

Compilation of Records of Surface Waters of the United States, October 1950 to September 1960

Part 9. Colorado River Basin

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1733



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Prepared under the direction of E. L. HENDRICKS, Chief, Surface Water Branch

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UNITED STATES DEPARTMENT OF THE INTERIOR

STEWART L. UDALL, *Secretary*

GEOLOGICAL SURVEY

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PREFACE

This report contains summaries of streamflow records in the Colorado River basin. It was prepared by the United States Geological Survey in the Water Resources Division, L. B. Leopold, chief, under the general direction of E. L. Hendricks, chief, Surface Water Branch, and F. J. Flynn, chief, Reports Section.

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COMPILATION OF RECORDS OF SURFACE WATERS OF THE COLORADO RIVER BASIN 1951-60.

PURPOSE AND SCOPE

This volume is one of a series of reports presenting monthly and yearly summaries of streamflow and reservoir data collected by the Geological Survey during the period October 1, 1950, to September 30, 1960. Included with these data are some records furnished by other Federal, State, and private agencies. This series of reports is a condensation of the detailed streamflow information presented in the annual series of reports known as "Surface Water Supply of the United States" for each of the years 1951 through 1960. The area covered by this report is the Colorado River basin.

The purpose of the present series of reports is to make available in summarized form all of the surface-water records collected October 1, 1950, to September 30, 1960, and to continue the series of reports known as Water-Supply Papers 1301-19 and 1372 which summarized all surface-water records through September 30, 1950. The present series of reports includes corrections of errors which have been found in the earlier series. Also included are some records collected prior to October 1, 1950, that were omitted from the 1950 compilation series.

The Geological Survey collected the records mainly in cooperation with State, municipal, and other Federal agencies, and published them in detail in the series of annual reports known as "Surface Water Supply of the United States." Some records furnished by other agencies have been included in the annual reports and in the present series of reports; such records are identified in the station description.

The data presented consist of records of discharge of streams and contents of reservoirs summarized on a monthly and yearly basis. Results of miscellaneous discharge measurements and, in general, stage records have been excluded. Also included is a map of the area showing the location of each station (pl. 1). The reports of the present series are generally similar in the type of data they contain and in the form of presentation; moreover, they conform in style with the earlier series of compilation reports so that the entire record for any station up to September 30, 1960, is available in one or two volumes.

All records compiled for these summary reports were examined for major errors. A few revisions were made and the revised figures, noted as such, are included. Some previously unpublished information is included, as well as a few estimates of discharge that were made to fill short gaps in an otherwise complete period of record.

DESCRIPTION OF DATA

The gaging-station records are arranged in downstream order. The order used in this report is the same as that adopted for use in the annual series of reports on surface-water supply beginning with the water year 1951. In a downstream direction along the main stem, all stations on a tributary entering above a main-stem station are listed before that station. If a tributary enters between two main-stem stations, it is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. To indicate the rank of any tributary on which a gaging station is situated and the stream to which it is immediately tributary, each indentation in

the listing of gaging stations in the table of contents represents one rank. This downstream order and system of indention show which gaging stations are on tributaries between any two stations on a main stem and the rank of the tributary on which each gaging station is situated.

As an added means of identification, each station was assigned a number which is shown on the index map and which is a part of the station name in the heading of the description in the text. The numbers are assigned in downstream order in each part (see explanation of "parts" under the heading "Publications," p. 4) beginning with the most upstream station. The numbers are not consecutive because gaps are left to allow for new stations that may be established.

The data presented for most of the gaging stations comprise a description of the station, a table of monthly discharge in cubic feet per second, a table of monthly discharge in acre-feet, and a yearly summary table. The station description gives the name of the river basin, the station number and name, the location, drainage area, records available, types and datums of gages, average discharge, extremes of discharge, general remarks concerning the data, and a credit statement if records were furnished by another agency.

The location of the gaging station and the drainage area are obtained from the best available maps. When more than one site was used during water years 1951-60 and the difference in drainage areas is significant, the area for the latest site is shown first followed by the areas for other sites in chronological order. In some instances drainage-area figures have not been obtained because of the lack of suitable maps or because the boundaries cannot be defined or the effective drainage area determined.

The paragraph "Records available" lists all periods for which there are published records generally equivalent to those at the present site. If equivalent records have been published under another station name, that fact is also noted.

The gage described first is the present gage or the one used most recently. Information is then given in chronological order for all gages used earlier, giving changes in location, type of gage, or datum. The location or datum of all earlier gages is given with reference to the present or most recently used gage. The datum of the gage is the elevation of the zero of the gage above mean sea level. Where information as to datum is not available, the altitude of the gage is given.

The average discharge for a station is the average of all complete water years and is published only if there are five or more complete water years of record. The years used to determine the average are not necessarily consecutive. The average discharge is not published for some stations because of extensive changes in diversion or storage, or other water development, that have occurred upstream.

