 | 39.5 | 26.8 |

| Magnitude and probability of annual low flow based on period of record 1974-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 109 | 54.2 | 38.4 | 29.3 |
| 3 | 117 | 58.7 | 41.6 | 31.6 |
| 7 | 124 | 62.5 | 44.5 | 33.9 |
| 10 | 131 | 66.4 | 47.2 | 35.9 |
| 30 | 187 | 92.9 | 63.9 | 46.7 |
| 60 | 230 | 118 | 83.1 | 62.5 |

ARKANSAS RIVER BASIN

07159750 COTTONWOOD CREEK NEAR SEWARD, OK

LOCATION.--Lat 35°48'49", long 97°28'40", in SW 1/4 sec.36, T.16 N., R.3 W., Logan County, Hydrologic Unit 11050002, on downstream left bank, 1.2 mi north of Seward on Broadway Road, 6.5 mi southwest of Guthrie, and at mile 16.2.

DRAINAGE AREA.--320 mi².

PERIOD OF RECORD.--March 1973 to September 1982, November 1989 to current year.

REMARKS.--Flow regulated by numerous floodwater-retarding structures. Low flow sustained by part of sewage effluent from Oklahoma City.

REGULATED STREAMFLOW REGULATED PERIOD

Mean annual flow, in ft³/s, based on period of record 1974-1999

191

Magnitude and probability of annual high flow based on period of record 1974-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 4,980 | 11,500 | 17,300 | 26,400 | 34,400 | 43,400 |
| 3 | 3,120 | 6,840 | 10,100 | 14,900 | 19,000 | 23,400 |
| 7 | 1,770 | 3,910 | 5,770 | 8,590 | 11,000 | 13,600 |
| 10 | 1,380 | 3,030 | 4,460 | 6,600 | 8,420 | 10,400 |
| 30 | 659 | 1,350 | 1,940 | 2,840 | 3,610 | 4,470 |
| 60 | 437 | 831 | 1,140 | 1,590 | 1,950 | 2,330 |

Magnitude and probability of annual instantaneous peak flow based on 20 years of record, 1973-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 8,220 | 19,800 | 30,400 | 46,800 | 61,000 | 76,800 | 119,000 |

station skew = - 0.327

Duration table of daily mean flow for period of record 1974-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 2,500 | 1,460 | 656 | 338 | 220 | 163 | 105 | 76.0 | 59.0 | 47.4 | 37.8 | 27.6 | 19.5 | 16.1 | 12.8 | 11.0 |

| Magnitude and probability of annual low flow based on period of record 1974-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 16.0 | 10.8 | 8.69 | 7.19 |
| 3 | 17.0 | 11.3 | 9.06 | 7.48 |
| 7 | 18.6 | 12.4 | 9.93 | 8.20 |
| 10 | 19.7 | 13.1 | 10.4 | 8.58 |
| 30 | 25.7 | 16.5 | 12.8 | 10.3 |
| 60 | 33.7 | 21.0 | 16.0 | 12.6 |

| Magnitude and probability of annual low flow based on period of record 1973-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 38.4 | 21.7 | 16.8 | 14.0 |
| 3 | 40.7 | 23.0 | 17.9 | 14.9 |
| 7 | 46.2 | 26.0 | 20.1 | 16.6 |
| 10 | 50.2 | 28.0 | 21.5 | 17.6 |
| 30 | 114 | 50.6 | 33.3 | 23.6 |
| 60 | 262 | 120 | 77.8 | 53.6 |

| Magnitude and probability of annual low flow based on period of record 1973-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 16.8 | 11.1 | 8.78 | 7.19 |
| 3 | 17.8 | 11.7 | 9.19 | 7.48 |
| 7 | 19.4 | 12.9 | 10.1 | 8.27 |
| 10 | 20.6 | 13.6 | 10.7 | 8.69 |
| 30 | 27.6 | 17.7 | 13.6 | 10.7 |
| 60 | 41.9 | 22.9 | 16.5 | 12.5 |

| Magnitude and probability of annual low flow based on period of record 1974-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 31.0 | 18.4 | 13.7 | 10.7 |
| 3 | 31.8 | 18.9 | 14.1 | 10.9 |
| 7 | 33.1 | 19.5 | 14.5 | 11.2 |
| 10 | 34.0 | 20.0 | 14.8 | 11.4 |
| 30 | 40.5 | 22.4 | 16.7 | 13.3 |
| 60 | 48.9 | 26.2 | 19.3 | 15.1 |

ARKANSAS RIVER BASIN

07160000 CIMARRON RIVER NEAR GUTHRIE, OK

LOCATION.--Lat 35°55'14", long 97°25'32", near center of east line of sec.29, T.17 N., R.2 W, Logan County, Hydrologic Unit 11050002, on downstream side left bank of State Highway 77 bridge, 1.6 mi downstream from Cottonwood Creek, 2.5 mi north of Guthrie, 6.1 mi upstream from Skeleton Creek, and at mile 121.4.

DRAINAGE AREA.--16,892 mi², of which 4,926 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1937 to September 1976, October 1983 to current year. Monthly discharge only for some periods, published in WSP's 1311 and 1731.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1938-1999

1,146

Magnitude and probability of annual high flow based on period of record 1938-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 24,400 | 46,600 | 62,600 | 83,500 | 99,000 | 114,000 |
| 3 | 16,400 | 32,100 | 44,300 | 61,300 | 74,800 | 88,800 |
| 7 | 9,660 | 19,600 | 27,900 | 40,200 | 50,600 | 61,900 |
| 10 | 7,510 | 15,500 | 22,300 | 32,700 | 41,800 | 51,900 |
| 30 | 3,750 | 7,460 | 10,600 | 15,400 | 19,600 | 24,300 |
| 60 | 2,570 | 5,110 | 7,280 | 10,600 | 13,400 | 16,500 |

Magnitude and probability of annual instantaneous peak flow based on 65 historic years of record, 1935-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 30,200 | 58,000 | 78,600 | 106,000 | 127,000 | 147,000 | 196,000 |

Water Resources Council weighted skew = - 0.480

Duration table of daily mean flow for period of record 1938-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 12,700 | 9,630 | 4,220 | 2,270 | 1,480 | 1,070 | 671 | 458 | 343 | 250 | 180 | 116 | 56.6 | 23.0 | 5.41 | 1.22 |

| Magnitude and probability of annual low flow based on period of record 1939-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 46.2 | 9.05 | 3.13 | 1.16 |
| 3 | 49.6 | 9.73 | 3.34 | 1.23 |
| 7 | 55.7 | 11.1 | 3.81 | 1.40 |
| 10 | 60.2 | 12.3 | 4.30 | 1.60 |
| 30 | 107 | 24.0 | 8.44 | 3.07 |
| 60 | 184 | 46.8 | 16.4 | 5.77 |

| Magnitude and probability of annual low flow based on period of record 1938-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 174 | 64.6 | 37.1 | 23.0 |
| 3 | 185 | 68.8 | 39.4 | 24.3 |
| 7 | 212 | 80.0 | 46.3 | 28.9 |
| 10 | 242 | 91.5 | 52.8 | 32.8 |
| 30 | 501 | 185 | 108 | 69.1 |
| 60 | 1,260 | 436 | 239 | 143 |

| Magnitude and probability of annual low flow based on period of record 1938-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 51.2 | 10.0 | 3.47 | 1.29 |
| 3 | 54.6 | 10.7 | 3.69 | 1.36 |
| 7 | 61.2 | 12.3 | 4.26 | 1.57 |
| 10 | 66.4 | 13.8 | 4.91 | 1.86 |
| 30 | 118 | 28.1 | 10.7 | 4.29 |
| 60 | 245 | 69.6 | 30.6 | 14.2 |

| Magnitude and probability of annual low flow based on period of record 1938-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 123 | 25.2 | 8.14 | 2.70 |
| 3 | 134 | 28.8 | 9.50 | 3.21 |
| 7 | 156 | 34.0 | 11.1 | 3.71 |
| 10 | 162 | 36.4 | 12.3 | 4.22 |
| 30 | 228 | 57.6 | 21.2 | 7.97 |
| 60 | 296 | 82.3 | 32.7 | 13.2 |

ARKANSAS RIVER BASIN

07160500 SKELETON CREEK NEAR LOVELL, OK

LOCATION.--Lat 36°03'36", long 97°35'05", NW 1/4 NW 1/4 sec.1, T.18 N., R.4 W, Logan County, Hydrologic Unit 11050002, near right bank on downstream side of pier of bridge on State Highway 74, 2 mi upstream from Otter Creek, 2.8 mi east of Lovell, and at mile 14.6.

DRAINAGE AREA.--410 mi².

PERIOD OF RECORD.--October 1949 to September 1993.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1950-1993

138

Magnitude and probability of annual high flow based on period of record 1950-1993

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 4,320 | 10,700 | 17,300 | 28,800 | 40,000 | 53,900 |
| 3 | 2,800 | 6,800 | 10,600 | 16,800 | 22,400 | 29,000 |
| 7 | 1,490 | 3,640 | 5,630 | 8,750 | 11,500 | 14,600 |
| 10 | 1,130 | 2,800 | 4,340 | 6,790 | 8,940 | 11,400 |
| 30 | 509 | 1,200 | 1,810 | 2,730 | 3,520 | 4,380 |
| 60 | 326 | 754 | 1,130 | 1,700 | 2,180 | 2,710 |

Magnitude and probability of annual instantaneous peak flow based on 82 historic years of record, 1912-1993

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 5,320 | 14,200 | 24,400 | 43,900 | 64,900 | 92,800 | 195,000 |

Oklahoma weighted skew = 0.202

Duration table of daily mean flow for period of record 1950-1993

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|------|------|------|-------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 2,550 | 1,400 | 450 | 184 | 106 | 66.8 | 35.1 | 22.4 | 15.78 | 11.7 | 8.42 | 6.02 | 3.83 | 2.55 | 1.17 | 0.60 |

| Magnitude and probability of annual low flow based on period of record 1951-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.27 | 0.56 | 0.15 | 0.00 |
| 3 | 2.89 | 0.90 | 0.30 | 0.00 |
| 7 | 3.60 | 1.28 | 0.49 | 0.00 |
| 10 | 4.05 | 1.42 | 0.54 | 0.00 |
| 30 | 7.41 | 2.12 | 0.83 | 0.32 |
| 60 | 9.85 | 4.38 | 2.78 | 1.89 |

| Magnitude and probability of annual low flow based on period of record 1950-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 8.28 | 3.75 | 2.58 | 1.93 |
| 3 | 9.05 | 4.61 | 2.89 | 2.18 |
| 7 | 10.4 | 4.76 | 3.29 | 2.47 |
| 10 | 11.5 | 5.18 | 3.57 | 2.68 |
| 30 | 31.2 | 10.7 | 6.30 | 4.16 |
| 60 | 114 | 36.3 | 20.0 | 12.3 |

| Magnitude and probability of annual low flow based on period of record 1950-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.34 | 0.56 | 0.15 | 0.00 |
| 3 | 3.00 | 0.91 | 0.31 | 0.00 |
| 7 | 3.75 | 1.30 | 0.50 | 0.00 |
| 10 | 4.19 | 1.44 | 0.55 | 0.00 |
| 30 | 8.29 | 2.20 | 0.84 | 0.33 |
| 60 | 14.9 | 5.50 | 3.19 | 2.01 |

| Magnitude and probability of annual low flow based on period of record 1950-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.54 | 2.31 | 1.49 | 1.05 |
| 3 | 6.17 | 2.67 | 1.76 | 1.26 |
| 7 | 6.88 | 3.14 | 2.16 | 1.61 |
| 10 | 7.34 | 3.43 | 2.39 | 1.80 |
| 30 | 10.4 | 4.92 | 3.51 | 2.73 |
| 60 | 13.5 | 5.99 | 4.20 | 3.23 |

ARKANSAS RIVER BASIN

07161000 CIMARRON RIVER AT PERKINS, OK

LOCATION.--Lat 35°57'27", long 97°01'54", in SW ¼ SW ¼ sec.7, T.17 N., R.3 E., Payne County, Hydrologic Unit 11050003, on right bank at downstream side of bridge on U.S. Highway 177, 1.0 mi south of Perkins, 1.5 mi upstream from Dogout Creek, 4.0 mi downstream from Wildhorse Creek, and at mile 87.3.

DRAINAGE AREA.--17,852 mi² of which 4,926 mi² is probably noncontributing.

PERIOD OF RECORD.--June 1939 to September 1989. Monthly discharges only for some periods, published in WSP 1311. Gage-height records collected at same site since 1927 are contained in reports of National Weather Service.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1940-1989

1,308

Magnitude and probability of annual high flow based on period of record 1940-1989

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 28,700 | 55,600 | 75,100 | 100,000 | 118,000 | 136,000 |
| 3 | 20,200 | 39,700 | 54,900 | 75,700 | 92,200 | 109,000 |
| 7 | 11,900 | 24,000 | 34,000 | 48,600 | 60,900 | 74,100 |
| 10 | 9,340 | 18,900 | 26,900 | 38,600 | 40,400 | 59,100 |
| 30 | 4,710 | 9,170 | 12,800 | 18,000 | 22,400 | 27,000 |
| 60 | 3,140 | 6,160 | 8,650 | 12,300 | 15,400 | 18,700 |

Magnitude and probability of annual instantaneous peak flow based on 78 historic years of record, 1912-1989

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 31,200 | 61,800 | 86,200 | 121,000 | 149,000 | 178,000 | 252,000 |

Water Resources Council weighted skew = - 0.312

Duration table of daily mean flow for period of record 1940-1989

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|--------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 13,500 | 10,700 | 5,050 | 2,490 | 1,680 | 1,180 | 721 | 495 | 358 | 268 | 193 | 133 | 70.3 | 33.3 | 11.0 | 4.09 |

| Magnitude and probability of annual low flow based on period of record 1941-1989 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 56.5 | 17.5 | 8.30 | 4.16 |
| 3 | 59.8 | 18.8 | 8.96 | 4.52 |
| 7 | 67.3 | 21.6 | 10.4 | 5.22 |
| 10 | 73.2 | 23.5 | 11.2 | 5.61 |
| 30 | 120 | 38.7 | 18.1 | 8.78 |
| 60 | 200 | 66.9 | 30.9 | 14.6 |

| Magnitude and probability of annual low flow based on period of record 1940-1962 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 195 | 82.2 | 49.2 | 31.3 |
| 3 | 208 | 87.3 | 52.5 | 33.5 |
| 7 | 228 | 98.0 | 60.6 | 39.9 |
| 10 | 258 | 112 | 70.0 | 46.7 |
| 30 | 511 | 207 | 129 | 86.9 |
| 60 | 1,570 | 569 | 318 | 192 |

| Magnitude and probability of annual low flow based on period of record 1940-1988 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 62.5 | 19.4 | 9.06 | 4.43 |
| 3 | 65.7 | 20.8 | 9.84 | 4.88 |
| 7 | 73.8 | 24.4 | 11.8 | 6.01 |
| 10 | 80.4 | 26.4 | 12.8 | 6.50 |
| 30 | 134 | 44.0 | 21.1 | 10.6 |
| 60 | 269 | 98.5 | 53.0 | 30.1 |

| Magnitude and probability of annual low flow based on period of record 1940-1989 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 129 | 32.4 | 12.8 | 5.27 |
| 3 | 137 | 34.6 | 13.7 | 5.63 |
| 7 | 155 | 40.0 | 15.8 | 6.50 |
| 10 | 162 | 42.6 | 17.1 | 7.19 |
| 30 | 218 | 63.8 | 27.6 | 12.4 |
| 60 | 283 | 89.4 | 40.5 | 19.0 |

ARKANSAS RIVER BASIN

07161450 CIMARRON RIVER NEAR RIPLEY, OK

LOCATION.--Lat 35°59'09", long 96°54'43", in SE ¼ SE ¼ sec.31, T.18 N., R.4 E., Payne County, Hydrologic Unit 11050003, on right bank at downstream side of bridge on State Highway 33, 2.2 mi upstream from Stillwater Creek, 2.5 mi south of Ripley, 2.8 mi downstream from Sand Creek, 7.0 mi east of Perkins, and at mile 79.2.

DRAINAGE AREA.--17,979 mi² of which 4,926 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1987 to current year.

REMARKS.--Statistical analyses include streamflow record from nearby station Cimarron River at Perkins (07161000), October 1939 to September 1987.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1940-1999

1,528

Magnitude and probability of annual high flow based on period of record 1940-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 30,400 | 59,700 | 81,100 | 109,000 | 129,000 | 149,000 |
| 3 | 21,600 | 43,300 | 60,500 | 84,500 | 104,000 | 123,000 |
| 7 | 12,900 | 26,600 | 37,900 | 54,500 | 68,300 | 83,200 |
| 10 | 10,300 | 21,200 | 30,300 | 43,700 | 54,900 | 67,100 |
| 30 | 5,240 | 10,400 | 14,700 | 20,800 | 25,800 | 31,200 |
| 60 | 3,550 | 7,060 | 9,910 | 14,000 | 17,400 | 21,000 |

Magnitude and probability of annual instantaneous peak flow based on 88 historic years of record, 1912-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 33,200 | 65,500 | 90,800 | 126,000 | 154,000 | 183,000 | 254,000 |

Water Resources Council weighted skew = - 0.369

Duration table of daily mean flow for period of record 1940-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 13,800 | 11,600 | 6,020 | 3,130 | 2,090 | 1,490 | 868 | 591 | 429 | 313 | 226 | 154 | 84.3 | 41.4 | 13.6 | 4.78 |

| Magnitude and probability of annual low flow based on period of record 1941-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 72.9 | 21.8 | 10.1 | 5.01 |
| 3 | 76.6 | 23.2 | 10.9 | 5.44 |
| 7 | 85.3 | 26.4 | 12.5 | 6.28 |
| 10 | 92.3 | 28.8 | 13.6 | 6.76 |
| 30 | 147 | 47.4 | 22.1 | 10.7 |
| 60 | 238 | 82.3 | 38.3 | 18.1 |

| Magnitude and probability of annual low flow based on period of record 1940-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 233 | 91.7 | 54.5 | 34.9 |
| 3 | 248 | 97.6 | 58.1 | 37.3 |
| 7 | 275 | 110 | 66.8 | 43.9 |
| 10 | 313 | 126 | 77.2 | 51.3 |
| 30 | 634 | 236 | 141 | 92.4 |
| 60 | 1,770 | 628 | 349 | 210 |

| Magnitude and probability of annual low flow based on period of record 1940-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 79.5 | 23.7 | 11.0 | 5.36 |
| 3 | 83.0 | 25.2 | 11.8 | 5.88 |
| 7 | 92.1 | 29.3 | 14.1 | 7.20 |
| 10 | 100 | 31.9 | 15.3 | 7.80 |
| 30 | 163 | 52.5 | 25.3 | 12.8 |
| 60 | 313 | 114 | 61.6 | 35.3 |

| Magnitude and probability of annual low flow based on period of record 1940-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 164 | 41.2 | 16.2 | 6.72 |
| 3 | 174 | 44.0 | 17.4 | 7.18 |
| 7 | 196 | 50.8 | 20.1 | 8.30 |
| 10 | 204 | 53.9 | 21.7 | 9.14 |
| 30 | 270 | 77.2 | 33.5 | 15.2 |
| 60 | 342 | 103 | 47.4 | 22.9 |

ARKANSAS RIVER BASIN

07163000 COUNCIL CREEK NEAR STILLWATER, OK

LOCATION.--Lat 36°06'58", long 96°52'03", in NE 1/4 NW 1/4 sec.22, T.19 N., R.4 E., Payne County, Hydrologic Unit 11050003, on right bank at downstream side of bridge on State Highway 51, 10.0 mi east of Stillwater, and at mile 10.0.

DRAINAGE AREA.--31 mi².

PERIOD OF RECORD.--March 1934 to September 1993.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1935-1993

12.8

Magnitude and probability of annual high flow based on period of record 1935-1993

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 604 | 1,380 | 2,150 | 3,470 | 4,750 | 6,320 |
| 3 | 275 | 646 | 1,020 | 1,650 | 2,260 | 3,010 |
| 7 | 135 | 322 | 509 | 833 | 1,150 | 1,530 |
| 10 | 101 | 240 | 377 | 611 | 834 | 1,100 |
| 30 | 47.0 | 108 | 165 | 253 | 332 | 421 |
| 60 | 29.9 | 69.1 | 104 | 155 | 199 | 247 |

Magnitude and probability of annual instantaneous peak flow based on 82 historic years of record, 1912-1993

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 2,150 | 4,660 | 7,190 | 11,700 | 16,200 | 21,900 | 41,500 |

Oklahoma weighted skew = 0.356

Duration table of daily mean flow for period of record 1935-1993

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 290 | 134 | 29.3 | 9.20 | 5.13 | 3.47 | 1.92 | 1.08 | 0.86 | 0.68 | 0.51 | 0.34 | 0.17 | 0.09 | 0.03 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1935-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.03 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1934-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.49 | 0.00 | 0.00 | 0.00 |
| 3 | 0.56 | 0.00 | 0.00 | 0.00 |
| 7 | 0.65 | 0.06 | 0.00 | 0.00 |
| 10 | 0.85 | 0.08 | 0.00 | 0.00 |
| 30 | 3.10 | 0.79 | 0.34 | 0.00 |
| 60 | 14.6 | 4.11 | 1.86 | 0.91 |

| Magnitude and probability of annual low flow based on period of record 1934-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.09 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1935-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.04 | 0.00 | 0.00 | 0.00 |
| 3 | 0.06 | 0.00 | 0.00 | 0.00 |
| 7 | 0.10 | 0.00 | 0.00 | 0.00 |
| 10 | 0.12 | 0.00 | 0.00 | 0.00 |
| 30 | 0.29 | 0.00 | 0.00 | 0.00 |
| 60 | 0.49 | 0.04 | 0.00 | 0.00 |

ARKANSAS RIVER BASIN

07163500 CIMARRON RIVER AT OILTON, OK

LOCATION.--Lat 36°05'38", long 96°34'52", in SW 1/4 sec.28, T.19 N., R.7 E., at bridge on State Highway 51, 0.5 mi north of Oilton, 4.25 mi upstream from Buckeye Creek, and at mile 35.1

DRAINAGE AREA.--18,669 mi² of which 4,926 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1934 to September 1945.

UNREGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1935-1945 |
| 1,244 |

| Magnitude and probability of annual high flow based on period of record 1935-1945 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 29,000 | 47,400 | 57,900 | 68,600 | 75,900 | 81,700 |
| 3 | 19,900 | 33,500 | 41,600 | 50,400 | 56,000 | 60,800 |
| 7 | 12,300 | 21,100 | 26,700 | 33,300 | 37,800 | 41,900 |
| 10 | 9,680 | 16,900 | 21,600 | 27,300 | 31,300 | 34,900 |
| 30 | 5,060 | 8,790 | 11,300 | 14,400 | 16,600 | 18,600 |
| 60 | 3,340 | 5,730 | 7,300 | 9,190 | 10,500 | 11,700 |

| Magnitude and probability of annual instantaneous peak flow based on 37 historic years of record, 1909-1945 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 37,500 | 50,400 | 58,600 | 68,700 | 76,000 | 83,200 | 99,400 |

Water Resources Council weighted skew = - 0.107

| Duration table of daily mean flow for period of record 1935-1945 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 12,800 | 10,200 | 5,070 | 2,600 | 1,760 | 1,260 | 690 | 459 | 324 | 225 | 157 | 105 | 59.1 | 28.7 | 13.1 | 9.54 |

| Magnitude and probability of annual low flow based on period of record 1936-1945 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 37.7 | 12.0 | 0.00 | 0.00 |
| 3 | 41.6 | 13.1 | 0.00 | 0.00 |
| 7 | 54.8 | 15.0 | 3.11 | 0.97 |
| 10 | 59.2 | 15.5 | 3.50 | 1.11 |
| 30 | 81.7 | 21.5 | 9.15 | 4.15 |
| 60 | 99.7 | 36.0 | 20.3 | 12.4 |

| Magnitude and probability of annual low flow based on period of record 1935-1945 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 155 | 59.2 | 33.5 | 20.3 |
| 3 | 164 | 63.2 | 36.3 | 22.3 |
| 7 | 194 | 78.8 | 47.6 | 30.9 |
| 10 | 222 | 85.1 | 52.0 | 34.9 |
| 30 | 564 | 214 | 128 | 83.3 |
| 60 | 1,980 | 621 | 307 | 163 |

| Magnitude and probability of annual low flow based on period of record 1935-1944 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 48.5 | 13.1 | 0.00 | 0.00 |
| 3 | 52.5 | 14.4 | 0.00 | 0.00 |
| 7 | 65.9 | 17.0 | 3.32 | 0.98 |
| 10 | 72.6 | 18.0 | 3.75 | 1.12 |
| 30 | 105 | 25.2 | 9.96 | 4.20 |
| 60 | 259 | 64.5 | 28.1 | 13.4 |

| Magnitude and probability of annual low flow based on period of record 1935-1945 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 71.4 | 31.3 | 18.3 | 11.2 |
| 3 | 76.5 | 33.5 | 19.8 | 12.2 |
| 7 | 87.7 | 37.0 | 22.0 | 13.8 |
| 10 | 91.2 | 38.5 | 23.1 | 14.7 |
| 30 | 139 | 55.8 | 31.9 | 19.2 |
| 60 | 173 | 58.4 | 38.1 | 22.2 |

ARKANSAS RIVER BASIN

07164000 CIMARRON RIVER AT MANNFORD, OK

LOCATION.--Lat 36°09'40", long 96°23'10", in SW 1/4 NW 1/4 sec.5, T.19 N., R.9 E., near left bank on downstream side of pier of bridge on county road, 0.5 mi north of Mannford, 1.5 mi downstream from House Creek, and at mile 17.7.

DRAINAGE AREA.--18,849 mi² of which 4,926 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1938 to September 1950, October 1959 to June 1963. Monthly discharge only for some periods, published in WSP 1311.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1939-1962

1,739

Magnitude and probability of annual high flow based on period of record 1939-1962

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 45,900 | 69,500 | 80,600 | 90,500 | 95,600 | 99,300 |
| 3 | 31,200 | 51,100 | 63,700 | 78,500 | 88,600 | 98,000 |
| 7 | 18,600 | 32,300 | 42,300 | 55,600 | 65,900 | 76,400 |
| 10 | 14,700 | 25,600 | 33,700 | 44,300 | 52,500 | 60,900 |
| 30 | 7,410 | 12,400 | 15,700 | 19,500 | 22,200 | 24,600 |
| 60 | 4,880 | 7,790 | 9,480 | 11,300 | 12,500 | 13,500 |

Magnitude and probability of annual instantaneous peak flow based on 46 historic years of record, 1918-1963

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 33,100 | 61,000 | 82,300 | 112,000 | 135,000 | 160,000 | 220,000 |

Water Resources Council weighted skew = - 0.276

Duration table of daily mean flow for period of record 1939-1962

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|--------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 13,600 | 11,700 | 6,550 | 3,470 | 2,400 | 1,810 | 1,120 | 753 | 543 | 405 | 305 | 205 | 111 | 64.0 | 24.3 | 15.4 |

| Magnitude and probability of annual low flow based on period of record 1940-1963 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 83.7 | 30.9 | 16.3 | 8.94 |
| 3 | 89.6 | 34.7 | 19.2 | 11.1 |
| 7 | 106 | 40.8 | 22.3 | 12.8 |
| 10 | 112 | 43.7 | 23.9 | 13.7 |
| 30 | 167 | 63.2 | 35.5 | 21.1 |
| 60 | 249 | 96.0 | 52.4 | 30.0 |

| Magnitude and probability of annual low flow based on period of record 1939-1963 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 272 | 125 | 73.8 | 44.5 |
| 3 | 286 | 131 | 77.8 | 47.4 |
| 7 | 306 | 147 | 96.6 | 67.1 |
| 10 | 338 | 163 | 113 | 83.3 |
| 30 | 836 | 376 | 251 | 182 |
| 60 | 2,100 | 912 | 591 | 414 |

| Magnitude and probability of annual low flow based on period of record 1939-1962 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 94.3 | 33.7 | 17.4 | 9.45 |
| 3 | 99.0 | 37.8 | 20.7 | 11.9 |
| 7 | 113 | 43.6 | 23.6 | 13.4 |
| 10 | 124 | 47.7 | 25.7 | 14.5 |
| 30 | 197 | 70.6 | 38.0 | 21.7 |
| 60 | 429 | 136 | 67.8 | 36.3 |

| Magnitude and probability of annual low flow based on period of record 1939-1963 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 148 | 57.4 | 31.5 | 18.1 |
| 3 | 161 | 62.2 | 34.0 | 19.5 |
| 7 | 183 | 68.6 | 36.6 | 20.4 |
| 10 | 193 | 72.1 | 38.3 | 21.2 |
| 30 | 270 | 109 | 58.6 | 32.4 |
| 60 | 378 | 156 | 83.2 | 45.1 |

ARKANSAS RIVER BASIN

07164500 ARKANSAS RIVER AT TULSA, OK

LOCATION.--Lat 36°08'26", long 96°00'22", in NE ¼ SW ¼ sec.11, T.19 N., R.12 E., Tulsa County, Hydrologic Unit 11110101, at right abutment on downstream side of 11th Street bridge in Tulsa, 10.1 mi upstream from Polecat Creek, 15.1 mi downstream from Keystone Dam, and at mile 523.7.

DRAINAGE AREA.--74,615 mi², of which 12,541 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1925 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage- height records collected in this vicinity since 1904 are published in reports of the National Weather Service.

REMARKS.--Except for 109 mi² intervening area, flow completely regulated by Keystone Lake (station 07164200) since September 1964. Prior to September 1964, minor regulation by John Martin Lake in Colorado and by Great Salt Plains Lake (station 07150000).

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1926-1964

6,553

Magnitude and probability of annual high flow based on period of record 1926-1964

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | 2 | 5 | 10 | 25 | 50 | 100 |
|---------------------------------|--------|---------|---------|---------|---------|---------|
| | 50% | 20% | 10% | 4% | 2% | 1% |
| 1 | 69,800 | 126,000 | 167,000 | 221,000 | 263,000 | 305,000 |
| 3 | 60,800 | 113,000 | 153,000 | 206,000 | 247,000 | 290,000 |
| 7 | 44,800 | 84,000 | 114,000 | 155,000 | 188,000 | 221,000 |
| 10 | 38,100 | 70,400 | 94,600 | 127,000 | 152,000 | 178,000 |
| 30 | 21,300 | 40,300 | 55,000 | 75,000 | 90,900 | 107,000 |
| 60 | 14,800 | 28,500 | 39,600 | 55,400 | 68,400 | 82,400 |

Magnitude and probability of annual instantaneous peak flow based on 61 historic years of record, 1904-1964

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 | 5 | 10 | 25 | 50 | 100 | 500 |
|--------|---------|---------|---------|---------|---------|---------|
| 50% | 20% | 10% | 4% | 2% | 1% | 0.2% |
| 80,000 | 140,000 | 183,000 | 239,000 | 282,000 | 324,000 | 422,000 |

Water Resources Council weighted skew = - 0.397

Duration table of daily mean flow for period of record 1926-1964

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|
| 16,700 | 16,200 | 14,800 | 12,300 | 9,870 | 7,490 | 4,850 | 3,450 | 2,510 | 1,920 | 1,390 | 995 | 626 | 386 | 213 | 147 |

| Magnitude and probability of annual low flow based on period of record 1927-1964 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 611 | 245 | 140 | 85.0 |
| 3 | 642 | 252 | 144 | 87.6 |
| 7 | 696 | 272 | 155 | 94.1 |
| 10 | 728 | 286 | 165 | 101 |
| 30 | 911 | 364 | 213 | 132 |
| 60 | 1,230 | 521 | 317 | 206 |

| Magnitude and probability of annual low flow based on period of record 1926-1964 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1,580 | 824 | 582 | 436 |
| 3 | 1,700 | 874 | 610 | 451 |
| 7 | 1,900 | 965 | 670 | 493 |
| 10 | 2,090 | 1,010 | 688 | 500 |
| 30 | 3,600 | 1,530 | 978 | 678 |
| 60 | 7,420 | 3,010 | 1,840 | 1,210 |

| Magnitude and probability of annual low flow based on period of record 1926-1963 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 764 | 278 | 151 | 87.7 |
| 3 | 782 | 286 | 157 | 91.2 |
| 7 | 821 | 302 | 166 | 97.7 |
| 10 | 858 | 318 | 176 | 104 |
| 30 | 1,160 | 416 | 229 | 136 |
| 60 | 1,970 | 684 | 372 | 218 |

| Magnitude and probability of annual low flow based on period of record 1926-1964 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 841 | 393 | 253 | 172 |
| 3 | 873 | 412 | 269 | 186 |
| 7 | 961 | 458 | 301 | 209 |
| 10 | 1,010 | 481 | 315 | 218 |
| 30 | 1,350 | 637 | 410 | 279 |
| 60 | 1,580 | 759 | 497 | 343 |

ARKANSAS RIVER BASIN
07164500 ARKANSAS RIVER AT TULSA, OK—Continued
REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1965-1999 |
| 8,865 |

| Magnitude and probability of annual high flow based on period of record 1965-1999 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 41,500 | 80,300 | 113,000 | 161,000 | 203,000 | 249,000 |
| 3 | 40,400 | 77,500 | 107,000 | 150,000 | 186,000 | 224,000 |
| 7 | 35,800 | 68,100 | 94,100 | 131,000 | 162,000 | 196,000 |
| 10 | 32,700 | 62,300 | 86,400 | 121,000 | 150,000 | 182,000 |
| 30 | 23,800 | 43,100 | 57,400 | 76,500 | 91,100 | 106,000 |
| 60 | 18,500 | 32,400 | 42,200 | 54,600 | 63,800 | 72,900 |

| Magnitude and probability of annual instantaneous peak flow based on 35 years of record, 1965-1999 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 42,900 | 82,800 | 117,000 | 169,000 | 215,000 | 266,000 | 413,000 |

station skew = 0.308

| Duration table of daily mean flow for period of record 1965-1999 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 19,300 | 19,000 | 17,900 | 16,200 | 14,400 | 12,600 | 9,090 | 6,350 | 4,290 | 2,990 | 2,040 | 1,300 | 686 | 370 | 209 | 153 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 163 | 79.9 | 55.5 | 41.3 |
| 3 | 397 | 212 | 149 | 109 |
| 7 | 692 | 436 | 348 | 291 |
| 10 | 769 | 484 | 384 | 320 |
| 30 | 1,140 | 672 | 514 | 414 |
| 60 | 1,670 | 920 | 663 | 502 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 676 | 216 | 123 | 78.4 |
| 3 | 1,490 | 532 | 308 | 195 |
| 7 | 2,850 | 1,150 | 700 | 457 |
| 10 | 3,170 | 1,280 | 778 | 511 |
| 30 | 5,800 | 2,190 | 1,240 | 753 |
| 60 | 10,200 | 4,050 | 2,330 | 1,430 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 254 | 106 | 68.0 | 47.2 |
| 3 | 562 | 293 | 209 | 159 |
| 7 | 896 | 529 | 413 | 342 |
| 10 | 979 | 585 | 460 | 383 |
| 30 | 1,670 | 933 | 704 | 564 |
| 60 | 2,610 | 1,470 | 1,110 | 882 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 220 | 95.6 | 65.8 | 49.8 |
| 3 | 458 | 227 | 167 | 133 |
| 7 | 938 | 520 | 403 | 335 |
| 10 | 1,110 | 592 | 441 | 352 |
| 30 | 1,800 | 867 | 598 | 442 |
| 60 | 2,390 | 1,140 | 772 | 558 |

ARKANSAS RIVER BASIN

07164600 JOE CREEK AT 61ST STREET AT TULSA, OK

LOCATION.--Lat 36°04'32", long 95°57'37", in SE ¼ SE ¼ sec.31, T.19 N., R.13 E., Tulsa County, Hydrologic Unit 11110101, at right upstream abutment of 61st Street bridge, 0.2 mi west of Lewis Avenue, 4 mi north of Jenks and at mile 2.1.

DRAINAGE AREA.--12.2 mi².

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

REMARKS.--Urban watershed in the city of Tulsa, OK.

URBAN STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1989-1999 |
| 22.3 |

| Magnitude and probability of annual high flow based on period of record 1989-1999 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 697 | 947 | 1,090 | 1,260 | 1,370 | 1,480 |
| 3 | 302 | 424 | 516 | 646 | 753 | 869 |
| 7 | 163 | 216 | 249 | 287 | 314 | 340 |
| 10 | 130 | 178 | 210 | 251 | 283 | 315 |
| 30 | 69.0 | 95.3 | 115 | 141 | 163 | 186 |
| 60 | 49.1 | 71.5 | 88.8 | 114 | 134 | 157 |

| Magnitude and probability of annual instantaneous peak flow based on 11 years of record, 1989-1999 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 5,750 | 8,020 | 9,570 | 11,600 | 13,100 | 14,700 | 18,500 |

station skew = 0.081

| Duration table of daily mean flow for period of record 1989-1999 | | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% | |
| 377 | 265 | 124 | 41.1 | 18.8 | 11.4 | 5.77 | 4.12 | 3.03 | 2.48 | 2.02 | 1.56 | 1.10 | 0.71 | 0.29 | 0.14 | |

| Magnitude and probability of annual low flow based on period of record 1990-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.58 | 0.43 | 0.35 | 0.29 |
| 3 | 0.66 | 0.47 | 0.38 | 0.30 |
| 7 | 0.80 | 0.65 | 0.59 | 0.53 |
| 10 | 0.93 | 0.75 | 0.69 | 0.63 |
| 30 | 1.92 | 1.39 | 1.20 | 1.06 |
| 60 | 3.64 | 2.58 | 2.16 | 1.78 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.53 | 1.02 | 0.81 | 0.67 |
| 3 | 1.80 | 1.16 | 0.90 | 0.73 |
| 7 | 2.16 | 1.58 | 1.34 | 1.18 |
| 10 | 2.95 | 1.90 | 1.61 | 1.43 |
| 30 | 20.5 | 7.99 | 4.58 | 2.79 |
| 60 | 35.1 | 19.1 | 13.3 | 9.69 |

| Magnitude and probability of annual low flow based on period of record 1989-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.67 | 0.44 | 0.35 | 0.29 |
| 3 | 0.79 | 0.50 | 0.38 | 0.30 |
| 7 | 0.96 | 0.70 | 0.60 | 0.53 |
| 10 | 1.14 | 0.86 | 0.76 | 0.68 |
| 30 | 3.01 | 1.85 | 1.47 | 1.22 |
| 60 | 6.28 | 3.68 | 2.77 | 2.18 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.95 | 0.63 | 0.52 | 0.44 |
| 3 | 1.06 | 0.75 | 0.64 | 0.56 |
| 7 | 1.16 | 0.80 | 0.68 | 0.59 |
| 10 | 1.22 | 0.83 | 0.70 | 0.63 |
| 30 | 3.13 | 1.77 | 1.33 | 1.06 |
| 60 | 5.38 | 3.13 | 2.31 | 1.78 |

ARKANSAS RIVER BASIN

07165500 POLECAT CREEK BELOW HEYBURN LAKE NEAR HEYBURN, OK

LOCATION.--Lat 35°56'42", long 96°17'39", in NW ¼ NW ¼ sec.19, T.17 N., R.10 E., Creek County, Hydrologic Unit 11110101, on right bank of outlet channel, 1,100 ft downstream from Heyburn Dam, 3.2 mi upstream from bridge on U.S. Highway 66, 11 mi southwest of Sapulpa, and at mile 48.4.

DRAINAGE AREA.--123 mi².

PERIOD OF RECORD.--October 1943 to September 1979. Prior of October 1956, published as Polecat Creek at Heyburn and October 1956 to September 1970 as Polecat Creek below Heyburn Reservoir near Heyburn.

REMARKS.--Flow completely regulated by Heyburn Lake (station 07165000) since September 1950.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1951-1979

48.4

Magnitude and probability of annual high flow based on period of record 1951-1979

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,230 | 1,800 | 2,010 | 2,160 | 2,220 | 2,260 |
| 3 | 986 | 1,620 | 1,940 | 2,230 | 2,380 | 2,490 |
| 7 | 613 | 1,160 | 1,530 | 1,990 | 2,310 | 2,600 |
| 10 | 477 | 935 | 1,270 | 1,700 | 2,020 | 2,340 |
| 30 | 221 | 438 | 590 | 779 | 912 | 1,040 |
| 60 | 141 | 287 | 391 | 521 | 612 | 698 |

Magnitude and probability of annual instantaneous peak flow based on 29 years of record, 1951-1979

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 1,390 | 1,890 | 2,160 | 2,450 | 2,630 | 2,780 | 3,080 |

station skew = - 0.747

Duration table of daily mean flow for period of record 1951-1979

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1,030 | 564 | 225 | 92.6 | 49.4 | 30.4 | 14.4 | 6.14 | 1.92 | 0.90 | 0.68 | 0.45 | 0.23 | 0.11 | 0.05 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1952-1979 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.11 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1951-1979 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.36 | 0.00 | 0.00 | 0.00 |
| 3 | 0.50 | 0.00 | 0.00 | 0.00 |
| 7 | 1.14 | 0.00 | 0.00 | 0.00 |
| 10 | 1.50 | 0.00 | 0.00 | 0.00 |
| 30 | 27.9 | 3.70 | 0.86 | 0.21 |
| 60 | 89.5 | 19.9 | 5.96 | 1.73 |

| Magnitude and probability of annual low flow based on period of record 1951-1978 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.04 | 0.00 | 0.00 | 0.00 |
| 60 | 0.62 | 0.01 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1951-1979 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.02 | 0.00 | 0.00 | 0.00 |
| 30 | 0.29 | 0.00 | 0.00 | 0.00 |
| 60 | 0.86 | 0.03 | 0.00 | 0.00 |

ARKANSAS RIVER BASIN

07165562 HAIKEY CREEK AT 101ST STREET SOUTH AT TULSA, OK

LOCATION.--Lat 36°01'01", long 95°50'55", in NW ¼ NW ¼ sec.29, T.18 N., R.14 E., Tulsa County, Hydrologic Unit 11110101, near right downstream abutment of 101st Street South bridge, 1.0 mi downstream from unnamed tributary, 2.0 mi upstream from Little Haikey Creek, and at mile 6.4.

DRAINAGE AREA.--17.8 mi².

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

REMARKS.--Urban watershed in the city of Tulsa, OK.

URBAN STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1989-1999 |
| 24.5 |

| Magnitude and probability of annual high flow based on period of record 1989-1999 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 901 | 1,380 | 1,730 | 2,210 | 2,600 | 3,010 |
| 3 | 383 | 533 | 622 | 723 | 791 | 854 |
| 7 | 199 | 288 | 348 | 425 | 482 | 539 |
| 10 | 154 | 220 | 264 | 319 | 360 | 401 |
| 30 | 83.6 | 112 | 127 | 142 | 151 | 158 |
| 60 | 55.2 | 78.7 | 92.8 | 109 | 120 | 130 |

| Magnitude and probability of annual instantaneous peak flow based on 12 years of record, 1988-1999 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 3,050 | 4,990 | 6,420 | 8,380 | 9,940 | 11,600 | 15,700 |

station skew = - 0.081

| Duration table of daily mean flow for period of record 1989-1999 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 450 | 291 | 134 | 39.1 | 18.0 | 10.6 | 5.30 | 3.51 | 2.49 | 1.63 | 0.95 | 0.63 | 0.32 | 0.16 | 0.06 | 0.03 |

| Magnitude and probability of annual low flow based on period of record 1990-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.30 | 0.03 | 0.01 | 0.00 |
| 60 | 1.62 | 0.60 | 0.35 | 0.22 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.06 | 0.00 | 0.00 | 0.00 |
| 3 | 1.18 | 0.19 | 0.00 | 0.00 |
| 7 | 1.77 | 0.65 | 0.00 | 0.00 |
| 10 | 3.02 | 1.20 | 0.01 | 0.00 |
| 30 | 19.0 | 8.51 | 5.48 | 3.77 |
| 60 | 30.4 | 15.5 | 10.6 | 7.62 |

| Magnitude and probability of annual low flow based on period of record 1989-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.39 | 0.09 | 0.05 | 0.03 |
| 60 | 3.48 | 1.22 | 0.68 | 0.42 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.22 | 0.00 | 0.00 | 0.00 |
| 3 | 0.31 | 0.00 | 0.00 | 0.00 |
| 7 | 0.40 | 0.01 | 0.00 | 0.00 |
| 10 | 0.54 | 0.08 | 0.00 | 0.00 |
| 30 | 1.85 | 0.78 | 0.52 | 0.37 |
| 60 | 3.95 | 1.87 | 1.30 | 0.98 |

ARKANSAS RIVER BASIN

07165565 LITTLE HAIKEY CREEK AT 101ST STREET SOUTH AT TULSA, OK

LOCATION.--Lat 36°01'03", long 95°51'38", in SE ¼ SW ¼ sec.19, T.18 N., R.14 E., Tulsa County, Hydrologic Unit 11110101, near right upstream abutment of 101st Street South bridge, and at mile 2.0.

DRAINAGE AREA.--5.45 mi².

PERIOD OF RECORD.--October 1987 to current year.

REMARKS.--Urban watershed in the city of Tulsa, OK.

URBAN STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1988-1999

7.67

Magnitude and probability of annual high flow based on period of record 1988-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 248 | 358 | 431 | 520 | 586 | 650 |
| 3 | 109 | 152 | 181 | 219 | 246 | 274 |
| 7 | 56.4 | 84.5 | 104 | 130 | 150 | 171 |
| 10 | 45.0 | 67.2 | 81.9 | 100 | 113 | 126 |
| 30 | 23.6 | 35.1 | 43.1 | 53.7 | 61.8 | 70.2 |
| 60 | 16.3 | 26.2 | 33.5 | 43.4 | 51.3 | 59.6 |

Magnitude and probability of annual instantaneous peak flow based on 12 years of record, 1988-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 1,080 | 1,560 | 1,910 | 2,400 | 2,800 | 3,220 | 4,330 |

station skew = 0.311

Duration table of daily mean flow for period of record 1988-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 138 | 91.9 | 37.7 | 15.2 | 7.23 | 4.38 | 2.21 | 1.28 | 0.94 | 0.76 | 0.57 | 0.38 | 0.19 | 0.09 | 0.04 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.11 | 0.03 | 0.01 | 0.00 |
| 60 | 0.45 | 0.20 | 0.14 | 0.10 |

| Magnitude and probability of annual low flow based on period of record 1988-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.24 | 0.00 | 0.00 | 0.00 |
| 3 | 0.34 | 0.00 | 0.00 | 0.00 |
| 7 | 0.50 | 0.00 | 0.00 | 0.00 |
| 10 | 0.78 | 0.07 | 0.00 | 0.00 |
| 30 | 5.30 | 1.84 | 1.00 | 0.58 |
| 60 | 9.11 | 4.43 | 2.99 | 2.15 |

| Magnitude and probability of annual low flow based on period of record 1988-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.21 | 0.07 | 0.04 | 0.30 |
| 60 | 1.33 | 0.45 | 0.24 | 0.14 |

| Magnitude and probability of annual low flow based on period of record 1988-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.06 | 0.00 | 0.00 | 0.00 |
| 3 | 0.08 | 0.00 | 0.00 | 0.00 |
| 7 | 0.11 | 0.00 | 0.00 | 0.00 |
| 10 | 0.19 | 0.02 | 0.00 | 0.00 |
| 30 | 0.59 | 0.16 | 0.07 | 0.04 |
| 60 | 1.16 | 0.40 | 0.22 | 0.14 |

ARKANSAS RIVER BASIN

07165570 ARKANSAS RIVER NEAR HASKELL, OK

LOCATION.--Lat 35°49'15", long 95°38'19", in SW 1/4 NW 1/4 sec.32, T.16 N., R.16 E., Wagoner County, Hydrologic Unit 11110101, near left, downstream abutment of old bridge downstream from State Highway 104, 2.0 mi east of Haskell, 23.5 mi upstream from Verdigris River, and at mile 483.7.

DRAINAGE AREA.--75,473 mi², of which 12,541 mi² probably is noncontributing.

PERIOD OF RECORD.--June 1972 to current year.

REMARKS.--Except for 858 mi² intervening area, flow regulated by Keystone Lake (station 07164200) 55.1 mi upstream.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1973-1999

10,964

Magnitude and probability of annual high flow based on period of record 1973-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 49,300 | 90,100 | 124,000 | 176,000 | 222,000 | 273,000 |
| 3 | 47,400 | 86,800 | 118,000 | 164,000 | 203,000 | 245,000 |
| 7 | 42,800 | 78,100 | 106,000 | 147,000 | 180,000 | 217,000 |
| 10 | 39,700 | 72,600 | 99,000 | 137,000 | 169,000 | 203,000 |
| 30 | 29,400 | 50,500 | 65,600 | 85,400 | 100,000 | 115,000 |
| 60 | 23,200 | 38,600 | 49,200 | 62,700 | 72,700 | 82,500 |

Magnitude and probability of annual instantaneous peak flow based on 27 years of record, 1973-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 52,400 | 93,600 | 129,000 | 185,000 | 236,000 | 295,000 | 471,000 |

station skew = 0.315

Duration table of daily mean flow for period of record 1973-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-----|-----|-----|-----|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 19,500 | 19,200 | 18,300 | 16,900 | 15,500 | 14,200 | 11,400 | 8,570 | 5,940 | 4,020 | 2,060 | 1,650 | 878 | 619 | 467 | 377 |

| Magnitude and probability of annual low flow based on period of record 1974-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 365 | 198 | 143 | 109 |
| 3 | 596 | 379 | 303 | 254 |
| 7 | 843 | 528 | 419 | 349 |
| 10 | 905 | 557 | 440 | 365 |
| 30 | 1,300 | 764 | 583 | 468 |
| 60 | 1,900 | 1,050 | 758 | 574 |

| Magnitude and probability of annual low flow based on period of record 1973-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1,920 | 743 | 447 | 292 |
| 3 | 2,780 | 1,210 | 775 | 532 |
| 7 | 4,480 | 1,930 | 1,180 | 767 |
| 10 | 4,970 | 2,090 | 1,260 | 807 |
| 30 | 8,630 | 3,390 | 1,890 | 1,100 |
| 60 | 14,200 | 6,430 | 3,970 | 2,570 |

| Magnitude and probability of annual low flow based on period of record 1973-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 477 | 251 | 181 | 138 |
| 3 | 700 | 422 | 335 | 283 |
| 7 | 1,010 | 587 | 462 | 387 |
| 10 | 1,070 | 613 | 476 | 394 |
| 30 | 1,710 | 928 | 698 | 562 |
| 60 | 2,800 | 1,480 | 1,070 | 831 |

| Magnitude and probability of annual low flow based on period of record 1973-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 632 | 302 | 205 | 149 |
| 3 | 949 | 500 | 372 | 298 |
| 7 | 1,390 | 709 | 511 | 396 |
| 10 | 1,560 | 781 | 553 | 420 |
| 30 | 2,470 | 1,200 | 821 | 601 |
| 60 | 3,280 | 1,540 | 1,020 | 719 |

ARKANSAS RIVER BASIN

07170500 VERDIGRIS RIVER AT INDEPENDENCE, KS

LOCATION.--Lat 37°13'24", long 95°40'37", NW 1/4, NE 1/4 NE 1/4, sec.32, T.32 S., R.16 E., Montgomery County, Hydrologic Unit 11070103, on left bank at downstream side of bridge on U.S. Highway 160, 1.0 mi east of Independence, 3.7 mi downstream from Elk River, and at mile 194.2.

DRAINAGE AREA.--2,892 mi².

PERIOD OF RECORD.--August 1895 to September 1904 (monthly figures only, published WSP 1311), October 1921 to current year.

REMARKS.--Flow regulated since April 1949 by Fall River Reservoir (station 07168000), since 1960 by Toronto Lake (07165900), and since 1966 by Elk City Lake (station 07170050).

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1896-1959

1,527

Magnitude and probability of annual high flow based on period of record 1896-1959

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 31,900 | 52,700 | 63,900 | 74,900 | 81,200 | 86,200 |
| 3 | 25,900 | 42,900 | 51,400 | 59,200 | 63,400 | 66,500 |
| 7 | 16,400 | 29,000 | 36,100 | 43,200 | 47,400 | 50,700 |
| 10 | 13,000 | 23,600 | 30,100 | 37,200 | 41,600 | 45,400 |
| 30 | 6,820 | 13,200 | 17,300 | 21,800 | 24,700 | 27,200 |
| 60 | 4,540 | 8,590 | 11,000 | 13,600 | 15,100 | 16,400 |

Magnitude and probability of annual instantaneous peak flow based on 56 historic years of record, 1904-1959

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 28,100 | 49,300 | 66,100 | 90,200 | 110,000 | 132,000 | 190,000 |

Water Resources Council weighted skew = - 0.015

Duration table of daily mean flow for period of record 1896-1959

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|-------|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|
| 15,800 | 13,800 | 7,840 | 3,010 | 1,680 | 1,100 | 635 | 401 | 236 | 120 | 58.6 | 27.7 | 10.4 | 4.00 | 0.86 | 0.43 |

| Magnitude and probability of annual low flow based on period of record 1897-1959 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.04 | 0.33 | 0.00 | 0.00 |
| 3 | 5.65 | 0.38 | 0.00 | 0.00 |
| 7 | 7.01 | 0.58 | 0.02 | 0.00 |
| 10 | 7.88 | 0.73 | 0.04 | 0.00 |
| 30 | 18.3 | 2.82 | 0.83 | 0.24 |
| 60 | 43.0 | 8.98 | 3.36 | 1.25 |

| Magnitude and probability of annual low flow based on period of record 1896-1959 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 155 | 38.1 | 14.3 | 5.55 |
| 3 | 179 | 45.6 | 17.2 | 6.63 |
| 7 | 223 | 61.0 | 25.3 | 10.9 |
| 10 | 255 | 69.7 | 29.7 | 13.3 |
| 30 | 829 | 252 | 115 | 54.7 |
| 60 | 2,430 | 876 | 453 | 245 |

| Magnitude and probability of annual low flow based on period of record 1896-1958 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 6.03 | 0.64 | 0.00 | 0.00 |
| 3 | 6.87 | 0.79 | 0.00 | 0.00 |
| 7 | 8.71 | 0.98 | 0.15 | 0.00 |
| 10 | 10.1 | 1.36 | 0.27 | 0.00 |
| 30 | 25.2 | 3.99 | 1.17 | 0.32 |
| 60 | 82.8 | 12.7 | 3.94 | 1.35 |

| Magnitude and probability of annual low flow based on period of record 1896-1959 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 24.0 | 2.99 | 0.28 | 0.00 |
| 3 | 26.3 | 2.42 | 0.40 | 0.01 |
| 7 | 30.4 | 3.16 | 0.59 | 0.02 |
| 10 | 33.9 | 3.72 | 0.73 | 0.03 |
| 30 | 72.8 | 14.6 | 5.27 | 1.88 |
| 60 | 124 | 27.4 | 10.6 | 4.11 |

ARKANSAS RIVER BASIN
07170500 VERDIGRIS RIVER AT INDEPENDENCE, KS—Continued
REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1967-1999 |
| 2,187 |

| Magnitude and probability of annual high flow based on period of record 1967-1999 | | | | | | |
|--|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 21,200 | 34,100 | 42,600 | 52,800 | 60,200 | 67,200 |
| 3 | 17,900 | 29,100 | 36,500 | 45,300 | 51,600 | 57,500 |
| 7 | 14,200 | 21,600 | 25,600 | 29,800 | 32,300 | 34,300 |
| 10 | 13,200 | 19,600 | 22,700 | 25,500 | 26,900 | 28,000 |
| 30 | 9,060 | 13,900 | 15,900 | 17,600 | 18,400 | 18,900 |
| 60 | 6,100 | 9,530 | 11,200 | 12,600 | 13,400 | 13,900 |

| Magnitude and probability of annual instantaneous peak flow based on 33 years of record, 1967-1999 | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 22,000 | 34,900 | 45,200 | 60,100 | 72,700 | 86,800 | 126,000 |

station skew = 0.309

| Duration table of daily mean flow for period of record 1967-1999 | | | | | | | | | | | | | | | |
|---|--------|--------|-------|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|
| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 12,800 | 12,200 | 10,300 | 7,210 | 5,060 | 3,550 | 1,690 | 869 | 462 | 224 | 114 | 59.1 | 32.2 | 23.0 | 16.9 | 13.4 |

| Magnitude and probability of annual low flow based on period of record 1968-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 22.7 | 10.6 | 6.43 | 4.03 |
| 3 | 24.1 | 11.6 | 7.23 | 4.66 |
| 7 | 26.4 | 14.2 | 10.3 | 7.46 |
| 10 | 28.6 | 15.8 | 11.7 | 8.58 |
| 30 | 46.3 | 24.6 | 17.4 | 13.0 |
| 60 | 95.9 | 42.4 | 28.3 | 20.5 |

| Magnitude and probability of annual low flow based on period of record 1967-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 180 | 55.6 | 28.0 | 15.3 |
| 3 | 200 | 60.9 | 30.5 | 16.6 |
| 7 | 258 | 72.2 | 34.9 | 18.4 |
| 10 | 298 | 80.1 | 37.9 | 19.7 |
| 30 | 967 | 248 | 108 | 51.3 |
| 60 | 2,730 | 958 | 476 | 246 |

| Magnitude and probability of annual low flow based on period of record 1967-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 23.8 | 10.7 | 6.57 | 4.20 |
| 3 | 25.2 | 11.6 | 7.36 | 4.91 |
| 7 | 26.4 | 14.2 | 10.6 | 8.52 |
| 10 | 28.6 | 15.8 | 12.3 | 10.3 |
| 30 | 53.2 | 25.7 | 18.6 | 14.7 |
| 60 | 125 | 49.4 | 32.0 | 23.0 |

| Magnitude and probability of annual low flow based on period of record 1967-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 65.2 | 24.2 | 15.0 | 10.3 |
| 3 | 69.7 | 25.3 | 15.6 | 10.7 |
| 7 | 75.8 | 26.9 | 16.7 | 11.6 |
| 10 | 83.3 | 29.8 | 18.6 | 13.0 |
| 30 | 176 | 53.5 | 29.8 | 18.6 |
| 60 | 398 | 104 | 49.0 | 25.4 |

ARKANSAS RIVER BASIN

07171000 VERDIGRIS RIVER NEAR LENAPAH, OK

LOCATION.--Lat 36°51'04", long 95°35'09", NE 1/4, SW 1/4, sec.3, T.27 N., R.16 E., Nowata County, Hydrologic Unit 11070103, on right bank on downstream side of county road bridge, 2.8 mi east of Lenapah, 5.5(revised) mi upstream from Cedar Creek, and at mile 144.6.

DRAINAGE AREA.--3,639 mi².

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Some regulation since April 1949 by Fall River Reservoir in Kansas. Flow regulated since 1960 by Toronto Lake in Kansas. Flow has been further regulated since 1966 by Elk City Lake in Kansas.

UNREGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1939-1959 |
| 2,083 |

| Magnitude and probability of annual high flow based on period of record 1939-1959 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 32,400 | 57,900 | 76,000 | 97,300 | 112,000 | 126,000 |
| 3 | 29,600 | 53,900 | 68,300 | 83,600 | 93,000 | 101,000 |
| 7 | 21,500 | 40,600 | 52,100 | 64,400 | 71,800 | 78,100 |
| 10 | 17,400 | 33,100 | 43,000 | 53,900 | 60,900 | 66,800 |
| 30 | 9,200 | 19,000 | 25,800 | 33,900 | 39,400 | 44,400 |
| 60 | 6,180 | 13,000 | 17,700 | 23,100 | 26,700 | 29,900 |

| Magnitude and probability of annual instantaneous peak flow based on 21 years of record, 1939-1959 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 33,800 | 58,000 | 77,800 | 107,000 | 132,000 | 161,000 | 240,000 |

Water Resources Council weighted skew = 0.184

| Duration table of daily mean flow for period of record 1939-1959 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 17,100 | 15,700 | 11,200 | 4,960 | 2,510 | 1,590 | 793 | 467 | 247 | 125 | 58.2 | 22.0 | 7.93 | 3.58 | 0.76 | 0.38 |

| Magnitude and probability of annual low flow based on period of record 1940-1959 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 9.59 | 1.08 | 0.00 | 0.00 |
| 3 | 10.6 | 1.35 | 0.00 | 0.00 |
| 7 | 12.5 | 1.71 | 0.00 | 0.00 |
| 10 | 14.1 | 2.00 | 0.00 | 0.00 |
| 30 | 23.9 | 3.42 | 0.00 | 0.00 |
| 60 | 58.2 | 7.91 | 1.93 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1939-1959 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 141 | 26.3 | 8.78 | 3.15 |
| 3 | 164 | 32.1 | 10.9 | 3.94 |
| 7 | 203 | 40.8 | 14.5 | 5.52 |
| 10 | 237 | 51.4 | 19.4 | 7.92 |
| 30 | 1,050 | 271 | 109 | 45.7 |
| 60 | 3,220 | 929 | 396 | 175 |

| Magnitude and probability of annual low flow based on period of record 1939-1958 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 11.3 | 1.30 | 0.00 | 0.00 |
| 3 | 12.3 | 1.59 | 0.00 | 0.00 |
| 7 | 13.8 | 1.84 | 0.00 | 0.00 |
| 10 | 15.0 | 2.00 | 0.00 | 0.00 |
| 30 | 31.8 | 3.42 | 0.71 | 0.00 |
| 60 | 89.6 | 11.6 | 3.59 | 1.28 |

| Magnitude and probability of annual low flow based on period of record 1939-1959 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 30.7 | 6.06 | 2.22 | 0.25 |
| 3 | 31.8 | 6.35 | 2.34 | 0.26 |
| 7 | 33.7 | 6.82 | 2.54 | 0.29 |
| 10 | 35.8 | 7.21 | 2.67 | 0.30 |
| 30 | 61.8 | 11.8 | 4.09 | 0.36 |
| 60 | 102 | 20.3 | 7.20 | 0.67 |

ARKANSAS RIVER BASIN
07171000 VERDIGRIS RIVER NEAR LENAPAH, OK—Continued
REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1967-1999 |
| 2,832 |

| Magnitude and probability of annual high flow based on period of record 1967-1999 | | | | | | |
|--|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 32,200 | 47,400 | 56,400 | 63,900 | 67,900 | 71,000 |
| 3 | 27,400 | 42,300 | 49,800 | 56,700 | 60,400 | 63,300 |
| 7 | 20,100 | 30,700 | 35,800 | 40,500 | 43,100 | 45,000 |
| 10 | 18,000 | 26,800 | 30,800 | 34,200 | 35,900 | 37,100 |
| 30 | 11,500 | 17,900 | 21,100 | 23,900 | 25,400 | 26,400 |
| 60 | 7,700 | 12,200 | 14,400 | 16,600 | 17,800 | 18,700 |

| Magnitude and probability of annual instantaneous peak flow based on 33 years of record, 1967-1999 | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 32,400 | 47,500 | 58,100 | 72,000 | 82,800 | 93,900 | 121,000 |

station skew = 0.023

| Duration table of daily mean flow for period of record 1967-1999 | | | | | | | | | | | | | | | |
|---|--------|--------|-------|-------|-------|-------|-------|-----|-----|-----|------|------|------|------|------|
| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 14,400 | 13,800 | 12,000 | 8,930 | 6,250 | 4,300 | 2,160 | 1,170 | 659 | 331 | 170 | 80.1 | 39.6 | 24.1 | 15.4 | 11.1 |

| Magnitude and probability of annual low flow based on period of record 1968-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 23.6 | 11.7 | 7.91 | 5.49 |
| 3 | 25.3 | 12.5 | 8.47 | 5.87 |
| 7 | 29.1 | 14.7 | 10.2 | 7.14 |
| 10 | 31.7 | 16.1 | 11.6 | 8.03 |
| 30 | 59.7 | 27.4 | 17.6 | 12.0 |
| 60 | 134 | 52.2 | 31.3 | 20.3 |

| Magnitude and probability of annual low flow based on period of record 1967-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 275 | 82.9 | 39.7 | 20.4 |
| 3 | 312 | 91.0 | 42.8 | 21.6 |
| 7 | 393 | 108 | 50.0 | 25.2 |
| 10 | 451 | 121 | 55.9 | 28.2 |
| 30 | 1,390 | 413 | 199 | 103 |
| 60 | 3,360 | 1,340 | 768 | 463 |

| Magnitude and probability of annual low flow based on period of record 1967-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 23.6 | 11.7 | 8.17 | 6.13 |
| 3 | 25.3 | 12.5 | 8.75 | 6.52 |
| 7 | 29.1 | 14.7 | 10.4 | 7.96 |
| 10 | 31.7 | 16.1 | 11.6 | 9.04 |
| 30 | 68.8 | 28.6 | 18.5 | 13.0 |
| 60 | 177 | 61.6 | 35.7 | 22.9 |

| Magnitude and probability of annual low flow based on period of record 1940-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 91.5 | 30.0 | 16.8 | 10.4 |
| 3 | 98.3 | 31.3 | 17.4 | 10.8 |
| 7 | 110 | 35.0 | 19.6 | 12.3 |
| 10 | 119 | 38.2 | 21.7 | 13.8 |
| 30 | 265 | 76.6 | 40.0 | 23.3 |
| 60 | 539 | 139 | 63.9 | 32.2 |

ARKANSAS RIVER BASIN

07171400 VERDIGRIS RIVER NEAR OOLOGAH, OK

LOCATION.--Lat 36°25'14", long 95°41'03", NW 1/4, NW 1/4, sec.2, T.22 N., R.15 E., Rogers County, Hydrologic Unit 11070105, on right bank 0.2 mi downstream from Oologah Dam, 1.2 mi upstream from Fourmile Creek, 2 mi southeast of Oologah, and at mile 90.0.
DRAINAGE AREA.--4,339 mi².

PERIOD OF RECORD.--June 1961 to September 1992.

REMARKS.--Some regulation by several dams in Kansas prior to May 1963, and completely regulated thereafter by Oologah Lake (station 07171300).

REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1964-1992 |
| 2,841 |

| Magnitude and probability of annual high flow based on period of record 1964-1992 | | | | | | |
|--|---|------------------|-------------------|------------------|------------------|-------------------|
| Period (consecutive days) | Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 20,500 | 27,800 | 32,000 | 35,200 | 36,900 | 38,200 |
| 3 | 19,600 | 27,700 | 31,400 | 34,700 | 36,500 | 37,800 |
| 7 | 17,800 | 26,000 | 29,700 | 32,800 | 34,400 | 35,500 |
| 10 | 16,600 | 25,200 | 29,100 | 32,400 | 34,000 | 35,100 |
| 30 | 11,000 | 18,400 | 22,400 | 26,400 | 28,700 | 30,500 |
| 60 | 7,290 | 12,400 | 15,300 | 18,100 | 19,800 | 21,100 |

| Magnitude and probability of annual instantaneous peak flow based on 29 years of record, 1964-1992 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 20,500 | 27,900 | 32,600 | 38,300 | 42,300 | 46,200 | 55,000 |

station skew= - 0.204

| Duration table of daily mean flow for period of record 1964-1992 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 14,200 | 13,600 | 11,800 | 8,870 | 6,480 | 4,860 | 2,650 | 1,200 | 501 | 132 | 67.2 | 28.5 | 9.82 | 2.66 | 1.06 | 0.55 |

| Magnitude and probability of annual low flow based on period of record 1965-1992 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.60 | 0.07 | 0.00 | 0.00 |
| 3 | 3.87 | 0.69 | 0.00 | 0.00 |
| 7 | 7.64 | 1.15 | 0.00 | 0.00 |
| 10 | 9.44 | 1.24 | 0.28 | 0.04 |
| 30 | 17.5 | 3.79 | 1.67 | 0.84 |
| 60 | 41.1 | 7.68 | 3.19 | 1.14 |

| Magnitude and probability of annual low flow based on period of record 1964-1992 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 112 | 18.3 | 6.65 | 2.78 |
| 3 | 153 | 23.1 | 7.84 | 3.06 |
| 7 | 278 | 44.1 | 15.1 | 5.92 |
| 10 | 352 | 54.7 | 18.5 | 7.09 |
| 30 | 972 | 185 | 69.4 | 29.2 |
| 60 | 3,160 | 645 | 214 | 74.1 |

| Magnitude and probability of annual low flow based on period of record 1964-1991 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.52 | 0.49 | 0.00 | 0.00 |
| 3 | 7.47 | 0.64 | 0.06 | 0.00 |
| 7 | 13.8 | 2.68 | 0.65 | 0.00 |
| 10 | 15.4 | 2.47 | 0.76 | 0.25 |
| 30 | 35.0 | 9.06 | 4.72 | 2.84 |
| 60 | 105 | 26.2 | 13.4 | 7.86 |

| Magnitude and probability of annual low flow based on period of record 1964-1992 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 14.0 | 0.74 | 0.05 | 0.00 |
| 3 | 18.3 | 1.60 | 0.22 | 0.00 |
| 7 | 23.5 | 2.14 | 0.37 | 0.00 |
| 10 | 30.8 | 2.67 | 0.59 | 0.10 |
| 30 | 83.8 | 7.34 | 1.92 | 0.61 |
| 60 | 230 | 19.0 | 4.28 | 1.14 |

ARKANSAS RIVER BASIN

07172000 CANEY RIVER NEAR ELGIN, KS

LOCATION.--Lat 37°00'14", long 96°19'00", in NW ¼ NW ¼ SE ¼ sec.16, T.35 S, R.10 E, Chautauqua County, Hydrologic Unit 11070106, at right bank at upstream side of county highway bridge, 2 mi west of Elgin, and at mile 117.8.

DRAINAGE AREA.--445 mi².

PERIOD OF RECORD.--October 1939 to current year. Monthly discharges only for some periods, published in WSP 1311.

REMARKS.--Flow regulated since 1965 by numerous floodwater-retarding structures.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1940-1964

234

Magnitude and probability of annual high flow based on period of record 1940-1964

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 8,290 | 19,700 | 28,500 | 39,900 | 48,200 | 56,100 |
| 3 | 4,440 | 10,000 | 13,900 | 18,400 | 21,300 | 23,800 |
| 7 | 2,550 | 5,660 | 7,830 | 10,400 | 12,100 | 13,600 |
| 10 | 2,040 | 4,480 | 6,150 | 8,060 | 9,300 | 10,400 |
| 30 | 1,050 | 2,400 | 3,320 | 4,380 | 5,060 | 5,640 |
| 60 | 679 | 1,570 | 2,180 | 2,880 | 3,320 | 3,710 |

Magnitude and probability of annual instantaneous peak flow based on 26 historic years of record, 1939-1964

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 13,900 | 28,400 | 38,800 | 52,100 | 61,600 | 70,600 | 89,800 |

Oklahoma weighted skew = - 0.705

Duration table of daily mean flow for period of record 1940-1964

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 4,160 | 2,160 | 798 | 402 | 248 | 168 | 89.9 | 49.5 | 26.6 | 13.0 | 4.50 | 0.97 | 0.48 | 0.24 | 0.10 | 0.05 |

| Magnitude and probability of annual low flow based on period of record 1941-1964 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.48 | 0.00 | 0.00 | 0.00 |
| 3 | 0.84 | 0.00 | 0.00 | 0.00 |
| 7 | 1.08 | 0.00 | 0.00 | 0.00 |
| 10 | 1.20 | 0.00 | 0.00 | 0.00 |
| 30 | 1.66 | 0.00 | 0.00 | 0.00 |
| 60 | 7.24 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1940-1964 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 21.0 | 0.00 | 0.00 | 0.00 |
| 3 | 27.3 | 1.89 | 0.00 | 0.00 |
| 7 | 37.6 | 2.60 | 0.00 | 0.00 |
| 10 | 37.4 | 3.24 | 0.16 | 0.00 |
| 30 | 97.6 | 18.5 | 6.40 | 2.41 |
| 60 | 303 | 75.3 | 31.8 | 14.5 |

| Magnitude and probability of annual low flow based on period of record 1940-1963 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.63 | 0.00 | 0.00 | 0.00 |
| 3 | 0.84 | 0.00 | 0.00 | 0.00 |
| 7 | 1.09 | 0.00 | 0.00 | 0.00 |
| 10 | 1.20 | 0.00 | 0.00 | 0.00 |
| 30 | 1.66 | 0.00 | 0.00 | 0.00 |
| 60 | 8.52 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1940-1964 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.57 | 0.00 | 0.00 | 0.00 |
| 3 | 5.64 | 0.00 | 0.00 | 0.00 |
| 7 | 6.10 | 0.00 | 0.00 | 0.00 |
| 10 | 6.46 | 0.00 | 0.00 | 0.00 |
| 30 | 10.8 | 0.00 | 0.00 | 0.00 |
| 60 | 13.3 | 0.51 | 0.00 | 0.00 |

ARKANSAS RIVER BASIN
07172000 CANEY RIVER NEAR ELGIN, KS—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1965-1999

302

| Magnitude and probability of annual high flow based on period of record 1965-1999 | | | | | | |
|--|---|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 9,310 | 18,300 | 23,900 | 29,900 | 33,600 | 36,700 |
| 3 | 5,410 | 10,500 | 13,700 | 17,300 | 19,500 | 21,400 |
| 7 | 3,310 | 6,220 | 8,050 | 10,100 | 11,400 | 12,500 |
| 10 | 2,630 | 4,860 | 6,210 | 7,660 | 8,560 | 9,310 |
| 30 | 1,290 | 2,310 | 2,880 | 3,460 | 3,780 | 4,040 |
| 60 | 847 | 1,490 | 1,810 | 2,110 | 2,260 | 2,360 |

Magnitude and probability of annual instantaneous peak flow based on 35 years of record, 1965-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 16,100 | 29,000 | 38,500 | 51,000 | 60,700 | 70,400 | 93,300 |

station skew= - 0.387

Duration table of daily mean flow for period of record 1965-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 4,160 | 2,650 | 1,290 | 622 | 401 | 285 | 163 | 94.6 | 54.7 | 29.4 | 11.6 | 4.38 | 0.93 | 0.46 | 0.19 | 0.09 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.05 | 0.00 | 0.00 | 0.00 |
| 3 | 0.15 | 0.00 | 0.00 | 0.00 |
| 7 | 0.27 | 0.00 | 0.00 | 0.00 |
| 10 | 0.33 | 0.00 | 0.00 | 0.00 |
| 30 | 1.24 | 0.06 | 0.00 | 0.00 |
| 60 | 4.90 | 0.42 | 0.05 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 58.3 | 8.67 | 1.63 | 0.19 |
| 3 | 63.7 | 9.50 | 1.76 | 0.20 |
| 7 | 70.7 | 11.7 | 2.55 | 0.36 |
| 10 | 80.8 | 12.8 | 2.90 | 0.52 |
| 30 | 226 | 60.2 | 17.6 | 4.67 |
| 60 | 403 | 131 | 62.1 | 30.6 |

| Magnitude and probability of annual low flow based on period of record 1965-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.05 | 0.00 | 0.00 | 0.00 |
| 3 | 0.16 | 0.00 | 0.00 | 0.00 |
| 7 | 0.29 | 0.00 | 0.00 | 0.00 |
| 10 | 0.38 | 0.00 | 0.00 | 0.00 |
| 30 | 1.24 | 0.06 | 0.00 | 0.00 |
| 60 | 5.74 | 1.11 | 0.40 | 0.14 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 10.9 | 0.40 | 0.00 | 0.00 |
| 3 | 11.5 | 0.49 | 0.00 | 0.00 |
| 7 | 12.5 | 0.59 | 0.00 | 0.00 |
| 10 | 12.5 | 0.81 | 0.00 | 0.00 |
| 30 | 26.3 | 2.87 | 0.50 | 0.00 |
| 60 | 46.5 | 5.91 | 1.39 | 0.26 |

ARKANSAS RIVER BASIN

07173000 CANEY RIVER NEAR HULAH, OK

LOCATION.--Lat 36°55'37", long 96°05'06", in SW ¼ SE ¼ sec.2, T.28 N, R.11 E, Osage County, Hydrologic Unit 11070106, on left bank 1,200 ft downstream from Hulah Dam, 2.1 mi upstream from Opossum Creek, 2.5 mi west of Hulah, and at mile 95.9.

DRAINAGE AREA.--733 mi².

PERIOD OF RECORD.--October 1937 to September 1993.

REMARKS.--Flow completely regulated since February 1950 by Hulah Lake (station 07172500). About 5 to 9 ft³/s is diverted from gage pool for municipal water supply by the city of Bartlesville.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1938-1950

413

Magnitude and probability of annual high flow based on period of record 1938-1950

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 14,800 | 23,600 | 27,500 | 31,100 | 33,000 | 34,300 |
| 3 | 10,000 | 17,200 | 21,000 | 24,800 | 26,900 | 28,600 |
| 7 | 5,980 | 9,900 | 11,700 | 13,200 | 14,000 | 14,500 |
| 10 | 4,620 | 7,340 | 8,450 | 9,300 | 9,660 | 9,880 |
| 30 | 2,370 | 3,910 | 4,570 | 5,080 | 5,310 | 5,450 |
| 60 | 1,510 | 2,450 | 2,870 | 3,210 | 3,370 | 3,480 |

Magnitude and probability of annual instantaneous peak flow based on 25 historic years of record, 1926-1950

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 14,900 | 25,600 | 32,900 | 42,100 | 48,800 | 55,300 | 69,700 |

Oklahoma weighted skew = - 0.490

Duration table of daily mean flow for period of record 1938-1950

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 7,080 | 4,760 | 1,780 | 689 | 425 | 279 | 147 | 89.3 | 50.8 | 25.8 | 10.6 | 4.67 | 1.71 | 0.71 | 0.29 | 0.14 |

| Magnitude and probability of annual low flow based on period of record 1939-1950 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.30 | 0.00 | 0.00 | 0.00 |
| 3 | 1.32 | 0.00 | 0.00 | 0.00 |
| 7 | 1.55 | 0.05 | 0.00 | 0.00 |
| 10 | 1.86 | 0.12 | 0.00 | 0.00 |
| 30 | 3.24 | 0.45 | 0.00 | 0.00 |
| 60 | 7.77 | 1.03 | 0.10 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1938-1950 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 41.9 | 13.3 | 4.79 | 0.00 |
| 3 | 46.2 | 14.1 | 4.97 | 0.00 |
| 7 | 61.7 | 15.1 | 4.32 | 1.43 |
| 10 | 69.0 | 15.2 | 5.14 | 1.80 |
| 30 | 208 | 76.1 | 43.2 | 26.5 |
| 60 | 709 | 259 | 143 | 84.6 |

| Magnitude and probability of annual low flow based on period of record 1938-1949 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.57 | 0.00 | 0.00 | 0.00 |
| 3 | 1.65 | 0.00 | 0.00 | 0.00 |
| 7 | 1.91 | 0.05 | 0.00 | 0.00 |
| 10 | 2.15 | 0.12 | 0.00 | 0.00 |
| 30 | 3.32 | 0.48 | 0.00 | 0.00 |
| 60 | 13.0 | 4.70 | 1.81 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1938-1950 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.98 | 0.50 | 0.00 | 0.00 |
| 3 | 5.08 | 0.60 | 0.00 | 0.00 |
| 7 | 8.05 | 1.01 | 0.00 | 0.00 |
| 10 | 8.57 | 1.02 | 0.00 | 0.00 |
| 30 | 16.4 | 3.31 | 0.80 | 0.00 |
| 60 | 24.3 | 4.80 | 1.18 | 0.00 |

ARKANSAS RIVER BASIN
 07173000 CANEY RIVER NEAR HULAH, OK—Continued
 REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1952-1993

401

| Magnitude and probability of annual high flow based on period of record 1952-1993 | | | | | | |
|--|----------|----------|-----------|----------|----------|-----------|
| Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,530 | 6,820 | 8,270 | 8,700 | 8,820 | 8,880 |
| 3 | 3,500 | 6,660 | 7,100 | 7,270 | 7,310 | 7,320 |
| 7 | 3,450 | 5,890 | 6,340 | 6,520 | 6,560 | 6,570 |
| 10 | 3,400 | 5,450 | 6,020 | 6,310 | 6,380 | 6,420 |
| 30 | 1,800 | 3,370 | 4,040 | 4,530 | 4,730 | 4,840 |
| 60 | 1,160 | 2,270 | 2,810 | 3,240 | 3,440 | 3,570 |

Magnitude and probability of annual instantaneous peak flow based on 42 years of record, 1952-1993

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 3,540 | 6,830 | 10,200 | 16,200 | 22,400 | 30,500 | 59,800 |

station skew = 0.743

Duration table of daily mean flow for period of record 1952-1993

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-------|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 4,760 | 3,610 | 2,340 | 1,280 | 782 | 436 | 162 | 49.7 | 24.4 | 17.6 | 14.1 | 11.4 | 7.52 | 4.20 | 1.12 | 0.54 |

| Magnitude and probability of annual low flow based on period of record 1953-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.96 | 0.37 | 0.09 | 0.00 |
| 3 | 3.00 | 0.53 | 0.17 | 0.06 |
| 7 | 3.63 | 0.92 | 0.38 | 0.17 |
| 10 | 4.10 | 1.10 | 0.48 | 0.22 |
| 30 | 9.43 | 3.55 | 1.73 | 0.86 |
| 60 | 12.4 | 5.33 | 3.42 | 2.37 |

| Magnitude and probability of annual low flow based on period of record 1940-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 10.5 | 2.02 | 0.73 | 0.29 |
| 3 | 13.7 | 2.48 | 0.87 | 0.34 |
| 7 | 22.7 | 3.85 | 1.33 | 0.52 |
| 10 | 30.1 | 4.64 | 1.53 | 0.57 |
| 30 | 133 | 22.9 | 7.71 | 2.86 |
| 60 | 410 | 87.1 | 31.7 | 12.3 |

| Magnitude and probability of annual low flow based on period of record 1952-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.80 | 1.35 | 0.56 | 0.22 |
| 3 | 6.13 | 1.75 | 0.74 | 0.33 |
| 7 | 7.69 | 2.70 | 1.30 | 0.64 |
| 10 | 9.28 | 3.71 | 1.86 | 0.93 |
| 30 | 12.8 | 6.12 | 3.63 | 2.19 |
| 60 | 16.3 | 8.17 | 6.21 | 5.16 |

| Magnitude and probability of annual low flow based on period of record 1952-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.83 | 1.62 | 0.67 | 0.07 |
| 3 | 7.50 | 2.12 | 0.82 | 0.18 |
| 7 | 10.2 | 2.62 | 1.21 | 0.62 |
| 10 | 11.7 | 3.14 | 1.54 | 0.84 |
| 30 | 29.4 | 7.38 | 3.60 | 1.99 |
| 60 | 39.8 | 10.4 | 5.38 | 3.20 |

ARKANSAS RIVER BASIN

07174000 LITTLE CANEY RIVER NEAR COPAN, OK

LOCATION.--Lat 36°58'15", long 95°56'05", on south line of sec.19, T.29 N, R.13 E., at downstream side of right pier of highway bridge, 500 ft downstream from the Atchinson, Topeka, and Santa Fe Railway Co. bridge, 3.5 mi upstream from Cotton Creek, 5 mi north of Copan, and at mile 18.9.

DRAINAGE AREA.--424 mi².

PERIOD OF RECORD.--October 1943 to September 1958.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1944-1958

238

Magnitude and probability of annual high flow based on period of record 1944-1958

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 8,820 | 15,100 | 18,700 | 22,600 | 24,900 | 26,900 |
| 3 | 5,950 | 10,500 | 13,300 | 16,400 | 18,300 | 20,000 |
| 7 | 3,230 | 5,570 | 7,070 | 8,840 | 10,000 | 11,100 |
| 10 | 2,560 | 4,330 | 5,420 | 6,620 | 7,410 | 8,090 |
| 30 | 1,310 | 2,470 | 3,230 | 4,110 | 4,680 | 5,190 |
| 60 | 846 | 1,640 | 2,140 | 2,690 | 3,030 | 3,320 |

Magnitude and probability of annual instantaneous peak flow based on 15 years of record, 1944-1958

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 10,900 | 20,100 | 26,800 | 35,400 | 42,000 | 48,400 | 63,100 |

Oklahoma weighted skew = - 0.482

Duration table of daily mean flow for period of record 1944-1958

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 5,080 | 3,240 | 1,050 | 328 | 175 | 103 | 44.4 | 19.5 | 9.56 | 4.62 | 1.20 | 0.71 | 0.35 | 0.18 | 0.07 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1945-1958 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.07 | 0.00 | 0.00 | 0.00 |
| 7 | 0.10 | 0.00 | 0.00 | 0.00 |
| 10 | 0.11 | 0.00 | 0.00 | 0.00 |
| 30 | 0.24 | 0.00 | 0.00 | 0.00 |
| 60 | 0.72 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1944-1958 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 8.85 | 0.98 | 0.00 | 0.00 |
| 3 | 9.28 | 0.77 | 0.06 | 0.00 |
| 7 | 12.7 | 1.46 | 0.34 | 0.08 |
| 10 | 14.5 | 1.68 | 0.40 | 0.10 |
| 30 | 97.3 | 13.3 | 3.43 | 0.94 |
| 60 | 440 | 70.0 | 15.7 | 3.38 |

| Magnitude and probability of annual low flow based on period of record 1944-1957 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.07 | 0.00 | 0.00 | 0.00 |
| 7 | 0.10 | 0.00 | 0.00 | 0.00 |
| 10 | 0.11 | 0.00 | 0.00 | 0.00 |
| 30 | 0.25 | 0.00 | 0.00 | 0.00 |
| 60 | 2.04 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1944-1958 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.26 | 0.00 | 0.00 | 0.00 |
| 3 | 1.29 | 0.00 | 0.00 | 0.00 |
| 7 | 1.30 | 0.00 | 0.00 | 0.00 |
| 10 | 1.33 | 0.00 | 0.00 | 0.00 |
| 30 | 1.58 | 0.18 | 0.06 | 0.02 |
| 60 | 2.88 | 0.40 | 0.14 | 0.06 |

ARKANSAS RIVER BASIN

07174200 LITTLE CANEY RIVER BELOW COTTON CREEK NEAR COPAN, OK

LOCATION.--Lat 36°53'42", long 95°58'09", in west 1/2 sec.19, T.28 N, R.13 E., Washington County, Hydrologic Unit 11070106, near right bank on downstream side of pier of bridge on State Highway 10, 2 mi west of Copan, 4.2 mi downstream from Cotton Creek, and at mile 8.8.

DRAINAGE AREA.--502 mi².

PERIOD OF RECORD.--October 1958 to September 1980. Prior to October 1962, published as Caney Creek below Cotton Creek near Copan.

REMARKS.--Flow regulated since 1969 by numerous floodwater-retarding structures. Statistical analyses include streamflow record from nearby station Little Caney River near Copan (07174000), October 1943 to September 1958.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1944-1964

237

Magnitude and probability of annual high flow based on period of record 1944-1962

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 7,970 | 14,700 | 19,000 | 23,800 | 36,900 | 29,700 |
| 3 | 5,480 | 10,500 | 13,800 | 17,700 | 20,200 | 22,600 |
| 7 | 3,080 | 5,860 | 7,730 | 9,970 | 11,500 | 12,900 |
| 10 | 2,440 | 4,670 | 6,170 | 7,960 | 9,170 | 10,300 |
| 30 | 1,220 | 2,570 | 3,520 | 4,660 | 5,450 | 6,160 |
| 60 | 752 | 1,640 | 2,260 | 3,020 | 3,530 | 4,000 |

Magnitude and probability of annual instantaneous peak flow based on 21 years of record, 1944-1964

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 12,700 | 20,400 | 25,800 | 33,000 | 38,600 | 44,200 | 57,900 |

Oklahoma weighted skew = - 0.181

Duration table of daily mean flow for period of record 1944-1964

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 5,030 | 3,130 | 1,030 | 323 | 173 | 106 | 48.4 | 22.3 | 10.8 | 5.11 | 1.67 | 0.76 | 0.38 | 0.19 | 0.08 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1945-1964 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.12 | 0.00 | 0.00 | 0.00 |
| 3 | 0.13 | 0.00 | 0.00 | 0.00 |
| 7 | 0.15 | 0.00 | 0.00 | 0.00 |
| 10 | 0.19 | 0.00 | 0.00 | 0.00 |
| 30 | 0.42 | 0.00 | 0.00 | 0.00 |
| 60 | 1.33 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1944-1964 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.58 | 1.14 | 0.05 | 0.00 |
| 3 | 8.49 | 1.32 | 0.18 | 0.00 |
| 7 | 11.9 | 1.60 | 0.43 | 0.13 |
| 10 | 13.9 | 1.83 | 0.50 | 0.15 |
| 30 | 80.1 | 12.5 | 3.85 | 1.30 |
| 60 | 324 | 53.1 | 14.5 | 4.06 |

| Magnitude and probability of annual low flow based on period of record 1944-1963 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.13 | 0.00 | 0.00 | 0.00 |
| 3 | 0.14 | 0.00 | 0.00 | 0.00 |
| 7 | 0.16 | 0.00 | 0.00 | 0.00 |
| 10 | 0.20 | 0.00 | 0.00 | 0.00 |
| 30 | 0.50 | 0.00 | 0.00 | 0.00 |
| 60 | 3.12 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1944-1964 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.46 | 0.00 | 0.00 | 0.00 |
| 3 | 1.53 | 0.00 | 0.00 | 0.00 |
| 7 | 1.53 | 0.01 | 0.00 | 0.00 |
| 10 | 1.61 | 0.01 | 0.00 | 0.00 |
| 30 | 2.37 | 0.19 | 0.04 | 0.00 |
| 60 | 4.06 | 0.39 | 0.08 | 0.00 |

ARKANSAS RIVER BASIN

07174200 LITTLE CANEY RIVER BELOW COTTON CREEK NEAR COPAN, OK—Continued

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1969-1980

328

| Magnitude and probability of annual high flow based on period of record 1969-1980 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 6,360 | 11,100 | 14,700 | 19,700 | 23,700 | 27,900 |
| 3 | 5,310 | 8,900 | 11,300 | 14,100 | 16,200 | 18,100 |
| 7 | 3,630 | 6,330 | 8,040 | 10,000 | 11,300 | 12,500 |
| 10 | 2,820 | 5,040 | 6,480 | 8,170 | 9,310 | 10,300 |
| 30 | 1,430 | 2,380 | 2,880 | 3,370 | 3,650 | 3,870 |
| 60 | 917 | 1,480 | 1,800 | 2,120 | 2,310 | 2,470 |

Magnitude and probability of annual instantaneous peak flow based on 12 years of record, 1969-1980

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 6,740 | 12,500 | 18,100 | 27,800 | 37,300 | 49,400 | 90,600 |

station skew = 0.661

Duration table of daily mean flow for period of record 1969-1980

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 4,660 | 3,520 | 1,770 | 807 | 468 | 293 | 137 | 71.0 | 33.9 | 19.1 | 10.9 | 4.82 | 1.80 | 0.69 | 0.27 | 0.14 |

| Magnitude and probability of annual low flow based on period of record 1970-1980 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.20 | 0.00 | 0.00 | 0.00 |
| 3 | 0.25 | 0.00 | 0.00 | 0.00 |
| 7 | 0.35 | 0.03 | 0.00 | 0.00 |
| 10 | 0.43 | 0.04 | 0.00 | 0.00 |
| 30 | 1.65 | 0.48 | 0.15 | 0.00 |
| 60 | 6.63 | 1.93 | 0.89 | 0.44 |

| Magnitude and probability of annual low flow based on period of record 1969-1980 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 22.2 | 8.68 | 5.20 | 3.36 |
| 3 | 23.8 | 9.26 | 5.55 | 3.61 |
| 7 | 29.2 | 10.9 | 6.40 | 4.08 |
| 10 | 33.6 | 12.4 | 7.13 | 4.47 |
| 30 | 132 | 46.3 | 24.3 | 13.6 |
| 60 | 406 | 127 | 57.0 | 26.5 |

| Magnitude and probability of annual low flow based on period of record 1969-1979 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.24 | 0.00 | 0.00 | 0.00 |
| 3 | 0.27 | 0.00 | 0.00 | 0.00 |
| 7 | 0.35 | 0.03 | 0.00 | 0.00 |
| 10 | 0.44 | 0.04 | 0.00 | 0.00 |
| 30 | 2.21 | 0.48 | 0.15 | 0.05 |
| 60 | 7.84 | 2.38 | 1.28 | 0.76 |

| Magnitude and probability of annual low flow based on period of record 1969-1980 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 6.21 | 0.59 | 0.04 | 0.00 |
| 3 | 6.98 | 0.85 | 0.09 | 0.00 |
| 7 | 7.68 | 1.14 | 0.36 | 0.13 |
| 10 | 8.43 | 1.68 | 0.69 | 0.32 |
| 30 | 19.6 | 3.38 | 1.34 | 0.63 |
| 60 | 29.2 | 6.76 | 3.37 | 1.96 |

ARKANSAS RIVER BASIN

07174400 CANEY RIVER ABOVE COON CREEK AT BARTLESVILLE, OK

LOCATION.--Lat 36°45'20", long 95°58'19", in NE ¼ NE ¼ sec.12, T.26 N, R.12 E, Washington County, Hydrologic Unit 11070106, at right bank in city of Bartlesville water intake tower, 0.2 mi upstream from State Highway 123 bridge and low-water dam, 0.5 mi downstream from Atchison, Topeka, and Santa Fe railroad bridge, 1.0 mi upstream from confluence with Coon Creek, 2.7 mi downstream from confluence with Butler Creek, 5.0 mi upstream from confluence with Sand Creek, and at mile 68.7.