In general, the momentary maximum and minimum discharges and stages for the entire period of record are published in the "Extremes" paragraph. These are qualified if necessary according to the type of gage used and the completeness of the record. Maximum and minimum discharges at nonrecording gaging stations are qualified as "observed" unless determined from a graph drawn through actual gage heights which approximates the actual hydrograph.

Under "Remarks" information is given on factors which affect the basin runoff characteristics. These include upstream regulation, diversion, and utilization--a history of

changes in these items during the period 1951-60 is given when known. Also, references are made to the records of storage or diversion upstream and to records concerning quality of water, if published.

When discharge records are furnished by another agency, credit is given under "Cooperation."

The streamflow data summarized in this report generally are contained in two monthly tables and one yearly table. The first monthly table is a tabulation of monthly and yearly mean discharges in cubic feet per second. These figures represent discharge passing the station; they are unadjusted for storage or diversion upstream unless otherwise specified under "Remarks" for the individual station. Each monthly figure is the mean flow for the entire month; generally no record for part of a month is tabulated. Likewise, each yearly figure is the mean flow for a full year, and no figure is shown for a partial year. Usually the months are arranged on a water-year basis. Exceptions to this rule are made in connection with seasonal records wherein the months are grouped to give a complete season for each calendar year.

The second monthly table is a tabulation of monthly and yearly discharge in acre-feet.

The third table contains a yearly summary of the streamflow data. The column headed "WSP" lists the number of the water-supply paper in which the figures of daily and monthly discharge are published. If a part of the record has been revised and the revision published, then reference is made to both the original report and the one containing the revised record; if the daily discharge record for the entire year has been republished to include the revisions, then only the later report is listed. However, there is no reference in this column for revisions published for the first time in this report, as the corresponding revised figures of daily discharge will be published in a water-supply paper which will contain daily records for the period 1961-65. For some stations the third table is omitted; however, the report containing records for any particular year can generally be found by referring to the table given on page 4.

In the third table the momentary maximum discharge for each water year and the date of its occurrence is given if known. For nonrecording gage records, momentary maximums were obtained from graphs drawn through the gage readings. The momentary maximum discharge, however obtained, is not qualified in any way if it is believed to be representative of the absolute maximum for the water year.

The minimum daily discharge for each water year is listed if known. Other data listed in this table are the annual mean discharge and discharge in inches or acre-feet, or both, for both the water year and the calendar year. The figures listed for the water year are the same as those given in the yearly columns of the preceding tables.

Most canal and diversion records are given in a single table. There are some records for large canals, however, that are published in the same detail as those for streams. Records of reservoirs also are given in a single table which shows the contents at the end of each month.

Revised figures of discharge for water years 1951-60 are not so indicated if they have been published in an annual report, but are noted as "Revised" if they have not been published in an annual report. Revised daily figures which have not been published in annual reports will be published in the water-supply paper containing records for water years 1961-65, except for special cases involving only a few figures which are included in this

series of reports. Figures that represent corrections of typographical or computational errors whereas no figures of daily discharge have been revised or changed are indicated as "corrected" in this report. Estimates of discharge made to complete months or years for this report are noted as estimates and as "not previously published."

Revisions or corrections of records published in WSP 1313 are included in this report. For stations operated during at least part of the period 1951-60, the revisions or corrections are published with the rest of the data for the station; for stations not operated since the end of the 1950 water year, the revisions or corrections are published in a special section under the heading "Revisions and corrections to records published in WSP 1313 for stations discontinued prior to September 30, 1950."

PUBLICATIONS

This series of reports comprises 20 volumes of water-supply papers (WSP) as numbered below. The "Part" numbers and the areas covered are the same as those used for the annual series of reports on surface water supply of the United States since 1951. The boundaries of the parts are indicated in figure 1.

Numbers of water-supply papers for 1960 series of compilation reports		
WSP	Part	Area
1721	1-A	North Atlantic slope basins, Maine to Connecticut.
1722	1-B	North Atlantic slope basins, New York to York River.
1723	2-A	South Atlantic slope basins, James River to Savannah River.
1724	2-B	South Atlantic slope and eastern Gulf of Mexico basins, Ogeechee River to Pearl River.
1725	3-A	Ohio River basin except Cumberland and Tennessee River basins.
1726	3-B	Cumberland and Tennessee River basins.
1727	4	St. Lawrence River basin.
1728	5	Hudson Bay and upper Mississippi River basins.
1729	6-A	Missouri River basin above Sioux City, Iowa.
1730	6-B	Missouri River basin below Sioux City, Iowa.
1731	7	Lower Mississippi River basin.
1732	8	Western Gulf of Mexico basins.
1733	9	Colorado River basin.
1734	10	The Great Basin.
1735	11	Pacific slope basins in California.
1736	12	Pacific slope basins in Washington and upper Columbia River basin.
1737	13	Snake River basin.
1738	14	Pacific slope basins in Oregon and lower Columbia River basin.
1739	-	Hawaii.
1740	-	Alaska.

Records prior to September 30, 1950, were summarized in a series of water-supply papers as listed below. Each of these volumes contains a list of the annual reports from which data prior to 1951 were summarized.

Numbers of water-supply papers for 1950 series of compilation reports					
WSP	Part	WSP	Part	WSP	Part
1301	1-A	1308	5	1315-A	11-B
1302	1-B	1309	6-A	1315-B	11-A
1303	2-A	1310	6-B	1316	12
1304	2-B	1311	7	1317	13
1305	3-A	1312	8	1318	14
1306	3-B	1313	9	1319	Hawaii
1307	4	1314	10	1372	Alaska

This report is summarized from the following 10 annual reports which contain records of daily discharge for each of the water years from 1951 to 1960.

Annual water-supply papers, Part 9, 1951-60			
Water year	WSP	Water year	WSP
1951	1213	1956	1443
1952	1243	1957	1513
1953	1283	1958	1563
1954	1343	1959	1633
1955	1393	1960	1713

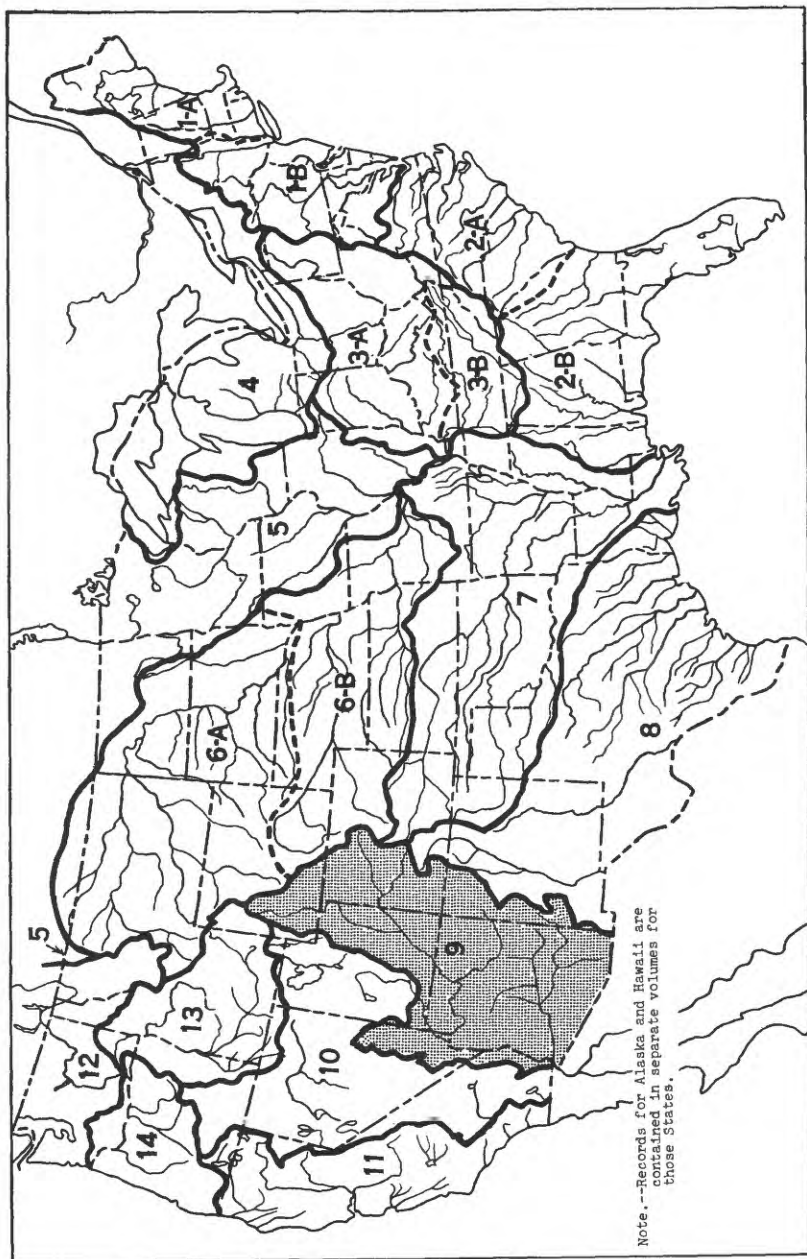


Figure 1.--Map of conterminous United States showing areas covered by 18 of the 20 volumes on surface water supply. The area covered by this report is shaded.