DRAINAGE AREA.--1,392 mi².

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

REMARKS.--Flow regulated by Hulah Lake (station 01172500) 27.0 mi upstream, and by Copan Lake (station 07174300) 12.0 mi upstream. Diversion at gage for municipal water supply by the city of Bartlesville.

REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1986-1999 |
| 1,315 |

| Magnitude and probability of annual high flow based on period of record 1986-1999 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 7,700 | 17,000 | 26,100 | 41,600 | 56,600 | 79,900 |
| 3 | 6,370 | 13,700 | 19,900 | 29,000 | 36,700 | 45,000 |
| 7 | 6,300 | 11,700 | 14,600 | 16,300 | 18,800 | 19,900 |
| 10 | 6,260 | 11,100 | 13,200 | 14,800 | 15,500 | 15,900 |
| 30 | 5,330 | 8,250 | 8,970 | 9,290 | 9,370 | 9,400 |
| 60 | 4,150 | 6,310 | 6,820 | 7,030 | 7,070 | 7,100 |

| Magnitude and probability of annual instantaneous peak flow based on 14 years of record, 1986-1999 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 8,720 | 20,200 | 32,700 | 56,600 | 82,200 | 116,000 | 244,000 |
| station skew = 0.466 | | | | | | |

| Duration table of daily mean flow for period of record 1986-1999 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 7,460 | 6,980 | 5,630 | 44,550 | 3,430 | 2,510 | 1,240 | 489 | 189 | 71.2 | 42.6 | 33.2 | 25.7 | 20.9 | 16.3 | 12.7 |

| Magnitude and probability of annual low flow based on period of record 1987-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 15.9 | 10.5 | 8.25 | 6.34 |
| 3 | 16.1 | 11.0 | 8.36 | 6.37 |
| 7 | 17.3 | 11.8 | 8.78 | 6.67 |
| 10 | 19.6 | 12.5 | 9.41 | 7.21 |
| 30 | 28.9 | 18.6 | 14.9 | 12.2 |
| 60 | 32.5 | 20.1 | 16.5 | 14.6 |

| Magnitude and probability of annual low flow based on period of record 1986-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 59.6 | 29.1 | 20.4 | 15.3 |
| 3 | 66.9 | 30.3 | 20.5 | 15.0 |
| 7 | 114 | 37.1 | 21.1 | 13.4 |
| 10 | 149 | 46.9 | 25.9 | 15.9 |
| 30 | 627 | 161 | 71.2 | 34.4 |
| 60 | 1,770 | 543 | 229 | 97.8 |

| Magnitude and probability of annual low flow based on period of record 1986-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 21.6 | 14.8 | 11.3 | 8.70 |
| 3 | 22.5 | 15.2 | 11.5 | 8.81 |
| 7 | 24.3 | 16.2 | 12.1 | 9.11 |
| 10 | 25.5 | 17.1 | 12.8 | 9.61 |
| 30 | 30.1 | 18.6 | 15.9 | 14.5 |
| 60 | 41.1 | 20.5 | 16.5 | 14.6 |

| Magnitude and probability of annual low flow based on period of record 1986-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 15.9 | 10.5 | 9.59 | 9.25 |
| 3 | 16.1 | 11.0 | 10.3 | 10.1 |
| 7 | 17.3 | 12.2 | 11.6 | 11.4 |
| 10 | 21.4 | 13.0 | 11.6 | 11.5 |
| 30 | 90.9 | 34.4 | 22.6 | 16.7 |
| 60 | 205 | 61.9 | 33.3 | 20.1 |

ARKANSAS RIVER BASIN

07174600 SAND CREEK AT OKESA, OK

LOCATION.--Lat 36°43'10", long 96°07'56", in SW 1/4 NW 1/4 sec.21, T.26 N, R.11 E, Osage County, Hydrologic Unit 11070106, on downstream side of left abutment of county road bridge, 0.5 mi northeast of Okesa, 9 mi southwest of Bartlesville, and at mile 17.2.

DRAINAGE AREA.--139 mi².

PERIOD OF RECORD.--October 1959 to September 1993.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1960-1993

87.0

Magnitude and probability of annual high flow based on period of record 1960-1993

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 4,120 | 7,810 | 10,300 | 13,200 | 15,100 | 16,900 |
| 3 | 1,960 | 3,800 | 5,080 | 6,670 | 7,790 | 8,850 |
| 7 | 1,020 | 1,970 | 2,610 | 3,380 | 3,900 | 4,370 |
| 10 | 792 | 1,510 | 1,980 | 2,530 | 2,900 | 3,240 |
| 30 | 368 | 674 | 858 | 1,060 | 1,180 | 1,280 |
| 60 | 235 | 444 | 570 | 705 | 787 | 856 |

Magnitude and probability of annual instantaneous peak flow based on 34 years of record, 1960-1993

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 8,260 | 13,300 | 16,600 | 20,400 | 23,100 | 25,600 | 30,900 |

Oklahoma weighted skew = - 0.571

Duration table of daily mean flow for period of record 1960-1993

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 1,710 | 870 | 305 | 136 | 78.6 | 52.0 | 28.2 | 16.4 | 8.78 | 4.44 | 2.01 | 0.83 | 0.41 | 0.21 | 0.08 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1961-1991 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.36 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1960-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.37 | 0.92 | 0.22 | 0.00 |
| 3 | 6.00 | 1.04 | 0.26 | 0.00 |
| 7 | 7.74 | 1.77 | 0.67 | 0.22 |
| 10 | 10.0 | 1.85 | 0.60 | 0.21 |
| 30 | 35.7 | 9.43 | 4.14 | 1.96 |
| 60 | 126 | 38.2 | 16.9 | 7.70 |

| Magnitude and probability of annual low flow based on period of record 1960-1990 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.53 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1960-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.30 | 0.00 | 0.00 | 0.00 |
| 3 | 1.73 | 0.00 | 0.00 | 0.00 |
| 7 | 2.08 | 0.00 | 0.00 | 0.00 |
| 10 | 2.24 | 0.00 | 0.00 | 0.00 |
| 30 | 6.00 | 0.37 | 0.00 | 0.00 |
| 60 | 11.9 | 0.98 | 0.02 | 0.00 |

ARKANSAS RIVER BASIN

07174700 CANEY RIVER NEAR OCHELATA, OK

LOCATION.--Lat 36°38'26", long 95°56'02", in SW 1/4 SW 1/4 sec.16, T.25 N, R.13 E, Washington County, Hydrologic Unit 11070106, near right bank on downstream side of pier of bridge on U.S. Highway 75, 3.5 mi upstream from Fish Creek, 4.0 mi northeast of Ochelata, 8.0 mi southeast of Bartlesville, and at mile 53.8.

DRAINAGE AREA.--1,753 mi².

PERIOD OF RECORD.--April 1956 to September 1976.

REMARKS.--Flow regulated since 1951 by Hulah Lake.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1957-1976

985

Magnitude and probability of annual high flow based on period of record 1957-1976

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 12,500 | 20,500 | 25,800 | 32,100 | 36,500 | 40,700 |
| 3 | 10,600 | 17,400 | 21,700 | 26,800 | 30,200 | 33,300 |
| 7 | 7,820 | 12,800 | 15,600 | 18,700 | 20,500 | 22,100 |
| 10 | 6,750 | 11,200 | 13,700 | 16,400 | 18,000 | 19,400 |
| 30 | 4,120 | 7,480 | 9,510 | 11,700 | 13,000 | 14,200 |
| 60 | 2,600 | 5,080 | 6,760 | 8,800 | 10,200 | 11,500 |

Magnitude and probability of annual instantaneous peak flow based on 20 years of record, 1957-1976

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 14,100 | 22,500 | 27,700 | 33,800 | 37,900 | 41,600 | 49,400 |

station skew = - 0.635

Duration table of daily mean flow for period of record 1957-1976

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-------|-----|-----|-----|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 10,200 | 8,020 | 5,300 | 3,330 | 1,990 | 1,200 | 473 | 220 | 109 | 62.3 | 39.0 | 26.6 | 17.8 | 13.7 | 9.51 | 6.32 |

| Magnitude and probability of annual low flow based on period of record 1958-1976 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 14.2 | 10.2 | 7.71 | 5.22 |
| 3 | 15.1 | 10.9 | 8.44 | 5.88 |
| 7 | 16.2 | 11.6 | 9.18 | 6.35 |
| 10 | 16.8 | 11.9 | 9.28 | 6.42 |
| 30 | 19.3 | 15.0 | 10.7 | 6.70 |
| 60 | 39.7 | 19.4 | 13.0 | 7.69 |

| Magnitude and probability of annual low flow based on period of record 1957-1976 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 60.4 | 22.7 | 14.5 | 10.4 |
| 3 | 65.4 | 24.1 | 15.2 | 10.7 |
| 7 | 82.6 | 28.2 | 17.2 | 11.8 |
| 10 | 96.5 | 31.8 | 18.9 | 12.7 |
| 30 | 498 | 152 | 77.2 | 42.8 |
| 60 | 1,020 | 291 | 137 | 70.1 |

| Magnitude and probability of annual low flow based on period of record 1957-1975 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 14.2 | 10.1 | 8.46 | 7.26 |
| 3 | 15.1 | 10.8 | 9.03 | 7.76 |
| 7 | 16.3 | 11.6 | 9.72 | 8.42 |
| 10 | 16.9 | 11.9 | 10.0 | 8.67 |
| 30 | 19.7 | 15.4 | 14.7 | 14.5 |
| 60 | 55.8 | 26.9 | 19.8 | 16.0 |

| Magnitude and probability of annual low flow based on period of record 1957-1976 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 31.4 | 12.4 | 7.71 | 5.22 |
| 3 | 33.7 | 13.3 | 8.44 | 5.88 |
| 7 | 39.7 | 14.7 | 9.18 | 6.35 |
| 10 | 41.6 | 15.0 | 9.28 | 6.42 |
| 30 | 70.7 | 19.7 | 10.7 | 6.70 |
| 60 | 101 | 25.4 | 13.0 | 7.69 |

ARKANSAS RIVER BASIN

07175000 DOUBLE CREEK SUBWATERSHED NO. 5 NEAR RAMONA, OK

LOCATION.--Lat 36°30'50", long 95°56'25", in SE ¼ SE ¼ sec.32, T.24 N., R.13 E., Washington County, Hydrologic Unit 11070106, near center of upstream side of dam on Nellie Bly Creek, 1.8 mi southwest of Ramona.

DRAINAGE AREA.--2.39 mi².

PERIOD OF RECORD.--November 1954 to September 1969. Monthly discharge only for some periods, published in WSP 1731.

REMARKS.--Flow regulated since 1955 by floodwater-retarding structures.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1956-1969

1.36

Magnitude and probability of annual high flow based on period of record 1956-1969

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 18.1 | 38.6 | 66.1 | 130 | 216 | 361 |
| 3 | 15.8 | 32.1 | 48.0 | 74.9 | 102 | 137 |
| 7 | 12.8 | 24.4 | 33.2 | 45.0 | 54.4 | 64.3 |
| 10 | 10.5 | 20.1 | 27.4 | 37.4 | 45.4 | 53.9 |
| 30 | 5.39 | 11.6 | 17.1 | 25.4 | 32.8 | 41.4 |
| 60 | 3.47 | 7.94 | 11.9 | 17.9 | 23.2 | 29.4 |

Magnitude and probability of annual instantaneous peak flow based on 14 years of record, 1956-1969

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 1,020 | 2,500 | 3,580 | 4,870 | 5,730 | 6,490 | 7,890 |

station skew = - 1.00

Duration table of daily mean flow for period of record 1956-1969

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 20.3 | 16.6 | 10.7 | 2.85 | 1.48 | 1.02 | 0.88 | 0.75 | 0.63 | 0.50 | 0.38 | 0.25 | 0.13 | 0.06 | 0.03 | 0.01 |

| Magnitude and probability of annual low flow based on period of record 1956-1969 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1955-1969 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.34 | 0.00 | 0.00 | 0.00 |
| 60 | 1.63 | 0.52 | 0.20 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1955-1968 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1956-1969 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

ARKANSAS RIVER BASIN

07175500 CANEY RIVER NEAR RAMONA, OK

LOCATION.--Lat 36°30'32", long 95°50'30", in NE ¼ NW ¼ sec.5, T.23 N., R.14 E., Washington County, Hydrologic Unit 11070106, on left bank near downstream abutment of county road bridge, 1 mi upstream from Buck Creek, 2.2 mi downstream from Double Creek, 4.5 mi southeast of Ramona, and at mile 32.0.

DRAINAGE AREA.--1,955 mi².

PERIOD OF RECORD.--September 1945 to current year. Monthly discharge only for some periods, published in WSP 1311. Previous reports have included Caney River near Collinsville from Oct. 1935 to Feb. 1939; this record has been separated from Ramona.

REMARKS.--Flow regulated since February 1950 by Hulah Lake (station 07172500), and since April 1983 by Copan Lake (station 07174300).

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1984-1999

1,843

Magnitude and probability of annual high flow based on period of record 1984-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 17,200 | 29,900 | 41,000 | 58,900 | 75,300 | 94,700 |
| 3 | 13,600 | 23,200 | 31,100 | 43,000 | 53,200 | 64,700 |
| 7 | 9,650 | 16,700 | 22,300 | 30,100 | 36,500 | 43,400 |
| 10 | 8,800 | 15,000 | 19,300 | 25,000 | 29,100 | 33,300 |
| 30 | 6,910 | 10,800 | 12,400 | 13,600 | 14,200 | 14,600 |
| 60 | 5,440 | 8,080 | 8,930 | 9,450 | 9,620 | 9,710 |

Magnitude and probability of annual instantaneous peak flow based on 16 years of record, 1984-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 19,100 | 34,200 | 48,000 | 70,800 | 92,500 | 119,000 | 204,000 |

station skew = 0.554

Duration table of daily mean flow for period of record 1984-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|-------|-------|-------|-------|-------|-------|-----|-----|-----|------|------|------|------|------|------|
| 10,900 | 9,840 | 7,310 | 5,700 | 4,580 | 3,430 | 1,940 | 849 | 387 | 187 | 97.0 | 62.2 | 45.0 | 37.6 | 30.3 | 27.7 |

| Magnitude and probability of annual low flow based on period of record 1985-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 33.2 | 24.3 | 19.7 | 16.3 |
| 3 | 33.8 | 25.4 | 21.4 | 18.4 |
| 7 | 35.4 | 26.2 | 22.0 | 19.0 |
| 10 | 36.6 | 27.0 | 22.7 | 19.5 |
| 30 | 46.6 | 30.5 | 26.0 | 22.4 |
| 60 | 62.3 | 40.2 | 34.3 | 30.7 |

| Magnitude and probability of annual low flow based on period of record 1984-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 152 | 68.8 | 45.5 | 32.4 |
| 3 | 203 | 79.3 | 48.1 | 31.6 |
| 7 | 270 | 94.6 | 54.3 | 34.2 |
| 10 | 315 | 108 | 60.9 | 37.9 |
| 30 | 1,260 | 364 | 168 | 83.1 |
| 60 | 2,800 | 981 | 460 | 219 |

| Magnitude and probability of annual low flow based on period of record 1984-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 34.7 | 24.9 | 20.2 | 16.7 |
| 3 | 35.0 | 25.9 | 21.9 | 18.8 |
| 7 | 36.8 | 26.7 | 22.3 | 19.1 |
| 10 | 38.1 | 27.5 | 22.9 | 19.5 |
| 30 | 47.8 | 30.5 | 26.0 | 23.5 |
| 60 | 77.2 | 41.8 | 34.3 | 30.7 |

| Magnitude and probability of annual low flow based on period of record 1984-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 42.3 | 30.3 | 28.5 | 27.9 |
| 3 | 44.2 | 31.7 | 29.9 | 29.3 |
| 7 | 48.8 | 33.8 | 31.4 | 30.5 |
| 10 | 55.8 | 35.0 | 34.5 | 33.5 |
| 30 | 196 | 87.6 | 61.2 | 46.9 |
| 60 | 373 | 127 | 72.2 | 67.0 |

ARKANSAS RIVER BASIN

07176000 VERDIGRIS RIVER NEAR CLAREMORE, OK

LOCATION.--Lat 36°18'26", long 95°41'52", NE ¼ NW ¼ sec.15, T.21 N., R.15 E., Rogers County, Hydrologic Unit 11070105, on left bank on downstream side of bridge on State Highway 20, 2.3 mi downstream from Caney River, 4.5 mi west of Claremore, 12.4 mi upstream from Bird Creek, and at mile 76.0.

DRAINAGE AREA.--6,534 mi².

PERIOD OF RECORD.--October 1935 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Some regulation since 1949 by dams in Kansas, and since February 1950 by Hulah Lake (station 07172500). Flow regulated since May 1963 by Oologah Lake (station 07171300), 14.3 mi upstream from station, and since April 1983 by Copan Lake (station 07174300).

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1936-1962

3,722

Magnitude and probability of annual high flow based on period of record 1936-1962

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 41,500 | 72,300 | 96,100 | 126,000 | 151,000 | 177,000 |
| 3 | 39,200 | 69,500 | 91,500 | 120,000 | 143,000 | 165,000 |
| 7 | 32,600 | 60,300 | 78,800 | 101,000 | 117,000 | 131,000 |
| 10 | 28,000 | 52,000 | 67,900 | 87,000 | 100,000 | 112,000 |
| 30 | 16,400 | 31,200 | 41,200 | 53,100 | 61,300 | 68,800 |
| 60 | 11,000 | 20,800 | 27,200 | 34,600 | 39,500 | 43,900 |

Magnitude and probability of annual instantaneous peak flow based on 28 historic years of record, 1935-1962

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 43,900 | 73,900 | 96,400 | 127,000 | 152,000 | 178,000 | 243,000 |

Water Resources Council weighted skew = - 0.117

Duration table of daily mean flow for period of record 1936-1962

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|--------|--------|-------|-------|-------|-------|-----|-----|-----|------|------|------|------|------|
| 19,300 | 18,300 | 15,300 | 10,400 | 6,200 | 3,780 | 1,790 | 1,030 | 573 | 297 | 139 | 57.3 | 18.3 | 6.32 | 0.73 | 0.37 |

| Magnitude and probability of annual low flow based on period of record 1937-1962 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 18.8 | 2.19 | 0.00 | 0.00 |
| 3 | 19.6 | 2.60 | 0.00 | 0.00 |
| 7 | 21.6 | 2.93 | 0.00 | 0.00 |
| 10 | 24.0 | 3.22 | 0.00 | 0.00 |
| 30 | 41.5 | 6.19 | 0.00 | 0.00 |
| 60 | 103 | 10.6 | 1.34 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1936-1962 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 313 | 58.2 | 18.3 | 6.03 |
| 3 | 333 | 68.6 | 24.0 | 8.90 |
| 7 | 463 | 94.3 | 32.9 | 12.2 |
| 10 | 529 | 111 | 40.7 | 16.0 |
| 30 | 1,880 | 610 | 313 | 173 |
| 60 | 5,350 | 1,870 | 977 | 541 |

| Magnitude and probability of annual low flow based on period of record 1936-1961 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 20.8 | 2.94 | 0.00 | 0.00 |
| 3 | 21.7 | 3.08 | 0.00 | 0.00 |
| 7 | 24.7 | 3.64 | 0.00 | 0.00 |
| 10 | 28.1 | 4.04 | 0.00 | 0.00 |
| 30 | 57.1 | 9.40 | 0.00 | 0.00 |
| 60 | 210 | 21.6 | 4.29 | 0.39 |

| Magnitude and probability of annual low flow based on period of record 1936-1962 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 62.8 | 8.43 | 1.51 | 0.00 |
| 3 | 68.1 | 9.05 | 1.58 | 0.00 |
| 7 | 72.3 | 10.0 | 1.85 | 0.00 |
| 10 | 76.4 | 11.1 | 2.15 | 0.00 |
| 30 | 135 | 26.9 | 9.54 | 2.40 |
| 60 | 224 | 45.8 | 16.8 | 4.52 |

ARKANSAS RIVER BASIN

07176000 VERDIGRIS RIVER NEAR CLAREMORE, OK—Continued

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1964-1999

4,670

Magnitude and probability of annual high flow based on period of record 1964-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 24,200 | 34,400 | 40,700 | 47,600 | 52,300 | 56,700 |
| 3 | 23,700 | 33,900 | 39,500 | 45,400 | 49,200 | 52,400 |
| 7 | 22,200 | 32,800 | 38,300 | 43,600 | 46,700 | 49,100 |
| 10 | 21,400 | 32,200 | 37,500 | 42,400 | 45,000 | 47,000 |
| 30 | 16,600 | 26,900 | 31,600 | 35,300 | 37,100 | 38,300 |
| 60 | 12,000 | 20,200 | 24,000 | 27,000 | 28,500 | 29,400 |

Magnitude and probability of annual instantaneous peak flow based on 36 years of record, 1964-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 24,300 | 34,500 | 41,000 | 49,000 | 54,900 | 60,600 | 73,600 |

station skew = - 0.210

Duration table of daily mean flow for period of record 1964-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|--------|--------|--------|-------|-------|-------|-------|-----|-----|-----|------|------|------|------|
| 16,800 | 16,400 | 15,100 | 13,000 | 11,000 | 8,910 | 5,360 | 2,590 | 1,100 | 470 | 198 | 106 | 58.9 | 37.9 | 19.6 | 14.4 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 39.9 | 17.8 | 10.8 | 6.88 |
| 3 | 42.5 | 20.1 | 12.8 | 8.58 |
| 7 | 50.7 | 24.5 | 15.9 | 10.8 |
| 10 | 54.7 | 27.2 | 18.1 | 12.6 |
| 30 | 90.3 | 42.1 | 28.3 | 18.8 |
| 60 | 169 | 60.3 | 36.3 | 24.3 |

| Magnitude and probability of annual low flow based on period of record 1964-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 379 | 91.2 | 42.2 | 22.0 |
| 3 | 448 | 103 | 45.8 | 23.0 |
| 7 | 611 | 138 | 61.1 | 30.6 |
| 10 | 773 | 169 | 72.3 | 34.9 |
| 30 | 2,500 | 621 | 272 | 131 |
| 60 | 5,790 | 1,740 | 789 | 377 |

| Magnitude and probability of annual low flow based on period of record 1964-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 44.1 | 19.1 | 11.4 | 7.16 |
| 3 | 47.0 | 21.6 | 13.6 | 9.00 |
| 7 | 55.5 | 26.1 | 16.8 | 11.4 |
| 10 | 59.2 | 28.4 | 19.0 | 13.5 |
| 30 | 105 | 46.8 | 32.9 | 25.4 |
| 60 | 277 | 101 | 63.3 | 44.2 |

| Magnitude and probability of annual low flow based on period of record 1964-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 94.0 | 30.5 | 17.9 | 11.9 |
| 3 | 98.8 | 31.5 | 18.5 | 12.3 |
| 7 | 114 | 34.1 | 19.8 | 13.2 |
| 10 | 130 | 38.4 | 22.1 | 14.6 |
| 30 | 392 | 85.6 | 37.6 | 18.8 |
| 60 | 729 | 146 | 58.8 | 26.8 |

ARKANSAS RIVER BASIN

07176465 BIRCH CREEK BELOW BIRCH LAKE NEAR BARNSDALL, OK

LOCATION.--Lat 36°32'00", long 96°09'43", in NW ¼ NE ¼ sec.30, T.24 N., R.11 E., Osage County, Hydrologic Unit 11070107, on right bank 300 ft downstream from Birch Dam, 1.5 mi south of Barnsdall, and at mile 0.7.

DRAINAGE AREA.--66.0 mi².

PERIOD OF RECORD.--February 1977 to September 1992.

REMARKS.--Flow completely regulated since March 1977 by Birch Lake (station 07176460).

REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1978-1992 |
| 45.5 |

| Magnitude and probability of annual high flow based on period of record 1978-1992 | | | | | | |
|--|---|------------------|-------------------|------------------|------------------|-------------------|
| Period (consecutive days) | Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 727 | 1,250 | 1,540 | 1,830 | 2,000 | 2,130 |
| 3 | 655 | 1,110 | 1,350 | 1,580 | 1,710 | 1,800 |
| 7 | 560 | 951 | 1,130 | 1,290 | 1,370 | 1,420 |
| 10 | 458 | 799 | 967 | 1,110 | 1,190 | 1,240 |
| 30 | 243 | 377 | 429 | 466 | 481 | 490 |
| 60 | 159 | 235 | 261 | 276 | 282 | 285 |

| Magnitude and probability of annual instantaneous peak flow based on 15 years of record, 1978-1992 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 846 | 1,460 | 1,850 | 2,330 | 2,660 | 2,960 | 3,590 |

station skew = - 0.666

| Duration table of daily mean flow for period of record 1978-1992 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 665 | 439 | 277 | 126 | 49.2 | 21.6 | 13.0 | 8.38 | 5.83 | 4.66 | 3.56 | 2.28 | 1.25 | 0.87 | 0.35 | 0.17 |

| Magnitude and probability of annual low flow based on period of record 1979-1992 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.61 | 0.00 | 0.00 | 0.00 |
| 3 | 0.65 | 0.02 | 0.00 | 0.00 |
| 7 | 0.84 | 0.19 | 0.08 | 0.04 |
| 10 | 1.06 | 0.25 | 0.10 | 0.04 |
| 30 | 2.31 | 0.77 | 0.34 | 0.15 |
| 60 | 2.74 | 0.94 | 0.43 | 0.20 |

| Magnitude and probability of annual low flow based on period of record 1978-1992 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.06 | 1.00 | 0.47 | 0.23 |
| 3 | 3.15 | 1.04 | 0.49 | 0.24 |
| 7 | 4.11 | 1.32 | 0.60 | 0.28 |
| 10 | 5.76 | 2.24 | 1.07 | 0.50 |
| 30 | 20.1 | 5.36 | 2.48 | 1.25 |
| 60 | 66.7 | 21.0 | 9.60 | 4.56 |

| Magnitude and probability of annual low flow based on period of record 1978-1991 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.23 | 1.23 | 0.91 | 0.72 |
| 3 | 2.71 | 1.40 | 0.98 | 0.72 |
| 7 | 3.16 | 1.57 | 1.05 | 0.74 |
| 10 | 3.32 | 1.65 | 1.10 | 0.78 |
| 30 | 4.35 | 2.24 | 1.48 | 1.00 |
| 60 | 4.88 | 2.39 | 1.57 | 1.08 |

| Magnitude and probability of annual low flow based on period of record 1978-1992 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.25 | 0.00 | 0.00 | 0.00 |
| 3 | 1.30 | 0.03 | 0.00 | 0.00 |
| 7 | 1.32 | 0.28 | 0.11 | 0.04 |
| 10 | 1.64 | 0.37 | 0.14 | 0.06 |
| 30 | 3.05 | 0.88 | 0.38 | 0.17 |
| 60 | 4.70 | 1.02 | 0.43 | 0.20 |

ARKANSAS RIVER BASIN

07176500 BIRD CREEK AT AVANT, OK

LOCATION.--Lat 36°29'12", long 96°03'50", in SW 1/4 NW 1/4 sec.7, T.23 N., R.12 E., Osage County, Hydrologic Unit 11070107, 150 ft upstream from county road bridge at Avant, 2.4 mi upstream from Candy Creek, and at mile 54.2.

DRAINAGE AREA.--364 mi².

PERIOD OF RECORD.--August 1945 to current year, published as Bird Creek near Avant Oct. 1, 1973, to Sept. 30, 1993.

REMARKS.--Flow slightly regulated since 1958 by Bluestem Lake (capacity 17,000 acre-ft). Flow regulated since March 1977 by Birch Lake (capacity 19,200 acre-ft), located on Birch Creek, 12.1 mi upstream. Small diversions upstream for municipal water supply for the cities of Pawhuska and Barnsdall.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1946-1976

200

Magnitude and probability of annual high flow based on period of record 1946-1976

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 8,090 | 14,600 | 18,800 | 23,400 | 26,500 | 29,100 |
| 3 | 4,010 | 7,670 | 10,300 | 13,700 | 16,200 | 18,700 |
| 7 | 2,260 | 4,290 | 5,730 | 7,550 | 8,860 | 10,100 |
| 10 | 1,790 | 3,420 | 4,560 | 5,950 | 6,930 | 7,850 |
| 30 | 874 | 1,650 | 2,130 | 2,670 | 3,000 | 3,290 |
| 60 | 569 | 1,080 | 1,380 | 1,690 | 1,870 | 2,030 |

Magnitude and probability of annual instantaneous peak flow based on 34 historic years of record, 1943-1976

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 12,500 | 19,300 | 23,900 | 29,700 | 34,000 | 38,200 | 47,900 |

Oklahoma weighted skew = - 0.292

Duration table of daily mean flow for period of record 1946-1976

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 4,390 | 2,150 | 745 | 278 | 161 | 111 | 52.2 | 24.5 | 12.0 | 5.47 | 1.98 | 0.82 | 0.41 | 0.20 | 0.08 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1947-1976 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 2.02 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1946-1976 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.78 | 1.06 | 0.26 | 0.00 |
| 3 | 6.74 | 1.08 | 0.28 | 0.05 |
| 7 | 10.2 | 2.08 | 0.68 | 0.17 |
| 10 | 12.9 | 2.49 | 0.80 | 0.19 |
| 30 | 79.7 | 22.4 | 9.42 | 3.23 |
| 60 | 282 | 96.4 | 44.3 | 16.4 |

| Magnitude and probability of annual low flow based on period of record 1946-1975 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.06 | 0.00 | 0.00 | 0.00 |
| 60 | 6.01 | 0.07 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1946-1976 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.27 | 0.00 | 0.00 | 0.00 |
| 3 | 1.42 | 0.00 | 0.00 | 0.00 |
| 7 | 1.50 | 0.00 | 0.00 | 0.00 |
| 10 | 1.72 | 0.00 | 0.00 | 0.00 |
| 30 | 2.89 | 0.01 | 0.00 | 0.00 |
| 60 | 5.46 | 0.27 | 0.00 | 0.00 |

ARKANSAS RIVER BASIN
 07176500 BIRD CREEK AT AVANT, OK—Continued
 REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1978-1999

328

| Magnitude and probability of annual high flow based on period of record 1978-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 11,000 | 16,800 | 20,600 | 25,300 | 28,700 | 32,000 |
| 3 | 5,680 | 8,700 | 10,600 | 12,800 | 14,300 | 15,600 |
| 7 | 3,330 | 5,170 | 6,270 | 7,500 | 8,310 | 9,040 |
| 10 | 2,750 | 4,270 | 5,120 | 6,010 | 6,560 | 7,020 |
| 30 | 1,400 | 2,140 | 2,530 | 2,900 | 3,110 | 3,270 |
| 60 | 952 | 1,490 | 1,790 | 2,090 | 2,270 | 2,420 |

Magnitude and probability of annual instantaneous peak flow based on 22 years of record, 1978-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 16,400 | 23,000 | 37,200 | 32,300 | 35,900 | 39,500 | 47,400 |

station skew= - 0.259

Duration table of daily mean flow for period of record 1978-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 4,900 | 2,930 | 1,450 | 738 | 466 | 295 | 136 | 76.1 | 47.9 | 31.3 | 20.1 | 13.1 | 6.93 | 4.94 | 3.74 | 3.19 |

| Magnitude and probability of annual low flow based on period of record 1979-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.07 | 2.21 | 0.88 | 0.35 |
| 3 | 7.08 | 2.40 | 1.14 | 0.56 |
| 7 | 7.09 | 2.76 | 1.49 | 0.83 |
| 10 | 7.46 | 3.05 | 1.74 | 1.04 |
| 30 | 9.11 | 4.82 | 3.50 | 2.68 |
| 60 | 13.8 | 6.94 | 4.80 | 3.53 |

| Magnitude and probability of annual low flow based on period of record 1978-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 34.3 | 13.1 | 7.27 | 4.27 |
| 3 | 37.9 | 14.4 | 7.93 | 4.63 |
| 7 | 45.7 | 16.9 | 9.32 | 5.46 |
| 10 | 52.7 | 18.7 | 10.1 | 5.80 |
| 30 | 190 | 49.0 | 21.6 | 10.4 |
| 60 | 511 | 222 | 131 | 80.2 |

| Magnitude and probability of annual low flow based on period of record 1978-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.53 | 2.26 | 0.89 | 0.35 |
| 3 | 7.75 | 2.49 | 1.17 | 0.56 |
| 7 | 7.84 | 2.92 | 1.53 | 0.83 |
| 10 | 8.41 | 3.25 | 1.79 | 1.04 |
| 30 | 11.2 | 5.28 | 3.62 | 2.68 |
| 60 | 18.0 | 8.38 | 5.76 | 4.28 |

| Magnitude and probability of annual low flow based on period of record 1978-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 8.91 | 4.43 | 3.18 | 2.45 |
| 3 | 9.74 | 4.89 | 3.52 | 2.73 |
| 7 | 10.9 | 5.44 | 3.90 | 3.00 |
| 10 | 11.7 | 5.87 | 4.21 | 3.25 |
| 30 | 23.9 | 9.34 | 5.96 | 4.19 |
| 60 | 43.8 | 13.6 | 7.44 | 4.52 |

ARKANSAS RIVER BASIN

07176800 CANDY CREEK NEAR WOLCO, OK

LOCATION.--Lat 36°32'06", long 96°02'54", in NW 1/4 NW 1/4 sec.29, T.29 N., R.12 E., Osage County, Hydrologic Unit 11070107, 1.3 mi east of Wolco, 3.3 mi northeast of Avant, and at mile 5.6.

DRAINAGE AREA.--30.6 mi².

PERIOD OF RECORD.--October 1969 to May 1981.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1970-1980

25.5

Magnitude and probability of annual high flow based on period of record 1970-1980

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,180 | 2,010 | 2,690 | 3,720 | 4,630 | 5,650 |
| 3 | 545 | 917 | 1,240 | 1,740 | 2,200 | 2,740 |
| 7 | 277 | 496 | 689 | 994 | 1,270 | 1,600 |
| 10 | 201 | 363 | 511 | 758 | 992 | 1,280 |
| 30 | 95.7 | 165 | 223 | 310 | 387 | 473 |
| 60 | 70.3 | 118 | 151 | 193 | 224 | 255 |

Magnitude and probability of annual instantaneous peak flow based on 12 years of record, 1970-1981

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 5,190 | 7,910 | 9,700 | 11,900 | 13,500 | 15,100 | 18,600 |

Oklahoma weighted skew = - 0.336

Duration table of daily mean flow for period of record 1970-1980

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 575 | 334 | 87.4 | 30.5 | 15.6 | 9.27 | 4.36 | 2.20 | 1.03 | 0.81 | 0.60 | 0.40 | 0.20 | 0.10 | 0.04 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1971-1981 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.03 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1970-1980 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.92 | 0.07 | 0.00 | 0.00 |
| 3 | 1.00 | 0.07 | 0.00 | 0.00 |
| 7 | 1.10 | 0.26 | 0.11 | 0.05 |
| 10 | 1.17 | 0.33 | 0.15 | 0.17 |
| 30 | 8.63 | 2.39 | 1.09 | 0.54 |
| 60 | 35.8 | 11.3 | 4.83 | 2.08 |

| Magnitude and probability of annual low flow based on period of record 1970-1980 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.04 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1970-1981 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.20 | 0.00 | 0.00 | 0.00 |
| 3 | 0.20 | 0.00 | 0.00 | 0.00 |
| 7 | 0.21 | 0.00 | 0.00 | 0.00 |
| 10 | 0.22 | 0.00 | 0.00 | 0.00 |
| 30 | 0.44 | 0.04 | 0.00 | 0.00 |
| 60 | 0.98 | 0.11 | 0.02 | 0.00 |

ARKANSAS RIVER BASIN

07177000 HOMINY CREEK NEAR SKIATOOK, OK

LOCATION.--Lat 36°20'55", long 96°06'35", in SW 1/4 SE 1/4 sec.27, T.22 N., R.11 E., Osage County, Hydrologic Unit 11070107, near left bank on downstream side of pier of bridge on State Highway 20, 1.0 mi upstream from Tall Chief Creek, 6.0 mi west of Skiatook, and at mile 16.7.

DRAINAGE AREA.--340 mi².

PERIOD OF RECORD.--March 1944 to September 1980.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1945-1980

181

| Magnitude and probability of annual high flow based on period of record 1945-1980 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 7,190 | 11,900 | 14,500 | 17,300 | 19,000 | 20,400 |
| 3 | 4,290 | 7,550 | 9,710 | 12,300 | 14,100 | 15,700 |
| 7 | 2,240 | 4,020 | 5,230 | 6,730 | 7,780 | 8,790 |
| 10 | 1,730 | 3,090 | 3,990 | 5,060 | 5,810 | 6,490 |
| 30 | 822 | 1,450 | 1,830 | 2,270 | 2,550 | 2,800 |
| 60 | 544 | 945 | 1,170 | 1,400 | 1,530 | 1,630 |

| Magnitude and probability of annual instantaneous peak flow based on 38 historic years of record, 1943-1980 | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 8,300 | 12,800 | 16,500 | 21,900 | 26,600 | 31,900 | 46,900 |

Oklahoma weighted skew = 0.473

| Duration table of daily mean flow for period of record 1945-1980 | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 3,990 | 2,240 | 770 | 230 | 116 | 72.7 | 35.7 | 19.3 | 10.7 | 5.82 | 2.90 | 1.15 | 0.54 | 0.27 | 0.11 | 0.05 |

| Magnitude and probability of annual low flow based on period of record 1945-1980 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.18 | 0.00 | 0.00 | 0.00 |
| 3 | 0.21 | 0.00 | 0.00 | 0.00 |
| 7 | 0.24 | 0.00 | 0.00 | 0.00 |
| 10 | 0.28 | 0.00 | 0.00 | 0.00 |
| 30 | 0.72 | 0.00 | 0.00 | 0.00 |
| 60 | 2.45 | 0.20 | 0.01 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1944-1980 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 6.42 | 1.73 | 0.70 | 0.25 |
| 3 | 6.86 | 1.92 | 0.80 | 0.31 |
| 7 | 9.40 | 2.85 | 1.27 | 0.52 |
| 10 | 11.2 | 3.34 | 1.49 | 0.61 |
| 30 | 75.8 | 23.5 | 11.1 | 4.91 |
| 60 | 304 | 94.4 | 38.9 | 16.0 |

| Magnitude and probability of annual low flow based on period of record 1944-1979 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.19 | 0.00 | 0.00 | 0.00 |
| 3 | 0.21 | 0.00 | 0.00 | 0.00 |
| 7 | 0.25 | 0.00 | 0.00 | 0.00 |
| 10 | 0.28 | 0.00 | 0.00 | 0.00 |
| 30 | 0.79 | 0.00 | 0.00 | 0.00 |
| 60 | 5.84 | 0.45 | 0.06 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1945-1980 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.38 | 0.10 | 0.00 | 0.00 |
| 3 | 1.66 | 0.10 | 0.00 | 0.00 |
| 7 | 1.67 | 0.23 | 0.06 | 0.00 |
| 10 | 1.86 | 0.28 | 0.08 | 0.00 |
| 30 | 3.19 | 0.53 | 0.17 | 0.00 |
| 60 | 5.30 | 0.84 | 0.26 | 0.00 |

ARKANSAS RIVER BASIN

07177500 BIRD CREEK NEAR SPERRY, OK

LOCATION.--Lat 36°16'42", long 95°57'14", in NW ¼ NW ¼ sec.29, T.21 N., R.13 E., Tulsa County, Hydrologic Unit 11070107, near downstream side of right abutment of county road bridge, 1.5 mi upstream from Delaware Creek, 2.4 mi downstream from Hominy Creek, 2.5 mi southeast of Sperry, and at mile 25.0.

DRAINAGE AREA.--905 mi².

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Flow slightly regulated since 1958 by Bluestem Lake (capacity 17,000 acre-ft) and March 1977 by Birch Lake (capacity 19,200 acre-ft). Flow regulated since October 1984 by Skiatook Lake (capacity 322,300 acre-ft).

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1939-1984

483

Magnitude and probability of annual high flow based on period of record 1939-1984

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 13,200 | 23,400 | 31,100 | 41,800 | 50,200 | 59,100 |
| 3 | 8,910 | 16,600 | 22,800 | 32,100 | 39,900 | 48,600 |
| 7 | 5,040 | 9,520 | 13,100 | 18,400 | 22,700 | 27,400 |
| 10 | 4,010 | 7,580 | 10,400 | 14,800 | 17,400 | 20,800 |
| 30 | 2,060 | 3,890 | 5,190 | 6,850 | 8,060 | 9,230 |
| 60 | 1,390 | 2,540 | 3,270 | 4,100 | 4,640 | 5,120 |

Magnitude and probability of annual instantaneous peak flow based on 46 years of record, 1939-1984

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 14,200 | 25,600 | 35,900 | 52,900 | 69,000 | 88,600 | 152,00 |

Oklahoma weighted skew = 0.559

Duration table of daily mean flow for period of record 1939-1984

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 9,180 | 5,930 | 2,320 | 750 | 385 | 251 | 128 | 70.7 | 40.5 | 24.4 | 13.7 | 7.07 | 2.41 | 0.85 | 0.34 | 0.17 |

| Magnitude and probability of annual low flow based on period of record 1940-1984 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.74 | 0.18 | 0.00 | 0.00 |
| 3 | 1.95 | 0.23 | 0.00 | 0.00 |
| 7 | 2.38 | 0.31 | 0.00 | 0.00 |
| 10 | 2.86 | 0.40 | 0.00 | 0.00 |
| 30 | 5.55 | 0.94 | 0.16 | 0.00 |
| 60 | 11.7 | 2.07 | 0.59 | 0.05 |

| Magnitude and probability of annual low flow based on period of record 1939-1984 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 25.8 | 6.97 | 2.82 | 1.08 |
| 3 | 27.1 | 7.90 | 3.49 | 1.50 |
| 7 | 34.8 | 10.7 | 5.02 | 2.32 |
| 10 | 40.6 | 12.3 | 5.78 | 2.69 |
| 30 | 257 | 59.0 | 20.9 | 7.66 |
| 60 | 830 | 273 | 128 | 62.3 |

| Magnitude and probability of annual low flow based on period of record 1939-1983 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.88 | 0.19 | 0.00 | 0.00 |
| 3 | 2.06 | 0.24 | 0.00 | 0.00 |
| 7 | 2.48 | 0.31 | 0.00 | 0.00 |
| 10 | 2.97 | 0.40 | 0.00 | 0.00 |
| 30 | 5.55 | 1.34 | 0.51 | 0.00 |
| 60 | 21.3 | 3.94 | 1.25 | 0.16 |

| Magnitude and probability of annual low flow based on period of record 1939-1984 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 6.94 | 1.30 | 0.43 | 0.06 |
| 3 | 7.43 | 1.39 | 0.45 | 0.07 |
| 7 | 8.59 | 1.75 | 0.61 | 0.10 |
| 10 | 9.47 | 1.97 | 0.70 | 0.12 |
| 30 | 19.8 | 3.06 | 0.81 | 0.20 |
| 60 | 29.4 | 4.54 | 1.38 | 0.47 |

ARKANSAS RIVER BASIN
07177500 BIRD CREEK NEAR SPERRY, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1985-1999

889

| Magnitude and probability of annual high flow based on period of record 1985-1999 | | | | | | |
|---|---|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 15,300 | 21,500 | 25,500 | 30,500 | 34,200 | 37,800 |
| 3 | 10,800 | 15,400 | 18,400 | 22,000 | 24,600 | 27,200 |
| 7 | 6,850 | 9,760 | 11,400 | 13,300 | 14,600 | 15,700 |
| 10 | 5,860 | 8,370 | 9,730 | 11,100 | 12,000 | 12,800 |
| 30 | 3,380 | 5,070 | 5,940 | 6,780 | 7,260 | 7,640 |
| 60 | 2,400 | 3,850 | 4,690 | 5,600 | 6,160 | 6,650 |

Magnitude and probability of annual instantaneous peak flow based on 15 years of record, 1985-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 16,900 | 24,000 | 28,800 | 35,100 | 39,900 | 44,700 | 56,500 |

station skew = 0.027

Duration table of daily mean flow for period of record 1985-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|------|------|------|------|------|
| 9,300 | 6,840 | 4,160 | 2,740 | 1,800 | 1,140 | 433 | 234 | 184 | 159 | 124 | 82.8 | 57.1 | 38.4 | 18.3 | 12.9 |

| Magnitude and probability of annual low flow based on period of record 1986-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 37.0 | 18.0 | 10.9 | 6.89 |
| 3 | 42.4 | 20.8 | 12.6 | 7.70 |
| 7 | 46.2 | 22.3 | 13.5 | 8.08 |
| 10 | 48.9 | 23.6 | 14.2 | 8.46 |
| 30 | 60.3 | 31.7 | 20.8 | 14.0 |
| 60 | 77.3 | 44.5 | 32.2 | 24.2 |

| Magnitude and probability of annual low flow based on period of record 1985-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 119 | 71.0 | 53.3 | 41.8 |
| 3 | 129 | 76.1 | 58.4 | 47.2 |
| 7 | 140 | 81.3 | 64.6 | 54.8 |
| 10 | 167 | 89.9 | 68.6 | 56.3 |
| 30 | 485 | 173 | 102 | 65.9 |
| 60 | 1,090 | 457 | 279 | 182 |

| Magnitude and probability of annual low flow based on period of record 1985-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 40.7 | 17.9 | 10.9 | 6.89 |
| 3 | 48.1 | 21.4 | 12.6 | 7.70 |
| 7 | 55.2 | 23.9 | 13.7 | 8.08 |
| 10 | 59.3 | 25.4 | 14.4 | 8.46 |
| 30 | 113 | 48.2 | 26.3 | 14.6 |
| 60 | 147 | 69.7 | 42.2 | 26.2 |

| Magnitude and probability of annual low flow based on period of record 1985-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 53.5 | 30.9 | 20.3 | 13.3 |
| 3 | 56.0 | 32.2 | 21.1 | 13.8 |
| 7 | 59.3 | 34.5 | 22.9 | 15.3 |
| 10 | 61.2 | 35.9 | 24.7 | 17.1 |
| 30 | 88.8 | 52.0 | 41.8 | 36.0 |
| 60 | 174 | 70.4 | 44.5 | 30.7 |

ARKANSAS RIVER BASIN

07177650 FLAT ROCK CREEK AT CINCINNATI AVENUE AT TULSA, OK.

LOCATION.--Lat 36°12'55", long 95°59'42", in SE 1/4 NE 1/4 sec.14, T.20 N., R.12 E., Tulsa County, Hydrologic Unit 11070107, near right upstream abutment of Cincinnati Avenue bridge, 0.5 mi north of Cincinnati Avenue-36th Street North intersection, 2.0 mi south of Turley, and at mile 5.6.

DRAINAGE AREA.--8.20 mi².

PERIOD OF RECORD.--December 1987 to current year.

REMARKS.--Urban watershed in the city of Tulsa, OK.

URBAN STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1989-1999

7.67

Magnitude and probability of annual high flow based on period of record 1989-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 395 | 740 | 919 | 1,080 | 1,160 | 1,220 |
| 3 | 155 | 285 | 353 | 414 | 446 | 469 |
| 7 | 77.9 | 156 | 202 | 248 | 280 | 318 |
| 10 | 58.0 | 128 | 178 | 238 | 275 | 296 |
| 30 | 29.2 | 61.8 | 82.6 | 105 | 119 | 131 |
| 60 | 20.0 | 44.6 | 61.3 | 80.3 | 92.6 | 103 |

Magnitude and probability of annual instantaneous peak flow based on 12 years of record, 1989-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 1,910 | 3,050 | 3,870 | 4,980 | 5,830 | 6,700 | 8,860 |

station skew = - 0.135

Duration table of daily mean flow for period of record 1989-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 180 | 78.0 | 23.2 | 8.96 | 5.49 | 3.82 | 1.98 | 1.14 | 0.87 | 0.70 | 0.52 | 0.35 | 0.17 | 0.09 | 0.03 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.04 | 0.00 | 0.00 | 0.00 |
| 60 | 0.09 | 0.03 | 0.01 | 0.01 |

| Magnitude and probability of annual low flow based on period of record 1988-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.24 | 0.00 | 0.00 | 0.00 |
| 3 | 0.26 | 0.00 | 0.00 | 0.00 |
| 7 | 0.41 | 0.09 | 0.02 | 0.00 |
| 10 | 0.52 | 0.16 | 0.08 | 0.04 |
| 30 | 2.55 | 0.51 | 0.22 | 0.10 |
| 60 | 7.68 | 1.63 | 0.63 | 0.27 |

| Magnitude and probability of annual low flow based on period of record 1988-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.04 | 0.01 | 0.00 | 0.00 |
| 60 | 0.12 | 0.05 | 0.03 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.02 | 0.00 | 0.00 | 0.00 |
| 3 | 0.05 | 0.00 | 0.00 | 0.00 |
| 7 | 0.09 | 0.01 | 0.00 | 0.00 |
| 10 | 0.15 | 0.02 | 0.00 | 0.00 |
| 30 | 0.64 | 0.06 | 0.01 | 0.00 |
| 60 | 1.10 | 0.22 | 0.08 | 0.03 |

ARKANSAS RIVER BASIN

07177800 COAL CREEK AT TULSA, OK

LOCATION.--Lat 36°11'40", long 95°54'50", in SE ¼ SW ¼ sec.22, T.20 N., R.13 E., Tulsa County, Hydrologic Unit 11070107, near right downstream abutment of bridge on State Highway 11, 0.2 mile Northwest of intersection of SH 11 and Apache Street in Tulsa, and at mile 4.1.

DRAINAGE AREA.--7.53 mi².

PERIOD OF RECORD.--January 29, 1988 to current year.

REMARKS.--Urban watershed in the city of Tulsa, OK.

URBAN STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1989-1999 |
| 9.04 |

| Magnitude and probability of annual high flow based on period of record 1989-1999 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 292 | 471 | 597 | 764 | 891 | 1,020 |
| 3 | 122 | 192 | 239 | 299 | 343 | 387 |
| 7 | 64.9 | 102 | 125 | 153 | 171 | 189 |
| 10 | 50.5 | 82.9 | 106 | 135 | 157 | 179 |
| 30 | 26.7 | 43.6 | 54.9 | 68.8 | 78.8 | 88.5 |
| 60 | 19.3 | 31.0 | 39.5 | 50.8 | 59.7 | 68.7 |

| Magnitude and probability of annual instantaneous peak flow based on 11 years of record, 1989-1999 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 1,970 | 3,320 | 4,500 | 6,420 | 8,190 | 10,300 | 16,900 |

station skew = 0.612

| Duration table of daily mean flow for period of record 1989-1999 | | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% | |
| 137 | 87.5 | 39.7 | 17.7 | 9.57 | 6.62 | 4.12 | 2.89 | 2.20 | 1.53 | 1.02 | 0.68 | 0.34 | 0.17 | 0.07 | 0.03 | |

| Magnitude and probability of annual low flow based on period of record 1990-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.11 | 0.00 | 0.00 | 0.00 |
| 3 | 0.14 | 0.00 | 0.00 | 0.00 |
| 7 | 0.16 | 0.00 | 0.00 | 0.00 |
| 10 | 0.21 | 0.03 | 0.00 | 0.00 |
| 30 | 0.64 | 0.27 | 0.17 | 0.12 |
| 60 | 1.23 | 0.48 | 0.28 | 0.17 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.86 | 0.42 | 0.27 | 0.18 |
| 3 | 1.06 | 0.54 | 0.36 | 0.25 |
| 7 | 1.26 | 0.71 | 0.52 | 0.40 |
| 10 | 1.81 | 0.99 | 0.71 | 0.53 |
| 30 | 7.34 | 3.41 | 2.27 | 1.62 |
| 60 | 11.7 | 6.34 | 4.59 | 3.50 |

| Magnitude and probability of annual low flow based on period of record 1989-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.12 | 0.00 | 0.00 | 0.00 |
| 3 | 0.14 | 0.00 | 0.00 | 0.00 |
| 7 | 0.17 | 0.00 | 0.00 | 0.00 |
| 10 | 0.23 | 0.03 | 0.00 | 0.00 |
| 30 | 0.84 | 0.36 | 0.22 | 0.14 |
| 60 | 2.41 | 0.97 | 0.53 | 0.29 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.52 | 0.19 | 0.11 | 0.07 |
| 3 | 0.56 | 0.20 | 0.12 | 0.07 |
| 7 | 0.62 | 0.23 | 0.13 | 0.08 |
| 10 | 0.93 | 0.35 | 0.19 | 0.11 |
| 30 | 1.99 | 0.87 | 0.51 | 0.31 |
| 60 | 3.43 | 1.43 | 0.78 | 0.43 |

ARKANSAS RIVER BASIN

07178000 BIRD CREEK NEAR OWASSO, OK

LOCATION.--Lat 36°14'54", long 95°52'01", in NW 1/4 NW 1/4 sec.6, T.20 N., R.14 E., Tulsa County, Hydrologic Unit 11070107, at bridge on Mingo Road 1.4 mi upstream from Mingo Creek, 1.5 mi downstream from Coal Creek, 2 mi southwest of Owasso, and at mile 14.1.

DRAINAGE AREA.--1,022 mi².

PERIOD OF RECORD.--October 1935 to March 1939, April 1987 to current year.

REMARKS.--Flow slightly regulated since 1958 by Bluestem Lake (capacity 17,000 acre-ft) and March 1977 by Birch Lake (capacity 19,200 acre-ft). Flow regulated since October 1984 by Skiatook Lake (capacity 322,300 acre-ft).

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1988-1999

973

Magnitude and probability of annual high flow based on period of record 1988-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 15,800 | 21,300 | 24,800 | 29,200 | 32,400 | 35,600 |
| 3 | 12,200 | 17,700 | 21,100 | 25,200 | 28,000 | 30,800 |
| 7 | 7,740 | 11,900 | 14,400 | 17,400 | 19,400 | 21,200 |
| 10 | 6,440 | 9,990 | 12,100 | 14,500 | 16,000 | 17,400 |
| 30 | 3,860 | 5,930 | 6,940 | 7,870 | 8,350 | 8,720 |
| 60 | 2,630 | 4,530 | 5,680 | 6,960 | 7,770 | 8,480 |

Magnitude and probability of annual instantaneous peak flow based on 12 years of record, 1988-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 16,300 | 21,700 | 25,200 | 29,700 | 33,000 | 36,200 | 44,000 |

station skew = 0.041

Duration table of daily mean flow for period of record 1988-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 11,100 | 8,100 | 4,080 | 2,780 | 1,920 | 1,240 | 506 | 276 | 216 | 184 | 163 | 132 | 91.6 | 76.3 | 67.7 | 61.0 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 58.9 | 51.4 | 49.6 | 47.6 |
| 3 | 61.6 | 55.7 | 53.5 | 52.6 |
| 7 | 66.5 | 60.5 | 58.0 | 55.0 |
| 10 | 71.4 | 61.9 | 59.1 | 55.7 |
| 30 | 91.7 | 73.4 | 66.5 | 58.9 |
| 60 | 116 | 89.0 | 68.3 | 65.0 |

| Magnitude and probability of annual low flow based on period of record 1988-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 160 | 107 | 88.9 | 77.5 |
| 3 | 169 | 116 | 101 | 91.7 |
| 7 | 184 | 121 | 106 | 97.5 |
| 10 | 209 | 135 | 118 | 109 |
| 30 | 765 | 280 | 162 | 103 |
| 60 | 1,420 | 538 | 303 | 182 |

| Magnitude and probability of annual low flow based on period of record 1988-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 63.1 | 52.4 | 49.9 | 48.7 |
| 3 | 65.6 | 55.7 | 53.5 | 52.6 |
| 7 | 74.0 | 62.0 | 58.9 | 57.4 |
| 10 | 83.5 | 65.4 | 59.4 | 59.0 |
| 30 | 155 | 135 | 127 | 122 |
| 60 | 202 | 165 | 153 | 145 |

| Magnitude and probability of annual low flow based on period of record 1988-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 71.3 | 57.4 | 51.7 | 47.6 |
| 3 | 74.2 | 62.0 | 57.3 | 54.0 |
| 7 | 79.7 | 65.8 | 60.3 | 55.0 |
| 10 | 87.3 | 68.9 | 61.2 | 55.7 |
| 30 | 127 | 79.7 | 66.5 | 58.9 |
| 60 | 218 | 99.6 | 68.3 | 65.0 |

ARKANSAS RIVER BASIN

07178040 MINGO CREEK AT 46TH STREET NORTH AT TULSA, OK

LOCATION.--Lat 36°13'14", long 95°51'30", in SW ¼ SE ¼ sec.7, T.20 N., R.14 E., Tulsa County, Hydrologic Unit 11070107, near left downstream abutment of 46th Street North bridge, 0.1 mi downstream from small left bank tributary, 0.2 mi upstream from small right bank tributary, 9.0 mi northeast of downtown Tulsa post office, and at mile 1.9.

DRAINAGE AREA.--59.9 mi².

PERIOD OF RECORD.--April 1987 to June 1998.

REMARKS.--Urban watershed in the city of Tulsa, OK.

URBAN STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1988-1997

87.1

Magnitude and probability of annual high flow based on period of record 1988-1997

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 2,660 | 3,580 | 4,160 | 4,860 | 5,370 | 5,870 |
| 3 | 1,390 | 1,880 | 2,170 | 2,500 | 2,730 | 2,930 |
| 7 | 712 | 957 | 1,090 | 1,220 | 1,300 | 1,370 |
| 10 | 564 | 798 | 928 | 1,070 | 1,150 | 1,230 |
| 30 | 301 | 406 | 450 | 486 | 503 | 515 |
| 60 | 204 | 297 | 344 | 391 | 418 | 439 |

Magnitude and probability of annual instantaneous peak flow based on 40 historic years of record, 1959-1998

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 5,770 | 8,370 | 11,400 | 17,600 | 24,500 | 34,400 | 76,600 |

station skew = 2.515

Duration table of daily mean flow for period of record 1988-1997

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 1,480 | 964 | 418 | 176 | 86.3 | 57.1 | 32.6 | 21.2 | 14.6 | 9.85 | 6.36 | 3.98 | 2.55 | 1.93 | 1.30 | 0.84 |

| Magnitude and probability of annual low flow based on period of record 1989-1998 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.36 | 0.82 | 0.58 | 0.41 |
| 3 | 1.47 | 0.91 | 0.66 | 0.49 |
| 7 | 1.74 | 1.04 | 0.76 | 0.57 |
| 10 | 1.94 | 1.25 | 0.97 | 0.77 |
| 30 | 4.41 | 2.88 | 2.40 | 2.11 |
| 60 | 9.95 | 5.57 | 4.75 | 3.08 |

| Magnitude and probability of annual low flow based on period of record 1988-1998 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.09 | 2.50 | 1.59 | 1.05 |
| 3 | 5.67 | 2.71 | 1.70 | 1.11 |
| 7 | 6.66 | 3.33 | 2.22 | 1.56 |
| 10 | 8.38 | 3.93 | 2.66 | 1.93 |
| 30 | 46.6 | 17.2 | 9.98 | 6.30 |
| 60 | 102 | 49.7 | 33.7 | 24.3 |

| Magnitude and probability of annual low flow based on period of record 1988-1997 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.41 | 0.85 | 0.59 | 0.42 |
| 3 | 1.52 | 0.94 | 0.68 | 0.50 |
| 7 | 1.80 | 1.07 | 0.78 | 0.58 |
| 10 | 2.09 | 1.31 | 1.00 | 0.79 |
| 30 | 6.03 | 3.36 | 2.60 | 2.15 |
| 60 | 21.2 | 9.98 | 6.46 | 4.41 |

| Magnitude and probability of annual low flow based on period of record 1988-1998 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.00 | 1.85 | 1.42 | 1.13 |
| 3 | 3.51 | 2.17 | 1.64 | 1.30 |
| 7 | 4.45 | 2.63 | 1.93 | 1.48 |
| 10 | 6.64 | 3.15 | 2.08 | 1.45 |
| 30 | 13.5 | 5.74 | 3.57 | 2.38 |
| 60 | 21.5 | 9.36 | 5.98 | 41.0 |

ARKANSAS RIVER BASIN

07178200 BIRD CREEK AT STATE HIGHWAY 266 NEAR CATOOSA, OK

LOCATION.--Lat 36°13'23", long 95°49'09", in SE ¼ SE ¼ sec.9, T.20 N., R.14 E., Tulsa County, Hydrologic Unit 11070107, near left downstream abutment of bridge, 2.3 mi downstream from Elm Creek, 5 mi northwest of Catoosa High School, and at mile 9.5

DRAINAGE AREA.--1,103 mi²

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

REMARKS.--Flow slightly regulated since 1958 by Bluestem Lake (capacity 17,000 acre-ft) and March 1977 by Birch Lake (capacity 19,200 acre-ft). Flow regulated since October 1984 by Skiatook Lake (capacity 322,300 acre-ft). Some urban runoff from the city of Tulsa, OK.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1989-1999

1,131

Magnitude and probability of annual high flow based on period of record 1989-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 16,300 | 20,800 | 23,500 | 26,700 | 28,800 | 30,900 |
| 3 | 12,500 | 17,400 | 20,600 | 24,300 | 27,000 | 29,600 |
| 7 | 8,080 | 12,200 | 14,700 | 17,700 | 19,800 | 21,700 |
| 10 | 6,720 | 10,300 | 12,400 | 14,900 | 16,600 | 18,200 |
| 30 | 4,010 | 6,200 | 7,380 | 8,580 | 9,280 | 9,870 |
| 60 | 2,820 | 4,780 | 6,050 | 7,560 | 8,600 | 9,560 |

Magnitude and probability of annual instantaneous peak flow based on 11 years of record, 1989-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 17,400 | 22,000 | 24,600 | 27,400 | 29,200 | 30,900 | 34,300 |

station skew = - 0.478

Duration table of daily mean flow for period of record 1989-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| 11,300 | 8,940 | 4,770 | 3,140 | 2,140 | 1,400 | 670 | 403 | 308 | 255 | 221 | 183 | 140 | 113 | 91.6 | 80.9 |

| Magnitude and probability of annual low flow based on period of record 1990-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 86.0 | 70.8 | 64.1 | 59.1 |
| 3 | 93.9 | 76.6 | 69.2 | 60.9 |
| 7 | 102 | 80.3 | 71.5 | 65.3 |
| 10 | 108 | 82.3 | 72.3 | 70.0 |
| 30 | 151 | 113 | 95.0 | 84.6 |
| 60 | 177 | 132 | 98.1 | 96.8 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 221 | 166 | 149 | 139 |
| 3 | 232 | 175 | 160 | 152 |
| 7 | 253 | 179 | 161 | 152 |
| 10 | 288 | 190 | 166 | 153 |
| 30 | 967 | 387 | 235 | 155 |
| 60 | 1,580 | 667 | 405 | 262 |

| Magnitude and probability of annual low flow based on period of record 1989-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 104 | 77.1 | 66.9 | 59.9 |
| 3 | 113 | 85.7 | 75.1 | 67.7 |
| 7 | 130 | 96.6 | 82.2 | 71.8 |
| 10 | 139 | 101 | 85.4 | 73.9 |
| 30 | 233 | 188 | 168 | 154 |
| 60 | 288 | 219 | 194 | 178 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 92.3 | 73.9 | 66.3 | 60.9 |
| 3 | 101 | 80.9 | 72.4 | 66.3 |
| 7 | 114 | 89.6 | 79.0 | 71.1 |
| 10 | 132 | 98.8 | 83.9 | 72.8 |
| 30 | 176 | 113 | 95.0 | 84.8 |
| 60 | 267 | 135 | 98.1 | 97.0 |

ARKANSAS RIVER BASIN

07178600 VERDIGRIS RIVER NEAR INOLA, OK

LOCATION.--Lat 36°09'43", long 95°37'07", in northwest corner of sec. 4, T. 19 N., R. 16 E., Rogers County, near right bank on downstream side of pier of bridge on State Highway 33, 1.0 mi upstream from Salt Creek, 6.0 mi west of Inola, and at mile 48.8.

DRAINAGE AREA.--7,911 mi².

PERIOD OF RECORD.--September 1944 to September 1970.

REMARKS.--Some regulation since 1949 by Elk River Reservoir in Kansas; further regulation since 1951 by Hulah Lake, and since 1958 by Bluestem Lake. Flow regulated since 1963 by Oologah Lake.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1945-1962

4,482

Magnitude and probability of annual high flow based on period of record 1945-1962

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 46,700 | 75,700 | 96,000 | 123,000 | 143,000 | 163,000 |
| 3 | 44,200 | 70,600 | 88,000 | 109,000 | 125,000 | 140,000 |
| 7 | 38,500 | 61,200 | 74,200 | 88,100 | 96,800 | 104,000 |
| 10 | 34,400 | 55,100 | 66,600 | 78,500 | 85,600 | 91,500 |
| 30 | 21,600 | 35,800 | 42,900 | 49,400 | 52,800 | 55,300 |
| 60 | 14,300 | 24,600 | 29,900 | 34,700 | 37,200 | 39,000 |

Magnitude and probability of annual instantaneous peak flow based on 23 historic years of record, 1940-1962

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 50,800 | 89,300 | 120,000 | 163,000 | 198,000 | 237,000 | 338,000 |

Water Resources Council weighted skew = - 0.055

Duration table of daily mean flow for period of record 1945-1962

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|--------|--------|--------|-------|-------|-------|-------|-----|-----|-----|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 17,800 | 17,100 | 15,100 | 11,700 | 8,320 | 5,220 | 2,370 | 1,290 | 683 | 358 | 191 | 98.8 | 48.9 | 32.1 | 17.8 | 11.9 |

| Magnitude and probability of annual low flow based on period of record 1946-1962 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 50.4 | 16.8 | 9.52 | 5.82 |
| 3 | 51.9 | 17.4 | 9.92 | 6.10 |
| 7 | 56.6 | 19.0 | 11.0 | 7.05 |
| 10 | 60.0 | 20.6 | 12.5 | 8.27 |
| 30 | 89.4 | 28.7 | 17.2 | 11.0 |
| 60 | 154 | 41.6 | 22.2 | 13.7 |

| Magnitude and probability of annual low flow based on period of record 1945-1962 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 426 | 136 | 70.7 | 39.7 |
| 3 | 461 | 147 | 75.7 | 42.4 |
| 7 | 667 | 199 | 96.9 | 50.8 |
| 10 | 813 | 244 | 119 | 63.3 |
| 30 | 2,630 | 823 | 407 | 217 |
| 60 | 6,440 | 2,380 | 1,260 | 699 |

| Magnitude and probability of annual low flow based on period of record 1945-1961 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 52.4 | 17.0 | 9.45 | 5.82 |
| 3 | 54.0 | 17.6 | 9.84 | 6.10 |
| 7 | 59.4 | 19.3 | 11.0 | 7.05 |
| 10 | 64.0 | 21.3 | 12.5 | 8.27 |
| 30 | 114 | 31.7 | 17.4 | 11.0 |
| 60 | 290 | 62.6 | 28.5 | 15.0 |

| Magnitude and probability of annual low flow based on period of record 1945-1962 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 113 | 35.8 | 19.7 | 12.1 |
| 3 | 124 | 38.8 | 21.2 | 12.9 |
| 7 | 128 | 40.4 | 22.3 | 13.7 |
| 10 | 135 | 42.3 | 23.3 | 14.3 |
| 30 | 188 | 60.9 | 34.3 | 21.5 |
| 60 | 265 | 85.8 | 49.3 | 31.8 |

ARKANSAS RIVER BASIN

07185000 NEOSHO RIVER NEAR COMMERCE, OK

LOCATION.--Lat 36°55'43", long 94°57'26", in SW ¼ SE ¼ sec.5, T.28 N., R.22 E., Ottawa County, Hydrologic Unit 11070206, on downstream side of right pier of county road bridge, 1.3 mi upstream from Mud Creek, 2.2 mi downstream from Four Mile Creek, 4.5 mi west of Commerce, and at mile 153.4.

DRAINAGE AREA.--5,876 mi².

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

REMARKS.--Flow regulated to some extent since 1963 by John Redmond Reservoir in Kansas, 190 mi upstream.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1940-1962

3,651

Magnitude and probability of annual high flow based on period of record 1940-1962

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 34,100 | 59,700 | 82,100 | 118,000 | 149,000 | 187,000 |
| 3 | 33,900 | 59,300 | 81,500 | 117,000 | 135,000 | 152,000 |
| 7 | 31,000 | 56,500 | 70,400 | 83,700 | 91,000 | 96,000 |
| 10 | 26,700 | 49,600 | 62,300 | 74,700 | 81,600 | 86,900 |
| 30 | 14,100 | 28,400 | 37,700 | 48,500 | 55,500 | 61,600 |
| 60 | 9,680 | 19,100 | 25,200 | 32,100 | 36,500 | 40,300 |

Magnitude and probability of annual instantaneous peak flow based on 36 historic years of record, 1927-1962

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 34,200 | 59,800 | 82,200 | 118,000 | 150,000 | 188,000 | 302,000 |

Water Resources Council weighted skew = 0.401

Duration table of daily mean flow for period of record 1940-1962

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|--------|--------|--------|-------|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 20,100 | 19,000 | 15,900 | 10,700 | 5,980 | 3,790 | 2,000 | 1,260 | 787 | 454 | 255 | 135 | 21.2 | 6.72 | 0.84 | 0.42 |

| Magnitude and probability of annual low flow based on period of record 1941-1962 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 75.3 | 6.28 | 0.00 | 0.00 |
| 3 | 80.4 | 7.37 | 0.00 | 0.00 |
| 7 | 89.2 | 7.70 | 0.00 | 0.00 |
| 10 | 110 | 8.50 | 0.02 | 0.00 |
| 30 | 136 | 12.1 | 0.37 | 0.00 |
| 60 | 259 | 22.6 | 0.52 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1940-1962 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 442 | 93.4 | 33.1 | 12.4 |
| 3 | 486 | 108 | 40.3 | 15.9 |
| 7 | 598 | 133 | 49.3 | 19.5 |
| 10 | 629 | 177 | 84.7 | 44.4 |
| 30 | 1,900 | 687 | 385 | 232 |
| 60 | 4,220 | 1,640 | 952 | 591 |

| Magnitude and probability of annual low flow based on period of record 1940-1961 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 82.2 | 8.80 | 0.00 | 0.00 |
| 3 | 87.5 | 9.87 | 0.00 | 0.00 |
| 7 | 97.4 | 11.0 | 0.00 | 0.00 |
| 10 | 135 | 12.5 | 0.00 | 0.00 |
| 30 | 220 | 19.8 | 0.52 | 0.00 |
| 60 | 564 | 41.6 | 4.64 | 0.03 |

| Magnitude and probability of annual low flow based on period of record 1940-1962 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 98.1 | 9.07 | 1.52 | 0.05 |
| 3 | 105 | 10.2 | 1.77 | 0.06 |
| 7 | 118 | 11.8 | 2.09 | 0.08 |
| 10 | 123 | 12.9 | 2.42 | 0.10 |
| 30 | 195 | 31.9 | 10.3 | 3.67 |
| 60 | 297 | 51.6 | 17.3 | 6.34 |

ARKANSAS RIVER BASIN
07185000 NEOSHO RIVER NEAR COMMERCE, OK—Continued
REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1964-1999 |
| 4,060 |

| Magnitude and probability of annual high flow based on period of record 1964-1999 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 37,200 | 56,900 | 70,400 | 86,100 | 97,200 | 108,000 |
| 3 | 34,700 | 53,300 | 64,400 | 76,800 | 85,100 | 92,500 |
| 7 | 26,200 | 41,000 | 49,800 | 59,800 | 66,300 | 72,200 |
| 10 | 22,600 | 34,300 | 40,900 | 48,000 | 52,500 | 56,300 |
| 30 | 14,900 | 22,300 | 26,000 | 29,700 | 31,700 | 33,000 |
| 60 | 10,400 | 16,000 | 19,200 | 22,600 | 24,700 | 26,500 |

| Magnitude and probability of annual instantaneous peak flow based on 36 years of record, 1964-1999 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 37,900 | 57,000 | 71,200 | 90,700 | 106,000 | 123,000 | 167,000 |

station skew = 0.170

| Duration table of daily mean flow for period of record 1964-1999 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 17,000 | 16,500 | 14,700 | 11,700 | 8,770 | 6,320 | 3,510 | 1,990 | 1,160 | 656 | 370 | 183 | 75.0 | 45.3 | 27.0 | 21.0 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 54.6 | 24.0 | 15.4 | 10.6 |
| 3 | 59.7 | 25.8 | 16.4 | 11.2 |
| 7 | 65.6 | 28.1 | 18.0 | 12.4 |
| 10 | 70.0 | 29.6 | 18.9 | 13.1 |
| 30 | 126 | 48.6 | 29.0 | 18.8 |
| 60 | 270 | 86.7 | 46.2 | 26.9 |

| Magnitude and probability of annual low flow based on period of record 1964-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 446 | 127 | 60.0 | 30.9 |
| 3 | 503 | 143 | 69.1 | 36.5 |
| 7 | 613 | 168 | 80.3 | 42.2 |
| 10 | 729 | 191 | 88.4 | 45.0 |
| 30 | 2,070 | 644 | 323 | 175 |
| 60 | 4,530 | 2,020 | 1,270 | 844 |

| Magnitude and probability of annual low flow based on period of record 1964-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 72.6 | 31.8 | 20.4 | 14.3 |
| 3 | 77.1 | 33.6 | 21.6 | 15.0 |
| 7 | 86.8 | 37.6 | 24.4 | 17.1 |
| 10 | 94.2 | 39.5 | 25.4 | 17.7 |
| 30 | 183 | 64.1 | 37.1 | 23.7 |
| 60 | 443 | 135 | 71.9 | 42.5 |

| Magnitude and probability of annual low flow based on period of record 1964-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 160 | 48.4 | 24.8 | 13.7 |
| 3 | 171 | 51.1 | 26.0 | 14.5 |
| 7 | 197 | 59.8 | 31.0 | 17.6 |
| 10 | 212 | 64.9 | 33.8 | 19.4 |
| 30 | 437 | 123 | 60.5 | 33.0 |
| 60 | 765 | 202 | 92.5 | 46.5 |

ARKANSAS RIVER BASIN

07185095 TAR CREEK AT 22ND STREET BRIDGE AT MIAMI, OK.

LOCATION.--Lat 36°54'00", long 94°52'05", in NW 1/4, NE 1/4, sec 19, T.28 N., R.23 E., Ottawa County, Hydrologic Unit 11070206, at 22nd Street bridge in Miami, Ok, 0.5 mi east of intersection of Main and 22nd Street.

DRAINAGE AREA.--44.7 mi².

PERIOD OF RECORD.--January 1984 to September 1993.

REMARKS.--Flow affected by urban watershed in the city of Miami, OK.

URBAN STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1985-1993

67.8

Magnitude and probability of annual high flow based on period of record 1985-1993

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,980 | 4,260 | 6,220 | 9,180 | 11,700 | 14,500 |
| 3 | 1,110 | 2,210 | 3,090 | 4,350 | 5,380 | 6,470 |
| 7 | 671 | 1,210 | 1,580 | 2,040 | 2,370 | 2,690 |
| 10 | 521 | 911 | 1,170 | 1,480 | 1,710 | 1,910 |
| 30 | 242 | 403 | 496 | 595 | 656 | 708 |
| 60 | 166 | 257 | 306 | 355 | 383 | 406 |

Magnitude and probability of annual instantaneous peak flow based on 10 years of record, 1984-1993

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 3,090 | 5,860 | 8,400 | 12,600 | 16,500 | 21,300 | 36,200 |

station skew = 0.366

Duration table of daily mean flow for period of record 1985-1993

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 1,060 | 662 | 297 | 135 | 68.9 | 45.0 | 26.6 | 17.5 | 12.5 | 8.32 | 5.55 | 3.77 | 2.37 | 1.47 | 0.62 | 0.31 |

| Magnitude and probability of annual low flow based on period of record 1985-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.18 | 0.39 | 0.18 | 0.09 |
| 3 | 1.26 | 0.43 | 0.21 | 0.11 |
| 7 | 1.44 | 0.56 | 0.30 | 0.16 |
| 10 | 1.53 | 0.62 | 0.34 | 0.19 |
| 30 | 2.36 | 1.19 | 0.72 | 0.45 |
| 60 | 4.08 | 1.52 | 0.84 | 0.47 |

| Magnitude and probability of annual low flow based on period of record 1984-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.49 | 2.93 | 2.12 | 1.64 |
| 3 | 5.90 | 3.27 | 2.43 | 1.91 |
| 7 | 6.85 | 3.92 | 3.09 | 2.48 |
| 10 | 7.87 | 4.49 | 3.48 | 2.87 |
| 30 | 17.2 | 6.96 | 4.51 | 3.22 |
| 60 | 56.9 | 32.7 | 25.1 | 20.5 |

| Magnitude and probability of annual low flow based on period of record 1984-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.18 | 0.39 | 0.18 | 0.09 |
| 3 | 1.26 | 0.43 | 0.21 | 0.11 |
| 7 | 1.44 | 0.56 | 0.30 | 0.16 |
| 10 | 1.53 | 0.62 | 0.34 | 0.19 |
| 30 | 2.41 | 1.20 | 0.73 | 0.45 |
| 60 | 5.52 | 1.78 | 0.88 | 0.47 |

| Magnitude and probability of annual low flow based on period of record 1985-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.09 | 2.75 | 2.33 | 2.07 |
| 3 | 4.45 | 2.95 | 2.47 | 2.17 |
| 7 | 4.73 | 3.12 | 2.61 | 2.29 |
| 10 | 5.06 | 3.30 | 2.71 | 2.34 |
| 30 | 11.3 | 5.34 | 3.65 | 2.68 |
| 60 | 28.0 | 11.7 | 6.62 | 3.88 |

ARKANSAS RIVER BASIN

07186000 SPRING RIVER NEAR WACO, MO

LOCATION.--Lat 37°14'44", long 94°33'58", on line between SE 1/2 sec.7 and NE 1/2 sec 18, T.29 N., R.33 W., Jasper County, Hydrologic Unit 11070207, on downstream side of left pier of county highway bridge, 0.8 mi downstream from Blackberry Creek, 1.5 mi east of Waco, and 47.6 mi upstream from mouth.

DRAINAGE AREA.--1,164 mi².

PERIOD OF RECORD.--April 1924 to current year.

REMARKS.--Historical record length assumed equal to that for nearby station Spring River near Quapaw, OK (07188000) for peak-frequency analysis.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1925-1999

953

Magnitude and probability of annual high flow based on period of record 1925-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 16,300 | 30,500 | 41,500 | 57,100 | 69,700 | 82,900 |
| 3 | 12,500 | 23,600 | 32,200 | 44,000 | 53,300 | 62,900 |
| 7 | 7,940 | 14,800 | 19,900 | 26,400 | 31,300 | 36,200 |
| 10 | 6,470 | 11,900 | 15,600 | 20,200 | 23,500 | 26,600 |
| 30 | 3,420 | 6,150 | 7,960 | 10,100 | 11,600 | 13,000 |
| 60 | 2,300 | 4,040 | 5,170 | 6,510 | 7,410 | 8,250 |

Magnitude and probability of annual instantaneous peak flow based on 105 historic years of record, 1895-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 18,700 | 34,400 | 47,100 | 65,800 | 81,600 | 98,900 | 146,000 |

Oklahoma weighted skew= - 0.041

Duration table of daily mean flow for period of record 1925-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 11,900 | 7,900 | 3,780 | 1,860 | 1,250 | 951 | 609 | 432 | 306 | 213 | 149 | 105 | 66.3 | 47.7 | 31.7 | 25.2 |

| Magnitude and probability of annual low flow based on period of record 1926-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 57.2 | 29.4 | 19.7 | 13.7 |
| 3 | 62.9 | 33.3 | 22.6 | 15.8 |
| 7 | 67.2 | 36.5 | 25.1 | 18.0 |
| 10 | 69.2 | 37.6 | 26.1 | 18.8 |
| 30 | 82.9 | 43.7 | 29.9 | 21.4 |
| 60 | 107 | 52.9 | 35.9 | 25.8 |

| Magnitude and probability of annual low flow based on period of record 1925-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 239 | 114 | 72.9 | 49.1 |
| 3 | 251 | 122 | 79.2 | 54.2 |
| 7 | 283 | 137 | 89.7 | 61.8 |
| 10 | 300 | 142 | 92.7 | 64.1 |
| 30 | 543 | 240 | 155 | 107 |
| 60 | 980 | 436 | 285 | 201 |

| Magnitude and probability of annual low flow based on period of record 1924-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 62.5 | 31.2 | 20.5 | 14.0 |
| 3 | 69.0 | 35.6 | 23.7 | 16.3 |
| 7 | 73.5 | 38.9 | 26.4 | 18.5 |
| 10 | 75.7 | 40.2 | 27.4 | 19.4 |
| 30 | 94.0 | 48.1 | 32.4 | 22.8 |
| 60 | 132 | 62.6 | 41.6 | 29.5 |

| Magnitude and probability of annual low flow based on period of record 1925-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 99.5 | 48.5 | 33.3 | 24.3 |
| 3 | 106 | 52.9 | 37.0 | 27.6 |
| 7 | 113 | 57.0 | 40.3 | 30.4 |
| 10 | 117 | 58.6 | 41.3 | 31.2 |
| 30 | 170 | 77.4 | 52.0 | 37.7 |
| 60 | 256 | 103 | 63.5 | 42.1 |

ARKANSAS RIVER BASIN

07188000 SPRING RIVER NEAR QUAPAW, OK

LOCATION.--Lat 36°56'04", long 94°44'46", in NE 1/4 SW 1/4 sec.5, T.28 N., R.24 E., Ottawa County, Hydrologic Unit 11070207, near downstream right abutment of county road bridge, 0.1 mi upstream from Rock Creek, 3.0 mi southeast of Quapaw, and at mile 13.9. Records include flow of Rock Creek.

DRAINAGE AREA.--2,510 mi², includes that of Rock Creek.

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

REMARKS.--Occasional releases from floodgates at old Riverton Hydroelectric plant, 15 mi upstream.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1940-1999

2,214

Magnitude and probability of annual high flow based on period of record 1940-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 31,900 | 61,100 | 85,200 | 119,000 | 147,000 | 177,000 |
| 3 | 26,100 | 50,900 | 70,400 | 97,600 | 119,000 | 142,000 |
| 7 | 16,700 | 32,100 | 44,000 | 60,100 | 72,700 | 85,700 |
| 10 | 13,700 | 25,700 | 34,500 | 45,900 | 54,400 | 62,900 |
| 30 | 7,510 | 13,300 | 17,200 | 21,900 | 25,200 | 28,400 |
| 60 | 5,170 | 8,950 | 11,500 | 14,500 | 16,600 | 18,600 |

Magnitude and probability of annual instantaneous peak flow based on 105 historic years of record, 1895-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 35,500 | 64,000 | 86,900 | 120,000 | 148,000 | 178,000 | 258,000 |

Oklahoma weighted skew = - 0.046

Duration table of daily mean flow for period of record 1940-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|--------|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 15,100 | 13,300 | 7,790 | 4,460 | 3,160 | 2,460 | 1,670 | 1,180 | 860 | 614 | 441 | 319 | 210 | 153 | 109 | 78.1 |

| Magnitude and probability of annual low flow based on period of record 1941-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 181 | 92.3 | 56.7 | 35.2 |
| 3 | 216 | 112 | 67.8 | 41.0 |
| 7 | 243 | 129 | 78.4 | 48.2 |
| 10 | 252 | 134 | 83.1 | 51.9 |
| 30 | 304 | 156 | 96.9 | 61.0 |
| 60 | 358 | 184 | 124 | 87.9 |

| Magnitude and probability of annual low flow based on period of record 1940-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 625 | 302 | 196 | 134 |
| 3 | 717 | 368 | 247 | 174 |
| 7 | 806 | 424 | 292 | 211 |
| 10 | 861 | 445 | 306 | 220 |
| 30 | 1,500 | 763 | 530 | 390 |
| 60 | 2,440 | 1,200 | 838 | 625 |

| Magnitude and probability of annual low flow based on period of record 1940-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 193 | 94.6 | 58.0 | 36.3 |
| 3 | 228 | 113 | 67.8 | 41.1 |
| 7 | 254 | 129 | 78.4 | 48.2 |
| 10 | 263 | 134 | 83.1 | 51.9 |
| 30 | 334 | 162 | 99.6 | 62.7 |
| 60 | 431 | 210 | 139 | 96.4 |

| Magnitude and probability of annual low flow based on period of record 1940-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 282 | 138 | 93.6 | 67.4 |
| 3 | 330 | 172 | 121 | 90.5 |
| 7 | 353 | 193 | 142 | 110 |
| 10 | 364 | 199 | 148 | 116 |
| 30 | 503 | 250 | 177 | 134 |
| 60 | 678 | 309 | 205 | 146 |

ARKANSAS RIVER BASIN

07189000 ELK RIVER NEAR TIFF CITY, MO

LOCATION.--Lat 36°37'53", long 94°35'12", in NE ¼ NE ¼ sec.22, T.22 N., R.34 W., McDonald County, Hydrologic Unit 11070208, near right abutment of bridge on State Highway 43, 0.8 mi downstream from Blackfoot Branch, 2.8 mi upstream from Buffalo Creek, 3.0 mi southeast of Tiff City, and at mile 15.8.

DRAINAGE AREA.--872 mi².

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

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1940-1999

839

Magnitude and probability of annual high flow based on period of record 1940-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 14,900 | 27,700 | 37,000 | 49,400 | 58,700 | 68,000 |
| 3 | 9,870 | 17,600 | 23,000 | 30,100 | 35,300 | 40,500 |
| 7 | 6,130 | 10,500 | 13,500 | 17,300 | 20,200 | 23,000 |
| 10 | 5,030 | 8,500 | 10,900 | 14,000 | 16,300 | 18,400 |
| 30 | 2,750 | 4,450 | 5,590 | 7,030 | 8,070 | 9,090 |
| 60 | 1,970 | 3,150 | 3,940 | 4,920 | 5,630 | 6,320 |

Magnitude and probability of annual instantaneous peak flow based on 60 years of record, 1940-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 20,400 | 40,500 | 56,500 | 79,200 | 97,600 | 117,000 | 166,000 |

Oklahoma weighted skew = - 0.302

Duration table of daily mean flow for period of record 1940-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 7,730 | 5,360 | 2,950 | 1,810 | 1,320 | 1,040 | 704 | 489 | 346 | 250 | 181 | 130 | 87.2 | 65.6 | 50.2 | 35.8 |

| Magnitude and probability of annual low flow based on period of record 1941-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 78.7 | 43.1 | 29.4 | 20.6 |
| 3 | 80.9 | 44.4 | 30.3 | 21.2 |
| 7 | 84.5 | 46.8 | 32.1 | 22.7 |
| 10 | 87.0 | 48.1 | 33.0 | 23.4 |
| 30 | 102 | 55.5 | 38.9 | 28.3 |
| 60 | 124 | 69.0 | 48.3 | 35.0 |

| Magnitude and probability of annual low flow based on period of record 1940-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 348 | 197 | 141 | 105 |
| 3 | 363 | 207 | 149 | 111 |
| 7 | 396 | 225 | 162 | 121 |
| 10 | 425 | 237 | 170 | 128 |
| 30 | 716 | 391 | 284 | 218 |
| 60 | 1,240 | 694 | 513 | 401 |

| Magnitude and probability of annual low flow based on period of record 1940-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 78.7 | 43.1 | 29.4 | 20.6 |
| 3 | 80.9 | 44.4 | 30.3 | 21.2 |
| 7 | 84.5 | 46.8 | 32.1 | 22.7 |
| 10 | 87.0 | 48.1 | 33.0 | 23.4 |
| 30 | 102 | 55.5 | 38.9 | 28.4 |
| 60 | 130 | 69.2 | 49.2 | 36.9 |

| Magnitude and probability of annual low flow based on period of record 1940-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 129 | 76.3 | 58.9 | 47.8 |
| 3 | 137 | 80.7 | 61.9 | 50.0 |
| 7 | 146 | 85.5 | 65.4 | 52.8 |
| 10 | 152 | 88.7 | 67.8 | 54.7 |
| 30 | 217 | 113 | 81.1 | 62.3 |
| 60 | 302 | 147 | 101 | 74.4 |

ARKANSAS RIVER BASIN

07189500 NEOSHO RIVER NEAR GROVE, OK

LOCATION.--Lat 36°36'45", long 94°49'25", in SE ¼ sec.27, T.25 N., R.23 E., at bridge on State Highway 25, 3.0 mi downstream from Spring Branch, 3.5 mi northwest of Grove, 8.2 mi downstream from Elk River, and at mile 105.4.

DRAINAGE AREA.--9,969 mi².

PERIOD OF RECORD.--October 1924 to September 1939.

REMARKS.--Some regulation at low flow by power plants above station.

UNREGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1925-1939 |
| 6,067 |

| Magnitude and probability of annual high flow based on period of record 1925-1939 | | | | | | |
|--|---|------------------|-------------------|------------------|------------------|-------------------|
| Period (consecutive days) | Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 59,100 | 96,400 | 121,000 | 152,000 | 173,000 | 194,000 |
| 3 | 49,500 | 86,000 | 112,000 | 145,000 | 170,000 | 194,000 |
| 7 | 37,100 | 68,100 | 90,800 | 121,000 | 144,000 | 167,000 |
| 10 | 31,300 | 60,200 | 82,500 | 113,000 | 137,000 | 162,000 |
| 30 | 19,000 | 38,300 | 54,100 | 77,100 | 96,100 | 117,000 |
| 60 | 13,200 | 25,400 | 35,400 | 50,300 | 63,000 | 76,900 |

| Magnitude and probability of annual instantaneous peak flow based on 15 years of record, 1925-1939 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 62,200 | 100,000 | 126,000 | 157,000 | 180,000 | 202,000 | 252,000 |

Water Resources Council weighted skew = - 0.412

| Duration table of daily mean flow for period of record 1925-1939 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 18,400 | 17,700 | 15,700 | 12,300 | 8,920 | 6,430 | 4,370 | 3,070 | 2,270 | 1,640 | 1,150 | 866 | 533 | 373 | 224 | 151 |

| Magnitude and probability of annual low flow based on period of record 1926-1939 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 390 | 150 | 81.0 | 45.5 |
| 3 | 435 | 170 | 92.8 | 52.7 |
| 7 | 460 | 185 | 103 | 59.9 |
| 10 | 476 | 192 | 107 | 62.8 |
| 30 | 546 | 257 | 168 | 116 |
| 60 | 712 | 350 | 239 | 175 |

| Magnitude and probability of annual low flow based on period of record 1925-1939 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1,210 | 715 | 561 | 467 |
| 3 | 1,340 | 797 | 630 | 528 |
| 7 | 1,810 | 1,010 | 749 | 588 |
| 10 | 1,940 | 1,030 | 774 | 623 |
| 30 | 3,330 | 1,770 | 1,360 | 1,140 |
| 60 | 6,970 | 3,440 | 2,440 | 1,860 |

| Magnitude and probability of annual low flow based on period of record 1925-1938 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 408 | 154 | 81.9 | 45.5 |
| 3 | 457 | 175 | 94.2 | 52.7 |
| 7 | 486 | 191 | 105 | 59.9 |
| 10 | 506 | 200 | 110 | 63.0 |
| 30 | 584 | 261 | 170 | 118 |
| 60 | 876 | 386 | 259 | 189 |

| Magnitude and probability of annual low flow based on period of record 1925-1939 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 647 | 414 | 336 | 287 |
| 3 | 685 | 437 | 359 | 310 |
| 7 | 729 | 469 | 386 | 335 |
| 10 | 772 | 486 | 395 | 339 |
| 30 | 1,180 | 604 | 432 | 390 |
| 60 | 1,810 | 902 | 612 | 440 |

ARKANSAS RIVER BASIN

07190500 NEOSHO RIVER NEAR LANGLEY, OK

LOCATION.--Lat 36°26'20", long 95°02'54", in SW 1/4, SE 1/4 sec.27, T.23 N., R.21 E., Mayes County, Hydrologic Unit 11070209, in concrete stilling well on left bank, 0.5 mi upstream from bridge on State Highway 82, 1.5 mi south of Langley, 3.6 mi downstream from Pensacola Dam, 6.3 mi upstream from Big Cabin Creek, and at mile 73.4.