In addition to the customary records of discharge collected during the systematic operation of gaging stations, there is much additional hydrologic information available, both published and unpublished.

Lists of flood reports and other special reports are contained in the introductory pages of each of the annual reports listed above.

Records for many stations have been analyzed by an electronic computer to give: the number of days in each year that the discharge was between selected limits (duration tables); the lowest and highest mean discharges for selected numbers of consecutive days in each year; and other statistical summaries.

Data on low flow or peak flows or both are available for many sites other than gaging stations.

Specific information on unpublished data available can be obtained by writing directly to the district engineer for the State in which the site or gaging station is located.

HYDROLOGIC CONDITIONS

Streamflow, a residual of precipitation after other demands have been met, varies considerably from year to year and from place to place. Figure 2 shows yearly discharge for three widely-separated gaging stations in the report area. The pattern of yearly runoff shown by these streams is generally representative of hydrologic conditions in their part of the report area. Only a few noteworthy floods occurred during the period 1951-60, and most of these occurred during water year 1957. The lower Colorado River basin experienced deficient runoff most of the period 1951-60. The overall trend for the last ten years is a general decrease in runoff over most of the Colorado River basin.

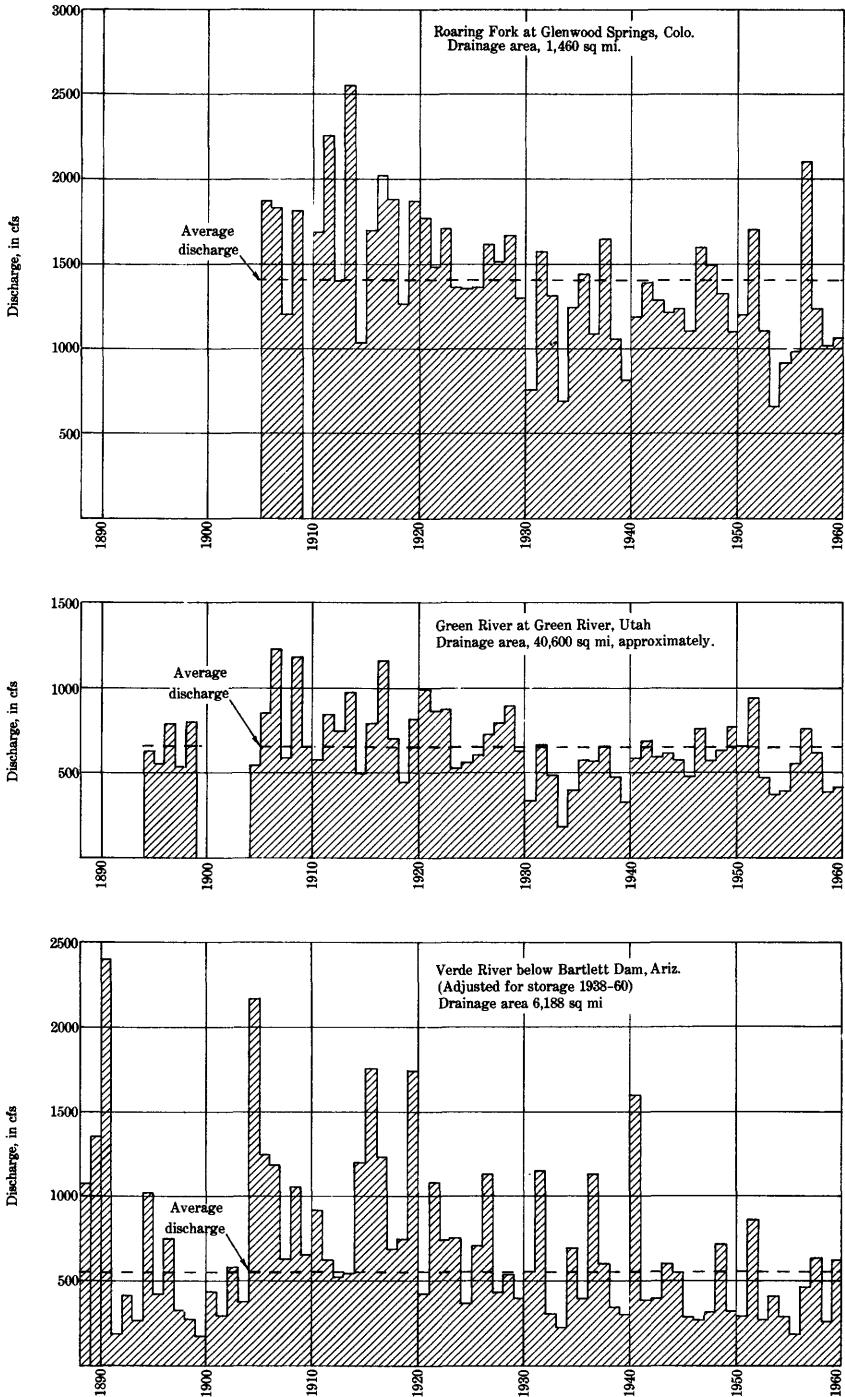


Figure 2.—Yearly discharge at three representative gaging stations.

GAGING-STATION RECORDS

TRANSMOUNTAIN DIVERSION AT LA POUDRE PASS

100. Grand River ditch at La Poudre Pass, Colo.
(Transmountain diversion)

Location.--Lat 40°28'40", long 105°49'10", in sec.20, T.6 N., R.75 W., at La Poudre Pass.

Records available.--October 1895 to September 1960. Diversion 1896-1903, 1928-42 published in WSP 1313 (yearly diversion only for water years 1904-9).

Gage.--Water-stage recorder and 10-foot Parshall flume since May 1937. Altitude of gage is 10,190 ft (from topographic map). May 1910 to September 1936 water-stage recorder and 12-foot rectangular flume at same site.

Remarks.--Diversion is from tributaries of Colorado River to La Poudre Pass Creek (tributary of Cache la Poudre River) in NW¼ sec.21, T.6 N., R.75 W., in Platte River basin. Two collection ditches beginning at headgates located in sec.28, T.5 N., R.76 W., and sec.29, T.6 N., R.75 W., intercept all tributaries upstream on each side of Colorado River and converge at La Poudre Pass. Water was first diverted in 1892, but no records are available prior to 1896.

Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	192	9,200	11,630	3,630	315	24,970
1952	0	0	0	0	0	0	0	532	11,980	6,300	2,570	0	21,380
1953	0	0	0	0	0	0	0	707	11,970	5,360	1,710	0	19,750
1954	0	0	0	0	0	0	0	3,570	5,690	2,690	781	8	12,740
1955	0	0	0	0	0	0	0	1,940	7,500	5,260	1,380	72	16,150
1956	0	0	0	0	0	0	0	3,340	12,510	3,330	1,280	11	20,470
1957	0	0	0	0	0	0	0	0	0	11,590	4,120	352	16,060
1958	0	0	0	0	0	0	0	0	9,430	3,260	996	88	13,770
1959	0	0	0	0	0	0	0	0	11,790	5,230	1,550	0	18,570
1960	0	0	0	0	0	0	0	1,430	13,440	6,520	1,560	57	23,010

105. Colorado River below Baker Gulch, near Grand Lake, Colo.

Location.--Lat 40°19'33", long 105°51'22", in sec.12, T.4 N., R.76 W., on left bank 500 ft downstream from Baker Gulch, 1 mile upstream from Bowen Gulch, and 5 miles northwest of town of Grand Lake.

Drainage area.--53.0 sq mi.

Records available.--May 1953 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,750 ft (from topographic map).

Average discharge.--7 years (1953-60), 50.8 cfs (36,780 acre-ft per year).

Extremes.--1953-60: Maximum discharge, 976 cfs June 30, 1957 (gage height, 7.19 ft); minimum daily, 3.6 cfs Jan. 19, 1957.

Remarks.--Transmountain diversion above station by Grand River ditch (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	11.3	9.26	6.84	5.97	5.74	5.84	38.5	101	69.8	57.9	32.3	16.8	26.3
1955	27.7	12.4	8.45	7.25	5.64	5.09	38.0	108	144	51.0	24.8	15.4	37.4
1956	12.8	11.4	8.63	5.35	4.85	5.53	31.7	248	193	34.5	19.6	11.8	49.1
1957	9.25	7.43	4.56	3.91	4.17	5.65	14.3	117	462	312	44.3	29.2	84.7
1958	27.1	15.0	9.35	8.41	7.26	6.63	13.1	375	268	36.5	21.9	15.9	62.3
1959	10.9	9.10	5.22	4.68	4.64	4.89	14.4	128	212	49.2	29.3	25.5	41.5
1960	37.6	26.9	12.6	8.58	8.28	10.1	56.7	143	242	57.1	20.6	25.5	54.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	693	551	420	367	319	359	2,290	6,190	4,150	1,680	680	1,360	19,060
1955	1,700	736	519	445	314	313	2,260	6,640	8,540	3,140	1,530	916	27,050
1956	785	677	531	329	279	340	1,890	15,260	11,510	2,120	1,210	701	35,630
1957	569	442	280	240	232	347	848	7,180	27,510	19,190	2,720	1,740	61,300
1958	1,660	893	575	517	403	407	780	19,380	15,940	2,240	1,350	944	45,090
1959	667	541	321	288	258	301	857	7,880	12,600	3,020	1,800	1,520	30,030
1960	2,310	1,600	778	528	476	620	3,370	8,810	14,400	3,510	1,270	1,520	39,190

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953								
1954	1283	a630	June 13, 1953	-	-	-	-	-
1955	1343	165	May 19, 1954	4.8	26.3	19,060	28.1	20,350
1956	1393	255	June 15, 1955	4.6	37.4	27,050	36.0	26,090
1957	1443	527	May 22, 1956	4.5	49.1	35,630	48.1	34,930
1958	1513	976	June 30, 1957	3.6	84.7	61,300	87.2	63,140
1959	1563	820	May 29, 1958	5.8	62.3	45,090	60.1	43,490
1960	1633	377	June 10, 1959	4.2	41.5	30,030	45.8	33,190
1960	1713	386	June 17, 1960	6	54.0	39,190	-	-

a Maximum during period May to September.