DRAINAGE AREA.--10,335 mi².

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

REMARKS.--Flow regulated since 1940 by Lake O' The Cherokees (station 0719000).

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1940-1999

7,711

Magnitude and probability of annual high flow based on period of record 1940-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 53,700 | 107,000 | 143,000 | 178,000 | 200,000 | 217,000 |
| 3 | 51,900 | 100,000 | 129,000 | 157,000 | 173,000 | 186,000 |
| 7 | 43,900 | 79,500 | 97,900 | 115,000 | 123,000 | 130,000 |
| 10 | 39,300 | 68,300 | 82,200 | 94,300 | 100,000 | 104,000 |
| 30 | 25,800 | 42,700 | 50,300 | 56,700 | 59,700 | 61,700 |
| 60 | 19,000 | 30,000 | 34,600 | 38,100 | 39,700 | 40,700 |

Magnitude and probability of annual instantaneous peak flow based on 60 years of record, 1940-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 53,800 | 108,000 | 152,000 | 213,000 | 262,000 | 314,000 | 443,000 |

station skew = - 0.347

Duration table of daily mean flow for period of record 1940-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-----|-----|------|------|------|
| 22,200 | 21,700 | 20,300 | 17,900 | 15,600 | 13,200 | 8,430 | 5,660 | 4,020 | 2,800 | 1,750 | 729 | 120 | 35.9 | 22.5 | 14.4 |

| Magnitude and probability of annual low flow based on period of record 1941-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 42.0 | 18.1 | 11.8 | 7.64 |
| 3 | 72.5 | 22.5 | 13.4 | 9.20 |
| 7 | 178 | 46.7 | 23.7 | 13.8 |
| 10 | 261 | 75.9 | 39.9 | 23.4 |
| 30 | 735 | 211 | 99.2 | 50.3 |
| 60 | 1,380 | 467 | 230 | 119 |

| Magnitude and probability of annual low flow based on period of record 1940-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 369 | 51.3 | 18.1 | 7.64 |
| 3 | 869 | 133 | 45.1 | 17.5 |
| 7 | 1,580 | 277 | 95.4 | 36.5 |
| 10 | 1,990 | 407 | 153 | 63.0 |
| 30 | 4,970 | 1,310 | 540 | 235 |
| 60 | 8,570 | 2,890 | 1,470 | 789 |

| Magnitude and probability of annual low flow based on period of record 1940-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 52.3 | 18.1 | 11.8 | 8.76 |
| 3 | 129 | 32.7 | 16.7 | 9.87 |
| 7 | 430 | 107 | 48.8 | 24.7 |
| 10 | 593 | 159 | 71.9 | 35.4 |
| 30 | 1,540 | 460 | 203 | 92.9 |
| 60 | 2,790 | 1,050 | 516 | 255 |

| Magnitude and probability of annual low flow based on period of record 1940-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 94.6 | 24.5 | 13.2 | 8.31 |
| 3 | 215 | 45.4 | 20.6 | 10.9 |
| 7 | 535 | 118 | 50.0 | 24.0 |
| 10 | 694 | 197 | 98.1 | 54.1 |
| 30 | 1,640 | 493 | 238 | 123 |
| 60 | 2,290 | 789 | 418 | 238 |

ARKANSAS RIVER BASIN

07191000 BIG CABIN CREEK NEAR BIG CABIN, OK

LOCATION.--Lat 36°34'06", long 95°09'07", in NE ¼, NE ¼ sec.15, T.24 N., R.20 E., Craig County, Hydrologic Unit 11070209, near downstream side of right bank end of county road bridge, 4.9 mi northeast of Big Cabin, 0.9 mi downstream from White Oak Creek, 6.8 mi upstream from Mustang Creek, and at mile 13.0.

DRAINAGE AREA.--450 mi².

PERIOD OF RECORD.--October 1947 to current year.

REMARKS.--Low flow sustained in part by sewage from city of Vinita.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1948-1999

359

Magnitude and probability of annual high flow based on period of record 1948-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 12,200 | 22,100 | 29,600 | 40,000 | 48,200 | 56,700 |
| 3 | 7,000 | 13,300 | 18,300 | 25,700 | 31,800 | 38,400 |
| 7 | 3,790 | 7,210 | 10,000 | 14,100 | 17,600 | 21,400 |
| 10 | 3,030 | 5,740 | 7,870 | 10,900 | 13,300 | 15,900 |
| 30 | 1,450 | 2,680 | 3,560 | 4,720 | 5,580 | 6,430 |
| 60 | 944 | 1,750 | 2,340 | 3,120 | 3,710 | 4,300 |

Magnitude and probability of annual instantaneous peak flow based on 65 historic years of record, 1935-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 16,600 | 29,000 | 38,500 | 51,800 | 62,500 | 73,900 | 103,000 |

Oklahoma weighted skew = - 0.130

Duration table of daily mean flow for period of record 1948-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 6,860 | 4,190 | 1,520 | 530 | 292 | 193 | 104 | 60.4 | 33.8 | 17.0 | 7.33 | 3.09 | 1.68 | 1.10 | 0.51 | 0.25 |

| Magnitude and probability of annual low flow based on period of record 1949-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.89 | 0.41 | 0.27 | 0.19 |
| 3 | 0.94 | 0.43 | 0.29 | 0.21 |
| 7 | 1.06 | 0.52 | 0.36 | 0.27 |
| 10 | 1.08 | 0.56 | 0.42 | 0.34 |
| 30 | 2.07 | 0.91 | 0.62 | 0.47 |
| 60 | 4.46 | 1.42 | 0.82 | 0.53 |

| Magnitude and probability of annual low flow based on period of record 1948-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 15.4 | 6.09 | 3.60 | 2.28 |
| 3 | 16.9 | 6.96 | 4.27 | 2.81 |
| 7 | 20.9 | 8.29 | 5.03 | 3.30 |
| 10 | 25.4 | 9.40 | 5.62 | 3.70 |
| 30 | 112 | 38.5 | 22.9 | 15.3 |
| 60 | 344 | 142 | 89.5 | 61.0 |

| Magnitude and probability of annual low flow based on period of record 1948-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.90 | 0.40 | 0.27 | 0.20 |
| 3 | 0.95 | 0.43 | 0.30 | 0.22 |
| 7 | 1.07 | 0.52 | 0.37 | 0.28 |
| 10 | 1.11 | 0.56 | 0.42 | 0.35 |
| 30 | 2.09 | 0.92 | 0.66 | 0.52 |
| 60 | 6.57 | 1.87 | 1.01 | 0.62 |

| Magnitude and probability of annual low flow based on period of record 1948-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.00 | 1.32 | 0.66 | 0.38 |
| 3 | 5.64 | 1.48 | 0.73 | 0.40 |
| 7 | 6.75 | 1.74 | 0.84 | 0.46 |
| 10 | 7.48 | 1.92 | 0.93 | 0.51 |
| 30 | 18.7 | 3.99 | 1.74 | 0.87 |
| 60 | 43.5 | 7.98 | 3.06 | 1.33 |

ARKANSAS RIVER BASIN

07191220 SPAVINAW CREEK NEAR SYCAMORE, OK

LOCATION.--Lat 36°20'07", long 94°38'27", in NE 1/4 NW 1/4 sec.4, T.21 N., R.25 E., Delaware County, Hydrologic Unit 11070209, on right bank 1.8 mi upstream from Cherokee Creek, 4.8 mi northeast of Row, 6.5 mi southeast of Sycamore, and at mile 35.0.

DRAINAGE AREA.--133 mi².

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

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1962-1999

116

Magnitude and probability of annual high flow based on period of record 1962-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,920 | 4,370 | 6,540 | 9,830 | 12,700 | 15,800 |
| 3 | 1,250 | 2,430 | 3,340 | 4,600 | 5,590 | 6,610 |
| 7 | 772 | 1,360 | 1,770 | 2,280 | 2,660 | 3,020 |
| 10 | 637 | 1,090 | 1,400 | 1,760 | 2,020 | 2,260 |
| 30 | 351 | 567 | 695 | 834 | 923 | 1,000 |
| 60 | 252 | 410 | 503 | 605 | 670 | 727 |

Magnitude and probability of annual instantaneous peak flow based on 120 historic years of record, 1880-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 3,480 | 8,730 | 13,600 | 21,000 | 27,500 | 34,600 | 53,500 |

Oklahoma weighted skew = - 0.390

Duration table of daily mean flow for period of record 1962-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 970 | 611 | 371 | 242 | 181 | 143 | 101 | 75.5 | 56.8 | 42.6 | 31.4 | 23.0 | 14.6 | 10.7 | 7.35 | 5.79 |

| Magnitude and probability of annual low flow based on period of record 1963-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 14.7 | 7.57 | 4.95 | 3.35 |
| 3 | 14.8 | 7.72 | 5.10 | 3.48 |
| 7 | 15.3 | 8.13 | 5.47 | 3.80 |
| 10 | 15.6 | 8.39 | 5.71 | 4.02 |
| 30 | 17.3 | 10.0 | 7.27 | 5.49 |
| 60 | 21.0 | 12.1 | 9.04 | 6.97 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 56.9 | 32.7 | 23.4 | 17.3 |
| 3 | 60.7 | 34.4 | 24.3 | 17.7 |
| 7 | 64.7 | 36.1 | 25.4 | 18.5 |
| 10 | 67.3 | 37.3 | 26.3 | 19.1 |
| 30 | 102 | 53.5 | 37.0 | 26.9 |
| 60 | 147 | 77.8 | 54.7 | 40.4 |

| Magnitude and probability of annual low flow based on period of record 1962-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 14.8 | 7.58 | 4.95 | 3.35 |
| 3 | 14.9 | 7.72 | 5.10 | 3.48 |
| 7 | 15.3 | 8.14 | 5.47 | 3.80 |
| 10 | 15.6 | 8.40 | 5.71 | 4.02 |
| 30 | 17.5 | 10.0 | 7.27 | 5.49 |
| 60 | 21.1 | 12.1 | 9.04 | 7.09 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 27.8 | 15.6 | 11.4 | 8.78 |
| 3 | 28.5 | 15.9 | 11.6 | 8.85 |
| 7 | 30.6 | 16.8 | 12.0 | 9.02 |
| 10 | 31.2 | 17.1 | 12.2 | 9.19 |
| 30 | 41.1 | 20.8 | 14.4 | 10.6 |
| 60 | 55.0 | 26.4 | 17.5 | 12.2 |

ARKANSAS RIVER BASIN

07191500 NEOSHO RIVER NEAR CHOUTEAU, OK

LOCATION.--Lat 36°13'46", long 95°10'57", in SE ¼ NW ¼ sec.9, T.20 N., R.20 E., Mayes County, Hydrologic Unit 11070209, in Robert S. Kerr Dam about 100 ft from left end of dam, 2.2 mi northwest of Locust Grove, 10.0 mi northeast of Chouteau, and at mile 47.2.

DRAINAGE AREA.--11,534 mi².

PERIOD OF RECORD.--October 1937 to September 1950, October 1963 to current year.

REMARKS.--Some regulation since 1940 by Lake O' The Cherokees (station 07190000), and completely regulated since April 1964 by Lake Hudson (station 07191400).

REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1965-1999 |
| 9,300 |

| Magnitude and probability of annual high flow based on period of record 1965-1999 | | | | | | |
|---|----------|----------|-----------|----------|----------|-----------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 52,400 | 90,000 | 116,000 | 155,000 | 188,000 | 225,000 |
| 3 | 48,500 | 84,100 | 110,000 | 146,000 | 178,000 | 202,000 |
| 7 | 41,800 | 71,200 | 92,000 | 119,000 | 139,000 | 159,000 |
| 10 | 38,300 | 63,200 | 80,100 | 101,000 | 117,000 | 132,000 |
| 30 | 27,300 | 42,100 | 51,200 | 61,600 | 68,500 | 74,900 |
| 60 | 20,000 | 31,000 | 37,900 | 46,200 | 52,000 | 57,500 |

| Magnitude and probability of annual instantaneous peak flow based on 35 years of record, 1965-1999 | | | | | | |
|--|----------|-----------|----------|----------|-----------|-------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 56,400 | 90,200 | 117,000 | 156,000 | 189,000 | 226,000 | 327,000 |

station skew = 0.273

| Duration table of daily mean flow for period of record 1965-1999 | | | | | | | | | | | | | | | |
|--|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-----|-----|-----|-----|-----|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 21,400 | 21,100 | 20,000 | 18,400 | 16,700 | 15,000 | 11,700 | 8,310 | 5,350 | 3,270 | 1,710 | 539 | 193 | 153 | 121 | 110 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 128 | 88.6 | 69.9 | 56.3 |
| 3 | 144 | 90.5 | 73.4 | 62.9 |
| 7 | 201 | 123 | 104 | 94.7 |
| 10 | 257 | 144 | 116 | 100 |
| 30 | 706 | 315 | 207 | 146 |
| 60 | 1,380 | 676 | 452 | 319 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 403 | 128 | 79.9 | 57.3 |
| 3 | 967 | 233 | 113 | 62.5 |
| 7 | 1,900 | 492 | 233 | 124 |
| 10 | 2,500 | 678 | 323 | 169 |
| 30 | 6,370 | 2,020 | 976 | 500 |
| 60 | 10,900 | 4,500 | 2,610 | 1,590 |

| Magnitude and probability of annual low flow based on period of record 1965-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 128 | 91.2 | 82.1 | 77.4 |
| 3 | 150 | 97.8 | 85.1 | 78.6 |
| 7 | 293 | 154 | 121 | 103 |
| 10 | 403 | 207 | 157 | 130 |
| 30 | 1,320 | 587 | 373 | 253 |
| 60 | 2,290 | 1,270 | 927 | 715 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 133 | 98.4 | 93.4 | 91.8 |
| 3 | 279 | 121 | 103 | 93.0 |
| 7 | 641 | 219 | 129 | 98.0 |
| 10 | 800 | 272 | 157 | 100 |
| 30 | 2,150 | 758 | 419 | 251 |
| 60 | 3,320 | 1,180 | 641 | 371 |

ARKANSAS RIVER BASIN

07192000 PRYOR CREEK NEAR PRYOR, OK

LOCATION.--Lat 36°16'52", long 95°19'32", in SW 1/4 sec.19, T.21 N., R.19 E., on right downstream bank at downstream site of bridge on U.S. Highway 69, 1.8 mi south of Pryor, 2.0 mi downstream from Seminole Creek, and at mile 10.5.

DRAINAGE AREA.--229 mi².

PERIOD OF RECORD.--October 1947 to December 1963.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1948-1963

131

Magnitude and probability of annual high flow based on period of record 1948-1963

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,320 | 7,680 | 12,500 | 21,700 | 31,800 | 45,400 |
| 3 | 2,130 | 5,300 | 8,790 | 15,500 | 22,600 | 32,100 |
| 7 | 1,250 | 3,220 | 5,410 | 9,580 | 14,000 | 19,800 |
| 10 | 951 | 2,430 | 4,040 | 7,050 | 10,200 | 14,200 |
| 30 | 455 | 1,160 | 1,870 | 3,080 | 4,240 | 5,630 |
| 60 | 277 | 733 | 1,210 | 2,060 | 2,900 | 3,930 |

Magnitude and probability of annual instantaneous peak flow based on 21 historic years of record, 1943-1963

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 5,180 | 11,600 | 18,100 | 29,100 | 40,000 | 53,300 | 96,700 |

Oklahoma weighted skew = 0.163

Duration table of daily mean flow for period of record 1948-1963

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 2,590 | 1,520 | 564 | 177 | 92.6 | 60.6 | 27.8 | 10.9 | 4.78 | 1.83 | 0.85 | 0.56 | 0.28 | 0.14 | 0.06 | 0.03 |

| Magnitude and probability of annual low flow based on period of record 1949-1963 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.06 | 0.00 | 0.00 | 0.00 |
| 60 | 0.57 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1948-1963 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.93 | 0.42 | 0.00 | 0.00 |
| 3 | 4.10 | 0.59 | 0.00 | 0.00 |
| 7 | 5.91 | 0.74 | 0.13 | 0.00 |
| 10 | 6.99 | 0.82 | 0.14 | 0.00 |
| 30 | 24.1 | 6.18 | 3.18 | 1.88 |
| 60 | 113 | 37.3 | 21.0 | 13.2 |

| Magnitude and probability of annual low flow based on period of record 1948-1962 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.11 | 0.00 | 0.00 | 0.00 |
| 60 | 2.06 | 0.07 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1948-1963 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.16 | 0.00 | 0.00 | 0.00 |
| 3 | 0.16 | 0.00 | 0.00 | 0.00 |
| 7 | 0.20 | 0.00 | 0.00 | 0.00 |
| 10 | 0.26 | 0.00 | 0.00 | 0.00 |
| 30 | 0.50 | 0.00 | 0.00 | 0.00 |
| 60 | 1.51 | 0.02 | 0.00 | 0.00 |

ARKANSAS RIVER BASIN

07192500 NEOSHO RIVER NEAR WAGONER, OK

LOCATION.--Lat 35°55'44", long 95°16'08", on south line sec.22, T.17 N., R.19 E., at bridge on State Highway 51, 2.25 mi downstream from Nigger Creek, 5 mi southeast of Wagoner, 6 mi upstream from Fourteen Mile Creek, and at mile 13.7.

DRAINAGE AREA.--12,307 mi².

PERIOD OF RECORD.--March 1924 to December 1925, October 1937 to September 1949.

REMARKS.--Flow regulated since 1940 by Lake O' The Cherokees (station 0719000).

REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1940-1949 |
| 10,432 |

| Magnitude and probability of annual high flow based on period of record 1940-1949 | | | | | | |
|--|---|------------------|-------------------|------------------|------------------|-------------------|
| Period (consecutive days) | Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 112,000 | 216,000 | 270,000 | 318,000 | 343,000 | 361,000 |
| 3 | 108,000 | 195,000 | 232,000 | 257,000 | 268,000 | 274,000 |
| 7 | 92,600 | 152,000 | 169,000 | 179,000 | 181,000 | 182,000 |
| 10 | 81,600 | 129,000 | 141,000 | 147,000 | 148,000 | 149,000 |
| 30 | 47,100 | 77,600 | 87,100 | 92,300 | 93,900 | 94,700 |
| 60 | 33,900 | 53,800 | 59,100 | 61,700 | 62,300 | 62,600 |

| Magnitude and probability of annual instantaneous peak flow based on 10 years of record, 1940-1949 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 115,000 | 221,000 | 285,000 | 352,000 | 392,000 | 424,000 | 479,000 |

station skew = - 1.106

| Duration table of daily mean flow for period of record 1940-1949 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 19,100 | 18,700 | 17,400 | 15,300 | 13,200 | 11,000 | 7,300 | 5,740 | 4,480 | 3,400 | 2,610 | 1,840 | 599 | 300 | 164 | 98.5 |

| Magnitude and probability of annual low flow based on period of record 1941-1949 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 773 | 292 | 139 | 68.5 |
| 3 | 901 | 307 | 151 | 75.3 |
| 7 | 1,220 | 396 | 184 | 88.1 |
| 10 | 1,320 | 437 | 202 | 95.3 |
| 30 | 2,200 | 869 | 419 | 200 |
| 60 | 2,460 | 1,100 | 601 | 331 |

| Magnitude and probability of annual low flow based on period of record 1940-1949 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2,680 | 861 | 415 | 211 |
| 3 | 3,410 | 1,070 | 493 | 236 |
| 7 | 3,870 | 1,210 | 560 | 273 |
| 10 | 4,330 | 1,340 | 631 | 312 |
| 30 | 8,570 | 3,270 | 1,780 | 1,030 |
| 60 | 18,400 | 6,400 | 3,180 | 1,650 |

| Magnitude and probability of annual low flow based on period of record 1940-1948 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1,140 | 425 | 198 | 92.1 |
| 3 | 1,460 | 517 | 229 | 101 |
| 7 | 1,860 | 635 | 270 | 112 |
| 10 | 2,040 | 731 | 310 | 127 |
| 30 | 2,640 | 1,030 | 476 | 214 |
| 60 | 3,020 | 1,360 | 747 | 413 |

| Magnitude and probability of annual low flow based on period of record 1940-1949 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 962 | 299 | 139 | 68.5 |
| 3 | 1,180 | 346 | 157 | 75.3 |
| 7 | 1,590 | 510 | 240 | 118 |
| 10 | 1,660 | 636 | 345 | 196 |
| 30 | 2,350 | 1,130 | 692 | 435 |
| 60 | 2,760 | 1,300 | 781 | 478 |

ARKANSAS RIVER BASIN

07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON, OK

LOCATION.--Lat 35°51'10", long 95°13'44", in NW 1/4, NW 1/4 sec.19, T.16 N., R.20 E., Cherokee County, Hydrologic Unit 11070209, on left bank 1.1 mi downstream from Fort Gibson Dam, 3.5 mi north of Fort Gibson, and at mile 6.6.

DRAINAGE AREA.--12,495 mi².

PERIOD OF RECORD.--May 1950 to September 1989. Prior to October 1970, published as Neosho River below Fort Gibson Reservoir near Fort Gibson.

REMARKS.--Flow completely regulated since September 1953 by Fort Gibson Lake (station 07193000).

REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1954-1989 |
| 8,448 |

| Magnitude and probability of annual high flow based on period of record 1954-1989 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 45,800 | 80,600 | 106,000 | 139,000 | 165,000 | 191,000 |
| 3 | 43,600 | 76,600 | 99,900 | 130,000 | 153,000 | 175,000 |
| 7 | 38,100 | 67,300 | 88,000 | 115,000 | 135,000 | 155,000 |
| 10 | 35,300 | 62,500 | 81,900 | 107,000 | 126,000 | 145,000 |
| 30 | 24,600 | 43,100 | 56,000 | 72,400 | 84,500 | 96,300 |
| 60 | 18,000 | 30,800 | 39,600 | 50,500 | 58,400 | 66,100 |

| Magnitude and probability of annual instantaneous peak flow based on 36 years of record, 1954-1989 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 47,400 | 82,100 | 108,000 | 145,000 | 174,000 | 205,000 | 284,000 |

station skew = - 0.146

| Duration table of daily mean flow for period of record 1954-1989 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 26,000 | 25,500 | 23,900 | 21,300 | 18,700 | 16,100 | 10,800 | 6,470 | 4,250 | 2,780 | 1,630 | 730 | 153 | 27.5 | 14.0 | 13.0 |

| Magnitude and probability of annual low flow based on period of record 1955-1989 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 18.5 | 13.4 | 8.34 | 4.88 |
| 3 | 66.9 | 20.7 | 14.1 | 11.8 |
| 7 | 191 | 52.4 | 26.0 | 14.4 |
| 10 | 253 | 72.6 | 36.4 | 20.2 |
| 30 | 688 | 261 | 153 | 97.3 |
| 60 | 1,310 | 486 | 266 | 154 |

| Magnitude and probability of annual low flow based on period of record 1954-1989 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 98.8 | 17.5 | 8.34 | 4.88 |
| 3 | 753 | 137 | 53.6 | 24.0 |
| 7 | 1,750 | 387 | 158 | 71.7 |
| 10 | 1,970 | 577 | 300 | 174 |
| 30 | 4,480 | 1,440 | 755 | 430 |
| 60 | 8,630 | 3,150 | 1,740 | 1,020 |

| Magnitude and probability of annual low flow based on period of record 1954-1988 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 23.4 | 13.4 | 11.3 | 10.3 |
| 3 | 115 | 29.4 | 14.1 | 14.0 |
| 7 | 407 | 109 | 49.9 | 24.8 |
| 10 | 488 | 144 | 70.8 | 37.8 |
| 30 | 1,240 | 480 | 274 | 166 |
| 60 | 2,470 | 1,100 | 645 | 393 |

| Magnitude and probability of annual low flow based on period of record 1954-1962 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 35.7 | 13.7 | 10.1 | 8.47 |
| 3 | 210 | 46.6 | 21.7 | 11.8 |
| 7 | 664 | 160 | 70.4 | 34.3 |
| 10 | 746 | 174 | 74.0 | 34.8 |
| 30 | 1,810 | 528 | 258 | 137 |
| 60 | 2,640 | 775 | 370 | 191 |

ARKANSAS RIVER BASIN

07194500 ARKANSAS RIVER NEAR MUSKOGEE, OK

LOCATION.--Lat 35°46'10", long 95°17'55", in NW ¼ sec.21, T.15 N., R.19 E., on downstream side of left pier of bridge on U.S.

Highway 62, 1.7 mi downstream from Neosho River, 3.5 mi northeast of Muskogee, and at mile 457.8.

DRAINAGE AREA.--96,674 mi² of which 12,541 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1925 to September 1970. Published as "at Webbers Falls" October 1933 to February 1935. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Some regulation since 1940 by Grand Lake; further regulation since 1941 by Great Salt Plains Lake, and since 1951 by Hulah Lake. Flow regulated since 1953 by Fort Gibson Lake (station 07193000). Flow regulated since September 1964 by Keystone Lake (station 07164200).

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1926-1952

21,599

Magnitude and probability of annual high flow based on period of record 1926-1952

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 160,000 | 235,000 | 283,000 | 341,000 | 382,000 | 421,000 |
| 3 | 154,000 | 230,000 | 275,000 | 339,000 | 355,000 | 390,000 |
| 7 | 130,000 | 224,000 | 271,000 | 319,000 | 330,000 | 365,000 |
| 10 | 118,000 | 207,000 | 270,000 | 305,000 | 320,000 | 360,000 |
| 30 | 73,300 | 136,000 | 183,000 | 244,000 | 290,000 | 337,000 |
| 60 | 53,000 | 95,100 | 125,000 | 162,000 | 190,000 | 217,000 |

Magnitude and probability of annual instantaneous peak flow based on 120 historic years of record, 1833-1952

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 161,000 | 236,000 | 284,000 | 342,000 | 383,000 | 422,000 | 509,000 |

Water Resources Council weighted skew = - 0.355

Duration table of daily mean flow for period of record 1926-1952

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-----|-----|
| 20,600 | 20,300 | 19,600 | 18,400 | 17,200 | 16,000 | 13,600 | 11,200 | 8,750 | 6,500 | 4,790 | 3,480 | 2,240 | 1,330 | 737 | 570 |

| Magnitude and probability of annual low flow based on period of record 1927-1952 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1,870 | 868 | 530 | 335 |
| 3 | 2,020 | 905 | 543 | 340 |
| 7 | 2,180 | 950 | 571 | 359 |
| 10 | 2,250 | 968 | 585 | 373 |
| 30 | 2,800 | 1,200 | 729 | 469 |
| 60 | 3,400 | 1,590 | 1,040 | 714 |

| Magnitude and probability of annual low flow based on period of record 1926-1952 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5,310 | 2,560 | 1,670 | 1,140 |
| 3 | 5,920 | 2,990 | 2,020 | 1,430 |
| 7 | 6,930 | 3,470 | 2,340 | 1,660 |
| 10 | 7,880 | 3,700 | 2,440 | 1,720 |
| 30 | 14,200 | 6,590 | 4,430 | 3,190 |
| 60 | 29,300 | 13,400 | 8,750 | 6,100 |

| Magnitude and probability of annual low flow based on period of record 1926-1951 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2,050 | 882 | 531 | 337 |
| 3 | 2,240 | 938 | 553 | 344 |
| 7 | 2,420 | 999 | 589 | 368 |
| 10 | 2,520 | 1,040 | 613 | 383 |
| 30 | 3,280 | 1,330 | 793 | 503 |
| 60 | 4,800 | 2,020 | 1,270 | 866 |

| Magnitude and probability of annual low flow based on period of record 1926-1952 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2,510 | 1,320 | 932 | 694 |
| 3 | 2,710 | 1,400 | 973 | 713 |
| 7 | 2,960 | 1,500 | 1,020 | 731 |
| 10 | 3,050 | 1,540 | 1,050 | 758 |
| 30 | 4,450 | 2,220 | 1,460 | 1,010 |
| 60 | 5,810 | 2,960 | 1,950 | 1,340 |

ARKANSAS RIVER BASIN

07195500 ILLINOIS RIVER NEAR WATTS, OK

LOCATION.--Lat 36°07'48", long 94°34'19", in NW ¼ NE ¼ sec.18, T.19 N., R.26 E., Adair County, Hydrologic Unit 11110103, near right bank on downstream side of pier of bridge on U.S. Highway 59, 1.5 mi north of Watts, 4.5 mi downstream from Cincinnati Creek, and at mile 106.2.

DRAINAGE AREA.--635 mi².

PERIOD OF RECORD.--August 1955 to current year.

REMARKS.--Since July 2, 1957, small diversion for municipal water supply for the city of Siloam Springs, Arkansas, upstream from station.

UNREGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1956-1999 |
| 638 |

| Magnitude and probability of annual high flow based on period of record 1956-1999 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 12,000 | 20,600 | 26,100 | 32,700 | 37,300 | 41,600 |
| 3 | 7,250 | 12,000 | 15,100 | 18,800 | 21,400 | 23,700 |
| 7 | 4,360 | 6,940 | 8,520 | 10,300 | 11,600 | 12,600 |
| 10 | 3,520 | 5,550 | 6,800 | 8,230 | 9,190 | 10,100 |
| 30 | 2,010 | 3,040 | 3,630 | 4,260 | 4,660 | 5,010 |
| 60 | 1,400 | 2,140 | 2,590 | 3,110 | 3,460 | 3,780 |

| Magnitude and probability of annual instantaneous peak flow based on 44 years of record, 1956-1999 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 18,900 | 33,300 | 43,400 | 56,200 | 65,700 | 75,000 | 96,000 |

Oklahoma weighted skew = - 0.469

| Duration table of daily mean flow for period of record 1956-1999 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 5,780 | 3,840 | 2,090 | 1,310 | 985 | 776 | 547 | 403 | 299 | 228 | 175 | 135 | 97.2 | 72.6 | 52.9 | 40.0 |

| Magnitude and probability of annual low flow based on period of record 1957-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 81.8 | 45.0 | 31.2 | 22.3 |
| 3 | 90.7 | 51.3 | 35.3 | 24.8 |
| 7 | 104 | 61.6 | 43.3 | 30.9 |
| 10 | 109 | 64.6 | 45.2 | 32.3 |
| 30 | 125 | 72.2 | 50.8 | 36.7 |
| 60 | 141 | 82.2 | 58.5 | 42.9 |

| Magnitude and probability of annual low flow based on period of record 1956-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 257 | 128 | 80.3 | 51.7 |
| 3 | 289 | 146 | 92.6 | 59.9 |
| 7 | 327 | 165 | 104 | 66.2 |
| 10 | 328 | 175 | 119 | 83.3 |
| 30 | 550 | 311 | 230 | 179 |
| 60 | 853 | 494 | 370 | 291 |

| Magnitude and probability of annual low flow based on period of record 1956-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 87.9 | 49.6 | 34.6 | 24.8 |
| 3 | 96.4 | 55.0 | 37.9 | 26.8 |
| 7 | 107 | 62.4 | 43.6 | 31.0 |
| 10 | 110 | 64.6 | 45.2 | 32.3 |
| 30 | 127 | 72.8 | 51.0 | 36.7 |
| 60 | 149 | 85.5 | 60.4 | 43.8 |

| Magnitude and probability of annual low flow based on period of record 1956-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 141 | 70.1 | 45.1 | 30.0 |
| 3 | 148 | 74.9 | 58.8 | 33.0 |
| 7 | 162 | 85.1 | 57.3 | 40.1 |
| 10 | 167 | 91.5 | 64.4 | 47.3 |
| 30 | 214 | 118 | 86.1 | 66.6 |
| 60 | 283 | 144 | 100 | 74.0 |

ARKANSAS RIVER BASIN

07195855 FLINT CREEK NEAR WEST SILOAM SPRINGS, OK

LOCATION.--Lat 36°12'58", long 94°36'15", in NE ¼ NE ¼ sec.14, T.20 N., R.25 E., Delaware County, Oklahoma, Hydrologic Unit 11110103, on left bank 800 ft downstream from county bridge, 2.5 mi from Arkansas-Oklahoma State line, northwest of West Siloam Springs, Oklahoma.

DRAINAGE AREA.--59.8 mi².

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

REMARKS.--Flow partially regulated by Lake Siloam Springs, 4.5 mi upstream, and sewage discharge from city of Gentry.

REGULATED STREAMFLOW PERIOD

| |
|--|
| Mean annual flow, in ft ³ /s, based on period of record 1980-1999 |
| 49.9 |

| Magnitude and probability of annual high flow based on period of record 1980-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 721 | 1,540 | 2,230 | 3,230 | 4,060 | 4,950 |
| 3 | 453 | 826 | 1,090 | 1,440 | 1,700 | 1,960 |
| 7 | 292 | 488 | 616 | 771 | 879 | 981 |
| 10 | 243 | 400 | 499 | 616 | 696 | 770 |
| 30 | 144 | 223 | 266 | 310 | 336 | 357 |
| 60 | 105 | 160 | 190 | 220 | 237 | 251 |

| Magnitude and probability of annual instantaneous peak flow based on 19 years of record, 1980-1999 | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 1,270 | 3,300 | 5,260 | 8,450 | 11,300 | 14,600 | 23,800 |

station skew = - 0.303

| Duration table of daily mean flow for period of record 1980-1999 | | | | | | | | | | | | | | | |
|---|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 348 | 250 | 151 | 108 | 84.8 | 70.5 | 49.2 | 36.8 | 28.3 | 21.1 | 16.1 | 11.5 | 6.84 | 4.59 | 2.89 | 1.89 |

| Magnitude and probability of annual low flow based on period of record 1981-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 6.72 | 2.90 | 1.60 | 0.89 |
| 3 | 6.94 | 3.08 | 1.75 | 1.01 |
| 7 | 7.50 | 3.36 | 1.92 | 1.12 |
| 10 | 7.77 | 3.55 | 2.05 | 1.21 |
| 30 | 9.12 | 4.33 | 2.60 | 1.60 |
| 60 | 11.8 | 5.91 | 3.74 | 2.44 |

| Magnitude and probability of annual low flow based on period of record 1980-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 25.5 | 13.3 | 8.55 | 5.60 |
| 3 | 27.9 | 15.2 | 9.91 | 6.55 |
| 7 | 31.1 | 16.7 | 10.8 | 7.12 |
| 10 | 32.6 | 17.6 | 11.5 | 7.70 |
| 30 | 43.5 | 22.3 | 14.4 | 9.52 |
| 60 | 58.6 | 33.4 | 24.6 | 18.9 |

| Magnitude and probability of annual low flow based on period of record 1980-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.18 | 3.16 | 1.73 | 0.95 |
| 3 | 7.38 | 3.33 | 1.87 | 1.07 |
| 7 | 7.92 | 3.61 | 2.05 | 1.18 |
| 10 | 8.16 | 3.79 | 2.17 | 1.26 |
| 30 | 9.71 | 4.66 | 2.77 | 1.67 |
| 60 | 11.8 | 5.91 | 3.75 | 2.44 |

| Magnitude and probability of annual low flow based on period of record 1980-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 14.3 | 6.68 | 4.04 | 2.51 |
| 3 | 14.6 | 7.09 | 4.43 | 2.86 |
| 7 | 16.2 | 7.83 | 4.92 | 3.21 |
| 10 | 16.7 | 8.08 | 5.16 | 3.42 |
| 30 | 22.6 | 10.4 | 6.41 | 4.14 |
| 60 | 28.6 | 12.9 | 7.98 | 5.19 |

ARKANSAS RIVER BASIN

07196000 FLINT CREEK NEAR KANSAS, OK

LOCATION.--Lat 36°11'11", long 94°42'24", in SW 1/4 NW 1/4 sec.25, T.20 N., R.24 E., Delaware County, Hydrologic Unit 11110103, upstream from bridge on U.S. Highway 412, at left bank 6.0 mi southeast of Kansas, 6.0 mi downstream from Sager Creek, and at mile 2.2.

DRAINAGE AREA.--110 mi².

PERIOD OF RECORD.--August 1955 to September 1976, April 1979 to September 1990, October 1992 to current year.

REMARKS.--Small diversion above station for irrigation.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1956-1999

120

Magnitude and probability of annual high flow based on period of record 1956-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 2,100 | 4,510 | 6,540 | 9,490 | 11,900 | 14,500 |
| 3 | 1,260 | 2,440 | 3,390 | 4,750 | 5,870 | 7,070 |
| 7 | 780 | 1,420 | 1,890 | 2,550 | 3,070 | 3,600 |
| 10 | 632 | 1,130 | 1,500 | 2,010 | 2,410 | 2,810 |
| 30 | 349 | 601 | 777 | 1,000 | 1,170 | 1,340 |
| 60 | 250 | 418 | 531 | 671 | 770 | 866 |

Magnitude and probability of annual instantaneous peak flow based on 72 historic years of record, 1928-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 3,950 | 9,750 | 15,200 | 23,700 | 31,300 | 39,800 | 63,300 |

Oklahoma weighted skew = - 0.302

Duration table of daily mean flow for period of record 1956-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 1,080 | 694 | 397 | 247 | 183 | 143 | 100 | 74.6 | 56.9 | 43.7 | 33.5 | 25.3 | 17.9 | 13.7 | 9.96 | 7.34 |

| Magnitude and probability of annual low flow based on period of record 1957-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 19.1 | 9.53 | 5.56 | 3.23 |
| 3 | 19.6 | 9.78 | 5.70 | 3.30 |
| 7 | 20.2 | 10.1 | 5.91 | 3.46 |
| 10 | 20.9 | 10.5 | 6.12 | 3.56 |
| 30 | 24.7 | 12.1 | 7.05 | 4.10 |
| 60 | 29.8 | 14.9 | 8.88 | 5.33 |

| Magnitude and probability of annual low flow based on period of record 1956-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 52.5 | 32.0 | 24.1 | 18.9 |
| 3 | 55.2 | 33.2 | 24.7 | 19.1 |
| 7 | 59.8 | 35.0 | 25.7 | 19.5 |
| 10 | 62.7 | 36.4 | 26.5 | 20.0 |
| 30 | 98.3 | 52.0 | 36.0 | 26.1 |
| 60 | 148 | 82.2 | 60.4 | 46.8 |

| Magnitude and probability of annual low flow based on period of record 1956-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 19.2 | 9.53 | 5.56 | 3.23 |
| 3 | 19.6 | 9.78 | 5.70 | 3.30 |
| 7 | 20.2 | 10.1 | 5.91 | 3.46 |
| 10 | 20.9 | 10.5 | 6.12 | 3.56 |
| 30 | 25.2 | 12.2 | 7.06 | 4.10 |
| 60 | 30.2 | 14.9 | 8.88 | 5.34 |

| Magnitude and probability of annual low flow based on period of record 1956-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 33.3 | 16.2 | 9.82 | 6.05 |
| 3 | 34.7 | 16.9 | 10.1 | 6.17 |
| 7 | 36.9 | 17.8 | 10.7 | 6.55 |
| 10 | 36.8 | 18.0 | 11.3 | 7.26 |
| 30 | 42.6 | 22.7 | 16.1 | 12.1 |
| 60 | 53.3 | 27.2 | 19.2 | 14.3 |

ARKANSAS RIVER BASIN

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK

LOCATION.--Lat 35°55'22", long 94°55'24", in SE ¼ NE ¼ sec.26, T.17 N., R.22 E., Cherokee County, Hydrologic Unit 11110103, near center of channel on downstream side of pier of bridge, 0.2 mi downstream from U.S. Highway 62, 2.2 mi northeast of Tahlequah, 6.5 mi upstream from Baron Fork, and at mile 55.8.

DRAINAGE AREA.--959 mi².

PERIOD OF RECORD.--October 1935 to current year. Monthly discharge only for some periods, published in WSP 1311.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1936-1999

944

Magnitude and probability of annual high flow based on period of record 1936-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 15,200 | 29,500 | 40,800 | 56,900 | 69,900 | 83,700 |
| 3 | 10,600 | 20,100 | 27,600 | 38,200 | 46,800 | 56,000 |
| 7 | 6,630 | 11,800 | 15,600 | 20,700 | 24,700 | 28,800 |
| 10 | 5,400 | 9,340 | 12,200 | 15,900 | 18,700 | 21,600 |
| 30 | 3,020 | 4,860 | 6,080 | 7,600 | 8,710 | 9,780 |
| 60 | 2,140 | 3,380 | 4,210 | 5,240 | 5,980 | 6,700 |

Magnitude and probability of annual instantaneous peak flow based on 84 historic years of record, 1916-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 19,800 | 39,000 | 54,900 | 78,100 | 97,500 | 119,000 | 174,000 |

Oklahoma weighted skew = - 0.188

Duration table of daily mean flow for period of record 1936-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 8,920 | 5,590 | 3,150 | 1,980 | 1,490 | 1,180 | 810 | 587 | 426 | 310 | 234 | 175 | 118 | 88.9 | 56.5 | 34.4 |

| Magnitude and probability of annual low flow based on period of record 1937-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 130 | 46.0 | 18.0 | 3.95 |
| 3 | 141 | 56.0 | 21.5 | 6.10 |
| 7 | 152 | 64.0 | 25.5 | 8.80 |
| 10 | 161 | 65.5 | 27.2 | 10.3 |
| 30 | 171 | 73.2 | 36.0 | 17.4 |
| 60 | 191 | 87.7 | 48.8 | 27.2 |

| Magnitude and probability of annual low flow based on period of record 1936-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 404 | 228 | 159 | 114 |
| 3 | 421 | 236 | 164 | 118 |
| 7 | 455 | 252 | 174 | 125 |
| 10 | 497 | 269 | 185 | 131 |
| 30 | 834 | 451 | 318 | 236 |
| 60 | 1,340 | 755 | 553 | 426 |

| Magnitude and probability of annual low flow based on period of record 1936-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 130 | 46.0 | 18.0 | 3.95 |
| 3 | 141 | 56.0 | 21.5 | 6.10 |
| 7 | 152 | 64.0 | 25.5 | 8.80 |
| 10 | 161 | 65.5 | 27.2 | 10.3 |
| 30 | 176 | 73.3 | 36.0 | 17.4 |
| 60 | 205 | 90.6 | 49.7 | 27.5 |

| Magnitude and probability of annual low flow based on period of record 1936-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 194 | 111 | 81.4 | 62.7 |
| 3 | 200 | 115 | 85.3 | 66.3 |
| 7 | 208 | 121 | 90.4 | 71.2 |
| 10 | 214 | 124 | 93.2 | 73.8 |
| 30 | 265 | 127 | 110 | 86.6 |
| 60 | 357 | 186 | 133 | 101 |

ARKANSAS RIVER BASIN

07196900 BARON FORK AT DUTCH MILLS, AR

LOCATION.--Lat 35°52'48", long 94°29'11", on line between secs.21 and 22, T.14 N., R.33 W., Washington County, Hydrologic Unit 11110103, near right bank on downstream side of bridge on State Highway 59 at Dutch Mills, 2.2 mi downstream from Fly Creek, and 2.9 mi upstream from Arkansas-Oklahoma state line.

DRAINAGE AREA.--40.6 mi².

PERIOD OF RECORD.--April 1958 to current year. Prior to October 1969 published as Barren Fork at Dutch Mills.

UNREGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1959-1999 |
| 46.0 |

| Magnitude and probability of annual high flow based on period of record 1959-1999 | | | | | | |
|--|---|------------------|-------------------|------------------|------------------|-------------------|
| Period (consecutive days) | Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,770 | 2,790 | 3,190 | 3,490 | 3,610 | 3,680 |
| 3 | 839 | 1,330 | 1,560 | 1,740 | 1,820 | 1,880 |
| 7 | 442 | 689 | 800 | 894 | 940 | 971 |
| 10 | 348 | 530 | 607 | 669 | 697 | 715 |
| 30 | 181 | 273 | 311 | 341 | 355 | 363 |
| 60 | 127 | 184 | 206 | 221 | 228 | 232 |

| Magnitude and probability of annual instantaneous peak flow based on 42 years of record, 1958-1999 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 7,110 | 14,000 | 19,400 | 26,900 | 32,700 | 38,800 | 53,400 |

Oklahoma weighted skew = - 0.397

| Duration table of daily mean flow for period of record 1959-1999 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 586 | 362 | 162 | 89.1 | 63.1 | 48.4 | 31.5 | 20.6 | 13.0 | 7.04 | 3.87 | 2.06 | 0.89 | 0.44 | 0.18 | 0.09 |

| Magnitude and probability of annual low flow based on period of record 1959-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.33 | 0.12 | 0.00 | 0.00 |
| 3 | 0.38 | 0.12 | 0.01 | 0.00 |
| 7 | 0.48 | 0.13 | 0.02 | 0.00 |
| 10 | 0.59 | 0.14 | 0.05 | 0.00 |
| 30 | 0.97 | 0.29 | 0.12 | 0.05 |
| 60 | 1.62 | 0.52 | 0.27 | 0.15 |

| Magnitude and probability of annual low flow based on period of record 1958-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 8.79 | 4.14 | 2.70 | 1.86 |
| 3 | 9.53 | 4.53 | 2.95 | 2.02 |
| 7 | 11.2 | 5.32 | 3.48 | 2.40 |
| 10 | 12.0 | 5.89 | 4.02 | 2.92 |
| 30 | 30.0 | 13.5 | 8.80 | 6.12 |
| 60 | 65.2 | 33.8 | 22.7 | 15.8 |

| Magnitude and probability of annual low flow based on period of record 1958-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.34 | 0.13 | 0.05 | 0.00 |
| 3 | 0.38 | 0.13 | 0.06 | 0.00 |
| 7 | 0.50 | 0.14 | 0.07 | 0.00 |
| 10 | 0.61 | 0.16 | 0.07 | 0.00 |
| 30 | 0.99 | 0.29 | 0.12 | 0.05 |
| 60 | 1.82 | 0.56 | 0.29 | 0.16 |

| Magnitude and probability of annual low flow based on period of record 1959-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.10 | 0.92 | 0.42 | 0.18 |
| 3 | 3.84 | 0.96 | 0.50 | 0.26 |
| 7 | 3.86 | 1.30 | 0.70 | 0.40 |
| 10 | 4.30 | 1.54 | 0.86 | 0.52 |
| 30 | 9.42 | 3.27 | 1.76 | 1.02 |
| 60 | 16.9 | 5.78 | 3.01 | 1.67 |

ARKANSAS RIVER BASIN

07197000 BARON FORK AT ELDON, OK

LOCATION.--Lat 35°55'16", long 94°50'18", in NE ¼ SE ¼ sec.27, T.17 N., R.23 E., Cherokee County, Hydrologic Unit 11110103, on downstream left abutment of bridge on State Highway 51, 0.4 mi southeast of Eldon, 6.0 mi downstream from Tyner Creek, and at mile 8.8.

DRAINAGE AREA.--307 mi².

PERIOD OF RECORD.--October 1948 to current year. Prior to October 1970 published as Barren Fork at Eldon.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1949-1999

333

Magnitude and probability of annual high flow based on period of record 1949-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 8,010 | 13,500 | 16,400 | 19,200 | 20,800 | 22,100 |
| 3 | 4,880 | 7,780 | 9,250 | 10,600 | 11,400 | 11,900 |
| 7 | 2,910 | 4,420 | 5,150 | 5,820 | 6,170 | 6,430 |
| 10 | 2,340 | 3,520 | 4,090 | 4,600 | 4,870 | 5,070 |
| 30 | 1,270 | 1,850 | 2,110 | 2,330 | 2,440 | 2,520 |
| 60 | 880 | 1,280 | 1,460 | 1,630 | 1,720 | 1,780 |

Magnitude and probability of annual instantaneous peak flow based on 55 historic years of record, 1945-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 15,200 | 26,300 | 34,300 | 44,800 | 52,900 | 61,000 | 80,200 |

Oklahoma weighted skew = - 0.338

Duration table of daily mean flow for period of record 1949-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 3,480 | 2,290 | 1,220 | 731 | 528 | 408 | 263 | 184 | 126 | 83.2 | 57.4 | 39.2 | 22.4 | 14.9 | 7.89 | 4.64 |

| Magnitude and probability of annual low flow based on period of record 1950-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 19.2 | 9.05 | 5.70 | 3.76 |
| 3 | 19.7 | 9.29 | 5.85 | 3.86 |
| 7 | 20.8 | 9.77 | 6.14 | 4.03 |
| 10 | 21.7 | 10.2 | 6.38 | 4.18 |
| 30 | 26.7 | 12.1 | 7.44 | 4.76 |
| 60 | 34.0 | 15.0 | 9.09 | 5.77 |

| Magnitude and probability of annual low flow based on period of record 1949-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 125 | 73.7 | 53.4 | 40.0 |
| 3 | 130 | 76.3 | 55.6 | 42.0 |
| 7 | 143 | 82.1 | 59.5 | 44.9 |
| 10 | 152 | 86.6 | 62.9 | 47.7 |
| 30 | 280 | 155 | 115 | 91.1 |
| 60 | 518 | 305 | 229 | 181 |

| Magnitude and probability of annual low flow based on period of record 1949-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 19.4 | 9.05 | 5.70 | 3.76 |
| 3 | 19.9 | 9.29 | 5.85 | 3.86 |
| 7 | 21.0 | 9.78 | 6.14 | 4.03 |
| 10 | 21.9 | 10.2 | 6.38 | 4.18 |
| 30 | 27.3 | 12.2 | 7.44 | 4.76 |
| 60 | 36.4 | 15.8 | 9.50 | 5.98 |

| Magnitude and probability of annual low flow based on period of record 1949-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 47.0 | 20.4 | 12.4 | 7.98 |
| 3 | 48.5 | 21.1 | 12.8 | 8.19 |
| 7 | 52.9 | 22.9 | 14.0 | 9.01 |
| 10 | 53.6 | 23.8 | 14.9 | 9.97 |
| 30 | 74.1 | 32.4 | 20.9 | 14.5 |
| 60 | 111 | 45.5 | 28.0 | 18.6 |

ARKANSAS RIVER BASIN

07198000 ILLINOIS RIVER NEAR GORE, OK

LOCATION.--Lat 35°34'23", long 95°04'07", in NE ¼ SW ¼ sec.27, T.13 N., R.21 E., Sequoyah County, Hydrologic Unit 11110103, on right bank 4.2 mi downstream from Tenkiller Ferry Dam, 4.5 mi northeast of Gore, and at mile 8.5.

DRAINAGE AREA.--1,626 mi².

PERIOD OF RECORD.--March 1924 to April 1926, April 1939 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Except for 16 mi² intervening area, flow completely regulated since July 1952 by Tenkiller Ferry Lake (station 07197500). Historical record length assumed to start from same year as that for nearby station Illinois River near Tahlequah, OK (07196500) for peak-frequency analysis of unregulated streamflow period.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1940-1951

1,959

Magnitude and probability of annual high flow based on period of record 1940-1951

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 31,200 | 64,200 | 94,200 | 142,000 | 186,000 | 238,000 |
| 3 | 29,400 | 55,200 | 74,100 | 98,800 | 117,000 | 136,000 |
| 7 | 20,100 | 32,700 | 40,100 | 47,800 | 52,700 | 56,800 |
| 10 | 15,900 | 24,900 | 29,700 | 34,500 | 27,300 | 39,600 |
| 30 | 7,510 | 11,500 | 14,000 | 17,000 | 19,200 | 21,200 |
| 60 | 5,030 | 7,810 | 9,610 | 11,800 | 13,400 | 14,800 |

Magnitude and probability of annual instantaneous peak flow based on 36 historic years of record, 1916-1951

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 31,300 | 64,300 | 94,300 | 143,000 | 187,000 | 239,000 | 395,000 |

Oklahoma weighted skew = 0.089

Duration table of daily mean flow for period of record 1940-1951

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| 13,200 | 11,600 | 7,080 | 4,140 | 3,000 | 2,310 | 1,560 | 1,100 | 748 | 531 | 387 | 297 | 213 | 171 | 139 | 116 |

| Magnitude and probability of annual low flow based on period of record 1941-1951 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 183 | 125 | 101 | 85.3 |
| 3 | 186 | 128 | 104 | 87.9 |
| 7 | 194 | 137 | 113 | 96.6 |
| 10 | 201 | 143 | 118 | 101 |
| 30 | 230 | 175 | 151 | 133 |
| 60 | 279 | 206 | 178 | 153 |

| Magnitude and probability of annual low flow based on period of record 1940-1951 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 617 | 393 | 308 | 250 |
| 3 | 629 | 406 | 322 | 266 |
| 7 | 664 | 469 | 402 | 360 |
| 10 | 854 | 545 | 437 | 367 |
| 30 | 1,660 | 1,080 | 870 | 727 |
| 60 | 3,410 | 1,940 | 1,430 | 1,110 |

| Magnitude and probability of annual low flow based on period of record 1940-1950 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 187 | 125 | 101 | 85.3 |
| 3 | 190 | 128 | 104 | 87.9 |
| 7 | 199 | 137 | 113 | 96.6 |
| 10 | 207 | 143 | 118 | 101 |
| 30 | 252 | 178 | 151 | 133 |
| 60 | 357 | 232 | 185 | 153 |

| Magnitude and probability of annual low flow based on period of record 1940-1951 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 242 | 169 | 143 | 126 |
| 3 | 268 | 183 | 152 | 131 |
| 7 | 274 | 189 | 157 | 135 |
| 10 | 280 | 194 | 161 | 139 |
| 30 | 347 | 240 | 200 | 173 |
| 60 | 456 | 289 | 229 | 189 |

ARKANSAS RIVER BASIN
 07198000 ILLINOIS RIVER NEAR GORE, OK—Continued
 REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1953-1999

1,545

| Magnitude and probability of annual high flow based on period of record 1953-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 7,550 | 11,800 | 14,200 | 16,900 | 18,100 | 18,900 |
| 3 | 7,410 | 11,700 | 14,000 | 16,100 | 16,900 | 17,500 |
| 7 | 6,730 | 11,500 | 13,600 | 15,300 | 16,100 | 16,600 |
| 10 | 6,300 | 10,600 | 12,600 | 14,100 | 14,800 | 15,300 |
| 30 | 4,470 | 7,570 | 9,000 | 10,200 | 10,700 | 11,100 |
| 60 | 3,360 | 5,630 | 6,700 | 7,620 | 8,070 | 8,380 |

Magnitude and probability of annual instantaneous peak flow based on 47 years of record, 1953-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 8,180 | 11,900 | 14,300 | 17,100 | 19,100 | 21,000 | 25,100 |

station skew = - 0.397

Duration table of daily mean flow for period of record 1953-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|-------|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|
| 11,000 | 9,100 | 5,470 | 3,830 | 3,090 | 2,410 | 1,760 | 1,270 | 902 | 546 | 256 | 128 | 73.0 | 52.4 | 31.3 | 23.5 |

| Magnitude and probability of annual low flow based on period of record 1954-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 27.7 | 13.1 | 8.25 | 5.42 |
| 3 | 51.6 | 24.1 | 14.9 | 9.59 |
| 7 | 93.2 | 41.9 | 25.0 | 15.5 |
| 10 | 103 | 46.3 | 28.4 | 18.2 |
| 30 | 187 | 79.7 | 48.1 | 30.8 |
| 60 | 278 | 132 | 87.0 | 61.0 |

| Magnitude and probability of annual low flow based on period of record 1953-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 66.7 | 28.6 | 20.6 | 16.6 |
| 3 | 202 | 64.8 | 36.0 | 22.3 |
| 7 | 426 | 130 | 66.3 | 36.9 |
| 10 | 555 | 175 | 88.8 | 48.8 |
| 30 | 1,280 | 455 | 237 | 130 |
| 60 | 2,040 | 756 | 396 | 216 |

| Magnitude and probability of annual low flow based on period of record 1953-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 38.4 | 18.4 | 11.8 | 7.90 |
| 3 | 64.4 | 36.1 | 26.1 | 19.8 |
| 7 | 107 | 59.1 | 43.0 | 33.1 |
| 10 | 123 | 67.3 | 49.6 | 38.7 |
| 30 | 259 | 135 | 94.4 | 67.5 |
| 60 | 433 | 232 | 157 | 110 |

| Magnitude and probability of annual low flow based on period of record 1953-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 38.1 | 19.0 | 12.5 | 8.62 |
| 3 | 87.1 | 33.4 | 19.4 | 12.1 |
| 7 | 165 | 57.9 | 31.3 | 18.1 |
| 10 | 194 | 67.3 | 35.7 | 20.3 |
| 30 | 419 | 129 | 62.3 | 32.1 |
| 60 | 671 | 235 | 124 | 69.6 |

ARKANSAS RIVER BASIN

07228500 CANADIAN RIVER AT BRIDGEPORT, OK

LOCATION.--Lat 35°32'37", long 98°19'03", SE 1/4 NW 1/4 sec.1, T.12 N., R.11 W., Caddo County, Hydrologic Unit 11090202, on down-stream side of pier near center of bridge on U.S. Highway 281, 3.3 mi east of Bridgeport, 1.6 mi downstream from Lumpmouth Creek, and at mile 263.3.

DRAINAGE AREA.--25,276 mi², of which 4,801 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1944 to September 1964; October 1969 to current year.

REMARKS.--Flow regulated since October 1964 by Lake Meredith (station 07227900) located in Texas.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1945-1964

469

Magnitude and probability of annual high flow based on period of record 1945-1964

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 14,200 | 25,000 | 32,600 | 42,100 | 49,200 | 56,000 |
| 3 | 10,100 | 18,700 | 24,400 | 31,200 | 35,800 | 40,100 |
| 7 | 6,040 | 11,400 | 15,100 | 19,600 | 22,800 | 25,700 |
| 10 | 4,600 | 8,720 | 11,500 | 14,900 | 17,300 | 19,500 |
| 30 | 2,030 | 4,190 | 5,830 | 8,040 | 9,710 | 11,400 |
| 60 | 1,290 | 2,710 | 3,850 | 5,450 | 6,710 | 8,030 |

Magnitude and probability of annual instantaneous peak flow based on 51 historic years of record, 1914-1964

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 26,200 | 45,300 | 60,000 | 80,900 | 97,900 | 116,000 | 164,000 |

Water Resources Council weighted skew = - 0.057

Duration table of daily mean flow for period of record 1945-1964

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 7,950 | 4,930 | 2,070 | 852 | 443 | 268 | 135 | 76.1 | 46.8 | 30.3 | 20.9 | 15.2 | 7.59 | 2.17 | 0.48 | 0.24 |

| Magnitude and probability of annual low flow based on period of record 1946-1964 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.61 | 0.00 | 0.00 | 0.00 |
| 3 | 2.27 | 0.00 | 0.00 | 0.00 |
| 7 | 3.08 | 0.00 | 0.00 | 0.00 |
| 10 | 3.64 | 0.00 | 0.00 | 0.00 |
| 30 | 9.07 | 1.99 | 0.00 | 0.00 |
| 60 | 22.2 | 8.29 | 4.65 | 2.22 |

| Magnitude and probability of annual low flow based on period of record 1945-1964 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 14.2 | 7.71 | 5.60 | 4.30 |
| 3 | 15.9 | 9.12 | 6.86 | 5.44 |
| 7 | 18.2 | 11.2 | 8.93 | 7.52 |
| 10 | 19.8 | 12.5 | 10.3 | 8.97 |
| 30 | 54.7 | 19.6 | 12.4 | 12.0 |
| 60 | 276 | 71.3 | 35.1 | 19.6 |

| Magnitude and probability of annual low flow based on period of record 1945-1963 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.63 | 0.00 | 0.00 | 0.00 |
| 3 | 2.28 | 0.00 | 0.00 | 0.00 |
| 7 | 3.08 | 0.00 | 0.00 | 0.00 |
| 10 | 3.64 | 0.00 | 0.00 | 0.00 |
| 30 | 10.7 | 1.99 | 0.00 | 0.00 |
| 60 | 71.6 | 13.2 | 5.08 | 2.22 |

| Magnitude and probability of annual low flow based on period of record 1945-1964 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 12.7 | 7.20 | 5.43 | 4.34 |
| 3 | 14.4 | 8.83 | 7.07 | 5.98 |
| 7 | 17.8 | 10.6 | 8.32 | 6.87 |
| 10 | 18.8 | 11.4 | 8.99 | 7.51 |
| 30 | 24.8 | 14.7 | 11.5 | 9.49 |
| 60 | 35.4 | 17.2 | 13.1 | 10.9 |

ARKANSAS RIVER BASIN
07228500 CANADIAN RIVER AT BRIDGEPORT, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1970-1999

320

| Magnitude and probability of annual high flow based on period of record 1970-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 11,200 | 21,700 | 27,600 | 33,300 | 36,500 | 39,000 |
| 3 | 6,400 | 12,600 | 16,600 | 21,100 | 23,900 | 26,400 |
| 7 | 3,530 | 6,850 | 9,170 | 12,000 | 14,100 | 16,000 |
| 10 | 2,690 | 5,170 | 6,930 | 9,160 | 10,800 | 12,300 |
| 30 | 1,240 | 2,260 | 2,990 | 3,940 | 4,660 | 5,360 |
| 60 | 828 | 1,420 | 1,830 | 2,340 | 2,720 | 3,090 |

Magnitude and probability of annual instantaneous peak flow based on 30 years of record, 1970-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 16,200 | 31,400 | 43,800 | 61,700 | 76,600 | 92,700 | 135,000 |

station skew = - 0.190

Duration table of daily mean flow for period of record 1970-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| 3,830 | 2,110 | 935 | 554 | 416 | 336 | 240 | 173 | 120 | 77.4 | 45.9 | 23.8 | 12.1 | 5.52 | 1.90 | 0.68 |

| Magnitude and probability of annual low flow based on period of record 1971-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 6.37 | 1.41 | 0.00 | 0.00 |
| 3 | 6.90 | 1.53 | 0.00 | 0.00 |
| 7 | 7.76 | 1.81 | 0.00 | 0.00 |
| 10 | 8.55 | 2.10 | 0.00 | 0.00 |
| 30 | 13.6 | 3.40 | 0.25 | 0.02 |
| 60 | 21.0 | 6.15 | 3.13 | 1.77 |

| Magnitude and probability of annual low flow based on period of record 1970-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 72.3 | 26.2 | 14.2 | 8.17 |
| 3 | 76.6 | 28.7 | 15.9 | 9.36 |
| 7 | 88.2 | 34.3 | 19.2 | 11.4 |
| 10 | 98.8 | 38.1 | 21.2 | 12.4 |
| 30 | 183 | 75.0 | 43.9 | 27.2 |
| 60 | 459 | 174 | 95.2 | 54.8 |

| Magnitude and probability of annual low flow based on period of record 1970-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 6.37 | 1.41 | 0.00 | 0.00 |
| 3 | 6.90 | 1.53 | 0.00 | 0.00 |
| 7 | 7.76 | 1.81 | 0.00 | 0.00 |
| 10 | 8.55 | 2.10 | 0.00 | 0.00 |
| 30 | 13.7 | 3.40 | 0.25 | 0.02 |
| 60 | 21.4 | 6.15 | 3.13 | 1.77 |

| Magnitude and probability of annual low flow based on period of record 1970-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 46.8 | 18.1 | 10.7 | 6.76 |
| 3 | 50.7 | 20.2 | 12.1 | 7.75 |
| 7 | 54.9 | 22.4 | 13.6 | 8.82 |
| 10 | 57.0 | 23.2 | 14.1 | 9.14 |
| 30 | 80.6 | 36.1 | 23.2 | 16.0 |
| 60 | 108 | 48.8 | 31.6 | 21.9 |

ARKANSAS RIVER BASIN

07229100 CANADIAN RIVER NEAR NOBLE, OK

LOCATION.--Lat 35°04'55", long 97°22'52", in N 1/2 sec.14, T.7 N., R.2 W., McClain County, Hydrologic Unit 11090202, on right bank 80 ft upstream from the Atchinson, Topeka, and Santa Fe Railway Co. bridge, 3.6 mi upstream from Chouteau Creek, 3.8 mi south of Noble, and at mile 190.8.

DRAINAGE AREA.--25,911 mi², of which 4,801 mi² probably is noncontributing.

PERIOD OF RECORD.--October 1959 to June 1961 (published as "at Purcell"), October 1963 to September 1975.

REMARKS.--Flow regulated since October 1964 by Lake Meredith (station 07227900) located in Texas. Extreme low flow sustained by sewage from city of Norman.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1965-1975

359

Magnitude and probability of annual high flow based on period of record 1965-1975

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 8,530 | 15,300 | 20,400 | 27,400 | 33,100 | 38,900 |
| 3 | 5,020 | 9,290 | 13,000 | 18,700 | 23,700 | 29,500 |
| 7 | 2,730 | 4,910 | 6,720 | 9,450 | 11,800 | 14,500 |
| 10 | 2,190 | 3,810 | 5,080 | 6,900 | 8,400 | 10,000 |
| 30 | 1,130 | 2,140 | 3,060 | 4,590 | 6,030 | 7,770 |
| 60 | 770 | 1,520 | 2,210 | 3,330 | 4,380 | 5,620 |

Magnitude and probability of annual instantaneous peak flow based on 11 years of record, 1965-1974

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 15,700 | 24,100 | 30,800 | 40,400 | 48,400 | 57,300 | 81,800 |

station skew = 0.343

Duration table of daily mean flow for period of record 1965-1975

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 5,220 | 3,080 | 1,490 | 751 | 468 | 332 | 198 | 136 | 90.9 | 57.6 | 33.8 | 14.6 | 6.31 | 4.65 | 2.93 | 2.18 |

| Magnitude and probability of annual low flow based on period of record 1966-1975 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.96 | 1.34 | 0.81 | 0.51 |
| 3 | 3.14 | 1.41 | 0.85 | 0.53 |
| 7 | 3.37 | 1.61 | 1.00 | 0.65 |
| 10 | 3.44 | 1.76 | 1.18 | 0.83 |
| 30 | 7.70 | 4.32 | 3.39 | 2.85 |
| 60 | 19.7 | 8.40 | 5.44 | 3.80 |

| Magnitude and probability of annual low flow based on period of record 1965-1975 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 17.6 | 5.97 | 3.51 | 2.30 |
| 3 | 19.7 | 6.72 | 3.92 | 2.54 |
| 7 | 24.8 | 8.32 | 4.75 | 3.00 |
| 10 | 31.2 | 10.4 | 5.82 | 3.57 |
| 30 | 184 | 64.1 | 33.0 | 17.9 |
| 60 | 447 | 128 | 57.0 | 26.8 |

| Magnitude and probability of annual low flow based on period of record 1965-1974 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.96 | 1.34 | 0.81 | 0.51 |
| 3 | 3.14 | 1.41 | 0.85 | 0.53 |
| 7 | 3.37 | 1.61 | 1.00 | 0.65 |
| 10 | 3.45 | 1.76 | 1.18 | 0.83 |
| 30 | 7.70 | 4.32 | 3.39 | 2.85 |
| 60 | 20.7 | 8.50 | 5.44 | 3.80 |

| Magnitude and probability of annual low flow based on period of record 1965-1975 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 20.9 | 9.75 | 6.72 | 5.01 |
| 3 | 25.7 | 11.4 | 7.57 | 5.45 |
| 7 | 40.0 | 17.1 | 10.4 | 6.76 |
| 10 | 43.2 | 18.1 | 10.8 | 6.90 |
| 30 | 59.7 | 24.5 | 15.1 | 10.0 |
| 60 | 93.9 | 39.3 | 23.2 | 14.5 |

ARKANSAS RIVER BASIN

07229200 CANADIAN RIVER AT PURCELL, OK

LOCATION.--Lat 35°00'50", long 97°20'50", in NW ¼ sec.7, T.6 N., R.1 W., Cleveland County, Hydrologic Uni 11090202, near left bank on downstream side of pier of U.S. Highway 77, 0.5 mi east of Purcell, 1.0 mi upstream from Walnut Creek, and at mile 184.9.

DRAINAGE AREA.--25,939 mi², of which 4,801 mi² probably is noncontributing.

PERIOD OF RECORD.--October 1959 to June 1961, October 1979 to September 1983, October 1985 to current year.

REMARKS.--Flow regulated since October 1964 by Lake Meredith (station 07227900) located in Texas.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1980-1999

829

Magnitude and probability of annual high flow based on period of record 1980-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 16,400 | 33,900 | 47,900 | 67,200 | 82,600 | 98,400 |
| 3 | 11,500 | 24,000 | 33,900 | 47,800 | 58,800 | 70,100 |
| 7 | 7,320 | 14,000 | 18,800 | 24,800 | 29,200 | 33,300 |
| 10 | 5,990 | 11,300 | 15,000 | 19,500 | 22,600 | 25,500 |
| 30 | 3,040 | 5,310 | 6,740 | 8,370 | 9,450 | 10,400 |
| 60 | 2,180 | 3,490 | 4,230 | 5,010 | 5,480 | 5,880 |

Magnitude and probability of annual instantaneous peak flow based on 18 years of record, 1980-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 21,400 | 43,200 | 62,700 | 93,700 | 122,000 | 154,000 | 250,000 |

station skew = 0.064

Duration table of daily mean flow for period of record 1980-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 9,420 | 5,670 | 2,820 | 1,590 | 1,140 | 893 | 606 | 444 | 343 | 264 | 187 | 118 | 42.3 | 14.6 | 2.85 | 0.76 |

| Magnitude and probability of annual low flow based on period of record 1981-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 26.6 | 6.00 | 0.00 | 0.00 |
| 3 | 27.9 | 6.54 | 0.00 | 0.00 |
| 7 | 34.6 | 6.90 | 0.51 | 0.00 |
| 10 | 38.0 | 7.50 | 1.14 | 0.00 |
| 30 | 64.9 | 12.9 | 4.13 | 1.39 |
| 60 | 134 | 36.9 | 13.8 | 5.20 |

| Magnitude and probability of annual low flow based on period of record 1980-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 240 | 88.9 | 43.2 | 21.2 |
| 3 | 250 | 95.6 | 48.5 | 25.1 |
| 7 | 266 | 111 | 63.4 | 37.5 |
| 10 | 287 | 123 | 81.0 | 42.8 |
| 30 | 532 | 216 | 124 | 74.7 |
| 60 | 1,260 | 473 | 248 | 136 |

| Magnitude and probability of annual low flow based on period of record 1980-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 26.6 | 6.00 | 0.00 | 0.00 |
| 3 | 27.9 | 6.54 | 0.00 | 0.00 |
| 7 | 34.6 | 6.90 | 0.51 | 0.00 |
| 10 | 39.0 | 7.50 | 1.14 | 0.00 |
| 30 | 66.6 | 12.9 | 4.13 | 1.39 |
| 60 | 161 | 40.1 | 14.4 | 5.26 |

| Magnitude and probability of annual low flow based on period of record 1980-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 136 | 38.5 | 16.4 | 7.24 |
| 3 | 169 | 54.6 | 23.8 | 10.5 |
| 7 | 203 | 65.4 | 27.6 | 11.6 |
| 10 | 217 | 68.7 | 28.9 | 12.2 |
| 30 | 307 | 117 | 60.7 | 32.5 |
| 60 | 370 | 146 | 81.8 | 48.5 |

ARKANSAS RIVER BASIN

07229300 WALNUT CREEK NEAR PURCELL, OK

LOCATION.--Lat 34°59'56", long 97°22'00", in NW ¼ NW ¼ sec.13, T.6 N., R.2 W., McClain County, Hydrologic Unit 11090202, on downstream side of right pier of bridge on U.S. Highway 77, at south edge of Purcell, and at mile 1.0.

DRAINAGE AREA.--202 mi².

PERIOD OF RECORD.--Water years 1951-55, 1958-65 (occasional low-flow measurements). October 1965 to September 1993.

UNREGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1966-1993 |
| 84.8 |

| Magnitude and probability of annual high flow based on period of record 1966-1993 | | | | | | |
|--|---|------------------|-------------------|------------------|------------------|-------------------|
| Period (consecutive days) | Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,350 | 7,760 | 12,000 | 18,800 | 25,200 | 32,700 |
| 3 | 1,550 | 3,630 | 5,640 | 8,990 | 12,100 | 15,900 |
| 7 | 807 | 1,820 | 2,760 | 4,270 | 5,630 | 7,200 |
| 10 | 617 | 1,380 | 2,080 | 3,200 | 4,200 | 5,350 |
| 30 | 276 | 620 | 949 | 1,490 | 2,000 | 2,610 |
| 60 | 179 | 390 | 583 | 889 | 1,170 | 1,480 |

| Magnitude and probability of annual instantaneous peak flow based on 28 years of record, 1966-1993 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 8,750 | 16,900 | 24,500 | 37,400 | 49,700 | 64,800 | 114,000 |

Oklahoma weighted skew = 0.410

| Duration table of daily mean flow for period of record 1966-1993 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 1,140 | 561 | 240 | 132 | 88.2 | 65.1 | 44.9 | 33.1 | 23.8 | 17.1 | 11.9 | 6.07 | 2.25 | 0.72 | 0.29 | 0.14 |

| Magnitude and probability of annual low flow based on period of record 1967-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.72 | 0.14 | 0.00 | 0.00 |
| 3 | 1.80 | 0.16 | 0.00 | 0.00 |
| 7 | 2.05 | 0.22 | 0.00 | 0.00 |
| 10 | 2.11 | 0.30 | 0.04 | 0.00 |
| 30 | 4.24 | 0.96 | 0.41 | 0.20 |
| 60 | 7.62 | 2.02 | 0.91 | 0.45 |

| Magnitude and probability of annual low flow based on period of record 1966-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 19.2 | 4.72 | 1.85 | 0.76 |
| 3 | 18.5 | 5.74 | 2.87 | 1.55 |
| 7 | 20.6 | 7.03 | 3.76 | 2.16 |
| 10 | 23.2 | 8.80 | 5.12 | 3.21 |
| 30 | 41.1 | 17.7 | 11.5 | 8.08 |
| 60 | 100 | 38.3 | 22.3 | 14.0 |

| Magnitude and probability of annual low flow based on period of record 1966-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.73 | 0.14 | 0.00 | 0.00 |
| 3 | 1.80 | 0.16 | 0.00 | 0.00 |
| 7 | 2.05 | 0.22 | 0.00 | 0.00 |
| 10 | 2.11 | 0.30 | 0.04 | 0.01 |
| 30 | 4.26 | 0.96 | 0.41 | 0.20 |
| 60 | 8.78 | 2.31 | 1.03 | 0.50 |

| Magnitude and probability of annual low flow based on period of record 1966-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 13.1 | 3.45 | 1.23 | 0.26 |
| 3 | 14.0 | 3.69 | 1.29 | 0.27 |
| 7 | 14.4 | 3.95 | 1.66 | 0.73 |
| 10 | 15.2 | 4.21 | 1.78 | 0.78 |
| 30 | 17.8 | 5.89 | 3.09 | 1.75 |
| 60 | 21.4 | 8.12 | 4.88 | 3.19 |

ARKANSAS RIVER BASIN

07230000 LITTLE RIVER BELOW LAKE THUNDERBIRD NEAR NORMAN, OK

LOCATION.--Lat 35°13'18", long 97°12'49", in NE ¼ SE ¼ sec.29, T.9 N., R.1 E., Cleveland County, Hydrologic Unit, 11090203, at right bank of outlet channel, 170 ft upstream from State Highway 9, 1,200 ft downstream from Lake Thunderbird, 1.0 mi upstream from Prairie Creek, 13.0 mi east of Norman, and at mile 96.2.

DRAINAGE AREA.--257 mi².

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1964, published as Little River below Hog Creek near Norman.

REMARKS.--Flow regulated by Lake Thunderbird since March 1965 (station 07229900). In prior years, occasional small diversions above station for irrigation. Historical record length assumed equal to that for nearby station Little River near Tecumseh, OK (07230500) for peak-frequency analysis of unregulated streamflow period.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1953-1964

58.9

Magnitude and probability of annual high flow based on period of record 1953-1964

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 2,460 | 5,110 | 8,100 | 14,100 | 19,300 | 23,800 |
| 3 | 1,310 | 2,620 | 4,010 | 6,660 | 9,530 | 13,400 |
| 7 | 631 | 1,240 | 1,870 | 3,300 | 4,200 | 5,830 |
| 10 | 478 | 979 | 1,510 | 2,510 | 3,570 | 5,000 |
| 30 | 208 | 444 | 710 | 1,240 | 1,830 | 2,660 |
| 60 | 122 | 265 | 435 | 793 | 1,220 | 1,850 |

Magnitude and probability of annual instantaneous peak flow based on 33 historic years of record, 1932-1964

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 5,300 | 8,500 | 11,200 | 15,500 | 19,400 | 23,900 | 37,700 |

Oklahoma weighted skew = 0.620

Duration table of daily mean flow for period of record 1953-1964

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1,010 | 488 | 153 | 64.9 | 44.8 | 32.7 | 19.8 | 11.8 | 7.50 | 5.32 | 3.05 | 1.84 | 0.68 | 0.34 | 0.14 | 0.07 |

| Magnitude and probability of annual low flow based on period of record 1954-1964 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.71 | 0.00 | 0.00 | 0.00 |
| 3 | 0.74 | 0.00 | 0.00 | 0.00 |
| 7 | 0.92 | 0.07 | 0.00 | 0.00 |
| 10 | 1.00 | 0.08 | 0.00 | 0.00 |
| 30 | 2.32 | 0.31 | 0.02 | 0.00 |
| 60 | 5.93 | 1.01 | 0.09 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1953-1964 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.98 | 1.56 | 0.97 | 0.65 |
| 3 | 4.53 | 1.82 | 1.14 | 0.78 |
| 7 | 5.46 | 2.28 | 1.45 | 1.01 |
| 10 | 6.06 | 2.62 | 1.74 | 1.25 |
| 30 | 28.9 | 12.3 | 8.10 | 5.83 |
| 60 | 70.4 | 39.9 | 32.6 | 28.9 |

| Magnitude and probability of annual low flow based on period of record 1953-1963 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.71 | 0.02 | 0.00 | 0.00 |
| 3 | 0.74 | 0.02 | 0.00 | 0.00 |
| 7 | 0.92 | 0.07 | 0.00 | 0.00 |
| 10 | 1.00 | 0.08 | 0.00 | 0.00 |
| 30 | 2.37 | 0.32 | 0.02 | 0.00 |
| 60 | 6.57 | 1.03 | 0.09 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1953-1964 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.47 | 0.41 | 0.03 | 0.00 |
| 3 | 3.50 | 0.51 | 0.04 | 0.00 |
| 7 | 3.96 | 0.94 | 0.41 | 0.19 |
| 10 | 4.18 | 1.00 | 0.43 | 0.20 |
| 30 | 5.44 | 1.46 | 0.67 | 0.33 |
| 60 | 6.46 | 2.02 | 1.10 | 0.67 |

ARKANSAS RIVER BASIN

07230000 LITTLE RIVER BELOW LAKE THUNDERBIRD NEAR NORMAN, OK—Continued

REGULATED STREAMFLOW PERIOD

| |
|--|
| Mean annual flow, in ft ³ /s, based on period of record 1966-1999 |
| 60.0 |

| Magnitude and probability of annual high flow based on period of record 1966-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 666 | 959 | 1,120 | 1,250 | 1,330 | 1,400 |
| 3 | 660 | 952 | 1,090 | 1,230 | 1,320 | 1,390 |
| 7 | 642 | 918 | 1,050 | 1,160 | 1,210 | 1,260 |
| 10 | 604 | 875 | 992 | 1,090 | 1,130 | 1,170 |
| 30 | 408 | 665 | 785 | 888 | 938 | 973 |
| 60 | 277 | 452 | 527 | 585 | 611 | 628 |

| Magnitude and probability of annual instantaneous peak flow based on 34 years of record, 1966-1999 | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 667 | 960 | 1,120 | 1,300 | 1,410 | 1,510 | 1,690 |

station skew = - 0.760

| Duration table of daily mean flow for period of record 1966-1999 | | | | | | | | | | | | | | | |
|---|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 789 | 675 | 460 | 256 | 93.3 | 1.17 | 0.91 | 0.78 | 0.65 | 0.52 | 0.39 | 0.26 | 0.13 | 0.06 | 0.03 | 0.01 |

| Magnitude and probability of annual low flow based on period of record 1967-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.47 | 0.32 | 0.25 | 0.19 |
| 3 | 0.49 | 0.33 | 0.25 | 0.19 |
| 7 | 0.49 | 0.33 | 0.26 | 0.21 |
| 10 | 0.50 | 0.34 | 0.27 | 0.21 |
| 30 | 0.51 | 0.35 | 0.28 | 0.23 |
| 60 | 0.53 | 0.36 | 0.31 | 0.30 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.59 | 0.37 | 0.28 | 0.21 |
| 3 | 0.63 | 0.37 | 0.30 | 0.27 |
| 7 | 0.72 | 0.37 | 0.32 | 0.32 |
| 10 | 0.80 | 0.37 | 0.32 | 0.32 |
| 30 | 2.58 | 0.37 | 0.34 | 0.34 |
| 60 | 16.4 | 1.38 | 0.35 | 0.35 |

| Magnitude and probability of annual low flow based on period of record 1966-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.50 | 0.36 | 0.29 | 0.24 |
| 3 | 0.51 | 0.36 | 0.29 | 0.24 |
| 7 | 0.53 | 0.37 | 0.30 | 0.24 |
| 10 | 0.53 | 0.37 | 0.30 | 0.24 |
| 30 | 0.55 | 0.38 | 0.33 | 0.29 |
| 60 | 0.57 | 0.38 | 0.34 | 0.34 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.51 | 0.32 | 0.24 | 0.18 |
| 3 | 0.52 | 0.33 | 0.25 | 0.19 |
| 7 | 0.52 | 0.34 | 0.25 | 0.19 |
| 10 | 0.52 | 0.34 | 0.26 | 0.20 |
| 30 | 0.59 | 0.39 | 0.26 | 0.25 |
| 60 | 0.69 | 0.45 | 0.27 | 0.25 |

ARKANSAS RIVER BASIN

07230500 LITTLE RIVER NEAR TECUMSEH, OK

LOCATION.--Lat 35°10'21", long 96°55'54", NE ¼ NE ¼ sec.13, T.8 N., R.3 E., Pottawatomie County, Hydrologic Unit 11090203, on downstream side of center pier of bridge on U.S. Highway 177, 1.5 mi downstream from Dance Creek, 5.0 mi south of Tecumseh, and at mile 77.2.

DRAINAGE AREA.--456 mi².

PERIOD OF RECORD.--October 1943 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Flow regulated or diverted since 1965 by Lake Thunderbird, 19.2 mi upstream (station 07229900).

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1944-1964

149

Magnitude and probability of annual high flow based on period of record 1944-1964

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 5,600 | 10,900 | 16,100 | 25,000 | 33,700 | 44,500 |
| 3 | 3,190 | 6,250 | 8,960 | 13,300 | 17,200 | 21,700 |
| 7 | 1,660 | 3,140 | 4,380 | 6,250 | 7,870 | 9,690 |
| 10 | 1,290 | 2,440 | 3,410 | 4,860 | 6,110 | 7,500 |
| 30 | 575 | 1,110 | 1,580 | 2,300 | 2,940 | 3,670 |
| 60 | 363 | 717 | 1,040 | 1,560 | 2,040 | 2,620 |

Magnitude and probability of annual instantaneous peak flow based on 33 historic years of record, 1932-1964

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 9,200 | 16,800 | 24,000 | 36,500 | 48,800 | 64,100 | 116,000 |

Oklahoma weighted skew = 0.068

Duration table of daily mean flow for period of record 1944-1964

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 3,000 | 1,370 | 451 | 200 | 123 | 82.7 | 49.3 | 33.5 | 22.4 | 15.8 | 9.71 | 5.35 | 1.98 | 0.68 | 0.27 | 0.14 |

| Magnitude and probability of annual low flow based on period of record 1945-1964 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.19 | 0.00 | 0.00 | 0.00 |
| 3 | 2.45 | 0.00 | 0.00 | 0.00 |
| 7 | 2.81 | 0.00 | 0.00 | 0.00 |
| 10 | 3.12 | 0.00 | 0.00 | 0.00 |
| 30 | 5.76 | 0.61 | 0.00 | 0.00 |
| 60 | 11.0 | 1.15 | 0.17 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1944-1964 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 12.6 | 4.66 | 2.64 | 1.61 |
| 3 | 14.2 | 5.34 | 3.10 | 1.95 |
| 7 | 17.3 | 7.02 | 4.28 | 2.81 |
| 10 | 19.3 | 8.43 | 5.42 | 3.75 |
| 30 | 76.4 | 33.8 | 22.6 | 16.4 |
| 60 | 250 | 118 | 79.9 | 57.9 |

| Magnitude and probability of annual low flow based on period of record 1944-1963 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.19 | 0.00 | 0.00 | 0.00 |
| 3 | 2.45 | 0.00 | 0.00 | 0.00 |
| 7 | 2.81 | 0.00 | 0.00 | 0.00 |
| 10 | 3.12 | 0.00 | 0.00 | 0.00 |
| 30 | 5.76 | 0.61 | 0.00 | 0.00 |
| 60 | 13.1 | 1.23 | 0.17 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1944-1964 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.66 | 2.57 | 0.00 | 0.00 |
| 3 | 8.98 | 2.60 | 0.31 | 0.00 |
| 7 | 10.1 | 2.65 | 0.79 | 0.03 |
| 10 | 10.7 | 2.78 | 1.00 | 0.06 |
| 30 | 14.3 | 4.55 | 2.19 | 1.11 |
| 60 | 16.7 | 7.30 | 4.72 | 3.29 |

ARKANSAS RIVER BASIN
07230500 LITTLE RIVER NEAR TECUMSEH, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1966-1999

153

| Magnitude and probability of annual high flow based on period of record 1966-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,540 | 5,360 | 6,220 | 7,000 | 7,400 | 7,690 |
| 3 | 1,940 | 3,210 | 3,940 | 4,700 | 5,170 | 5,570 |
| 7 | 1,200 | 1,890 | 2,220 | 2,520 | 2,670 | 2,780 |
| 10 | 1,000 | 1,620 | 1,910 | 2,170 | 2,300 | 2,390 |
| 30 | 574 | 1,060 | 1,360 | 1,720 | 1,950 | 2,150 |
| 60 | 385 | 755 | 1,010 | 1,320 | 1,540 | 1,750 |

Magnitude and probability of annual instantaneous peak flow based on 34 years of record, 1966-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 5,040 | 7,230 | 8,810 | 11,000 | 12,600 | 14,400 | 19,000 |

station skew = 0.216

Duration table of daily mean flow for period of record 1966-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 1,670 | 1,180 | 798 | 513 | 305 | 167 | 50.8 | 28.4 | 19.3 | 12.6 | 7.66 | 4.24 | 1.73 | 0.67 | 0.27 | 0.13 |

| Magnitude and probability of annual low flow based on period of record 1967-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.43 | 0.00 | 0.00 | 0.00 |
| 3 | 0.60 | 0.00 | 0.00 | 0.00 |
| 7 | 0.88 | 0.00 | 0.00 | 0.00 |
| 10 | 1.14 | 0.00 | 0.00 | 0.00 |
| 30 | 2.71 | 0.41 | 0.03 | 0.00 |
| 60 | 5.52 | 1.40 | 0.59 | 0.27 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 10.1 | 3.32 | 1.99 | 1.35 |
| 3 | 11.3 | 3.75 | 2.28 | 1.58 |
| 7 | 13.5 | 4.47 | 2.76 | 1.94 |
| 10 | 15.3 | 5.05 | 3.13 | 2.21 |
| 30 | 65.8 | 22.1 | 12.9 | 8.43 |
| 60 | 206 | 79.2 | 45.6 | 28.0 |

| Magnitude and probability of annual low flow based on period of record 1966-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.43 | 0.00 | 0.00 | 0.00 |
| 3 | 0.60 | 0.00 | 0.00 | 0.00 |
| 7 | 0.88 | 0.00 | 0.00 | 0.00 |
| 10 | 1.14 | 0.00 | 0.00 | 0.00 |
| 30 | 2.71 | 0.44 | 0.04 | 0.00 |
| 60 | 6.40 | 1.47 | 0.62 | 0.28 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.98 | 1.97 | 0.90 | 0.00 |
| 3 | 6.64 | 2.21 | 1.01 | 0.00 |
| 7 | 7.50 | 2.59 | 1.26 | 0.66 |
| 10 | 8.05 | 3.50 | 2.04 | 1.37 |
| 30 | 12.5 | 4.59 | 2.85 | 1.97 |
| 60 | 19.1 | 6.43 | 3.79 | 2.50 |

ARKANSAS RIVER BASIN

07231000 LITTLE RIVER NEAR SASAKWA, OK

LOCATION.--Lat 34°57'55", long 96°30'44", NE ¼ sec.25, T.6 N., R.7 E., Seminole County, Hydrologic Unit 11090203, near right abutment on downstream side of State Highway 56 bridge, 1.6 mi north of Sasakwa, 15.1 mi downstream from Salt Creek, and at mile 17.1.

DRAINAGE AREA.--884 mi².

PERIOD OF RECORD.--September 1942 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Flow regulated since 1962 by numerous floodwater-retarding structures. Flow regulated by Lake Thunderbird (station 07229900) 78.7 mi upstream since March 1965.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1943-1961

453

Magnitude and probability of annual high flow based on period of record 1943-1961

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 13,600 | 23,500 | 30,000 | 37,700 | 43,200 | 48,200 |
| 3 | 10,400 | 18,000 | 23,300 | 30,000 | 35,000 | 39,800 |
| 7 | 5,820 | 9,980 | 12,900 | 16,500 | 19,100 | 21,700 |
| 10 | 4,380 | 7,680 | 10,000 | 13,000 | 15,200 | 17,400 |
| 30 | 1,970 | 3,540 | 4,660 | 6,080 | 7,130 | 8,160 |
| 60 | 1,260 | 2,290 | 3,030 | 3,970 | 4,660 | 5,330 |

Magnitude and probability of annual instantaneous peak flow based on 23 historic years of record, 1939-1961

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 15,200 | 26,900 | 36,700 | 51,500 | 64,500 | 79,300 | 122,000 |

Oklahoma weighted skew = 0.202

Duration table of daily mean flow for period of record 1943-1961

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 7,470 | 5,110 | 2,170 | 807 | 424 | 269 | 142 | 87.5 | 60.2 | 41.9 | 27.6 | 15.9 | 7.47 | 3.30 | 0.75 | 0.38 |

| Magnitude and probability of annual low flow based on period of record 1944-1961 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.48 | 0.16 | 0.00 | 0.00 |
| 3 | 3.88 | 0.52 | 0.00 | 0.00 |
| 7 | 4.61 | 0.72 | 0.00 | 0.00 |
| 10 | 5.36 | 0.91 | 0.00 | 0.00 |
| 30 | 11.6 | 2.16 | 0.55 | 0.00 |
| 60 | 25.4 | 5.32 | 1.50 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1943-1961 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 43.9 | 19.7 | 12.3 | 8.06 |
| 3 | 48.0 | 21.3 | 13.3 | 8.70 |
| 7 | 56.7 | 25.3 | 16.2 | 11.0 |
| 10 | 64.1 | 28.6 | 18.3 | 12.5 |
| 30 | 206 | 82.2 | 51.2 | 34.9 |
| 60 | 849 | 366 | 222 | 143 |

| Magnitude and probability of annual low flow based on period of record 1943-1960 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.48 | 0.16 | 0.00 | 0.00 |
| 3 | 3.88 | 0.52 | 0.00 | 0.00 |
| 7 | 4.61 | 0.72 | 0.00 | 0.00 |
| 10 | 5.36 | 0.91 | 0.00 | 0.00 |
| 30 | 12.6 | 2.26 | 0.56 | 0.00 |
| 60 | 30.6 | 5.49 | 1.50 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1943-1961 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 15.8 | 5.31 | 2.70 | 1.46 |
| 3 | 17.9 | 6.15 | 3.14 | 1.70 |
| 7 | 20.4 | 7.21 | 3.76 | 2.08 |
| 10 | 21.6 | 7.68 | 4.06 | 2.28 |
| 30 | 30.0 | 13.3 | 8.22 | 5.38 |
| 60 | 37.3 | 19.0 | 13.9 | 11.0 |

ARKANSAS RIVER BASIN
07231000 LITTLE RIVER NEAR SASAKWA, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1966-1999

376

| Magnitude and probability of annual high flow based on period of record 1966-1999 | | | | | | |
|--|----------|----------|-----------|----------|----------|-----------|
| Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 6,810 | 10,800 | 12,800 | 14,600 | 15,600 | 16,300 |
| 3 | 5,510 | 8,650 | 10,100 | 11,300 | 11,900 | 12,300 |
| 7 | 3,730 | 5,550 | 6,220 | 6,670 | 6,850 | 6,950 |
| 10 | 3,070 | 4,510 | 5,010 | 5,330 | 5,450 | 5,520 |
| 30 | 1,590 | 2,450 | 2,830 | 3,130 | 3,270 | 3,370 |
| 60 | 1,080 | 1,800 | 2,170 | 2,530 | 2,720 | 2,860 |

Magnitude and probability of annual instantaneous peak flow based on 34 years of record, 1966-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 7,820 | 11,900 | 14,600 | 17,700 | 19,900 | 22,000 | 26,600 |

station skew = - 0.452

Duration table of daily mean flow for period of record 1966-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-------|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 4,960 | 3,250 | 1,710 | 1,030 | 698 | 457 | 195 | 97.5 | 56.7 | 34.0 | 20.0 | 7.39 | 1.27 | 0.54 | 0.22 | 0.11 |

| Magnitude and probability of annual low flow based on period of record 1967-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.72 | 0.00 | 0.00 | 0.00 |
| 3 | 0.82 | 0.00 | 0.00 | 0.00 |
| 7 | 1.04 | 0.00 | 0.00 | 0.00 |
| 10 | 1.40 | 0.01 | 0.00 | 0.00 |
| 30 | 2.89 | 0.22 | 0.03 | 0.00 |
| 60 | 10.0 | 0.93 | 0.14 | 0.01 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 39.9 | 9.43 | 3.85 | 1.70 |
| 3 | 44.4 | 10.6 | 4.33 | 1.92 |
| 7 | 53.7 | 12.7 | 5.29 | 2.39 |
| 10 | 68.4 | 16.8 | 7.12 | 3.28 |
| 30 | 226 | 83.2 | 48.6 | 31.0 |
| 60 | 621 | 254 | 145 | 86.6 |

| Magnitude and probability of annual low flow based on period of record 1966-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.72 | 0.00 | 0.00 | 0.00 |
| 3 | 0.82 | 0.00 | 0.00 | 0.00 |
| 7 | 1.04 | 0.00 | 0.00 | 0.00 |
| 10 | 1.40 | 0.01 | 0.00 | 0.00 |
| 30 | 3.02 | 0.23 | 0.03 | 0.00 |
| 60 | 13.4 | 1.24 | 0.23 | 0.05 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 11.8 | 0.88 | 0.02 | 0.00 |
| 3 | 13.2 | 0.96 | 0.02 | 0.00 |
| 7 | 15.4 | 1.13 | 0.02 | 0.00 |
| 10 | 16.0 | 1.48 | 0.04 | 0.00 |
| 30 | 32.0 | 2.87 | 0.55 | 0.11 |
| 60 | 49.1 | 7.90 | 2.59 | 0.95 |

ARKANSAS RIVER BASIN

07231500 CANADIAN RIVER AT CALVIN, OK

LOCATION.--Lat 34°58'40", long 96°14'36", in NW ¼ SW ¼ sec.22, T.6 N., R.10 E., Hughes County, Hydrologic Unit 11090202, on downstream left bank at north end of bridge on U.S. Highway 75, 0.5 mi northeast of Calvin, 2.6 mi upstream from Shawnee Creek, 8.4 mi downstream from Little River, and at mile 94.1.