110. Colorado River near Grand Lake, Colo.

Location.--Lat 40°13'08", long 105°51'25", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.13, T.3 N., R.76 W., on left bank 200 ft downstream from bridge on U. S. Highway 34, 400 ft upstream from high-water line of Shadow Mountain Reservoir at elevation 8,367 ft, and 3 miles southwest of town of Grand Lake.

Drainage area.--103 sq mi.

Records available.--July 1904 to September 1918, October 1933 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as Grand River (North Fork) near Grand Lake 1904 and as North Fork of Grand River near Grand Lake 1905-18.

Gage.--Water-stage recorder. Altitude of gage is 8,380 ft (from topographic map). Prior to June 15, 1934, staff gage at same site and datum. June 15, 1934, to Sept. 26, 1944, water-stage recorder at site 1,100 ft downstream at different datum.

Average discharge.--41 years (1904-18, 1933-60), 96.3 cfs (69,720 acre-ft per year).

Extremes.--1904-18, 1933-60: Maximum discharge observed, 1,840 cfs June 15, 16, 1918 (gage height, 7.0 ft), from rating curve extended above 1,100 cfs; minimum daily, 1.7 cfs July 18, 19, 1934.

Remarks.--Diversions above station for irrigation of about 200 acres of hay meadows above station and about 2,000 acres below. Transmountain diversion above station by Grand River ditch through La Poudre Pass to Cache la Poudre River basin (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	28.1	23.4	17.7	16.0	16.9	17.3	42.9	280	409	144	76.1	36.3	92.4
1952	32.1	24.4	26.4	22.2	19.8	15.2	62.8	377	614	49.8	60.1	34.4	111.
1953	22.0	19.0	17.5	18.1	17.9	16.6	38.3	170	299	26.6	57.0	27.2	60.7
1954	18.7	16.8	15.1	12.4	13.5	13.3	70.0	149	28.0	4.28	21.1	31.7	32.9
1955	42.1	25.3	16.4	16.7	14.3	13.0	61.0	152	134	12.8	40.0	22.5	46.0
1956	22.2	20.8	18.0	14.5	15.7	15.4	62.4	352	258	6.71	34.1	19.4	70.1
1957	19.3	14.5	12.0	13.1	13.1	13.5	26.4	209	635	413	94.4	49.2	126
1958	46.8	31.5	25.8	19.7	18.5	17.6	30.9	427	321	8.05	27.5	19.3	83.1
1959	16.4	16.9	14.5	14.0	13.9	13.1	32.2	187	300	28.7	49.5	36.7	60.2
1960	62.1	45.9	23.3	16.2	15.7	31.2	141	246	354	30.4	26.5	30.5	85.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,730	1,390	1,090	984	940	1,070	2,550	17,190	24,320	8,830	4,680	2,160	66,930
1952	1,970	1,450	1,620	1,360	1,140	932	3,740	23,210	36,540	3,060	3,700	2,040	80,760
1953	1,350	1,130	1,070	1,110	992	1,020	2,280	10,450	17,780	1,640	3,510	1,620	43,950
1954	1,150	1,000	928	762	748	817	4,160	9,160	1,660	263	1,300	1,890	23,840
1955	2,590	1,510	1,010	1,030	793	797	3,630	9,370	8,000	788	2,460	1,340	33,320
1956	1,370	1,240	1,110	893	902	946	3,710	21,670	15,370	413	2,100	1,160	50,880
1957	1,180	865	736	805	730	831	1,570	12,840	37,810	25,390	5,800	2,930	91,490
1958	2,880	1,870	1,590	1,210	1,030	1,080	1,840	26,280	19,080	495	1,690	1,150	60,200
1959	1,010	1,010	889	863	774	803	1,920	11,490	17,840	1,760	3,040	2,190	43,590
1960	3,820	2,730	1,430	998	900	1,920	8,400	15,150	21,080	1,870	1,630	1,810	61,740

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	53.4	38,650
1951	1213	689	June 20, 1951	12	92.4	66,930	93.6	67,760
1952	1243	1,290	June 11, 1952	5.8	111	80,760	109	79,270
1953	1283	630	June 14, 1953	5.0	60.7	43,950	60.1	43,480
1954	1343	292	May 20, 1954	3.6	32.9	23,840	35.7	25,870
1955	1393	267	May 16, 1955	3.2	46.0	33,320	44.1	31,930
1956	1443	702	May 22, 1956	2.8	70.1	50,880	68.8	48,940
1957	1513	1,310	June 30, 1957	8.0	126	91,490	131	95,050
1958	1563	942	May 29, 1958	2.2	83.1	60,200	78.4	56,760
1959	1633	515	June 10, 1959	3.5	60.2	43,590	67.2	48,660
1960	1713	564	June 5, 1960	3.2	85.1	61,740	-	-

LITTLE COLUMBINE CREEK BASIN

11

115. Little Columbine Creek above Shadow Mountain Reservoir, at Grand Lake, Colo.

Location.--Lat 40°15'00", long 105°49'50", in sec.6, T.3 N., R.75 W., on left bank 300 ft east of U. S. Highway 34, a quarter of a mile upstream from Shadow Mountain Reservoir, and three-quarters of a mile west of town of Grand Lake.

Drainage area.--1.3 sq mi, approximately.

Records available.--April 1950 to December 1955.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 8,380 ft (from topographic map). Prior to Oct. 28, 1950, water-stage recorder and concrete control at same site at datum 0.56 ft lower.

Average discharge.--5 years (1950-55), 2.37 cfs (1,720 acre-ft per year).

Extremes.--1950-55: Maximum discharge, 34 cfs May 3, 1952 (gage height, 2.21 ft), from rating curve extended above 14 cfs; minimum recorded, 0.3 cfs Nov. 2, 1951 (gage height, 0.13 ft).

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.80	2.53	2.71	2.0	1.7	2.0	3.31	6.23	5.80	5.22	4.41	3.10	3.58
1952	3.92	2.05	2.3	2.2	1.9	2.1	5.08	8.85	3.46	2.53	3.33	2.23	3.34
1953	2.40	1.53	1.0	1.0	1.1	1.4	2.37	5.29	2.61	2.30	2.14	.95	2.02
1954	.90	1.04	1.07	1.03	1.26	1.24	2.21	1.46	2.88	2.51	1.55	1.36	1.54
1955	1.35	.68	.82	1.03	1.03	1.06	1.51	1.87	2.52	1.70	1.62	1.53	1.39
1956	2.11	1.33	1.01	-	-	-	-	-	-	-	-	-	-
1957													
1958													
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	233	151	167	123	94	123	197	383	345	321	271	184	2,590
1952	241	122	141	135	109	129	302	544	206	156	204	132	2,420
1953	148	91	61	61	61	86	141	325	156	141	132	57	1,460
1954	55	62	66	63	70	76	131	90	172	155	96	81	1,120
1955	83	40	50	63	57	65	90	115	150	105	99	91	1,010
1956	130	79	62	-	-	-	-	-	-	-	-	-	-
1957													
1958													
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1213	11	May 5, 1951	1.1	3.58	2,590	3.52	2,540
1952	1243	34	May 3, 1952	.5	3.34	2,420	3.06	2,220
1953	1283	13	July 11, 1953	.5	2.02	1,460	1.85	1,340
1954	1343	14	Nov. 6, 1953	.5	1.54	1,120	1.53	1,110
1955	1393	6.3	June 14, 1955	.4	1.39	1,010	1.53	1,110
1956	1393	a9.2	Oct. 3, 1955	-	-	-	-	-
1957								
1958								
1959								
1960								

a Maximum during period October to December.

130. Alva B. Adams tunnel at east portal, near Estes Park, Colo.
(Transmountain diversion)

Location.--Lat 40°19'40", long 105°34'39", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 9, T. 4 N., R. 73 W., on right bank at upstream end of Aspen Creek siphon, 700 ft downstream from east portal and $4\frac{1}{2}$ miles southwest of Estes Park.

Records available.--October 1946 to September 1960 (monthly discharge only for August and September 1947).

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 8,250 ft (from topographic map). Prior to Oct. 1, 1950, water-stage recorder and Parshall flume at different datum. Oct. 1, 1950, to Sept. 30, 1952, water-stage recorder and Cippoletti weir at different datum.

Average discharge.--14 years (1946-60), 201 cfs (145,500 acre-ft per year).

Extremes.--1946-60: Maximum discharge, 614 cfs July 8, 1953 (gage height, 4.38 ft); no flow at times in most years.