DRAINAGE AREA.--27,952 mi², of which 4,801 mi² is probably noncontributing.

PERIOD OF RECORD.--January 1905 to December 1908 (gage heights and discharge measurements only, except for period July 1905 to December 1906), October 1938 to September 1942, July 1944 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected in this vicinity since 1904 are contained in reports of National Weather Service.

REMARKS.--Occasional slight regulation by dams in New Mexico and Texas since 1964; Lake Thunderbird (station 07229900) since March 1965.

UNREGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1906-1964 |
| 1,840 |

| Magnitude and probability of annual high flow based on period of record 1906-1964 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 42,800 | 69,400 | 88,400 | 113,000 | 133,000 | 152,000 |
| 3 | 28,700 | 45,800 | 57,700 | 73,200 | 85,000 | 96,800 |
| 7 | 17,600 | 29,400 | 38,000 | 49,700 | 58,900 | 68,500 |
| 10 | 13,900 | 23,500 | 30,900 | 41,300 | 49,800 | 58,900 |
| 30 | 6,750 | 12,400 | 17,000 | 23,900 | 29,900 | 36,600 |
| 60 | 4,420 | 8,310 | 11,600 | 16,700 | 21,100 | 26,100 |

| Magnitude and probability of annual instantaneous peak flow based on 59 historic years of record, 1906-1964 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 60,400 | 94,700 | 121,000 | 157,000 | 186,000 | 216,000 | 300,000 |

Water Resources Council weighted skew = 0.119

| Duration table of daily mean flow for period of record 1906-1964 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 15,400 | 13,800 | 9,050 | 4,100 | 2,460 | 1,680 | 857 | 506 | 318 | 209 | 127 | 61.8 | 21.3 | 7.00 | 0.80 | 0.40 |

| Magnitude and probability of annual low flow based on period of record 1940-1964 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 13.6 | 0.56 | 0.00 | 0.00 |
| 3 | 15.2 | 0.66 | 0.00 | 0.00 |
| 7 | 19.2 | 0.86 | 0.00 | 0.00 |
| 10 | 22.1 | 1.01 | 0.00 | 0.00 |
| 30 | 39.5 | 2.24 | 0.24 | 0.00 |
| 60 | 94.3 | 14.7 | 3.97 | 0.29 |

| Magnitude and probability of annual low flow based on period of record 1906-1964 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 93.1 | 34.0 | 19.2 | 11.7 |
| 3 | 104 | 38.3 | 22.1 | 13.8 |
| 7 | 144 | 58.2 | 35.9 | 24.0 |
| 10 | 182 | 69.8 | 42.5 | 28.3 |
| 30 | 660 | 220 | 123 | 76.3 |
| 60 | 2,430 | 1,070 | 691 | 480 |

| Magnitude and probability of annual low flow based on period of record 1906-1963 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 14.1 | 0.66 | 0.00 | 0.00 |
| 3 | 16.4 | 0.78 | 0.00 | 0.00 |
| 7 | 21.3 | 1.04 | 0.00 | 0.00 |
| 10 | 25.2 | 1.23 | 0.00 | 0.00 |
| 30 | 62.6 | 3.06 | 0.31 | 0.00 |
| 60 | 247 | 28.4 | 5.98 | 0.34 |

| Magnitude and probability of annual low flow based on period of record 1906-1964 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 47.8 | 7.14 | 1.97 | 0.58 |
| 3 | 52.8 | 8.31 | 2.40 | 0.74 |
| 7 | 64.5 | 12.3 | 4.14 | 1.50 |
| 10 | 72.6 | 14.4 | 5.01 | 1.87 |
| 30 | 128 | 42.3 | 21.8 | 12.1 |
| 60 | 173 | 61.8 | 35.5 | 22.3 |

ARKANSAS RIVER BASIN
07231500 CANADIAN RIVER AT CALVIN, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1965-1999

1,825

| Magnitude and probability of annual high flow based on period of record 1965-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 35,100 | 64,300 | 83,800 | 107,000 | 123,000 | 138,000 |
| 3 | 24,300 | 43,500 | 56,000 | 70,900 | 81,100 | 90,400 |
| 7 | 14,800 | 25,900 | 33,100 | 41,700 | 47,600 | 53,100 |
| 10 | 11,800 | 20,500 | 26,300 | 33,200 | 38,000 | 42,500 |
| 30 | 6,340 | 11,100 | 14,000 | 17,400 | 19,500 | 21,500 |
| 60 | 4,490 | 7,840 | 9,870 | 12,100 | 13,600 | 14,800 |

Magnitude and probability of annual instantaneous peak flow based on 35 years of record, 1965-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 53,300 | 88,900 | 114,000 | 147,000 | 172,000 | 198,000 | 258,000 |

station skew = - 0.291

Duration table of daily mean flow for period of record 1965-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|------|------|------|------|
| 14,500 | 12,500 | 7,200 | 4,240 | 2,940 | 2,150 | 1,230 | 743 | 487 | 325 | 204 | 102 | 30.1 | 10.5 | 2.44 | 0.70 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 13.7 | 0.99 | 0.00 | 0.00 |
| 3 | 16.1 | 1.36 | 0.00 | 0.00 |
| 7 | 20.4 | 2.67 | 0.25 | 0.00 |
| 10 | 25.1 | 2.81 | 0.58 | 0.09 |
| 30 | 58.8 | 10.4 | 3.23 | 0.85 |
| 60 | 136 | 21.1 | 5.64 | 1.57 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 250 | 65.5 | 29.9 | 15.0 |
| 3 | 275 | 72.2 | 33.0 | 16.5 |
| 7 | 332 | 90.6 | 42.7 | 22.0 |
| 10 | 392 | 112 | 54.2 | 28.8 |
| 30 | 1,060 | 443 | 286 | 201 |
| 60 | 2,680 | 1,170 | 724 | 474 |

| Magnitude and probability of annual low flow based on period of record 1965-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 13.7 | 0.99 | 0.00 | 0.00 |
| 3 | 16.1 | 1.36 | 0.00 | 0.00 |
| 7 | 20.5 | 2.67 | 0.25 | 0.00 |
| 10 | 25.2 | 2.81 | 0.58 | 0.09 |
| 30 | 60.0 | 10.4 | 3.23 | 0.85 |
| 60 | 171 | 25.5 | 6.72 | 1.84 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 171 | 25.0 | 4.43 | 0.46 |
| 3 | 150 | 26.8 | 8.18 | 2.61 |
| 7 | 188 | 39.5 | 13.6 | 4.95 |
| 10 | 197 | 44.7 | 16.7 | 6.61 |
| 30 | 308 | 81.3 | 35.1 | 16.2 |
| 60 | 450 | 126 | 57.1 | 27.6 |

ARKANSAS RIVER BASIN

07232000 GAINES CREEK NEAR KREBS, OK

LOCATION.--Lat 34°58'46", long 95°37'18", in SW 1/4 NE 1/4 sec.21, T.6 N., R.16 E., on downstream side of right pier of abandoned county road bridge, 0.8 mi upstream from Nutter Creek, and 6.5 mi northeast of Krebs.

DRAINAGE AREA.--588 mi².

PERIOD OF RECORD.--October 1942 to September 1963.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1943-1963

564

Magnitude and probability of annual high flow based on period of record 1943-1963

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 10,700 | 19,300 | 27,300 | 40,800 | 52,400 | 66,200 |
| 3 | 9,040 | 16,100 | 22,200 | 31,800 | 40,300 | 50,300 |
| 7 | 6,040 | 10,400 | 13,600 | 17,900 | 21,300 | 24,900 |
| 10 | 4,650 | 7,920 | 10,200 | 13,300 | 15,600 | 17,900 |
| 30 | 2,260 | 3,820 | 4,910 | 6,300 | 7,320 | 8,330 |
| 60 | 1,550 | 2,660 | 3,420 | 4,350 | 5,020 | 5,670 |

Magnitude and probability of annual instantaneous peak flow based on 52 historic years of record, 1912-1963

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 11,600 | 20,500 | 28,300 | 40,900 | 52,500 | 66,300 | 108,000 |

Oklahoma weighted skew = 0.428

Duration table of daily mean flow for period of record 1943-1963

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-------|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 9,010 | 6,370 | 3,150 | 1,330 | 601 | 338 | 153 | 84.1 | 42.7 | 22.3 | 11.1 | 2.92 | 0.80 | 0.40 | 0.16 | 0.08 |

| Magnitude and probability of annual low flow based on period of record 1944-1963 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.10 | 0.00 | 0.00 | 0.00 |
| 10 | 0.20 | 0.00 | 0.00 | 0.00 |
| 30 | 1.48 | 0.00 | 0.00 | 0.00 |
| 60 | 6.24 | 0.22 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1943-1963 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 27.2 | 9.12 | 4.56 | 2.41 |
| 3 | 32.5 | 10.6 | 5.11 | 2.61 |
| 7 | 37.0 | 15.9 | 10.2 | 7.04 |
| 10 | 44.6 | 19.2 | 12.8 | 9.30 |
| 30 | 275 | 86.7 | 47.0 | 28.2 |
| 60 | 857 | 412 | 282 | 207 |

| Magnitude and probability of annual low flow based on period of record 1943-1962 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.09 | 0.00 | 0.00 | 0.00 |
| 3 | 0.12 | 0.00 | 0.00 | 0.00 |
| 7 | 0.19 | 0.00 | 0.00 | 0.00 |
| 10 | 0.31 | 0.00 | 0.00 | 0.00 |
| 30 | 2.34 | 0.00 | 0.00 | 0.00 |
| 60 | 11.2 | 0.51 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1943-1963 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.17 | 0.02 | 0.00 | 0.00 |
| 3 | 3.02 | 0.21 | 0.00 | 0.00 |
| 7 | 3.63 | 0.22 | 0.00 | 0.00 |
| 10 | 4.38 | 0.33 | 0.00 | 0.00 |
| 30 | 10.7 | 1.85 | 0.13 | 0.00 |
| 60 | 44.1 | 8.53 | 3.04 | 1.18 |

ARKANSAS RIVER BASIN

07232500 BEAVER RIVER NEAR GUYMON, OK
(Headwater of the North Canadian River)

LOCATION.--Lat 36°43'17", long 101°29'21", NW ¼ SW ¼ sec.18, T.3 N., R.15 E., Texas County, Hydrologic Unit 11100101, near center of span on downstream side of pier of bridge on U.S. Highway 64 at Dry Sand Draw, 1.2 mi upstream from Goff Creek, 2.5 mi north of Guymon, and at mile 650.7.

DRAINAGE AREA.--2,139 mi², which includes that of Dry Sand Draw and of which 964 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1937 to September 1993. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1970, published as North Canadian River near Guymon.

REMARKS.--Prior to 1972 considered a natural, unregulated basin. After 1978, irrigation development has had a significant effect on natural streamflow (Wahl and Tortorelli, 1997).

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1938-1971

27.9

Magnitude and probability of annual high flow based on period of record 1938-1971

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,560 | 4,390 | 7,220 | 11,900 | 16,100 | 20,900 |
| 3 | 700 | 1,920 | 3,150 | 5,200 | 7,090 | 9,300 |
| 7 | 342 | 924 | 1,510 | 2,480 | 3,380 | 4,430 |
| 10 | 254 | 676 | 1,090 | 1,780 | 2,410 | 3,140 |
| 30 | 107 | 270 | 428 | 689 | 929 | 1,210 |
| 60 | 67.3 | 163 | 256 | 409 | 551 | 717 |

Magnitude and probability of annual instantaneous peak flow based on 35 historic years of record, 1937-1971

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 8,580 | 21,400 | 33,100 | 51,000 | 66,300 | 82,900 | 126,000 |

Oklahoma weighted skew = - 0.420

Duration table of daily mean flow for period of record 1938-1971

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 415 | 144 | 34.4 | 17.6 | 13.5 | 11.1 | 8.57 | 6.96 | 5.83 | 4.60 | 2.66 | 1.35 | 0.76 | 0.38 | 0.15 | 0.08 |

| Magnitude and probability of annual low flow based on period of record 1939-1971 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.03 | 0.00 | 0.00 | 0.00 |
| 7 | 0.14 | 0.00 | 0.00 | 0.00 |
| 10 | 0.19 | 0.00 | 0.00 | 0.00 |
| 30 | 0.57 | 0.10 | 0.01 | 0.00 |
| 60 | 1.62 | 0.36 | 0.12 | 0.05 |

| Magnitude and probability of annual low flow based on period of record 1938-1971 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.87 | 0.31 | 0.00 | 0.00 |
| 3 | 1.90 | 0.49 | 0.14 | 0.00 |
| 7 | 2.55 | 0.89 | 0.43 | 0.22 |
| 10 | 3.10 | 1.26 | 0.68 | 0.40 |
| 30 | 5.08 | 2.91 | 2.14 | 1.64 |
| 60 | 13.7 | 5.88 | 4.09 | 3.15 |

| Magnitude and probability of annual low flow based on period of record 1938-1970 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.04 | 0.00 | 0.00 | 0.00 |
| 7 | 0.17 | 0.00 | 0.00 | 0.00 |
| 10 | 0.21 | 0.00 | 0.00 | 0.00 |
| 30 | 0.59 | 0.09 | 0.01 | 0.00 |
| 60 | 2.08 | 0.38 | 0.12 | 0.05 |

| Magnitude and probability of annual low flow based on period of record 1938-1971 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.09 | 0.97 | 0.38 | 0.00 |
| 3 | 2.39 | 1.22 | 0.78 | 0.46 |
| 7 | 3.09 | 1.68 | 1.14 | 0.81 |
| 10 | 3.48 | 1.90 | 1.28 | 0.88 |
| 30 | 5.20 | 3.08 | 2.14 | 1.50 |
| 60 | 6.33 | 4.18 | 3.16 | 2.43 |

ARKANSAS RIVER BASIN

07232500 BEAVER RIVER NEAR GUYMON, OK—Continued

IRRIGATION PERIOD

Mean annual flow, in ft³/s, based on period of record 1978-1993

15.7

Magnitude and probability of annual high flow based on period of record 1978-1993

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 56.5 | 389 | 804 | 1,450 | 1,940 | 2,400 |
| 3 | 33.8 | 210 | 395 | 635 | 788 | 912 |
| 7 | 20.4 | 115 | 200 | 295 | 347 | 386 |
| 10 | 17.1 | 87.0 | 142 | 196 | 222 | 240 |
| 30 | 9.80 | 37.8 | 52.3 | 62.0 | 65.4 | 67.0 |
| 60 | 6.56 | 22.0 | 28.2 | 31.7 | 32.6 | 33.0 |

Magnitude and probability of annual instantaneous peak flow based on 16 years of record, 1978-1993

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 181 | 1,160 | 2,510 | 5,020 | 7,340 | 9,910 | 16,300 |

station skew = - 0.875

Duration table of daily mean flow for period of record 1978-1993

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 62.4 | 13.2 | 5.99 | 3.76 | 2.25 | 0.99 | 0.87 | 0.74 | 0.62 | 0.50 | 0.37 | 0.25 | 0.12 | 0.06 | 0.02 | 0.01 |

| Magnitude and probability of annual low flow based on period of record 1979-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1978-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.15 | 0.00 | 0.00 | 0.00 |
| 60 | 0.74 | 0.07 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1978-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1978-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

ARKANSAS RIVER BASIN

07232900 COLDWATER CREEK NEAR GUYMON, OK

LOCATION.--Lat 36°34'19", long 101°22'52", NW ¼ NW ¼ sec.7, T.1 N., R.16 E., Texas County, Hydrologic Unit 11100103, near left bank on downstream side of pier of bridge on county road, 0.3 mi downstream from Frisco Creek, 4.0 mi east and 7.5 mi south of Guymon, and at mile 18.0.

DRAINAGE AREA.--1,903 mi², of which 1,178 mi² is probably noncontributing.

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

REMARKS.--Natural flow affected by flood retarding structures and irrigation development. After 1978, irrigation development has had a significant effect on natural streamflow (Wahl and Tortorelli, 1997).

IRRIGATION PERIOD

Mean annual flow, in ft³/s, based on period of record 1981-1999

1.68

Magnitude and probability of annual high flow based on period of record 1981-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 109 | 401 | 780 | 1,520 | 2,390 | 3,720 |
| 3 | 50.8 | 208 | 436 | 918 | 1,540 | 2,540 |
| 7 | 22.9 | 97.4 | 207 | 442 | 746 | 1,240 |
| 10 | 16.1 | 67.9 | 144 | 309 | 523 | 875 |
| 30 | 5.64 | 23.7 | 50.0 | 106 | 178 | 295 |
| 60 | 3.33 | 13.2 | 27.5 | 58.1 | 97.8 | 163 |

Magnitude and probability of annual instantaneous peak flow based on 19 years of record, 1981-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 223 | 979 | 1,980 | 4,010 | 6,150 | 8,890 | 17,900 |

station skew = - 0.394

Duration table of daily mean flow for period of record 1981-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 9.71 | 0.99 | 0.96 | 0.91 | 0.86 | 0.81 | 0.71 | 0.61 | 0.51 | 0.41 | 0.30 | 0.20 | 0.10 | 0.05 | 0.02 | 0.01 |

| Magnitude and probability of annual low flow based on period of record 1982-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1981-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1981-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1981-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

ARKANSAS RIVER BASIN

07233000 COLDWATER CREEK NEAR HARDESTY, OK

LOCATION.--Lat 36°38'38", long 101°12'38", NW ¼ NE ¼ sec.15, T.2 N., R.17 E., on downstream side of piling near center of bridge on State Highway 3, 2.0 mi northwest of Hardesty, and at mile 5.7.

DRAINAGE AREA.--1,967 mi², of which 1,200 mi² is probably noncontributing.

PERIOD OF RECORD.--June 1939 to September 1964.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1940-1964

15.5

Magnitude and probability of annual high flow based on period of record 1940-1964

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 650 | 2,200 | 4,030 | 7,510 | 11,100 | 15,600 |
| 3 | 299 | 1,000 | 1,820 | 3,360 | 4,930 | 6,890 |
| 7 | 140 | 485 | 905 | 1,730 | 2,610 | 3,750 |
| 10 | 102 | 348 | 653 | 1,260 | 1,920 | 2,800 |
| 30 | 41.6 | 137 | 260 | 523 | 827 | 1,260 |
| 60 | 26.6 | 82.5 | 154 | 309 | 491 | 752 |

Magnitude and probability of annual instantaneous peak flow based on 26 years of record, 1939-1964

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 2,720 | 7,460 | 12,300 | 20,500 | 28,200 | 37,200 | 64,100 |

Oklahoma weighted skew = - 0.247

Duration table of daily mean flow for period of record 1940-1964

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 177 | 58.0 | 22.1 | 12.0 | 8.57 | 6.90 | 5.21 | 4.18 | 2.75 | 1.51 | 0.83 | 0.55 | 0.28 | 0.14 | 0.06 | 0.03 |

| Magnitude and probability of annual low flow based on period of record 1941-1964 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1940-1964 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.76 | 0.00 | 0.00 | 0.00 |
| 10 | 1.13 | 0.13 | 0.01 | 0.00 |
| 30 | 3.04 | 1.46 | 0.97 | 0.69 |
| 60 | 7.07 | 2.94 | 2.05 | 1.59 |

| Magnitude and probability of annual low flow based on period of record 1940-1963 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1940-1964 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.21 | 0.00 | 0.00 | 0.00 |
| 10 | 0.22 | 0.00 | 0.00 | 0.00 |
| 30 | 1.37 | 0.00 | 0.00 | 0.00 |
| 60 | 2.74 | 0.57 | 0.00 | 0.00 |

ARKANSAS RIVER BASIN

07234000 BEAVER RIVER AT BEAVER, OK
(Headwater of the North Canadian River)

LOCATION.--Lat 36°49'20", long 100°31'08", SW ¼ sec.7, T.4 N., R.24 E., Beaver County, Hydrologic Unit 11100102, near right bank on downstream side of pier of bridge on U.S. Highway 270 at Beaver, 1.1 mi downstream from Home Creek, 5.0 mi upstream from Clear Creek, and at mile 576.0.

DRAINAGE AREA.--7,955 mi², of which 4,270 mi² is probably noncontributing.

PERIOD OF RECORD.--March 1904 to December 1905 (gage heights only), October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as Beaver Creek at Beaver 1904-5, and October 1937 to September 1970 as North Canadian River at Beaver.

REMARKS.--Prior to 1972 considered a natural, unregulated basin. After 1978, irrigation development has had a significant effect on natural streamflow (Wahl and Tortorelli, 1997). Regulation by Optima Lake (station 07233200) 47.0 mi upstream, since October 1978, and some additional regulation since May 1991 by Palo Duro Reservoir (station 07233550).

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1938-1971

115

Magnitude and probability of annual high flow based on period of record 1938-1971

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 4,040 | 9,220 | 14,700 | 24,800 | 35,400 | 49,100 |
| 3 | 2,270 | 5,200 | 8,440 | 14,700 | 21,600 | 31,000 |
| 7 | 1,210 | 2,850 | 4,750 | 8,600 | 13,000 | 19,200 |
| 10 | 965 | 2,250 | 3,700 | 6,570 | 9,770 | 14,200 |
| 30 | 452 | 1,060 | 1,730 | 2,970 | 4,280 | 6,020 |
| 60 | 286 | 671 | 1,090 | 1,880 | 2,730 | 3,850 |

Magnitude and probability of annual instantaneous peak flow based on 34 years of record, 1938-1971

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 9,100 | 18,500 | 27,300 | 41,800 | 55,600 | 72,100 | 124,000 |

Water Resources Council weighted skew = 0.226

Duration table of daily mean flow for period of record 1938-1971

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 2,200 | 1,050 | 334 | 130 | 76.4 | 54.6 | 33.4 | 22.1 | 14.1 | 6.56 | 1.03 | 0.67 | 0.33 | 0.17 | 0.07 | 0.03 |

| Magnitude and probability of annual low flow based on period of record 1939-1971 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.35 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1938-1971 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.95 | 0.00 | 0.00 | 0.00 |
| 3 | 1.08 | 0.00 | 0.00 | 0.00 |
| 7 | 1.78 | 0.00 | 0.00 | 0.00 |
| 10 | 2.30 | 0.00 | 0.00 | 0.00 |
| 30 | 11.4 | 1.73 | 0.55 | 0.20 |
| 60 | 52.2 | 15.1 | 7.96 | 4.76 |

| Magnitude and probability of annual low flow based on period of record 1938-1970 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 3.85 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1938-1971 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.41 | 0.00 | 0.00 | 0.00 |
| 10 | 0.49 | 0.00 | 0.00 | 0.00 |
| 30 | 2.92 | 0.00 | 0.00 | 0.00 |
| 60 | 8.26 | 0.24 | 0.00 | 0.00 |

ARKANSAS RIVER BASIN
07234000 BEAVER RIVER AT BEAVER, OK—Continued
REGULATED IRRIGATION PERIOD

Mean annual flow, in ft³/s, based on period of record 1979-1999

16.5

| Magnitude and probability of annual high flow based on period of record 1979-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 458 | 1,350 | 2,250 | 3,740 | 5,090 | 6,620 |
| 3 | 270 | 757 | 1,280 | 2,220 | 3,150 | 4,300 |
| 7 | 159 | 416 | 694 | 1,210 | 1,740 | 2,420 |
| 10 | 129 | 321 | 525 | 897 | 1,280 | 1,760 |
| 30 | 62.4 | 150 | 249 | 440 | 649 | 933 |
| 60 | 43.1 | 98.0 | 156 | 262 | 373 | 517 |

Magnitude and probability of annual instantaneous peak flow based on 21 years of record, 1979-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 838 | 2,310 | 3,600 | 5,450 | 6,890 | 8,350 | 11,700 |

station skew = 0.721

Duration table of daily mean flow for period of record 1979-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 226 | 124 | 47.7 | 26.9 | 19.9 | 15.3 | 8.87 | 4.81 | 1.24 | 0.82 | 0.61 | 0.41 | 0.20 | 0.10 | 0.04 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1980-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.02 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1979-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.56 | 0.18 | 0.01 | 0.00 |
| 3 | 2.11 | 0.27 | 0.01 | 0.00 |
| 7 | 2.90 | 0.47 | 0.13 | 0.00 |
| 10 | 3.47 | 0.61 | 0.17 | 0.01 |
| 30 | 8.30 | 1.45 | 0.44 | 0.14 |
| 60 | 28.0 | 6.48 | 2.07 | 0.65 |

| Magnitude and probability of annual low flow based on period of record 1979-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.02 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1979-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.10 | 0.00 | 0.00 | 0.00 |
| 3 | 0.12 | 0.00 | 0.00 | 0.00 |
| 7 | 0.17 | 0.00 | 0.00 | 0.00 |
| 10 | 0.18 | 0.00 | 0.00 | 0.00 |
| 30 | 0.28 | 0.03 | 0.00 | 0.00 |
| 60 | 0.45 | 0.07 | 0.02 | 0.00 |

ARKANSAS RIVER BASIN

07234100 CLEAR CREEK NEAR ELMWOOD, OK

LOCATION.--Lat 36°38'42", long 100°30'07", SW ¼ SW ¼ sec.8, T.2 N., R.24 E., Beaver County, Hydrologic Unit 11100201, on downstream side of pier of county road bridge, 2.0 mi north, 1.2 mi east of Elmwood, and at mile 16.9.

DRAINAGE AREA.--170 mi².

PERIOD OF RECORD.--October 1965 to September 1993.

REMARKS.--Low flows sustained by nearby springs; natural flows affected by diversion ponds and occasional diversion for irrigation.

UNREGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1966-1993 |
| 6.54 |

| Magnitude and probability of annual high flow based on period of record 1966-1993 | | | | | | |
|--|---|------------------|-------------------|------------------|------------------|-------------------|
| Period (consecutive days) | Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 223 | 1,090 | 2,380 | 5,310 | 8,760 | 13,600 |
| 3 | 104 | 465 | 987 | 2,160 | 3,530 | 5,450 |
| 7 | 48.5 | 200 | 422 | 938 | 1,570 | 2,510 |
| 10 | 36.8 | 148 | 311 | 702 | 1,200 | 1,940 |
| 30 | 15.5 | 53.2 | 108 | 242 | 418 | 696 |
| 60 | 10.0 | 30.3 | 58.2 | 123 | 207 | 337 |

| Magnitude and probability of annual instantaneous peak flow based on 28 years of record, 1966-1993 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 1,290 | 4,710 | 9,040 | 17,700 | 27,100 | 39,400 | 82,400 |

Oklahoma weighted skew = - 0.185

| Duration table of daily mean flow for period of record 1966-1993 | | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% | |
| 27.9 | 8.99 | 4.59 | 3.55 | 3.07 | 2.94 | 2.67 | 2.40 | 2.17 | 1.95 | 1.74 | 1.36 | 1.06 | 0.65 | 0.26 | 0.13 | |

| Magnitude and probability of annual low flow based on period of record 1967-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.69 | 0.19 | 0.04 | 0.00 |
| 3 | 0.81 | 0.23 | 0.07 | 0.01 |
| 7 | 0.90 | 0.32 | 0.14 | 0.06 |
| 10 | 0.90 | 0.40 | 0.21 | 0.11 |
| 30 | 1.00 | 0.69 | 0.56 | 0.47 |
| 60 | 1.20 | 0.88 | 0.76 | 0.67 |

| Magnitude and probability of annual low flow based on period of record 1966-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.50 | 0.95 | 0.72 | 0.56 |
| 3 | 1.56 | 1.08 | 0.88 | 0.74 |
| 7 | 1.67 | 1.23 | 1.04 | 0.91 |
| 10 | 1.72 | 1.28 | 1.10 | 0.97 |
| 30 | 1.97 | 1.52 | 1.34 | 1.22 |
| 60 | 2.50 | 1.92 | 1.86 | 1.84 |

| Magnitude and probability of annual low flow based on period of record 1966-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.69 | 0.19 | 0.04 | 0.00 |
| 3 | 0.81 | 0.23 | 0.07 | 0.01 |
| 7 | 0.90 | 0.32 | 0.14 | 0.06 |
| 10 | 0.90 | 0.40 | 0.21 | 0.11 |
| 30 | 1.00 | 0.69 | 0.56 | 0.47 |
| 60 | 1.23 | 0.88 | 0.76 | 0.67 |

| Magnitude and probability of annual low flow based on period of record 1966-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.75 | 1.22 | 0.94 | 0.73 |
| 3 | 1.76 | 1.35 | 1.20 | 1.08 |
| 7 | 1.77 | 1.47 | 1.34 | 1.26 |
| 10 | 1.82 | 1.52 | 1.39 | 1.30 |
| 30 | 2.06 | 1.73 | 1.58 | 1.48 |
| 60 | 2.20 | 1.85 | 1.70 | 1.58 |

ARKANSAS RIVER BASIN

07234500 BEAVER RIVER NEAR FORT SUPPLY, OK
(Headwater of the North Canadian River)

LOCATION.--Lat 36°35'30", long 99°35'30", NE 1/4 NE 1/4 sec.6, T.24 N., R.22 E., at bridge on State Highway 35, 1.5 mi northwest of Fort Supply, 8.1 mi upstream from Wolf Creek, and at mile 495.8.

DRAINAGE AREA.--9,615 mi², of which 4,547 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1937 to September 1950.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1938-1950

186

Magnitude and probability of annual high flow based on period of record 1938-1950

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 6,040 | 13,100 | 19,000 | 27,600 | 34,700 | 42,300 |
| 3 | 3,700 | 8,120 | 11,900 | 17,400 | 21,900 | 26,800 |
| 7 | 2,080 | 4,740 | 7,080 | 10,600 | 13,700 | 17,000 |
| 10 | 1,660 | 3,850 | 5,870 | 9,050 | 11,900 | 15,100 |
| 30 | 789 | 1,770 | 2,690 | 4,170 | 5,510 | 7,070 |
| 60 | 501 | 1,120 | 1,670 | 2,510 | 3,260 | 4,090 |

Magnitude and probability of annual instantaneous peak flow based on 14 historic years of record, 1937-1950

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 9,640 | 19,400 | 27,800 | 40,500 | 51,400 | 63,600 | 97,200 |

Water Resources Council weighted skew = - 0.106

Duration table of daily mean flow for period of record 1938-1950

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 3,400 | 1,800 | 627 | 290 | 186 | 135 | 81.7 | 53.6 | 29.0 | 14.3 | 4.82 | 0.90 | 0.45 | 0.22 | 0.09 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1939-1950 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1938-1950 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 9.04 | 1.74 | 0.00 | 0.00 |
| 3 | 11.7 | 1.77 | 0.04 | 0.00 |
| 7 | 14.3 | 1.81 | 0.18 | 0.00 |
| 10 | 18.9 | 2.81 | 0.36 | 0.00 |
| 30 | 48.9 | 8.48 | 1.40 | 0.00 |
| 60 | 154 | 39.8 | 17.8 | 8.66 |

| Magnitude and probability of annual low flow based on period of record 1938-1949 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 8.90 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1938-1950 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.78 | 0.00 | 0.00 | 0.00 |
| 3 | 3.33 | 0.00 | 0.00 | 0.00 |
| 7 | 4.32 | 0.00 | 0.00 | 0.00 |
| 10 | 4.60 | 0.00 | 0.00 | 0.00 |
| 30 | 4.95 | 0.00 | 0.00 | 0.00 |
| 60 | 10.5 | 0.00 | 0.00 | 0.00 |

ARKANSAS RIVER BASIN

07235000 WOLF CREEK AT LIPSCOMB, TX

LOCATION.--Lat 36°14'19", long 100°16'31", Lipscomb County, Hydrologic Unit 11100203, on right bank at downstream side of State Highway 305, 0.3 mi north of Lipscomb, 0.6 mi downstream from Sand Creek, 2 mi upstream from Plum Creek, and 61.2 mi upstream from mouth.

DRAINAGE AREA.--697 mi², of which 222 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1937 to September 1942, October 1961 to current year. Prior to 1941, monthly discharge only, published in WSP 1311.

REMARKS.--There are several small diversions upstream from station for irrigation and recreation. Since installation of the gage, at least 10 percent of contributing drainage area has been regulated by Lake Fryer (capacity 2,792 acre-ft) 30 mi upstream. After 1978, irrigation development has had a significant effect on streamflow (Wahl and Tortorelli, 1997).

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1962-1971

13.9

Magnitude and probability of annual high flow based on period of record 1962-1971

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 867 | 2,000 | 3,000 | 4,490 | 5,760 | 7,140 |
| 3 | 383 | 854 | 1,270 | 1,910 | 2,470 | 3,090 |
| 7 | 193 | 420 | 621 | 927 | 1,190 | 1,490 |
| 10 | 147 | 330 | 498 | 766 | 1,010 | 1,280 |
| 30 | 58.3 | 135 | 210 | 338 | 461 | 610 |
| 60 | 35.4 | 78.6 | 118 | 181 | 238 | 303 |

Magnitude and probability of annual instantaneous peak flow based on 10 years of record, 1962-1971

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 3,240 | 7,040 | 10,100 | 14,400 | 17,900 | 21,400 | 30,000 |

station skew = - 0.481

Duration table of daily mean flow for period of record 1962-1971

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 165 | 65.1 | 21.8 | 12.8 | 10.3 | 8.66 | 6.73 | 5.60 | 4.67 | 3.70 | 2.51 | 1.37 | 0.66 | 0.33 | 0.13 | 0.07 |

| Magnitude and probability of annual low flow based on period of record 1963-1971 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.09 | 0.00 | 0.00 | 0.00 |
| 3 | 0.11 | 0.00 | 0.00 | 0.00 |
| 7 | 0.16 | 0.02 | 0.00 | 0.00 |
| 10 | 0.18 | 0.02 | 0.00 | 0.00 |
| 30 | 0.38 | 0.05 | 0.00 | 0.00 |
| 60 | 1.62 | 0.53 | 0.27 | 0.15 |

| Magnitude and probability of annual low flow based on period of record 1962-1971 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.73 | 0.11 | 0.00 | 0.00 |
| 3 | 0.94 | 0.18 | 0.00 | 0.00 |
| 7 | 1.18 | 0.40 | 0.22 | 0.14 |
| 10 | 1.30 | 0.43 | 0.24 | 0.14 |
| 30 | 2.67 | 1.40 | 0.99 | 0.74 |
| 60 | 4.75 | 3.04 | 2.42 | 2.01 |

| Magnitude and probability of annual low flow based on period of record 1962-1970 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.09 | 0.00 | 0.00 | 0.00 |
| 3 | 0.11 | 0.00 | 0.00 | 0.00 |
| 7 | 0.17 | 0.02 | 0.00 | 0.00 |
| 10 | 0.20 | 0.02 | 0.00 | 0.00 |
| 30 | 0.38 | 0.05 | 0.00 | 0.00 |
| 60 | 2.75 | 0.82 | 0.38 | 0.19 |

| Magnitude and probability of annual low flow based on period of record 1962-1971 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.57 | 0.80 | 0.55 | 0.40 |
| 3 | 1.62 | 0.81 | 0.56 | 0.42 |
| 7 | 2.04 | 1.08 | 0.77 | 0.59 |
| 10 | 2.23 | 1.31 | 1.02 | 0.84 |
| 30 | 3.50 | 2.22 | 1.76 | 1.45 |
| 60 | 4.36 | 2.99 | 2.48 | 2.14 |

ARKANSAS RIVER BASIN
07235000 WOLF CREEK AT LIPSCOMB, TX—Continued
REGULATED IRRIGATION PERIOD

Mean annual flow, in ft³/s, based on period of record 1978-1999

7.50

| Magnitude and probability of annual high flow based on period of record 1978-1999 | | | | | | |
|--|----------|----------|-----------|----------|----------|-----------|
| Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 116 | 635 | 1,610 | 4,470 | 8,790 | 16,400 |
| 3 | 69.3 | 343 | 824 | 2,160 | 4,110 | 7,390 |
| 7 | 42.9 | 179 | 396 | 956 | 1,720 | 2,960 |
| 10 | 35.3 | 138 | 296 | 692 | 1,220 | 2,070 |
| 30 | 19.2 | 62.7 | 123 | 261 | 436 | 701 |
| 60 | 13.5 | 39.3 | 71.9 | 142 | 224 | 343 |

Magnitude and probability of annual instantaneous peak flow based on 22 years of record, 1978-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 259 | 1,530 | 3,830 | 10,100 | 18,800 | 32,800 | 100,000 |

station skew = - 0.054

Duration table of daily mean flow for period of record 1978-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 59.8 | 32.9 | 18.7 | 11.8 | 8.00 | 5.91 | 3.78 | 2.81 | 2.26 | 1.74 | 1.18 | 0.81 | 0.40 | 0.20 | 0.08 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1979-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.37 | 0.18 | 0.11 | 0.04 |
| 3 | 0.39 | 0.20 | 0.13 | 0.06 |
| 7 | 0.43 | 0.23 | 0.17 | 0.13 |
| 10 | 0.46 | 0.26 | 0.20 | 0.16 |
| 30 | 0.60 | 0.37 | 0.28 | 0.23 |
| 60 | 0.74 | 0.45 | 0.35 | 0.29 |

| Magnitude and probability of annual low flow based on period of record 1978-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.97 | 0.83 | 0.53 | 0.37 |
| 3 | 2.09 | 0.88 | 0.56 | 0.39 |
| 7 | 2.25 | 0.94 | 0.61 | 0.43 |
| 10 | 2.37 | 1.01 | 0.66 | 0.47 |
| 30 | 3.58 | 1.37 | 0.90 | 0.64 |
| 60 | 7.16 | 2.30 | 1.30 | 0.83 |

| Magnitude and probability of annual low flow based on period of record 1978-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.38 | 0.20 | 0.15 | 0.11 |
| 3 | 0.41 | 0.22 | 0.17 | 0.13 |
| 7 | 0.45 | 0.26 | 0.17 | 0.16 |
| 10 | 0.48 | 0.28 | 0.22 | 0.18 |
| 30 | 0.62 | 0.37 | 0.29 | 0.23 |
| 60 | 0.80 | 0.46 | 0.37 | 0.31 |

| Magnitude and probability of annual low flow based on period of record 1978-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.84 | 0.41 | 0.28 | 0.16 |
| 3 | 0.87 | 0.43 | 0.29 | 0.16 |
| 7 | 1.00 | 0.44 | 0.29 | 0.20 |
| 10 | 1.01 | 0.48 | 0.33 | 0.24 |
| 30 | 1.18 | 0.62 | 0.46 | 0.37 |
| 60 | 1.56 | 0.85 | 0.64 | 0.51 |

ARKANSAS RIVER BASIN

07236000 WOLF CREEK NEAR FARGO, OK

LOCATION.--Lat 36°23'57", long 99°37'22", SE ¼ NE ¼ sec.11, T.22 N., R.23 W., Ellis County, near right bank on downstream side of pier of county road bridge, 800 ft downstream from Boggy Creek, 1.2 mi downstream from Sixteen Mile Creek, 1.5 mi north of Fargo, and at mile 18.7.

DRAINAGE AREA.--1,624 mi², of which 238 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1942 to September 1976. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Prior to 1972 considered a natural, unregulated basin. After 1971, irrigation development began and has had a significant effect on natural streamflow since 1978 (Wahl and Tortorelli, 1997).

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1943-1971

70.8

Magnitude and probability of annual high flow based on period of record 1943-1971

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,590 | 4,320 | 7,630 | 14,500 | 22,500 | 33,700 |
| 3 | 817 | 2,300 | 4,270 | 8,770 | 14,400 | 23,200 |
| 7 | 432 | 1,200 | 2,220 | 4,580 | 7,590 | 12,300 |
| 10 | 328 | 906 | 1,690 | 3,520 | 5,890 | 9,610 |
| 30 | 160 | 431 | 785 | 1,590 | 2,600 | 4,160 |
| 60 | 110 | 281 | 504 | 1,010 | 1,660 | 2,660 |

Magnitude and probability of annual instantaneous peak flow based on 59 historic years of record, 1913-1971

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 4,300 | 9,040 | 13,500 | 20,800 | 27,700 | 35,900 | 61,400 |

Oklahoma weighted skew = 0.136

Duration table of daily mean flow for period of record 1943-1971

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 829 | 419 | 162 | 82.8 | 64.6 | 56.0 | 44.9 | 37.3 | 31.6 | 25.6 | 18.8 | 11.0 | 1.92 | 0.60 | 0.24 | 0.12 |

| Magnitude and probability of annual low flow based on period of record 1944-1971 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.65 | 0.00 | 0.00 | 0.00 |
| 3 | 0.84 | 0.00 | 0.00 | 0.00 |
| 7 | 0.86 | 0.00 | 0.00 | 0.00 |
| 10 | 1.02 | 0.00 | 0.00 | 0.00 |
| 30 | 2.92 | 0.00 | 0.00 | 0.00 |
| 60 | 9.87 | 1.01 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1943-1971 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 20.2 | 11.0 | 7.44 | 5.20 |
| 3 | 21.4 | 11.8 | 8.07 | 5.70 |
| 7 | 23.6 | 13.5 | 9.54 | 6.94 |
| 10 | 24.9 | 14.6 | 10.6 | 7.88 |
| 30 | 32.2 | 21.1 | 17.8 | 15.9 |
| 60 | 58.9 | 30.1 | 23.0 | 19.2 |

| Magnitude and probability of annual low flow based on period of record 1943-1970 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.65 | 0.00 | 0.00 | 0.00 |
| 3 | 0.84 | 0.00 | 0.00 | 0.00 |
| 7 | 0.86 | 0.00 | 0.00 | 0.00 |
| 10 | 1.02 | 0.00 | 0.00 | 0.00 |
| 30 | 2.92 | 0.00 | 0.00 | 0.00 |
| 60 | 9.99 | 1.85 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1943-1971 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 16.5 | 4.48 | 0.00 | 0.00 |
| 3 | 17.5 | 5.34 | 0.00 | 0.00 |
| 7 | 20.0 | 5.80 | 1.15 | 0.00 |
| 10 | 22.6 | 6.70 | 1.50 | 0.08 |
| 30 | 28.1 | 9.88 | 4.04 | 1.58 |
| 60 | 31.1 | 15.3 | 8.76 | 4.95 |

ARKANSAS RIVER BASIN

07237000 WOLF CREEK NEAR FORT SUPPLY, OK

LOCATION.--Lat 36°34'00", long 99°33'05", SE 1/4 SE 1/4 sec.9, T.24 N., R.22 W., Woodward County, Hydrologic Unit 11100203, on left bank on downstream side of U.S. Highway 270, 1.0 mi southeast of Fort Supply, 1.6 mi downstream from Fort Supply Dam, and at mile 3.9.

DRAINAGE AREA.--1,739 mi², of which 241 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1937 to September 1993. Prior to October 1941, published as "Near Supply".

REMARKS.--Flow completely regulated since May 1942 by Fort Supply Lake (station 07236500). After 1971, irrigation development began and has had a significant effect on streamflow since 1978 (Wahl and Tortorelli, 1997).

REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1943-1971 |
| 64.5 |

| Magnitude and probability of annual high flow based on period of record 1943-1971 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 820 | 1,870 | 2,620 | 3,510 | 4,120 | 4,660 |
| 3 | 680 | 1,560 | 2,230 | 3,070 | 3,680 | 4,260 |
| 7 | 425 | 1,030 | 1,580 | 2,410 | 3,110 | 3,880 |
| 10 | 336 | 842 | 1,340 | 2,160 | 2,920 | 3,820 |
| 30 | 161 | 422 | 734 | 1,370 | 2,110 | 3,140 |
| 60 | 111 | 294 | 519 | 995 | 1,550 | 2,360 |

| Magnitude and probability of annual instantaneous peak flow based on 29 years of record, 1943-1971 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 924 | 2,170 | 3,170 | 4,550 | 5,600 | 6,650 | 9,020 |

station skew = - 0.653

| Duration table of daily mean flow for period of record 1943-1971 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 1,190 | 814 | 241 | 105 | 70.1 | 51.1 | 34.7 | 19.6 | 4.91 | 2.29 | 1.28 | 0.98 | 0.49 | 0.24 | 0.10 | 0.05 |

| Magnitude and probability of annual low flow based on period of record 1944-1971 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.23 | 0.00 | 0.00 | 0.00 |
| 3 | 0.30 | 0.00 | 0.00 | 0.00 |
| 7 | 0.34 | 0.00 | 0.00 | 0.00 |
| 10 | 0.39 | 0.00 | 0.00 | 0.00 |
| 30 | 0.54 | 0.28 | 0.00 | 0.00 |
| 60 | 1.32 | 0.31 | 0.14 | 0.06 |

| Magnitude and probability of annual low flow based on period of record 1943-1971 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.47 | 0.47 | 0.24 | 0.11 |
| 3 | 1.65 | 0.58 | 0.33 | 0.18 |
| 7 | 2.07 | 0.76 | 0.49 | 0.35 |
| 10 | 2.62 | 0.95 | 0.61 | 0.43 |
| 30 | 18.5 | 4.92 | 2.31 | 1.19 |
| 60 | 45.1 | 13.4 | 6.79 | 3.79 |

| Magnitude and probability of annual low flow based on period of record 1943-1970 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.24 | 0.00 | 0.00 | 0.00 |
| 3 | 0.31 | 0.00 | 0.00 | 0.00 |
| 7 | 0.36 | 0.00 | 0.00 | 0.00 |
| 10 | 0.41 | 0.00 | 0.00 | 0.00 |
| 30 | 0.54 | 0.30 | 0.00 | 0.00 |
| 60 | 1.62 | 0.45 | 0.25 | 0.14 |

| Magnitude and probability of annual low flow based on period of record 1943-1971 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.05 | 0.00 | 0.00 | 0.00 |
| 3 | 1.14 | 0.20 | 0.00 | 0.00 |
| 7 | 1.33 | 0.34 | 0.00 | 0.00 |
| 10 | 1.52 | 0.41 | 0.00 | 0.00 |
| 30 | 4.78 | 0.67 | 0.18 | 0.03 |
| 60 | 11.6 | 2.41 | 0.88 | 0.34 |

ARKANSAS RIVER BASIN
07237000 WOLF CREEK NEAR FORT SUPPLY, OK—Continued
REGULATED IRRIGATION PERIOD

Mean annual flow, in ft³/s, based on period of record 1978-1993

41.6

Magnitude and probability of annual high flow based on period of record 1978-1993

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 299 | 713 | 1,120 | 1,800 | 2,440 | 3,210 |
| 3 | 288 | 673 | 1,040 | 1,660 | 2,240 | 2,930 |
| 7 | 242 | 552 | 861 | 1,390 | 1,910 | 2,550 |
| 10 | 209 | 471 | 733 | 1,190 | 1,650 | 2,220 |
| 30 | 130 | 263 | 389 | 606 | 815 | 1,070 |
| 60 | 96.8 | 179 | 250 | 362 | 462 | 579 |

Magnitude and probability of annual instantaneous peak flow based on 16 years of record, 1978-1993

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 306 | 735 | 1,160 | 1,900 | 2,600 | 3,460 | 6,140 |

station skew = 0.000

Duration table of daily mean flow for period of record 1978-1993

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 373 | 246 | 144 | 94.9 | 67.7 | 59.4 | 44.6 | 28.7 | 18.3 | 5.21 | 2.14 | 1.43 | 1.01 | 0.52 | 0.21 | 0.10 |

| Magnitude and probability of annual low flow based on period of record 1979-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.80 | 0.54 | 0.45 | 0.40 |
| 3 | 0.83 | 0.55 | 0.45 | 0.40 |
| 7 | 0.94 | 0.60 | 0.51 | 0.45 |
| 10 | 0.95 | 0.60 | 0.51 | 0.45 |
| 30 | 1.09 | 0.67 | 0.58 | 0.53 |
| 60 | 1.97 | 0.81 | 0.60 | 0.57 |

| Magnitude and probability of annual low flow based on period of record 1978-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.32 | 1.16 | 0.72 | 0.51 |
| 3 | 4.84 | 1.52 | 0.86 | 0.55 |
| 7 | 7.68 | 2.34 | 1.24 | 0.73 |
| 10 | 9.93 | 2.93 | 1.48 | 0.82 |
| 30 | 28.3 | 14.3 | 10.0 | 7.50 |
| 60 | 59.1 | 31.2 | 23.0 | 18.1 |

| Magnitude and probability of annual low flow based on period of record 1978-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.88 | 0.54 | 0.45 | 0.40 |
| 3 | 0.90 | 0.55 | 0.45 | 0.40 |
| 7 | 1.01 | 0.61 | 0.51 | 0.45 |
| 10 | 1.02 | 0.61 | 0.51 | 0.45 |
| 30 | 1.20 | 0.68 | 0.58 | 0.53 |
| 60 | 2.23 | 0.89 | 0.60 | 0.57 |

| Magnitude and probability of annual low flow based on period of record 1978-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.17 | 0.79 | 0.72 | 0.68 |
| 3 | 1.39 | 0.82 | 0.72 | 0.69 |
| 7 | 1.88 | 0.88 | 0.74 | 0.70 |
| 10 | 2.72 | 0.98 | 0.75 | 0.70 |
| 30 | 5.47 | 1.47 | 0.76 | 0.72 |
| 60 | 8.66 | 2.17 | 1.02 | 0.73 |

ARKANSAS RIVER BASIN

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK

LOCATION.--Lat 36°26'12", long 99°16'41", SW ¼ SW ¼ sec.30, T.23 N., R.19 W., Woodward County, Hydrologic Unit 11100301, on downstream side of pier of bridge on State Highway 412 (formerly State Highway 15), 275 ft downstream from The Atchison, Topeka and Santa Fe Railway Co. bridge, 6.0 mi east of Woodward, 7.2 mi upstream from Indian Creek, 27.5 mi downstream from Wolf Creek, and at mile 460.2.

DRAINAGE AREA.--11,589 mi², of which 4,812 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1903 to September 1905 (gage heights only), October 1905 to June 1906, October 1938 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as Canadian River (North Fork) near Woodward 1903-06. Gage-height records collected in this vicinity since 1919 are contained in reports of National Weather Service.

REMARKS.--Some regulation since May 1942 by Fort Supply Lake (station 07236500) on Wolf Creek, 33.0 mi upstream. Prior to 1972 considered a natural, unregulated basin. After 1978, irrigation development has had a significant effect on natural streamflow (Wahl and Tortorelli, 1997). Flow regulated since October 1978 by Optima Lake (station 07233200), 163.0 mi upstream, and since May 1991 by Palo Duro reservoir (station 07233550).

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1939-1971

216

Magnitude and probability of annual high flow based on period of record 1939-1971

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,460 | 8,840 | 14,800 | 25,900 | 37,500 | 52,700 |
| 3 | 2,460 | 6,140 | 10,200 | 17,800 | 25,900 | 36,500 |
| 7 | 1,540 | 3,810 | 6,360 | 11,300 | 16,500 | 23,600 |
| 10 | 1,240 | 3,140 | 5,270 | 9,420 | 13,900 | 20,000 |
| 30 | 638 | 1,630 | 2,740 | 4,870 | 7,160 | 10,200 |
| 60 | 423 | 1,100 | 1,890 | 3,460 | 5,190 | 7,580 |

Magnitude and probability of annual instantaneous peak flow based on 34 historic years of record, 1938-1971

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 5,330 | 12,400 | 19,400 | 31,300 | 42,600 | 56,200 | 98,700 |

Water Resources Council weighted skew = 0.015

Duration table of daily mean flow for period of record 1939-1971

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 3,540 | 2,180 | 874 | 371 | 227 | 166 | 104 | 70.5 | 44.3 | 22.7 | 8.03 | 1.21 | 0.55 | 0.27 | 0.11 | 0.05 |

| Magnitude and probability of annual low flow based on period of record 1940-1971 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.29 | 0.00 | 0.00 | 0.00 |
| 60 | 4.32 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1939-1971 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 13.2 | 1.56 | 0.00 | 0.00 |
| 3 | 14.0 | 1.98 | 0.00 | 0.00 |
| 7 | 16.1 | 2.76 | 0.69 | 0.00 |
| 10 | 20.0 | 3.27 | 0.95 | 0.22 |
| 30 | 47.4 | 10.8 | 4.48 | 2.06 |
| 60 | 144 | 42.4 | 22.2 | 13.0 |

| Magnitude and probability of annual low flow based on period of record 1939-1970 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.58 | 0.00 | 0.00 | 0.00 |
| 60 | 9.19 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1939-1971 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 6.06 | 0.00 | 0.00 | 0.00 |
| 3 | 6.71 | 0.00 | 0.00 | 0.00 |
| 7 | 7.96 | 0.00 | 0.00 | 0.00 |
| 10 | 8.50 | 0.00 | 0.00 | 0.00 |
| 30 | 11.9 | 0.48 | 0.00 | 0.00 |
| 60 | 16.4 | 1.58 | 0.07 | 0.00 |

ARKANSAS RIVER BASIN

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK—Continued

REGULATED IRRIGATION PERIOD

Mean annual flow, in ft³/s, based on period of record 1979-1999

113

| Magnitude and probability of annual high flow based on period of record 1979-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 693 | 1,390 | 1,880 | 2,490 | 2,930 | 3,330 |
| 3 | 603 | 1,240 | 1,710 | 2,310 | 2,750 | 3,170 |
| 7 | 513 | 1,050 | 1,430 | 1,910 | 2,250 | 2,580 |
| 10 | 470 | 944 | 1,280 | 1,690 | 1,980 | 2,250 |
| 30 | 329 | 642 | 868 | 1,150 | 1,360 | 1,560 |
| 60 | 260 | 491 | 651 | 847 | 986 | 1,120 |

Magnitude and probability of annual instantaneous peak flow based on 21 years of record, 1979-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 759 | 1,460 | 1,980 | 2,680 | 3,220 | 3,760 | 5,030 |

station skew = - 0.454

Duration table of daily mean flow for period of record 1979-1962

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 850 | 621 | 407 | 275 | 206 | 169 | 114 | 82.6 | 61.1 | 42.0 | 22.8 | 12.4 | 6.51 | 3.91 | 2.04 | 1.41 |

| Magnitude and probability of annual low flow based on period of record 1980-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.95 | 1.60 | 0.81 | 0.00 |
| 3 | 5.40 | 1.65 | 0.83 | 0.08 |
| 7 | 6.46 | 1.71 | 0.91 | 0.40 |
| 10 | 6.86 | 1.96 | 0.95 | 0.50 |
| 30 | 8.60 | 2.88 | 1.62 | 1.01 |
| 60 | 10.7 | 4.00 | 2.47 | 1.68 |

| Magnitude and probability of annual low flow based on period of record 1979-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 59.8 | 26.8 | 16.9 | 11.3 |
| 3 | 63.8 | 28.7 | 18.1 | 12.1 |
| 7 | 69.5 | 31.4 | 19.9 | 13.4 |
| 10 | 73.7 | 33.6 | 21.4 | 14.4 |
| 30 | 95.9 | 42.3 | 27.4 | 19.0 |
| 60 | 165 | 71.0 | 43.4 | 28.2 |

| Magnitude and probability of annual low flow based on period of record 1979-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.95 | 1.60 | 0.83 | 0.00 |
| 3 | 5.40 | 1.65 | 0.85 | 0.08 |
| 7 | 6.46 | 1.71 | 0.91 | 0.40 |
| 10 | 6.86 | 1.96 | 0.95 | 0.51 |
| 30 | 8.66 | 2.88 | 1.62 | 1.01 |
| 60 | 11.8 | 4.27 | 2.56 | 1.69 |

| Magnitude and probability of annual low flow based on period of record 1979-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 16.0 | 6.15 | 3.80 | 2.58 |
| 3 | 17.0 | 6.48 | 3.98 | 2.69 |
| 7 | 18.5 | 6.85 | 4.16 | 2.79 |
| 10 | 19.7 | 7.06 | 4.21 | 3.00 |
| 30 | 25.9 | 10.0 | 6.20 | 4.22 |
| 60 | 32.3 | 13.4 | 8.57 | 5.98 |

ARKANSAS RIVER BASIN

07238000 NORTH CANADIAN RIVER NEAR SEILING, OK

LOCATION.--Lat 36°11'00", long 98°55'15", in NW ¼ sec.28, T.20 N., R.16 W., Major County, Hydrologic Unit 11100301, near center of span on downstream side of pier of bridge on U.S. Highway 60, 2.0 mi upstream from Seiling Creek, 2.2 mi north of Seiling, 2.8 mi downstream from Deep Creek, and at mile 422.6.

DRAINAGE AREA.--12,261 mi², of which 4,847 mi is probably noncontributing.

PERIOD OF RECORD.--July 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,675.53 ft above sea level. July 1, 1946 to Aug. 17, 1964, at site 60 ft downstream and prior to Oct. 1, 1954, at datum 5.00 ft higher.

REMARKS.--Some regulation since May 1942 by Fort Supply Lake. Prior to 1972 considered a natural, unregulated basin. After 1978, irrigation development has had a significant effect on natural streamflow (Wahl and Tortorelli, 1997). Minor regulation since October 1978 by Optima Lake, and since May 1991 by Palo Duro Reservoir (station 07233550).

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1947-1971

237

Magnitude and probability of annual high flow based on period of record 1947-1971

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 2,760 | 6,740 | 11,500 | 18,500 | 27,500 | 37,300 |
| 3 | 1,970 | 4,980 | 8,660 | 16,500 | 25,700 | 32,000 |
| 7 | 1,320 | 3,320 | 5,750 | 10,900 | 16,900 | 25,700 |
| 10 | 1,130 | 2,860 | 4,920 | 9,230 | 14,200 | 21,400 |
| 30 | 621 | 1,610 | 2,740 | 4,970 | 7,420 | 10,800 |
| 60 | 450 | 1,210 | 2,080 | 3,800 | 5,660 | 8,160 |

Magnitude and probability of annual instantaneous peak flow based on 48 historic years of record, 1924-1971

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 4,250 | 8,800 | 13,200 | 20,800 | 28,200 | 37,400 | 67,600 |

Water Resources Council weighted skew = 0.329

Duration table of daily mean flow for period of record 1947-1971

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 3,580 | 2,250 | 1,030 | 436 | 269 | 199 | 129 | 90.1 | 59.4 | 33.1 | 13.9 | 0.96 | 0.48 | 0.24 | 0.10 | 0.05 |

| Magnitude and probability of annual low flow based on period of record 1948-1971 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.86 | 0.00 | 0.00 | 0.00 |
| 60 | 9.31 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1947-1971 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 20.8 | 2.06 | 0.00 | 0.00 |
| 3 | 25.9 | 3.61 | 0.00 | 0.00 |
| 7 | 33.5 | 3.67 | 0.25 | 0.00 |
| 10 | 36.7 | 5.20 | 0.60 | 0.00 |
| 30 | 74.7 | 16.1 | 5.28 | 0.91 |
| 60 | 167 | 53.3 | 29.5 | 18.2 |

| Magnitude and probability of annual low flow based on period of record 1947-1970 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.89 | 0.00 | 0.00 | 0.00 |
| 60 | 15.5 | 0.04 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1947-1971 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 17.8 | 0.00 | 0.00 | 0.00 |
| 3 | 18.0 | 0.00 | 0.00 | 0.00 |
| 7 | 20.1 | 0.00 | 0.00 | 0.00 |
| 10 | 20.9 | 0.00 | 0.00 | 0.00 |
| 30 | 28.9 | 0.00 | 0.00 | 0.00 |
| 60 | 36.0 | 0.32 | 0.00 | 0.00 |

ARKANSAS RIVER BASIN

07238000 NORTH CANADIAN RIVER NEAR SEILING, OK—Continued

REGULATED IRRIGATION PERIOD

Mean annual flow, in ft³/s, based on period of record 1979-1999

169

| Magnitude and probability of annual high flow based on period of record 1979-1999 | | | | | | |
|---|---|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,520 | 2,860 | 3,750 | 4,800 | 5,520 | 6,160 |
| 3 | 1,150 | 2,160 | 2,780 | 3,450 | 3,860 | 4,210 |
| 7 | 835 | 1,530 | 1,940 | 2,390 | 2,670 | 2,900 |
| 10 | 749 | 1,360 | 1,730 | 2,120 | 2,370 | 2,580 |
| 30 | 523 | 942 | 1,200 | 1,500 | 1,690 | 1,850 |
| 60 | 396 | 699 | 887 | 1,100 | 1,240 | 1,360 |

Magnitude and probability of annual instantaneous peak flow based on 21 years of record, 1979-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 2,010 | 3,720 | 5,050 | 6,900 | 8,390 | 9,960 | 13,900 |

station skew = - 0.243

Duration table of daily mean flow for period of record 1979-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 1,290 | 958 | 598 | 398 | 299 | 243 | 170 | 122 | 86.8 | 65.0 | 44.3 | 28.5 | 11.7 | 4.39 | 0.79 | 0.40 |

| Magnitude and probability of annual low flow based on period of record 1980-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.71 | 0.00 | 0.00 | 0.00 |
| 3 | 5.03 | 0.00 | 0.00 | 0.00 |
| 7 | 5.54 | 0.15 | 0.00 | 0.00 |
| 10 | 6.60 | 0.53 | 0.00 | 0.00 |
| 30 | 11.4 | 2.19 | 0.77 | 0.30 |
| 60 | 18.0 | 4.53 | 1.92 | 0.86 |

| Magnitude and probability of annual low flow based on period of record 1979-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 98.6 | 48.4 | 31.9 | 22.0 |
| 3 | 101 | 50.1 | 33.5 | 23.6 |
| 7 | 107 | 53.4 | 36.4 | 26.4 |
| 10 | 110 | 55.7 | 38.6 | 28.3 |
| 30 | 139 | 69.5 | 49.2 | 37.3 |
| 60 | 246 | 111 | 70.4 | 47.2 |

| Magnitude and probability of annual low flow based on period of record 1979-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.71 | 0.00 | 0.00 | 0.00 |
| 3 | 5.03 | 0.00 | 0.00 | 0.00 |
| 7 | 5.54 | 0.15 | 0.00 | 0.00 |
| 10 | 7.00 | 0.53 | 0.00 | 0.00 |
| 30 | 11.4 | 2.19 | 0.77 | 0.30 |
| 60 | 19.3 | 4.61 | 1.92 | 0.86 |

| Magnitude and probability of annual low flow based on period of record 1979-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 33.7 | 13.8 | 8.76 | 6.04 |
| 3 | 35.1 | 14.5 | 9.16 | 6.30 |
| 7 | 38.4 | 15.8 | 9.97 | 6.83 |
| 10 | 40.3 | 16.6 | 10.5 | 7.20 |
| 30 | 52.2 | 23.9 | 16.0 | 11.5 |
| 60 | 61.7 | 31.8 | 23.1 | 17.9 |

ARKANSAS RIVER BASIN

07239000 NORTH CANADIAN RIVER AT CANTON, OK

LOCATION.--Lat 36°04'37", long 98°35'47", in NE ¼ SW 1¼ sec.33, T.19 N., R.13 W., Blaine County, Hydrologic Unit 11100301, on right bank 2,700 ft downstream from Canton Lake, 1.5 mi northwest of Canton, 4.8 mi upstream from Minnehaha Creek, and at mile 393.8

DRAINAGE AREA.--12,484 mi², of which 4,883 mi is probably noncontributing.

PERIOD OF RECORD.--October 1937 to September 1993. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected in this vicinity since 1914 are contained in reports of National Weather Service.

REMARKS.--Flow partly regulated by Fort Supply Lake for period May 1942 to April 1948 and completely regulated thereafter by Canton Lake.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1938-1947

273

Magnitude and probability of annual high flow based on period of record 1938-1947

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
|---------------------------------|----------|----------|-----------|----------|----------|-----------|
| 1 | 5,550 | 12,500 | 18,400 | 25,500 | 31,600 | 38,400 |
| 3 | 3,610 | 7,860 | 11,700 | 17,600 | 22,700 | 28,600 |
| 7 | 2,410 | 5,080 | 7,480 | 11,300 | 14,700 | 18,600 |
| 10 | 2,040 | 4,210 | 6,030 | 8,730 | 11,000 | 13,500 |
| 30 | 1,090 | 2,160 | 2,950 | 3,970 | 4,740 | 5,490 |
| 60 | 692 | 1,380 | 1,870 | 2,510 | 2,970 | 3,430 |

Magnitude and probability of annual instantaneous peak flow based on 10 years of record, 1938-1947

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 8,000 | 13,800 | 18,500 | 25,600 | 31,700 | 38,500 | 57,800 |

Water Resources Council weighted skew= 0.194

Duration table of daily mean flow for period of record 1938-1947

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 3,910 | 2,440 | 1,050 | 615 | 374 | 268 | 172 | 103 | 59.7 | 33.2 | 9.96 | 0.91 | 0.45 | 0.23 | 0.09 | 0.05 |

| Magnitude and probability of annual low flow based on period of record 1939-1947 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 2.81 | 0.20 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1938-1947 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 27.2 | 0.00 | 0.00 | 0.00 |
| 3 | 36.9 | 3.38 | 0.00 | 0.00 |
| 7 | 43.3 | 6.16 | 0.00 | 0.00 |
| 10 | 51.0 | 8.26 | 0.00 | 0.00 |
| 30 | 177 | 38.2 | 0.00 | 0.00 |
| 60 | 380 | 124 | 63.2 | 34.4 |

| Magnitude and probability of annual low flow based on period of record 1938-1946 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.20 | 0.00 | 0.00 | 0.00 |
| 60 | 8.15 | 0.47 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1938-1947 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.67 | 0.00 | 0.00 | 0.00 |
| 3 | 7.25 | 0.00 | 0.00 | 0.00 |
| 7 | 9.67 | 0.00 | 0.00 | 0.00 |
| 10 | 10.3 | 0.00 | 0.00 | 0.00 |
| 30 | 12.4 | 0.00 | 0.00 | 0.00 |
| 60 | 16.2 | 0.97 | 0.00 | 0.00 |

ARKANSAS RIVER BASIN
 07239000 NORTH CANADIAN RIVER AT CANTON, OK—Continued
 REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1949-1993

156

| Magnitude and probability of annual high flow based on period of record 1949-1993 | | | | | | |
|--|----------|----------|-----------|----------|----------|-----------|
| Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,090 | 1,610 | 2,040 | 2,620 | 3,090 | 3,610 |
| 3 | 1,070 | 1,590 | 2,000 | 2,580 | 3,070 | 3,620 |
| 7 | 986 | 1,480 | 1,890 | 2,510 | 3,050 | 3,680 |
| 10 | 915 | 1,410 | 1,820 | 2,430 | 2,970 | 3,590 |
| 30 | 515 | 939 | 1,370 | 2,180 | 3,020 | 4,140 |
| 60 | 331 | 668 | 1,050 | 1,830 | 2,720 | 3,780 |

Magnitude and probability of annual instantaneous peak flow based on 45 years of record, 1949-1993

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 1,100 | 1,610 | 2,080 | 2,880 | 3,650 | 4,610 | 7,810 |

station skew = 1.440

Duration table of daily mean flow for period of record 1949-1993

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 2,240 | 1,360 | 885 | 481 | 244 | 157 | 61.0 | 22.3 | 13.3 | 7.73 | 5.54 | 3.90 | 2.68 | 2.01 | 0.94 | 0.47 |

| Magnitude and probability of annual low flow based on period of record 1950-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.00 | 1.29 | 0.74 | 0.41 |
| 3 | 3.35 | 1.52 | 0.92 | 0.55 |
| 7 | 3.64 | 1.66 | 1.00 | 0.58 |
| 10 | 4.66 | 1.74 | 1.02 | 0.60 |
| 30 | 4.72 | 1.88 | 1.09 | 0.67 |
| 60 | 6.05 | 2.28 | 1.41 | 0.96 |

| Magnitude and probability of annual low flow based on period of record 1949-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 6.58 | 2.77 | 1.71 | 1.13 |
| 3 | 7.60 | 3.08 | 1.87 | 1.23 |
| 7 | 10.2 | 3.34 | 1.91 | 1.25 |
| 10 | 12.1 | 3.54 | 1.93 | 1.30 |
| 30 | 23.3 | 5.39 | 2.54 | 1.37 |
| 60 | 88.0 | 20.2 | 8.49 | 3.95 |

| Magnitude and probability of annual low flow based on period of record 1949-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.69 | 1.93 | 1.06 | 0.56 |
| 3 | 4.82 | 2.17 | 1.31 | 0.78 |
| 7 | 5.06 | 2.25 | 1.38 | 0.86 |
| 10 | 6.89 | 2.28 | 1.42 | 0.90 |
| 30 | 7.70 | 2.87 | 1.65 | 1.03 |
| 60 | 13.0 | 3.98 | 2.15 | 1.29 |

| Magnitude and probability of annual low flow based on period of record 1949-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.66 | 1.79 | 0.95 | 0.53 |
| 3 | 4.94 | 1.79 | 0.98 | 0.57 |
| 7 | 5.43 | 1.98 | 1.14 | 0.72 |
| 10 | 5.71 | 1.98 | 1.17 | 0.76 |
| 30 | 7.61 | 2.32 | 1.32 | 0.86 |
| 60 | 9.33 | 2.67 | 1.47 | 0.92 |

ARKANSAS RIVER BASIN

07239300 NORTH CANADIAN RIVER BELOW WEAVERS CREEK NEAR WATONGA, OK

LOCATION.--Lat 35°48'43", long 98°25'14", NE 1/4, NE 1/4, sec.1, T.15 N., R.12 W., Blaine County, Hydrologic Unit 11100301, near right abutment on downstream side of U.S. Highway 281, 2.0 mi south of intersection of U.S. Highway 281 and State Highway 33 and at mile 361.2.

DRAINAGE AREA.--12,736 mi², of which 4,899 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1983 to current year.

REMARKS.--Considerable regulation by Canton Lake (07238500) 33 mi upstream.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1984-1999

214

Magnitude and probability of annual high flow based on period of record 1984-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,540 | 2,700 | 3,640 | 5,010 | 6,170 | 7,460 |
| 3 | 1,170 | 1,820 | 2,220 | 2,680 | 3,000 | 3,290 |
| 7 | 1,020 | 1,260 | 1,330 | 1,370 | 2,100 | 2,500 |
| 10 | 964 | 1,100 | 1,120 | 1,300 | 1,900 | 2,200 |
| 30 | 661 | 930 | 1,050 | 1,220 | 1,500 | 1,750 |
| 60 | 452 | 761 | 965 | 1,210 | 1,390 | 1,560 |

Magnitude and probability of annual instantaneous peak flow based on 16 years of record, 1984-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 2,300 | 4,040 | 5,270 | 6,860 | 8,040 | 9,210 | 11,900 |

station skew= - 0.435

Duration table of daily mean flow for period of record 1984-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 1,090 | 1,050 | 906 | 704 | 535 | 396 | 219 | 116 | 59.2 | 41.3 | 31.1 | 23.8 | 16.9 | 11.5 | 8.97 | 7.71 |

| Magnitude and probability of annual low flow based on period of record 1985-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 15.6 | 9.13 | 6.72 | 5.15 |
| 3 | 16.3 | 9.65 | 7.17 | 5.55 |
| 7 | 17.3 | 10.3 | 7.73 | 6.09 |
| 10 | 18.2 | 10.8 | 8.10 | 6.37 |
| 30 | 20.3 | 12.2 | 9.75 | 8.26 |
| 60 | 23.5 | 14.4 | 12.2 | 9.59 |

| Magnitude and probability of annual low flow based on period of record 1984-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 46.2 | 17.9 | 10.7 | 6.98 |
| 3 | 49.1 | 18.9 | 11.4 | 7.20 |
| 7 | 60.2 | 20.3 | 11.6 | 7.32 |
| 10 | 69.4 | 21.9 | 12.1 | 7.49 |
| 30 | 111 | 32.7 | 17.0 | 9.88 |
| 60 | 179 | 53.8 | 27.6 | 15.5 |

| Magnitude and probability of annual low flow based on period of record 1984-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 18.6 | 9.96 | 7.10 | 5.33 |
| 3 | 19.0 | 10.3 | 7.37 | 5.56 |
| 7 | 20.2 | 11.1 | 8.08 | 6.17 |
| 10 | 21.1 | 11.6 | 8.44 | 6.43 |
| 30 | 24.7 | 13.5 | 10.2 | 8.26 |
| 60 | 36.7 | 18.6 | 13.8 | 11.0 |

| Magnitude and probability of annual low flow based on period of record 1984-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 24.0 | 12.5 | 9.05 | 7.02 |
| 3 | 25.5 | 13.2 | 9.52 | 7.10 |
| 7 | 29.3 | 13.5 | 9.46 | 7.20 |
| 10 | 31.1 | 14.1 | 9.68 | 7.26 |
| 30 | 51.3 | 20.4 | 12.7 | 8.64 |
| 60 | 62.5 | 23.9 | 14.5 | 9.59 |

ARKANSAS RIVER BASIN

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK

LOCATION.--Lat 35°37'01", long 98°03'54", in NW ¼ SW ¼ of sec.9, T.13 N., R.8 W., Canadian County, Hydrologic Unit 11100301, near left bank on downstream side of county road bridge, 1 mi north and 3 mi east of Calumet, and at mile 320.7.

DRAINAGE AREA.--12,962 mi², of which 4,899 is noncontributing.

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

REMARKS.--Some regulation by Canton Lake (station 07238500).

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1989-1999

301

Magnitude and probability of annual high flow based on period of record 1980-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 2,600 | 4,510 | 5,980 | 8,030 | 9,700 | 12,000 |
| 3 | 1,940 | 3,630 | 5,110 | 7,430 | 9,520 | 11,500 |
| 7 | 1,440 | 2,510 | 3,370 | 4,610 | 5,650 | 6,790 |
| 10 | 1,330 | 2,210 | 2,810 | 3,580 | 4,150 | 4,720 |
| 30 | 915 | 1,430 | 1,720 | 2,030 | 2,220 | 2,800 |
| 60 | 654 | 1,140 | 1,460 | 1,870 | 2,160 | 2,440 |

Magnitude and probability of annual instantaneous peak flow based on 11 years of record, 1989-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 3,060 | 5,270 | 7,090 | 9,830 | 12,200 | 14,900 | 22,400 |

station skew = 0.214

Duration table of daily mean flow for period of record 1989-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 1,900 | 1,370 | 1,060 | 867 | 704 | 553 | 317 | 165 | 106 | 76.6 | 53.1 | 38.4 | 29.9 | 23.7 | 18.0 | 15.3 |

| Magnitude and probability of annual low flow based on period of record 1990-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 24.4 | 14.0 | 10.4 | 8.33 |
| 3 | 25.3 | 14.4 | 10.9 | 8.69 |
| 7 | 26.4 | 15.1 | 11.6 | 9.35 |
| 10 | 27.3 | 15.5 | 11.9 | 9.69 |
| 30 | 31.8 | 17.7 | 13.8 | 10.9 |
| 60 | 39.6 | 23.5 | 19.3 | 14.0 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 89.2 | 35.7 | 21.7 | 14.3 |
| 3 | 95.3 | 37.0 | 22.4 | 14.7 |
| 7 | 117 | 39.9 | 22.9 | 15.1 |
| 10 | 131 | 42.8 | 23.7 | 15.3 |
| 30 | 201 | 57.9 | 29.4 | 16.5 |
| 60 | 283 | 83.1 | 41.8 | 23.2 |

| Magnitude and probability of annual low flow based on period of record 1989-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 25.5 | 14.0 | 10.4 | 8.33 |
| 3 | 26.5 | 14.5 | 10.9 | 8.69 |
| 7 | 27.4 | 15.3 | 11.6 | 9.35 |
| 10 | 30.0 | 16.5 | 12.3 | 9.72 |
| 30 | 39.2 | 19.5 | 14.0 | 10.9 |
| 60 | 69.3 | 29.2 | 19.3 | 14.0 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 43.0 | 26.3 | 20.8 | 17.5 |
| 3 | 45.7 | 26.7 | 21.3 | 16.9 |
| 7 | 47.8 | 28.1 | 22.0 | 18.2 |
| 10 | 49.7 | 28.5 | 22.1 | 18.2 |
| 30 | 78.4 | 40.0 | 28.6 | 21.9 |
| 60 | 97.3 | 45.9 | 31.3 | 22.9 |

ARKANSAS RIVER BASIN

07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK

LOCATION.--Lat 35°33'47", long 97°57'26", SW 1/4 NW 1/4 sec.33, T.13 N., R.7 W., Canadian County, Hydrologic Unit 11100301, near left downstream end of bridge on new U.S. Highway 81, 2.0 mi north of courthouse in El Reno, 2.3 mi downstream from Target Creek, and at mile 307.3.

DRAINAGE AREA.--13,042 mi² of which 4,899 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1902 to April 1908, October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected at site 1.1 mi upstream February 1914 to March 1934 and at site 0.1 mi upstream thereafter are contained in reports of National Weather Service. Published as Canadian River (North Fork) near El Reno 1902-4.

REMARKS.--Some regulation by Fort Supply Lake (station 07236500) for period May 1942 to April 1948 and by Canton Lake (station 07238500) thereafter.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1903-1947

273

Magnitude and probability of annual high flow based on period of record 1903-1947

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,670 | 6,230 | 8,290 | 11,300 | 13,600 | 15,900 |
| 3 | 2,560 | 4,710 | 6,460 | 9,030 | 11,200 | 13,600 |
| 7 | 1,880 | 3,550 | 4,960 | 7,120 | 9,000 | 11,100 |
| 10 | 1,630 | 3,050 | 4,230 | 6,000 | 7,510 | 9,200 |
| 30 | 1,010 | 1,770 | 2,330 | 3,060 | 3,640 | 4,220 |
| 60 | 715 | 1,220 | 1,560 | 1,970 | 2,250 | 2,520 |

Magnitude and probability of annual instantaneous peak flow based on 15 years of record, 1903-1947

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 4,780 | 7,180 | 9,000 | 11,600 | 13,700 | 16,000 | 22,200 |

Water Resources Council weighted skew = 0.302

Duration table of daily mean flow for period of record 1903-1947

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| 3,200 | 2,160 | 1,020 | 603 | 453 | 342 | 237 | 155 | 104 | 62.1 | 34.0 | 10.6 | 0.79 | 0.40 | 0.16 | 0.08 |

| Magnitude and probability of annual low flow based on period of record 1904-1947 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.11 | 0.00 | 0.00 | 0.00 |
| 30 | 2.58 | 0.00 | 0.00 | 0.00 |
| 60 | 10.7 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1903-1947 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 66.9 | 17.6 | 5.17 | 0.00 |
| 3 | 71.4 | 19.6 | 6.01 | 0.00 |
| 7 | 80.6 | 24.0 | 8.33 | 0.00 |
| 10 | 97.2 | 29.5 | 10.3 | 0.00 |
| 30 | 242 | 51.3 | 14.4 | 3.88 |
| 60 | 457 | 184 | 103 | 59.6 |

| Magnitude and probability of annual low flow based on period of record 1903-1946 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.27 | 0.00 | 0.00 | 0.00 |
| 10 | 0.86 | 0.00 | 0.00 | 0.00 |
| 30 | 5.39 | 0.00 | 0.00 | 0.00 |
| 60 | 19.5 | 0.90 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1903-1947 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 16.0 | 0.00 | 0.00 | 0.00 |
| 3 | 16.1 | 0.00 | 0.00 | 0.00 |
| 7 | 16.8 | 0.96 | 0.00 | 0.00 |
| 10 | 17.2 | 1.10 | 0.00 | 0.00 |
| 30 | 26.8 | 1.78 | 0.00 | 0.00 |
| 60 | 42.5 | 2.18 | 0.10 | 0.00 |

ARKANSAS RIVER BASIN

07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK—Continued

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1949-1999

232

| Magnitude and probability of annual high flow based on period of record 1949-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 2,460 | 4,530 | 6,270 | 8,930 | 11,300 | 13,900 |
| 3 | 1,830 | 3,300 | 4,570 | 6,560 | 8,350 | 10,400 |
| 7 | 1,280 | 2,190 | 3,010 | 4,360 | 5,650 | 7,200 |
| 10 | 1,120 | 1,890 | 2,580 | 3,690 | 4,720 | 5,950 |
| 30 | 664 | 1,240 | 1,750 | 2,570 | 3,320 | 4,190 |
| 60 | 447 | 931 | 1,410 | 2,230 | 3,050 | 4,060 |

Magnitude and probability of annual instantaneous peak flow based on 51 years of record, 1949-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 3,220 | 5,760 | 7,790 | 10,800 | 13,200 | 16,000 | 23,200 |

station skew = - 0.016

Duration table of daily mean flow for period of record 1949-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 2,690 | 1,720 | 1,020 | 696 | 460 | 298 | 155 | 94.2 | 57.4 | 36.0 | 22.1 | 12.4 | 2.31 | 0.65 | 0.26 | 0.13 |

| Magnitude and probability of annual low flow based on period of record 1950-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.40 | 0.00 | 0.00 | 0.00 |
| 3 | 3.70 | 0.00 | 0.00 | 0.00 |
| 7 | 4.31 | 0.00 | 0.00 | 0.00 |
| 10 | 5.17 | 0.00 | 0.00 | 0.00 |
| 30 | 10.1 | 0.11 | 0.00 | 0.00 |
| 60 | 18.4 | 3.24 | 0.76 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1949-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 31.1 | 5.23 | 0.88 | 0.00 |
| 3 | 32.8 | 6.32 | 1.81 | 0.00 |
| 7 | 42.9 | 7.06 | 2.03 | 0.55 |
| 10 | 44.9 | 9.21 | 3.42 | 1.28 |
| 30 | 88.7 | 23.8 | 10.9 | 5.13 |
| 60 | 223 | 81.2 | 45.5 | 27.4 |

| Magnitude and probability of annual low flow based on period of record 1949-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.74 | 0.00 | 0.00 | 0.00 |
| 3 | 4.00 | 0.00 | 0.00 | 0.00 |
| 7 | 4.38 | 0.00 | 0.00 | 0.00 |
| 10 | 5.25 | 0.00 | 0.00 | 0.00 |
| 30 | 8.93 | 0.24 | 0.00 | 0.00 |
| 60 | 28.9 | 4.91 | 1.18 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1949-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 16.4 | 1.87 | 0.00 | 0.00 |
| 3 | 18.4 | 2.76 | 0.36 | 0.00 |
| 7 | 21.0 | 4.25 | 0.85 | 0.00 |
| 10 | 23.5 | 5.40 | 1.70 | 0.00 |
| 30 | 29.1 | 7.32 | 2.91 | 0.77 |
| 60 | 38.6 | 9.61 | 3.74 | 0.94 |

ARKANSAS RIVER BASIN

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK

LOCATION.--Lat 35°28'43", long 97°39'47", in NE ¼ of NW ¼ of sec.31, T. 12N., R. 4W, Oklahoma County, Hydrologic Unit 11100301, on left downstream side of bridge on NW 10th Street, 0.5 mi downstream from Lake Overholser, 2.4 mi upstream from Mustang Creek, 9.1 mi southwest of State Capitol of Oklahoma, and at river mile 281.0.

DRAINAGE AREA.--13,222 mi², of which 4,899 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1952 to September 1968, October 1969 to September 1972, October 1973 to September 1987, October 1988 to current year.

REMARKS.--Flow regulated by Canton Lake (station 07238500) and Lake Overholser (station 07240500). Diversions upstream from station into Lake Overholser and Lake Hefner Canal (station 07240000).

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1953-1999

184

Magnitude and probability of annual high flow based on period of record 1953-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
|---------------------------------|----------|----------|-----------|----------|----------|-----------|
| 1 | 2,210 | 6,330 | 9,610 | 13,800 | 16,600 | 19,100 |
| 3 | 1,620 | 5,050 | 7,830 | 11,300 | 13,600 | 15,600 |
| 7 | 1,070 | 3,440 | 5,350 | 7,670 | 9,180 | 10,500 |
| 10 | 876 | 2,840 | 4,430 | 6,340 | 7,580 | 8,630 |
| 30 | 472 | 1,570 | 2,450 | 3,510 | 4,190 | 4,770 |
| 60 | 314 | 1,060 | 1,670 | 2,440 | 3,950 | 3,380 |

Magnitude and probability of annual instantaneous peak flow based on 76 historic years of record, 1924-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 3,490 | 9,110 | 14,500 | 23,200 | 30,900 | 39,600 | 63,900 |

station skew = - 0.338

Duration table of daily mean flow for period of record 1953-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 2,170 | 1,520 | 796 | 517 | 329 | 215 | 108 | 50.9 | 18.9 | 6.20 | 3.46 | 2.00 | 0.86 | 0.43 | 0.17 | 0.09 |

| Magnitude and probability of annual low flow based on period of record 1954-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.16 | 0.22 | 0.00 | 0.00 |
| 3 | 1.33 | 0.28 | 0.00 | 0.00 |
| 7 | 1.60 | 0.38 | 0.00 | 0.00 |
| 10 | 1.86 | 0.44 | 0.00 | 0.00 |
| 30 | 3.30 | 0.74 | 0.00 | 0.00 |
| 60 | 7.85 | 0.74 | 0.12 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1953-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.43 | 0.53 | 0.18 | 0.03 |
| 3 | 4.82 | 0.74 | 0.25 | 0.04 |
| 7 | 6.77 | 0.91 | 0.28 | 0.04 |
| 10 | 8.45 | 1.07 | 0.31 | 0.04 |
| 30 | 28.8 | 2.53 | 0.56 | 0.14 |
| 60 | 76.0 | 11.5 | 3.88 | 1.51 |

| Magnitude and probability of annual low flow based on period of record 1953-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.73 | 0.29 | 0.00 | 0.00 |
| 3 | 1.82 | 0.30 | 0.00 | 0.00 |
| 7 | 2.28 | 0.39 | 0.00 | 0.00 |
| 10 | 2.57 | 0.44 | 0.00 | 0.00 |
| 30 | 4.65 | 0.93 | 0.00 | 0.00 |
| 60 | 11.2 | 0.98 | 0.17 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1953-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.78 | 0.58 | 0.00 | 0.00 |
| 3 | 3.54 | 0.60 | 0.00 | 0.00 |
| 7 | 4.15 | 0.70 | 0.00 | 0.00 |
| 10 | 5.37 | 0.78 | 0.11 | 0.00 |
| 30 | 9.50 | 1.26 | 0.30 | 0.00 |
| 60 | 18.4 | 1.63 | 0.36 | 0.09 |

ARKANSAS RIVER BASIN

07241500 NORTH CANADIAN RIVER NEAR OKLAHOMA CITY, OK

LOCATION.--Lat 35°29'40", long 97°25'40", on north line of sec.29, T.12 N., R.2 W., Oklahoma County, Hydrologic Unit 11100302, near right bank on downstream side of pier of bridge on U.S. Highway 62, 4.5 mi east of State Capitol in Oklahoma City, 5.0 mi upstream from Crutcho Creek, and at mile 261.2.

DRAINAGE AREA.--13,354 mi², of which 4,899 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1938 to September 1953, October 1959 to June 1961. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Flow regulated since 1919 by Lake Overholser (station 07240500). Historical record length assumed same as that for nearby station North Canadian River below Lake Overholser near Oklahoma City, OK (07241000) for peak-frequency analysis.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1940-1960

383

Magnitude and probability of annual high flow based on period of record 1940-1960

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | 2 | | 5 | | 10 | | 25 | | 50 | | 100 | |
|---------------------------------|-------|-------|-------|--------|--------|--------|----|--|----|--|-----|--|
| | 50% | 20% | 10% | 4% | 2% | 1% | | | | | | |
| 1 | 4,850 | 7,670 | 9,750 | 12,700 | 15,000 | 17,600 | | | | | | |
| 3 | 3,800 | 6,680 | 8,760 | 11,500 | 13,600 | 15,700 | | | | | | |
| 7 | 2,720 | 5,180 | 6,950 | 9,180 | 10,800 | 12,300 | | | | | | |
| 10 | 2,290 | 4,460 | 6,020 | 8,010 | 9,460 | 10,900 | | | | | | |
| 30 | 1,370 | 2,840 | 4,000 | 5,570 | 6,780 | 8,010 | | | | | | |
| 60 | 915 | 2,100 | 3,150 | 4,730 | 6,070 | 7,540 | | | | | | |

Magnitude and probability of annual instantaneous peak flow based on 76 historic years of record, 1924-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 | 5 | 10 | 25 | 50 | 100 | 500 |
|-------|-------|--------|--------|--------|--------|--------|
| 50% | 20% | 10% | 4% | 2% | 1% | 0.2% |
| 4,860 | 8,190 | 11,800 | 18,600 | 26,100 | 36,400 | 77,600 |

station skew = 1.527

Duration table of daily mean flow for period of record 1940-1960

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 4,220 | 3,510 | 2,270 | 912 | 559 | 400 | 222 | 123 | 71.2 | 52.6 | 42.6 | 34.7 | 27.8 | 23.4 | 19.4 | 17.5 |

| Magnitude and probability of annual low flow based on period of record 1940-1953 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 25.8 | 19.4 | 16.1 | 13.6 |
| 3 | 27.3 | 21.5 | 17.7 | 15.2 |
| 7 | 29.2 | 22.1 | 18.7 | 16.6 |
| 10 | 30.3 | 22.6 | 19.2 | 17.2 |
| 30 | 35.6 | 25.3 | 21.0 | 18.1 |
| 60 | 43.5 | 27.8 | 22.9 | 20.3 |

| Magnitude and probability of annual low flow based on period of record 1939-1960 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 43.3 | 28.4 | 22.5 | 18.4 |
| 3 | 50.2 | 30.3 | 23.4 | 18.9 |
| 7 | 62.5 | 34.7 | 26.3 | 21.3 |
| 10 | 84.4 | 41.7 | 29.5 | 22.5 |
| 30 | 200 | 77.4 | 46.0 | 29.6 |
| 60 | 465 | 169 | 92.8 | 54.2 |

| Magnitude and probability of annual low flow based on period of record 1939-1952 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 27.8 | 19.9 | 16.7 | 14.4 |
| 3 | 29.7 | 22.1 | 19.1 | 17.0 |
| 7 | 33.2 | 24.7 | 21.2 | 18.8 |
| 10 | 35.4 | 25.8 | 22.0 | 19.3 |
| 30 | 40.3 | 27.6 | 23.3 | 20.6 |
| 60 | 49.3 | 31.0 | 26.9 | 24.9 |

| Magnitude and probability of annual low flow based on period of record 1939-1960 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 31.5 | 20.4 | 16.3 | 13.7 |
| 3 | 32.7 | 21.5 | 17.7 | 15.2 |
| 7 | 33.2 | 22.1 | 18.7 | 16.6 |
| 10 | 33.8 | 22.6 | 19.2 | 17.2 |
| 30 | 42.9 | 25.9 | 21.0 | 18.1 |
| 60 | 61.9 | 31.4 | 22.9 | 20.3 |

ARKANSAS RIVER BASIN

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK

LOCATION.--Lat 35°33'56", long 97°22'01", in SW 1/4 SW 1/4 sec.25, T.13 N., R.2 W., Oklahoma County, Hydrologic Unit 11100302, on right downstream abutment of county road bridge, 3.8 mi downstream from Crutch Creek, 4.0 mi west of Jones, and at mile 252.7.

DRAINAGE AREA.--13,413 mi², of which 4,899 mi² is probably noncontributing.

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

REMARKS.--Flow regulated by Canton Lake (station 07238500) and by Lake Overholser (station 07240500) where diversions are made into Lake Hefner Canal (station 07240000). Low flow sustained in part by sewage effluent from Oklahoma City.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1989-1999

555

Magnitude and probability of annual high flow based on period of record 1989-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 8,100 | 13,900 | 17,600 | 22,200 | 25,400 | 28,400 |
| 3 | 6,150 | 10,700 | 13,400 | 16,500 | 18,500 | 20,200 |
| 7 | 4,030 | 7,230 | 9,510 | 12,400 | 14,600 | 16,700 |
| 10 | 3,280 | 6,050 | 8,110 | 10,900 | 13,000 | 15,100 |
| 30 | 1,870 | 3,190 | 4,110 | 5,260 | 6,110 | 6,940 |
| 60 | 1,340 | 2,220 | 2,770 | 3,420 | 3,850 | 4,240 |

Magnitude and probability of annual instantaneous peak flow based on 11 years of record, 1989-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 12,700 | 24,200 | 33,200 | 45,900 | 56,100 | 66,900 | 93,900 |

station skew = - 0.276

Duration table of daily mean flow for period of record 1989-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 5,790 | 3,270 | 1,760 | 1,140 | 916 | 742 | 506 | 354 | 258 | 193 | 142 | 103 | 77.1 | 61.8 | 48.9 | 42.3 |

| Magnitude and probability of annual low flow based on period of record 1990-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 50.4 | 36.0 | 31.1 | 25.5 |
| 3 | 52.3 | 37.6 | 32.4 | 26.6 |
| 7 | 55.8 | 40.2 | 34.4 | 28.6 |
| 10 | 60.0 | 42.5 | 35.8 | 30.1 |
| 30 | 81.0 | 57.6 | 46.9 | 40.6 |
| 60 | 108 | 80.1 | 69.9 | 53.8 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 157 | 84.6 | 60.1 | 44.8 |
| 3 | 177 | 88.9 | 61.3 | 44.8 |
| 7 | 217 | 104 | 70.1 | 50.1 |
| 10 | 231 | 115 | 79.7 | 58.4 |
| 30 | 408 | 186 | 120 | 82.3 |
| 60 | 622 | 273 | 173 | 118 |

| Magnitude and probability of annual low flow based on period of record 1989-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 63.0 | 39.6 | 31.1 | 25.5 |
| 3 | 65.9 | 41.3 | 32.4 | 26.6 |
| 7 | 71.4 | 43.6 | 34.4 | 28.6 |
| 10 | 73.4 | 45.0 | 35.8 | 30.1 |
| 30 | 94.6 | 57.6 | 46.9 | 40.6 |
| 60 | 194 | 97.4 | 69.9 | 53.8 |

| Magnitude and probability of annual low flow based on period of record 1989-1998 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 84.0 | 52.6 | 42.0 | 35.2 |
| 3 | 87.8 | 56.0 | 45.3 | 38.4 |
| 7 | 101 | 65.6 | 53.6 | 45.8 |
| 10 | 115 | 74.2 | 59.8 | 50.3 |
| 30 | 178 | 105 | 80.1 | 64.1 |
| 60 | 221 | 126 | 93.6 | 73.3 |

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK

LOCATION.--Lat 35°30'01", long 97°11'37", in SW 1/4 NW 1/4 sec.22, T.12 N., R.1 E., Oklahoma County, Hydrologic Unit 11100302, on left bank downstream side county road bridge, 2.2 mi northwest of Harrah, 3.8 mi downstream from Choctaw Creek, and at mile 230.0.

DRAINAGE AREA.--13,501 mi², of which 4,899 mi² is probably noncontributing.

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

REMARKS.--Flow regulated by Canton Lake (station 07238500) and by Lake Overholser (station 07240500) where diversions are made into Lake Hefner Canal (station 07240000). Low flow sustained in part by sewage effluent from Oklahoma City.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1969-1999

501

Magnitude and probability of annual high flow based on period of record 1969-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 5,500 | 9,790 | 13,000 | 17,200 | 20,500 | 23,800 |
| 3 | 4,520 | 8,320 | 10,900 | 14,200 | 16,500 | 18,800 |
| 7 | 3,040 | 5,930 | 8,010 | 10,700 | 12,600 | 14,500 |
| 10 | 2,470 | 4,830 | 6,560 | 8,790 | 10,400 | 12,100 |
| 30 | 1,460 | 2,730 | 3,580 | 4,620 | 5,330 | 6,000 |
| 60 | 1,070 | 1,940 | 2,520 | 3,200 | 3,660 | 4,090 |

Magnitude and probability of annual instantaneous peak flow based on 31 years of record, 1969-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 6,450 | 11,700 | 16,200 | 23,300 | 29,700 | 37,000 | 58,800 |

station skew = 0.253

Duration table of daily mean flow for period of record 1969-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 4,660 | 3,000 | 1,670 | 1,090 | 864 | 675 | 432 | 303 | 231 | 179 | 138 | 101 | 73.3 | 60.9 | 52.7 | 50.0 |

| Magnitude and probability of annual low flow based on period of record 1970-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 77.0 | 47.8 | 37.0 | 29.7 |
| 3 | 80.6 | 50.3 | 39.0 | 31.5 |
| 7 | 85.8 | 54.6 | 43.2 | 35.6 |
| 10 | 90.6 | 57.8 | 45.6 | 37.4 |
| 30 | 107 | 69.1 | 55.6 | 46.7 |
| 60 | 130 | 84.2 | 67.4 | 56.3 |

| Magnitude and probability of annual low flow based on period of record 1969-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 150 | 81.2 | 58.6 | 44.6 |
| 3 | 164 | 85.6 | 60.6 | 45.6 |
| 7 | 187 | 94.3 | 66.2 | 49.6 |
| 10 | 201 | 101 | 70.9 | 52.9 |
| 30 | 320 | 157 | 108 | 79.6 |
| 60 | 608 | 279 | 178 | 119 |

| Magnitude and probability of annual low flow based on period of record 1969-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 81.9 | 49.3 | 37.9 | 30.5 |
| 3 | 85.5 | 51.5 | 39.6 | 32.0 |
| 7 | 91.8 | 56.3 | 44.2 | 36.4 |
| 10 | 95.2 | 58.8 | 46.3 | 38.3 |
| 30 | 109 | 69.1 | 56.3 | 48.3 |
| 60 | 144 | 86.7 | 70.3 | 60.7 |

| Magnitude and probability of annual low flow based on period of record 1969-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 113 | 65.8 | 50.4 | 40.8 |
| 3 | 120 | 70.7 | 54.6 | 44.4 |
| 7 | 130 | 77.0 | 59.5 | 48.5 |
| 10 | 137 | 79.8 | 60.9 | 49.0 |
| 30 | 160 | 89.1 | 66.6 | 52.8 |
| 60 | 192 | 106 | 79.0 | 62.3 |

ARKANSAS RIVER BASIN

07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK

LOCATION.--Lat 35°15'56", long 96°12'21", in NE ¼ SW ¼ sec.12, T.9 N., R.10 E., Hughes County, Hydrologic Unit 11100302, on left downstream side of bridge on U.S. Highway 75, 2.3 mi upstream from Wewoka Creek, 2.5 mi northeast of Wetumka, and at mile 84.4.

DRAINAGE AREA.--14,290 mi² of which 4,899 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Some regulation by Lake Overholser (station 07240500) and other dams upstream.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1938-1999

826

Magnitude and probability of annual high flow based on period of record 1938-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 10,000 | 17,300 | 23,200 | 31,900 | 39,200 | 47,400 |
| 3 | 7,880 | 14,200 | 19,300 | 26,700 | 32,900 | 39,600 |
| 7 | 5,550 | 10,200 | 13,800 | 18,800 | 22,800 | 27,000 |
| 10 | 4,620 | 8,570 | 11,600 | 15,600 | 18,800 | 22,100 |
| 30 | 2,550 | 4,630 | 6,200 | 8,330 | 10,000 | 11,700 |
| 60 | 1,790 | 3,280 | 4,410 | 5,970 | 7,200 | 8,480 |

Magnitude and probability of annual instantaneous peak flow based on 76 historic years of record, 1924-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 11,900 | 19,800 | 26,100 | 35,300 | 43,100 | 51,800 | 75,700 |

station skew = 0.184

Duration table of daily mean flow for period of record 1938-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 8,640 | 5,790 | 3,220 | 1,890 | 1,340 | 1,030 | 655 | 443 | 315 | 224 | 155 | 105 | 70.3 | 50.1 | 28.7 | 17.6 |

| Magnitude and probability of annual low flow based on period of record 1939-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 70.9 | 30.1 | 17.0 | 8.43 |
| 3 | 75.0 | 32.7 | 19.0 | 9.68 |
| 7 | 79.4 | 34.8 | 20.4 | 10.5 |
| 10 | 82.7 | 36.6 | 21.7 | 11.4 |
| 30 | 108 | 49.9 | 30.6 | 17.2 |
| 60 | 138 | 65.0 | 41.0 | 27.0 |

| Magnitude and probability of annual low flow based on period of record 1938-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 206 | 103 | 71.4 | 52.9 |
| 3 | 215 | 108 | 75.6 | 56.5 |
| 7 | 241 | 121 | 85.7 | 64.6 |
| 10 | 265 | 129 | 89.8 | 66.7 |
| 30 | 548 | 245 | 158 | 109 |
| 60 | 1,150 | 518 | 325 | 215 |

| Magnitude and probability of annual low flow based on period of record 1938-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 78.9 | 32.2 | 17.7 | 8.43 |
| 3 | 80.2 | 33.8 | 19.2 | 9.68 |
| 7 | 84.6 | 35.9 | 20.6 | 10.5 |
| 10 | 88.4 | 37.8 | 21.9 | 11.4 |
| 30 | 116 | 51.5 | 31.3 | 17.6 |
| 60 | 277 | 79.0 | 42.0 | 28.0 |

| Magnitude and probability of annual low flow based on period of record 1938-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 114 | 50.1 | 32.0 | 21.9 |
| 3 | 123 | 54.9 | 35.3 | 24.2 |
| 7 | 137 | 60.9 | 38.7 | 26.3 |
| 10 | 142 | 63.3 | 40.4 | 27.5 |
| 30 | 173 | 80.1 | 53.8 | 38.7 |
| 60 | 211 | 95.5 | 63.9 | 46.2 |

ARKANSAS RIVER BASIN

07242350 DEEP FORK NEAR ARCADIA, OK

LOCATION.--Lat 35°38'50", long 97°21'35", NE ¼ SW ¼ sec. 36, T.14 N., R.2 W., Oklahoma County, Hydrologic Unit 11100303, on right bank 400 ft downstream from Arcadia Dam, 2.0 mi southwest of Arcadia, 2.6 mi upstream from Coffee Creek, and at mile 213.7.

DRAINAGE AREA.--105 mi².

PERIOD OF RECORD.--October 1969 to September 1986.

REMARKS.--Dam construction 0.5 mi upstream effects flow at times. Regulated by Arcadia Dam since November 1986. Flow affected by urban watershed in the city of Oklahoma City, OK.

URBAN STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1970-1986

66.3

Magnitude and probability of annual high flow based on period of record 1970-1986

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 2,560 | 4,800 | 6,290 | 8,050 | 9,260 | 10,400 |
| 3 | 1,240 | 2,140 | 2,680 | 3,280 | 3,660 | 3,990 |
| 7 | 639 | 1,070 | 1,330 | 1,620 | 1,800 | 1,960 |
| 10 | 503 | 839 | 1,040 | 1,250 | 1,390 | 1,510 |
| 30 | 230 | 370 | 461 | 571 | 649 | 723 |
| 60 | 154 | 233 | 285 | 348 | 394 | 439 |

Magnitude and probability of annual instantaneous peak flow based on 17 years of record, 1970-1986

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 6,380 | 11,200 | 14,200 | 17,600 | 19,900 | 21,900 | 25,800 |

station skew = - 0.815

Duration table of daily mean flow for period of record 1970-1986

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 881 | 475 | 174 | 88.9 | 63.4 | 50.6 | 38.6 | 33.5 | 28.8 | 25.8 | 23.2 | 19.6 | 14.1 | 9.38 | 6.50 | 5.18 |

| Magnitude and probability of annual low flow based on period of record 1971-1986 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 13.4 | 6.12 | 2.90 | 0.00 |
| 3 | 16.2 | 6.20 | 3.05 | 0.70 |
| 7 | 17.5 | 6.34 | 3.29 | 1.71 |
| 10 | 18.0 | 7.98 | 5.14 | 3.36 |
| 30 | 20.2 | 11.4 | 7.36 | 4.76 |
| 60 | 23.3 | 15.0 | 11.2 | 8.51 |

| Magnitude and probability of annual low flow based on period of record 1970-1986 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 22.7 | 15.5 | 11.8 | 9.08 |
| 3 | 23.0 | 17.8 | 15.2 | 13.2 |
| 7 | 24.4 | 18.9 | 16.3 | 14.2 |
| 10 | 25.4 | 19.7 | 17.0 | 14.8 |
| 30 | 44.9 | 29.5 | 23.0 | 18.5 |
| 60 | 102 | 53.1 | 36.3 | 26.0 |

| Magnitude and probability of annual low flow based on period of record 1970-1985 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 14.4 | 6.32 | 2.90 | 0.00 |
| 3 | 17.5 | 6.50 | 3.10 | 0.70 |
| 7 | 18.0 | 6.64 | 3.36 | 1.71 |
| 10 | 19.0 | 8.37 | 5.24 | 3.36 |
| 30 | 21.5 | 11.5 | 7.36 | 4.76 |
| 60 | 28.6 | 17.5 | 12.6 | 9.30 |

| Magnitude and probability of annual low flow based on period of record 1970-1986 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 16.8 | 11.0 | 8.52 | 6.81 |
| 3 | 17.5 | 11.4 | 8.82 | 7.02 |
| 7 | 18.0 | 12.0 | 9.45 | 7.67 |
| 10 | 18.4 | 12.5 | 9.97 | 8.20 |
| 30 | 21.5 | 16.6 | 14.7 | 13.4 |
| 60 | 27.1 | 20.0 | 17.4 | 15.6 |

ARKANSAS RIVER BASIN

07242380 DEEP FORK NEAR WARWICK, OK

LOCATION.--Lat 35°40'51", long 97°00'29", NW ¼ NE ¼ sec. 20, T.14 N., R.3 E., Lincoln County, Hydrologic Unit 11100303, on left downstream abutment on U.S. Highway 66, 0.5 mi southwest of Warwick, and at mile 190.9.

DRAINAGE AREA.--532 mi².

PERIOD OF RECORD.--October 1983 to current year.

REMARKS.--Considerable regulation by Arcadia Lake (station 07242340), 22.9 miles upstream, since November 1986.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1988-1999

319

Magnitude and probability of annual high flow based on period of record 1988-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 6,960 | 12,900 | 17,900 | 25,200 | 31,400 | 38,200 |
| 3 | 3,990 | 7,270 | 10,100 | 14,300 | 18,000 | 22,300 |
| 7 | 2,250 | 4,020 | 5,540 | 7,920 | 10,100 | 12,500 |
| 10 | 1,870 | 3,270 | 4,460 | 6,310 | 7,950 | 9,850 |
| 30 | 1,120 | 1,860 | 2,490 | 3,470 | 4,350 | 5,370 |
| 60 | 777 | 1,340 | 1,810 | 2,540 | 3,180 | 3,920 |

Magnitude and probability of annual instantaneous peak flow based on 12 years of record, 1988-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 11,700 | 19,300 | 25,300 | 34,200 | 41,700 | 50,100 | 73,200 |

station skew = 0.225

Duration table of daily mean flow for period of record 1988-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 3,200 | 2,100 | 1,300 | 724 | 526 | 391 | 228 | 143 | 94.8 | 72.3 | 56.8 | 44.5 | 30.3 | 23.6 | 18.0 | 14.8 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 16.1 | 9.94 | 7.51 | 5.86 |
| 3 | 17.6 | 10.7 | 8.06 | 6.28 |
| 7 | 19.4 | 12.3 | 9.90 | 8.31 |
| 10 | 20.9 | 13.5 | 11.0 | 9.49 |
| 30 | 29.7 | 20.4 | 17.6 | 15.7 |
| 60 | 47.6 | 32.9 | 25.9 | 21.9 |

| Magnitude and probability of annual low flow based on period of record 1988-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 51.2 | 33.4 | 28.7 | 26.1 |
| 3 | 53.7 | 36.2 | 32.1 | 30.1 |
| 7 | 67.6 | 41.3 | 34.5 | 30.7 |
| 10 | 77.5 | 44.3 | 35.5 | 32.0 |
| 30 | 245 | 103 | 65.3 | 44.9 |
| 60 | 416 | 220 | 162 | 127 |

| Magnitude and probability of annual low flow based on period of record 1988-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 16.1 | 9.94 | 7.51 | 5.86 |
| 3 | 17.6 | 10.7 | 8.06 | 6.28 |
| 7 | 19.5 | 12.3 | 9.90 | 8.31 |
| 10 | 21.0 | 13.5 | 11.0 | 9.49 |
| 30 | 29.7 | 20.4 | 17.6 | 16.0 |
| 60 | 59.3 | 32.9 | 25.9 | 21.9 |

| Magnitude and probability of annual low flow based on period of record 1988-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 42.8 | 22.5 | 13.2 | 7.54 |
| 3 | 43.1 | 25.4 | 17.5 | 12.1 |
| 7 | 44.0 | 28.9 | 23.6 | 19.8 |
| 10 | 44.5 | 32.0 | 26.8 | 23.1 |
| 30 | 61.2 | 45.5 | 41.5 | 39.4 |
| 60 | 83.2 | 57.1 | 49.4 | 44.9 |

ARKANSAS RIVER BASIN

07243000 DRY CREEK NEAR KENDRICK, OK

LOCATION.--Lat 35°46'55", long 96°51'14", NW ¼ NW ¼ sec.14, T.15 N., R.4 E., Lincoln County, Hydrologic Unit 11100303, near left bank on downstream side of county road bridge, 1.0 mi downstream from Beaver Creek, and 4.5 mi west of Kendrick.

DRAINAGE AREA.--69.0 mi².

PERIOD OF RECORD.--October 1955 to September 1994.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1956-1994

26.2

Magnitude and probability of annual high flow based on period of record 1956-1994

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,290 | 2,450 | 3,370 | 4,650 | 5,690 | 6,780 |
| 3 | 565 | 1,080 | 1,520 | 2,160 | 2,710 | 3,310 |
| 7 | 285 | 562 | 797 | 1,150 | 1,450 | 1,790 |
| 10 | 216 | 431 | 614 | 891 | 1,130 | 1,390 |
| 30 | 100 | 200 | 286 | 415 | 526 | 649 |
| 60 | 62.2 | 129 | 186 | 273 | 348 | 430 |

Magnitude and probability of annual instantaneous peak flow based on 39 years of record, 1956-1994

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 3,870 | 6,940 | 9,640 | 13,900 | 17,800 | 22,400 | 36,200 |

Oklahoma weighted skew = 0.343

Duration table of daily mean flow for period of record 1956-1994

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 547 | 262 | 73.4 | 27.7 | 17.8 | 12.3 | 7.01 | 4.46 | 2.79 | 1.55 | 0.89 | 0.59 | 0.30 | 0.15 | 0.06 | 0.03 |

| Magnitude and probability of annual low flow based on period of record 1957-1994 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.07 | 0.00 | 0.00 | 0.00 |
| 60 | 0.49 | 0.02 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1956-1994 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.40 | 0.58 | 0.00 | 0.00 |
| 3 | 2.55 | 0.66 | 0.00 | 0.00 |
| 7 | 2.90 | 0.78 | 0.00 | 0.00 |
| 10 | 3.77 | 0.90 | 0.13 | 0.00 |
| 30 | 8.76 | 2.42 | 1.15 | 0.56 |
| 60 | 38.0 | 13.1 | 6.71 | 3.66 |

| Magnitude and probability of annual low flow based on period of record 1956-1993 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.08 | 0.00 | 0.00 | 0.00 |
| 60 | 0.58 | 0.06 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1956-1994 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.51 | 0.00 | 0.00 | 0.00 |
| 3 | 0.60 | 0.00 | 0.00 | 0.00 |
| 7 | 0.72 | 0.00 | 0.00 | 0.00 |
| 10 | 0.80 | 0.00 | 0.00 | 0.00 |
| 30 | 1.58 | 0.21 | 0.00 | 0.00 |
| 60 | 3.30 | 0.21 | 0.01 | 0.00 |

ARKANSAS RIVER BASIN

07243500 DEEP FORK NEAR BEGGS, OK

LOCATION.--Lat 35°40'26", long 96°04'06", NW 1/4 SW 1/4 sec.20, T.14 N., R.12 E., Okmulgee County, Hydrologic Unit 11100303, near right downstream abutment of county road bridge, 3.0 mi upstream from Adams Creek, 4.0 mi south of Beggs, 8.0 mi downstream from Flat Rock (Checkerboard) Creek, and at mile 85.0.

DRAINAGE AREA.--2,018 mi².

PERIOD OF RECORD.--September 1938 to current year.

REMARKS.--Flow regulated since 1968 by numerous floodwater-retarding structures. Some regulation by Arcadia Lake (station 07242340) since November 1986.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1939-1967

806

Magnitude and probability of annual high flow based on period of record 1939-1967

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 9,070 | 21,400 | 34,100 | 57,000 | 80,200 | 110,000 |
| 3 | 8,320 | 18,800 | 29,200 | 47,200 | 64,800 | 86,600 |
| 7 | 6,970 | 15,100 | 22,700 | 35,400 | 47,200 | 61,400 |
| 10 | 6,040 | 12,600 | 18,700 | 28,500 | 37,400 | 48,000 |
| 30 | 2,990 | 6,370 | 9,480 | 14,500 | 19,100 | 24,500 |
| 60 | 2,010 | 4,200 | 6,150 | 9,200 | 11,900 | 15,000 |

Magnitude and probability of annual instantaneous peak flow based on 29 years of record, 1939-1967

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 9,440 | 22,600 | 36,900 | 63,800 | 92,100 | 130,000 | 265,000 |

Oklahoma weighted skew = 0.340

Duration table of daily mean flow for period of record 1939-1967

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 11,200 | 7,020 | 3,720 | 2,200 | 1,230 | 707 | 325 | 193 | 124 | 80.8 | 51.3 | 28.2 | 13.0 | 4.98 | 0.77 | 0.39 |

| Magnitude and probability of annual low flow based on period of record 1940-1967 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.89 | 1.24 | 0.00 | 0.00 |
| 3 | 8.80 | 1.40 | 0.00 | 0.00 |
| 7 | 10.3 | 1.64 | 0.00 | 0.00 |
| 10 | 11.8 | 1.92 | 0.00 | 0.00 |
| 30 | 21.7 | 4.33 | 1.00 | 0.00 |
| 60 | 44.4 | 10.5 | 2.76 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1939-1967 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 77.9 | 31.4 | 17.2 | 9.73 |
| 3 | 83.0 | 33.6 | 18.4 | 10.5 |
| 7 | 103 | 41.1 | 22.4 | 12.7 |
| 10 | 123 | 47.2 | 26.2 | 15.3 |
| 30 | 502 | 155 | 76.2 | 40.2 |
| 60 | 1,360 | 559 | 338 | 219 |

| Magnitude and probability of annual low flow based on period of record 1939-1966 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.96 | 1.42 | 0.00 | 0.00 |
| 3 | 8.86 | 1.65 | 0.00 | 0.00 |
| 7 | 10.5 | 1.95 | 0.00 | 0.00 |
| 10 | 12.0 | 2.24 | 0.00 | 0.00 |
| 30 | 23.5 | 5.24 | 1.45 | 0.00 |
| 60 | 91.2 | 13.0 | 2.76 | 0.27 |

| Magnitude and probability of annual low flow based on period of record 1939-1967 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 22.6 | 3.00 | 0.43 | 0.00 |
| 3 | 25.1 | 3.59 | 0.55 | 0.00 |
| 7 | 29.8 | 3.55 | 0.63 | 0.05 |
| 10 | 35.0 | 4.83 | 0.95 | 0.09 |
| 30 | 44.6 | 13.7 | 6.22 | 2.26 |
| 60 | 78.0 | 17.8 | 6.31 | 2.30 |

ARKANSAS RIVER BASIN
07243500 DEEP FORK NEAR BEGGS, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1968-1999

1,109

Magnitude and probability of annual high flow based on period of record 1968-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 10,000 | 19,100 | 26,500 | 37,500 | 46,700 | 56,900 |
| 3 | 9,460 | 17,900 | 24,700 | 34,700 | 42,900 | 51,900 |
| 7 | 7,990 | 14,900 | 20,200 | 27,400 | 33,200 | 39,200 |
| 10 | 7,000 | 12,800 | 17,000 | 22,500 | 26,800 | 31,000 |
| 30 | 3,970 | 6,970 | 9,090 | 11,800 | 13,800 | 15,800 |
| 60 | 2,800 | 4,980 | 6,560 | 8,610 | 10,200 | 11,700 |

Magnitude and probability of annual instantaneous peak flow based on 32 years of record, 1968-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 10,300 | 19,500 | 27,200 | 38,600 | 48,400 | 59,200 | 88,700 |

station skew = - 0.048

Duration table of daily mean flow for period of record 1968-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|------|------|------|------|------|
| 10,900 | 8,710 | 5,320 | 3,220 | 2,130 | 1,380 | 684 | 395 | 239 | 157 | 105 | 62.2 | 32.3 | 19.8 | 11.6 | 7.71 |

| Magnitude and probability of annual low flow based on period of record 1969-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 17.1 | 6.43 | 3.60 | 2.14 |
| 3 | 18.0 | 7.08 | 4.11 | 2.55 |
| 7 | 20.0 | 7.99 | 4.72 | 2.99 |
| 10 | 21.3 | 8.77 | 5.31 | 3.44 |
| 30 | 35.2 | 14.6 | 8.90 | 5.86 |
| 60 | 60.0 | 26.2 | 16.6 | 11.2 |

| Magnitude and probability of annual low flow based on period of record 1968-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 160 | 76.1 | 52.1 | 38.3 |
| 3 | 169 | 81.3 | 56.1 | 41.6 |
| 7 | 191 | 88.5 | 60.9 | 45.3 |
| 10 | 209 | 95.0 | 65.1 | 48.5 |
| 30 | 584 | 221 | 134 | 88.6 |
| 60 | 1,470 | 606 | 360 | 227 |

| Magnitude and probability of annual low flow based on period of record 1968-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 17.3 | 6.51 | 3.64 | 2.16 |
| 3 | 18.2 | 7.17 | 4.16 | 2.57 |
| 7 | 20.2 | 8.07 | 4.77 | 3.01 |
| 10 | 21.3 | 8.78 | 5.32 | 3.45 |
| 30 | 35.6 | 14.6 | 8.90 | 5.86 |
| 60 | 69.0 | 27.5 | 17.1 | 11.5 |

| Magnitude and probability of annual low flow based on period of record 1968-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 69.6 | 29.9 | 18.4 | 12.1 |
| 3 | 72.5 | 31.8 | 20.0 | 13.5 |
| 7 | 82.9 | 35.3 | 21.9 | 14.6 |
| 10 | 87.5 | 36.9 | 22.8 | 15.2 |
| 30 | 138 | 55.8 | 35.0 | 23.9 |
| 60 | 216 | 79.1 | 47.0 | 30.7 |

ARKANSAS RIVER BASIN

07244000 DEEP FORK NEAR DEWAR, OK

LOCATION.--Lat 35°28'43", long 95°52'57", SE ¼ sec.25, T.12 N., R.13 E., at bridge on U.S. Highway 266, 3.2 mi upstream from Wolf Creek, 3.5 mi east of Dewar, and at mile 43.9.

DRAINAGE AREA.--2,307 mi².

PERIOD OF RECORD.--October 1937 to September 1950.

UNREGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1938-1950 |
| 1,337 |

| Magnitude and probability of annual high flow based on period of record 1938-1950 | | | | | | |
|--|---|------------------|-------------------|------------------|------------------|-------------------|
| Period (consecutive days) | Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 11,000 | 23,500 | 35,500 | 55,900 | 74,500 | 85,700 |
| 3 | 10,500 | 23,000 | 34,500 | 55,000 | 66,300 | 76,100 |
| 7 | 9,300 | 22,300 | 33,800 | 43,400 | 49,900 | 55,900 |
| 10 | 8,500 | 22,000 | 28,400 | 35,800 | 40,700 | 45,000 |
| 30 | 6,300 | 11,700 | 15,100 | 18,800 | 21,200 | 23,300 |
| 60 | 4,360 | 7,630 | 9,420 | 11,200 | 12,200 | 13,000 |

| Magnitude and probability of annual instantaneous peak flow based on 47 historic years of record, 1909-1955 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 11,100 | 23,600 | 35,600 | 56,000 | 75,400 | 99,200 | 175,000 |

Oklahoma weighted skew = 0.203

| Duration table of daily mean flow for period of record 1938-1950 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 12,300 | 10,900 | 6,450 | 3,850 | 2,560 | 1,600 | 582 | 294 | 182 | 109 | 73.8 | 42.1 | 21.1 | 13.0 | 8.01 | 6.31 |

| Magnitude and probability of annual low flow based on period of record 1939-1950 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 11.8 | 5.01 | 3.17 | 2.17 |
| 3 | 12.4 | 5.66 | 3.80 | 2.74 |
| 7 | 13.9 | 6.62 | 4.59 | 3.42 |
| 10 | 14.6 | 7.62 | 5.13 | 4.56 |
| 30 | 28.3 | 13.3 | 9.03 | 6.60 |
| 60 | 51.1 | 22.2 | 14.3 | 9.94 |

| Magnitude and probability of annual low flow based on period of record 1938-1950 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 113 | 44.7 | 23.7 | 12.9 |
| 3 | 118 | 49.2 | 27.3 | 15.6 |
| 7 | 156 | 68.7 | 39.6 | 23.4 |
| 10 | 209 | 83.0 | 46.2 | 27.0 |
| 30 | 928 | 307 | 148 | 73.9 |
| 60 | 2,890 | 1,100 | 578 | 317 |

| Magnitude and probability of annual low flow based on period of record 1938-1949 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 12.4 | 5.71 | 3.84 | 2.77 |
| 3 | 13.1 | 6.16 | 4.21 | 3.09 |
| 7 | 14.4 | 6.83 | 4.71 | 3.50 |
| 10 | 15.2 | 7.86 | 5.13 | 4.63 |
| 30 | 28.8 | 13.6 | 9.40 | 6.98 |
| 60 | 78.9 | 28.6 | 17.0 | 11.2 |

| Magnitude and probability of annual low flow based on period of record 1938-1950 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 28.4 | 9.22 | 4.88 | 2.81 |
| 3 | 28.9 | 10.5 | 6.08 | 3.83 |
| 7 | 30.7 | 12.5 | 7.80 | 5.32 |
| 10 | 35.8 | 14.1 | 8.47 | 5.52 |
| 30 | 57.1 | 22.2 | 12.9 | 8.08 |
| 60 | 79.4 | 30.9 | 18.3 | 11.7 |

ARKANSAS RIVER BASIN

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK

LOCATION.--Lat 35°15'50", long 95°14'21", in SE ¼ SE ¼ sec.12, T.9 N., R.19 E., Haskell County, Hydrologic Unit 11090204, on right downstream bank at end of bridge on State Highway 2, 0.8 mi north of Whitefield, 5.5 mi upstream from Taloka (Snake) Creek, 8.2 mi downstream from Eufaula Dam, and at mile 18.8.

DRAINAGE AREA.--47,576 mi², of which 9,700 mi² is probably noncontributing.

PERIOD OF RECORD.--July 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Prior to February 1964, occasional slight regulation by Conchas Lake in New Mexico and, except for 54 mi² of intervening area, completely regulated thereafter by Eufaula Lake (station 07244800).

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1939-1963

6,004

Magnitude and probability of annual high flow based on period of record 1939-1963

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 78,400 | 145,000 | 200,000 | 283,000 | 356,000 | 437,000 |
| 3 | 64,100 | 119,000 | 165,000 | 236,000 | 298,000 | 368,000 |
| 7 | 45,100 | 83,400 | 115,000 | 161,000 | 201,000 | 245,000 |
| 10 | 37,100 | 68,700 | 94,300 | 131,000 | 163,000 | 196,000 |
| 30 | 20,100 | 37,800 | 51,900 | 72,000 | 88,600 | 106,000 |
| 60 | 14,100 | 26,500 | 36,100 | 49,700 | 60,700 | 72,200 |

Magnitude and probability of annual instantaneous peak flow based on 66 historic years of record, 1898-1963

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 100,000 | 175,000 | 233,000 | 315,000 | 382,000 | 453,000 | 640,000 |

Water Resources Council weighted skew = - 0.076

Duration table of daily mean flow for period of record 1939-1963

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|------|------|
| 18,200 | 17,600 | 15,800 | 12,800 | 9,800 | 7,030 | 3,990 | 2,460 | 1,620 | 1,040 | 678 | 395 | 198 | 105 | 36.2 | 14.5 |

| Magnitude and probability of annual low flow based on period of record 1940-1963 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 238 | 58.0 | 18.0 | 5.40 |
| 3 | 242 | 61.1 | 20.0 | 6.48 |
| 7 | 261 | 65.9 | 22.4 | 7.68 |
| 10 | 274 | 68.5 | 23.6 | 8.28 |
| 30 | 424 | 93.4 | 31.2 | 10.6 |
| 60 | 676 | 142 | 47.9 | 16.7 |

| Magnitude and probability of annual low flow based on period of record 1939-1963 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 785 | 349 | 208 | 130 |
| 3 | 852 | 368 | 218 | 136 |
| 7 | 995 | 457 | 299 | 208 |
| 10 | 1,200 | 540 | 352 | 245 |
| 30 | 3,950 | 1,580 | 944 | 602 |
| 60 | 10,100 | 4,900 | 3,260 | 2,300 |

| Magnitude and probability of annual low flow based on period of record 1939-1962 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 263 | 58.7 | 18.0 | 5.40 |
| 3 | 267 | 61.4 | 20.0 | 6.48 |
| 7 | 282 | 65.9 | 22.4 | 7.68 |
| 10 | 298 | 68.5 | 23.6 | 8.28 |
| 30 | 534 | 105 | 33.5 | 11.1 |
| 60 | 1,260 | 223 | 66.0 | 20.3 |

| Magnitude and probability of annual low flow based on period of record 1939-1963 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 319 | 96.2 | 42.8 | 19.8 |
| 3 | 335 | 105 | 48.5 | 23.5 |
| 7 | 344 | 121 | 63.0 | 34.8 |
| 10 | 365 | 134 | 72.9 | 41.8 |
| 30 | 551 | 228 | 135 | 85.0 |
| 60 | 748 | 320 | 206 | 143 |

ARKANSAS RIVER BASIN
07245000 CANADIAN RIVER NEAR WHITEFIELD, OK—Continued
REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1965-1999 |
| 6,506 |

| Magnitude and probability of annual high flow based on period of record 1965-1999 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 29,800 | 51,300 | 70,700 | 95,700 | 116,000 | 138,000 |
| 3 | 28,800 | 50,000 | 69,200 | 93,100 | 112,000 | 132,000 |
| 7 | 26,700 | 48,000 | 62,800 | 81,500 | 95,000 | 108,000 |
| 10 | 25,500 | 44,800 | 57,700 | 73,600 | 84,700 | 95,300 |
| 30 | 17,800 | 30,500 | 39,000 | 49,300 | 56,600 | 63,500 |
| 60 | 13,100 | 22,800 | 29,800 | 39,000 | 46,000 | 53,100 |

| Magnitude and probability of annual instantaneous peak flow based on 35 years of record, 1965-1999 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 30,300 | 51,400 | 70,800 | 103,000 | 134,000 | 172,000 | 296,000 |

station skew = 0.761

| Duration table of daily mean flow for period of record 1965-1999 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 17,300 | 16,900 | 15,800 | 13,900 | 12,000 | 10,100 | 6,800 | 4,830 | 3,360 | 2,140 | 1,080 | 507 | 144 | 82.4 | 59.4 | 50.3 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 55.6 | 36.6 | 29.1 | 22.3 |
| 3 | 78.0 | 46.1 | 36.3 | 28.1 |
| 7 | 179 | 80.9 | 53.6 | 38.2 |
| 10 | 220 | 94.8 | 60.9 | 42.2 |
| 30 | 232 | 222 | 136 | 89.7 |
| 60 | 902 | 403 | 258 | 176 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 206 | 58.6 | 33.6 | 22.3 |
| 3 | 596 | 151 | 74.2 | 41.5 |
| 7 | 1,380 | 345 | 155 | 77.2 |
| 10 | 1,610 | 410 | 188 | 94.9 |
| 30 | 4,400 | 1,190 | 522 | 246 |
| 60 | 8,180 | 2,570 | 1,190 | 576 |

| Magnitude and probability of annual low flow based on period of record 1965-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 59.4 | 47.8 | 45.8 | 45.0 |
| 3 | 101 | 57.9 | 52.0 | 48.0 |
| 7 | 262 | 118 | 76.2 | 52.5 |
| 10 | 335 | 144 | 90.1 | 60.3 |
| 30 | 915 | 450 | 301 | 213 |
| 60 | 1,550 | 878 | 653 | 511 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 85.7 | 43.3 | 31.9 | 25.4 |
| 3 | 148 | 60.0 | 39.1 | 28.1 |
| 7 | 401 | 139 | 79.0 | 49.1 |
| 10 | 499 | 162 | 87.3 | 51.8 |
| 30 | 1,140 | 354 | 185 | 105 |
| 60 | 1,830 | 632 | 353 | 215 |

ARKANSAS RIVER BASIN

07245500 SALLISAW CREEK NEAR SALLISAW, OK

LOCATION.--Lat 35°27'52", long 95°51'43", in SW ¼ sec.34, T.12 N., R.23 E., Sequoyah County, on downstream side of right pier of abandoned county road bridge, 300 ft upstream from U.S. Highway 64, 400 ft downstream from water-supply dam of City of Sallisaw, 5 mi upstream from Little Sallisaw Creek, and at mile 9.0.

DRAINAGE AREA.--182 mi².

PERIOD OF RECORD.--October 1942 to September 1976.

REMARKS.--Flow regulated since 1964 by numerous floodwater-retarding structures. Small diversion above station for municipal water supply for City of Sallisaw.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1943-1963

198

Magnitude and probability of annual high flow based on period of record 1943-1963

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 5,400 | 10,500 | 15,300 | 23,400 | 31,200 | 40,700 |
| 3 | 3,000 | 5,620 | 8,030 | 12,000 | 15,800 | 20,300 |
| 7 | 1,720 | 2,950 | 3,990 | 5,560 | 6,950 | 8,530 |
| 10 | 1,360 | 2,270 | 3,000 | 4,080 | 5,000 | 6,030 |
| 30 | 723 | 1,190 | 1,540 | 2,020 | 2,400 | 2,800 |
| 60 | 526 | 881 | 1,140 | 1,480 | 1,740 | 2,010 |

Magnitude and probability of annual instantaneous peak flow based on 22 historic years of record, 1942-1963

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 12,700 | 28,500 | 43,900 | 70,100 | 95,200 | 126,000 | 223,000 |

Oklahoma weighted skew = 0.104

Duration table of daily mean flow for period of record 1943-1963

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 2,600 | 1,630 | 765 | 403 | 266 | 193 | 116 | 71.5 | 42.5 | 24.9 | 14.9 | 6.83 | 2.10 | 0.78 | 0.31 | 0.16 |

| Magnitude and probability of annual low flow based on period of record 1944-1963 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.74 | 0.43 | 0.00 | 0.00 |
| 3 | 1.90 | 0.44 | 0.00 | 0.00 |
| 7 | 2.40 | 0.49 | 0.00 | 0.00 |
| 10 | 2.53 | 0.54 | 0.00 | 0.00 |
| 30 | 3.91 | 0.64 | 0.00 | 0.00 |
| 60 | 6.06 | 0.67 | 0.14 | 0.03 |

| Magnitude and probability of annual low flow based on period of record 1943-1963 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 56.2 | 17.5 | 5.65 | 1.63 |
| 3 | 59.2 | 18.4 | 6.39 | 2.05 |
| 7 | 60.1 | 23.2 | 13.1 | 7.66 |
| 10 | 60.8 | 25.8 | 15.4 | 9.64 |
| 30 | 179 | 87.6 | 59.6 | 43.1 |
| 60 | 360 | 195 | 141 | 108 |

| Magnitude and probability of annual low flow based on period of record 1943-1962 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.95 | 0.51 | 0.00 | 0.00 |
| 3 | 2.13 | 0.52 | 0.00 | 0.00 |
| 7 | 2.65 | 0.53 | 0.00 | 0.00 |
| 10 | 2.80 | 0.54 | 0.00 | 0.00 |
| 30 | 4.42 | 0.59 | 0.12 | 0.00 |
| 60 | 6.78 | 1.15 | 0.37 | 0.13 |

| Magnitude and probability of annual low flow based on period of record 1943-1963 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.76 | 1.32 | 0.46 | 0.03 |
| 3 | 6.46 | 1.44 | 0.48 | 0.03 |
| 7 | 7.24 | 1.60 | 0.55 | 0.03 |
| 10 | 7.49 | 1.64 | 0.56 | 0.04 |
| 30 | 12.0 | 2.59 | 0.89 | 0.06 |
| 60 | 30.4 | 8.81 | 4.11 | 2.06 |

ARKANSAS RIVER BASIN
 07245500 SALLISAW CREEK NEAR SALLISAW, OK—Continued
 REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1964-1976

209

| Magnitude and probability of annual high flow based on period of record 1964-1976 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,780 | 5,310 | 6,120 | 6,940 | 7,440 | 7,860 |
| 3 | 2,530 | 3,550 | 4,130 | 4,760 | 5,170 | 5,540 |
| 7 | 1,730 | 2,480 | 2,890 | 3,320 | 3,580 | 3,810 |
| 10 | 1,480 | 2,130 | 2,500 | 2,900 | 3,150 | 3,370 |
| 30 | 786 | 1,150 | 1,370 | 1,610 | 1,780 | 1,930 |
| 60 | 541 | 791 | 945 | 1,120 | 1,250 | 1,370 |

Magnitude and probability of annual instantaneous peak flow based on 13 years of record, 1964-1976

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 6,110 | 8,290 | 9,540 | 10,900 | 11,800 | 12,700 | 14,300 |

station skew = - 0.550

Duration table of daily mean flow for period of record 1964-1976

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 2,120 | 1,690 | 1,090 | 565 | 340 | 247 | 147 | 95.3 | 60.2 | 31.5 | 14.2 | 5.21 | 1.15 | 0.54 | 0.22 | 0.11 |

| Magnitude and probability of annual low flow based on period of record 1965-1976 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.36 | 0.10 | 0.06 | 0.04 |
| 3 | 0.39 | 0.12 | 0.07 | 0.05 |
| 7 | 0.47 | 0.14 | 0.09 | 0.06 |
| 10 | 0.53 | 0.16 | 0.10 | 0.07 |
| 30 | 1.25 | 0.36 | 0.19 | 0.12 |
| 60 | 3.98 | 1.11 | 0.57 | 0.32 |

| Magnitude and probability of annual low flow based on period of record 1964-1976 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 38.7 | 17.2 | 10.7 | 7.07 |
| 3 | 45.4 | 21.3 | 13.4 | 8.91 |
| 7 | 55.2 | 25.9 | 16.2 | 10.5 |
| 10 | 59.5 | 32.2 | 22.8 | 17.0 |
| 30 | 213 | 122 | 85.3 | 61.5 |
| 60 | 322 | 206 | 163 | 133 |

| Magnitude and probability of annual low flow based on period of record 1964-1975 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.36 | 0.11 | 0.06 | 0.04 |
| 3 | 0.39 | 0.12 | 0.07 | 0.05 |
| 7 | 0.47 | 0.15 | 0.09 | 0.06 |
| 10 | 0.54 | 0.17 | 0.10 | 0.07 |
| 30 | 1.28 | 0.38 | 0.21 | 0.13 |
| 60 | 5.31 | 2.00 | 1.23 | 0.83 |

| Magnitude and probability of annual low flow based on period of record 1964-1976 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 9.11 | 0.84 | 0.07 | 0.00 |
| 3 | 10.3 | 0.92 | 0.07 | 0.00 |
| 7 | 13.9 | 1.26 | 0.10 | 0.00 |
| 10 | 15.7 | 1.47 | 0.11 | 0.00 |
| 30 | 32.1 | 2.63 | 0.18 | 0.00 |
| 60 | 71.2 | 8.84 | 0.89 | 0.00 |

ARKANSAS RIVER BASIN

07247000 POTEAU RIVER AT CAUTHRON, AR

LOCATION.--Lat 34°55'08", long 94°17'55", NW 1/4 SW 1/4 sec.16, T.3 N., R.31 W., Scott County, Hydrologic Unit 11110105, on right bank at downstream side of highway bridge at Cauthron, 2.9 mi downstream from Cross Creek, 7.8 mi downstream from Jones Creek, and at mile 109.0.

DRAINAGE AREA.--203 mi².

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

REMARKS.--As of September 1974, flow from 92.2 mi² upstream from this station is controlled by 16 floodwater-detention reservoirs that have a total combined capacity of 39,082 acre-ft below the flood spillway crests, of which 33,524 acre-ft are flood detention capacity, 2,100 acre-ft are water-supply storage, and 3,458 acre-feet are sediment storage capacity.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1940-1972

210

Magnitude and probability of annual high flow based on period of record 1940-1972

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | 2 | 5 | 10 | 25 | 50 | 100 |
|---------------------------------|-------|--------|--------|--------|--------|--------|
| | 50% | 20% | 10% | 4% | 2% | 1% |
| 1 | 6,920 | 11,700 | 14,800 | 18,700 | 21,500 | 24,100 |
| 3 | 3,890 | 6,870 | 8,960 | 11,600 | 13,600 | 15,500 |
| 7 | 2,090 | 3,490 | 4,460 | 5,690 | 6,600 | 7,490 |
| 10 | 1,660 | 2,750 | 3,480 | 4,390 | 5,040 | 5,680 |
| 30 | 852 | 1,360 | 1,710 | 2,170 | 2,510 | 2,850 |
| 60 | 581 | 963 | 1,240 | 1,620 | 1,910 | 2,220 |

Magnitude and probability of annual instantaneous peak flow based on 34 years of record, 1939-1972

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 | 5 | 10 | 25 | 50 | 100 | 500 |
|--------|--------|--------|--------|--------|--------|--------|
| 50% | 20% | 10% | 4% | 2% | 1% | 0.2% |
| 11,000 | 19,800 | 26,900 | 37,400 | 46,300 | 56,100 | 83,000 |

Oklahoma weighted skew = 0.031

Duration table of daily mean flow for period of record 1940-1972

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 3,550 | 2,050 | 811 | 381 | 242 | 168 | 89.6 | 50.6 | 27.0 | 13.4 | 5.18 | 1.92 | 0.64 | 0.32 | 0.13 | 0.06 |

| Magnitude and probability of annual low flow based on period of record 1940-1972 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.09 | 0.00 | 0.00 | 0.00 |
| 10 | 0.13 | 0.00 | 0.00 | 0.00 |
| 30 | 0.42 | 0.00 | 0.00 | 0.00 |
| 60 | 1.56 | 0.01 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1939-1972 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 12.7 | 6.00 | 3.98 | 2.82 |
| 3 | 14.0 | 6.64 | 4.46 | 3.20 |
| 7 | 16.7 | 7.84 | 5.36 | 3.95 |
| 10 | 21.4 | 9.19 | 6.07 | 4.37 |
| 30 | 120 | 50.8 | 32.4 | 22.3 |
| 60 | 328 | 150 | 94.3 | 62.6 |

| Magnitude and probability of annual low flow based on period of record 1939-1971 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.05 | 0.00 | 0.00 | 0.00 |
| 3 | 0.05 | 0.00 | 0.00 | 0.00 |
| 7 | 0.09 | 0.00 | 0.00 | 0.00 |
| 10 | 0.14 | 0.00 | 0.00 | 0.00 |
| 30 | 0.51 | 0.00 | 0.00 | 0.00 |
| 60 | 1.85 | 0.06 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1940-1972 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.23 | 0.00 | 0.00 | 0.00 |
| 3 | 2.93 | 0.07 | 0.00 | 0.00 |
| 7 | 3.33 | 0.18 | 0.00 | 0.00 |
| 10 | 4.48 | 0.44 | 0.00 | 0.00 |
| 30 | 16.2 | 3.24 | 0.98 | 0.00 |
| 60 | 63.6 | 11.3 | 2.61 | 0.00 |

ARKANSAS RIVER BASIN
07247000 POTEAU RIVER AT CAUTHRON, AR—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1975-1999

252

| Magnitude and probability of annual high flow based on period of record 1975-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 6,390 | 9,310 | 11,300 | 13,700 | 15,600 | 17,400 |
| 3 | 3,770 | 5,410 | 6,560 | 8,090 | 9,270 | 10,500 |
| 7 | 2,250 | 3,240 | 3,890 | 4,690 | 5,280 | 5,860 |
| 10 | 1,790 | 2,570 | 3,060 | 3,650 | 4,070 | 4,460 |
| 30 | 996 | 1,430 | 1,680 | 1,970 | 2,160 | 2,340 |
| 60 | 742 | 1,020 | 1,150 | 1,270 | 1,340 | 1,390 |

Magnitude and probability of annual instantaneous peak flow based on 25 years of record, 1975-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 9,480 | 13,100 | 15,500 | 18,600 | 21,000 | 23,400 | 29,100 |

station skew = 0.053

Duration table of daily mean flow for period of record 1975-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 3,150 | 2,030 | 1,090 | 612 | 416 | 300 | 168 | 96.3 | 55.0 | 27.4 | 11.9 | 4.26 | 1.79 | 0.83 | 0.33 | 0.17 |

| Magnitude and probability of annual low flow based on period of record 1976-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.57 | 0.19 | 0.00 | 0.00 |
| 3 | 0.62 | 0.24 | 0.00 | 0.00 |
| 7 | 0.76 | 0.25 | 0.02 | 0.00 |
| 10 | 0.84 | 0.25 | 0.05 | 0.00 |
| 30 | 1.55 | 0.37 | 0.11 | 0.00 |
| 60 | 3.48 | 1.10 | 0.61 | 0.37 |

| Magnitude and probability of annual low flow based on period of record 1975-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 21.3 | 8.02 | 4.75 | 3.07 |
| 3 | 24.0 | 9.06 | 5.43 | 3.55 |
| 7 | 37.1 | 13.6 | 7.94 | 5.04 |
| 10 | 43.5 | 16.7 | 10.1 | 6.71 |
| 30 | 130 | 44.8 | 24.6 | 14.7 |
| 60 | 332 | 142 | 84.6 | 52.9 |

| Magnitude and probability of annual low flow based on period of record 1975-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.59 | 0.19 | 0.00 | 0.00 |
| 3 | 0.64 | 0.24 | 0.00 | 0.00 |
| 7 | 0.78 | 0.25 | 0.02 | 0.00 |
| 10 | 0.86 | 0.25 | 0.05 | 0.00 |
| 30 | 2.03 | 0.37 | 0.11 | 0.01 |
| 60 | 3.96 | 1.39 | 0.83 | 0.54 |

| Magnitude and probability of annual low flow based on period of record 1975-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.02 | 1.26 | 0.70 | 0.35 |
| 3 | 4.92 | 1.56 | 0.84 | 0.40 |
| 7 | 8.21 | 2.33 | 1.10 | 0.40 |
| 10 | 10.0 | 2.87 | 1.35 | 0.49 |
| 30 | 46.5 | 14.3 | 6.78 | 3.43 |
| 60 | 115 | 40.4 | 20.0 | 10.3 |

ARKANSAS RIVER BASIN

07247500 FOURCHE MALINE NEAR RED OAK, OK

LOCATION.--Lat 34°54'45", long 95°09'20", in NW ¼ NW ¼ sec.13, T.5 N., R.20 E., Latimer County, Hydrologic Unit 11110105, on downstream side of left abutment of county road bridge, 0.1 mi downstream from Little Fourche Maline, 5.0 mi southwest of Red Oak, and at mile 41.2.

DRAINAGE AREA.--122 mi².

PERIOD OF RECORD.--October 1938 to April 1991, October 1991 to current year.

REMARKS.--Some regulation since 1966 by several floodwater-retarding structures.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1939-1963

125

Magnitude and probability of annual high flow based on period of record 1939-1963

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 4,060 | 7,880 | 11,200 | 16,500 | 21,300 | 26,800 |
| 3 | 2,440 | 4,250 | 5,680 | 7,760 | 9,500 | 11,400 |
| 7 | 1,370 | 2,220 | 2,810 | 3,570 | 4,140 | 4,710 |
| 10 | 1,050 | 1,700 | 2,140 | 2,690 | 3,090 | 3,480 |
| 30 | 514 | 847 | 1,080 | 1,370 | 1,580 | 1,790 |
| 60 | 356 | 594 | 750 | 936 | 1,070 | 1,190 |

Magnitude and probability of annual instantaneous peak flow based on 25 years of record, 1939-1963

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 6,560 | 14,100 | 21,200 | 32,900 | 43,800 | 56,900 | 97,300 |

Oklahoma weighted skew = 0.096

Duration table of daily mean flow for period of record 1939-1963

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 2,190 | 1,340 | 501 | 217 | 131 | 84.2 | 42.3 | 23.4 | 13.4 | 6.72 | 2.77 | 0.93 | 0.47 | 0.23 | 0.09 | 0.05 |

| Magnitude and probability of annual low flow based on period of record 1940-1963 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.14 | 0.00 | 0.00 | 0.00 |
| 60 | 0.99 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1939-1963 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 6.94 | 3.54 | 2.50 | 1.88 |
| 3 | 8.06 | 4.26 | 3.09 | 2.38 |
| 7 | 10.2 | 5.27 | 3.81 | 2.95 |
| 10 | 11.6 | 6.02 | 4.49 | 3.60 |
| 30 | 67.5 | 31.8 | 22.4 | 17.0 |
| 60 | 215 | 108 | 74.2 | 54.3 |

| Magnitude and probability of annual low flow based on period of record 1939-1962 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.14 | 0.00 | 0.00 | 0.00 |
| 60 | 1.25 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1939-1963 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.83 | 0.00 | 0.00 | 0.00 |
| 3 | 1.10 | 0.00 | 0.00 | 0.00 |
| 7 | 1.29 | 0.00 | 0.00 | 0.00 |
| 10 | 1.48 | 0.05 | 0.00 | 0.00 |
| 30 | 4.23 | 0.76 | 0.24 | 0.04 |
| 60 | 13.0 | 2.88 | 1.19 | 0.55 |

ARKANSAS RIVER BASIN
07247500 FOURCHE MALINE NEAR RED OAK, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1966-1999

150

| Magnitude and probability of annual high flow based on period of record 1966-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 2,840 | 4,200 | 5,160 | 6,410 | 7,370 | 8,360 |
| 3 | 2,000 | 2,870 | 3,470 | 4,270 | 4,880 | 5,500 |
| 7 | 1,360 | 1,890 | 2,200 | 2,570 | 2,820 | 3,060 |
| 10 | 1,140 | 1,590 | 1,870 | 2,180 | 2,400 | 2,600 |
| 30 | 618 | 854 | 1,000 | 1,170 | 1,290 | 1,410 |
| 60 | 413 | 560 | 644 | 738 | 801 | 858 |

Magnitude and probability of annual instantaneous peak flow based on 34 years of record, 1966-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 3,610 | 6,090 | 8,060 | 10,900 | 13,300 | 16,000 | 23,200 |

station skew = 0.114

Duration table of daily mean flow for period of record 1966-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 1,750 | 1,320 | 814 | 441 | 240 | 150 | 81.2 | 46.1 | 26.6 | 13.8 | 6.62 | 3.03 | 0.96 | 0.48 | 0.18 | 0.10 |

| Magnitude and probability of annual low flow based on period of record 1967-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.17 | 0.00 | 0.00 | 0.00 |
| 3 | 0.21 | 0.00 | 0.00 | 0.00 |
| 7 | 0.31 | 0.02 | 0.00 | 0.00 |
| 10 | 0.41 | 0.03 | 0.00 | 0.00 |
| 30 | 1.32 | 0.16 | 0.00 | 0.00 |
| 60 | 2.46 | 0.43 | 0.15 | 0.06 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 10.9 | 4.88 | 3.18 | 2.23 |
| 3 | 12.3 | 5.39 | 3.46 | 2.38 |
| 7 | 15.7 | 6.83 | 4.38 | 3.02 |
| 10 | 19.3 | 8.60 | 5.77 | 4.19 |
| 30 | 104 | 39.3 | 22.4 | 13.7 |
| 60 | 227 | 117 | 79.3 | 56.4 |

| Magnitude and probability of annual low flow based on period of record 1966-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.21 | 0.00 | 0.00 | 0.00 |
| 3 | 0.26 | 0.00 | 0.00 | 0.00 |
| 7 | 0.38 | 0.02 | 0.00 | 0.00 |
| 10 | 0.46 | 0.04 | 0.00 | 0.00 |
| 30 | 1.32 | 0.26 | 0.03 | 0.00 |
| 60 | 3.32 | 0.60 | 0.21 | 0.08 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.41 | 0.54 | 0.05 | 0.00 |
| 3 | 5.14 | 0.53 | 0.06 | 0.00 |
| 7 | 5.40 | 1.02 | 0.26 | 0.00 |
| 10 | 6.38 | 1.22 | 0.31 | 0.00 |
| 30 | 15.4 | 3.88 | 1.72 | 0.83 |
| 60 | 38.4 | 9.55 | 4.02 | 1.82 |

ARKANSAS RIVER BASIN

07248500 POTEAU RIVER NEAR WISTER, OK

LOCATION.--Lat 34°56'15", long 94°42'54", in NW ¼ NW ¼ sec.6, T.5 N., R.25 E., Leflore County, Hydrologic Unit 11110105, on left bank of outflow channel 700 ft downstream from Wister Dam, 2.2 mi southeast of Wister, 2.6 mi upstream from Caston Creek, and at mile 60.8.

DRAINAGE AREA.--993 mi².

PERIOD OF RECORD.--May 1938 to September 1984. Monthly discharge only for some periods, published in WSP 1311. Prior to May 21, 1951, records below about 500 ft³/s include flow from Caston Creek, drainage area, 70 mi².

REMARKS.--Flow completely regulated since October 1949 by Wister Lake.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1939-1948

1,311

Magnitude and probability of annual high flow based on period of record 1939-1948

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 25,800 | 51,100 | 72,900 | 99,400 | 120,000 | 141,000 |
| 3 | 21,900 | 37,800 | 48,300 | 61,100 | 70,000 | 78,400 |
| 7 | 12,900 | 20,800 | 26,000 | 32,400 | 37,000 | 41,300 |
| 10 | 10,500 | 16,300 | 19,900 | 23,900 | 26,600 | 29,100 |
| 30 | 5,390 | 8,290 | 10,200 | 12,600 | 14,300 | 16,000 |
| 60 | 3,780 | 5,990 | 7,460 | 9,260 | 10,600 | 11,800 |

Magnitude and probability of annual instantaneous peak flow based on 14 historic years of record, 1935-1948

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 25,900 | 51,200 | 73,000 | 107,000 | 137,000 | 170,000 | 267,000 |

Oklahoma weighted skew = 0.013

Duration table of daily mean flow for period of record 1939-1948

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|--------|-------|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 12,700 | 11,100 | 6,360 | 3,050 | 1,670 | 1,130 | 643 | 373 | 217 | 132 | 63.8 | 27.3 | 4.72 | 0.90 | 0.36 | 0.18 |

| Magnitude and probability of annual low flow based on period of record 1940-1948 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.14 | 0.00 | 0.00 | 0.00 |
| 3 | 0.14 | 0.00 | 0.00 | 0.00 |
| 7 | 0.21 | 0.00 | 0.00 | 0.00 |
| 10 | 0.26 | 0.00 | 0.00 | 0.00 |
| 30 | 2.09 | 0.27 | 0.00 | 0.00 |
| 60 | 9.44 | 1.73 | 0.71 | 0.33 |

| Magnitude and probability of annual low flow based on period of record 1939-1948 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 145 | 96.2 | 78.6 | 66.9 |
| 3 | 155 | 108 | 90.4 | 79.1 |
| 7 | 175 | 121 | 106 | 98.0 |
| 10 | 245 | 142 | 111 | 92.6 |
| 30 | 1,220 | 668 | 470 | 345 |
| 60 | 2,760 | 1,700 | 1,270 | 972 |

| Magnitude and probability of annual low flow based on period of record 1939-1947 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.15 | 0.00 | 0.00 | 0.00 |
| 3 | 0.22 | 0.00 | 0.00 | 0.00 |
| 7 | 0.30 | 0.00 | 0.00 | 0.00 |
| 10 | 0.34 | 0.00 | 0.00 | 0.00 |
| 30 | 3.33 | 0.30 | 0.00 | 0.00 |
| 60 | 14.2 | 2.29 | 0.81 | 0.33 |

| Magnitude and probability of annual low flow based on period of record 1939-1948 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 11.2 | 0.52 | 0.00 | 0.00 |
| 3 | 19.9 | 0.74 | 0.00 | 0.00 |
| 7 | 25.9 | 5.22 | 2.05 | 0.90 |
| 10 | 37.8 | 10.1 | 4.61 | 2.29 |
| 30 | 102 | 39.7 | 24.1 | 15.9 |
| 60 | 244 | 80.9 | 41.8 | 23.2 |

ARKANSAS RIVER BASIN
07248500 POTEAU RIVER NEAR WISTER, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1950-1984

1,050

| Magnitude and probability of annual high flow based on period of record 1950-1984 | | | | | | |
|--|----------|----------|-----------|----------|----------|-----------|
| Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 6,440 | 7,680 | 8,400 | 9,210 | 9,770 | 10,300 |
| 3 | 6,280 | 7,480 | 8,120 | 8,810 | 9,250 | 9,650 |
| 7 | 6,020 | 7,150 | 7,610 | 7,990 | 8,190 | 8,330 |
| 10 | 5,700 | 7,000 | 7,470 | 7,890 | 8,100 | 8,240 |
| 30 | 3,850 | 5,280 | 6,020 | 6,770 | 7,210 | 7,580 |
| 60 | 2,770 | 3,960 | 4,650 | 5,400 | 5,890 | 6,320 |

Magnitude and probability of annual instantaneous peak flow based on 35 years of record, 1950-1984

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 6,560 | 7,740 | 8,500 | 9,420 | 10,100 | 10,800 | 12,300 |

station skew = 0.321

Duration table of daily mean flow for period of record 1950-1984

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-------|-------|-------|-----|-----|-----|------|------|------|------|------|------|------|
| 7,290 | 6,860 | 5,620 | 4,080 | 2,720 | 1,750 | 759 | 364 | 162 | 66.8 | 21.6 | 11.6 | 6.40 | 1.62 | 0.58 | 0.29 |

| Magnitude and probability of annual low flow based on period of record 1951-1984 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.05 | 0.64 | 0.08 | 0.00 |
| 3 | 4.44 | 1.12 | 0.18 | 0.00 |
| 7 | 5.37 | 1.30 | 0.25 | 0.04 |
| 10 | 6.87 | 1.41 | 0.38 | 0.07 |
| 30 | 9.84 | 2.24 | 0.82 | 0.31 |
| 60 | 16.1 | 3.65 | 1.60 | 0.79 |

| Magnitude and probability of annual low flow based on period of record 1950-1984 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 21.3 | 7.75 | 4.09 | 2.27 |
| 3 | 35.4 | 14.2 | 8.90 | 6.10 |
| 7 | 105 | 37.8 | 22.7 | 15.0 |
| 10 | 143 | 47.2 | 26.9 | 17.1 |
| 30 | 689 | 304 | 198 | 138 |
| 60 | 1,730 | 957 | 668 | 483 |

| Magnitude and probability of annual low flow based on period of record 1950-1983 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.06 | 1.11 | 0.44 | 0.15 |
| 3 | 4.68 | 1.35 | 0.56 | 0.20 |
| 7 | 5.41 | 1.58 | 0.71 | 0.34 |
| 10 | 7.06 | 2.14 | 0.95 | 0.45 |
| 30 | 10.0 | 3.54 | 2.00 | 1.24 |
| 60 | 20.5 | 5.88 | 3.15 | 1.91 |

| Magnitude and probability of annual low flow based on period of record 1950-1984 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.72 | 1.55 | 0.18 | 0.00 |
| 3 | 10.7 | 2.40 | 0.47 | 0.00 |
| 7 | 17.4 | 3.15 | 0.38 | 0.05 |
| 10 | 19.9 | 3.70 | 0.45 | 0.07 |
| 30 | 78.6 | 7.65 | 1.69 | 0.41 |
| 60 | 387 | 56.8 | 13.7 | 3.33 |

ARKANSAS RIVER BASIN

07249400 JAMES FORK NEAR HACKETT, AR

LOCATION.--Lat 35°09'45", long 94°24'25", in NW ¼ NW ¼ sec.34, T.6 N., R.32 W., Sebastian County, Hydrologic Unit 11110105, near left bank on downstream side of bridge on State Highway 45, 1.7 mi south of Hackett, 2.0 mi downstream from Elder Branch, 2.0 mi upstream from small tributary, and 3.6 mi upstream from Arkansas-Oklahoma State line.

DRAINAGE AREA.--147 mi².

PERIOD OF RECORD.--April 1958 to current year.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1959-1999

148

Magnitude and probability of annual high flow based on period of record 1959-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 4,340 | 7,350 | 9,570 | 12,600 | 14,900 | 17,300 |
| 3 | 2,500 | 4,110 | 5,240 | 6,710 | 7,820 | 8,930 |
| 7 | 1,400 | 2,240 | 2,790 | 3,460 | 3,950 | 4,420 |
| 10 | 1,120 | 1,740 | 2,120 | 2,580 | 2,890 | 3,170 |
| 30 | 592 | 863 | 1,020 | 1,180 | 1,290 | 1,380 |
| 60 | 396 | 599 | 734 | 903 | 1,030 | 1,150 |

Magnitude and probability of annual instantaneous peak flow based on 42 years of record, 1958-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 6,590 | 11,100 | 14,700 | 20,000 | 24,300 | 29,200 | 42,300 |

Oklahoma weighted skew = 0.113

Duration table of daily mean flow for period of record 1959-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 2,250 | 1,340 | 593 | 286 | 192 | 143 | 84.9 | 53.5 | 33.1 | 18.9 | 9.58 | 4.22 | 1.55 | 0.68 | 0.27 | 0.14 |

| Magnitude and probability of annual low flow based on period of record 1959-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.58 | 0.08 | 0.00 | 0.00 |
| 3 | 0.70 | 0.09 | 0.00 | 0.00 |
| 7 | 0.85 | 0.18 | 0.00 | 0.00 |
| 10 | 0.95 | 0.20 | 0.04 | 0.00 |
| 30 | 1.91 | 0.53 | 0.22 | 0.02 |
| 60 | 4.34 | 0.88 | 0.24 | 0.05 |

| Magnitude and probability of annual low flow based on period of record 1958-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 20.1 | 8.81 | 5.26 | 3.28 |
| 3 | 22.0 | 9.71 | 5.87 | 3.71 |
| 7 | 26.6 | 11.6 | 7.06 | 4.53 |
| 10 | 27.4 | 13.9 | 9.96 | 7.63 |
| 30 | 79.2 | 36.8 | 25.1 | 18.5 |
| 60 | 205 | 98.5 | 65.2 | 45.5 |

| Magnitude and probability of annual low flow based on period of record 1958-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.59 | 0.08 | 0.00 | 0.00 |
| 3 | 0.71 | 0.09 | 0.00 | 0.00 |
| 7 | 0.86 | 0.18 | 0.00 | 0.00 |
| 10 | 0.96 | 0.20 | 0.04 | 0.00 |
| 30 | 1.99 | 0.57 | 0.24 | 0.02 |
| 60 | 5.21 | 1.10 | 0.29 | 0.06 |

| Magnitude and probability of annual low flow based on period of record 1959-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.27 | 0.93 | 0.35 | 0.13 |
| 3 | 5.97 | 1.36 | 0.52 | 0.20 |
| 7 | 7.86 | 1.93 | 0.77 | 0.30 |
| 10 | 9.12 | 2.29 | 0.93 | 0.36 |
| 30 | 24.0 | 5.39 | 1.90 | 0.61 |
| 60 | 67.5 | 14.8 | 5.02 | 1.74 |

ARKANSAS RIVER BASIN

07249985 LEE CREEK NEAR SHORT, OK

LOCATION.--Lat 35°31'09", long 94°27'58", in NW ¼ NE ¼ sec.17, T.12 N., R.27 E., Indian Meridian, Sequoyah County, Hydrologic Unit 11110104, on left bank 0.5 mi west of Arkansas-Oklahoma State line, 500 ft downstream from Webbers Creek, 4.1 mi south of Short, Oklahoma, 7.5 mi southwest of Uniontown, Arkansas, and at mile 11.0.

DRAINAGE AREA.--420 mi².

PERIOD OF RECORD.--September 1930 to June 1937, October 1950 to current year. Prior to October 1992, published as "07250000 Lee Creek near Van Buren".

STREAMFLOW UNREGULATED PERIOD

Mean annual flow, in ft³/s, based on period of record 1931-1999

543

Magnitude and probability of annual high flow based on period of record 1931-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 13,400 | 21,900 | 27,900 | 35,900 | 42,000 | 48,200 |
| 3 | 8,130 | 12,500 | 15,500 | 19,300 | 22,100 | 24,900 |
| 7 | 4,650 | 6,980 | 8,560 | 10,600 | 12,100 | 13,600 |
| 10 | 3,750 | 5,520 | 6,690 | 8,160 | 9,240 | 10,300 |
| 30 | 2,080 | 2,990 | 3,540 | 4,170 | 4,610 | 5,010 |
| 60 | 1,500 | 2,140 | 2,500 | 2,890 | 3,130 | 3,350 |

Magnitude and probability of annual instantaneous peak flow based on 69 historic years of record, 1931-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 23,900 | 41,200 | 55,000 | 75,100 | 92,000 | 111,000 | 161,000 |

Oklahoma weighted skew = 0.072

Duration table of daily mean flow for period of record 1931-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 6,610 | 4,260 | 2,240 | 1,260 | 877 | 654 | 398 | 247 | 142 | 72.0 | 32.2 | 11.5 | 2.49 | 0.75 | 0.30 | 0.15 |

| Magnitude and probability of annual low flow based on period of record 1932-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.49 | 0.00 | 0.00 | 0.00 |
| 3 | 0.59 | 0.00 | 0.00 | 0.00 |
| 7 | 0.69 | 0.00 | 0.00 | 0.00 |
| 10 | 0.76 | 0.00 | 0.00 | 0.00 |
| 30 | 1.98 | 0.10 | 0.00 | 0.00 |
| 60 | 5.29 | 0.47 | 0.05 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1931-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 103 | 51.9 | 35.3 | 25.3 |
| 3 | 112 | 56.2 | 38.3 | 27.5 |
| 7 | 135 | 65.7 | 44.4 | 31.9 |
| 10 | 151 | 72.6 | 49.0 | 35.1 |
| 30 | 502 | 226 | 141 | 93.0 |
| 60 | 875 | 495 | 358 | 269 |

| Magnitude and probability of annual low flow based on period of record 1931-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.50 | 0.00 | 0.00 | 0.00 |
| 3 | 0.60 | 0.00 | 0.00 | 0.00 |
| 7 | 0.69 | 0.00 | 0.00 | 0.00 |
| 10 | 0.76 | 0.00 | 0.00 | 0.00 |
| 30 | 2.56 | 0.14 | 0.00 | 0.00 |
| 60 | 6.67 | 0.76 | 0.10 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1931-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 21.0 | 2.20 | 0.10 | 0.00 |
| 3 | 23.8 | 2.46 | 0.10 | 0.00 |
| 7 | 35.9 | 2.35 | 0.10 | 0.00 |
| 10 | 42.0 | 2.73 | 0.32 | 0.00 |
| 30 | 95.2 | 15.0 | 4.23 | 1.26 |
| 60 | 206 | 44.6 | 15.8 | 5.88 |

ARKANSAS RIVER BASIN

07250550 ARKANSAS RIVER AT JAMES W. TRIMBLE LOCK AND DAM NEAR VAN BUREN, AR

LOCATION.--Lat 35°20'56", long 94°17'54", in sec.28, T.8 N., R.31 W., Sebastian County, Hydrologic Unit 11110104, in metal shelter on dam and at mile 308.9.

DRAINAGE AREA.--150,547 mi² of which 22,241 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1927 to current year. Prior of October 1969, published as "07250500 Arkansas River at Van Buren", and October 1969 to September 1988, published as "at Dam No. 13 near Van Buren". Gage-height records collected from 1879 to 1955 at Fort Smith, 16.3 mi upstream, are contained in reports of National Weather Service.

REMARKS.--Prior to October 1969, published as "07250500 Arkansas River at Van Buren", and October 1969 to September 1988, published as "at Dam No. 13, near Van Buren". Flow regulated since 1964 by Lake Eufaula and Keystone Lake. Flow has been further regulated by Robert S. Kerr Reservoir since 1970. Beginning April 26, 1970, daily discharge computed from relations between discharge, head and gate openings.

UNREGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1928-1963 |
| 31,561 |

| Magnitude and probability of annual high flow based on period of record 1928-1963 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 214,000 | 351,000 | 448,000 | 577,000 | 679,000 | 784,000 |
| 3 | 200,000 | 340,000 | 446,000 | 560,000 | 660,000 | 750,000 |
| 7 | 168,000 | 290,000 | 381,000 | 505,000 | 602,000 | 703,000 |
| 10 | 150,000 | 259,000 | 338,000 | 445,000 | 526,000 | 610,000 |
| 30 | 95,300 | 171,000 | 228,000 | 306,000 | 367,000 | 430,000 |
| 60 | 71,100 | 126,000 | 166,000 | 219,000 | 260,000 | 300,000 |

| Magnitude and probability of annual instantaneous peak flow based on 36 years of record, 1928-1963 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 218,000 | 351,000 | 448,000 | 577,000 | 679,000 | 784,000 | 1,040,000 |

Water Resources Council weighted skew = - 0.117

| Duration table of daily mean flow for period of record 1928-1963 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 25,700 | 25,500 | 24,700 | 23,300 | 21,900 | 20,600 | 17,800 | 15,100 | 12,400 | 9,680 | 7,090 | 5,050 | 3,030 | 1,910 | 1,150 | 801 |

| Magnitude and probability of annual low flow based on period of record 1929-1963 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2,500 | 1,160 | 731 | 484 |
| 3 | 2,690 | 1,240 | 778 | 513 |
| 7 | 2,940 | 1,340 | 836 | 551 |
| 10 | 3,040 | 1,380 | 863 | 571 |
| 30 | 3,840 | 1,650 | 1,020 | 675 |
| 60 | 5,040 | 2,230 | 1,410 | 946 |

| Magnitude and probability of annual low flow based on period of record 1928-1963 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 8,670 | 4,360 | 2,940 | 2,080 |
| 3 | 9,320 | 4,600 | 3,080 | 2,180 |
| 7 | 10,800 | 5,280 | 3,550 | 2,530 |
| 10 | 12,360 | 5,950 | 4,000 | 2,860 |
| 30 | 24,900 | 10,600 | 6,510 | 4,270 |
| 60 | 46,000 | 21,100 | 13,500 | 9,070 |

| Magnitude and probability of annual low flow based on period of record 1928-1962 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2,850 | 1,290 | 796 | 517 |
| 3 | 3,040 | 1,350 | 825 | 530 |
| 7 | 3,270 | 1,430 | 873 | 562 |
| 10 | 3,380 | 1,470 | 899 | 581 |
| 30 | 4,520 | 1,860 | 1,110 | 709 |
| 60 | 7,060 | 2,790 | 1,650 | 1,040 |

| Magnitude and probability of annual low flow based on period of record 1928-1963 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3,460 | 1,740 | 1,180 | 845 |
| 3 | 3,650 | 1,880 | 1,300 | 954 |
| 7 | 3,990 | 2,120 | 1,500 | 1,120 |
| 10 | 4,170 | 2,210 | 1,560 | 1,160 |
| 30 | 6,110 | 3,090 | 2,110 | 1,530 |
| 60 | 8,760 | 4,460 | 3,060 | 2,210 |

ARKANSAS RIVER BASIN

07250550 ARKANSAS RIVER AT JAMES W. TRIMBLE LOCK AND DAM NEAR VAN BUREN, AR—Continued

REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1970-1998 |
| 39,881 |

| Magnitude and probability of annual high flow based on period of record 1970-1998 | | | | | | |
|--|---|------------------|-------------------|------------------|------------------|-------------------|
| Period (consecutive days) | Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 158,000 | 230,000 | 276,000 | 333,000 | 374,000 | 414,000 |
| 3 | 145,000 | 216,000 | 263,000 | 322,000 | 365,000 | 407,000 |
| 7 | 134,000 | 200,000 | 239,000 | 285,000 | 316,000 | 345,000 |
| 10 | 129,000 | 192,000 | 229,000 | 271,000 | 299,000 | 324,000 |
| 30 | 105,000 | 158,000 | 190,000 | 226,000 | 249,000 | 271,000 |
| 60 | 82,600 | 128,000 | 156,000 | 189,000 | 212,000 | 234,000 |

| Magnitude and probability of annual instantaneous peak flow based on 30 years of record, 1970-1999 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 163,000 | 230,000 | 277,000 | 340,000 | 390,000 | 442,000 | 572,000 |

station skew = 0.206

| Duration table of daily mean flow for period of record 1970-1998 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------------|-----------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98 % | 99 % |
| 40,000 | 39,500 | 38,300 | 36,200 | 34,200 | 32,100 | 28,000 | 23,900 | 19,800 | 15,600 | 11,500 | 7,420 | 3,290 | 1,410 | 191 | 76.4 |

| Magnitude and probability of annual low flow based on period of record 1971-1998 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 41.8 | 0.00 | 0.00 | 0.00 |
| 3 | 584 | 113 | 42.4 | 17.7 |
| 7 | 2,210 | 1,150 | 811 | 603 |
| 10 | 2,780 | 1,380 | 917 | 641 |
| 30 | 4,980 | 2,490 | 1,650 | 1,130 |
| 60 | 7,190 | 3,850 | 2,680 | 1,960 |

| Magnitude and probability of annual low flow based on period of record 1970-1998 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 8,290 | 1,000 | 258 | 73.2 |
| 3 | 14,700 | 3,370 | 1,280 | 518 |
| 7 | 17,700 | 6,160 | 3,370 | 1,990 |
| 10 | 19,200 | 6,840 | 3,800 | 2,290 |
| 30 | 38,500 | 16,000 | 9,320 | 5,720 |
| 60 | 54,400 | 27,000 | 17,700 | 12,100 |

| Magnitude and probability of annual low flow based on period of record 1970-1997 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 127 | 27.6 | 10.2 | 0.00 |
| 3 | 1,310 | 429 | 225 | 127 |
| 7 | 2,990 | 1,450 | 986 | 713 |
| 10 | 3,520 | 1,710 | 1,160 | 833 |
| 30 | 6,790 | 3,390 | 2,270 | 1,600 |
| 60 | 9,080 | 5,030 | 3,720 | 2,910 |

| Magnitude and probability of annual low flow based on period of record 1970-1998 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 316 | 12.8 | 0.00 | 0.00 |
| 3 | 1,860 | 235 | 66.4 | 21.2 |
| 7 | 4,810 | 1,850 | 1,100 | 712 |
| 10 | 5,760 | 2,210 | 1,290 | 805 |
| 30 | 10,700 | 4,440 | 2,710 | 1,770 |
| 60 | 15,300 | 6,590 | 4,130 | 2,770 |

RED RIVER BASIN

07299540 PRAIRIE DOG TOWN FORK RED RIVER NEAR CHILDRESS, TX

LOCATION.--Lat 34°34'09", long 100°11'37", Childress County, Hydrologic Unit 11120105, on left bank at downstream side of bridge on U.S. Highway 62 and 83, 3.1 mi downstream from Salt Creek, 10.0 mi north of Childress, and at mile 1,061.

DRAINAGE AREA.--7,725 mi², of which 4,767 mi² is probably noncontributing.

PERIOD OF RECORD.--December 1964 to March 1965 (gage-heights only), April 1965 to current year.

REMARKS.-- Since water year 1974, at least 10 percent of contributing drainage area has been regulated by MacKenzie Reservoir (station 07298100, normal storage 46,077 acre-ft), Baylor Lake, and Lake Childress. Flow is also affected by flood-detention pools of 23 floodwater-retarding structures with a combined detention capacity of 20,010 acre-ft. These structures control runoff from 95.2 mi² in the drainage basin above station. Many small diversions upstream from station.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1966-1999

118

Magnitude and probability of annual high flow based on period of record 1966-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 5,210 | 11,200 | 16,900 | 26,600 | 35,900 | 47,200 |
| 3 | 2,790 | 5,680 | 8,290 | 12,500 | 16,300 | 20,700 |
| 7 | 1,450 | 2,900 | 4,150 | 6,090 | 7,790 | 9,720 |
| 10 | 1,120 | 2,230 | 3,180 | 4,620 | 5,890 | 7,300 |
| 30 | 563 | 1,020 | 1,370 | 1,870 | 2,270 | 2,690 |
| 60 | 368 | 620 | 795 | 1,020 | 1,180 | 1,340 |

Magnitude and probability of annual instantaneous peak flow based on 43 historic years of record, 1957-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 15,800 | 31,200 | 44,200 | 63,600 | 80,300 | 98,800 | 149,000 |

Water Resources Council weighted skew = - 0.105

Duration table of daily mean flow for period of record 1966-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 2,100 | 1,240 | 483 | 180 | 96.2 | 62.2 | 30.5 | 15.7 | 8.85 | 5.84 | 3.86 | 2.34 | 1.16 | 0.59 | 0.24 | 0.12 |

| Magnitude and probability of annual low flow based on period of record 1967-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.12 | 0.02 | 0.00 | 0.00 |
| 3 | 0.18 | 0.04 | 0.01 | 0.00 |
| 7 | 0.42 | 0.10 | 0.04 | 0.01 |
| 10 | 0.62 | 0.18 | 0.09 | 0.04 |
| 30 | 2.50 | 1.15 | 0.77 | 0.51 |
| 60 | 5.82 | 2.93 | 2.15 | 1.70 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.96 | 0.16 | 0.04 | 0.01 |
| 3 | 1.23 | 0.30 | 0.14 | 0.07 |
| 7 | 2.00 | 0.67 | 0.36 | 0.21 |
| 10 | 2.67 | 0.90 | 0.49 | 0.30 |
| 30 | 14.7 | 4.64 | 2.65 | 1.71 |
| 60 | 108 | 43.7 | 27.1 | 18.3 |

| Magnitude and probability of annual low flow based on period of record 1966-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.20 | 0.04 | 0.01 | 0.00 |
| 3 | 0.32 | 0.06 | 0.02 | 0.00 |
| 7 | 0.58 | 0.13 | 0.04 | 0.01 |
| 10 | 0.76 | 0.20 | 0.09 | 0.04 |
| 30 | 5.09 | 1.59 | 0.86 | 0.51 |
| 60 | 25.8 | 8.31 | 4.27 | 2.37 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.29 | 0.38 | 0.19 | 0.09 |
| 3 | 1.65 | 0.51 | 0.25 | 0.12 |
| 7 | 2.18 | 0.77 | 0.43 | 0.27 |
| 10 | 2.54 | 1.02 | 0.63 | 0.42 |
| 30 | 5.04 | 2.39 | 1.71 | 1.33 |
| 60 | 8.17 | 3.73 | 2.67 | 2.10 |

RED RIVER BASIN

07299570 RED RIVER NEAR QUANAH, TX

LOCATION.--Lat 34°24'47", long 99°44'03", Hardeman County, Hydrologic Unit 11130101, on right bank at downstream side of bridge on State Highway 6, 8 mi north of Quanah, 30 mi upstream from Salt Fork Red River, and at mile 1,030.

DRAINAGE AREA.--8,321 mi² of which 4,769 mi² is probably noncontributing.

PERIOD OF RECORD.--November 1959 to September 1982.

REMARKS.--Several small diversions above station for irrigation. Flow is also affected by flood-detention pools of 23 floodwater-retarding structures with a combined detention capacity of 20,010 acre-ft. These structures control runoff from 95.2 mi² in the drainage basin above station.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1961-1982

149

Magnitude and probability of annual high flow based on period of record 1961-1982

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 7,900 | 15,500 | 22,100 | 32,300 | 41,300 | 51,500 |
| 3 | 4,260 | 8,360 | 11,900 | 17,400 | 22,200 | 27,700 |
| 7 | 2,100 | 4,190 | 6,040 | 8,930 | 11,500 | 14,500 |
| 10 | 1,570 | 3,240 | 4,760 | 7,230 | 9,500 | 12,200 |
| 30 | 741 | 1,440 | 2,010 | 2,830 | 3,500 | 4,230 |
| 60 | 469 | 856 | 1,140 | 1,510 | 1,790 | 2,080 |

Magnitude and probability of annual instantaneous peak flow based on 26 historic years of record, 1957-1982

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 20,200 | 35,600 | 47,900 | 65,700 | 80,400 | 96,500 | 139,000 |

Water Resources Council weighted skew = - 0.024

Duration table of daily mean flow for period of record 1961-1982

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 2,890 | 1,430 | 426 | 161 | 87.7 | 58.3 | 28.2 | 15.0 | 8.83 | 5.42 | 3.11 | 1.58 | 0.66 | 0.33 | 0.13 | 0.07 |

| Magnitude and probability of annual low flow based on period of record 1961-1982 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.05 | 0.00 | 0.00 | 0.00 |
| 3 | 0.05 | 0.00 | 0.00 | 0.00 |
| 7 | 0.08 | 0.00 | 0.00 | 0.00 |
| 10 | 0.12 | 0.00 | 0.00 | 0.00 |
| 30 | 1.44 | 0.32 | 0.08 | 0.00 |
| 60 | 4.61 | 0.81 | 0.24 | 0.07 |

| Magnitude and probability of annual low flow based on period of record 1960-1982 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.62 | 0.08 | 0.01 | 0.00 |
| 3 | 0.74 | 0.15 | 0.05 | 0.01 |
| 7 | 1.06 | 0.33 | 0.15 | 0.04 |
| 10 | 1.48 | 0.39 | 0.16 | 0.07 |
| 30 | 9.15 | 2.92 | 1.73 | 1.17 |
| 60 | 87.8 | 26.7 | 14.0 | 8.11 |

| Magnitude and probability of annual low flow based on period of record 1960-1981 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.05 | 0.00 | 0.00 | 0.00 |
| 3 | 0.05 | 0.00 | 0.00 | 0.00 |
| 7 | 0.08 | 0.00 | 0.00 | 0.00 |
| 10 | 0.12 | 0.00 | 0.00 | 0.00 |
| 30 | 2.08 | 0.33 | 0.08 | 0.00 |
| 60 | 11.0 | 1.21 | 0.28 | 0.07 |

| Magnitude and probability of annual low flow based on period of record 1961-1982 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.21 | 0.30 | 0.12 | 0.05 |
| 3 | 1.44 | 0.47 | 0.24 | 0.13 |
| 7 | 2.10 | 0.91 | 0.54 | 0.34 |
| 10 | 2.56 | 1.14 | 0.69 | 0.44 |
| 30 | 4.86 | 2.04 | 1.27 | 0.85 |
| 60 | 8.49 | 3.73 | 2.33 | 1.54 |

RED RIVER BASIN

07300000 SALT FORK RED RIVER NEAR WELLINGTON, TX

LOCATION.--Lat 34°57'27", long 100°13'14", Collingsworth County, Hydrologic Unit 11120202, near center of stream at downstream side of bridge on U.S. Highway 83, 4 mi downstream from Fort Worth and Denver (Burlington) Railway Co. bridge, 4.5 mi south of Lutie, and 7.2 mi north of Wellington.

DRAINAGE AREA.--1,222 mi², of which 209 mi² is probably noncontributing.

PERIOD OF RECORD.--June 1952 to current year.

REMARKS.--Since water year 1967, at least 10 percent of contributing drainage area has been regulated by upstream reservoirs. There are several small diversions upstream from gage for irrigation. Historical record length assumed to start from same year as that for nearby station Salt Fork Red River near Clarendon, TX (07299850) for peak-frequency analysis of unregulated streamflow period.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1953-1966

72.5

Magnitude and probability of annual high flow based on period of record 1953-1966

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
|---------------------------------|----------|----------|-----------|----------|----------|-----------|
| 1 | 5,190 | 10,700 | 14,800 | 20,200 | 24,300 | 28,300 |
| 3 | 2,270 | 4,270 | 5,660 | 7,360 | 8,560 | 9,690 |
| 7 | 1,140 | 2,060 | 2,660 | 3,360 | 3,820 | 4,250 |
| 10 | 859 | 1,550 | 2,000 | 2,510 | 2,860 | 3,170 |
| 30 | 371 | 729 | 995 | 1,350 | 1,610 | 1,880 |
| 60 | 238 | 450 | 599 | 788 | 925 | 1,060 |

Magnitude and probability of annual instantaneous peak flow based on 57 historic years of record, 1910-1966

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 18,700 | 39,900 | 60,800 | 97,100 | 133,000 | 177,000 | 326,000 |

Oklahoma weighted skew = 0.307

Duration table of daily mean flow for period of record 1953-1966

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1,080 | 544 | 180 | 85.4 | 58.4 | 44.0 | 28.2 | 19.8 | 13.5 | 9.19 | 6.46 | 4.78 | 2.98 | 2.04 | 1.22 | 1.06 |

| Magnitude and probability of annual low flow based on period of record 1954-1966 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.16 | 0.59 | 0.40 | 0.27 |
| 3 | 1.51 | 0.94 | 0.71 | 0.56 |
| 7 | 2.01 | 1.33 | 1.05 | 0.85 |
| 10 | 2.28 | 1.47 | 1.13 | 0.89 |
| 30 | 3.56 | 2.10 | 1.52 | 1.23 |
| 60 | 6.91 | 3.28 | 2.25 | 1.66 |

| Magnitude and probability of annual low flow based on period of record 1953-1966 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.50 | 1.59 | 1.22 | 0.96 |
| 3 | 3.03 | 2.41 | 2.15 | 1.96 |
| 7 | 3.83 | 3.04 | 2.73 | 2.52 |
| 10 | 4.46 | 3.31 | 2.90 | 2.64 |
| 30 | 8.75 | 4.74 | 4.03 | 3.72 |
| 60 | 54.7 | 17.9 | 10.4 | 6.81 |

| Magnitude and probability of annual low flow based on period of record 1953-1965 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.26 | 0.62 | 0.40 | 0.27 |
| 3 | 1.55 | 0.94 | 0.71 | 0.56 |
| 7 | 2.05 | 1.34 | 1.05 | 0.85 |
| 10 | 2.34 | 1.48 | 1.13 | 0.89 |
| 30 | 3.52 | 1.96 | 1.52 | 1.27 |
| 60 | 9.15 | 4.03 | 2.58 | 1.77 |

| Magnitude and probability of annual low flow based on period of record 1953-1966 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.72 | 1.86 | 1.29 | 0.96 |
| 3 | 4.59 | 2.66 | 2.03 | 1.64 |
| 7 | 6.44 | 3.76 | 2.82 | 2.21 |
| 10 | 7.22 | 4.14 | 3.05 | 2.34 |
| 30 | 11.3 | 5.88 | 4.07 | 2.97 |
| 60 | 18.2 | 8.89 | 5.79 | 3.95 |

RED RIVER BASIN

07300000 SALT FORK RED RIVER NEAR WELLINGTON, TX—Continued

REGULATED STREAMFLOW PERIOD

| |
|--|
| Mean annual flow, in ft ³ /s, based on period of record 1968-1999 |
| 55.2 |

| Magnitude and probability of annual high flow based on period of record 1968-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 2,010 | 5,370 | 8,930 | 15,300 | 21,600 | 29,500 |
| 3 | 994 | 2,490 | 4,100 | 7,050 | 10,100 | 14,000 |
| 7 | 523 | 1,200 | 1,910 | 3,210 | 4,530 | 6,230 |
| 10 | 410 | 919 | 1,430 | 2,320 | 3,210 | 4,310 |
| 30 | 197 | 420 | 629 | 972 | 1,290 | 1,670 |
| 60 | 134 | 274 | 395 | 583 | 748 | 934 |

| Magnitude and probability of annual instantaneous peak flow based on 32 years of record, 1968-1999 | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 6,960 | 20,500 | 36,300 | 67,300 | 101,000 | 145,000 | 304,000 |

station skew = 0.067

| Duration table of daily mean flow for period of record 1968-1999 | | | | | | | | | | | | | | | |
|---|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 601 | 346 | 143 | 74.9 | 55.3 | 43.6 | 30.3 | 23.2 | 18.3 | 14.3 | 10.8 | 7.45 | 4.42 | 2.93 | 2.17 | 1.67 |

| Magnitude and probability of annual low flow based on period of record 1969-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.03 | 1.10 | 0.79 | 0.60 |
| 3 | 2.26 | 1.25 | 0.90 | 0.68 |
| 7 | 2.66 | 1.58 | 1.20 | 0.96 |
| 10 | 3.10 | 1.92 | 1.49 | 1.20 |
| 30 | 4.90 | 3.06 | 2.37 | 1.91 |
| 60 | 7.66 | 4.03 | 2.90 | 2.22 |

| Magnitude and probability of annual low flow based on period of record 1968-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.97 | 3.51 | 2.00 | 1.17 |
| 3 | 8.73 | 4.03 | 2.43 | 1.51 |
| 7 | 10.0 | 5.02 | 3.28 | 2.23 |
| 10 | 10.8 | 5.82 | 4.11 | 3.05 |
| 30 | 21.1 | 9.76 | 6.50 | 4.65 |
| 60 | 65.8 | 27.3 | 17.0 | 11.4 |

| Magnitude and probability of annual low flow based on period of record 1968-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.10 | 1.17 | 0.86 | 0.66 |
| 3 | 2.34 | 1.39 | 1.06 | 0.85 |
| 7 | 2.87 | 1.84 | 1.47 | 1.22 |
| 10 | 3.31 | 2.18 | 1.75 | 1.46 |
| 30 | 4.91 | 3.08 | 2.42 | 1.98 |
| 60 | 7.82 | 4.03 | 2.90 | 2.22 |

| Magnitude and probability of annual low flow based on period of record 1968-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 9.67 | 5.63 | 4.01 | 2.93 |
| 3 | 10.5 | 6.06 | 4.27 | 3.09 |
| 7 | 11.8 | 6.81 | 4.79 | 3.46 |
| 10 | 12.3 | 7.12 | 5.12 | 3.80 |
| 30 | 16.9 | 10.5 | 8.04 | 6.37 |
| 60 | 20.7 | 13.4 | 10.7 | 8.91 |

RED RIVER BASIN

07300500 SALT FORK RED RIVER AT MANGUM, OK

LOCATION.--Lat 34°51'30", long 99°30'30", in SW 1/4 SE 1/4 sec.34. T.5 N, R.22 W., Greer County, Hydrologic Unit 11120202, near left bank on downstream side of pier of bridge on State Highway 34, 0.5 mi south of Mangum, 13.0 mi downstream from Fish Creek, and at mile 35.5.

DRAINAGE AREA.--1,566 mi², of which 209 mi² is probably noncontributing.

PERIOD OF RECORD.--April 1905 to June 1906, October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1938-1999

89.9

Magnitude and probability of annual high flow based on period of record 1938-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 4,120 | 8,740 | 12,700 | 18,800 | 24,100 | 29,900 |
| 3 | 2,110 | 4,310 | 6,110 | 8,700 | 10,800 | 13,100 |
| 7 | 1,100 | 2,220 | 3,130 | 4,440 | 5,510 | 6,660 |
| 10 | 850 | 1,710 | 2,400 | 3,390 | 4,200 | 5,060 |
| 30 | 401 | 784 | 1,090 | 1,510 | 1,850 | 2,210 |
| 60 | 249 | 483 | 670 | 937 | 1,150 | 1,390 |

Magnitude and probability of annual instantaneous peak flow based on 62 years of record, 1938-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 11,800 | 24,500 | 35,200 | 50,900 | 64,100 | 78,500 | 116,000 |

Oklahoma weighted skew = - 0.244

Duration table of daily mean flow for period of record 1938-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 1,400 | 701 | 261 | 134 | 90.5 | 67.7 | 42.5 | 28.2 | 19.0 | 10.8 | 3.18 | 0.80 | 0.40 | 0.20 | 0.08 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1939-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 2.01 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1938-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.00 | 0.00 | 0.00 | 0.00 |
| 3 | 1.15 | 0.00 | 0.00 | 0.00 |
| 7 | 1.59 | 0.00 | 0.00 | 0.00 |
| 10 | 3.10 | 0.00 | 0.00 | 0.00 |
| 30 | 25.5 | 6.50 | 0.82 | 0.00 |
| 60 | 106 | 40.5 | 23.6 | 14.5 |

| Magnitude and probability of annual low flow based on period of record 1938-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.04 | 0.00 | 0.00 | 0.00 |
| 60 | 2.78 | 0.07 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1938-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.64 | 0.00 | 0.00 | 0.00 |
| 3 | 3.90 | 0.00 | 0.00 | 0.00 |
| 7 | 5.35 | 0.00 | 0.00 | 0.00 |
| 10 | 6.51 | 0.00 | 0.00 | 0.00 |
| 30 | 12.8 | 1.86 | 0.00 | 0.00 |
| 60 | 25.7 | 5.26 | 0.57 | 0.00 |

RED RIVER BASIN

07301110 SALT FORK RED RIVER NEAR ELMER, OK

LOCATION.--Lat 34°28'44", long 99°22'55", in NW ¼ NE ¼ sec.15, T.1 S., R.21 W., Jackson County, Hydrologic Unit 11120202, on right bank at bridge on State Highway 5, 1.7 mi west of Elmer, and at mile 3.5.

DRAINAGE AREA.--1,878 mi², of which 209 mi² is probably noncontributing.

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

REMARKS.--Low flows sustained at times by irrigation returns from Lake Altus.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1980-1999

274

Magnitude and probability of annual high flow based on period of record 1980-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 6,540 | 13,700 | 20,100 | 30,300 | 39,600 | 50,200 |
| 3 | 4,740 | 9,380 | 13,100 | 18,500 | 22,900 | 27,700 |
| 7 | 2,810 | 5,330 | 7,360 | 10,300 | 12,700 | 15,400 |
| 10 | 2,320 | 4,310 | 5,830 | 7,910 | 9,530 | 11,200 |
| 30 | 1,110 | 1,990 | 2,660 | 3,580 | 4,320 | 5,080 |
| 60 | 766 | 1,250 | 1,570 | 1,960 | 2,250 | 2,520 |

Magnitude and probability of annual instantaneous peak flow based on 20 years of record, 1980-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 8,970 | 19,300 | 28,700 | 43,700 | 57,200 | 72,700 | 118,000 |

Oklahoma weighted skew = - 0.054

Duration table of daily mean flow for period of record 1980-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 3,530 | 2,230 | 930 | 482 | 321 | 243 | 160 | 115 | 87.5 | 68.7 | 50.9 | 33.8 | 15.2 | 8.09 | 4.65 | 2.42 |

| Magnitude and probability of annual low flow based on period of record 1981-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 13.4 | 3.53 | 1.28 | 0.46 |
| 3 | 14.9 | 3.95 | 1.41 | 0.52 |
| 7 | 17.0 | 4.68 | 1.74 | 0.67 |
| 10 | 18.7 | 5.57 | 2.32 | 1.00 |
| 30 | 25.6 | 8.80 | 4.55 | 2.49 |
| 60 | 39.9 | 14.9 | 8.12 | 4.66 |

| Magnitude and probability of annual low flow based on period of record 1980-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 28.2 | 10.6 | 6.16 | 3.84 |
| 3 | 31.0 | 11.9 | 6.97 | 4.38 |
| 7 | 36.0 | 13.6 | 8.04 | 5.18 |
| 10 | 41.5 | 15.6 | 9.22 | 5.91 |
| 30 | 103 | 36.7 | 20.5 | 12.4 |
| 60 | 288 | 132 | 87.4 | 62.1 |

| Magnitude and probability of annual low flow based on period of record 1980-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 15.5 | 3.62 | 1.28 | 0.46 |
| 3 | 16.7 | 3.95 | 1.41 | 0.52 |
| 7 | 18.6 | 4.68 | 1.74 | 0.67 |
| 10 | 19.9 | 5.57 | 2.32 | 1.00 |
| 30 | 28.8 | 9.02 | 4.55 | 2.49 |
| 60 | 57.2 | 21.0 | 12.1 | 7.60 |

| Magnitude and probability of annual low flow based on period of record 1980-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 28.1 | 9.91 | 5.43 | 3.20 |
| 3 | 29.7 | 10.9 | 6.14 | 3.73 |
| 7 | 34.2 | 12.7 | 7.13 | 4.30 |
| 10 | 36.5 | 13.5 | 7.56 | 4.55 |
| 30 | 49.5 | 18.6 | 10.6 | 6.47 |
| 60 | 63.9 | 28.0 | 18.0 | 12.4 |

RED RIVER BASIN

07301410 SWEETWATER CREEK NEAR KELTON, TX

LOCATION.--Lat 35°28'23", long 100°07'14", Wheeler County line, Hydrologic Unit 11120302, near center of stream at downstream side of bridge on Farm Road 592, 5 mi north of Kelton, 8 mi upstream from Texas-Oklahoma State line, and 8.5 mi northeast of Wheeler.

DRAINAGE AREA.--287 mi², of which 20 mi² is probably noncontributing.

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

REMARKS.--No known regulation. There are many small diversions upstream from the station for ranch use.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1963-1999

14.2

Magnitude and probability of annual high flow based on period of record 1963-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 252 | 532 | 770 | 1,130 | 1,430 | 1,760 |
| 3 | 141 | 286 | 409 | 594 | 752 | 928 |
| 7 | 84.2 | 158 | 220 | 312 | 392 | 481 |
| 10 | 67.4 | 122 | 169 | 240 | 302 | 374 |
| 30 | 36.4 | 61.9 | 85.2 | 124 | 160 | 205 |
| 60 | 26.6 | 42.6 | 56.9 | 80.2 | 102 | 128 |

Magnitude and probability of annual instantaneous peak flow based on 43 historic years of record, 1957-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 465 | 1,010 | 1,520 | 2,320 | 3,060 | 3,900 | 6,380 |

Oklahoma weighted skew = - 0.053

Duration table of daily mean flow for period of record 1963-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 104 | 61.8 | 34.1 | 23.7 | 20.5 | 18.4 | 15.1 | 12.9 | 10.5 | 8.18 | 5.47 | 2.59 | 0.92 | 0.46 | 0.18 | 0.09 |

| Magnitude and probability of annual low flow based on period of record 1963-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.25 | 0.03 | 0.00 | 0.00 |
| 3 | 0.28 | 0.04 | 0.00 | 0.00 |
| 7 | 0.32 | 0.06 | 0.02 | 0.00 |
| 10 | 0.37 | 0.08 | 0.02 | 0.00 |
| 30 | 0.76 | 0.20 | 0.08 | 0.03 |
| 60 | 1.45 | 0.40 | 0.18 | 0.09 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.70 | 4.25 | 2.88 | 2.00 |
| 3 | 8.06 | 4.48 | 3.07 | 2.17 |
| 7 | 8.48 | 4.83 | 3.47 | 2.59 |
| 10 | 9.02 | 5.30 | 3.92 | 3.02 |
| 30 | 12.1 | 8.09 | 6.78 | 5.96 |
| 60 | 18.1 | 12.3 | 10.6 | 9.59 |

| Magnitude and probability of annual low flow based on period of record 1962-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.25 | 0.03 | 0.00 | 0.00 |
| 3 | 0.28 | 0.04 | 0.00 | 0.00 |
| 7 | 0.32 | 0.06 | 0.02 | 0.00 |
| 10 | 0.37 | 0.08 | 0.02 | 0.00 |
| 30 | 0.76 | 0.20 | 0.08 | 0.03 |
| 60 | 1.45 | 0.40 | 0.18 | 0.09 |

| Magnitude and probability of annual low flow based on period of record 1963-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.34 | 2.45 | 1.51 | 0.97 |
| 3 | 5.80 | 2.70 | 1.66 | 1.07 |
| 7 | 6.65 | 3.24 | 2.02 | 1.30 |
| 10 | 6.95 | 3.37 | 2.10 | 1.34 |
| 30 | 8.73 | 4.66 | 3.07 | 2.07 |
| 60 | 10.1 | 6.32 | 4.74 | 3.65 |

RED RIVER BASIN

07301420 SWEETWATER CREEK NEAR SWEETWATER, OK

LOCATION.--Lat 35°25'20", long 99°58'08", in NW ¼ NE ¼ sec.20, T.11 N, R.26 W., Roger Mills-Beckham County line, Hydrologic Unit 11120302, on right bank downstream bridge piling of State Highway 152, 0.4 mi downstream from Freezeout Creek, 3.3 mi west of Sweetwater, and at mile 16.0.

DRAINAGE AREA.--424 mi², of which 20 mi² is probably noncontributing.

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

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1987-1999

26.1

Magnitude and probability of annual high flow based on period of record 1987-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 180 | 358 | 530 | 821 | 1,100 | 1,450 |
| 3 | 145 | 284 | 414 | 631 | 839 | 1,090 |
| 7 | 105 | 188 | 258 | 366 | 461 | 569 |
| 10 | 91.3 | 154 | 205 | 280 | 344 | 415 |
| 30 | 56.6 | 91.1 | 120 | 162 | 200 | 243 |
| 60 | 45.1 | 72.0 | 94.5 | 129 | 159 | 194 |

Magnitude and probability of annual instantaneous peak flow based on 46 historic years of record, 1954-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 263 | 680 | 1,180 | 2,200 | 3,370 | 5,020 | 11,800 |

Oklahoma weighted skew = 0.496

Duration table of daily mean flow for period of record 1987-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 150 | 108 | 68.6 | 49.3 | 41.3 | 36.2 | 29.6 | 24.8 | 20.8 | 17.3 | 13.2 | 7.64 | 2.14 | 0.72 | 0.29 | 0.14 |

| Magnitude and probability of annual low flow based on period of record 1988-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.80 | 0.14 | 0.03 | 0.00 |
| 3 | 0.84 | 0.16 | 0.04 | 0.00 |
| 7 | 1.06 | 0.18 | 0.06 | 0.01 |
| 10 | 1.16 | 0.19 | 0.07 | 0.03 |
| 30 | 1.87 | 0.41 | 0.17 | 0.07 |
| 60 | 3.80 | 0.84 | 0.32 | 0.13 |

| Magnitude and probability of annual low flow based on period of record 1987-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 16.2 | 11.2 | 8.98 | 7.42 |
| 3 | 16.9 | 11.5 | 9.30 | 7.71 |
| 7 | 17.5 | 11.8 | 9.90 | 8.66 |
| 10 | 18.2 | 12.6 | 10.8 | 9.66 |
| 30 | 24.3 | 16.4 | 14.2 | 12.9 |
| 60 | 31.2 | 22.0 | 19.4 | 19.8 |

| Magnitude and probability of annual low flow based on period of record 1986-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.80 | 0.14 | 0.04 | 0.00 |
| 3 | 0.84 | 0.16 | 0.05 | 0.00 |
| 7 | 1.06 | 0.18 | 0.06 | 0.01 |
| 10 | 1.16 | 0.19 | 0.07 | 0.03 |
| 30 | 1.87 | 0.41 | 0.17 | 0.08 |
| 60 | 3.80 | 0.84 | 0.32 | 0.14 |

| Magnitude and probability of annual low flow based on period of record 1987-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 14.7 | 5.16 | 2.28 | 1.00 |
| 3 | 14.7 | 6.27 | 3.51 | 2.00 |
| 7 | 14.8 | 7.48 | 4.86 | 3.26 |
| 10 | 15.3 | 8.05 | 5.36 | 3.69 |
| 30 | 18.2 | 11.0 | 8.20 | 6.29 |
| 60 | 21.6 | 13.4 | 9.92 | 7.56 |

RED RIVER BASIN

07301500 NORTH FORK RED RIVER NEAR CARTER, OK

LOCATION.--Lat 35°10'05", long 99°30'25", in NW ¼ SE ¼ sec.15, T.8 N., R.22 W., Beckham County, Hydrologic Unit 11120302, on left bank on downstream side of roadway on State Highway 34, 3.0 mi south of Carter, 10.8 mi downstream from Timber Creek, and at mile 110.5.

DRAINAGE AREA.--2,337 mi², of which 399 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1944 to September 1962. Annual maximum and occasional low-flow measurements, water years 1963-64. August 1964 to current year.

REMARKS.--Statistical analyses include streamflow record from nearby station North Fork Red River near Granite, OK (07302000), October 1903 to March 1908, October 1937 to September 1944.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1904-1999

138

Magnitude and probability of annual high flow based on period of record 1904-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 4,020 | 8,480 | 12,000 | 16,700 | 20,300 | 24,000 |
| 3 | 2,270 | 4,880 | 7,040 | 10,200 | 12,700 | 15,500 |
| 7 | 1,280 | 2,740 | 3,970 | 5,760 | 7,250 | 8,850 |
| 10 | 994 | 2,090 | 3,000 | 4,300 | 5,370 | 6,500 |
| 30 | 526 | 1,090 | 1,540 | 2,160 | 2,640 | 3,130 |
| 60 | 362 | 714 | 969 | 1,300 | 1,530 | 1,770 |

Magnitude and probability of annual instantaneous peak flow based on 76 historic years of record, 1924-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 6,540 | 14,300 | 21,200 | 31,800 | 41,000 | 51,300 | 79,500 |

Oklahoma weighted skew= - 0.207

Duration table of daily mean flow for period of record 1904-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 1,920 | 1,060 | 439 | 249 | 182 | 141 | 90.1 | 58.7 | 37.0 | 19.1 | 5.63 | 0.83 | 0.42 | 0.21 | 0.08 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1905-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 1.50 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1904-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 9.51 | 0.58 | 0.00 | 0.00 |
| 3 | 11.0 | 1.01 | 0.00 | 0.00 |
| 7 | 13.9 | 2.24 | 0.00 | 0.00 |
| 10 | 19.0 | 3.20 | 0.00 | 0.00 |
| 30 | 70.0 | 12.9 | 3.25 | 0.52 |
| 60 | 276 | 78.9 | 26.0 | 7.93 |

| Magnitude and probability of annual low flow based on period of record 1904-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 2.61 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1904-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.74 | 0.00 | 0.00 | 0.00 |
| 3 | 8.76 | 0.00 | 0.00 | 0.00 |
| 7 | 10.4 | 0.00 | 0.00 | 0.00 |
| 10 | 12.1 | 0.00 | 0.00 | 0.00 |
| 30 | 22.5 | 0.00 | 0.00 | 0.00 |
| 60 | 32.4 | 3.25 | 0.00 | 0.00 |

RED RIVER BASIN

07303000 NORTH FORK RED RIVER BELOW ALTUS DAM NEAR LUGERT, OK

LOCATION.--Lat 34°53'26", long 99°18'22", in SW ¼ sec.22, T.5 N., R.20 W., Greer County, Hydrologic Unit 11120303, on right bank at State Highway 44A bridge, 3,500 ft downstream from Altus Dam, 1.9 mi upstream from Elm Fork of North Fork, 2.0 mi west of Lugert, and at mile 72.8.

DRAINAGE AREA.--2,515 mi², of which 399 mi² is probably noncontributing.

PERIOD OF RECORD.--March 1930 to December 1932 (published as "at Lugert Dam"), December 1943 to September 1950 (published as spill from Lake Altus), October 1950 to September 1962, August 1964 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Some regulation at low flow by Lugert Lake prior to December 1943, capacity 13,500 acre-ft and completely regulated thereafter by Lake Altus (station 07302500). Diversions at Lake Altus bypass most of streamflow. Seepage from Altus Dam not included for period February 1953 to September 1977.

REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1951-1999 |
| 61.9 |

| Magnitude and probability of annual high flow based on period of record 1951-1999 | | | | | | |
|---|--------------|--------------|---------------|--------------|--------------|---------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 116 | 2,740 | 7,520 | 16,200 | 23,200 | 29,700 |
| 3 | 85.6 | 2,220 | 7,000 | 14,500 | 20,500 | 29,000 |
| 7 | 61.0 | 1,530 | 6,000 | 12,500 | 18,500 | 28,500 |
| 10 | 51.5 | 1,270 | 4,920 | 11,000 | 17,500 | 28,000 |
| 30 | 28.5 | 632 | 2,320 | 7,330 | 14,700 | 26,800 |
| 60 | 19.6 | 399 | 1,390 | 4,170 | 8,040 | 14,200 |

| Magnitude and probability of annual instantaneous peak flow based on 48 years of record, 1951-1999 | | | | | | |
|--|--------------|---------------|--------------|--------------|---------------|-----------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 155 | 2,760 | 7,570 | 16,300 | 23,300 | 29,800 | 41,000 |

station skew = - 1.362

| Duration table of daily mean flow for period of record 1951-1999 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 1,450 | 764 | 284 | 61.0 | 4.63 | 2.19 | 1.06 | 0.87 | 0.72 | 0.58 | 0.43 | 0.29 | 0.14 | 0.07 | 0.03 | 0.01 |

| Magnitude and probability of annual low flow based on period of record 1952-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1951-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.02 | 0.00 | 0.00 | 0.00 |
| 60 | 2.69 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1951-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1951-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.05 | 0.00 | 0.00 | 0.00 |

RED RIVER BASIN

07303400 ELM FORK OF NORTH FORK RED RIVER NEAR CARL, OK

LOCATION.--Lat 35°00'42", long 99°54'12", in SW 1/4 NW 1/4 sec.12, T.6 N., R.26 W., Harmon County, Hydrologic Unit 11120304, near left bank on downstream side of pier of bridge on State Highway 30, 4.0 mi northeast of Carl, and at mile 54.0.

DRAINAGE AREA.--416 mi².

PERIOD OF RECORD.--October 1959 to September 1979, October 1994 to current year.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1960-1999

47.1

Magnitude and probability of annual high flow based on period of record 1960-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,740 | 3,850 | 5,570 | 7,970 | 9,870 | 11,800 |
| 3 | 918 | 1,830 | 2,470 | 3,290 | 3,870 | 4,420 |
| 7 | 500 | 946 | 1,250 | 1,630 | 1,890 | 2,140 |
| 10 | 383 | 723 | 965 | 1,270 | 1,500 | 1,720 |
| 30 | 172 | 318 | 432 | 594 | 725 | 865 |
| 60 | 114 | 201 | 267 | 360 | 435 | 514 |

Magnitude and probability of annual instantaneous peak flow based on 25 years of record, 1960-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 4,980 | 10,100 | 15,100 | 23,500 | 31,600 | 41,500 | 73,800 |

Oklahoma weighted skew = 0.316

Duration table of daily mean flow for period of record 1960-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 601 | 316 | 125 | 65.0 | 47.8 | 38.9 | 29.2 | 22.0 | 18.2 | 15.0 | 12.6 | 9.47 | 5.53 | 2.51 | 0.67 | 0.33 |

| Magnitude and probability of annual low flow based on period of record 1961-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.73 | 0.26 | 0.08 | 0.03 |
| 3 | 1.97 | 0.30 | 0.09 | 0.03 |
| 7 | 2.43 | 0.40 | 0.13 | 0.05 |
| 10 | 2.83 | 0.49 | 0.16 | 0.06 |
| 30 | 5.69 | 1.79 | 0.89 | 0.47 |
| 60 | 10.0 | 3.58 | 1.79 | 0.91 |

| Magnitude and probability of annual low flow based on period of record 1960-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 9.58 | 4.16 | 2.54 | 1.64 |
| 3 | 9.98 | 4.25 | 2.66 | 1.78 |
| 7 | 11.2 | 4.85 | 3.06 | 2.07 |
| 10 | 11.9 | 5.24 | 3.36 | 2.31 |
| 30 | 24.7 | 10.5 | 6.70 | 4.59 |
| 60 | 50.8 | 22.3 | 14.6 | 10.3 |

| Magnitude and probability of annual low flow based on period of record 1960-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.81 | 0.26 | 0.08 | 0.03 |
| 3 | 2.06 | 0.30 | 0.09 | 0.03 |
| 7 | 2.54 | 0.40 | 0.13 | 0.05 |
| 10 | 2.93 | 0.58 | 0.16 | 0.06 |
| 30 | 5.78 | 1.79 | 0.89 | 0.47 |
| 60 | 12.3 | 3.79 | 1.80 | 0.91 |

| Magnitude and probability of annual low flow based on period of record 1960-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 9.10 | 5.35 | 4.10 | 3.32 |
| 3 | 10.6 | 6.43 | 4.98 | 4.06 |
| 7 | 11.8 | 7.38 | 5.84 | 4.83 |
| 10 | 12.5 | 8.10 | 6.54 | 5.53 |
| 30 | 15.0 | 10.3 | 8.51 | 7.33 |
| 60 | 17.4 | 11.8 | 9.66 | 8.22 |

RED RIVER BASIN

07303500 ELM FORK OF NORTH FORK RED RIVER NEAR MANGUM, OK

LOCATION.--Lat 34°55'36", long 99°30'00", on east line sec.10, T.5 N., R.22 W., Greer County, at bridge on U.S. Highway 283, 3.0 mi north of Mangum, 5.0 mi downstream from Haystack Creek, and at mile 17.8.

DRAINAGE AREA.--838 mi².

PERIOD OF RECORD.--April 1905 to March 1908 (published as Elm Fork of Red River), March 1930 to September 1931, October 1937 to September 1947, April 1965 to September 1967, August 1968 to 1976. Monthly discharge for some periods, published in WSP 1311. Occasional low-flow measurements, water year 1954, 1958-60, 1962-64, April to September 1965.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1906-1976

105

Magnitude and probability of annual high flow based on period of record 1906-1976

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,750 | 6,870 | 9,040 | 11,800 | 13,700 | 15,600 |
| 3 | 1,990 | 3,470 | 4,420 | 5,530 | 6,290 | 6,980 |
| 7 | 1,070 | 1,870 | 2,390 | 3,000 | 3,400 | 3,770 |
| 10 | 796 | 1,430 | 1,860 | 2,370 | 2,730 | 3,060 |
| 30 | 411 | 746 | 955 | 1,190 | 1,340 | 1,470 |
| 60 | 263 | 484 | 633 | 814 | 941 | 1,060 |

Magnitude and probability of annual instantaneous peak flow based on 72 historic years of record, 1905-1976

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 7,400 | 15,000 | 21,100 | 29,800 | 36,900 | 44,400 | 63,500 |

Oklahoma weighted skew = - 0.317

Duration table of daily mean flow for period of record 1906-1976

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 1,800 | 1,060 | 345 | 150 | 97.8 | 72.1 | 45.4 | 31.7 | 23.4 | 18.1 | 12.9 | 7.16 | 3.63 | 1.32 | 0.48 | 0.24 |

| Magnitude and probability of annual low flow based on period of record 1907-1976 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.28 | 0.00 | 0.00 | 0.00 |
| 3 | 1.55 | 0.00 | 0.00 | 0.00 |
| 7 | 2.25 | 0.00 | 0.00 | 0.00 |
| 10 | 2.48 | 0.00 | 0.00 | 0.00 |
| 30 | 5.02 | 0.60 | 0.12 | 0.00 |
| 60 | 14.1 | 3.67 | 1.52 | 0.66 |

| Magnitude and probability of annual low flow based on period of record 1906-1976 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.78 | 2.86 | 1.51 | 0.61 |
| 3 | 8.48 | 3.24 | 1.77 | 0.77 |
| 7 | 16.2 | 3.43 | 2.35 | 1.10 |
| 10 | 21.5 | 3.62 | 3.20 | 1.55 |
| 30 | 52.3 | 16.7 | 8.09 | 4.16 |
| 60 | 130 | 41.1 | 20.0 | 10.3 |

| Magnitude and probability of annual low flow based on period of record 1905-1975 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.54 | 0.00 | 0.00 | 0.00 |
| 3 | 1.84 | 0.00 | 0.00 | 0.00 |
| 7 | 2.39 | 0.00 | 0.00 | 0.00 |
| 10 | 2.48 | 0.02 | 0.00 | 0.00 |
| 30 | 5.63 | 0.66 | 0.14 | 0.00 |
| 60 | 22.4 | 5.56 | 2.15 | 0.87 |

| Magnitude and probability of annual low flow based on period of record 1906-1976 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 11.3 | 3.38 | 1.50 | 0.69 |
| 3 | 12.7 | 3.92 | 1.75 | 0.81 |
| 7 | 13.1 | 4.64 | 2.39 | 1.29 |
| 10 | 13.5 | 5.16 | 2.87 | 1.69 |
| 30 | 16.3 | 7.56 | 5.08 | 3.66 |
| 60 | 18.6 | 9.10 | 6.42 | 4.88 |

RED RIVER BASIN

07304500 ELK CREEK NEAR HOBART, OK

LOCATION.--Lat 34°54'51", long 99°06'49", in NE ¼ NE ¼ sec.17, T.5 N., R.18 W., Kiowa County, Hydrologic Unit 11120303, near right bank on downstream side of pier of county road bridge, 7.0 mi downstream from Little Elk Creek, 7.5 mi south of Hobart, and at mile 10.9.

DRAINAGE AREA.--549 mi².

PERIOD OF RECORD.--September 1904 to March 1908, October 1949 to September 1993.

REMARKS.--Part of high flows are diverted 1.0 mi upstream from station, by means of a breach canal (U.S. Bureau of Reclamation), into Tom Steed Reservoir. Flow regulated since 1967 by numerous floodwater-retarding structures.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1905-1966

69.5

Magnitude and probability of annual high flow based on period of record 1905-1966

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,030 | 5,050 | 6,560 | 8,640 | 10,300 | 12,100 |
| 3 | 1,940 | 3,510 | 4,700 | 6,330 | 7,620 | 8,960 |
| 7 | 1,030 | 1,930 | 2,590 | 3,480 | 4,160 | 4,850 |
| 10 | 807 | 1,510 | 2,010 | 2,660 | 3,140 | 3,610 |
| 30 | 352 | 699 | 959 | 1,300 | 1,560 | 1,820 |
| 60 | 202 | 385 | 529 | 732 | 896 | 1,070 |

Magnitude and probability of annual instantaneous peak flow based on 20 years of record, 1905-1966

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 4,080 | 6,930 | 9,150 | 12,300 | 14,900 | 17,700 | 25,200 |

Oklahoma weighted skew = 0.016

Duration table of daily mean flow for period of record 1905-1966

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1,510 | 746 | 193 | 85.2 | 56.6 | 42.2 | 25.1 | 16.1 | 9.57 | 6.20 | 3.76 | 1.16 | 0.54 | 0.27 | 0.11 | 0.05 |

| Magnitude and probability of annual low flow based on period of record 1906-1966 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.78 | 0.00 | 0.00 | 0.00 |
| 3 | 0.94 | 0.00 | 0.00 | 0.00 |
| 7 | 1.07 | 0.00 | 0.00 | 0.00 |
| 10 | 1.22 | 0.00 | 0.00 | 0.00 |
| 30 | 1.92 | 0.00 | 0.00 | 0.00 |
| 60 | 5.36 | 0.48 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1905-1966 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.95 | 0.37 | 0.00 | 0.00 |
| 3 | 3.33 | 0.48 | 0.00 | 0.00 |
| 7 | 4.15 | 0.64 | 0.00 | 0.00 |
| 10 | 5.30 | 0.96 | 0.00 | 0.00 |
| 30 | 17.5 | 2.71 | 0.77 | 0.23 |
| 60 | 61.6 | 22.6 | 13.6 | 8.95 |

| Magnitude and probability of annual low flow based on period of record 1905-1965 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.81 | 0.00 | 0.00 | 0.00 |
| 3 | 0.96 | 0.00 | 0.00 | 0.00 |
| 7 | 1.09 | 0.00 | 0.00 | 0.00 |
| 10 | 1.22 | 0.00 | 0.00 | 0.00 |
| 30 | 2.08 | 0.00 | 0.00 | 0.00 |
| 60 | 7.69 | 0.64 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1905-1966 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.91 | 0.40 | 0.01 | 0.00 |
| 3 | 4.20 | 0.48 | 0.01 | 0.00 |
| 7 | 4.86 | 0.54 | 0.01 | 0.00 |
| 10 | 5.08 | 0.58 | 0.01 | 0.00 |
| 30 | 7.35 | 0.76 | 0.11 | 0.00 |
| 60 | 8.08 | 1.43 | 0.42 | 0.02 |

RED RIVER BASIN
 07304500 ELK CREEK NEAR HOBART, OK—Continued
 REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1967-1993

108

| Magnitude and probability of annual high flow based on period of record 1967-1993 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,760 | 7,690 | 11,200 | 16,800 | 21,900 | 27,900 |
| 3 | 2,360 | 4,990 | 7,260 | 10,700 | 13,700 | 17,000 |
| 7 | 1,290 | 2,720 | 3,930 | 5,720 | 7,230 | 8,870 |
| 10 | 963 | 2,070 | 3,040 | 4,510 | 5,770 | 7,180 |
| 30 | 438 | 955 | 1,410 | 2,090 | 2,690 | 3,340 |
| 60 | 268 | 555 | 800 | 1,170 | 1,480 | 1,820 |

Magnitude and probability of annual instantaneous peak flow based on 27 years of record, 1967-1993

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 5,610 | 11,700 | 17,400 | 27,100 | 36,200 | 47,200 | 82,000 |

station skew = 0.200

Duration table of daily mean flow for period of record 1967-1993

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| 1,740 | 954 | 357 | 160 | 104 | 70.0 | 40.5 | 29.0 | 21.0 | 15.3 | 11.1 | 6.54 | 2.32 | 0.96 | 0.38 | 0.19 |

| Magnitude and probability of annual low flow based on period of record 1968-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.19 | 0.28 | 0.00 | 0.00 |
| 3 | 2.26 | 0.37 | 0.00 | 0.00 |
| 7 | 2.83 | 0.49 | 0.02 | 0.00 |
| 10 | 2.88 | 0.55 | 0.04 | 0.00 |
| 30 | 4.11 | 0.85 | 0.28 | 0.12 |
| 60 | 7.40 | 2.11 | 0.98 | 0.49 |

| Magnitude and probability of annual low flow based on period of record 1967-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 11.2 | 4.12 | 2.32 | 1.16 |
| 3 | 11.7 | 4.37 | 2.47 | 1.23 |
| 7 | 20.3 | 4.70 | 1.16 | 0.30 |
| 10 | 22.0 | 4.89 | 1.42 | 0.40 |
| 30 | 30.2 | 8.94 | 4.23 | 2.14 |
| 60 | 141 | 33.3 | 12.2 | 4.67 |

| Magnitude and probability of annual low flow based on period of record 1967-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.29 | 0.28 | 0.00 | 0.00 |
| 3 | 2.39 | 0.37 | 0.00 | 0.00 |
| 7 | 2.98 | 0.50 | 0.02 | 0.00 |
| 10 | 3.40 | 0.60 | 0.06 | 0.00 |
| 30 | 5.54 | 1.10 | 0.28 | 0.14 |
| 60 | 10.6 | 2.76 | 1.27 | 0.64 |

| Magnitude and probability of annual low flow based on period of record 1967-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.43 | 1.81 | 0.69 | 0.18 |
| 3 | 7.85 | 1.94 | 0.75 | 0.19 |
| 7 | 10.3 | 1.99 | 0.92 | 0.19 |
| 10 | 12.3 | 2.39 | 1.05 | 0.20 |
| 30 | 15.5 | 4.44 | 2.01 | 0.97 |
| 60 | 17.3 | 6.33 | 3.64 | 2.26 |

RED RIVER BASIN

07305000 NORTH FORK RED RIVER NEAR HEADRICK, OK

LOCATION.--Lat 34°38'04", long 99°05'47", in NW ¼ NE ¼ sec.21, T.2 N., R.18 W., Tillman County, Hydrologic Unit 11120303, near left bank on downstream side of pier of bridge on old U.S. Highway 62, 2.5 mi east of Headrick, 12.9 mi upstream from Otter Creek, and at mile 33.0.

DRAINAGE AREA.--4,244 mi², of which 399 mi² is probably noncontributing.

PERIOD OF RECORD.--April 1905 to March 1908, October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to July 1905, published as near Snyder.

REMARKS.--Flow regulated since December 1943 by storage and diversion at Lake Altus, 39.5 mi upstream from station (station 07302500). Diversions for irrigation of about 48,000 acres upstream from station; some return flow may re-enter at Stinking Creek, 16 mi downstream from station.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1945-1999

341

Magnitude and probability of annual high flow based on period of record 1945-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 9,490 | 18,000 | 24,000 | 31,500 | 36,900 | 42,100 |
| 3 | 6,540 | 12,900 | 17,800 | 24,400 | 29,500 | 34,700 |
| 7 | 3,800 | 7,690 | 10,700 | 15,000 | 18,300 | 21,700 |
| 10 | 2,980 | 6,200 | 8,800 | 12,500 | 15,400 | 18,600 |
| 30 | 1,440 | 3,060 | 4,430 | 6,430 | 8,100 | 9,900 |
| 60 | 887 | 1,820 | 2,620 | 3,800 | 4,810 | 5,920 |

Magnitude and probability of annual instantaneous peak flow based on 55 years of record, 1945-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 12,300 | 22,800 | 31,000 | 42,800 | 52,500 | 62,900 | 89,900 |

station skew = - 0.134

Duration table of daily mean flow for period of record 1945-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 5,540 | 3,180 | 1,290 | 607 | 373 | 254 | 136 | 90.0 | 64.3 | 46.5 | 31.7 | 19.4 | 6.51 | 1.29 | 0.43 | 0.22 |

| Magnitude and probability of annual low flow based on period of record 1946-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.53 | 0.00 | 0.00 | 0.00 |
| 3 | 5.84 | 0.00 | 0.00 | 0.00 |
| 7 | 6.70 | 0.00 | 0.00 | 0.00 |
| 10 | 7.80 | 0.06 | 0.00 | 0.00 |
| 30 | 13.9 | 1.09 | 0.12 | 0.00 |
| 60 | 32.1 | 4.20 | 0.76 | 0.11 |

| Magnitude and probability of annual low flow based on period of record 1945-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 29.0 | 7.24 | 2.86 | 0.81 |
| 3 | 30.7 | 8.03 | 3.29 | 0.99 |
| 7 | 34.1 | 9.45 | 4.22 | 1.49 |
| 10 | 36.7 | 11.0 | 5.32 | 2.14 |
| 30 | 105 | 23.6 | 8.79 | 3.48 |
| 60 | 393 | 104 | 44.2 | 20.1 |

| Magnitude and probability of annual low flow based on period of record 1945-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 6.26 | 0.00 | 0.00 | 0.00 |
| 3 | 6.54 | 0.00 | 0.00 | 0.00 |
| 7 | 7.12 | 0.15 | 0.00 | 0.00 |
| 10 | 8.05 | 0.24 | 0.00 | 0.00 |
| 30 | 19.0 | 1.49 | 0.16 | 0.00 |
| 60 | 41.8 | 6.05 | 1.48 | 0.33 |

| Magnitude and probability of annual low flow based on period of record 1945-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 23.6 | 4.55 | 1.35 | 0.00 |
| 3 | 24.0 | 5.34 | 1.94 | 0.49 |
| 7 | 26.4 | 6.47 | 2.54 | 0.72 |
| 10 | 28.4 | 7.02 | 2.74 | 0.77 |
| 30 | 48.7 | 9.43 | 3.60 | 1.18 |
| 60 | 54.2 | 12.1 | 4.31 | 1.71 |

RED RIVER BASIN

07305500 WEST OTTER CREEK AT SNYDER LAKE NEAR MOUNTAIN PARK, OK

LOCATION.--Lat 34°44'02", long 98°59'10", in SE 1/4 sec.16, T.3 N., R.17 W., Kiowa County, Hydrologic Unit 11120303, near east end of Snyder Dam, 0.8 mi upstream from small tributary, 3 mi northwest of Mountain Park, and at mile 26.0.

DRAINAGE AREA.--132 mi².

PERIOD OF RECORD.--April 1903 to March 1908, October 1951 to September 1971, July 1972 to current year. Published as Otter Creek near Mountain Park 1903-08 and as Otter Creek at Snyder Lake, near Mountain Park 1951-60. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--The city of Snyder diverted about 130 acre-ft annually prior to October 1958 and none thereafter. Flow completely regulated since June 1975 by Tom Steed Reservoir.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1976-1999

13.6

Magnitude and probability of annual high flow based on period of record 1976-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
|---------------------------------|----------|----------|-----------|----------|----------|-----------|
| 1 | 80.8 | 430 | 810 | 1,600 | 2,500 | 3,800 |
| 3 | 62.0 | 407 | 780 | 1,550 | 2,450 | 3,750 |
| 7 | 48.6 | 358 | 700 | 1,490 | 2,390 | 3,620 |
| 10 | 43.1 | 334 | 650 | 1,410 | 2,310 | 3,600 |
| 30 | 22.5 | 182 | 475 | 1,210 | 2,120 | 3,430 |
| 60 | 12.6 | 97.9 | 251 | 620 | 1,070 | 1,700 |

Magnitude and probability of annual instantaneous peak flow based on 24 years of record, 1976-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 145 | 440 | 813 | 1,610 | 2,540 | 3,860 | 9,270 |

station skew = 0.277

Duration table of daily mean flow for period of record 1976-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 319 | 266 | 70.1 | 2.44 | 0.98 | 0.92 | 0.81 | 0.69 | 0.58 | 0.46 | 0.35 | 0.23 | 0.17 | 0.06 | 0.02 | 0.01 |

| Magnitude and probability of annual low flow based on period of record 1977-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1976-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.58 | 0.02 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1976-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1976-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

RED RIVER BASIN

07307028 NORTH FORK RED RIVER NEAR TIPTON, OK

LOCATION.--Lat 34°30'25", long 99°12'28", in NW ¼ NE ¼ sec.5. T.1 S, R.19 W., Tillman County, Hydrologic Unit 11120303, near left bank on downstream side of bridge pier on State Highway 5, 3.8 mi west of intersection of State Highways 5 and 5C in Tipton, 4.8 mi downstream from Otter Creek, and at mile 15.3.

DRAINAGE AREA.--4,691 mi², of which 399 mi² is probably noncontributing.

PERIOD OF RECORD.--June 1983 to current year.

REMARKS.--Flow regulated since December 1943 by storage and diversion at Lake Altus 54.2 mi upstream (station 07302500). Diversions for irrigation of about 48,000 acres upstream from station.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1985-1999

682

Magnitude and probability of annual high flow based on period of record 1985-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 12,500 | 20,800 | 27,700 | 35,700 | 38,100 | 39,800 |
| 3 | 12,100 | 20,700 | 24,800 | 28,200 | 29,900 | 31,100 |
| 7 | 7,440 | 13,100 | 16,200 | 19,200 | 20,900 | 22,200 |
| 10 | 5,900 | 10,500 | 13,100 | 15,700 | 17,300 | 18,500 |
| 30 | 2,890 | 5,080 | 3,360 | 7,700 | 8,520 | 9,200 |
| 60 | 1,840 | 3,100 | 3,810 | 4,550 | 4,990 | 5,350 |

Magnitude and probability of annual instantaneous peak flow based on 55 historic years of record, 1945-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 12,600 | 20,800 | 27,800 | 38,600 | 48,400 | 59,800 | 94,200 |

station skew = 0.522

Duration table of daily mean flow for period of record 1985-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| 9,190 | 5,570 | 2,440 | 1,380 | 926 | 690 | 437 | 305 | 205 | 144 | 114 | 91.0 | 60.4 | 40.0 | 21.4 | 11.4 |

| Magnitude and probability of annual low flow based on period of record 1986-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 47.9 | 17.2 | 9.34 | 5.34 |
| 3 | 49.6 | 18.2 | 10.0 | 5.80 |
| 7 | 52.9 | 19.6 | 10.9 | 6.25 |
| 10 | 55.5 | 20.7 | 11.5 | 6.59 |
| 30 | 72.2 | 29.9 | 18.2 | 11.2 |
| 60 | 111 | 51.6 | 33.0 | 22.0 |

| Magnitude and probability of annual low flow based on period of record 1985-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 124 | 59.1 | 40.2 | 29.3 |
| 3 | 127 | 61.2 | 42.0 | 30.9 |
| 7 | 136 | 64.2 | 45.9 | 35.7 |
| 10 | 144 | 69.3 | 50.2 | 39.6 |
| 30 | 252 | 110 | 73.8 | 54.0 |
| 60 | 503 | 213 | 142 | 104 |

| Magnitude and probability of annual low flow based on period of record 1985-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 57.8 | 19.0 | 9.73 | 5.34 |
| 3 | 59.6 | 20.0 | 10.4 | 5.80 |
| 7 | 62.7 | 21.3 | 11.1 | 6.25 |
| 10 | 65.0 | 22.2 | 11.7 | 6.59 |
| 30 | 91.4 | 32.9 | 18.5 | 11.2 |
| 60 | 154 | 58.0 | 34.3 | 22.0 |

| Magnitude and probability of annual low flow based on period of record 1985-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 101 | 49.6 | 34.2 | 25.2 |
| 3 | 102 | 50.5 | 35.1 | 26.0 |
| 7 | 105 | 52.1 | 36.2 | 27.0 |
| 10 | 108 | 53.1 | 36.9 | 27.5 |
| 30 | 136 | 66.9 | 47.3 | 35.9 |
| 60 | 159 | 79.9 | 58.1 | 45.6 |

RED RIVER BASIN

07308500 RED RIVER NEAR BURKBURNETT, TX

LOCATION.--Lat 34°06'36", long 98°31'53", Cotton County, Okla., Hydrologic Unit 11130102, on left bank at downstream side of bridge on U.S. Highways 277 and 281, 2.5 mi northeast of Burkburnett, and at mile 933.

DRAINAGE AREA.--20,570 mi², of which 5,936 mi² probably is noncontributing.

PERIOD OF RECORD.--July 1924 to August 1925 (monthly discharge only), December 1959 to current year.

REMARKS.--No known regulation. There are many small diversions upstream from station for irrigation, but total amounts are unknown.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1961-1999

1,273

Magnitude and probability of annual high flow based on period of record 1961-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 25,400 | 51,800 | 74,100 | 107,000 | 135,000 | 166,000 |
| 3 | 20,300 | 41,800 | 59,300 | 84,400 | 105,000 | 127,000 |
| 7 | 13,100 | 26,800 | 37,800 | 53,600 | 66,300 | 79,800 |
| 10 | 10,700 | 21,400 | 29,800 | 41,400 | 50,600 | 60,000 |
| 30 | 5,290 | 10,000 | 13,600 | 18,200 | 21,700 | 25,100 |
| 60 | 3,330 | 6,160 | 8,300 | 11,200 | 13,500 | 15,800 |

Magnitude and probability of annual instantaneous peak flow based on 43 historic years of record, 1957-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 30,900 | 60,300 | 84,600 | 121,000 | 151,000 | 185,000 | 276,000 |

Water Resources Council weighted skew = - 0.123

Duration table of daily mean flow for period of record 1961-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|--------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 13,200 | 10,100 | 4,810 | 2,560 | 1,690 | 1,170 | 693 | 444 | 320 | 241 | 175 | 111 | 55.3 | 22.1 | 3.02 | 0.68 |

| Magnitude and probability of annual low flow based on period of record 1961-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 39.2 | 5.77 | 0.77 | 0.00 |
| 3 | 43.7 | 6.40 | 0.91 | 0.00 |
| 7 | 51.3 | 7.53 | 1.13 | 0.00 |
| 10 | 54.4 | 9.18 | 1.66 | 0.00 |
| 30 | 131 | 17.3 | 2.34 | 0.18 |
| 60 | 158 | 41.1 | 15.8 | 6.26 |

| Magnitude and probability of annual low flow based on period of record 1960-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 117 | 48.2 | 27.8 | 15.9 |
| 3 | 122 | 50.9 | 29.8 | 17.3 |
| 7 | 132 | 57.7 | 37.9 | 26.2 |
| 10 | 143 | 62.9 | 41.8 | 29.3 |
| 30 | 570 | 150 | 45.5 | 42.0 |
| 60 | 1,340 | 392 | 164 | 69.9 |

| Magnitude and probability of annual low flow based on period of record 1960-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 41.8 | 5.86 | 0.77 | 0.00 |
| 3 | 55.2 | 6.40 | 1.05 | 0.00 |
| 7 | 52.2 | 7.53 | 1.62 | 0.00 |
| 10 | 56.1 | 9.18 | 2.25 | 0.00 |
| 30 | 171 | 26.5 | 4.07 | 0.36 |
| 60 | 272 | 63.7 | 23.6 | 9.12 |

| Magnitude and probability of annual low flow based on period of record 1961-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 119 | 25.1 | 8.10 | 2.66 |
| 3 | 137 | 31.6 | 10.4 | 3.44 |
| 7 | 151 | 37.0 | 13.0 | 4.62 |
| 10 | 155 | 40.7 | 15.6 | 6.10 |
| 30 | 219 | 67.1 | 29.4 | 13.2 |
| 60 | 252 | 79.4 | 38.0 | 19.2 |

RED RIVER BASIN

07311000 EAST CACHE CREEK NEAR WALTERS, OK

LOCATION.--Lat 34°21'44", long 98°16'56", on south line of SE ¼ SE ¼ sec.19, T.2 S., R.10 W., Cotton County, Hydrologic Unit 11130202, at right bank on downstream side of bridge on State Highway 53, 1.8 mi east of Walters, 12.2 mi upstream from West Cache Creek, and at mile 19.7.

DRAINAGE AREA.--675 mi².

PERIOD OF RECORD.--May 1938 to December 1963; October 1969 to current year. Prior to October 1969, published as Cache Creek near Walters.

REMARKS.--Flow partly regulated by Lake Lawtonka, capacity, 42,300 acre-ft on Medicine Creek prior to late 1953, and 63,000 acre-ft thereafter by Lake Thomas, capacity 8,300 acre-ft on Little Medicine Creek; and since March 1961 by Lake Ellsworth, capacity 94,500 acre-ft on East Cache Creek. Low flow sustained by sewage effluent from cities of Lawton and Walters.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1939-1960

183

Magnitude and probability of annual high flow based on period of record 1939-1960

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 7,360 | 12,400 | 15,100 | 17,100 | 18,100 | 18,700 |
| 3 | 5,020 | 8,890 | 10,600 | 12,000 | 12,700 | 13,100 |
| 7 | 2,660 | 4,870 | 5,970 | 6,930 | 7,410 | 7,740 |
| 10 | 2,060 | 3,750 | 4,610 | 5,370 | 5,760 | 6,040 |
| 30 | 1,010 | 1,840 | 2,260 | 2,640 | 2,830 | 2,970 |
| 60 | 626 | 1,160 | 1,440 | 1,720 | 1,860 | 1,970 |

Magnitude and probability of annual instantaneous peak flow based on 56 historic years of record, 1906-1961

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 7,450 | 12,500 | 16,400 | 21,800 | 26,300 | 31,200 | 44,000 |

Oklahoma weighted skew = 0.021

Duration table of daily mean flow for period of record 1939-1960

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 3,480 | 2,120 | 670 | 260 | 150 | 100 | 59.1 | 38.0 | 26.3 | 19.9 | 15.1 | 10.6 | 6.12 | 2.40 | 0.55 | 0.27 |

| Magnitude and probability of annual low flow based on period of record 1939-1960 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.03 | 1.86 | 0.21 | 0.00 |
| 3 | 7.33 | 2.77 | 0.69 | 0.00 |
| 7 | 7.73 | 3.02 | 0.81 | 0.00 |
| 10 | 7.96 | 3.16 | 0.89 | 0.00 |
| 30 | 12.5 | 3.55 | 0.95 | 0.00 |
| 60 | 15.9 | 3.64 | 0.97 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1938-1960 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 24.4 | 7.63 | 2.84 | 1.01 |
| 3 | 24.8 | 8.19 | 3.39 | 1.38 |
| 7 | 25.1 | 8.77 | 4.52 | 2.45 |
| 10 | 25.3 | 9.79 | 5.51 | 3.29 |
| 30 | 57.6 | 20.4 | 12.0 | 7.77 |
| 60 | 334 | 103 | 48.0 | 23.7 |

| Magnitude and probability of annual low flow based on period of record 1938-1959 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.33 | 1.88 | 0.21 | 0.00 |
| 3 | 7.61 | 2.79 | 0.69 | 0.00 |
| 7 | 8.02 | 3.03 | 0.81 | 0.00 |
| 10 | 8.16 | 3.16 | 0.89 | 0.00 |
| 30 | 12.9 | 3.60 | 0.95 | 0.00 |
| 60 | 18.1 | 3.75 | 0.97 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1938-1960 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 14.1 | 3.14 | 0.80 | 0.03 |
| 3 | 14.1 | 3.70 | 1.26 | 0.11 |
| 7 | 14.1 | 4.21 | 1.63 | 0.20 |
| 10 | 16.9 | 4.80 | 1.90 | 0.36 |
| 30 | 21.3 | 6.74 | 2.71 | 1.07 |
| 60 | 26.6 | 7.48 | 2.96 | 1.11 |

RED RIVER BASIN
07311000 EAST CACHE CREEK NEAR WALTERS, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1962-1999

247

| Magnitude and probability of annual high flow based on period of record 1962-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 4,910 | 10,400 | 15,400 | 23,400 | 30,700 | 39,100 |
| 3 | 3,670 | 8,070 | 12,100 | 18,400 | 24,000 | 30,500 |
| 7 | 2,280 | 5,030 | 7,520 | 11,400 | 14,900 | 18,800 |
| 10 | 1,840 | 4,050 | 5,990 | 8,930 | 11,500 | 14,200 |
| 30 | 954 | 2,010 | 2,870 | 4,060 | 5,020 | 6,010 |
| 60 | 608 | 1,280 | 1,820 | 2,570 | 3,160 | 3,780 |

Magnitude and probability of annual instantaneous peak flow based on 32 years of record, 1962-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 5,570 | 12,400 | 19,100 | 30,600 | 41,800 | 55,500 | 99,700 |

station skew = 0.163

Duration table of daily mean flow for period of record 1962-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 3,640 | 2,220 | 1,030 | 540 | 329 | 198 | 86.3 | 54.9 | 42.3 | 34.1 | 27.4 | 22.3 | 17.3 | 13.7 | 10.2 | 7.94 |

| Magnitude and probability of annual low flow based on period of record 1963-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 10.1 | 5.76 | 4.27 | 3.33 |
| 3 | 11.0 | 6.48 | 4.90 | 3.88 |
| 7 | 12.5 | 7.59 | 5.84 | 4.71 |
| 10 | 13.5 | 8.28 | 6.40 | 5.18 |
| 30 | 17.9 | 12.1 | 9.97 | 8.54 |
| 60 | 23.9 | 15.7 | 12.5 | 10.2 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 30.4 | 17.5 | 13.5 | 11.1 |
| 3 | 31.6 | 18.5 | 14.5 | 12.1 |
| 7 | 32.5 | 18.7 | 15.2 | 13.2 |
| 10 | 34.6 | 19.6 | 15.9 | 13.9 |
| 30 | 73.8 | 33.9 | 24.4 | 19.4 |
| 60 | 248 | 99.5 | 60.6 | 39.9 |

| Magnitude and probability of annual low flow based on period of record 1962-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 10.6 | 6.03 | 4.47 | 3.48 |
| 3 | 11.6 | 6.79 | 5.13 | 4.07 |
| 7 | 13.1 | 7.94 | 6.11 | 4.93 |
| 10 | 14.1 | 8.63 | 6.72 | 5.47 |
| 30 | 19.0 | 12.3 | 10.2 | 8.80 |
| 60 | 29.1 | 16.3 | 12.5 | 10.2 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 19.8 | 12.0 | 9.42 | 7.77 |
| 3 | 20.6 | 12.6 | 9.91 | 8.20 |
| 7 | 22.4 | 13.7 | 10.8 | 8.97 |
| 10 | 23.5 | 14.4 | 11.4 | 9.46 |
| 30 | 28.4 | 19.4 | 17.6 | 16.8 |
| 60 | 39.6 | 22.4 | 18.3 | 17.0 |

RED RIVER BASIN

07311200 BLUE BEAVER CREEK NEAR CACHE, OK
(Hydrologic benchmark station)

LOCATION.--Lat 34°37'24", long 98°33'48", in NE 1/4 NE 1/4 sec.28, T.2 N., R.13 W., Comanche County, Hydrologic Unit 11130203, on downstream side of right bank pier on old U.S. Highway 62, 3,000 ft upstream from St. Louis-San Francisco Railway Co. bridge, 4.0 mi east of Cache, and at mile 12.0.

DRAINAGE AREA.--24.6 mi².

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

REMARKS.--Minor regulation by Lake Rush, Lake Jed Johnson, and Lake Ketch, combined surface-area 132 acres.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1965-1999

14.0

Magnitude and probability of annual high flow based on period of record 1965-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 567 | 1,170 | 1,640 | 2,280 | 2,790 | 3,310 |
| 3 | 330 | 645 | 874 | 1,170 | 1,390 | 1,600 |
| 7 | 187 | 350 | 458 | 585 | 671 | 748 |
| 10 | 145 | 272 | 353 | 447 | 508 | 563 |
| 30 | 70.9 | 126 | 157 | 186 | 203 | 216 |
| 60 | 47.6 | 82.0 | 98.0 | 111 | 118 | 122 |

Magnitude and probability of annual instantaneous peak flow based on 93 historic years of record, 1907-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 1,780 | 3,650 | 5,260 | 7,720 | 9,860 | 12,200 | 18,900 |

Oklahoma weighted skew = - 0.109

Duration table of daily mean flow for period of record 1965-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 238 | 120 | 48.9 | 25.5 | 16.3 | 11.3 | 5.19 | 2.47 | 1.17 | 0.85 | 0.63 | 0.42 | 0.21 | 0.11 | 0.04 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.01 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.05 | 0.35 | 0.11 | 0.00 |
| 3 | 1.14 | 0.37 | 0.12 | 0.00 |
| 7 | 1.37 | 0.46 | 0.16 | 0.00 |
| 10 | 1.52 | 0.49 | 0.23 | 0.00 |
| 30 | 4.56 | 1.52 | 0.81 | 0.42 |
| 60 | 29.5 | 8.05 | 2.32 | 0.59 |

| Magnitude and probability of annual low flow based on period of record 1965-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.01 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1965-1998 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.32 | 0.00 | 0.00 | 0.00 |
| 3 | 0.32 | 0.00 | 0.00 | 0.00 |
| 7 | 0.38 | 0.00 | 0.00 | 0.00 |
| 10 | 0.40 | 0.00 | 0.00 | 0.00 |
| 30 | 0.68 | 0.03 | 0.00 | 0.00 |
| 60 | 1.21 | 0.07 | 0.00 | 0.00 |

RED RIVER BASIN

07311500 DEEP RED CREEK NEAR RANDLETT, OK
 (Formerly published as Deep Red Run near Randlett)

LOCATION.--Lat 34°13'15", long 98°27'10", in SW 1/4 SW 1/4 sec.10, T.4 S., R.12 W., Cotton County, Hydrologic Unit 11130203, near right bank on downstream side of pier of bridge on U.S. Highway 277, 2.8 mi north of Randlett, and at mile 4.8.

DRAINAGE AREA.--617 mi².

PERIOD OF RECORD.--October 1949 to current year. Prior to October 1993, published as Deep Red Run near Randlett.

REMARKS.--Some regulation by numerous floodwater-retarding structures.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1950-1999

174

Magnitude and probability of annual high flow based on period of record 1950-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 6,260 | 13,000 | 18,900 | 27,900 | 35,800 | 44,600 |
| 3 | 4,700 | 9,590 | 13,500 | 19,000 | 23,300 | 27,900 |
| 7 | 2,630 | 5,390 | 7,480 | 10,300 | 12,300 | 14,400 |
| 10 | 2,010 | 4,150 | 5,780 | 7,950 | 9,590 | 11,200 |
| 30 | 901 | 1,800 | 2,470 | 3,360 | 4,020 | 4,670 |
| 60 | 526 | 1,040 | 1,420 | 1,920 | 2,290 | 2,660 |

Magnitude and probability of annual instantaneous peak flow based on 92 historic years of record, 1908-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 7,850 | 17,200 | 25,700 | 39,300 | 51,600 | 65,800 | 107,000 |

Oklahoma weighted skew = - 0.071

Duration table of daily mean flow for period of record 1950-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 3,810 | 2,170 | 684 | 193 | 82.0 | 43.5 | 16.9 | 8.55 | 5.03 | 3.07 | 1.70 | 0.82 | 0.41 | 0.20 | 0.08 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1951-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.27 | 0.00 | 0.00 | 0.00 |
| 60 | 1.17 | 0.07 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1950-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.77 | 0.15 | 0.00 | 0.00 |
| 3 | 2.00 | 0.18 | 0.00 | 0.00 |
| 7 | 2.31 | 0.30 | 0.00 | 0.00 |
| 10 | 2.72 | 0.33 | 0.00 | 0.00 |
| 30 | 19.4 | 2.37 | 0.62 | 0.18 |
| 60 | 213 | 43.9 | 13.8 | 4.38 |

| Magnitude and probability of annual low flow based on period of record 1950-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.50 | 0.00 | 0.00 | 0.00 |
| 60 | 4.04 | 0.21 | 0.01 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1950-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.02 | 0.00 | 0.00 | 0.00 |
| 3 | 1.08 | 0.00 | 0.00 | 0.00 |
| 7 | 1.26 | 0.00 | 0.00 | 0.00 |
| 10 | 1.40 | 0.00 | 0.00 | 0.00 |
| 30 | 2.21 | 0.27 | 0.03 | 0.00 |
| 60 | 3.34 | 0.58 | 0.21 | 0.06 |

RED RIVER BASIN

07313000 LITTLE BEAVER CREEK NEAR DUNCAN, OK

LOCATION.--Lat 34°29'36", long 98°06'42", in NE ¼ sec.11, T.1 S., R.9 W., on downstream side of right pier of bridge on county road, 0.8 mi downstream from Stage Stand Creek, 8.2 mi west of Duncan, and at mile 11.9.

DRAINAGE AREA.--158 mi².

PERIOD OF RECORD.--October 1948 to December 1963.

REMARKS.--Historical record length assumed same as that for nearby station Beaver Creek near Waurika, OK (07313500) for peak-frequency analysis of unregulated streamflow period.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1949-1963

52.3

Magnitude and probability of annual high flow based on period of record 1949-1963

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,370 | 7,670 | 11,500 | 17,300 | 22,200 | 27,700 |
| 3 | 1,500 | 3,280 | 4,780 | 6,970 | 8,780 | 10,700 |
| 7 | 726 | 1,610 | 2,360 | 3,460 | 4,380 | 5,360 |
| 10 | 541 | 1,290 | 2,000 | 3,130 | 4,150 | 5,320 |
| 30 | 254 | 587 | 880 | 1,320 | 1,700 | 2,120 |
| 60 | 152 | 344 | 509 | 755 | 962 | 1,190 |

Magnitude and probability of annual instantaneous peak flow based on 89 historic years of record, 1888-1976

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 14,100 | 26,700 | 36,700 | 51,100 | 62,900 | 75,600 | 109,000 |

Oklahoma weighted skew = - 0.178

Duration table of daily mean flow for period of record 1949-1963

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 944 | 416 | 108 | 42.3 | 28.4 | 21.6 | 14.9 | 10.9 | 7.13 | 4.43 | 2.19 | 0.81 | 0.41 | 0.20 | 0.08 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1950-1963 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.14 | 0.00 | 0.00 | 0.00 |
| 60 | 1.55 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1949-1963 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.02 | 1.19 | 0.00 | 0.00 |
| 3 | 5.53 | 1.48 | 0.00 | 0.00 |
| 7 | 5.98 | 1.86 | 0.00 | 0.00 |
| 10 | 6.80 | 2.30 | 0.23 | 0.06 |
| 30 | 13.9 | 5.46 | 3.30 | 2.16 |
| 60 | 95.2 | 32.2 | 17.0 | 9.67 |

| Magnitude and probability of annual low flow based on period of record 1949-1962 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.14 | 0.00 | 0.00 | 0.00 |
| 60 | 1.55 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1949-1963 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.71 | 0.00 | 0.00 | 0.00 |
| 3 | 2.27 | 0.00 | 0.00 | 0.00 |
| 7 | 2.87 | 0.00 | 0.00 | 0.00 |
| 10 | 3.12 | 0.00 | 0.00 | 0.00 |
| 30 | 4.41 | 0.00 | 0.00 | 0.00 |
| 60 | 5.74 | 1.29 | 0.36 | 0.00 |

RED RIVER BASIN

07313500 BEAVER CREEK NEAR WAURIKA, OK

LOCATION.--Lat 34°13'00", long 98°02'57", on north line of NW 1/4 NW 1/4 sec.16, T.4 S., R.8 W., Jefferson County, Hydrologic Unit 11130208 on left bank on downstream side of bridge on State Highway 5, 1.2 mi below Waurika Dam, 4.5 mi northwest of Waurika, 6.2 mi upstream from Cow Creek, and at mile 25.8.

DRAINAGE AREA.--563 mi².

PERIOD OF RECORD.--June 1953 to September 1993.

REMARKS.--Flow regulated by Waurika Lake (07313400) 1.2 mi upstream beginning August 1977.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1954-1976

107

Magnitude and probability of annual high flow based on period of record 1954-1976

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 2,990 | 7,280 | 12,200 | 22,200 | 33,400 | 48,900 |
| 3 | 2,030 | 4,790 | 7,780 | 13,500 | 19,500 | 27,600 |
| 7 | 1,050 | 2,510 | 4,180 | 7,510 | 11,200 | 16,400 |
| 10 | 775 | 1,960 | 3,410 | 6,550 | 10,300 | 15,800 |
| 30 | 339 | 846 | 1,480 | 2,870 | 4,570 | 7,120 |
| 60 | 208 | 518 | 897 | 1,710 | 2,680 | 4,110 |

Magnitude and probability of annual instantaneous peak flow based on 89 historic years of record, 1888-1976

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 4,030 | 10,200 | 17,100 | 30,800 | 45,900 | 66,200 | 144,000 |

Oklahoma weighted skew = 0.382

Duration table of daily mean flow for period of record 1954-1976

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 1,850 | 1,090 | 359 | 129 | 76.0 | 55.0 | 34.0 | 21.7 | 12.8 | 6.50 | 2.73 | 0.88 | 0.44 | 0.22 | 0.09 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1955-1976 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.26 | 0.00 | 0.00 | 0.00 |
| 60 | 1.14 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1954-1976 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.30 | 0.23 | 0.00 | 0.00 |
| 3 | 5.71 | 0.45 | 0.00 | 0.00 |
| 7 | 8.18 | 0.84 | 0.04 | 0.00 |
| 10 | 8.39 | 0.99 | 0.23 | 0.06 |
| 30 | 37.8 | 8.31 | 3.15 | 1.28 |
| 60 | 132 | 39.3 | 19.7 | 10.8 |

| Magnitude and probability of annual low flow based on period of record 1954-1975 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.55 | 0.00 | 0.00 | 0.00 |
| 60 | 2.47 | 0.01 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1954-1976 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.40 | 0.00 | 0.00 | 0.00 |
| 3 | 2.45 | 0.00 | 0.00 | 0.00 |
| 7 | 4.75 | 0.00 | 0.00 | 0.00 |
| 10 | 4.80 | 0.00 | 0.00 | 0.00 |
| 30 | 6.20 | 0.16 | 0.00 | 0.00 |
| 60 | 10.0 | 0.76 | 0.02 | 0.00 |

RED RIVER BASIN
07313500 BEAVER CREEK NEAR WAURIKA, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1978-1993

199

| Magnitude and probability of annual high flow based on period of record 1978-1993 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,650 | 2,400 | 2,550 | 2,660 | 2,720 | 2,760 |
| 3 | 1,640 | 2,400 | 2,530 | 2,640 | 2,690 | 2,720 |
| 7 | 1,590 | 2,390 | 2,510 | 2,590 | 2,630 | 2,650 |
| 10 | 1,540 | 2,360 | 2,500 | 2,510 | 2,550 | 2,590 |
| 30 | 1,330 | 2,030 | 2,050 | 2,200 | 2,290 | 2,360 |
| 60 | 852 | 1,350 | 1,620 | 1,890 | 2,040 | 2,170 |

Magnitude and probability of annual instantaneous peak flow based on 16 years of record, 1978-1993

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 1,660 | 2,600 | 2,920 | 3,130 | 3,200 | 3,240 | 3,270 |

station skew = - 1.650

Duration table of daily mean flow for period of record 1978-1993

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 2,380 | 2,190 | 1,580 | 744 | 370 | 111 | 10.5 | 4.98 | 1.13 | 0.82 | 0.61 | 0.41 | 0.20 | 0.10 | 0.04 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1979-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.03 | 0.00 | 0.00 | 0.00 |
| 60 | 0.12 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1978-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.57 | 0.00 | 0.00 | 0.00 |
| 3 | 0.62 | 0.00 | 0.00 | 0.00 |
| 7 | 0.67 | 0.00 | 0.00 | 0.00 |
| 10 | 0.74 | 0.00 | 0.00 | 0.00 |
| 30 | 2.24 | 0.01 | 0.00 | 0.00 |
| 60 | 50.8 | 2.10 | 0.28 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1978-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.31 | 0.00 | 0.00 | 0.00 |
| 60 | 0.39 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1978-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.04 | 0.00 | 0.00 | 0.00 |
| 3 | 0.04 | 0.00 | 0.00 | 0.00 |
| 7 | 0.05 | 0.00 | 0.00 | 0.00 |
| 10 | 0.06 | 0.00 | 0.00 | 0.00 |
| 30 | 0.27 | 0.01 | 0.00 | 0.00 |
| 60 | 1.08 | 0.01 | 0.00 | 0.00 |

RED RIVER BASIN

07315500 RED RIVER NEAR TERRAL, OK

LOCATION.--Lat 33°52'43", long 97°56'03", Jefferson County, Hydrologic Unit 11130201, on left bank at downstream side of bridge abutment on U.S. Highway 81, 0.5 mi downstream from Chicago, Rock Island, and Railroad Co. bridge, 1.2 mi south of Terral, 3.6 mi downstream from Little Wichita River, and at mile 872.

DRAINAGE AREA.--28,723 mi², of which 5,936 mi² probably is noncontributing.

PERIOD OF RECORD.--April 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Since installation of gage in April 1938, at least 10% of contributing drainage area has been regulated by upstream reservoirs. There are many small diversions upstream from station for irrigation, oil field operations, and for municipal uses. Flow regulated by Lake Kemp (station 07312000 in Texas), and since December 1943 by Lake Altus (station 07302500 in Oklahoma). Some addition regulation since 1946 by Lake Kickapoo (station 07314000 in Texas), since 1967 by Lake Arrowhead (station 07314800 in Texas), since 1978 by Waurika Lake; and by numerous floodwater-retarding structures.

REGULATED STREAMFLOW PERIOD

| Mean annual flow, in ft ³ /s, based on period of record 1945-1999 | |
|--|--|
| 2,500 | |

| Magnitude and probability of annual high flow based on period of record 1945-1999 | | | | | | |
|--|----------|----------|-----------|----------|----------|-----------|
| Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 41,100 | 77,600 | 109,000 | 157,000 | 199,000 | 246,000 |
| 3 | 33,500 | 62,500 | 86,400 | 122,000 | 152,000 | 185,000 |
| 7 | 21,900 | 41,100 | 57,000 | 80,800 | 101,000 | 124,000 |
| 10 | 17,900 | 33,600 | 46,400 | 65,300 | 81,300 | 98,800 |
| 30 | 9,360 | 17,900 | 24,800 | 34,800 | 43,200 | 52,200 |
| 60 | 6,060 | 11,500 | 16,100 | 23,100 | 29,300 | 36,400 |

| Magnitude and probability of annual instantaneous peak flow based on 55 years of record, 1945-1999 | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 45,200 | 84,300 | 121,000 | 176,000 | 227,000 | 286,000 | 463,000 |

station skew = 0.212

| Duration table of daily mean flow for period of record 1945-1999 | | | | | | | | | | | | | | | |
|---|--------|--------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 14,400 | 13,300 | 10,000 | 5,580 | 3,670 | 2,470 | 1,330 | 862 | 606 | 465 | 367 | 274 | 186 | 141 | 110 | 96.1 |

| Magnitude and probability of annual low flow based on period of record 1946-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 156 | 97.2 | 76.5 | 63.1 |
| 3 | 163 | 103 | 82.4 | 68.6 |
| 7 | 174 | 112 | 90.0 | 75.6 |
| 10 | 180 | 116 | 92.9 | 78.0 |
| 30 | 231 | 147 | 118 | 99.9 |
| 60 | 294 | 179 | 142 | 119 |

| Magnitude and probability of annual low flow based on period of record 1945-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 289 | 168 | 133 | 113 |
| 3 | 304 | 176 | 140 | 118 |
| 7 | 338 | 190 | 149 | 126 |
| 10 | 358 | 198 | 157 | 134 |
| 30 | 812 | 395 | 292 | 235 |
| 60 | 2,810 | 1,200 | 753 | 510 |

| Magnitude and probability of annual low flow based on period of record 1945-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 179 | 109 | 85.7 | 71.1 |
| 3 | 185 | 113 | 89.1 | 74.4 |
| 7 | 196 | 120 | 96.4 | 82.0 |
| 10 | 203 | 124 | 100 | 85.4 |
| 30 | 284 | 163 | 129 | 109 |
| 60 | 449 | 236 | 177 | 143 |

| Magnitude and probability of annual low flow based on period of record 1945-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 220 | 125 | 95.3 | 77.2 |
| 3 | 228 | 133 | 103 | 84.8 |
| 7 | 245 | 145 | 113 | 93.9 |
| 10 | 254 | 150 | 117 | 97.3 |
| 30 | 303 | 177 | 140 | 119 |
| 60 | 380 | 206 | 160 | 134 |

RED RIVER BASIN

07315700 MUD CREEK NEAR COURTNEY, OK

LOCATION.--Lat 34°00'15", long 97°34'00", in NW ¼ SE ¼ sec.25, T.6 S., R.4 W., Jefferson County, Hydrologic Unit, 11130201, on downstream side of bridge on State Highway 89, 4.0 mi downstream from North Mud Creek, 6.0 mi northwest of Courtney, and at mile 11.5.

DRAINAGE AREA.--572 mi².

PERIOD OF RECORD.--October 1960 to current year.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1961-1999

195

Magnitude and probability of annual high flow based on period of record 1961-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 5,010 | 12,200 | 19,700 | 32,900 | 46,200 | 62,700 |
| 3 | 3,770 | 8,270 | 12,400 | 18,900 | 24,800 | 31,700 |
| 7 | 2,150 | 4,640 | 6,900 | 10,500 | 13,700 | 17,300 |
| 10 | 1,630 | 3,580 | 5,400 | 8,340 | 11,000 | 14,200 |
| 30 | 735 | 1,620 | 2,450 | 3,810 | 5,060 | 6,520 |
| 60 | 458 | 1,030 | 1,550 | 2,400 | 3,170 | 4,050 |

Magnitude and probability of annual instantaneous peak flow based on 43 historic years of record, 1957-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 6,260 | 16,200 | 27,300 | 48,400 | 70,800 | 100,000 | 206,000 |

Oklahoma weighted skew = 0.213

Duration table of daily mean flow for period of record 1961-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 3,870 | 2,310 | 934 | 276 | 126 | 74.2 | 34.5 | 17.2 | 8.53 | 4.25 | 1.72 | 0.78 | 0.39 | 0.19 | 0.08 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.04 | 0.00 | 0.00 | 0.00 |
| 10 | 0.06 | 0.00 | 0.00 | 0.00 |
| 30 | 0.19 | 0.00 | 0.00 | 0.00 |
| 60 | 1.26 | 0.01 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1961-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.99 | 0.44 | 0.00 | 0.00 |
| 3 | 6.04 | 0.47 | 0.00 | 0.00 |
| 7 | 6.40 | 0.59 | 0.12 | 0.02 |
| 10 | 6.49 | 0.83 | 0.21 | 0.05 |
| 30 | 32.8 | 7.90 | 3.54 | 1.64 |
| 60 | 207 | 49.8 | 21.1 | 9.77 |

| Magnitude and probability of annual low flow based on period of record 1961-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.05 | 0.00 | 0.00 | 0.00 |
| 10 | 0.07 | 0.00 | 0.00 | 0.00 |
| 30 | 0.22 | 0.00 | 0.00 | 0.00 |
| 60 | 3.18 | 0.06 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1961-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.76 | 0.00 | 0.00 | 0.00 |
| 3 | 0.89 | 0.04 | 0.00 | 0.00 |
| 7 | 1.07 | 0.06 | 0.00 | 0.00 |
| 10 | 1.19 | 0.07 | 0.00 | 0.00 |
| 30 | 2.23 | 0.10 | 0.00 | 0.00 |
| 60 | 7.33 | 0.69 | 0.17 | 0.05 |

RED RIVER BASIN

07316000 RED RIVER NEAR GAINESVILLE, TX

LOCATION.--Lat 33°43'40", long 97°09'35", in SW 1/4 sec.36, T.9 S., R.1 E., Love County, OK, Hydrologic Unit 11130201, on downstream right bank at end of bridge on Interstate 35, 0.2 mi downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 5.0 mi downstream from Fish Creek, 4.5 mi southwest of Thackerville, OK, 7.0 mi north of Gainesville, and at mile 791.5.

DRAINAGE AREA.--30,782 mi² of which 5,936 mi² probably is noncontributing.

PERIOD OF RECORD.--May 1936 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Flow regulated by Lake Kemp (station 07312000 in Texas), and since December 1943 by Lake Altus (station 07302500 in Oklahoma). Some addition regulation since 1946 by Lake Kickapoo (station 07314000 in Texas), since 1967 by Lake Arrowhead (station 07314800 in Texas) and Moss Lake (station 07315950 in Texas), since 1978 by Waurika Lake; and by numerous floodwater-retarding structures.

REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1945-1999 |
| 3,260 |

| Magnitude and probability of annual high flow based on period of record 1945-1999 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 46,800 | 83,900 | 113,000 | 155,000 | 190,000 | 228,000 |
| 3 | 39,600 | 73,200 | 99,900 | 138,000 | 169,000 | 203,000 |
| 7 | 27,300 | 50,800 | 69,800 | 97,400 | 120,000 | 146,000 |
| 10 | 22,500 | 42,000 | 57,700 | 80,600 | 99,700 | 121,000 |
| 30 | 12,000 | 22,800 | 31,400 | 43,900 | 54,100 | 65,200 |
| 60 | 7,880 | 14,800 | 20,600 | 29,400 | 37,000 | 45,500 |

| Magnitude and probability of annual instantaneous peak flow based on 55 years of record, 1945-1999 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 49,600 | 88,800 | 120,000 | 165,000 | 202,000 | 243,000 | 352,000 |

station skew = - 0.041

| Duration table of daily mean flow for period of record 1945-1999 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 15,200 | 14,300 | 11,700 | 7,370 | 4,870 | 3,330 | 1,880 | 1,230 | 871 | 635 | 485 | 348 | 228 | 172 | 131 | 114 |

| Magnitude and probability of annual low flow based on period of record 1946-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 204 | 125 | 98.3 | 81.1 |
| 3 | 209 | 129 | 102 | 84.7 |
| 7 | 220 | 135 | 107 | 88.3 |
| 10 | 227 | 139 | 109 | 90.1 |
| 30 | 294 | 175 | 136 | 111 |
| 60 | 383 | 221 | 169 | 136 |

| Magnitude and probability of annual low flow based on period of record 1945-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 403 | 227 | 178 | 150 |
| 3 | 422 | 236 | 185 | 155 |
| 7 | 481 | 257 | 194 | 159 |
| 10 | 509 | 264 | 200 | 163 |
| 30 | 1,100 | 515 | 369 | 289 |
| 60 | 3,590 | 1,570 | 1,010 | 695 |

| Magnitude and probability of annual low flow based on period of record 1945-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 222 | 128 | 101 | 83.3 |
| 3 | 228 | 133 | 104 | 86.7 |
| 7 | 241 | 140 | 110 | 91.2 |
| 10 | 254 | 146 | 114 | 93.9 |
| 30 | 354 | 191 | 145 | 117 |
| 60 | 553 | 277 | 201 | 158 |

| Magnitude and probability of annual low flow based on period of record 1945-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 306 | 174 | 133 | 108 |
| 3 | 314 | 179 | 137 | 112 |
| 7 | 338 | 191 | 145 | 117 |
| 10 | 348 | 196 | 150 | 121 |
| 30 | 402 | 223 | 173 | 143 |
| 60 | 516 | 265 | 198 | 161 |

RED RIVER BASIN

07316500 WASHITA RIVER NEAR CHEYENNE, OK

LOCATION.--Lat 35°37'35", long 99°40'05", in SE ¼ sec.5, T.13 N., R.23 W., Roger Mills County, Hydrologic Unit 11130301, on left bank on downstream side of bridge on U.S. Highway 283, 0.5 mi downstream from Sergeant Major Creek, 1.0 mi north of Cheyenne, 5.2 mi upstream from Dead Indian Creek, and at mile 543.9.

DRAINAGE AREA.--794 mi².

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Flow regulated since 1961 by numerous floodwater-retarding structures.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1938-1960

41.7

Magnitude and probability of annual high flow based on period of record 1938-1960

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,480 | 3,340 | 4,880 | 7,070 | 8,830 | 10,700 |
| 3 | 767 | 1,710 | 2,520 | 3,680 | 4,640 | 5,660 |
| 7 | 417 | 903 | 1,320 | 1,930 | 2,450 | 3,010 |
| 10 | 324 | 708 | 1,040 | 1,540 | 1,960 | 2,420 |
| 30 | 166 | 295 | 619 | 999 | 1,360 | 1,790 |
| 60 | 113 | 253 | 379 | 577 | 751 | 948 |

Magnitude and probability of annual instantaneous peak flow based on 27 historic years of record, 1934-1960

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 5,500 | 15,400 | 26,900 | 49,200 | 73,200 | 105,000 | 222,000 |

Oklahoma weighted skew = 0.142

Duration table of daily mean flow for period of record 1938-1960

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 663 | 383 | 142 | 64.5 | 43.7 | 33.2 | 20.8 | 12.8 | 6.25 | 1.15 | 0.76 | 0.51 | 0.25 | 0.13 | 0.05 | 0.03 |

| Magnitude and probability of annual low flow based on period of record 1939-1960 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1938-1960 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.32 | 0.00 | 0.00 | 0.00 |
| 3 | 4.30 | 0.00 | 0.00 | 0.00 |
| 7 | 4.84 | 0.45 | 0.00 | 0.00 |
| 10 | 6.54 | 1.22 | 0.00 | 0.00 |
| 30 | 24.2 | 5.92 | 2.45 | 1.10 |
| 60 | 62.2 | 12.0 | 11.6 | 6.97 |

| Magnitude and probability of annual low flow based on period of record 1938-1959 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 1.75 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1938-1960 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.06 | 0.00 | 0.00 | 0.00 |
| 30 | 0.62 | 0.00 | 0.00 | 0.00 |
| 60 | 3.30 | 0.00 | 0.00 | 0.00 |

RED RIVER BASIN
07316500 WASHITA RIVER NEAR CHEYENNE, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1961-1999

19.9

Magnitude and probability of annual high flow based on period of record 1961-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 314 | 692 | 1,020 | 1,490 | 1,890 | 2,320 |
| 3 | 201 | 425 | 613 | 887 | 1,110 | 1,360 |
| 7 | 127 | 265 | 387 | 575 | 740 | 927 |
| 10 | 102 | 216 | 321 | 495 | 656 | 847 |
| 30 | 56.3 | 118 | 177 | 276 | 372 | 489 |
| 60 | 40.7 | 83.5 | 125 | 194 | 261 | 344 |

Magnitude and probability of annual instantaneous peak flow based on 39 years of record, 1961-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 696 | 2,010 | 3,540 | 6,570 | 9,850 | 14,200 | 30,400 |

station skew = 0.130

Duration table of daily mean flow for period of record 1961-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 204 | 126 | 70.5 | 44.0 | 32.9 | 26.0 | 18.5 | 13.1 | 7.59 | 4.17 | 1.92 | 0.74 | 0.37 | 0.19 | 0.07 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.13 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1961-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.65 | 0.17 | 0.00 | 0.00 |
| 3 | 4.50 | 0.32 | 0.00 | 0.00 |
| 7 | 5.38 | 0.38 | 0.00 | 0.00 |
| 10 | 5.45 | 0.52 | 0.09 | 0.01 |
| 30 | 13.8 | 4.84 | 2.51 | 1.28 |
| 60 | 28.8 | 10.3 | 5.49 | 3.09 |

| Magnitude and probability of annual low flow based on period of record 1961-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.15 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1961-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.96 | 0.00 | 0.00 | 0.00 |
| 3 | 2.68 | 0.00 | 0.00 | 0.00 |
| 7 | 3.60 | 0.00 | 0.00 | 0.00 |
| 10 | 4.10 | 0.00 | 0.00 | 0.00 |
| 30 | 4.65 | 0.37 | 0.00 | 0.00 |
| 60 | 6.96 | 1.39 | 0.00 | 0.00 |

RED RIVER BASIN

07319500 SANDSTONE CREEK NEAR BERLIN, OK

LOCATION.--Lat 35°30'26", long 99°33'27", on west line of NW 1/4 NW 1/4 sec.20, T.12 N., R.22 W., Beckham County, on left bank 50 ft downstream from county road bridge, 5.5 mi northeast of Berlin.

DRAINAGE AREA.--44.9 mi² of which 4.0 mi² is noncontributing.

PERIOD OF RECORD.--October 1952 to September 1972.

REMARKS.--Flow regulated since 1951 by numerous floodwater-retarding structures.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1953-1972

3.67

Magnitude and probability of annual high flow based on period of record 1953-1972

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 95.3 | 208 | 322 | 527 | 733 | 996 |
| 3 | 53.1 | 126 | 201 | 335 | 468 | 635 |
| 7 | 27.8 | 74.0 | 128 | 236 | 355 | 519 |
| 10 | 20.8 | 55.9 | 97.4 | 182 | 276 | 407 |
| 30 | 10.7 | 27.7 | 46.1 | 80.3 | 116 | 161 |
| 60 | 7.43 | 17.6 | 27.9 | 45.9 | 63.6 | 85.4 |

Magnitude and probability of annual instantaneous peak flow based on 20 years of record, 1953-1972

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 670 | 1,540 | 2,440 | 4,080 | 5,760 | 7,910 | 15,400 |

station skew = 0.300

Duration table of daily mean flow for period of record 1953-1972

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 49.2 | 24.0 | 9.16 | 6.05 | 4.44 | 3.27 | 2.25 | 1.62 | 1.21 | 0.98 | 0.74 | 0.49 | 0.25 | 0.12 | 0.05 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1954-1972 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.06 | 0.00 | 0.00 | 0.00 |
| 3 | 0.09 | 0.00 | 0.00 | 0.00 |
| 7 | 0.10 | 0.00 | 0.00 | 0.00 |
| 10 | 0.14 | 0.00 | 0.00 | 0.00 |
| 30 | 0.36 | 0.00 | 0.00 | 0.00 |
| 60 | 0.42 | 0.05 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1953-1972 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.68 | 0.23 | 0.00 | 0.00 |
| 3 | 0.82 | 0.27 | 0.00 | 0.00 |
| 7 | 1.04 | 0.31 | 0.06 | 0.00 |
| 10 | 1.08 | 0.34 | 0.13 | 0.00 |
| 30 | 1.86 | 0.63 | 0.33 | 0.00 |
| 60 | 3.73 | 1.00 | 0.47 | 0.24 |

| Magnitude and probability of annual low flow based on period of record 1953-1971 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.06 | 0.00 | 0.00 | 0.00 |
| 3 | 0.10 | 0.00 | 0.00 | 0.00 |
| 7 | 0.10 | 0.00 | 0.00 | 0.00 |
| 10 | 0.14 | 0.00 | 0.00 | 0.00 |
| 30 | 0.37 | 0.00 | 0.00 | 0.00 |
| 60 | 0.54 | 0.07 | 0.01 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1953-1972 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.57 | 0.13 | 0.00 | 0.00 |
| 3 | 0.68 | 0.18 | 0.00 | 0.00 |
| 7 | 0.87 | 0.27 | 0.00 | 0.00 |
| 10 | 0.92 | 0.28 | 0.00 | 0.00 |
| 30 | 1.21 | 0.29 | 0.00 | 0.00 |
| 60 | 1.46 | 0.29 | 0.28 | 0.00 |

RED RIVER BASIN

07323000 SANDSTONE CREEK NEAR CHEYENNE, OK

LOCATION.--Lat 35°33'10", long 99°31'50", on south line of SE ¼ SE ¼ sec.34, T.13 N., R.22 W., Roger Mills County, near left bank on downstream side of pier on county road bridge, 4.5 mi upstream from Wildcat Creek, 9.1 mi southeast of Cheyenne, and at mile 6.0.

DRAINAGE AREA.--87.1 mi² of which 4.0 mi² is probably noncontributing.

PERIOD OF RECORD.--April 1951 to June 1974.

REMARKS.--Some diversions for irrigation above station. Flow regulated since 1951 by numerous floodwater-retarding structures.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1952-1973

6.31

Magnitude and probability of annual high flow based on period of record 1952-1973

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 187 | 410 | 639 | 1,050 | 1,470 | 2,000 |
| 3 | 94.0 | 205 | 320 | 532 | 752 | 1,040 |
| 7 | 48.9 | 115 | 190 | 339 | 505 | 733 |
| 10 | 36.9 | 87.5 | 146 | 263 | 396 | 581 |
| 30 | 17.9 | 42.1 | 69.1 | 121 | 178 | 256 |
| 60 | 12.3 | 27.5 | 43.6 | 73.3 | 104 | 145 |

Magnitude and probability of annual instantaneous peak flow based on 23 years of record, 1951-1973

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 1,250 | 2,520 | 3,560 | 5,060 | 6,300 | 7,610 | 11,000 |

station skew = - 0.278

Duration table of daily mean flow for period of record 1952-1973

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 83.4 | 44.1 | 19.2 | 10.8 | 7.93 | 6.24 | 4.09 | 2.73 | 1.96 | 1.23 | 0.86 | 0.58 | 0.29 | 0.14 | 0.06 | 0.03 |

| Magnitude and probability of annual low flow based on period of record 1953-1974 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.06 | 0.00 | 0.00 | 0.00 |
| 3 | 0.06 | 0.00 | 0.00 | 0.00 |
| 7 | 0.11 | 0.00 | 0.00 | 0.00 |
| 10 | 0.13 | 0.00 | 0.00 | 0.00 |
| 30 | 0.26 | 0.00 | 0.00 | 0.00 |
| 60 | 0.52 | 0.03 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1952-1974 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.90 | 0.23 | 0.05 | 0.00 |
| 3 | 0.97 | 0.24 | 0.05 | 0.00 |
| 7 | 1.12 | 0.28 | 0.06 | 0.00 |
| 10 | 1.28 | 0.33 | 0.06 | 0.00 |
| 30 | 3.10 | 0.81 | 0.33 | 0.07 |
| 60 | 6.47 | 2.16 | 1.10 | 0.37 |

| Magnitude and probability of annual low flow based on period of record 1952-1973 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.08 | 0.00 | 0.00 | 0.00 |
| 3 | 0.09 | 0.00 | 0.00 | 0.00 |
| 7 | 0.13 | 0.00 | 0.00 | 0.00 |
| 10 | 0.15 | 0.00 | 0.00 | 0.00 |
| 30 | 0.30 | 0.00 | 0.00 | 0.00 |
| 60 | 0.67 | 0.10 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1952-1974 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.82 | 0.00 | 0.00 | 0.00 |
| 3 | 0.95 | 0.07 | 0.00 | 0.00 |
| 7 | 1.11 | 0.10 | 0.00 | 0.00 |
| 10 | 1.25 | 0.12 | 0.00 | 0.00 |
| 30 | 1.33 | 0.26 | 0.10 | 0.04 |
| 60 | 1.73 | 0.38 | 0.15 | 0.06 |

RED RIVER BASIN

07324200 WASHITA RIVER NEAR HAMMON, OK

LOCATION.--Lat 35°39'23", long 99°18'21", on west line of sec.26, T.14 N., R.20 W., Custer County, Hydrologic Unit 11130301, on right bank near county road bridge, 2.2 mi downstream from Quartermaster Creek, 4.7 mi northeast of Hammon, and at mile 494.5.

DRAINAGE AREA.--1,387 mi².

PERIOD OF RECORD.--October 1969 to September 1987, October 1989 to current year.

REMARKS.--Flow regulated since 1961 by numerous floodwater-retarding structures.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1970-1999

64.0

Magnitude and probability of annual high flow based on period of record 1970-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 746 | 1,800 | 2,640 | 3,770 | 4,630 | 5,470 |
| 3 | 548 | 1,320 | 1,940 | 2,770 | 3,390 | 3,990 |
| 7 | 371 | 912 | 1,340 | 1,920 | 2,340 | 2,750 |
| 10 | 308 | 747 | 1,090 | 1,540 | 1,860 | 2,160 |
| 30 | 178 | 416 | 588 | 793 | 931 | 1,050 |
| 60 | 135 | 303 | 411 | 526 | 595 | 651 |

Magnitude and probability of annual instantaneous peak flow based on 28 years of record, 1970-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 1,040 | 2,240 | 3,290 | 4,900 | 6,280 | 7,820 | 12,000 |

station skew = - 0.195

Duration table of daily mean flow for period of record 1970-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 753 | 489 | 276 | 153 | 103 | 76.0 | 45.3 | 30.6 | 20.4 | 12.8 | 6.57 | 1.25 | 0.54 | 0.27 | 0.11 | 0.05 |

| Magnitude and probability of annual low flow based on period of record 1971-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.66 | 0.00 | 0.00 | 0.00 |
| 3 | 0.72 | 0.00 | 0.00 | 0.00 |
| 7 | 0.84 | 0.00 | 0.00 | 0.00 |
| 10 | 0.94 | 0.00 | 0.00 | 0.00 |
| 30 | 1.37 | 0.04 | 0.00 | 0.00 |
| 60 | 3.20 | 0.14 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1970-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 14.1 | 1.90 | 0.29 | 0.00 |
| 3 | 15.0 | 2.11 | 0.33 | 0.00 |
| 7 | 16.9 | 2.65 | 0.51 | 0.00 |
| 10 | 18.4 | 3.04 | 0.61 | 0.00 |
| 30 | 54.6 | 6.68 | 0.84 | 0.03 |
| 60 | 92.2 | 17.6 | 5.13 | 1.50 |

| Magnitude and probability of annual low flow based on period of record 1970-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.01 | 0.00 | 0.00 | 0.00 |
| 3 | 1.07 | 0.00 | 0.00 | 0.00 |
| 7 | 1.18 | 0.00 | 0.00 | 0.00 |
| 10 | 1.29 | 0.00 | 0.00 | 0.00 |
| 30 | 1.37 | 0.04 | 0.00 | 0.00 |
| 60 | 3.20 | 0.18 | 0.03 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1970-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.30 | 0.40 | 0.00 | 0.00 |
| 3 | 6.87 | 0.42 | 0.00 | 0.00 |
| 7 | 7.06 | 0.45 | 0.00 | 0.00 |
| 10 | 7.26 | 0.52 | 0.00 | 0.00 |
| 30 | 9.82 | 1.05 | 0.00 | 0.00 |
| 60 | 14.3 | 1.15 | 0.08 | 0.00 |

RED RIVER BASIN

07324400 WASHITA RIVER NEAR FOSS, OK

LOCATION.--Lat 35°32'20", long 99°10'10", in SW 1/4 SW 1/4 sec.1, T.12 N., R.19 W., Custer County, Hydrologic Unit 11130302, on right bank at downstream side county road bridge, 0.4 mi downstream from Oak Creek, 0.9 mi downstream from Foss Dam, 2.5 mi west of Stafford, 6.0 mi north of Foss, and at mile 473.5.

DRAINAGE AREA.--1,551 mi².

PERIOD OF RECORD.--March 1956 to April 1957, February to December 1958, July 1961 to September 1987, October 1989 to current year.

REMARKS.--Flow completely regulated since 1961 by Foss Reservoir (station 07324300), except for 55 mi² intervening area.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1962-1999

57.1

Magnitude and probability of annual high flow based on period of record 1962-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 488 | 877 | 1,110 | 1,350 | 1,490 | 1,610 |
| 3 | 313 | 651 | 886 | 1,170 | 1,360 | 1,530 |
| 7 | 217 | 540 | 821 | 1,150 | 1,350 | 1,520 |
| 10 | 179 | 487 | 784 | 1,130 | 1,340 | 1,510 |
| 30 | 101 | 324 | 591 | 1,110 | 1,330 | 1,500 |
| 60 | 66.7 | 220 | 418 | 837 | 1,320 | 1,490 |

Magnitude and probability of annual instantaneous peak flow based on 36 years of record, 1962-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 864 | 1,450 | 1,860 | 2,360 | 2,740 | 3,100 | 3,900 |

station skew = - 0.453

Duration table of daily mean flow for period of record 1962-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 751 | 628 | 392 | 192 | 58.7 | 21.6 | 11.3 | 8.73 | 7.19 | 5.99 | 4.89 | 3.82 | 1.98 | 0.90 | 0.36 | 0.18 |

| Magnitude and probability of annual low flow based on period of record 1963-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.84 | 0.51 | 0.23 | 0.11 |
| 3 | 2.03 | 0.58 | 0.27 | 0.13 |
| 7 | 2.28 | 0.68 | 0.32 | 0.16 |
| 10 | 2.45 | 0.76 | 0.36 | 0.18 |
| 30 | 2.98 | 0.97 | 0.53 | 0.32 |
| 60 | 3.75 | 1.35 | 0.79 | 0.51 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.74 | 1.41 | 0.88 | 0.62 |
| 3 | 4.00 | 1.58 | 1.03 | 0.74 |
| 7 | 4.78 | 1.80 | 1.20 | 0.90 |
| 10 | 5.17 | 1.89 | 1.26 | 0.96 |
| 30 | 8.69 | 3.02 | 1.99 | 1.50 |
| 60 | 21.0 | 6.18 | 3.50 | 2.27 |

| Magnitude and probability of annual low flow based on period of record 1962-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.20 | 0.57 | 0.24 | 0.11 |
| 3 | 2.39 | 0.66 | 0.29 | 0.14 |
| 7 | 2.63 | 0.75 | 0.34 | 0.16 |
| 10 | 2.83 | 0.84 | 0.39 | 0.19 |
| 30 | 3.44 | 1.01 | 0.55 | 0.34 |
| 60 | 4.48 | 1.79 | 1.23 | 0.94 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.54 | 1.36 | 0.77 | 0.46 |
| 3 | 3.97 | 1.63 | 0.95 | 0.58 |
| 7 | 3.97 | 1.65 | 1.04 | 0.72 |
| 10 | 4.00 | 1.69 | 1.10 | 0.79 |
| 30 | 4.67 | 1.99 | 1.33 | 0.97 |
| 60 | 5.31 | 2.05 | 1.39 | 1.06 |

RED RIVER BASIN

07325000 WASHITA RIVER NEAR CLINTON, OK

LOCATION.--Lat 35°31'51", long 98°58'00", in SW 1/4 NE 1/4 sec.11, T.12 N., R.17 W., Custer County, Hydrologic Unit 11130302, on downstream side of pier of bridge on U.S. Highway 183, 0.5 mi north of Clinton, 0.8 mi upstream from Beaver Creek, 4.8 mi downstream from Barnitz Creek, and at mile 447.4.

DRAINAGE AREA.--1,977 mi².

PERIOD OF RECORD.--October 1935 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Flow regulated since February 1961 by Foss Reservoir (station 07324300) and by numerous floodwater-retarding structures.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1936-1960

146

Magnitude and probability of annual high flow based on period of record 1936-1960

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 4,640 | 8,690 | 12,100 | 17,200 | 21,700 | 26,700 |
| 3 | 2,890 | 5,410 | 7,490 | 10,600 | 13,200 | 16,000 |
| 7 | 1,750 | 3,210 | 4,300 | 5,760 | 6,900 | 8,600 |
| 10 | 1,330 | 2,450 | 3,310 | 4,480 | 5,410 | 6,360 |
| 30 | 632 | 1,220 | 1,690 | 2,350 | 2,890 | 3,450 |
| 60 | 422 | 819 | 1,150 | 1,650 | 2,080 | 2,560 |

Magnitude and probability of annual instantaneous peak flow based on 27 historic years of record, 1934-1960

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 7,800 | 18,200 | 29,200 | 49,700 | 71,000 | 98,900 | 199,000 |

Oklahoma weighted skew = 0.347

Duration table of daily mean flow for period of record 1936-1960

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 2,420 | 1,500 | 556 | 244 | 149 | 110 | 60.7 | 37.9 | 25.4 | 16.4 | 11.3 | 6.06 | 2.19 | 0.86 | 0.34 | 0.17 |

| Magnitude and probability of annual low flow based on period of record 1937-1960 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.91 | 0.00 | 0.00 | 0.00 |
| 3 | 3.58 | 0.14 | 0.00 | 0.00 |
| 7 | 3.60 | 0.27 | 0.00 | 0.00 |
| 10 | 3.62 | 0.32 | 0.00 | 0.00 |
| 30 | 6.76 | 1.14 | 0.00 | 0.00 |
| 60 | 11.1 | 2.52 | 0.52 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1936-1960 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 13.6 | 2.19 | 0.50 | 0.04 |
| 3 | 14.6 | 2.60 | 0.79 | 0.25 |
| 7 | 16.5 | 3.14 | 1.03 | 0.36 |
| 10 | 19.5 | 3.96 | 1.37 | 0.50 |
| 30 | 62.9 | 15.3 | 6.62 | 3.13 |
| 60 | 236 | 79.7 | 42.8 | 24.9 |

| Magnitude and probability of annual low flow based on period of record 1936-1959 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.08 | 0.00 | 0.00 | 0.00 |
| 3 | 3.63 | 0.14 | 0.00 | 0.00 |
| 7 | 3.65 | 0.27 | 0.00 | 0.00 |
| 10 | 3.66 | 0.32 | 0.00 | 0.00 |
| 30 | 7.34 | 1.14 | 0.00 | 0.00 |
| 60 | 21.4 | 4.07 | 0.65 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1936-1960 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.44 | 1.34 | 0.37 | 0.05 |
| 3 | 7.87 | 1.46 | 0.49 | 0.18 |
| 7 | 9.20 | 2.08 | 0.81 | 0.34 |
| 10 | 9.79 | 2.23 | 0.87 | 0.36 |
| 30 | 12.0 | 3.09 | 1.33 | 0.62 |
| 60 | 13.4 | 4.14 | 2.16 | 1.24 |

RED RIVER BASIN
07325000 WASHITA RIVER NEAR CLINTON, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1962-1999

127

| Magnitude and probability of annual high flow based on period of record 1962-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,550 | 3,170 | 4,510 | 6,460 | 8,080 | 9,820 |
| 3 | 960 | 2,070 | 3,100 | 4,760 | 6,290 | 8,080 |
| 7 | 605 | 1,380 | 2,120 | 3,340 | 4,470 | 5,790 |
| 10 | 489 | 1,150 | 1,790 | 2,860 | 3,860 | 5,060 |
| 30 | 276 | 693 | 1,120 | 1,870 | 2,590 | 3,490 |
| 60 | 192 | 486 | 797 | 1,360 | 1,930 | 2,660 |

Magnitude and probability of annual instantaneous peak flow based on 38 years of record, 1962-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 2,090 | 4,090 | 6,000 | 9,270 | 12,400 | 16,400 | 29,300 |

station skew = 0.436

Duration table of daily mean flow for period of record 1962-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 1,310 | 997 | 619 | 384 | 213 | 128 | 63.3 | 43.1 | 32.0 | 24.7 | 19.0 | 13.6 | 7.98 | 5.18 | 2.99 | 2.13 |

| Magnitude and probability of annual low flow based on period of record 1963-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.82 | 1.74 | 0.56 | 0.00 |
| 3 | 8.56 | 2.08 | 0.76 | 0.24 |
| 7 | 9.77 | 2.46 | 0.99 | 0.41 |
| 10 | 9.90 | 2.86 | 1.35 | 0.68 |
| 30 | 10.8 | 5.08 | 3.63 | 2.84 |
| 60 | 14.4 | 7.26 | 5.42 | 4.40 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 22.3 | 6.82 | 3.52 | 1.99 |
| 3 | 22.8 | 7.88 | 4.51 | 2.85 |
| 7 | 24.5 | 8.55 | 5.22 | 3.57 |
| 10 | 26.5 | 9.34 | 5.75 | 3.96 |
| 30 | 39.2 | 14.4 | 9.08 | 6.40 |
| 60 | 86.0 | 31.0 | 18.4 | 12.0 |

| Magnitude and probability of annual low flow based on period of record 1962-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 8.30 | 1.82 | 0.58 | 0.00 |
| 3 | 9.01 | 2.10 | 0.76 | 0.24 |
| 7 | 10.3 | 2.50 | 0.99 | 0.41 |
| 10 | 10.4 | 2.94 | 1.36 | 0.68 |
| 30 | 11.5 | 5.12 | 3.68 | 2.92 |
| 60 | 17.2 | 8.73 | 6.85 | 5.88 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 18.0 | 7.46 | 4.66 | 3.14 |
| 3 | 18.7 | 8.30 | 5.50 | 3.93 |
| 7 | 19.8 | 8.86 | 5.94 | 4.31 |
| 10 | 20.2 | 9.10 | 6.16 | 4.53 |
| 30 | 24.2 | 10.8 | 7.28 | 5.34 |
| 60 | 26.5 | 11.6 | 7.92 | 5.94 |

RED RIVER BASIN

07325500 WASHITA RIVER AT CARNEGIE, OK

LOCATION.--Lat 35°07'02", long 98°33'49", in NW ¼ NW ¼ sec.3, T.7 N., R.13 W., Caddo County, Hydrologic Unit 11130302, on downstream side of left abutment of bridge on State Highway 9, 1,300 ft upstream from Running Creek, 2.7 mi east of Carnegie, and at mile 353.9. Records include flow of Running Creek.

DRAINAGE AREA.--3,129 mi², includes that of Running Creek.

PERIOD OF RECORD.--October 1937 to current year.

REMARKS.--Some diversion for irrigation upstream from station. October 1942 to May 1949, occasional fluctuation caused by powerplant at Carnegie, 7.5 mi upstream from station. Flow regulated by Foss Reservoir since February 1961 (station 07324300), and by numerous floodwater-retarding structures.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1938-1960

314

Magnitude and probability of annual high flow based on period of record 1938-1960

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
|---------------------------------|----------|----------|-----------|----------|----------|-----------|
| 1 | 6,510 | 12,000 | 17,100 | 25,800 | 34,200 | 44,600 |
| 3 | 5,470 | 9,280 | 12,300 | 16,600 | 20,300 | 24,200 |
| 7 | 3,660 | 6,180 | 8,000 | 10,400 | 12,300 | 14,200 |
| 10 | 2,960 | 4,930 | 6,330 | 8,150 | 9,520 | 10,900 |
| 30 | 1,430 | 2,590 | 3,480 | 4,730 | 5,730 | 6,790 |
| 60 | 911 | 1,630 | 2,230 | 3,110 | 3,870 | 4,720 |

Magnitude and probability of annual instantaneous peak flow based on 30 historic years of record, 1913-1960

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 9,210 | 17,000 | 23,600 | 33,700 | 42,600 | 52,700 | 81,500 |

Water Resources Council weighted skew = 0.115

Duration table of daily mean flow for period of record 1938-1960

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 4,750 | 3,160 | 1,350 | 579 | 347 | 249 | 147 | 91.1 | 68.1 | 55.3 | 43.3 | 31.0 | 18.9 | 13.0 | 6.74 | 3.79 |

| Magnitude and probability of annual low flow based on period of record 1939-1960 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 21.2 | 6.21 | 2.33 | 0.85 |
| 3 | 21.5 | 6.60 | 2.91 | 1.31 |
| 7 | 22.0 | 7.38 | 3.79 | 2.01 |
| 10 | 23.0 | 7.84 | 4.04 | 2.15 |
| 30 | 30.5 | 10.6 | 5.46 | 2.99 |
| 60 | 42.7 | 14.4 | 7.06 | 3.62 |

| Magnitude and probability of annual low flow based on period of record 1938-1960 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 38.8 | 18.7 | 12.7 | 9.28 |
| 3 | 42.2 | 20.9 | 14.4 | 10.6 |
| 7 | 48.3 | 24.2 | 17.1 | 13.0 |
| 10 | 52.9 | 26.5 | 18.8 | 14.2 |
| 30 | 132 | 55.8 | 36.9 | 26.8 |
| 60 | 497 | 199 | 121 | 78.8 |

| Magnitude and probability of annual low flow based on period of record 1938-1959 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 23.6 | 6.42 | 2.35 | 0.85 |
| 3 | 24.5 | 6.85 | 2.96 | 1.31 |
| 7 | 26.0 | 7.56 | 3.80 | 2.01 |
| 10 | 27.0 | 8.05 | 4.06 | 2.15 |
| 30 | 33.2 | 11.0 | 5.58 | 3.02 |
| 60 | 63.0 | 17.8 | 7.93 | 3.76 |

| Magnitude and probability of annual low flow based on period of record 1938-1960 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 29.7 | 15.0 | 10.4 | 7.57 |
| 3 | 32.1 | 16.1 | 11.0 | 7.90 |
| 7 | 34.0 | 17.0 | 11.8 | 8.69 |
| 10 | 34.6 | 17.5 | 12.3 | 9.22 |
| 30 | 39.0 | 21.1 | 15.5 | 12.0 |
| 60 | 43.9 | 23.6 | 17.9 | 14.6 |

RED RIVER BASIN
07325500 WASHITA RIVER AT CARNEGIE, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1962-1999

402

| Magnitude and probability of annual high flow based on period of record 1962-1999 | | | | | | |
|---|---|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 4,980 | 9,980 | 14,700 | 22,800 | 30,600 | 40,100 |
| 3 | 4,090 | 8,030 | 11,500 | 17,000 | 22,000 | 27,700 |
| 7 | 2,820 | 5,680 | 8,160 | 12,000 | 15,300 | 19,100 |
| 10 | 2,340 | 4,790 | 6,930 | 10,200 | 13,100 | 16,400 |
| 30 | 1,220 | 2,600 | 3,820 | 5,720 | 7,400 | 9,290 |
| 60 | 825 | 1,690 | 2,450 | 3,590 | 4,580 | 5,700 |

Magnitude and probability of annual instantaneous peak flow based on 38 years of record, 1962-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 5,740 | 12,000 | 18,500 | 30,000 | 41,900 | 57,200 | 111,000 |

station skew = 0.492

Duration table of daily mean flow for period of record 1962-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| 4,570 | 2,990 | 1,590 | 919 | 642 | 469 | 260 | 180 | 139 | 108 | 81.9 | 59.3 | 37.0 | 25.8 | 15.6 | 9.34 |

| Magnitude and probability of annual low flow based on period of record 1963-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 33.6 | 7.51 | 2.49 | 0.70 |
| 3 | 34.2 | 8.19 | 2.95 | 0.93 |
| 7 | 36.5 | 9.73 | 3.87 | 1.39 |
| 10 | 37.9 | 11.2 | 4.96 | 2.04 |
| 30 | 49.8 | 20.6 | 12.7 | 8.46 |
| 60 | 68.9 | 33.6 | 23.0 | 16.9 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 113 | 41.2 | 20.9 | 11.0 |
| 3 | 113 | 42.8 | 23.1 | 13.1 |
| 7 | 116 | 44.5 | 25.6 | 15.7 |
| 10 | 119 | 46.7 | 27.4 | 17.3 |
| 30 | 175 | 74.7 | 48.1 | 33.6 |
| 60 | 412 | 156 | 87.8 | 52.7 |

| Magnitude and probability of annual low flow based on period of record 1962-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 34.8 | 7.51 | 2.49 | 0.70 |
| 3 | 35.3 | 8.21 | 2.95 | 0.93 |
| 7 | 37.7 | 9.76 | 3.87 | 1.39 |
| 10 | 39.3 | 11.4 | 5.08 | 2.11 |
| 30 | 52.8 | 21.5 | 13.7 | 9.45 |
| 60 | 77.2 | 36.2 | 25.9 | 20.2 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 70.8 | 36.1 | 26.1 | 20.2 |
| 3 | 77.3 | 39.8 | 28.6 | 21.9 |
| 7 | 81.6 | 42.2 | 30.4 | 23.3 |
| 10 | 83.5 | 43.5 | 31.4 | 24.1 |
| 30 | 101 | 52.6 | 38.3 | 29.8 |
| 60 | 113 | 58.7 | 43.1 | 33.9 |

RED RIVER BASIN

07325800 COBB CREEK NEAR EAKLY, OK

LOCATION.--Lat 35°17'26", long 98°35'38", in NW 1/4 NE 1/4 sec.5, T.9 N., R.13 W., Caddo County, Hydrologic Unit 11130302, near left downstream abutment of bridge, on State Highway 152, 0.5 mi downstream from Fivemile Creek, 2.4 mi southwest of Eakly, 3.0 mi upstream from Fort Cobb Reservoir, and at mile 22.9.

DRAINAGE AREA.--132 mi².

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

REMARKS.--Flow regulated since 1957 by numerous floodwater-retarding structures.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1969-1999

29.2

Magnitude and probability of annual high flow based on period of record 1969-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 815 | 1,720 | 2,520 | 3,750 | 4,820 | 6,030 |
| 3 | 417 | 875 | 1,280 | 1,900 | 2,440 | 3,060 |
| 7 | 231 | 464 | 664 | 969 | 1,230 | 1,530 |
| 10 | 176 | 362 | 528 | 790 | 1,020 | 1,300 |
| 30 | 84.7 | 165 | 234 | 340 | 434 | 541 |
| 60 | 57.3 | 103 | 141 | 199 | 250 | 307 |

Magnitude and probability of annual instantaneous peak flow based on 31 years of record, 1969-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 2,060 | 4,490 | 7,060 | 11,800 | 16,800 | 23,300 | 47,000 |

station skew = 0.495

Duration table of daily mean flow for period of record 1969-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 333 | 198 | 71.2 | 39.1 | 32.9 | 27.8 | 22.0 | 18.1 | 14.9 | 12.6 | 10.1 | 7.55 | 4.68 | 3.31 | 1.87 | 0.91 |

| Magnitude and probability of annual low flow based on period of record 1970-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.34 | 0.85 | 0.24 | 0.00 |
| 3 | 3.72 | 0.96 | 0.36 | 0.09 |
| 7 | 4.10 | 1.13 | 0.45 | 0.19 |
| 10 | 4.13 | 1.35 | 0.65 | 0.33 |
| 30 | 5.45 | 2.52 | 1.61 | 1.09 |
| 60 | 6.92 | 3.66 | 2.64 | 2.01 |

| Magnitude and probability of annual low flow based on period of record 1969-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 10.3 | 6.44 | 4.87 | 3.57 |
| 3 | 10.7 | 6.81 | 5.24 | 3.95 |
| 7 | 12.0 | 7.40 | 5.70 | 4.40 |
| 10 | 13.0 | 7.80 | 5.95 | 4.60 |
| 30 | 17.2 | 9.79 | 7.21 | 5.57 |
| 60 | 32.4 | 15.9 | 10.9 | 7.95 |

| Magnitude and probability of annual low flow based on period of record 1969-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.74 | 0.85 | 0.24 | 0.04 |
| 3 | 3.80 | 0.96 | 0.39 | 0.17 |
| 7 | 4.20 | 1.22 | 0.58 | 0.29 |
| 10 | 4.40 | 1.42 | 0.74 | 0.40 |
| 30 | 5.61 | 2.59 | 1.65 | 1.11 |
| 60 | 7.33 | 3.75 | 2.68 | 2.04 |

| Magnitude and probability of annual low flow based on period of record 1969-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 11.1 | 6.82 | 5.22 | 4.16 |
| 3 | 11.5 | 7.25 | 5.62 | 4.52 |
| 7 | 12.2 | 7.84 | 6.15 | 5.01 |
| 10 | 12.5 | 8.08 | 6.32 | 5.19 |
| 30 | 14.1 | 9.15 | 7.26 | 5.97 |
| 60 | 15.4 | 10.2 | 8.20 | 6.85 |

RED RIVER BASIN

07326000 COBB CREEK NEAR FORT COBB, OK

LOCATION.--Lat 35°08'37", long 98°26'33", in NE ¼ NE ¼ sec.27, T.8 N., R.12 W., Caddo County, Hydrologic Unit 11130302, on left bank 10 ft upstream from county road bridge, 0.3 mi upstream from Punjo Creek, 1.2 mi downstream from Fort Cobb Dam, 3.0 mi north of Fort Cobb, and at mile 5.8.

DRAINAGE AREA.--307 mi². Area at site used prior to Oct. 1, 1969, 319 mi².

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1960, published as Pond Creek near Fort Cobb.

REMARKS.--Flow regulated since March 1959, by Fort Cobb Reservoir (station 07325900).

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1940-1958

50.2

Magnitude and probability of annual high flow based on period of record 1940-1958

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,690 | 3,140 | 4,640 | 7,420 | 10,300 | 14,200 |
| 3 | 957 | 1,630 | 2,300 | 3,540 | 4,820 | 6,510 |
| 7 | 505 | 836 | 1,160 | 1,720 | 2,280 | 2,990 |
| 10 | 376 | 617 | 853 | 1,270 | 1,700 | 2,240 |
| 30 | 176 | 284 | 385 | 554 | 717 | 920 |
| 60 | 120 | 191 | 250 | 338 | 414 | 500 |

Magnitude and probability of annual instantaneous peak flow based on 22 historic years of record, 1937-1958

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 4,420 | 10,500 | 16,900 | 28,700 | 40,800 | 56,500 | 112,000 |

Oklahoma weighted skew = 0.272

Duration table of daily mean flow for period of record 1940-1958

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 648 | 336 | 109 | 60.6 | 48.6 | 43.6 | 35.8 | 30.8 | 26.3 | 22.3 | 17.8 | 13.1 | 8.55 | 5.72 | 2.72 | 1.76 |

| Magnitude and probability of annual low flow based on period of record 1941-1958 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.68 | 3.11 | 1.51 | 0.72 |
| 3 | 7.97 | 3.23 | 1.56 | 0.74 |
| 7 | 8.41 | 3.39 | 1.68 | 0.82 |
| 10 | 8.74 | 3.52 | 1.75 | 0.86 |
| 30 | 10.3 | 4.49 | 2.45 | 1.34 |
| 60 | 13.1 | 5.52 | 3.01 | 1.67 |

| Magnitude and probability of annual low flow based on period of record 1940-1958 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 19.6 | 13.5 | 10.8 | 8.73 |
| 3 | 20.2 | 14.0 | 11.2 | 9.13 |
| 7 | 21.7 | 15.6 | 12.7 | 10.5 |
| 10 | 22.6 | 16.4 | 13.5 | 11.2 |
| 30 | 31.0 | 21.0 | 17.9 | 16.0 |
| 60 | 75.6 | 42.0 | 31.2 | 24.6 |

| Magnitude and probability of annual low flow based on period of record 1940-1957 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.68 | 3.11 | 1.51 | 0.72 |
| 3 | 7.97 | 3.23 | 1.56 | 0.74 |
| 7 | 8.41 | 3.39 | 1.68 | 0.82 |
| 10 | 8.74 | 3.52 | 1.75 | 0.86 |
| 30 | 10.3 | 4.49 | 2.45 | 1.34 |
| 60 | 13.6 | 5.56 | 3.01 | 1.67 |

| Magnitude and probability of annual low flow based on period of record 1940-1958 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 15.9 | 10.8 | 8.70 | 7.26 |
| 3 | 17.5 | 11.7 | 9.27 | 7.60 |
| 7 | 19.0 | 12.4 | 9.67 | 7.82 |
| 10 | 19.5 | 12.7 | 9.93 | 8.02 |
| 30 | 23.1 | 15.3 | 12.1 | 9.90 |
| 60 | 26.8 | 18.2 | 14.5 | 11.8 |

RED RIVER BASIN
07326000 COBB CREEK NEAR FORT COBB, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1960-1999

35.7

| Magnitude and probability of annual high flow based on period of record 1960-1999 | | | | | | |
|--|----------|----------|-----------|----------|----------|-----------|
| Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 355 | 925 | 1,330 | 1,670 | 1,890 | 2,090 |
| 3 | 312 | 904 | 1,260 | 1,600 | 1,850 | 1,950 |
| 7 | 240 | 740 | 1,160 | 1,570 | 1,710 | 1,850 |
| 10 | 203 | 641 | 1,030 | 1,550 | 1,690 | 1,800 |
| 30 | 104 | 345 | 590 | 979 | 1,310 | 1,670 |
| 60 | 62.5 | 204 | 355 | 608 | 839 | 1,100 |

Magnitude and probability of annual instantaneous peak flow based on 40 years of record, 1960-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 535 | 1,020 | 1,340 | 1,680 | 1,900 | 2,100 | 2,440 |

station skew = - 0.959

Duration table of daily mean flow for period of record 1960-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 733 | 456 | 197 | 75.9 | 24.0 | 6.56 | 4.23 | 3.49 | 3.01 | 2.77 | 2.54 | 2.30 | 1.90 | 1.70 | 1.28 | 1.05 |

| Magnitude and probability of annual low flow based on period of record 1961-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.59 | 0.92 | 0.63 | 0.44 |
| 3 | 1.69 | 1.02 | 0.70 | 0.48 |
| 7 | 1.82 | 1.13 | 0.78 | 0.54 |
| 10 | 1.90 | 1.19 | 0.94 | 0.76 |
| 30 | 2.04 | 1.44 | 1.22 | 1.01 |
| 60 | 2.29 | 1.65 | 1.47 | 1.37 |

| Magnitude and probability of annual low flow based on period of record 1960-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.37 | 1.68 | 1.39 | 1.17 |
| 3 | 2.47 | 1.83 | 1.56 | 1.36 |
| 7 | 2.61 | 2.00 | 1.75 | 1.56 |
| 10 | 2.68 | 2.04 | 1.82 | 1.66 |
| 30 | 4.42 | 2.90 | 2.05 | 1.90 |
| 60 | 13.3 | 3.97 | 2.21 | 2.15 |

| Magnitude and probability of annual low flow based on period of record 1960-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.61 | 0.93 | 0.63 | 0.44 |
| 3 | 1.72 | 1.02 | 0.70 | 0.48 |
| 7 | 1.84 | 1.13 | 0.78 | 0.54 |
| 10 | 1.90 | 1.19 | 0.94 | 0.76 |
| 30 | 2.04 | 1.44 | 1.22 | 1.08 |
| 60 | 2.34 | 1.68 | 1.56 | 1.52 |

| Magnitude and probability of annual low flow based on period of record 1960-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.10 | 1.63 | 1.45 | 1.33 |
| 3 | 2.18 | 1.72 | 1.56 | 1.45 |
| 7 | 2.29 | 1.83 | 1.67 | 1.56 |
| 10 | 2.31 | 1.88 | 1.75 | 1.68 |
| 30 | 2.88 | 1.90 | 1.82 | 1.75 |
| 60 | 4.08 | 1.92 | 1.90 | 1.85 |

RED RIVER BASIN

07326500 WASHITA RIVER AT ANADARKO, OK

LOCATION.--Lat 35°05'03", long 98°14'35", in NW ¼ sec.15, T.7 N., R.10 W., Caddo County, Hydrologic Unit 11130302 on right down-stream bank at bridge on U.S. Highway 281 at north edge of Anadarko, 8.1 mi upstream from Sugar Creek, and at mile 305.2.
DRAINAGE AREA.--3,656 mi².

PERIOD OF RECORD.--October 1902 to September 1908; June 1924 to June 1925, published as "near Anadarko", October 1935 to February 1938; October 1963 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Flow regulated by low-water dams upstream and since March 1959, by Fort Cobb Reservoir (station 07325900), since February 1961, by Foss Reservoir (station 07324300), and by numerous floodwater-retarding structures.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1964-1999

495

Magnitude and probability of annual high flow based on period of record 1964-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 4,470 | 9,430 | 14,600 | 24,300 | 34,500 | 47,900 |
| 3 | 4,050 | 7,980 | 11,400 | 16,900 | 21,700 | 27,300 |
| 7 | 3,040 | 6,080 | 8,640 | 12,400 | 15,700 | 19,200 |
| 10 | 2,550 | 5,210 | 7,450 | 10,800 | 13,600 | 16,700 |
| 30 | 1,430 | 3,050 | 4,430 | 6,500 | 8,240 | 10,200 |
| 60 | 990 | 2,070 | 3,000 | 4,380 | 5,550 | 6,840 |

Magnitude and probability of annual instantaneous peak flow based on 36 years of record, 1964-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 4,640 | 10,400 | 17,300 | 31,800 | 49,000 | 72,200 | 186,000 |

station skew = 0.958

Duration table of daily mean flow for period of record 1964-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 4,890 | 3,420 | 2,030 | 1,180 | 840 | 621 | 346 | 246 | 187 | 142 | 106 | 79.3 | 52.1 | 38.4 | 22.1 | 12.7 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 57.2 | 11.7 | 3.42 | 0.76 |
| 3 | 58.5 | 12.9 | 4.93 | 1.99 |
| 7 | 59.0 | 15.3 | 6.56 | 2.99 |
| 10 | 59.3 | 16.9 | 7.60 | 3.64 |
| 30 | 69.4 | 30.1 | 19.2 | 13.2 |
| 60 | 91.4 | 45.7 | 31.9 | 23.7 |

| Magnitude and probability of annual low flow based on period of record 1964-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 148 | 61.0 | 35.3 | 21.6 |
| 3 | 154 | 63.9 | 37.4 | 23.0 |
| 7 | 164 | 67.2 | 39.8 | 25.0 |
| 10 | 170 | 69.2 | 41.0 | 25.8 |
| 30 | 235 | 96.0 | 58.9 | 39.0 |
| 60 | 521 | 204 | 114 | 68.0 |

| Magnitude and probability of annual low flow based on period of record 1964-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 58.5 | 11.8 | 3.43 | 0.76 |
| 3 | 59.0 | 13.0 | 4.94 | 1.99 |
| 7 | 60.0 | 15.4 | 6.56 | 2.99 |
| 10 | 60.8 | 16.9 | 7.60 | 3.65 |
| 30 | 71.9 | 31.3 | 21.1 | 15.5 |
| 60 | 98.9 | 47.8 | 34.9 | 27.8 |

| Magnitude and probability of annual low flow based on period of record 1964-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 105 | 54.4 | 39.1 | 29.9 |
| 3 | 109 | 57.3 | 41.5 | 32.0 |
| 7 | 116 | 61.8 | 44.9 | 34.6 |
| 10 | 118 | 63.1 | 45.9 | 35.4 |
| 30 | 138 | 72.6 | 53.1 | 41.5 |
| 60 | 153 | 78.8 | 57.3 | 44.6 |

RED RIVER BASIN

07327000 SUGAR CREEK NEAR GRACEMONT, OK

LOCATION.--Lat 35°10'30", long 98°15'20", in NW ¼ NE ¼ sec.16, T.8 N., R.10 W., Caddo County, on downstream side of county road bridge, 1.0 mi south of Gracemont, 2.1 mi downstream from Yellow Creek, 1.1 mi upstream from bridge on U.S. Highway 281, and at mile 9.9.

DRAINAGE AREA.--208 mi².

PERIOD OF RECORD.--October 1955 to September 1974.

REMARKS.--Flow regulated since 1963 by numerous floodwater-retarding structures.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1963-1974

14.4

Magnitude and probability of annual high flow based on period of record 1963-1974

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 413 | 1,120 | 1,900 | 3,380 | 4,910 | 6,890 |
| 3 | 232 | 594 | 995 | 1,750 | 2,560 | 3,610 |
| 7 | 129 | 314 | 522 | 931 | 1,380 | 1,990 |
| 10 | 101 | 239 | 392 | 690 | 1,010 | 1,450 |
| 30 | 47.2 | 101 | 157 | 257 | 359 | 491 |
| 60 | 31.0 | 63.0 | 93.5 | 145 | 195 | 256 |

Magnitude and probability of annual instantaneous peak flow based on 12 years of record, 1963-1974

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 1,480 | 3,520 | 5,730 | 9,980 | 14,400 | 20,300 | 42,100 |

station skew = 0.385

Duration table of daily mean flow for period of record 1963-1974

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 172 | 84.6 | 41.9 | 25.8 | 18.6 | 14.4 | 9.61 | 7.12 | 5.14 | 3.14 | 1.70 | 0.83 | 0.41 | 0.21 | 0.08 | 0.04 |

| Magnitude and probability of annual low flow based on period of record 1964-1974 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.09 | 0.00 | 0.00 | 0.00 |
| 60 | 0.50 | 0.05 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1963-1974 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.01 | 0.12 | 0.00 | 0.00 |
| 3 | 1.25 | 0.21 | 0.00 | 0.00 |
| 7 | 2.21 | 0.41 | 0.05 | 0.00 |
| 10 | 2.66 | 0.47 | 0.14 | 0.05 |
| 30 | 8.30 | 2.68 | 1.23 | 0.59 |
| 60 | 18.9 | 5.90 | 2.86 | 1.47 |

| Magnitude and probability of annual low flow based on period of record 1963-1973 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.09 | 0.00 | 0.00 | 0.00 |
| 60 | 0.56 | 0.05 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1963-1974 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.53 | 0.06 | 0.00 | 0.00 |
| 3 | 0.60 | 0.07 | 0.00 | 0.00 |
| 7 | 1.16 | 0.36 | 0.19 | 0.12 |
| 10 | 1.74 | 0.61 | 0.36 | 0.22 |
| 30 | 3.22 | 1.61 | 1.15 | 0.88 |
| 60 | 5.01 | 2.98 | 2.34 | 1.94 |

RED RIVER BASIN

07327490 LITTLE WASHITA RIVER NEAR NINNEKAH, OK

LOCATION.--Lat 34°56'41", long 97°57'08", in SE 1/4 SE 1/4 sec.32, T.6 N., R.7 W., Grady County, Hydrologic Unit 11130302, at left bank on downstream side of bridge on U.S. Highway 81, 1.0 mi upstream from Rock Creek, 1.5 mi west of Ninnekah, 5.5 mi south of Chickasha, and at mile 8.4.

DRAINAGE AREA.--208 mi².

PERIOD OF RECORD.--October 1963 to December 1985.

REMARKS.--Small diversions above station for irrigation. Statistical analyses include streamflow record from nearby station Little Washita River at Ninnekah, OK (07327500), October 1951 to September 1963. Flow regulated since 1974 by numerous floodwater-retarding structures.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1952-1973

33.6

Magnitude and probability of annual high flow based on period of record 1952-1973

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,090 | 2,450 | 3,790 | 6,080 | 8,300 | 11,000 |
| 3 | 605 | 1,290 | 1,890 | 2,800 | 3,580 | 4,440 |
| 7 | 302 | 633 | 931 | 1,400 | 1,820 | 2,310 |
| 10 | 225 | 483 | 728 | 1,140 | 1,530 | 1,990 |
| 30 | 104 | 214 | 317 | 489 | 653 | 851 |
| 60 | 68.8 | 138 | 204 | 316 | 424 | 557 |

Magnitude and probability of annual instantaneous peak flow based on 27 historic years of record, 1947-1973

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 3,320 | 7,510 | 11,900 | 20,200 | 28,700 | 39,900 | 80,300 |

Oklahoma weighted skew = 0.411

Duration table of daily mean flow for period of record 1952-1973

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 429 | 220 | 84.0 | 49.1 | 36.8 | 30.3 | 21.7 | 16.9 | 13.4 | 10.2 | 7.47 | 4.60 | 0.96 | 0.48 | 0.19 | 0.10 |

| Magnitude and probability of annual low flow based on period of record 1953-1973 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.76 | 0.07 | 0.00 | 0.00 |
| 60 | 2.92 | 0.52 | 0.13 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1952-1973 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 10.0 | 3.21 | 1.32 | 0.54 |
| 3 | 10.5 | 3.83 | 1.79 | 0.84 |
| 7 | 11.4 | 5.32 | 3.23 | 2.02 |
| 10 | 12.3 | 6.43 | 4.32 | 3.01 |
| 30 | 23.0 | 11.8 | 8.11 | 5.85 |
| 60 | 47.2 | 20.6 | 13.1 | 8.93 |

| Magnitude and probability of annual low flow based on period of record 1952-1972 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.02 | 0.00 | 0.00 | 0.00 |
| 30 | 0.90 | 0.08 | 0.00 | 0.00 |
| 60 | 3.22 | 0.55 | 0.15 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1952-1973 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.76 | 2.06 | 1.34 | 0.95 |
| 3 | 5.55 | 2.42 | 1.57 | 1.10 |
| 7 | 6.85 | 3.47 | 2.47 | 1.88 |
| 10 | 7.40 | 3.88 | 2.81 | 2.18 |
| 30 | 10.0 | 5.62 | 4.17 | 3.26 |
| 60 | 11.6 | 7.22 | 5.87 | 5.05 |

RED RIVER BASIN

07327490 LITTLE WASHITA RIVER NEAR NINNEKAH, OK—Continued

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1974-1985

46.3

Magnitude and probability of annual high flow based on period of record 1974-1985

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,210 | 2,600 | 3,920 | 6,140 | 8,240 | 10,800 |
| 3 | 615 | 1,320 | 2,000 | 3,190 | 4,340 | 5,770 |
| 7 | 344 | 744 | 1,130 | 1,790 | 2,420 | 3,200 |
| 10 | 288 | 607 | 899 | 1,370 | 1,800 | 2,300 |
| 30 | 158 | 293 | 400 | 550 | 671 | 800 |
| 60 | 112 | 189 | 248 | 329 | 295 | 465 |

Magnitude and probability of annual instantaneous peak flow based on 12 years of record, 1974-1985

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 2,900 | 4,750 | 6,200 | 8,310 | 10,100 | 12,000 | 17,300 |

station skew = 0.174

Duration table of daily mean flow for period of record 1974-1985

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 579 | 344 | 130 | 66.0 | 51.0 | 43.8 | 34.4 | 28.0 | 22.0 | 17.6 | 13.5 | 9.28 | 5.16 | 3.11 | 1.27 | 0.71 |

| Magnitude and probability of annual low flow based on period of record 1975-1985 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.30 | 0.29 | 0.06 | 0.00 |
| 3 | 1.54 | 0.41 | 0.20 | 0.11 |
| 7 | 2.07 | 0.72 | 0.42 | 0.27 |
| 10 | 2.30 | 0.92 | 0.59 | 0.41 |
| 30 | 4.38 | 1.94 | 1.26 | 0.87 |
| 60 | 6.88 | 3.02 | 1.87 | 1.23 |

| Magnitude and probability of annual low flow based on period of record 1974-1985 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 16.0 | 11.0 | 9.26 | 8.11 |
| 3 | 16.3 | 11.3 | 9.55 | 8.41 |
| 7 | 17.4 | 12.4 | 10.7 | 9.56 |
| 10 | 18.5 | 13.2 | 11.3 | 10.2 |
| 30 | 27.6 | 18.6 | 15.7 | 13.9 |
| 60 | 69.7 | 45.1 | 35.5 | 28.9 |

| Magnitude and probability of annual low flow based on period of record 1974-1985 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.65 | 0.33 | 0.08 | 0.00 |
| 3 | 1.90 | 0.47 | 0.22 | 0.12 |
| 7 | 2.48 | 0.81 | 0.45 | 0.27 |
| 10 | 2.73 | 1.02 | 0.62 | 0.41 |
| 30 | 4.95 | 2.09 | 1.32 | 0.90 |
| 60 | 8.38 | 3.42 | 2.02 | 1.28 |

| Magnitude and probability of annual low flow based on period of record 1974-1985 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 11.1 | 6.60 | 4.92 | 3.81 |
| 3 | 11.8 | 7.04 | 5.25 | 4.08 |
| 7 | 12.6 | 7.67 | 5.76 | 4.49 |
| 10 | 13.5 | 8.25 | 6.16 | 4.75 |
| 30 | 18.2 | 11.2 | 8.33 | 6.37 |
| 60 | 21.1 | 13.4 | 10.5 | 8.49 |

RED RIVER BASIN

07328000 WASHITA RIVER NEAR TABLER, OK

LOCATION.--Lat 34°58'18", long 97°52'21", in SW 1/4 SW 1/4 sec.21, T.6 N., R.6 W., near center of span on downstream side of pier of abandoned highway bridge, 1 mi downstream from Little Washita River, 5 mi south of Tabler, 7.5 mi upstream from Winter Creek, and at mile 243.0.

DRAINAGE AREA.--4,706 mi².

PERIOD OF RECORD.--April 1940 to September 1952.

REMARKS.--Record from October 1939 to April 1940 estimated on basis of weather records and records for adjacent basin. Low flow regulated by powerplant at Chickasaw, 8 mi above station. Flow slightly regulated since March 1959 by Fort Cobb Reservoir (station 07325900). Flow regulated since February 1961, by Foss Reservoir (station 07324300), and by numerous floodwater-retarding structures.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1940-1952

670

Magnitude and probability of annual high flow based on period of record 1940-1952

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 9,330 | 17,600 | 25,300 | 37,900 | 49,800 | 64,200 |
| 3 | 7,260 | 12,800 | 17,400 | 24,100 | 29,900 | 36,300 |
| 7 | 6,010 | 10,400 | 13,800 | 18,500 | 22,300 | 26,300 |
| 10 | 5,150 | 8,850 | 11,600 | 15,200 | 18,100 | 21,000 |
| 30 | 2,790 | 4,990 | 6,610 | 8,780 | 10,500 | 12,200 |
| 60 | 1,840 | 3,180 | 4,150 | 5,420 | 6,390 | 7,370 |

Magnitude and probability of annual instantaneous peak flow based on 37 years of record, 1921-1957

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 11,800 | 22,900 | 32,500 | 47,700 | 61,300 | 77,000 | 123,000 |

Water Resources Council weighted skew = 0.119

Duration table of daily mean flow for period of record 1940-1952

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 7,280 | 5,490 | 2,960 | 1,370 | 909 | 642 | 436 | 325 | 252 | 210 | 169 | 126 | 76.9 | 49.1 | 35.1 | 25.3 |

| Magnitude and probability of annual low flow based on period of record 1941-1952 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 55.5 | 36.7 | 29.5 | 25.0 |
| 3 | 69.8 | 43.2 | 33.3 | 26.7 |
| 7 | 84.3 | 51.3 | 39.2 | 30.8 |
| 10 | 89.9 | 53.9 | 40.9 | 31.4 |
| 30 | 123 | 70.0 | 51.2 | 39.2 |
| 60 | 159 | 89.4 | 64.6 | 48.7 |

| Magnitude and probability of annual low flow based on period of record 1940-1952 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 143 | 82.0 | 58.8 | 43.7 |
| 3 | 177 | 104 | 72.7 | 51.7 |
| 7 | 199 | 124 | 93.2 | 72.3 |
| 10 | 211 | 131 | 101 | 80.3 |
| 30 | 425 | 256 | 201 | 167 |
| 60 | 1,150 | 596 | 420 | 313 |

| Magnitude and probability of annual low flow based on period of record 1940-1951 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 59.0 | 36.7 | 29.5 | 25.0 |
| 3 | 74.9 | 43.8 | 33.3 | 26.7 |
| 7 | 90.9 | 52.6 | 39.2 | 30.8 |
| 10 | 99.8 | 55.9 | 40.9 | 31.4 |
| 30 | 130 | 72.0 | 52.1 | 39.7 |
| 60 | 192 | 104 | 75.1 | 57.2 |

| Magnitude and probability of annual low flow based on period of record 1940-1952 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 87.7 | 47.6 | 34.8 | 26.9 |
| 3 | 109 | 59.7 | 43.5 | 33.3 |
| 7 | 135 | 70.7 | 48.6 | 35.0 |
| 10 | 142 | 74.9 | 51.5 | 37.0 |
| 30 | 168 | 91.9 | 63.1 | 44.7 |
| 60 | 191 | 108 | 75.5 | 54.4 |

RED RIVER BASIN

07328070 WINTER CREEK NEAR ALEX, OK

LOCATION.--Lat 34°59'35", long 97°45'40", in NE ¼ sec.18, T.6 N., R.5 W., Grady County, Hydrologic Unit 11130303, at left bank 1,000 ft downstream from county road bridge, 0.7 mi downstream from East Winter Creek, 3.2 mi upstream from mouth, and 5.5 mi north of Alex.

DRAINAGE AREA.--33 mi².

PERIOD OF RECORD.--October 1964 to May 1987.

REMARKS.--Flow regulated since 1967 by 16 floodwater-retarding structures, combined capacity, 1,050 acre-ft. Minor diversions for irrigation upstream from station.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1967-1986

11.3

Magnitude and probability of annual high flow based on period of record 1967-1986

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 231 | 556 | 948 | 1,780 | 2,760 | 4,190 |
| 3 | 150 | 336 | 544 | 951 | 1,400 | 2,020 |
| 7 | 90.7 | 195 | 306 | 515 | 737 | 1,030 |
| 10 | 73.0 | 157 | 242 | 398 | 557 | 763 |
| 30 | 37.2 | 77.3 | 116 | 181 | 244 | 321 |
| 60 | 24.6 | 48.6 | 70.5 | 106 | 140 | 179 |

Magnitude and probability of annual instantaneous peak flow based on 21 years of record, 1967-1987

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 1,210 | 2,970 | 4,580 | 7,060 | 9,200 | 11,600 | 17,800 |

station skew = - 0.379

Duration table of daily mean flow for period of record 1967-1986

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 128 | 78.0 | 37.3 | 20.1 | 14.4 | 11.3 | 8.26 | 6.13 | 4.32 | 3.03 | 2.27 | 1.68 | 0.88 | 0.44 | 0.18 | 0.09 |

| Magnitude and probability of annual low flow based on period of record 1968-1987 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.40 | 0.00 | 0.00 | 0.00 |
| 3 | 0.42 | 0.05 | 0.00 | 0.00 |
| 7 | 0.48 | 0.07 | 0.00 | 0.00 |
| 10 | 0.54 | 0.08 | 0.00 | 0.00 |
| 30 | 0.93 | 0.23 | 0.08 | 0.00 |
| 60 | 1.48 | 0.46 | 0.22 | 0.11 |

| Magnitude and probability of annual low flow based on period of record 1967-1986 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.74 | 1.29 | 0.85 | 0.59 |
| 3 | 2.87 | 1.38 | 0.91 | 0.64 |
| 7 | 3.08 | 1.58 | 1.11 | 0.82 |
| 10 | 3.76 | 2.01 | 1.41 | 1.05 |
| 30 | 6.43 | 3.54 | 2.50 | 1.84 |
| 60 | 14.4 | 6.60 | 4.08 | 2.63 |

| Magnitude and probability of annual low flow based on period of record 1967-1986 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.41 | 0.00 | 0.00 | 0.00 |
| 3 | 0.42 | 0.05 | 0.00 | 0.00 |
| 7 | 0.48 | 0.07 | 0.00 | 0.00 |
| 10 | 0.54 | 0.08 | 0.00 | 0.00 |
| 30 | 0.93 | 0.23 | 0.08 | 0.00 |
| 60 | 1.52 | 0.46 | 0.22 | 0.11 |

| Magnitude and probability of annual low flow based on period of record 1967-1987 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.52 | 0.98 | 0.55 | 0.32 |
| 3 | 2.58 | 1.26 | 0.86 | 0.62 |
| 7 | 2.78 | 1.49 | 1.09 | 0.84 |
| 10 | 2.83 | 1.55 | 1.14 | 0.89 |
| 30 | 3.82 | 2.08 | 1.53 | 1.18 |
| 60 | 4.48 | 2.36 | 1.70 | 1.30 |

RED RIVER BASIN

07328100 WASHITA RIVER AT ALEX, OK

LOCATION.--Lat 34°55'33", long 97°46'25", in NW ¼ sec.7, T.5 N., R.5 W., Grady County, Hydrologic Unit 11130303, near right bank on downstream side of county road bridge, 1.0 mi north of Alex, 3.8 mi downstream from Winter Creek, and at mile 226.5.

DRAINAGE AREA.--4,787 mi².

PERIOD OF RECORD.--October 1964 to September 1986, October 1988 to current year.

REMARKS.--Some regulation since March 1959 by Fort Cobb Reservoir (station 07325900), since February 1961 by Foss Reservoir (07324300), and by numerous floodwater-retarding structures.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1965-1999

685

Magnitude and probability of annual high flow based on period of record 1965-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 6,340 | 10,800 | 14,200 | 18,800 | 22,500 | 26,300 |
| 3 | 5,270 | 9,160 | 12,100 | 16,200 | 19,600 | 23,100 |
| 7 | 4,200 | 7,640 | 10,300 | 14,200 | 17,300 | 20,700 |
| 10 | 3,600 | 6,610 | 8,980 | 12,400 | 15,100 | 18,100 |
| 30 | 2,100 | 3,980 | 5,440 | 7,470 | 9,080 | 10,800 |
| 60 | 1,470 | 2,760 | 3,750 | 5,130 | 6,230 | 7,380 |

Magnitude and probability of annual instantaneous peak flow based on 33 years of record, 1965-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 7,710 | 12,900 | 16,700 | 21,600 | 25,400 | 29,200 | 38,400 |

station skew = - 0.274

Duration table of daily mean flow for period of record 1965-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 5,970 | 4,360 | 2,630 | 1,630 | 1,180 | 911 | 580 | 412 | 308 | 227 | 163 | 120 | 75.3 | 51.4 | 24.4 | 9.92 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 75.8 | 9.20 | 1.00 | 0.00 |
| 3 | 80.9 | 10.6 | 1.24 | 0.00 |
| 7 | 84.0 | 10.7 | 2.15 | 0.43 |
| 10 | 90.0 | 14.0 | 3.82 | 1.06 |
| 30 | 110 | 33.9 | 16.0 | 8.02 |
| 60 | 145 | 61.2 | 37.3 | 24.2 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 234 | 83.5 | 40.3 | 19.8 |
| 3 | 244 | 87.8 | 42.8 | 21.3 |
| 7 | 257 | 93.7 | 48.3 | 26.0 |
| 10 | 266 | 101 | 55.0 | 31.5 |
| 30 | 395 | 162 | 97.5 | 62.7 |
| 60 | 861 | 349 | 194 | 113 |

| Magnitude and probability of annual low flow based on period of record 1965-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 79.0 | 9.20 | 1.00 | 0.00 |
| 3 | 84.1 | 10.6 | 1.24 | 0.00 |
| 7 | 87.8 | 10.7 | 2.15 | 0.43 |
| 10 | 92.0 | 15.1 | 3.82 | 1.06 |
| 30 | 118 | 34.5 | 16.5 | 8.47 |
| 60 | 163 | 64.4 | 39.5 | 26.4 |

| Magnitude and probability of annual low flow based on period of record 1965-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 155 | 83.4 | 60.3 | 46.2 |
| 3 | 160 | 86.3 | 62.5 | 47.9 |
| 7 | 170 | 91.4 | 65.8 | 50.0 |
| 10 | 174 | 93.6 | 67.2 | 51.0 |
| 30 | 207 | 108 | 78.0 | 59.8 |
| 60 | 240 | 124 | 89.7 | 69.0 |

RED RIVER BASIN

07328500 WASHITA RIVER NEAR PAULS VALLEY, OK

LOCATION.--Lat 34°45'17", long 97°15'04", in NE ¼, SE ¼ sec.1. T.3 N., R.1 W., Garvin County, Hydrologic Unit 11130303, on downstream right bank near end of bridge on U.S. Highway 77, 2.0 mi northwest of Pauls Valley, 6.0 mi downstream from Owl Creek, 7.0 mi upstream from Washington Creek, and at mile 146.5.

DRAINAGE AREA.--5,330 mi².

PERIOD OF RECORD.--May to December 1899 (gage heights only), October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as "at Pauls Valley, Indian Territory" in 1899.

REMARKS.--Some diversion for irrigation upstream from station. Some minor regulation since March 1959, by Fort Cobb Reservoir (station 07325900). Some regulation since February 1961, by Foss Reservoir (station 07324300); and by numerous floodwater-retarding structures.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1938-1960

828

Magnitude and probability of annual high flow based on period of record 1938-1960

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | 2 | | 5 | | 10 | | 25 | | 50 | | 100 | |
|---------------------------------|--------|--------|--------|--------|--------|--------|----|--|----|--|-----|--|
| | 50% | 20% | 10% | 4% | 2% | 1% | | | | | | |
| 1 | 12,700 | 19,600 | 23,900 | 29,100 | 32,600 | 36,000 | | | | | | |
| 3 | 9,780 | 15,100 | 18,500 | 22,700 | 25,700 | 28,600 | | | | | | |
| 7 | 6,990 | 10,700 | 13,200 | 16,500 | 19,000 | 21,500 | | | | | | |
| 10 | 5,870 | 9,320 | 11,900 | 15,400 | 18,300 | 21,300 | | | | | | |
| 30 | 3,100 | 5,380 | 7,240 | 10,000 | 12,400 | 15,000 | | | | | | |
| 60 | 2,120 | 3,670 | 4,920 | 6,740 | 8,390 | 9,990 | | | | | | |

Magnitude and probability of annual instantaneous peak flow based on 23 years of record, 1938-1960

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 | 5 | 10 | 25 | 50 | 100 | 500 |
|--------|--------|--------|--------|--------|--------|--------|
| 50% | 20% | 10% | 4% | 2% | 1% | 0.2% |
| 14,000 | 21,400 | 26,200 | 31,900 | 35,900 | 39,700 | 47,900 |

Water Resources Council weighted skew = - 0.458

Duration table of daily mean flow for period of record 1938-1960

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 9,350 | 6,970 | 3,670 | 1,830 | 1,170 | 856 | 554 | 399 | 298 | 233 | 174 | 127 | 77.7 | 46.8 | 18.4 | 8.15 |

| Magnitude and probability of annual low flow based on period of record 1939-1960 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 75.2 | 14.7 | 3.34 | 0.09 |
| 3 | 86.6 | 20.4 | 5.50 | 0.22 |
| 7 | 91.0 | 25.3 | 9.38 | 0.95 |
| 10 | 95.0 | 27.7 | 11.5 | 1.59 |
| 30 | 118 | 40.2 | 13.3 | 3.30 |
| 60 | 192 | 46.3 | 16.7 | 4.93 |

| Magnitude and probability of annual low flow based on period of record 1938-1960 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 185 | 96.8 | 66.8 | 48.3 |
| 3 | 207 | 112 | 78.8 | 57.9 |
| 7 | 226 | 124 | 88.9 | 66.5 |
| 10 | 250 | 133 | 94.9 | 71.2 |
| 30 | 467 | 243 | 179 | 141 |
| 60 | 1,340 | 664 | 452 | 325 |

| Magnitude and probability of annual low flow based on period of record 1938-1959 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 85.5 | 19.2 | 5.01 | 0.20 |
| 3 | 94.3 | 20.9 | 5.50 | 0.22 |
| 7 | 94.8 | 26.4 | 9.44 | 0.95 |
| 10 | 95.8 | 28.9 | 11.5 | 1.59 |
| 30 | 126 | 41.4 | 13.3 | 3.35 |
| 60 | 239 | 53.0 | 16.7 | 5.20 |

| Magnitude and probability of annual low flow based on period of record 1938-1960 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 131 | 42.1 | 18.3 | 8.01 |
| 3 | 125 | 52.0 | 30.7 | 19.2 |
| 7 | 141 | 60.0 | 36.0 | 22.8 |
| 10 | 144 | 62.0 | 37.5 | 24.0 |
| 30 | 172 | 85.6 | 56.6 | 39.3 |
| 60 | 189 | 99.5 | 70.7 | 53.2 |

RED RIVER BASIN
07328500 WASHITA RIVER NEAR PAULS VALLEY, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1962-1999

963

| Magnitude and probability of annual high flow based on period of record 1962-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 9,290 | 16,600 | 22,400 | 30,900 | 38,000 | 44,900 |
| 3 | 7,420 | 13,700 | 19,100 | 27,400 | 34,700 | 43,000 |
| 7 | 5,580 | 10,900 | 15,600 | 23,100 | 29,900 | 37,900 |
| 10 | 4,780 | 9,430 | 13,500 | 20,000 | 25,800 | 32,600 |
| 30 | 2,810 | 5,590 | 7,890 | 11,300 | 14,100 | 17,200 |
| 60 | 1,960 | 3,890 | 5,450 | 7,700 | 9,550 | 11,500 |

Magnitude and probability of annual instantaneous peak flow based on 38 years of record, 1962-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 11,400 | 18,800 | 24,400 | 32,200 | 38,400 | 45,000 | 61,800 |

station skew = - 0.042

Duration table of daily mean flow for period of record 1962-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 8,650 | 6,310 | 3,680 | 2,250 | 1,630 | 1,240 | 779 | 556 | 421 | 316 | 222 | 154 | 90.2 | 55.2 | 23.6 | 4.38 |

| Magnitude and probability of annual low flow based on period of record 1963-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 94.9 | 6.03 | 0.00 | 0.00 |
| 3 | 95.0 | 8.29 | 0.00 | 0.00 |
| 7 | 97.1 | 8.78 | 0.90 | 0.00 |
| 10 | 102 | 9.17 | 1.16 | 0.09 |
| 30 | 142 | 29.1 | 9.14 | 3.00 |
| 60 | 185 | 72.1 | 40.7 | 24.4 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 289 | 106 | 56.9 | 32.1 |
| 3 | 295 | 110 | 60.2 | 34.9 |
| 7 | 313 | 119 | 66.7 | 39.7 |
| 10 | 333 | 130 | 74.6 | 45.7 |
| 30 | 502 | 204 | 126 | 83.5 |
| 60 | 1,080 | 460 | 280 | 181 |

| Magnitude and probability of annual low flow based on period of record 1962-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 102 | 6.25 | 0.00 | 0.00 |
| 3 | 103 | 8.60 | 0.00 | 0.00 |
| 7 | 104 | 9.06 | 0.91 | 0.00 |
| 10 | 109 | 9.48 | 1.17 | 0.09 |
| 30 | 153 | 29.1 | 9.14 | 3.00 |
| 60 | 204 | 72.9 | 40.8 | 24.7 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 193 | 88.9 | 58.7 | 41.5 |
| 3 | 207 | 96.5 | 63.7 | 44.9 |
| 7 | 227 | 107 | 71.1 | 50.0 |
| 10 | 233 | 111 | 73.2 | 51.5 |
| 30 | 275 | 137 | 95.6 | 71.2 |
| 60 | 325 | 161 | 112 | 83.8 |

RED RIVER BASIN

07329000 RUSH CREEK AT PURDY, OK

LOCATION.--Lat 34°41'46", long 97°35'55", in SE 1/4, SE 1/4 sec.27. T.3 N., R.4 W., on left downstream bank near end of bridge on State Highway 76, 1.6 mi southwest of Purdy, 9.7 mi south of Lindsay, and at mile 27.3.

DRAINAGE AREA.--145 mi².

PERIOD OF RECORD.--October 1939 to December 1953, February 1982 to September 1993. Prior to May 1940, monthly discharges only published in WSP 1311.

REMARKS.--Flow partially regulated since 1960 by numerous floodwater-retarding structures.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1940-1953

71.9

Magnitude and probability of annual high flow based on period of record 1940-1953

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,330 | 6,310 | 8,740 | 12,300 | 15,300 | 18,500 |
| 3 | 1,640 | 3,280 | 4,660 | 6,740 | 8,510 | 10,500 |
| 7 | 860 | 1,680 | 2,370 | 3,370 | 4,220 | 5,150 |
| 10 | 665 | 1,300 | 1,830 | 2,580 | 3,210 | 3,890 |
| 30 | 301 | 602 | 864 | 1,270 | 1,620 | 2,020 |
| 60 | 193 | 358 | 491 | 683 | 843 | 1,020 |

Magnitude and probability of annual instantaneous peak flow based on 15 years of record, 1940-1954

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 10,000 | 16,100 | 21,100 | 28,500 | 35,000 | 42,400 | 63,500 |

Oklahoma weighted skew = 0.400

Duration table of daily mean flow for period of record 1940-1953

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 1,580 | 594 | 149 | 62.0 | 44.3 | 35.3 | 25.5 | 20.0 | 15.7 | 11.8 | 8.31 | 5.24 | 1.94 | 0.61 | 0.24 | 0.12 |

| Magnitude and probability of annual low flow based on period of record 1941-1953 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.71 | 0.77 | 0.20 | 0.00 |
| 3 | 2.97 | 0.82 | 0.20 | 0.00 |
| 7 | 3.76 | 0.92 | 0.20 | 0.00 |
| 10 | 4.16 | 0.99 | 0.20 | 0.00 |
| 30 | 6.64 | 1.99 | 0.57 | 0.00 |
| 60 | 9.26 | 2.16 | 0.81 | 0.32 |

| Magnitude and probability of annual low flow based on period of record 1940-1953 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 10.8 | 4.90 | 2.30 | 0.00 |
| 3 | 13.4 | 5.05 | 2.35 | 0.54 |
| 7 | 13.9 | 5.23 | 2.62 | 1.34 |
| 10 | 14.9 | 5.68 | 2.83 | 1.43 |
| 30 | 37.7 | 11.4 | 4.66 | 1.92 |
| 60 | 111 | 46.0 | 28.4 | 18.9 |

| Magnitude and probability of annual low flow based on period of record 1940-1952 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.02 | 0.82 | 0.20 | 0.00 |
| 3 | 3.39 | 0.84 | 0.20 | 0.00 |
| 7 | 3.90 | 0.92 | 0.20 | 0.00 |
| 10 | 4.28 | 0.99 | 0.20 | 0.00 |
| 30 | 6.64 | 1.99 | 0.58 | 0.00 |
| 60 | 9.67 | 2.16 | 0.81 | 0.32 |

| Magnitude and probability of annual low flow based on period of record 1940-1953 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.96 | 2.34 | 0.00 | 0.00 |
| 3 | 6.52 | 2.56 | 0.00 | 0.00 |
| 7 | 10.0 | 3.25 | 0.04 | 0.00 |
| 10 | 10.3 | 3.80 | 0.54 | 0.00 |
| 30 | 12.2 | 6.71 | 4.25 | 0.00 |
| 60 | 14.6 | 8.19 | 5.16 | 0.00 |

RED RIVER BASIN
 07329000 RUSH CREEK AT PURDY, OK—Continued
 REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1983-1993

91.3

| Magnitude and probability of annual high flow based on period of record 1983-1993 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,830 | 3,730 | 5,610 | 8,920 | 12,200 | 16,400 |
| 3 | 1,230 | 2,390 | 3,420 | 5,050 | 6,540 | 8,270 |
| 7 | 763 | 1,480 | 2,100 | 3,060 | 3,920 | 4,900 |
| 10 | 619 | 1,170 | 1,660 | 2,450 | 3,160 | 4,000 |
| 30 | 319 | 596 | 819 | 1,150 | 1,420 | 1,720 |
| 60 | 217 | 384 | 509 | 679 | 811 | 947 |

Magnitude and probability of annual instantaneous peak flow based on 12 years of record, 1982-1993

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 3,570 | 6,980 | 10,000 | 14,800 | 19,200 | 24,300 | 39,600 |

station skew = 0.145

Duration table of daily mean flow for period of record 1983-1993

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| 1,140 | 781 | 350 | 174 | 120 | 90.4 | 61.2 | 40.2 | 28.1 | 21.6 | 16.7 | 11.8 | 6.37 | 3.03 | 1.14 | 0.55 |

| Magnitude and probability of annual low flow based on period of record 1983-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.78 | 1.08 | 0.20 | 0.00 |
| 3 | 4.20 | 1.37 | 0.31 | 0.00 |
| 7 | 4.49 | 1.65 | 0.47 | 0.00 |
| 10 | 6.00 | 1.70 | 0.52 | 0.05 |
| 30 | 7.70 | 2.08 | 0.74 | 0.26 |
| 60 | 10.6 | 2.99 | 1.16 | 0.45 |

| Magnitude and probability of annual low flow based on period of record 1982-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 18.3 | 8.93 | 6.25 | 4.70 |
| 3 | 19.3 | 9.53 | 6.70 | 5.05 |
| 7 | 22.0 | 11.0 | 7.80 | 5.93 |
| 10 | 23.1 | 11.1 | 8.20 | 6.20 |
| 30 | 37.9 | 15.6 | 10.4 | 7.63 |
| 60 | 117 | 49.5 | 30.6 | 20.3 |

| Magnitude and probability of annual low flow based on period of record 1982-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.78 | 1.08 | 0.20 | 0.00 |
| 3 | 4.20 | 1.37 | 0.31 | 0.00 |
| 7 | 4.49 | 1.65 | 0.47 | 0.00 |
| 10 | 6.00 | 1.70 | 0.52 | 0.05 |
| 30 | 7.70 | 2.08 | 0.74 | 0.26 |
| 60 | 11.3 | 3.13 | 1.19 | 0.45 |

| Magnitude and probability of annual low flow based on period of record 1983-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 13.3 | 6.18 | 4.06 | 2.85 |
| 3 | 14.1 | 6.92 | 4.74 | 3.45 |
| 7 | 16.3 | 8.28 | 5.72 | 4.19 |
| 10 | 17.5 | 9.18 | 6.44 | 4.76 |
| 30 | 23.3 | 13.0 | 9.82 | 7.92 |
| 60 | 29.6 | 17.1 | 13.2 | 10.7 |

RED RIVER BASIN

07329500 RUSH CREEK NEAR MAYSVILLE, OK

LOCATION.--Lat 34°44'36", long 97°24'18", in SW 1/4, SW 1/4 sec.10. T.3 N., R.2 W., Garvin County, near right bank on downstream side of pier of bridge on State Highway 74, 2.8 mi downstream from Panther Creek, 5.3 mi south of Maysville, and at mile 14.2.

DRAINAGE AREA.--206 mi².

PERIOD OF RECORD.--December 1953 September 1976, crest-stage partial record site October 1977 to September 1985.

REMARKS.--Flow regulated since 1965 by numerous floodwater-retarding structures.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1955-1964

62.8

Magnitude and probability of annual high flow based on period of record 1955-1964

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,060 | 6,300 | 9,130 | 13,500 | 17,400 | 21,800 |
| 3 | 1,430 | 2,890 | 4,370 | 7,030 | 9,750 | 13,300 |
| 7 | 683 | 1,380 | 2,070 | 3,320 | 4,600 | 6,240 |
| 10 | 516 | 1,090 | 1,730 | 2,960 | 4,320 | 6,180 |
| 30 | 218 | 481 | 793 | 1,450 | 2,230 | 3,370 |
| 60 | 136 | 306 | 510 | 942 | 1,460 | 2,220 |

Magnitude and probability of annual instantaneous peak flow based on 11 years of record, 1954-1964

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 9,260 | 17,700 | 25,500 | 38,400 | 50,800 | 65,800 | 114,000 |

Oklahoma weighted skew = 0.399

Duration table of daily mean flow for period of record 1955-1964

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 985 | 504 | 155 | 68.9 | 46.9 | 37.7 | 27.6 | 20.7 | 15.1 | 10.7 | 7.52 | 4.24 | 0.92 | 0.46 | 0.18 | 0.09 |

| Magnitude and probability of annual low flow based on period of record 1956-1964 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.12 | 0.00 | 0.00 | 0.00 |
| 3 | 1.77 | 0.00 | 0.00 | 0.00 |
| 7 | 1.85 | 0.00 | 0.00 | 0.00 |
| 10 | 1.89 | 0.00 | 0.00 | 0.00 |
| 30 | 2.38 | 0.05 | 0.00 | 0.00 |
| 60 | 7.31 | 0.72 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1955-1964 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 8.63 | 2.89 | 0.00 | 0.00 |
| 3 | 9.95 | 2.19 | 0.70 | 0.23 |
| 7 | 10.1 | 3.72 | 2.00 | 1.13 |
| 10 | 10.3 | 4.17 | 2.42 | 1.48 |
| 30 | 32.3 | 12.9 | 8.22 | 5.75 |
| 60 | 93.4 | 36.6 | 22.8 | 15.5 |

| Magnitude and probability of annual low flow based on period of record 1955-1963 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.12 | 0.00 | 0.00 | 0.00 |
| 3 | 1.77 | 0.00 | 0.00 | 0.00 |
| 7 | 1.85 | 0.00 | 0.00 | 0.00 |
| 10 | 1.89 | 0.00 | 0.00 | 0.00 |
| 30 | 2.38 | 0.05 | 0.00 | 0.00 |
| 60 | 8.23 | 0.84 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1955-1964 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 5.73 | 0.91 | 0.00 | 0.00 |
| 3 | 5.61 | 1.26 | 0.49 | 0.21 |
| 7 | 7.05 | 1.85 | 0.81 | 0.38 |
| 10 | 7.44 | 2.03 | 0.91 | 0.44 |
| 30 | 9.83 | 3.67 | 2.06 | 1.23 |
| 60 | 14.0 | 6.60 | 4.28 | 2.93 |

RED RIVER BASIN
07329500 RUSH CREEK NEAR MAYSVILLE, OK—Continued
REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1965-1976 |
| 42.3 |

| Magnitude and probability of annual high flow based on period of record 1965-1976 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,480 | 3,110 | 4,460 | 6,420 | 8,020 | 9,730 |
| 3 | 814 | 1,600 | 2,210 | 3,030 | 3,670 | 4,410 |
| 7 | 434 | 860 | 1,200 | 1,670 | 2,040 | 2,440 |
| 10 | 326 | 646 | 901 | 1,260 | 1,550 | 1,860 |
| 30 | 144 | 295 | 425 | 623 | 795 | 988 |
| 60 | 91.6 | 183 | 264 | 390 | 504 | 636 |

| Magnitude and probability of annual instantaneous peak flow based on 18 years of record, 1965-1985 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 5,510 | 9,800 | 13,200 | 18,100 | 22,100 | 26,500 | 38,100 |

station skew = - 0.054

| Duration table of daily mean flow for period of record 1965-1976 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 674 | 356 | 134 | 69.5 | 47.2 | 36.0 | 24.7 | 17.6 | 12.2 | 7.70 | 4.61 | 1.77 | 0.62 | 0.31 | 0.12 | 0.06 |

| Magnitude and probability of annual low flow based on period of record 1966-1976 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.28 | 0.00 | 0.00 | 0.00 |
| 60 | 2.03 | 0.27 | 0.08 | 0.03 |

| Magnitude and probability of annual low flow based on period of record 1965-1976 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.24 | 0.00 | 0.00 | 0.00 |
| 3 | 4.47 | 0.24 | 0.00 | 0.00 |
| 7 | 6.04 | 1.28 | 0.50 | 0.22 |
| 10 | 7.04 | 1.91 | 0.90 | 0.46 |
| 30 | 22.3 | 9.43 | 5.62 | 3.53 |
| 60 | 53.1 | 22.7 | 13.9 | 9.00 |

| Magnitude and probability of annual low flow based on period of record 1965-1975 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.42 | 0.00 | 0.00 | 0.00 |
| 60 | 3.12 | 0.42 | 0.11 | 0.03 |

| Magnitude and probability of annual low flow based on period of record 1965-1976 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 4.25 | 0.63 | 0.06 | 0.00 |
| 3 | 5.02 | 0.72 | 0.06 | 0.00 |
| 7 | 5.54 | 1.51 | 0.39 | 0.00 |
| 10 | 5.94 | 1.64 | 0.43 | 0.00 |
| 30 | 7.25 | 2.14 | 1.00 | 0.51 |
| 60 | 10.5 | 3.46 | 1.72 | 0.90 |

RED RIVER BASIN

07329700 WILDHORSE CREEK NEAR HOOVER, OK

LOCATION.--Lat 34°32'29", long 97°14'49", on west line of SW 1/4 sec. 19, T.1 N., R.1 E., Garvin County, Hydrologic Unit 11130303, on downstream left bank at bridge on State Highway 19A, 1.0 mi north of Hoover, 1.8 mi downstream from Sandy Creek and at mile 7.9.

DRAINAGE AREA.--604 mi².

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1944, 1951-69, October 1969 to September 1993, July 1 to September 30, 2000.

REMARKS.--Flow regulated by Duncan, Clear Creek, Humphries, and Fuqua Lakes, combined surface-area, 3,340 acres, and capacity, 44.800 acre-ft, and numerous floodwater-retarding structures.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1970-1993

270

Magnitude and probability of annual high flow based on period of record 1970-1993

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
|---------------------------------|----------|----------|-----------|----------|----------|-----------|
| 1 | 6,780 | 12,000 | 16,000 | 21,800 | 26,500 | 31,600 |
| 3 | 4,160 | 7,460 | 10,200 | 14,200 | 17,700 | 21,600 |
| 7 | 2,580 | 4,530 | 6,000 | 7,990 | 9,560 | 11,200 |
| 10 | 2,110 | 3,810 | 5,110 | 6,920 | 8,360 | 9,860 |
| 30 | 1,050 | 2,030 | 2,820 | 3,960 | 4,900 | 5,920 |
| 60 | 660 | 1,300 | 1,810 | 2,540 | 3,120 | 3,740 |

Magnitude and probability of annual instantaneous peak flow based on 24 years of record, 1970-1993

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 11,600 | 19,800 | 25,800 | 33,900 | 40,200 | 46,700 | 62,600 |

station skew = - 0.226

Duration table of daily mean flow for period of record 1970-1993

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 3,970 | 2,470 | 1,180 | 578 | 351 | 240 | 129 | 74.8 | 47.3 | 30.8 | 19.0 | 11.1 | 4.12 | 1.66 | 0.63 | 0.31 |

| Magnitude and probability of annual low flow based on period of record 1971-1993 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.03 | 0.09 | 0.00 | 0.00 |
| 3 | 3.15 | 0.23 | 0.00 | 0.00 |
| 7 | 3.25 | 0.27 | 0.03 | 0.00 |
| 10 | 3.32 | 0.34 | 0.06 | 0.00 |
| 30 | 5.81 | 1.32 | 0.53 | 0.24 |
| 60 | 10.6 | 2.81 | 1.33 | 0.69 |

| Magnitude and probability of annual low flow based on period of record 1970-1993 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 30.3 | 9.30 | 4.74 | 2.64 |
| 3 | 32.2 | 10.0 | 5.22 | 2.97 |
| 7 | 35.2 | 11.6 | 6.36 | 3.80 |
| 10 | 38.5 | 12.9 | 7.17 | 4.39 |
| 30 | 90.2 | 30.4 | 18.0 | 11.8 |
| 60 | 329 | 139 | 88.9 | 61.6 |

| Magnitude and probability of annual low flow based on period of record 1970-1992 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.03 | 0.19 | 0.00 | 0.00 |
| 3 | 3.31 | 0.27 | 0.00 | 0.00 |
| 7 | 3.42 | 0.33 | 0.03 | 0.00 |
| 10 | 3.71 | 0.39 | 0.06 | 0.00 |
| 30 | 5.99 | 1.36 | 0.54 | 0.24 |
| 60 | 12.4 | 3.26 | 1.52 | 0.78 |

| Magnitude and probability of annual low flow based on period of record 1970-1993 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 15.6 | 3.80 | 1.52 | 0.36 |
| 3 | 17.5 | 4.10 | 1.29 | 0.51 |
| 7 | 17.7 | 4.78 | 2.38 | 1.32 |
| 10 | 17.8 | 5.12 | 2.60 | 1.47 |
| 30 | 26.5 | 7.62 | 3.86 | 2.18 |
| 60 | 40.6 | 11.8 | 6.26 | 3.73 |

RED RIVER BASIN

07329852 ROCK CREEK AT SULPHUR, OK

LOCATION.--Lat 34°29'43", long 96°59'18", in SE ¼ SE ¼ sec.4, T.1 S., R.3 E., Murray County, Hydrologic Unit 11130303, 80 ft west of campsite 69 in Rock Creek Campground, in the Chickasaw National Park at Sulphur, OK, and at mile 11.0.

DRAINAGE AREA.--44.1 mi².

PERIOD OF RECORD.--Oct. 1, 1989 to current year.

REMARKS.--Flow regulated by numerous floodwater-retarding structures.

REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1990-1999 |
| 65.6 |

| Magnitude and probability of annual high flow based on period of record 1990-1999 | | | | | | |
|--|---|------------------|-------------------|------------------|------------------|-------------------|
| Period (consecutive days) | Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,410 | 2,140 | 2,730 | 3,580 | 4,300 | 5,120 |
| 3 | 828 | 1,270 | 1,620 | 2,120 | 2,540 | 3,010 |
| 7 | 549 | 813 | 989 | 1,210 | 1,370 | 1,530 |
| 10 | 422 | 679 | 878 | 1,160 | 1,400 | 1,660 |
| 30 | 194 | 324 | 448 | 665 | 880 | 1,150 |
| 60 | 149 | 243 | 318 | 430 | 526 | 633 |

| Magnitude and probability of annual instantaneous peak flow based on 10 years of record, 1990-1999 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 5,100 | 7,100 | 8,540 | 10,500 | 12,100 | 13,700 | 18,000 |

station skew = 0.354

| Duration table of daily mean flow for period of record 1990-1999 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 848 | 523 | 274 | 114 | 75.4 | 58.1 | 40.6 | 31.0 | 24.2 | 19.4 | 15.4 | 12.2 | 8.79 | 7.68 | 6.71 | 5.68 |

| Magnitude and probability of annual low flow based on period of record 1991-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 8.49 | 5.89 | 4.78 | 3.99 |
| 3 | 8.60 | 6.02 | 4.92 | 4.14 |
| 7 | 8.79 | 6.14 | 5.03 | 4.20 |
| 10 | 9.07 | 6.37 | 5.22 | 4.38 |
| 30 | 10.4 | 7.25 | 5.88 | 4.88 |
| 60 | 12.3 | 8.70 | 7.25 | 6.23 |

| Magnitude and probability of annual low flow based on period of record 1990-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 21.1 | 14.1 | 11.4 | 9.43 |
| 3 | 22.1 | 14.7 | 11.7 | 9.65 |
| 7 | 23.9 | 16.0 | 12.9 | 10.8 |
| 10 | 26.0 | 16.8 | 13.3 | 10.9 |
| 30 | 45.6 | 23.3 | 17.6 | 14.5 |
| 60 | 73.8 | 42.3 | 33.5 | 28.4 |

| Magnitude and probability of annual low flow based on period of record 1990-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 9.09 | 6.13 | 4.85 | 3.94 |
| 3 | 9.21 | 6.26 | 4.99 | 4.08 |
| 7 | 9.55 | 6.48 | 5.15 | 4.20 |
| 10 | 9.91 | 6.76 | 5.37 | 4.38 |
| 30 | 11.2 | 7.73 | 6.10 | 4.91 |
| 60 | 13.9 | 9.77 | 7.88 | 6.50 |

| Magnitude and probability of annual low flow based on period of record 1990-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 10.3 | 6.79 | 5.60 | 4.83 |
| 3 | 10.5 | 6.99 | 5.81 | 5.06 |
| 7 | 11.6 | 7.71 | 6.39 | 5.55 |
| 10 | 12.2 | 8.28 | 6.97 | 6.12 |
| 30 | 15.8 | 9.89 | 7.78 | 6.39 |
| 60 | 23.2 | 13.5 | 10.2 | 8.03 |

RED RIVER BASIN

07330500 CADDO CREEK NEAR ARDMORE, OK

LOCATION.--Lat 34°14'33", long 97°06'28", in NW ¼ NW ¼ sec.4, T.4 S., R.2 E., Carter County, Hydrologic Unit 11130303, on left bank on downstream side of bridge on Refinery Road, 3 mi north of Ardmore, 2 mi east of State Highway 77, and at mile 18.0.
DRAINAGE AREA.--298 mi².

PERIOD OF RECORD.--June 1936 to September 1950, March 1996 to December 1997. Prior to September 1950, monthly discharge only for some periods, published in WSP 1681.

REMARKS.--Flow regulated since 1970 by numerous floodwater-retarding structures.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1937-1950

154

| Magnitude and probability of annual high flow based on period of record 1937-1950 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 5,470 | 11,200 | 14,900 | 18,800 | 21,200 | 23,300 |
| 3 | 2,900 | 6,530 | 4,450 | 13,500 | 16,600 | 14,700 |
| 7 | 1,640 | 3,560 | 4,970 | 6,750 | 8,010 | 9,200 |
| 10 | 1,250 | 2,650 | 3,620 | 4,770 | 5,540 | 6,230 |
| 30 | 590 | 1,190 | 1,600 | 2,090 | 2,410 | 2,700 |
| 60 | 416 | 822 | 1,060 | 1,320 | 1,460 | 1,580 |

| Magnitude and probability of annual instantaneous peak flow based on 14 years of record, 1937-1950 | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 8,150 | 15,500 | 21,900 | 32,100 | 41,200 | 51,900 | 83,400 |

Oklahoma weighted skew = 0.178

| Duration table of daily mean flow for period of record 1937-1950 | | | | | | | | | | | | | | | |
|---|-------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 2,870 | 1,620 | 574 | 238 | 128 | 84.1 | 45.0 | 26.1 | 16.0 | 8.33 | 3.56 | 1.16 | 0.53 | 0.26 | 0.11 | 0.05 |

| Magnitude and probability of annual low flow based on period of record 1938-1950 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.22 | 0.00 | 0.00 | 0.00 |
| 60 | 1.32 | 0.11 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1937-1950 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 8.88 | 2.70 | 1.23 | 0.59 |
| 3 | 10.1 | 3.14 | 1.48 | 0.73 |
| 7 | 15.9 | 5.76 | 3.04 | 1.69 |
| 10 | 19.5 | 6.32 | 3.30 | 1.86 |
| 30 | 69.8 | 20.4 | 9.95 | 5.28 |
| 60 | 207 | 68.6 | 34.9 | 18.9 |

| Magnitude and probability of annual low flow based on period of record 1937-1949 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.22 | 0.00 | 0.00 | 0.00 |
| 60 | 1.45 | 0.20 | 0.05 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1937-1950 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.68 | 0.00 | 0.00 | 0.00 |
| 3 | 0.87 | 0.00 | 0.00 | 0.00 |
| 7 | 1.10 | 0.00 | 0.00 | 0.00 |
| 10 | 1.24 | 0.00 | 0.00 | 0.00 |
| 30 | 6.64 | 0.49 | 0.00 | 0.00 |
| 60 | 10.6 | 1.83 | 0.00 | 0.00 |

RED RIVER BASIN

07331000 WASHITA RIVER NEAR DICKSON, OK

LOCATION.--Lat 34°14'00", long 96°58'32", in SW 1/4 SE 1/4 sec.3, T.4 S., R.3 E., Carter County, Hydrologic Unit 11130303, on right bank on downstream side of bridge on U.S. Highway 177, 1.3 mi downstream from Caddo Creek, 3.2 mi north of Dickson, 12.0 mi northeast of Ardmore, and at mile 63.4.

DRAINAGE AREA.--7,202 mi².

PERIOD OF RECORD.--August 1928 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to Oct. 1, 1979, published as Washita River near Durwood.

REMARKS.--Some diversions for irrigation upstream from station. Some minor regulation by Fort Cobb Reservoir (station 07325900) since March 1959. Flow regulated by Foss Reservoir (station 07324300) since February 1961; and by numerous floodwater-retarding structures.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1929-1960

1,544

Magnitude and probability of annual high flow based on period of record 1929-1960

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | 2 | 5 | 10 | 25 | 50 | 100 |
|---------------------------------|--------|--------|--------|--------|--------|---------|
| | 50% | 20% | 10% | 4% | 2% | 1% |
| 1 | 21,500 | 41,100 | 56,000 | 77,900 | 96,300 | 116,000 |
| 3 | 16,900 | 32,100 | 45,000 | 64,600 | 81,600 | 101,000 |
| 7 | 11,500 | 21,100 | 28,900 | 40,100 | 49,500 | 59,600 |
| 10 | 9,440 | 17,200 | 23,400 | 32,400 | 40,000 | 48,200 |
| 30 | 5,190 | 9,480 | 13,000 | 18,200 | 22,500 | 27,400 |
| 60 | 3,580 | 6,530 | 8,970 | 12,600 | 15,700 | 19,200 |

Magnitude and probability of annual instantaneous peak flow based on 53 historic years of record, 1908-1960

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 | 5 | 10 | 25 | 50 | 100 | 500 |
|--------|--------|--------|--------|--------|---------|---------|
| 50% | 20% | 10% | 4% | 2% | 1% | 0.2% |
| 22,700 | 41,200 | 56,100 | 78,000 | 96,400 | 117,000 | 172,000 |

Water Resources Council weighted skew = - 0.015

Duration table of daily mean flow for period of record 1929-1960

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| 13,300 | 11,400 | 6,430 | 3,490 | 2,190 | 1,560 | 967 | 679 | 516 | 400 | 301 | 216 | 138 | 87.9 | 41.5 | 15.0 |

| Magnitude and probability of annual low flow based on period of record 1930-1960 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 108 | 38.4 | 17.7 | 6.53 |
| 3 | 125 | 44.9 | 20.6 | 7.42 |
| 7 | 140 | 51.0 | 23.5 | 8.41 |
| 10 | 147 | 54.0 | 25.0 | 9.10 |
| 30 | 250 | 71.1 | 20.4 | 5.22 |
| 60 | 300 | 95.2 | 37.6 | 14.4 |

| Magnitude and probability of annual low flow based on period of record 1929-1960 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 343 | 178 | 121 | 85.1 |
| 3 | 370 | 203 | 142 | 103 |
| 7 | 427 | 249 | 184 | 142 |
| 10 | 464 | 264 | 195 | 151 |
| 30 | 905 | 483 | 361 | 290 |
| 60 | 2,400 | 1,140 | 757 | 536 |

| Magnitude and probability of annual low flow based on period of record 1929-1959 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 113 | 38.6 | 17.7 | 6.53 |
| 3 | 128 | 44.9 | 20.6 | 7.43 |
| 7 | 142 | 51.0 | 23.5 | 8.43 |
| 10 | 149 | 54.0 | 25.0 | 9.12 |
| 30 | 268 | 71.2 | 20.4 | 5.22 |
| 60 | 372 | 104 | 39.2 | 14.9 |

| Magnitude and probability of annual low flow based on period of record 1929-1960 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 191 | 89.5 | 56.3 | 37.0 |
| 3 | 207 | 96.4 | 60.4 | 39.5 |
| 7 | 231 | 107 | 66.2 | 42.6 |
| 10 | 241 | 112 | 69.4 | 44.8 |
| 30 | 302 | 154 | 102 | 70.6 |
| 60 | 370 | 196 | 137 | 100 |

RED RIVER BASIN
07331000 WASHITA RIVER NEAR DICKSON, OK—Continued
REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1962-1999 |
| 1,894 |

| Magnitude and probability of annual high flow based on period of record 1962-1999 | | | | | | |
|--|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 26,300 | 42,800 | 53,600 | 66,700 | 76,000 | 84,700 |
| 3 | 19,200 | 32,300 | 41,900 | 54,600 | 64,400 | 74,400 |
| 7 | 13,400 | 23,200 | 30,500 | 40,400 | 48,200 | 56,300 |
| 10 | 11,200 | 19,900 | 26,600 | 36,000 | 43,500 | 51,500 |
| 30 | 5,970 | 10,900 | 14,800 | 20,500 | 25,100 | 30,200 |
| 60 | 4,080 | 7,560 | 10,300 | 14,400 | 17,700 | 21,300 |

| Magnitude and probability of annual instantaneous peak flow based on 38 years of record, 1962-1999 | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 29,500 | 46,700 | 59,100 | 75,900 | 89,000 | 103,000 | 137,000 |

station skew = - 0.070

| Duration table of daily mean flow for period of record 1962-1999 | | | | | | | | | | | | | | | |
|---|--------|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|------|------|------|
| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 13,100 | 11,700 | 7,440 | 4,300 | 3,070 | 2,340 | 1,510 | 1,030 | 729 | 524 | 356 | 239 | 138 | 81.0 | 33.9 | 17.2 |

| Magnitude and probability of annual low flow based on period of record 1963-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 133 | 25.7 | 7.91 | 2.52 |
| 3 | 141 | 27.6 | 8.53 | 2.71 |
| 7 | 144 | 32.3 | 11.7 | 4.42 |
| 10 | 156 | 34.8 | 12.4 | 4.57 |
| 30 | 186 | 52.0 | 23.7 | 11.7 |
| 60 | 271 | 108 | 64.0 | 40.8 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 421 | 193 | 129 | 92.4 |
| 3 | 441 | 202 | 134 | 96.3 |
| 7 | 478 | 218 | 146 | 105 |
| 10 | 508 | 234 | 159 | 116 |
| 30 | 959 | 443 | 309 | 236 |
| 60 | 2,240 | 1,040 | 695 | 496 |

| Magnitude and probability of annual low flow based on period of record 1962-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 135 | 25.7 | 7.91 | 2.52 |
| 3 | 143 | 27.6 | 8.53 | 2.71 |
| 7 | 145 | 32.3 | 11.7 | 4.42 |
| 10 | 156 | 34.8 | 12.4 | 4.57 |
| 30 | 191 | 52.0 | 23.7 | 11.7 |
| 60 | 294 | 111 | 65.0 | 41.4 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 288 | 125 | 78.6 | 52.8 |
| 3 | 308 | 135 | 84.5 | 56.4 |
| 7 | 352 | 155 | 96.5 | 63.5 |
| 10 | 367 | 161 | 100 | 65.8 |
| 30 | 449 | 205 | 135 | 94.8 |
| 60 | 560 | 247 | 162 | 114 |

RED RIVER BASIN

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX

LOCATION.--Lat 33°49'08", long 96°33'47", Grayson County, Hydrologic Unit 11140101, on right bank 1,800 ft downstream from Denison Dam powerhouse, 0.4 mi upstream from Shawnee Creek (spillway flow return), 4.5 mi north of Denison, and at mile 725.5.

DRAINAGE AREA.--39,720 mi², of which 5,936 mi² is probably noncontributing. At site used prior to October 1961 drainage area was 39,777 mi², of which 5,936 mi² probably was noncontributing.

PERIOD OF RECORD.--October 1923 to September 1989; December 1996 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1934, published as "near Denison, TX", and October 1934 to September 1961, published as "near Colbert, OK" (07332000), statistical analyses include streamflow record from that station. Gage-height records collected at various sites in this vicinity 1892-93, 1906-28, 1931-49 are contained in reports of the National Weather Service.

REMARKS.--Flow regulated since October 1943 by Lake Texoma (station 07331500).

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1924-1943

5,685

Magnitude and probability of annual high flow based on period of record 1924-1943

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 75,400 | 126,000 | 162,000 | 209,000 | 244,000 | 280,000 |
| 3 | 62,400 | 104,000 | 134,000 | 172,000 | 202,000 | 231,000 |
| 7 | 44,100 | 74,300 | 95,800 | 124,000 | 145,000 | 166,000 |
| 10 | 37,200 | 61,700 | 78,800 | 101,000 | 117,000 | 133,000 |
| 30 | 20,200 | 34,600 | 44,900 | 58,500 | 68,800 | 79,200 |
| 60 | 13,800 | 23,600 | 30,900 | 40,700 | 48,500 | 56,500 |

Magnitude and probability of annual instantaneous peak flow based on 20 years of record

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 87,000 | 140,000 | 177,000 | 226,000 | 262,000 | 299,000 | 386,000 |

Water Resources Council weighted skew = - 0.255

Duration table of daily mean flow for period of record 1924-1943

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|
| 16,600 | 16,000 | 14,300 | 11,400 | 8,580 | 6,400 | 4,070 | 2,870 | 2,130 | 1,590 | 1,190 | 813 | 548 | 393 | 242 | 192 |

| Magnitude and probability of annual low flow based on period of record 1925-1943 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 365 | 172 | 108 | 70.2 |
| 3 | 407 | 219 | 152 | 109 |
| 7 | 458 | 239 | 164 | 118 |
| 10 | 480 | 250 | 174 | 127 |
| 30 | 565 | 307 | 227 | 179 |
| 60 | 844 | 473 | 352 | 277 |

| Magnitude and probability of annual low flow based on period of record 1924-1943 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1,220 | 663 | 455 | 322 |
| 3 | 1,250 | 706 | 503 | 372 |
| 7 | 1,480 | 879 | 655 | 508 |
| 10 | 1,720 | 1,010 | 752 | 586 |
| 30 | 3,580 | 1,830 | 1,260 | 909 |
| 60 | 8,480 | 4,410 | 3,100 | 2,300 |

| Magnitude and probability of annual low flow based on period of record 1924-1942 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 427 | 193 | 120 | 78.1 |
| 3 | 455 | 242 | 171 | 127 |
| 7 | 520 | 269 | 186 | 135 |
| 10 | 555 | 282 | 194 | 141 |
| 30 | 739 | 369 | 255 | 188 |
| 60 | 1,220 | 611 | 430 | 322 |

| Magnitude and probability of annual low flow based on period of record 1924-1943 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 689 | 365 | 245 | 171 |
| 3 | 714 | 377 | 254 | 177 |
| 7 | 779 | 425 | 289 | 202 |
| 10 | 801 | 447 | 309 | 221 |
| 30 | 992 | 532 | 372 | 272 |
| 60 | 1,480 | 763 | 514 | 361 |

RED RIVER BASIN
07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX—Continued
REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1945-1999 |
| 4,924 |

| Magnitude and probability of annual high flow based on period of record 1945-1999 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 27,100 | 48,500 | 62,200 | 78,100 | 88,800 | 98,500 |
| 3 | 26,200 | 47,300 | 60,700 | 76,200 | 86,400 | 95,500 |
| 7 | 23,400 | 43,400 | 56,400 | 71,700 | 82,000 | 91,200 |
| 10 | 21,300 | 39,900 | 52,600 | 68,100 | 79,100 | 89,400 |
| 30 | 14,000 | 26,500 | 36,100 | 49,500 | 60,100 | 71,200 |
| 60 | 9,810 | 18,200 | 25,200 | 35,600 | 44,600 | 54,600 |

| Magnitude and probability of annual instantaneous peak flow based on 55 historic years of record, 1945-1999 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 30,400 | 52,700 | 68,900 | 90,600 | 107,000 | 124,000 | 165,000 |

station skew = - 0.294

| Duration table of daily mean flow for period of record 1945-1999 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 18,500 | 17,700 | 15,300 | 11,300 | 7,490 | 5,580 | 4,320 | 3,440 | 2,810 | 2,220 | 1,570 | 768 | 197 | 100 | 81.9 | 60.8 |

| Magnitude and probability of annual low flow based on period of record 1946-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 70.0 | 50.8 | 43.8 | 39.2 |
| 3 | 101 | 57.8 | 47.2 | 41.5 |
| 7 | 217 | 94.0 | 62.9 | 45.9 |
| 10 | 347 | 152 | 97.4 | 66.9 |
| 30 | 1,000 | 497 | 306 | 192 |
| 60 | 1,570 | 856 | 518 | 308 |

| Magnitude and probability of annual low flow based on period of record 1945-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 124 | 60.4 | 47.0 | 40.4 |
| 3 | 433 | 142 | 80.6 | 50.7 |
| 7 | 1,150 | 443 | 257 | 160 |
| 10 | 1,340 | 599 | 384 | 264 |
| 30 | 2,430 | 1,240 | 883 | 674 |
| 60 | 4,380 | 2,180 | 1,520 | 1,140 |

| Magnitude and probability of annual low flow based on period of record 1945-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 92.9 | 60.8 | 50.6 | 44.2 |
| 3 | 217 | 90.7 | 58.8 | 52.0 |
| 7 | 662 | 219 | 112 | 61.8 |
| 10 | 809 | 305 | 166 | 95.4 |
| 30 | 1,810 | 870 | 494 | 279 |
| 60 | 2,230 | 1,360 | 971 | 701 |

| Magnitude and probability of annual low flow based on period of record 1945-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 74.6 | 51.4 | 46.5 | 44.3 |
| 3 | 146 | 69.2 | 50.5 | 50.0 |
| 7 | 377 | 148 | 90.1 | 59.7 |
| 10 | 520 | 216 | 132 | 85.4 |
| 30 | 1,200 | 592 | 378 | 250 |
| 60 | 1,550 | 913 | 694 | 554 |

RED RIVER BASIN

07332400 BLUE RIVER AT MILBURN, OK

LOCATION.--Lat 34°15'04", long 96°33'05", in SW 1/4 SW 1/4 sec.35, T.3 S., R.7 E., Johnston County, Hydrologic Unit 11140102, on downstream side of left pier of bridge on State Highway 48A, 0.5 mi north of Milburn, and at mile 84.9.

DRAINAGE AREA.--203 mi².

PERIOD OF RECORD.--October 1965 to June 1987. Prior to October 1975 published as Blue Creek near Milburn.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1966-1986

142

Magnitude and probability of annual high flow based on period of record 1966-1986

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 4,570 | 8,820 | 12,200 | 17,000 | 20,800 | 24,900 |
| 3 | 2,290 | 4,310 | 5,860 | 8,030 | 9,760 | 11,600 |
| 7 | 1,180 | 2,260 | 3,140 | 4,450 | 5,560 | 6,770 |
| 10 | 913 | 1,690 | 2,350 | 3,330 | 4,190 | 5,140 |
| 30 | 449 | 771 | 1,020 | 1,370 | 1,660 | 1,970 |
| 60 | 311 | 512 | 657 | 850 | 999 | 1,150 |

Magnitude and probability of annual instantaneous peak flow based on 61 historic years of record, 1927-1987

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 8,630 | 17,200 | 24,600 | 35,900 | 45,800 | 56,800 | 87,600 |

Oklahoma weighted skew = - 0.062

Duration table of daily mean flow for period of record 1966-1986

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| 1,360 | 801 | 363 | 228 | 177 | 145 | 108 | 84.2 | 66.4 | 54.5 | 45.4 | 38.0 | 31.5 | 28.2 | 23.2 | 20.4 |

| Magnitude and probability of annual low flow based on period of record 1967-1987 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 32.1 | 24.2 | 20.4 | 17.5 |
| 3 | 32.8 | 24.8 | 21.0 | 18.0 |
| 7 | 33.4 | 25.3 | 21.4 | 18.4 |
| 10 | 34.7 | 26.6 | 22.6 | 19.4 |
| 30 | 36.7 | 27.8 | 23.5 | 20.1 |
| 60 | 39.5 | 29.0 | 24.3 | 20.8 |

| Magnitude and probability of annual low flow based on period of record 1966-1987 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 66.9 | 41.0 | 31.3 | 24.8 |
| 3 | 68.2 | 41.8 | 31.9 | 25.4 |
| 7 | 70.6 | 43.0 | 32.8 | 26.0 |
| 10 | 72.8 | 45.7 | 36.0 | 29.6 |
| 30 | 106 | 63.2 | 48.1 | 38.3 |
| 60 | 191 | 109 | 80.8 | 62.7 |

| Magnitude and probability of annual low flow based on period of record 1966-1986 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 34.9 | 27.0 | 22.8 | 19.4 |
| 3 | 35.4 | 27.5 | 23.2 | 19.8 |
| 7 | 36.0 | 28.0 | 23.7 | 20.2 |
| 10 | 36.3 | 28.2 | 23.9 | 20.4 |
| 30 | 38.3 | 29.4 | 24.9 | 21.4 |
| 60 | 41.9 | 31.1 | 26.0 | 22.2 |

| Magnitude and probability of annual low flow based on period of record 1966-1987 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 44.7 | 31.1 | 26.0 | 22.5 |
| 3 | 45.4 | 31.8 | 26.6 | 23.1 |
| 7 | 47.2 | 32.6 | 27.1 | 23.4 |
| 10 | 47.7 | 32.9 | 27.3 | 23.5 |
| 30 | 54.5 | 35.3 | 28.2 | 23.5 |
| 60 | 63.2 | 38.9 | 30.1 | 24.4 |

RED RIVER BASIN

07332500 BLUE RIVER NEAR BLUE, OK

LOCATION.--Lat 33°59'49", long 96°14'27", on line between sec.27 and 34, T.6 S., R.10 E., Bryan County, Hydrologic Unit 11140102, on left bank on downstream side near end of bridge on U.S. Highway 70, 1.0 mi west of Blue, 7.0 mi east of Durant, 7.7 mi upstream from Caddo Creek, and at mile 38.8.

DRAINAGE AREA.--476 mi².

PERIOD OF RECORD.--June 1936 to current year. Monthly discharge only for some periods, published in WSP 1311, 1731.

REMARKS.--Some regulation at low flow by a State fish hatchery, 16.0 mi upstream from station. Small diversion for municipal water supply for city of Durant upstream from station. U.S. Army Corps of Engineers' satellite telemeter at station. No flow also occurred Aug. 4, 1936, result of regulation at fish hatchery, and no flow Sept. 19 to Oct. 16, 1956.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1937-1999

325

Magnitude and probability of annual high flow based on period of record 1937-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 7,690 | 14,100 | 19,000 | 25,900 | 31,400 | 37,200 |
| 3 | 5,350 | 9,530 | 12,400 | 16,000 | 18,700 | 21,200 |
| 7 | 2,890 | 5,200 | 6,800 | 8,830 | 10,300 | 11,700 |
| 10 | 2,350 | 4,220 | 5,470 | 7,000 | 8,070 | 9,080 |
| 30 | 1,150 | 2,040 | 2,640 | 3,380 | 3,900 | 4,390 |
| 60 | 779 | 1,390 | 1,830 | 2,380 | 2,800 | 3,200 |

Magnitude and probability of annual instantaneous peak flow based on 63 years of record, 1937-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 9,400 | 17,500 | 24,800 | 36,600 | 47,600 | 60,600 | 101,000 |

Oklahoma weighted skew = 0.340

Duration table of daily mean flow for period of record 1937-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 4,800 | 3,170 | 1,280 | 561 | 357 | 264 | 173 | 122 | 89.9 | 65.9 | 51.8 | 38.9 | 28.6 | 22.2 | 13.4 | 4.74 |

| Magnitude and probability of annual low flow based on period of record 1938-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 28.5 | 9.60 | 3.61 | 1.18 |
| 3 | 30.7 | 11.1 | 4.34 | 1.46 |
| 7 | 33.1 | 13.1 | 5.55 | 2.04 |
| 10 | 34.1 | 14.0 | 6.11 | 2.34 |
| 30 | 42.5 | 18.5 | 9.20 | 4.10 |
| 60 | 51.8 | 23.6 | 12.4 | 6.34 |

| Magnitude and probability of annual low flow based on period of record 1937-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 75.6 | 34.5 | 32.4 | 25.4 |
| 3 | 79.2 | 46.5 | 35.2 | 28.0 |
| 7 | 87.3 | 50.0 | 37.6 | 29.9 |
| 10 | 96.3 | 55.1 | 41.6 | 33.2 |
| 30 | 191 | 94.5 | 68.2 | 53.3 |
| 60 | 425 | 206 | 140 | 103 |

| Magnitude and probability of annual low flow based on period of record 1937-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 30.9 | 10.6 | 3.97 | 1.27 |
| 3 | 32.6 | 12.0 | 4.65 | 1.55 |
| 7 | 34.6 | 13.8 | 5.80 | 2.12 |
| 10 | 35.2 | 14.4 | 6.26 | 2.40 |
| 30 | 45.0 | 18.6 | 9.25 | 4.25 |
| 60 | 55.7 | 23.1 | 11.9 | 6.19 |

| Magnitude and probability of annual low flow based on period of record 1937-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 46.6 | 22.2 | 13.6 | 8.66 |
| 3 | 47.3 | 24.2 | 16.0 | 11.0 |
| 7 | 49.8 | 26.5 | 18.4 | 13.3 |
| 10 | 51.3 | 27.6 | 19.3 | 14.2 |
| 30 | 65.2 | 34.1 | 24.4 | 18.5 |
| 60 | 95.8 | 46.6 | 31.7 | 23.0 |

RED RIVER BASIN

07333500 CHICKASAW CREEK NEAR STRINGTOWN, OK

LOCATION.--Lat 34°27'41", long 96°01'36", in NE ¼ NE ¼ sec.22, T.1 S., R.12 E., on upstream side of right abutment of county road bridge, 1.5 mi east of Stringtown, 2.2 mi upstream from Little Chickasaw Creek, 3.6 mi downstream from Breatdown Creek, and at mile 5.0.

DRAINAGE AREA.--32.7 mi².

PERIOD OF RECORD.--October 1955 to September 1968, crest-stage partial record site October 1968 to September 1975.

UNREGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1956-1968 |
| 30.4 |

| Magnitude and probability of annual high flow based on period of record 1956-1968 | | | | | | |
|---|----------|----------|-----------|----------|----------|-----------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 1,990 | 2,820 | 3,210 | 3,590 | 3,790 | 3,950 |
| 3 | 900 | 1,220 | 1,370 | 1,520 | 1,610 | 1,680 |
| 7 | 438 | 660 | 808 | 993 | 1,130 | 1,260 |
| 10 | 325 | 502 | 634 | 815 | 961 | 1,120 |
| 30 | 142 | 232 | 299 | 389 | 461 | 536 |
| 60 | 85.4 | 153 | 210 | 296 | 372 | 457 |

| Magnitude and probability of annual instantaneous peak flow based on 20 years of record, 1956-1975 | | | | | | |
|--|----------|-----------|----------|----------|-----------|-------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 7,580 | 10,800 | 13,100 | 16,200 | 18,600 | 21,200 | 27,500 |

Oklahoma weighted skew = 0.163

| Duration table of daily mean flow for period of record 1956-1968 | | | | | | | | | | | | | | | |
|--|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 716 | 310 | 89.6 | 33.6 | 18.5 | 11.7 | 5.41 | 2.72 | 1.24 | 0.87 | 0.65 | 0.44 | 0.22 | 0.11 | 0.04 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1957-1968 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.01 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1956-1968 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.56 | 0.20 | 0.13 | 0.09 |
| 3 | 0.62 | 0.22 | 0.14 | 0.10 |
| 7 | 1.00 | 0.39 | 0.25 | 0.18 |
| 10 | 1.37 | 0.53 | 0.34 | 0.24 |
| 30 | 11.6 | 3.19 | 1.64 | 0.95 |
| 60 | 52.8 | 24.7 | 16.8 | 12.3 |

| Magnitude and probability of annual low flow based on period of record 1956-1967 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.02 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1956-1968 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.13 | 0.00 | 0.00 | 0.00 |
| 3 | 0.13 | 0.00 | 0.00 | 0.00 |
| 7 | 0.14 | 0.00 | 0.00 | 0.00 |
| 10 | 0.20 | 0.00 | 0.00 | 0.00 |
| 30 | 0.29 | 0.00 | 0.00 | 0.00 |
| 60 | 1.16 | 0.00 | 0.00 | 0.00 |

RED RIVER BASIN

07333800 MCGEE CREEK NEAR STRINGTOWN, OK

LOCATION.--Lat 34°26'33", long 95°52'10", in NE ¼ sec.30, T.1 S., R.14 E., on right bank 10.6 mi east of Stringtown, 17.5 mi upstream from Potapo Creek, and at mile 22.7.

DRAINAGE AREA.--86.6 mi².

PERIOD OF RECORD.--April 1956 to September 1968, crest-stage partial record site October 1968 to September 1975.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1957-1968

86.7

Magnitude and probability of annual high flow based on period of record 1957-1968

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 4,120 | 5,890 | 6,810 | 7,720 | 8,260 | 8,690 |
| 3 | 2,130 | 3,000 | 4,490 | 4,020 | 4,360 | 4,670 |
| 7 | 1,090 | 1,670 | 2,050 | 2,530 | 2,870 | 3,210 |
| 10 | 810 | 1,260 | 1,590 | 2,040 | 2,400 | 2,770 |
| 30 | 376 | 632 | 827 | 1,100 | 1,320 | 1,560 |
| 60 | 235 | 391 | 525 | 737 | 930 | 1,160 |

Magnitude and probability of annual instantaneous peak flow based on 20 years of record, 1956-1975

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 6,660 | 8,870 | 10,300 | 12,000 | 13,300 | 14,500 | 17,300 |

Oklahoma weighted skew= - 0.073

Duration table of daily mean flow for period of record 1957-1968

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 1,840 | 1,070 | 297 | 118 | 65.4 | 40.9 | 18.4 | 9.18 | 4.66 | 2.27 | 1.03 | 0.68 | 0.34 | 0.17 | 0.07 | 0.03 |

| Magnitude and probability of annual low flow based on period of record 1957-1968 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.04 | 0.00 | 0.00 | 0.00 |
| 60 | 0.64 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1956-1968 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.08 | 0.55 | 0.20 | 0.00 |
| 3 | 2.29 | 0.65 | 0.26 | 0.00 |
| 7 | 3.24 | 0.82 | 0.37 | 0.19 |
| 10 | 4.13 | 1.15 | 0.57 | 0.31 |
| 30 | 27.3 | 8.04 | 4.50 | 2.87 |
| 60 | 140 | 63.8 | 42.1 | 29.9 |

| Magnitude and probability of annual low flow based on period of record 1956-1967 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.07 | 0.00 | 0.00 | 0.00 |
| 60 | 2.18 | 0.01 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1957-1968 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.16 | 0.00 | 0.00 | 0.00 |
| 30 | 1.94 | 0.18 | 0.00 | 0.00 |
| 60 | 6.89 | 1.11 | 0.19 | 0.00 |

RED RIVER BASIN

07334000 MUDDY BOGGY CREEK NEAR FARRIS, OK

LOCATION.--Lat 34°16'17", long 95°54'43", in NE 1/4 NW 1/4 sec.26, T.3 S., R.13 E., Atoka County, Hydrologic Unit 11140103, on downstream left bank of bridge on State Highway 3, 1.3 mi downstream from McGee Creek, 2.8 mi northwest of Farris, and at mile 57.7.

DRAINAGE AREA.--1,087 mi².

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Some regulation since June 1959 by Atoka Reservoir, drainage area, 176 mi²; pipeline diversions to Oklahoma City since November 1963, and since April 1987 by McGee Creek Lake, drainage area 178 mi².

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1938-1986

880

Magnitude and probability of annual high flow based on period of record 1938-1986

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 16,900 | 25,500 | 31,300 | 38,700 | 44,300 | 49,800 |
| 3 | 14,000 | 21,900 | 27,300 | 34,100 | 39,300 | 44,400 |
| 7 | 9,240 | 15,200 | 19,300 | 24,500 | 28,400 | 32,100 |
| 10 | 7,170 | 11,800 | 15,000 | 19,200 | 22,400 | 25,600 |
| 30 | 3,550 | 5,710 | 7,160 | 8,980 | 10,300 | 11,600 |
| 60 | 2,320 | 3,790 | 4,830 | 6,200 | 7,250 | 8,320 |

Magnitude and probability of annual instantaneous peak flow based on 49 years of record, 1938-1986

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 19,500 | 29,400 | 36,700 | 47,000 | 55,300 | 64,200 | 87,700 |

Oklahoma weighted skew = 0.231

Duration table of daily mean flow for period of record 1938-1986

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|-------|-------|-------|-------|-----|-----|-----|------|------|------|------|------|------|------|------|
| 12,100 | 9,950 | 5,170 | 2,120 | 1,020 | 591 | 266 | 135 | 71.6 | 39.5 | 22.2 | 8.96 | 2.14 | 0.76 | 0.30 | 0.15 |

| Magnitude and probability of annual low flow based on period of record 1939-1986 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.43 | 0.00 | 0.00 | 0.00 |
| 3 | 0.49 | 0.00 | 0.00 | 0.00 |
| 7 | 0.65 | 0.00 | 0.00 | 0.00 |
| 10 | 0.78 | 0.04 | 0.00 | 0.00 |
| 30 | 3.06 | 0.19 | 0.00 | 0.00 |
| 60 | 12.3 | 1.11 | 0.07 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1938-1986 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 33.3 | 15.9 | 11.0 | 8.19 |
| 3 | 38.5 | 18.2 | 12.6 | 9.36 |
| 7 | 51.2 | 23.9 | 16.5 | 12.3 |
| 10 | 68.0 | 29.6 | 19.5 | 14.0 |
| 30 | 514 | 196 | 116 | 74.0 |
| 60 | 1,470 | 774 | 547 | 408 |

| Magnitude and probability of annual low flow based on period of record 1938-1985 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.44 | 0.00 | 0.00 | 0.00 |
| 3 | 0.50 | 0.00 | 0.00 | 0.00 |
| 7 | 0.66 | 0.00 | 0.00 | 0.00 |
| 10 | 0.78 | 0.04 | 0.00 | 0.00 |
| 30 | 3.28 | 0.24 | 0.00 | 0.00 |
| 60 | 17.1 | 1.71 | 0.38 | 0.08 |

| Magnitude and probability of annual low flow based on period of record 1938-1986 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.07 | 0.96 | 0.20 | 0.00 |
| 3 | 8.63 | 1.19 | 0.25 | 0.00 |
| 7 | 11.1 | 1.90 | 1.49 | 0.00 |
| 10 | 12.3 | 2.19 | 0.59 | 0.00 |
| 30 | 29.8 | 5.31 | 1.68 | 0.52 |
| 60 | 111 | 20.2 | 6.72 | 2.42 |

RED RIVER BASIN
07334000 MUDDY BOGGY CREEK NEAR FARRIS, OK—Continued
REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1988-1999 |
| 1,148 |

| Magnitude and probability of annual high flow based on period of record 1988-1999 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 13,900 | 20,400 | 26,600 | 37,300 | 47,900 | 61,200 |
| 3 | 12,300 | 18,500 | 24,500 | 34,700 | 45,000 | 57,900 |
| 7 | 8,850 | 13,400 | 17,700 | 25,100 | 32,400 | 41,500 |
| 10 | 6,980 | 10,600 | 14,200 | 20,800 | 27,700 | 36,700 |
| 30 | 3,720 | 5,480 | 7,350 | 10,800 | 14,600 | 19,500 |
| 60 | 2,760 | 4,200 | 5,520 | 7,730 | 9,850 | 12,500 |

| Magnitude and probability of annual instantaneous peak flow based on 12 years of record, 1988-1999 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 14,700 | 21,500 | 28,300 | 40,300 | 52,400 | 68,000 | 124,000 |

station skew = 1.713

| Duration table of daily mean flow for period of record 1988-1999 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 12,000 | 9,640 | 5,470 | 2,890 | 2,110 | 1,620 | 911 | 454 | 185 | 93.0 | 50.5 | 32.4 | 21.5 | 16.0 | 13.5 | 12.7 |

| Magnitude and probability of annual low flow based on period of record 1989-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 14.5 | 11.5 | 10.4 | 9.70 |
| 3 | 15.3 | 12.0 | 10.8 | 10.0 |
| 7 | 16.2 | 12.8 | 11.6 | 10.8 |
| 10 | 16.7 | 13.0 | 11.7 | 10.9 |
| 30 | 22.3 | 14.9 | 12.6 | 11.1 |
| 60 | 45.5 | 20.0 | 13.3 | 9.16 |

| Magnitude and probability of annual low flow based on period of record 1988-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 91.9 | 41.9 | 28.7 | 21.2 |
| 3 | 106 | 44.9 | 29.4 | 21.0 |
| 7 | 153 | 52.5 | 30.5 | 19.6 |
| 10 | 191 | 59.5 | 32.5 | 19.7 |
| 30 | 707 | 178 | 79.9 | 39.7 |
| 60 | 1,590 | 615 | 347 | 207 |

| Magnitude and probability of annual low flow based on period of record 1988-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 14.8 | 12.1 | 11.1 | 10.6 |
| 3 | 15.5 | 12.4 | 11.3 | 10.6 |
| 7 | 16.2 | 12.8 | 11.6 | 10.8 |
| 10 | 16.7 | 13.0 | 11.7 | 10.9 |
| 30 | 22.5 | 15.0 | 12.6 | 11.1 |
| 60 | 73.4 | 25.2 | 14.5 | 9.16 |

| Magnitude and probability of annual low flow based on period of record 1988-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 29.7 | 17.2 | 13.5 | 11.2 |
| 3 | 31.8 | 18.9 | 15.0 | 12.6 |
| 7 | 38.9 | 22.6 | 17.6 | 14.7 |
| 10 | 41.6 | 24.0 | 18.8 | 15.7 |
| 30 | 93.3 | 36.4 | 24.2 | 18.1 |
| 60 | 331 | 101 | 50.3 | 27.0 |

RED RIVER BASIN

07335000 CLEAR BOGGY CREEK NEAR CANEY, OK

LOCATION.--Lat 34°15'09", long 96°12'19", in NW ¼ SE ¼ sec.36, T.3 S., R.10 E., Atoka County, Hydrologic Unit 11140104, on downstream side of left pier of bridge on old U.S. Highways 69 and 75, 0.5 mi downstream from Caney Creek, 1.5 mi north of Caney, and at mile 24.1.

DRAINAGE AREA.--720 mi².

PERIOD OF RECORD.--October 1942 to September 1989. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Flow regulated since 1965 by numerous floodwater-retarding structures.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1943-1961

504

Magnitude and probability of annual high flow based on period of record 1943-1961

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 10,100 | 18,000 | 24,200 | 33,300 | 40,800 | 49,000 |
| 3 | 8,680 | 14,500 | 18,200 | 22,400 | 25,200 | 27,800 |
| 7 | 5,520 | 9,080 | 11,000 | 13,000 | 14,200 | 15,100 |
| 10 | 4,150 | 6,930 | 8,640 | 10,600 | 11,900 | 13,000 |
| 30 | 2,010 | 3,480 | 4,380 | 5,400 | 6,060 | 6,640 |
| 60 | 1,290 | 2,420 | 3,240 | 4,330 | 5,140 | 5,950 |

Magnitude and probability of annual instantaneous peak flow based on 24 historic years of record, 1938-1961

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 14,000 | 28,600 | 42,200 | 64,600 | 85,500 | 111,000 | 188,000 |

Oklahoma weighted skew = 0.177

Duration table of daily mean flow for period of record 1943-1961

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 7,960 | 5,580 | 2,800 | 996 | 485 | 311 | 167 | 104 | 68.3 | 45.7 | 27.6 | 17.9 | 11.1 | 3.77 | 0.63 | 0.32 |

| Magnitude and probability of annual low flow based on period of record 1944-1961 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 9.20 | 1.68 | 0.00 | 0.00 |
| 3 | 9.45 | 1.78 | 0.00 | 0.00 |
| 7 | 10.0 | 2.04 | 0.00 | 0.00 |
| 10 | 10.5 | 2.28 | 0.00 | 0.00 |
| 30 | 18.9 | 3.25 | 0.17 | 0.00 |
| 60 | 22.2 | 5.65 | 2.23 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1943-1961 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 59.1 | 30.1 | 19.2 | 12.5 |
| 3 | 63.4 | 31.3 | 20.1 | 13.5 |
| 7 | 77.8 | 37.4 | 23.4 | 15.2 |
| 10 | 89.6 | 41.7 | 25.5 | 16.2 |
| 30 | 259 | 105 | 68.5 | 49.0 |
| 60 | 890 | 377 | 225 | 142 |

| Magnitude and probability of annual low flow based on period of record 1943-1960 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 9.26 | 1.68 | 0.00 | 0.00 |
| 3 | 9.46 | 1.78 | 0.00 | 0.00 |
| 7 | 10.0 | 2.04 | 0.00 | 0.00 |
| 10 | 10.5 | 2.28 | 0.00 | 0.00 |
| 30 | 19.9 | 3.25 | 0.17 | 0.00 |
| 60 | 23.3 | 5.65 | 2.26 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1943-1961 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 18.6 | 8.19 | 4.75 | 0.00 |
| 3 | 20.7 | 8.56 | 4.80 | 0.00 |
| 7 | 22.0 | 8.77 | 4.83 | 0.00 |
| 10 | 23.3 | 9.25 | 5.04 | 0.00 |
| 30 | 49.6 | 9.88 | 8.30 | 0.37 |
| 60 | 56.1 | 24.3 | 15.9 | 11.2 |

RED RIVER BASIN
07335000 CLEAR BOGGY CREEK NEAR CANEY, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1965-1989

503

| Magnitude and probability of annual high flow based on period of record 1965-1989 | | | | | | |
|---|---|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 9,010 | 14,600 | 19,200 | 25,900 | 31,600 | 38,000 |
| 3 | 7,610 | 12,500 | 16,100 | 20,800 | 24,400 | 28,200 |
| 7 | 4,840 | 8,080 | 10,500 | 13,800 | 16,400 | 19,100 |
| 10 | 3,940 | 6,510 | 8,460 | 11,200 | 13,300 | 15,700 |
| 30 | 1,990 | 3,250 | 4,170 | 5,400 | 6,380 | 7,380 |
| 60 | 1,260 | 2,100 | 2,760 | 3,690 | 4,450 | 5,280 |

Magnitude and probability of annual instantaneous peak flow based on 25 years of record, 1965-1989

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 11,000 | 18,200 | 23,800 | 31,900 | 38,700 | 46,000 | 65,800 |

station skew = 0.120

Duration table of daily mean flow for period of record 1965-1989

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 7,010 | 4,880 | 2,500 | 1,160 | 713 | 479 | 255 | 150 | 97.4 | 60.6 | 36.3 | 20.8 | 11.0 | 6.48 | 3.32 | 0.87 |

| Magnitude and probability of annual low flow based on period of record 1966-1989 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.08 | 1.91 | 0.42 | 0.00 |
| 3 | 7.49 | 2.10 | 0.48 | 0.00 |
| 7 | 9.27 | 2.15 | 0.60 | 0.05 |
| 10 | 9.90 | 2.81 | 1.15 | 0.24 |
| 30 | 12.5 | 5.55 | 3.43 | 1.75 |
| 60 | 31.5 | 7.73 | 7.20 | 5.10 |

| Magnitude and probability of annual low flow based on period of record 1965-1989 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 62.2 | 24.1 | 13.3 | 7.67 |
| 3 | 65.4 | 25.5 | 14.3 | 8.46 |
| 7 | 74.6 | 29.8 | 17.2 | 10.5 |
| 10 | 79.6 | 34.8 | 22.2 | 15.1 |
| 30 | 283 | 110 | 62.9 | 38.2 |
| 60 | 693 | 342 | 230 | 163 |

| Magnitude and probability of annual low flow based on period of record 1965-1988 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.46 | 1.99 | 0.42 | 0.00 |
| 3 | 7.89 | 2.20 | 0.48 | 0.00 |
| 7 | 9.60 | 2.23 | 0.61 | 0.05 |
| 10 | 10.1 | 2.81 | 1.15 | 0.24 |
| 30 | 12.7 | 5.55 | 3.43 | 1.75 |
| 60 | 34.0 | 8.22 | 7.20 | 5.10 |

| Magnitude and probability of annual low flow based on period of record 1965-1988 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 28.3 | 10.7 | 6.26 | 3.93 |
| 3 | 29.5 | 11.3 | 6.65 | 4.20 |
| 7 | 32.3 | 12.7 | 7.55 | 4.83 |
| 10 | 34.3 | 13.8 | 8.28 | 5.33 |
| 30 | 59.0 | 22.0 | 12.6 | 7.72 |
| 60 | 93.2 | 31.9 | 17.6 | 10.5 |

RED RIVER BASIN

07335300 MUDDY BOGGY CREEK NEAR UNGER, OK

LOCATION.--Lat 34°01'36", long 95°45'00", in SE ¼ SE ¼ sec.17, T.6 S., R.15 E., Choctaw County, Hydrologic Unit 11140103, at bridge on U.S. Highway 70, 3.5 mi west of Soper, 1.8 mi east of Unger and at mile 18.6.

DRAINAGE AREA.--2,273 mi².

PERIOD OF RECORD.--August 1982 to current year.

REMARKS.--Some regulation by Atoka and McGee Creek Reservoirs.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1983-1999

2,290

Magnitude and probability of annual high flow based on period of record 1983-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 20,000 | 31,900 | 41,400 | 54,800 | 65,400 | 76,700 |
| 3 | 18,900 | 30,400 | 39,700 | 53,300 | 65,000 | 74,000 |
| 7 | 16,100 | 26,100 | 33,600 | 43,800 | 52,000 | 60,600 |
| 10 | 13,800 | 22,700 | 29,400 | 38,800 | 46,500 | 54,600 |
| 30 | 7,420 | 11,900 | 15,800 | 22,000 | 27,700 | 34,500 |
| 60 | 5,350 | 8,660 | 11,500 | 16,000 | 20,100 | 24,800 |

Magnitude and probability of annual instantaneous peak flow based on 17 years of record, 1983-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 20,900 | 32,900 | 42,100 | 54,900 | 65,500 | 76,800 | 107,000 |

Oklahoma weighted skew = 0.150

Duration table of daily mean flow for period of record 1983-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|--------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 12,400 | 11,700 | 9,900 | 7,020 | 4,970 | 3,350 | 1,720 | 955 | 538 | 303 | 181 | 106 | 58.1 | 34.9 | 26.2 | 21.2 |

| Magnitude and probability of annual low flow based on period of record 1984-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 46.1 | 16.7 | 8.10 | 4.01 |
| 3 | 46.8 | 17.8 | 9.11 | 4.76 |
| 7 | 49.6 | 19.3 | 10.0 | 5.33 |
| 10 | 51.0 | 20.7 | 11.2 | 6.22 |
| 30 | 61.9 | 31.6 | 22.3 | 16.7 |
| 60 | 92.5 | 42.4 | 27.6 | 19.0 |

| Magnitude and probability of annual low flow based on period of record 1983-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 301 | 144 | 100 | 74.7 |
| 3 | 339 | 154 | 104 | 75.6 |
| 7 | 439 | 179 | 114 | 79.9 |
| 10 | 511 | 202 | 125 | 84.0 |
| 30 | 1,420 | 442 | 231 | 133 |
| 60 | 3,020 | 1,270 | 786 | 519 |

| Magnitude and probability of annual low flow based on period of record 1983-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 46.5 | 16.7 | 8.11 | 4.01 |
| 3 | 47.2 | 17.9 | 9.12 | 4.76 |
| 7 | 50.0 | 19.4 | 10.0 | 5.33 |
| 10 | 51.4 | 20.8 | 11.2 | 6.22 |
| 30 | 62.8 | 31.8 | 22.3 | 16.7 |
| 60 | 116 | 44.2 | 27.6 | 19.0 |

| Magnitude and probability of annual low flow based on period of record 1983-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 111 | 54.2 | 37.7 | 28.1 |
| 3 | 125 | 59.1 | 40.0 | 28.9 |
| 7 | 143 | 64.5 | 42.5 | 30.2 |
| 10 | 158 | 70.2 | 46.1 | 32.6 |
| 30 | 326 | 132 | 84.0 | 58.7 |
| 60 | 841 | 297 | 161 | 92.9 |

RED RIVER BASIN

07335500 RED RIVER AT ARTHUR CITY, TX

LOCATION.--Lat 33°52'30", long 95°30'06", in NW ¼ sec.11, T.8 S., R.17 E., Choctaw County, OK, Hydrologic Unit 11140101, on right downstream bank of bridge on U.S. Highway 271 at Arthur City, 10.6 mi downstream from Muddy Boggy River, 26.0 mi upstream from Kiamichi River, and at mile 633.1.

DRAINAGE AREA.--44,531 mi², of which 5,936 mi² probably is noncontributing.

PERIOD OF RECORD.--January to September 1905 (gage heights and discharge measurements only), October 1905 to December 1911, July 1936 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage- height records collected at same site since 1891 are contained in reports of the National Weather Service.

REMARKS.--Flow regulated since October 1943 by Lake Texoma (station 07331500), 92.8 mi upstream from station.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1945-1999

9,416

Magnitude and probability of annual high flow based on period of record 1945-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 53,600 | 80,500 | 103,000 | 139,000 | 172,000 | 211,000 |
| 3 | 46,300 | 69,000 | 88,500 | 119,000 | 147,000 | 180,000 |
| 7 | 39,700 | 60,400 | 77,500 | 104,000 | 127,000 | 153,000 |
| 10 | 36,800 | 56,800 | 72,800 | 96,400 | 117,000 | 139,000 |
| 30 | 25,200 | 41,700 | 54,400 | 72,400 | 87,300 | 103,000 |
| 60 | 18,200 | 31,100 | 41,800 | 57,900 | 71,900 | 87,600 |

Magnitude and probability of annual instantaneous peak flow based on 55 years of record, 1945-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 57,300 | 86,500 | 111,000 | 150,000 | 185,000 | 226,000 | 349,000 |

station skew = 0.814

Duration table of daily mean flow for period of record 1945-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-----|-----|-----|
| 20,000 | 19,600 | 18,300 | 16,300 | 14,300 | 12,200 | 8,170 | 5,650 | 4,340 | 3,470 | 2,780 | 2,120 | 1,380 | 928 | 573 | 398 |

| Magnitude and probability of annual low flow based on period of record 1946-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 619 | 354 | 256 | 192 |
| 3 | 741 | 403 | 283 | 207 |
| 7 | 966 | 511 | 355 | 258 |
| 10 | 1,100 | 606 | 426 | 311 |
| 30 | 1,950 | 1,160 | 808 | 571 |
| 60 | 2,600 | 1,620 | 1,140 | 804 |

| Magnitude and probability of annual low flow based on period of record 1945-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1,750 | 929 | 717 | 599 |
| 3 | 2,130 | 1,110 | 843 | 693 |
| 7 | 2,920 | 1,540 | 1,160 | 949 |
| 10 | 3,280 | 1,770 | 1,350 | 1,110 |
| 30 | 6,100 | 3,230 | 2,390 | 1,890 |
| 60 | 10,700 | 5,690 | 4,120 | 3,170 |

| Magnitude and probability of annual low flow based on period of record 1945-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 732 | 395 | 276 | 200 |
| 3 | 961 | 484 | 321 | 223 |
| 7 | 1,380 | 679 | 438 | 294 |
| 10 | 1,510 | 784 | 519 | 356 |
| 30 | 2,430 | 1,400 | 970 | 690 |
| 60 | 2,890 | 1,910 | 1,550 | 1,310 |

| Magnitude and probability of annual low flow based on period of record 1945-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 867 | 458 | 334 | 260 |
| 3 | 1,050 | 538 | 380 | 286 |
| 7 | 1,360 | 679 | 468 | 343 |
| 10 | 1,500 | 760 | 529 | 391 |
| 30 | 2,520 | 1,310 | 911 | 664 |
| 60 | 3,350 | 1,870 | 1,390 | 1,100 |

RED RIVER BASIN

07335700 KIAMICHI RIVER NEAR BIG CEDAR, OK
(Hydrologic benchmark station)

LOCATION.--Lat 34°38'18", long 94°36'45", in SW 1/4 SE 1/4 sec.18, T.2 N., R.26 E., Le Flore County, Hydrologic Unit 11140105, in Ouachita National Forest, on downstream side of right bank pier of bridge on State Highway 63, 0.2 mi upstream from Rattlesnake Creek, 1.1 mi upstream from Big Branch, 2.1 mi east of Big Cedar, and at mile 157.6.

DRAINAGE AREA.--40.1 mi².

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

REMARKS.--Historical record length assumed to start from same year as that for nearby station Kiamichi River near Belzoni, OK (07336500) for peak-frequency analysis of unregulated streamflow period.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1966-1999

86.7

Magnitude and probability of annual high flow based on period of record 1966-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 2,560 | 3,880 | 4,690 | 5,640 | 6,280 | 6,890 |
| 3 | 1,370 | 2,040 | 2,460 | 2,960 | 3,300 | 3,620 |
| 7 | 736 | 1,060 | 1,250 | 1,470 | 1,620 | 1,750 |
| 10 | 578 | 820 | 964 | 1,130 | 1,240 | 1,340 |
| 30 | 310 | 434 | 512 | 608 | 676 | 743 |
| 60 | 215 | 289 | 337 | 396 | 439 | 482 |

Magnitude and probability of annual instantaneous peak flow based on 84 historic years of record, 1916-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 9,330 | 14,700 | 18,400 | 23,200 | 26,900 | 30,600 | 39,500 |

Oklahoma weighted skew = - 0.195

Duration table of daily mean flow for period of record 1966-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 1,060 | 657 | 320 | 184 | 135 | 103 | 65.3 | 42.9 | 27.3 | 15.1 | 5.28 | 1.50 | 0.59 | 0.30 | 0.12 | 0.06 |

| Magnitude and probability of annual low flow based on period of record 1967-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.03 | 0.00 | 0.00 | 0.00 |
| 10 | 0.06 | 0.00 | 0.00 | 0.00 |
| 30 | 0.20 | 0.00 | 0.00 | 0.00 |
| 60 | 0.51 | 0.01 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 10.5 | 4.60 | 2.83 | 1.84 |
| 3 | 11.9 | 5.26 | 3.26 | 2.14 |
| 7 | 14.7 | 6.67 | 4.31 | 2.96 |
| 10 | 17.0 | 8.60 | 5.44 | 3.93 |
| 30 | 66.6 | 29.5 | 17.8 | 11.3 |
| 60 | 114 | 68.4 | 51.9 | 41.4 |

| Magnitude and probability of annual low flow based on period of record 1966-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.03 | 0.00 | 0.00 | 0.00 |
| 10 | 0.06 | 0.00 | 0.00 | 0.00 |
| 30 | 0.24 | 0.00 | 0.00 | 0.00 |
| 60 | 0.60 | 0.01 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1966-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 6.42 | 1.02 | 0.00 | 0.00 |
| 3 | 8.18 | 1.71 | 0.00 | 0.00 |
| 7 | 9.72 | 1.90 | 0.00 | 0.00 |
| 10 | 14.3 | 2.30 | 0.02 | 0.00 |
| 30 | 31.7 | 9.48 | 3.69 | 1.14 |
| 60 | 62.0 | 21.4 | 9.00 | 3.70 |

RED RIVER BASIN

07335790 KIAMICHI RIVER NEAR CLAYTON, OK

LOCATION.--Lat 34°34'29", long 95°20'26", in NE ¼ SE ¼ sec.7, T.1 N., R.19 E., Pushmataha County, Hydrologic Unit 11140105, on left bank near downstream bridge abutment on U.S. Highway 271, approximately 1 mi southeast of Clayton, and at mile 101.6.

DRAINAGE AREA.--708 mi².

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

REMARKS.--Some regulation since December 1982 by Sardis Lake (station 07335775), on Jackfork Creek 4.5 mi upstream.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1984-1999

1,155

Magnitude and probability of annual high flow based on period of record 1984-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 15,000 | 20,400 | 24,200 | 29,400 | 33,500 | 37,800 |
| 3 | 11,300 | 16,000 | 19,400 | 24,300 | 28,200 | 32,400 |
| 7 | 7,200 | 9,950 | 12,100 | 15,100 | 17,700 | 20,600 |
| 10 | 6,230 | 8,390 | 10,000 | 12,300 | 14,200 | 16,200 |
| 30 | 3,880 | 5,340 | 6,400 | 7,850 | 9,020 | 10,300 |
| 60 | 2,860 | 3,780 | 4,380 | 5,130 | 5,700 | 6,260 |

Magnitude and probability of annual instantaneous peak flow based on 16 years of record, 1984-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|--|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% | |
| 17,000 | 22,700 | 26,800 | 32,200 | 36,500 | 41,000 | 52,500 | |

station skew = 0.415

Duration table of daily mean flow for period of record 1984-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-------|-------|-----|-----|-----|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 10,200 | 7,360 | 4,620 | 3,260 | 2,540 | 1,960 | 1,130 | 581 | 304 | 154 | 60.3 | 18.8 | 5.20 | 2.66 | 1.18 | 0.60 |

| Magnitude and probability of annual low flow based on period of record 1985-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.89 | 0.24 | 0.10 | 0.00 |
| 3 | 1.06 | 0.40 | 0.23 | 0.00 |
| 7 | 1.51 | 0.76 | 0.55 | 0.00 |
| 10 | 1.89 | 0.97 | 0.72 | 0.00 |
| 30 | 6.97 | 2.20 | 1.48 | 0.17 |
| 60 | 14.5 | 3.73 | 2.05 | 1.32 |

| Magnitude and probability of annual low flow based on period of record 1984-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 114 | 49.7 | 31.4 | 21.1 |
| 3 | 135 | 57.7 | 35.8 | 23.6 |
| 7 | 184 | 72.3 | 42.4 | 26.6 |
| 10 | 238 | 88.3 | 49.4 | 29.6 |
| 30 | 960 | 312 | 150 | 76.2 |
| 60 | 1,600 | 880 | 620 | 456 |

| Magnitude and probability of annual low flow based on period of record 1984-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.89 | 0.24 | 0.10 | 0.00 |
| 3 | 1.06 | 0.40 | 0.23 | 0.00 |
| 7 | 1.51 | 0.76 | 0.55 | 0.00 |
| 10 | 1.89 | 0.97 | 0.72 | 0.00 |
| 30 | 7.24 | 2.40 | 1.60 | 0.17 |
| 60 | 20.5 | 4.64 | 2.34 | 1.40 |

| Magnitude and probability of annual low flow based on period of record 1984-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 24.2 | 5.18 | 2.10 | 0.95 |
| 3 | 25.9 | 5.46 | 2.19 | 0.98 |
| 7 | 42.7 | 8.33 | 3.09 | 1.26 |
| 10 | 55.8 | 10.9 | 3.99 | 1.61 |
| 30 | 291 | 69.7 | 25.4 | 9.57 |
| 60 | 637 | 210 | 94.1 | 43.0 |

RED RIVER BASIN

07336000 TENMILE CREEK NEAR MILLER, OK

LOCATION.--Lat 34°17'55", long 95°44'40", in NW ¼ sec.16, T.3 S., R.15 E., Pushmataha County, near center of span on downstream side of pier on county road bridge, 1.2 mi south of Miller, 4.7 mi upstream from Rock Creek, and at mile 11.6.

DRAINAGE AREA.--68 mi².

PERIOD OF RECORD.--October 1955 to September 1970, crest-stage partial record site October 1970 to September 1984.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1956-1970

76.4

Magnitude and probability of annual high flow based on period of record 1956-1970

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 3,000 | 3,680 | 3,870 | 3,980 | 4,010 | 4,030 |
| 3 | 1,550 | 2,030 | 2,300 | 2,600 | 2,790 | 2,970 |
| 7 | 750 | 1,070 | 1,300 | 1,640 | 1,910 | 2,210 |
| 10 | 553 | 833 | 1,060 | 1,420 | 1,720 | 2,080 |
| 30 | 292 | 452 | 574 | 747 | 890 | 1,040 |
| 60 | 186 | 314 | 425 | 601 | 761 | 950 |

Magnitude and probability of annual instantaneous peak flow based on 29 years of record, 1956-1984

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 3,620 | 5,080 | 6,130 | 7,560 | 8,690 | 9,890 | 13,000 |

Oklahoma weighted skew = 0.300

Duration table of daily mean flow for period of record 1956-1970

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 1,670 | 1,010 | 315 | 125 | 67.8 | 44.3 | 21.6 | 12.0 | 5.77 | 2.58 | 0.98 | 0.65 | 0.33 | 0.16 | 0.07 | 0.03 |

| Magnitude and probability of annual low flow based on period of record 1957-1970 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.38 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1956-1970 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.82 | 0.67 | 0.38 | 0.00 |
| 3 | 2.22 | 0.82 | 0.49 | 0.00 |
| 7 | 2.89 | 1.01 | 0.58 | 0.00 |
| 10 | 3.58 | 1.27 | 0.72 | 0.00 |
| 30 | 32.6 | 11.6 | 7.11 | 4.87 |
| 60 | 123 | 75.2 | 61.0 | 52.4 |

| Magnitude and probability of annual low flow based on period of record 1956-1969 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60 | 0.38 | 0.00 | 0.00 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1956-1970 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.45 | 0.00 | 0.00 | 0.00 |
| 3 | 0.49 | 0.00 | 0.00 | 0.00 |
| 7 | 0.58 | 0.00 | 0.00 | 0.00 |
| 10 | 0.66 | 0.00 | 0.00 | 0.00 |
| 30 | 2.75 | 0.28 | 0.00 | 0.00 |
| 60 | 12.3 | 1.60 | 0.28 | 0.00 |

RED RIVER BASIN

07336200 KIAMICHI RIVER NEAR ANTLERS, OK

LOCATION.--Lat 34°14'55", long 95°36'18", in SW ¼ sec.35, T.3 S., R.16 E., Pushmataha County, Hydrologic Unit 11140105, on right bank, 50 ft downstream from bridge on U.S. Highway 271 and State Highway 2, 2.0 mi northeast of Antlers, 7.7 mi downstream from Tenmile Creek, 5.4 mi upstream from Cedar Creek and at mile 59.6.

DRAINAGE AREA.--1,138 mi².

PERIOD OF RECORD.--October 1972 to current year.

REMARKS.--Some regulation since December 1982 by Sardis Lake (station 07335775), located on Jackfork Creek, 42.0 miles upstream from station. Small diversion for municipal water supply for city of Antlers upstream from station. Historical record length assumed to start from same year as that for nearby station Kiamichi River near Belzoni, OK (07336500) for peak-frequency analysis of unregulated streamflow period.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1973-1982

1,483

Magnitude and probability of annual high flow based on period of record 1973-1982

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 28,100 | 37,300 | 42,600 | 48,700 | 51,800 | 53,800 |
| 3 | 24,700 | 34,300 | 38,800 | 42,900 | 45,000 | 46,600 |
| 7 | 14,200 | 19,800 | 22,800 | 25,800 | 27,600 | 29,000 |
| 10 | 11,300 | 15,700 | 18,000 | 20,200 | 21,600 | 22,700 |
| 30 | 5,630 | 7,570 | 8,670 | 9,890 | 10,700 | 11,400 |
| 60 | 3,670 | 5,080 | 5,990 | 7,130 | 7,970 | 8,800 |

Magnitude and probability of annual instantaneous peak flow based on 67 historic years of record, 1916-1982

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 28,200 | 37,400 | 42,700 | 48,800 | 53,000 | 56,900 | 65,000 |

Oklahoma weighted skew = - 0.385

Duration table of daily mean flow for period of record 1973-1982

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|-------|-------|-------|-------|-----|-----|-----|-----|-----|------|------|------|------|------|
| 14,500 | 12,500 | 6,930 | 3,440 | 2,270 | 1,630 | 898 | 538 | 327 | 195 | 105 | 45.7 | 14.0 | 2.03 | 0.50 | 0.25 |

| Magnitude and probability of annual low flow based on period of record 1974-1982 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.47 | 0.00 | 0.00 | 0.00 |
| 3 | 3.65 | 0.00 | 0.00 | 0.00 |
| 7 | 4.17 | 0.00 | 0.00 | 0.00 |
| 10 | 4.65 | 0.00 | 0.00 | 0.00 |
| 30 | 9.98 | 0.00 | 0.00 | 0.00 |
| 60 | 28.4 | 2.86 | 0.64 | 0.16 |

| Magnitude and probability of annual low flow based on period of record 1973-1982 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 189 | 109 | 77.2 | 56.2 |
| 3 | 200 | 116 | 83.2 | 61.7 |
| 7 | 229 | 137 | 103 | 81.3 |
| 10 | 284 | 163 | 121 | 94.3 |
| 30 | 998 | 408 | 237 | 145 |
| 60 | 2,090 | 1,250 | 955 | 767 |

| Magnitude and probability of annual low flow based on period of record 1973-1981 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.58 | 0.00 | 0.00 | 0.00 |
| 3 | 3.71 | 0.00 | 0.00 | 0.00 |
| 7 | 4.21 | 0.00 | 0.00 | 0.00 |
| 10 | 4.68 | 0.00 | 0.00 | 0.00 |
| 30 | 10.3 | 0.00 | 0.00 | 0.00 |
| 60 | 30.9 | 3.00 | 0.65 | 0.16 |

| Magnitude and probability of annual low flow based on period of record 1973-1982 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 61.8 | 11.0 | 3.67 | 1.34 |
| 3 | 73.0 | 14.1 | 4.80 | 1.76 |
| 7 | 98.9 | 20.3 | 6.74 | 2.32 |
| 10 | 108 | 22.4 | 7.48 | 2.61 |
| 30 | 204 | 86.6 | 56.3 | 39.8 |
| 60 | 441 | 192 | 118 | 77.2 |

RED RIVER BASIN
 07336200 KIAMICHI RIVER NEAR ANTLERS, OK—Continued
 REGULATED STREAMFLOW PERIOD

| |
|--|
| Mean annual flow, in ft ³ /s, based on period of record 1984-1999 |
| 1,812 |

| Magnitude and probability of annual high flow based on period of record 1984-1999 | | | | | | |
|---|--|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 24,200 | 34,100 | 41,400 | 51,300 | 59,400 | 68,000 |
| 3 | 19,700 | 28,500 | 34,700 | 42,600 | 48,600 | 54,800 |
| 7 | 12,300 | 17,900 | 22,200 | 28,400 | 33,600 | 39,200 |
| 10 | 10,200 | 14,500 | 17,700 | 22,200 | 25,900 | 30,000 |
| 30 | 6,120 | 8,800 | 10,900 | 13,900 | 16,500 | 19,300 |
| 60 | 4,460 | 6,110 | 7,290 | 8,860 | 10,100 | 11,400 |

| Magnitude and probability of annual instantaneous peak flow based on 16 years of record, 1984-1999 | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 27,500 | 37,700 | 44,700 | 53,900 | 61,000 | 68,200 | 86,100 |

station skew = 0.170

| Duration table of daily mean flow for period of record 1984-1999 | | | | | | | | | | | | | | | |
|---|--------|-------|-------|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|
| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 13,500 | 11,800 | 7,240 | 5,000 | 3,850 | 2,970 | 1,630 | 857 | 448 | 237 | 110 | 37.7 | 11.0 | 5.89 | 2.93 | 0.97 |

| Magnitude and probability of annual low flow based on period of record 1985-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.22 | 1.17 | 0.63 | 0.00 |
| 3 | 3.57 | 1.48 | 0.90 | 0.00 |
| 7 | 4.43 | 2.08 | 1.41 | 0.00 |
| 10 | 4.94 | 2.35 | 1.60 | 0.00 |
| 30 | 10.6 | 4.47 | 2.75 | 0.00 |
| 60 | 23.2 | 5.15 | 2.46 | 1.38 |

| Magnitude and probability of annual low flow based on period of record 1984-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 157 | 68.7 | 43.6 | 29.6 |
| 3 | 182 | 76.0 | 46.4 | 30.3 |
| 7 | 274 | 99.8 | 55.4 | 32.9 |
| 10 | 343 | 119 | 63.3 | 35.9 |
| 30 | 1,450 | 422 | 192 | 92.6 |
| 60 | 2,530 | 1,340 | 934 | 679 |

| Magnitude and probability of annual low flow based on period of record 1984-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3.30 | 1.19 | 0.63 | 0.00 |
| 3 | 3.66 | 1.50 | 0.90 | 0.00 |
| 7 | 4.51 | 2.11 | 1.42 | 0.00 |
| 10 | 5.00 | 2.37 | 1.61 | 0.00 |
| 30 | 11.5 | 4.74 | 2.89 | 0.00 |
| 60 | 39.8 | 7.54 | 3.17 | 1.55 |

| Magnitude and probability of annual low flow based on period of record 1984-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 48.7 | 13.4 | 6.50 | 3.48 |
| 3 | 51.6 | 14.1 | 6.81 | 3.65 |
| 7 | 80.5 | 20.0 | 8.70 | 4.15 |
| 10 | 97.2 | 23.2 | 9.95 | 4.68 |
| 30 | 456 | 101 | 33.6 | 11.4 |
| 60 | 1,050 | 280 | 97.7 | 33.3 |

RED RIVER BASIN

07336500 KIAMICHI RIVER NEAR BELZONI, OK

LOCATION.--Lat 34°12'02", long 95°29'03", in SE 1/4 sec.14, T.14 S., R.17 E., Pushmataha County, near left bank on downstream side of pier of bridge on State Highway 7, 1.8 mi northwest of Belzoni, 6.5 mi downstream from Cedar Creek, 10 mi upstream from Possum Creek, and at mile 47.7.

DRAINAGE AREA.--1,423 mi².

PERIOD OF RECORD.--October 1925 to September 1972.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1926-1972

1,699

Magnitude and probability of annual high flow based on period of record 1926-1972

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 31,100 | 44,500 | 53,200 | 63,900 | 71,800 | 79,400 |
| 3 | 26,200 | 38,700 | 46,900 | 57,200 | 64,700 | 72,100 |
| 7 | 16,600 | 24,900 | 30,700 | 38,300 | 44,200 | 50,200 |
| 10 | 13,200 | 19,700 | 24,300 | 30,200 | 34,800 | 39,500 |
| 30 | 6,690 | 9,800 | 11,900 | 14,500 | 16,400 | 18,300 |
| 60 | 4,500 | 6,730 | 8,330 | 10,500 | 12,100 | 13,900 |

Magnitude and probability of annual instantaneous peak flow based on 57 historic years of record, 1916-1972

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 34,500 | 49,400 | 59,400 | 72,000 | 81,400 | 90,800 | 113,000 |

Oklahoma weighted skew = - 0.116

Duration table of daily mean flow for period of record 1926-1972

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|--------|-------|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 15,000 | 13,300 | 8,370 | 3,720 | 2,310 | 1,620 | 936 | 568 | 341 | 197 | 97.5 | 39.6 | 9.21 | 1.29 | 0.44 | 0.22 |

| Magnitude and probability of annual low flow based on period of record 1927-1972 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.78 | 0.00 | 0.00 | 0.00 |
| 3 | 2.05 | 0.00 | 0.00 | 0.00 |
| 7 | 2.60 | 0.00 | 0.00 | 0.00 |
| 10 | 3.10 | 0.00 | 0.00 | 0.00 |
| 30 | 8.45 | 0.23 | 0.00 | 0.00 |
| 60 | 27.4 | 2.28 | 0.30 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1926-1972 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 167 | 104 | 85.0 | 73.3 |
| 3 | 183 | 113 | 91.6 | 78.7 |
| 7 | 242 | 135 | 103 | 84.0 |
| 10 | 293 | 153 | 113 | 89.2 |
| 30 | 1,330 | 645 | 428 | 300 |
| 60 | 3,230 | 1,710 | 1,140 | 778 |

| Magnitude and probability of annual low flow based on period of record 1926-1971 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.79 | 0.00 | 0.00 | 0.00 |
| 3 | 2.05 | 0.00 | 0.00 | 0.00 |
| 7 | 2.60 | 0.00 | 0.00 | 0.00 |
| 10 | 3.12 | 0.00 | 0.00 | 0.00 |
| 30 | 8.45 | 0.29 | 0.00 | 0.00 |
| 60 | 32.3 | 3.04 | 0.53 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1926-1972 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 39.2 | 7.10 | 0.95 | 0.00 |
| 3 | 49.7 | 9.66 | 1.40 | 0.00 |
| 7 | 70.3 | 12.3 | 3.00 | 0.20 |
| 10 | 71.9 | 15.0 | 4.69 | 0.59 |
| 30 | 208 | 45.4 | 16.0 | 5.87 |
| 60 | 545 | 153 | 66.0 | 29.8 |

RED RIVER BASIN

07336820 RED RIVER NEAR DE KALB, TX

LOCATION.--Lat 33°40'59", long 94°41'39", Bowie County, Hydrologic Unit 11140106, on right bank at downstream side of bridge on U.S. Highway 259, 4.8 mi upstream from North Mill Creek, 13 mi north of De Kalb, and at mile 556.9.

DRAINAGE AREA.--47,348 mi², of which 5,936 mi² probably is noncontributing.

PERIOD OF RECORD.--December 1967 to September 1998.

REMARKS.--Since installation of gage in December 1967, at least 10% of contributing drainage area has been regulated by Lake Texoma (station 07331500) located approximately 169 mi upstream, and low flows may be affected by releases for the generation of electric power. Storage and/or releases from Lake Hugo on the Kiamichi River, a tributary to the Red River about 45 mi upstream, may also affect flows. Historical record length assumed to start from same year as that for nearby station Red River at Arthur City, TX (07335500) for peak-frequency analysis of regulated streamflow period.

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1969-1998

14,811

Magnitude and probability of annual high flow based on period of record 1969-1998

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 69,100 | 107,000 | 139,000 | 183,000 | 220,000 | 261,000 |
| 3 | 62,200 | 95,200 | 123,000 | 168,000 | 208,000 | 255,000 |
| 7 | 54,000 | 82,200 | 107,000 | 146,000 | 183,000 | 226,000 |
| 10 | 51,900 | 78,400 | 100,000 | 132,000 | 161,000 | 193,000 |
| 30 | 39,700 | 60,200 | 74,400 | 92,900 | 107,000 | 121,000 |
| 60 | 29,800 | 46,400 | 58,100 | 73,300 | 85,000 | 96,800 |

Magnitude and probability of annual instantaneous peak flow based on 54 historic years of record, 1945-1998

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 72,300 | 110,000 | 140,000 | 183,000 | 220,000 | 261,000 | 374,000 |

station skew = 0.407

Duration table of daily mean flow for period of record 1969-1998

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| 21,700 | 21,400 | 20,500 | 19,000 | 17,500 | 16,000 | 13,000 | 9,990 | 7,170 | 5,290 | 4,060 | 3,130 | 2,200 | 1,610 | 1,170 | 873 |

| Magnitude and probability of annual low flow based on period of record 1970-1998 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1,030 | 592 | 439 | 340 |
| 3 | 1,170 | 705 | 537 | 428 |
| 7 | 1,420 | 895 | 706 | 581 |
| 10 | 1,570 | 1,010 | 798 | 658 |
| 30 | 2,260 | 1,550 | 1,260 | 1,060 |
| 60 | 2,890 | 2,070 | 1,740 | 1,520 |

| Magnitude and probability of annual low flow based on period of record 1969-1998 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 3,720 | 1,950 | 1,470 | 1,190 |
| 3 | 4,290 | 2,290 | 1,730 | 1,410 |
| 7 | 5,650 | 2,940 | 2,180 | 1,740 |
| 10 | 6,090 | 3,190 | 2,380 | 1,900 |
| 30 | 10,300 | 5,680 | 4,280 | 3,440 |
| 60 | 16,800 | 9,510 | 7,140 | 5,660 |

| Magnitude and probability of annual low flow based on period of record 1969-1997 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1,210 | 696 | 518 | 404 |
| 3 | 1,390 | 824 | 624 | 495 |
| 7 | 1,760 | 1,050 | 790 | 619 |
| 10 | 1,930 | 1,180 | 890 | 698 |
| 30 | 2,630 | 1,710 | 1,370 | 1,130 |
| 60 | 3,400 | 2,300 | 1,880 | 1,600 |

| Magnitude and probability of annual low flow based on period of record 1969-1998 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1,910 | 692 | 680 | 514 |
| 3 | 2,150 | 1,120 | 807 | 621 |
| 7 | 2,460 | 1,480 | 1,040 | 850 |
| 10 | 2,630 | 1,510 | 1,170 | 960 |
| 30 | 4,310 | 2,390 | 1,790 | 1,420 |
| 60 | 6,410 | 3,380 | 2,440 | 1,870 |

RED RIVER BASIN

07337500 LITTLE RIVER NEAR WRIGHT CITY, OK

LOCATION.--Lat 34°04'10", long 95°02'47", in NE ¼ NW ¼ sec.6, T.6 S., R.22 E., McCurtain County, Hydrologic Unit 11140107, on left bank on downstream side of bridge on State Highway 98, 1.8 mi upstream from White Oak Creek, 2.0 mi west of Wright City, 4.7 mi downstream from Pine Creek Lake, and at mile 140.6.

DRAINAGE AREA.--645 mi².

PERIOD OF RECORD.--October 1929 to September 1931, October 1944 to September 1989. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Except for 10 mi² intervening area, flow completely regulated since June 1969 by Pine Creek Lake (station 07337300).

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1930-1968

907

Magnitude and probability of annual high flow based on period of record 1930-1968

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 20,700 | 34,100 | 44,500 | 59,300 | 71,600 | 84,800 |
| 3 | 12,800 | 20,300 | 26,000 | 34,000 | 40,500 | 47,600 |
| 7 | 7,810 | 11,700 | 14,500 | 18,000 | 20,700 | 23,500 |
| 10 | 6,190 | 9,310 | 11,500 | 14,200 | 16,300 | 18,400 |
| 30 | 3,340 | 4,940 | 6,020 | 7,400 | 8,440 | 9,470 |
| 60 | 2,320 | 3,520 | 4,390 | 5,570 | 6,490 | 7,470 |

Magnitude and probability of annual instantaneous peak flow based on 26 years of record, 1930-1968

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 30,500 | 49,700 | 64,100 | 83,800 | 99,500 | 116,000 | 158,000 |

Oklahoma weighted skew = - 0.047

Duration table of daily mean flow for period of record 1930-1968

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 11,400 | 7,640 | 4,120 | 2,070 | 1,320 | 930 | 548 | 336 | 200 | 111 | 55.0 | 21.6 | 3.63 | 1.03 | 0.41 | 0.21 |

| Magnitude and probability of annual low flow based on period of record 1931-1968 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.23 | 0.08 | 0.00 | 0.00 |
| 3 | 1.40 | 0.10 | 0.00 | 0.00 |
| 7 | 1.57 | 0.12 | 0.00 | 0.00 |
| 10 | 1.68 | 0.13 | 0.00 | 0.00 |
| 30 | 3.97 | 0.28 | 0.02 | 0.00 |
| 60 | 10.4 | 1.00 | 0.20 | 0.01 |

| Magnitude and probability of annual low flow based on period of record 1930-1968 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 97.0 | 55.8 | 43.1 | 35.4 |
| 3 | 107 | 61.1 | 47.0 | 38.4 |
| 7 | 131 | 70.4 | 53.0 | 42.8 |
| 10 | 167 | 83.9 | 60.8 | 47.6 |
| 30 | 639 | 319 | 228 | 176 |
| 60 | 1,560 | 850 | 604 | 449 |

| Magnitude and probability of annual low flow based on period of record 1930-1967 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 1.23 | 0.08 | 0.00 | 0.00 |
| 3 | 1.40 | 0.10 | 0.00 | 0.00 |
| 7 | 1.57 | 0.12 | 0.00 | 0.00 |
| 10 | 1.68 | 0.13 | 0.00 | 0.00 |
| 30 | 4.29 | 0.32 | 0.02 | 0.00 |
| 60 | 14.1 | 1.27 | 0.25 | 0.02 |

| Magnitude and probability of annual low flow based on period of record 1930-1968 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 25.4 | 3.36 | 0.70 | 0.06 |
| 3 | 33.6 | 4.31 | 0.83 | 0.06 |
| 7 | 44.5 | 7.62 | 2.30 | 0.73 |
| 10 | 48.4 | 8.62 | 2.70 | 0.90 |
| 30 | 106 | 23.2 | 8.68 | 3.49 |
| 60 | 305 | 83.5 | 34.7 | 15.1 |

RED RIVER BASIN
07337500 LITTLE RIVER NEAR WRIGHT CITY, OK—Continued
REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1970-1989

902

| Magnitude and probability of annual high flow based on period of record 1970-1989 | | | | | | |
|---|---|----------|-----------|----------|----------|-----------|
| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 6,250 | 7,040 | 7,420 | 7,780 | 7,990 | 8,170 |
| 3 | 6,080 | 6,880 | 7,250 | 7,590 | 7,780 | 7,940 |
| 7 | 5,730 | 6,790 | 7,240 | 7,570 | 7,760 | 7,920 |
| 10 | 5,390 | 6,590 | 7,090 | 7,510 | 7,720 | 7,870 |
| 30 | 3,290 | 4,520 | 5,330 | 6,350 | 7,110 | 7,850 |
| 60 | 2,270 | 3,120 | 3,700 | 4,460 | 5,030 | 5,610 |

Magnitude and probability of annual instantaneous peak flow based on 20 years of record, 1970-1989

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 6,460 | 7,840 | 8,740 | 9,870 | 10,700 | 11,600 | 13,600 |

station skew = 0.357

Duration table of daily mean flow for period of record 1970-1989

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|-------|-------|-------|-------|-------|-------|-----|-----|-----|------|------|------|------|------|------|------|
| 7,110 | 6,610 | 5,130 | 3,120 | 2,030 | 1,320 | 641 | 329 | 182 | 79.2 | 43.3 | 26.6 | 16.9 | 11.8 | 7.13 | 4.33 |

| Magnitude and probability of annual low flow based on period of record 1971-1989 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.72 | 2.46 | 1.02 | 0.42 |
| 3 | 7.90 | 3.04 | 1.71 | 1.01 |
| 7 | 8.55 | 4.20 | 2.80 | 1.96 |
| 10 | 9.32 | 4.83 | 3.37 | 2.49 |
| 30 | 15.1 | 10.1 | 8.70 | 7.68 |
| 60 | 30.1 | 15.5 | 11.4 | 9.02 |

| Magnitude and probability of annual low flow based on period of record 1970-1989 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 29.1 | 10.8 | 6.12 | 3.74 |
| 3 | 38.2 | 15.1 | 9.42 | 6.42 |
| 7 | 54.5 | 24.5 | 16.6 | 12.1 |
| 10 | 85.3 | 32.4 | 20.2 | 13.8 |
| 30 | 600 | 178 | 77.9 | 35.5 |
| 60 | 1,420 | 765 | 481 | 303 |

| Magnitude and probability of annual low flow based on period of record 1970-1988 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 9.00 | 2.59 | 1.04 | 0.43 |
| 3 | 9.20 | 3.22 | 1.77 | 1.03 |
| 7 | 9.62 | 4.45 | 2.91 | 2.02 |
| 10 | 10.6 | 5.43 | 3.85 | 2.91 |
| 30 | 16.8 | 10.5 | 8.71 | 7.68 |
| 60 | 30.5 | 16.0 | 11.9 | 9.50 |

| Magnitude and probability of annual low flow based on period of record 1970-1989 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 24.2 | 9.33 | 5.07 | 2.88 |
| 3 | 29.0 | 10.5 | 5.84 | 3.50 |
| 7 | 37.0 | 11.8 | 6.40 | 3.82 |
| 10 | 40.8 | 13.1 | 7.06 | 4.20 |
| 30 | 115 | 38.7 | 21.6 | 13.3 |
| 60 | 372 | 135 | 69.4 | 37.2 |

RED RIVER BASIN

07337900 GLOVER RIVER NEAR GLOVER, OK

LOCATION.--Lat 34°05'51", long 94°54'07", in NW ¼ NE ¼ sec.28, T.5 S., R.23 E., McCurtain County, Hydrologic Unit 11140107, on right downstream end of bridge on State Highways 3 and 7, 2.0 mi north of Glover, 11.0 mi northwest of Broken Bow, and at mile 9.2.

DRAINAGE AREA.--315 mi².

PERIOD OF RECORD.--October 1961 to current year. Prior to October 1990, published as Glover Creek near Glover.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1962-1999

504

Magnitude and probability of annual high flow based on period of record 1962-1999

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 13,600 | 21,000 | 26,700 | 34,700 | 41,300 | 48,500 |
| 3 | 7,470 | 11,300 | 14,200 | 18,300 | 21,800 | 25,600 |
| 7 | 4,280 | 6,240 | 7,600 | 9,360 | 10,700 | 12,100 |
| 10 | 3,360 | 4,970 | 6,050 | 7,420 | 8,450 | 9,470 |
| 30 | 1,840 | 2,620 | 3,090 | 3,620 | 3,990 | 4,320 |
| 60 | 1,270 | 1,800 | 2,140 | 2,550 | 2,850 | 3,130 |

Magnitude and probability of annual instantaneous peak flow based on 92 historic years of record, 1908-1999

| Discharge, in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
|---|----------|-----------|----------|----------|-----------|-------------|
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 28,000 | 44,300 | 56,400 | 73,100 | 86,600 | 101,000 | 138,000 |

Oklahoma weighted skew = 0.058

Duration table of daily mean flow for period of record 1962-1999

| Discharge, in ft ³ /s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 6,810 | 4,390 | 2,150 | 1,080 | 717 | 529 | 325 | 207 | 128 | 70.7 | 34.6 | 13.1 | 3.85 | 1.26 | 0.47 | 0.23 |

| Magnitude and probability of annual low flow based on period of record 1963-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.76 | 0.00 | 0.00 | 0.00 |
| 3 | 0.84 | 0.00 | 0.00 | 0.00 |
| 7 | 1.07 | 0.10 | 0.00 | 0.00 |
| 10 | 1.26 | 0.18 | 0.00 | 0.00 |
| 30 | 3.12 | 0.87 | 0.34 | 0.00 |
| 60 | 8.58 | 1.96 | 0.73 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 53.4 | 25.7 | 17.3 | 12.4 |
| 3 | 57.8 | 27.9 | 18.9 | 13.7 |
| 7 | 70.8 | 32.3 | 21.1 | 14.7 |
| 10 | 83.6 | 36.8 | 23.4 | 16.0 |
| 30 | 307 | 132 | 81.2 | 53.0 |
| 60 | 662 | 360 | 255 | 189 |

| Magnitude and probability of annual low flow based on period of record 1962-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 0.76 | 0.00 | 0.00 | 0.00 |
| 3 | 0.84 | 0.00 | 0.00 | 0.00 |
| 7 | 1.10 | 0.10 | 0.00 | 0.00 |
| 10 | 1.30 | 0.19 | 0.00 | 0.00 |
| 30 | 3.21 | 0.90 | 0.36 | 0.00 |
| 60 | 9.73 | 2.02 | 0.76 | 0.27 |

| Magnitude and probability of annual low flow based on period of record 1962-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 33.1 | 6.77 | 1.90 | 0.42 |
| 3 | 36.9 | 7.52 | 2.08 | 0.45 |
| 7 | 44.0 | 8.60 | 2.34 | 0.50 |
| 10 | 48.8 | 9.30 | 2.55 | 0.55 |
| 30 | 148 | 30.5 | 9.75 | 3.19 |
| 60 | 287 | 82.1 | 32.9 | 13.3 |

RED RIVER BASIN

07338500 LITTLE RIVER BELOW LUKFATA CREEK NEAR IDABEL, OK

LOCATION.--Lat 33°56'28", long 94°45'30", in SE ¼ SE ¼ sec.14, T.7 S., R.24 E., McCurtain County, Hydrologic Unit 11140107, on left bank at downstream side of bridge on U.S. Highway 70 just downstream from Lukfata Creek, 5.0 mi northeast of Idabel, and at mile 103.4.

DRAINAGE AREA.--1,226 mi².

PERIOD OF RECORD.--October 1946 to current year.

REMARKS.--Flow regulated since June 1969 by Pine Creek Lake (station 07337300), 41.9 mi upstream. Small diversions for municipal use by City of Idabel at station and by Weyerhaeuser 41 miles above station. Statistical analyses include streamflow record from nearby station Little River near Idabel, OK (07338000), October 1929 to September 1946.

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1930-1968

1,629

Magnitude and probability of annual high flow based on period of record 1930-1968

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | 2 | 5 | 10 | 25 | 50 | 100 |
|---------------------------------|--------|--------|--------|--------|--------|--------|
| | 50% | 20% | 10% | 4% | 2% | 1% |
| 1 | 24,500 | 39,700 | 51,000 | 66,600 | 79,000 | 92,100 |
| 3 | 19,700 | 30,100 | 47,500 | 47,500 | 55,300 | 63,500 |
| 7 | 13,700 | 19,800 | 23,700 | 28,700 | 32,200 | 35,700 |
| 10 | 11,100 | 15,800 | 18,900 | 22,600 | 25,300 | 27,800 |
| 30 | 6,180 | 8,900 | 10,700 | 13,000 | 14,600 | 16,300 |
| 60 | 4,230 | 6,320 | 7,880 | 10,000 | 11,800 | 13,600 |

Magnitude and probability of annual instantaneous peak flow based on 39 years of record, 1930-1968

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 | 5 | 10 | 25 | 50 | 100 | 500 |
|--------|--------|--------|--------|--------|---------|---------|
| 50% | 20% | 10% | 4% | 2% | 1% | 0.2% |
| 27,500 | 46,100 | 60,100 | 79,500 | 95,200 | 112,000 | 155,000 |

Oklahoma weighted skew = - 0.052

Duration table of daily mean flow for period of record 1930-1968

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|--------|-------|-------|-------|-------|-------|-----|-----|-----|-----|------|------|------|------|------|
| 12,600 | 11,500 | 8,240 | 4,560 | 2,610 | 1,820 | 1,060 | 665 | 404 | 237 | 122 | 54.1 | 18.3 | 7.53 | 2.71 | 1.14 |

| Magnitude and probability of annual low flow based on period of record 1931-1968 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.26 | 1.69 | 0.43 | 0.00 |
| 3 | 7.68 | 1.82 | 0.66 | 0.00 |
| 7 | 10.2 | 2.02 | 0.68 | 0.09 |
| 10 | 10.3 | 2.14 | 0.69 | 0.19 |
| 30 | 16.0 | 4.40 | 2.15 | 1.16 |
| 60 | 31.5 | 8.02 | 3.65 | 1.83 |

| Magnitude and probability of annual low flow based on period of record 1930-1968 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 206 | 112 | 80.0 | 60.4 |
| 3 | 222 | 120 | 86.5 | 65.8 |
| 7 | 271 | 139 | 99.6 | 76.1 |
| 10 | 324 | 159 | 112 | 84.9 |
| 30 | 1,210 | 566 | 379 | 271 |
| 60 | 2,770 | 1,570 | 1,150 | 876 |

| Magnitude and probability of annual low flow based on period of record 1930-1967 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 7.67 | 1.85 | 0.48 | 0.00 |
| 3 | 7.98 | 1.89 | 0.68 | 0.00 |
| 7 | 10.4 | 2.05 | 0.69 | 0.09 |
| 10 | 10.6 | 2.19 | 0.70 | 0.19 |
| 30 | 16.6 | 4.49 | 2.18 | 1.17 |
| 60 | 34.6 | 8.36 | 3.86 | 2.00 |

| Magnitude and probability of annual low flow based on period of record 1930-1968 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 54.6 | 12.3 | 4.96 | 2.17 |
| 3 | 62.7 | 15.2 | 6.39 | 2.94 |
| 7 | 83.8 | 22.6 | 10.2 | 4.97 |
| 10 | 105 | 29.4 | 13.4 | 6.56 |
| 30 | 251 | 69.9 | 31.5 | 15.1 |
| 60 | 636 | 213 | 106 | 55.9 |

RED RIVER BASIN

07338500 LITTLE RIVER BELOW LUKFATA CREEK NEAR IDABEL, OK—Continued

REGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1970-1999

1,894

Magnitude and probability of annual high flow based on period of record 1970-1999

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 12,200 | 18,300 | 24,800 | 36,900 | 49,700 | 67,000 |
| 3 | 11,000 | 15,900 | 20,600 | 28,900 | 37,100 | 47,600 |
| 7 | 8,450 | 11,500 | 14,000 | 17,800 | 21,200 | 25,100 |
| 10 | 7,870 | 10,400 | 12,100 | 14,500 | 16,400 | 18,300 |
| 30 | 6,010 | 7,890 | 8,940 | 10,100 | 10,800 | 11,500 |
| 60 | 4,510 | 6,120 | 7,090 | 8,220 | 9,010 | 9,750 |

Magnitude and probability of annual instantaneous peak flow based on 30 years of record, 1970-1999

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 12,300 | 19,300 | 27,800 | 45,600 | 66,900 | 98,500 | 244,000 |

station skew = 2.359

Duration table of daily mean flow for period of record 1970-1999

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|-------|-------|-------|-------|-------|-------|-------|-----|-----|-----|------|------|------|------|------|
| 10,300 | 9,450 | 7,390 | 6,010 | 4,790 | 3,710 | 2,060 | 1,100 | 596 | 338 | 179 | 92.2 | 48.1 | 32.7 | 23.6 | 18.8 |

| Magnitude and probability of annual low flow based on period of record 1971-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 27.2 | 16.0 | 12.0 | 9.29 |
| 3 | 28.9 | 18.2 | 14.2 | 11.5 |
| 7 | 32.4 | 20.4 | 16.0 | 12.9 |
| 10 | 34.1 | 21.0 | 16.3 | 13.1 |
| 30 | 46.1 | 27.0 | 22.1 | 18.2 |
| 60 | 74.7 | 35.9 | 26.5 | 21.3 |

| Magnitude and probability of annual low flow based on period of record 1970-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 187 | 112 | 90.4 | 78.2 |
| 3 | 209 | 120 | 95.6 | 81.6 |
| 7 | 304 | 146 | 102 | 94.0 |
| 10 | 371 | 166 | 111 | 105 |
| 30 | 1,430 | 576 | 329 | 197 |
| 60 | 2,530 | 1,410 | 977 | 699 |

| Magnitude and probability of annual low flow based on period of record 1970-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 28.2 | 16.1 | 12.0 | 9.29 |
| 3 | 30.0 | 18.3 | 14.2 | 11.5 |
| 7 | 33.7 | 20.6 | 16.0 | 12.9 |
| 10 | 35.5 | 21.4 | 16.4 | 13.1 |
| 30 | 44.0 | 27.0 | 22.8 | 20.6 |
| 60 | 85.6 | 38.9 | 27.9 | 22.1 |

| Magnitude and probability of annual low flow based on period of record 1970-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 120 | 57.3 | 39.4 | 29.1 |
| 3 | 130 | 60.8 | 41.2 | 30.1 |
| 7 | 156 | 67.0 | 43.3 | 30.3 |
| 10 | 177 | 72.5 | 45.5 | 30.9 |
| 30 | 522 | 181 | 96.2 | 54.6 |
| 60 | 1,110 | 404 | 202 | 105 |

RED RIVER BASIN

07339000 MOUNTAIN FORK NEAR EAGLETOWN, OK

LOCATION.--Lat 34°02'30", long 94°37'11", in SE ¼ SE ¼ sec.7, T.6 S., R.26 E., McCurtain County, Hydrologic Unit 11140108, on right downstream bank on U.S. Highway 70, 2.0 mi west of Eagletown, 10.7 mi downstream from Broken Bow Dam, and at mile 8.9.

DRAINAGE AREA.--787 mi².

PERIOD OF RECORD.--March 1924 to December 1925, October 1929 to current year. Published as Mountain Fork River near Broken Bow 1924-25 and as Mountain Fork River near Eagletown 1929-60. Monthly discharge only for some periods, published in WSP 1311.

REMARKS.--Flow completely regulated except for 33 mi² intervening area, since October 1968 by Broken Bow Lake (station 07338900).

UNREGULATED STREAMFLOW PERIOD

Mean annual flow, in ft³/s, based on period of record 1925-1968

1,290

Magnitude and probability of annual high flow based on period of record 1925-1968

Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| Period (consecutive days) | Discharge in ft ³ /s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | |
|---------------------------------|--|----------|-----------|----------|----------|-----------|
| | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 26,800 | 42,400 | 53,100 | 66,900 | 77,300 | 87,600 |
| 3 | 16,800 | 25,500 | 31,900 | 40,700 | 47,800 | 55,300 |
| 7 | 10,300 | 14,400 | 17,300 | 20,900 | 23,700 | 26,500 |
| 10 | 8,300 | 11,600 | 13,700 | 16,400 | 18,400 | 20,400 |
| 30 | 4,690 | 6,790 | 8,200 | 10,000 | 11,400 | 12,800 |
| 60 | 3,290 | 4,870 | 6,020 | 7,600 | 8,850 | 10,200 |

Magnitude and probability of annual instantaneous peak flow based on 54 years of record, 1915-1968

Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent

| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
|----------|----------|-----------|----------|----------|-----------|-------------|
| 39,400 | 64,400 | 82,300 | 106,000 | 124,000 | 143,000 | 187,000 |

Oklahoma weighted skew = - 0.214

Duration table of daily mean flow for period of record 1925-1968

Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time

| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
|--------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|------|------|------|------|------|
| 11,400 | 9,770 | 5,830 | 3,090 | 2,010 | 1,440 | 845 | 553 | 340 | 202 | 104 | 43.2 | 12.2 | 1.93 | 0.49 | 0.25 |

| Magnitude and probability of annual low flow based on period of record 1931-1968 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.32 | 0.00 | 0.00 | 0.00 |
| 3 | 2.67 | 0.00 | 0.00 | 0.00 |
| 7 | 3.18 | 0.00 | 0.00 | 0.00 |
| 10 | 3.75 | 0.00 | 0.00 | 0.00 |
| 30 | 8.90 | 0.06 | 0.00 | 0.00 |
| 60 | 23.8 | 1.58 | 0.07 | 0.00 |

| Magnitude and probability of annual low flow based on period of record 1925-1968 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 174 | 98.9 | 73.6 | 57.5 |
| 3 | 188 | 105 | 77.6 | 60.4 |
| 7 | 227 | 118 | 85.5 | 65.7 |
| 10 | 259 | 131 | 94.4 | 72.9 |
| 30 | 926 | 443 | 301 | 218 |
| 60 | 1,980 | 1,110 | 803 | 611 |

| Magnitude and probability of annual low flow based on period of record 1925-1967 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 2.32 | 0.00 | 0.00 | 0.00 |
| 3 | 2.67 | 0.00 | 0.00 | 0.00 |
| 7 | 3.18 | 0.00 | 0.00 | 0.00 |
| 10 | 3.75 | 0.00 | 0.00 | 0.00 |
| 30 | 8.90 | 0.30 | 0.00 | 0.00 |
| 60 | 29.4 | 2.12 | 0.28 | 0.03 |

| Magnitude and probability of annual low flow based on period of record 1925-1968 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 54.8 | 4.98 | 0.00 | 0.00 |
| 3 | 66.4 | 5.98 | 0.00 | 0.00 |
| 7 | 82.1 | 9.87 | 1.51 | 0.00 |
| 10 | 94.9 | 19.3 | 5.26 | 0.00 |
| 30 | 232 | 74.4 | 35.0 | 15.7 |
| 60 | 360 | 205 | 96.6 | 47.4 |

RED RIVER BASIN
07339000 MOUNTAIN FORK NEAR EAGLETOWN, OK—Continued
REGULATED STREAMFLOW PERIOD

| |
|---|
| Mean annual flow, in ft³/s, based on period of record 1969-1999 |
| 1,471 |

| Magnitude and probability of annual high flow based on period of record 1969-1999 | | | | | | |
|---|------------------|------------------|-------------------|------------------|------------------|-------------------|
| Discharge in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| Period (consecutive days) | 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% |
| 1 | 7,640 | 8,920 | 9,310 | 9,540 | 9,630 | 9,670 |
| 3 | 7,320 | 8,920 | 9,300 | 9,530 | 9,550 | 9,600 |
| 7 | 6,680 | 8,590 | 9,180 | 9,350 | 9,450 | 9,500 |
| 10 | 6,240 | 8,180 | 8,780 | 9,150 | 9,270 | 9,340 |
| 30 | 4,400 | 6,120 | 6,800 | 7,320 | 7,550 | 7,700 |
| 60 | 3,470 | 4,730 | 5,230 | 5,620 | 5,800 | 5,920 |

| Magnitude and probability of annual instantaneous peak flow based on 31 years of record, 1969-1999 | | | | | | |
|--|------------------|-------------------|------------------|------------------|-------------------|---------------------|
| Discharge, in ft³/s, for indicated recurrence interval, in years, and exceedance probability, in percent | | | | | | |
| 2 50% | 5 20% | 10 10% | 25 4% | 50 2% | 100 1% | 500 0.2% |
| 9,260 | 11,800 | 13,800 | 16,700 | 19,100 | 21,700 | 28,800 |

station skew = 0.990

| Duration table of daily mean flow for period of record 1969-1999 | | | | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Discharge, in ft³/s, which was equaled or exceeded for indicated percent of time | | | | | | | | | | | | | | | |
| 1% | 2% | 5% | 10% | 15% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 95% | 98% | 99% |
| 7,940 | 7,250 | 6,010 | 4,100 | 3,110 | 2,430 | 1,560 | 1,010 | 687 | 464 | 322 | 219 | 156 | 124 | 96.3 | 69.4 |

| Magnitude and probability of annual low flow based on period of record 1970-1999 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 113 | 67.4 | 44.2 | 19.0 |
| 3 | 136 | 90.0 | 52.0 | 24.0 |
| 7 | 172 | 113 | 62.0 | 30.5 |
| 10 | 177 | 121 | 68.0 | 33.5 |
| 30 | 250 | 176 | 140 | 97.7 |
| 60 | 332 | 220 | 178 | 149 |

| Magnitude and probability of annual low flow based on period of record 1969-1999 spring season, April 1 through May 31 | | | | |
|---|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 167 | 96.3 | 63.5 | 41.9 |
| 3 | 210 | 105 | 70.8 | 50.2 |
| 7 | 348 | 162 | 107 | 74.9 |
| 10 | 420 | 192 | 130 | 94.5 |
| 30 | 1,000 | 483 | 328 | 238 |
| 60 | 1,720 | 899 | 620 | 449 |

| Magnitude and probability of annual low flow based on period of record 1969-1998 summer season, June 1 through October 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 133 | 94.4 | 74.3 | 58.8 |
| 3 | 148 | 116 | 102 | 91.4 |
| 7 | 192 | 149 | 129 | 114 |
| 10 | 210 | 158 | 135 | 119 |
| 30 | 295 | 206 | 171 | 146 |
| 60 | 408 | 275 | 221 | 184 |

| Magnitude and probability of annual low flow based on period of record 1969-1999 winter season, November 1 through March 31 | | | | |
|--|---|------------------|-------------------|------------------|
| Period (consecutive days) | Discharge, in ft³/s, for indicated recurrence interval, in years, and nonexceedance probability, in percent | | | |
| | 2 50% | 5 20% | 10 10% | 20 5% |
| 1 | 175 | 96.0 | 47.5 | 19.0 |
| 3 | 190 | 102 | 52.0 | 24.0 |
| 7 | 230 | 114 | 62.0 | 30.5 |
| 10 | 259 | 130 | 68.0 | 33.5 |
| 30 | 427 | 211 | 140 | 97.7 |
| 60 | 887 | 424 | 264 | 169 |

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