Remarks.--This is a transmountain diversion from Grand Lake and Shadow Mountain Reservoir for power and irrigation development in the South Platte River basin as part of the Colorado-Big Thompson project. Diversion point is at west portal near town of Grand Lake, 13.35 miles west of east portal.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.29	6.78	21.3	19.7	11.7	27.5	211	264	117	15.6	43.8	50.0	77.8
1952	66.7	99.5	80.4	154	128	18.5	16.5	14.0	7.09	52.0	237	51.6	77.2
1953	54.4	139	355	342	284	134	62.0	96.1	281	496	410	329	249
1954	259	324	370	242	319	444	447	511	552	539	553	440	417
1955	401	454	415	454	465	412	303	270	110	363	345	281	354
1956	311	297	322	297	435	452	390	185	92.0	219	196	295	290
1957	358	368	369	441	506	463	381	108	2.8	7.66	85.8	163	270
1958	362	328	295	410	252	427	227	31.5	42.3	182	398	494	288
1959	497	515	537	458	381	379	378	260	0	290	464	356	377
1960	390	419	448	491	389	314	202	226	40.6	223	425	455	336

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	79	403	1,310	1,210	649	1,690	12,550	16,230	6,940	9,590	2,690	2,970	56,310
1952	4,100	5,920	4,940	9,470	7,370	1,130	981	858	422	3,200	14,560	3,070	56,020
1953	3,340	8,250	21,830	21,040	15,750	8,220	3,690	5,910	16,710	30,530	25,190	19,580	180,000
1954	15,920	19,280	22,760	14,870	17,700	27,310	26,620	31,420	32,630	33,170	34,000	26,190	302,100
1955	24,650	25,850	25,530	27,910	25,830	25,310	18,010	16,630	6,560	22,310	21,220	16,740	256,600
1956	19,100	17,680	19,800	18,230	25,050	27,780	23,210	11,370	5,470	13,470	12,030	17,550	210,700
1957	20,770	23,110	22,700	27,100	28,080	28,460	22,690	6,650	169	471	5,280	9,720	195,200
1958	22,280	19,490	18,150	25,190	14,000	26,230	13,510	1,940	2,520	11,200	24,460	29,410	208,400
1959	30,580	30,670	33,000	28,170	21,140	23,330	22,520	15,980	0	17,840	28,560	21,200	273,000
1960	24,010	24,900	27,540	30,170	22,350	19,300	12,040	13,920	2,410	13,720	26,160	27,100	243,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	38.8	28,060
1951	1213	a596	May 18, 1951	0	77.8	56,310	96.0	69,480
1952	1243	577	Sept. 10, 1952	0	77.2	56,020	103	74,460
1953	1283	814	July 8, 1953	0	249	180,000	283	204,600
1954	1343	592	June 9, 1954	2.3	417	302,100	442	320,100
1955	1393	594	July 26, 1955	0	354	256,600	328	237,100
1956	1443	612	Feb. 20, 1956	0	290	210,700	304	220,700
1957	1513	599	Jan. 29, 1957	0	270	195,200	260	168,500
1958	1563	596	Aug. 29, 1958	0	288	208,400	335	242,700
1959	1633	587	Dec. 16, 1958	0	377	273,000	352	255,200
1960	1713	601	Jan. 22, 1960	0	336	243,600	-	-

a Maximum observed (discharge measurement).

135. East Inlet near Grand Lake, Colo.

Location.--Lat 40°14'20", long 105°48'00", in NW $\frac{1}{4}$ sec.9, T.3 N., R.75 W., on right bank 1,200 ft upstream from high-water line of Grand Lake and 1 mile southeast of town of Grand Lake.

Drainage area.--27.1 sq mi.

Records available.--October 1947 to December 1955.

Gage.--Water-stage recorder. Datum of gage is 8,370.49 ft above mean sea level (Bureau of Reclamation bench mark).

Average discharge.--8 years (1947-55), 43.4 cfs (31,420 acre-ft per year).

Extremes.--1947-55: Maximum discharge, 710 cfs June 17, 1949 (gage height, 3.90 ft); minimum daily determined, 1.5 cfs Mar. 11 to Apr. 1, 1949.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8.82	6.11	4.27	3.58	3.19	3.08	7.00	108	258	183	45.4	13.7	53.9
1952	12.1	4.35	3.19	2.90	2.37	2.10	19.7	97.4	386	122	55.5	17.5	60.2
1953	5.75	3.41	2.81	2.59	2.10	2.03	6.31	76.0	272	71.3	38.3	9.70	41.0
1954	4.63	3.59	2.45	1.90	2.01	1.96	16.7	116	130	55.6	16.7	15.4	30.7
1955	19.5	6.28	3.89	2.73	2.55	1.86	15.7	86.7	192	95.6	26.3	7.24	38.5
1956	4.22	3.80	3.02	-	-	-	-	-	-	-	-	-	-
1957													
1958													
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	542	363	263	220	177	189	417	6,670	15,320	11,270	2,790	818	39,040
1952	741	259	196	178	136	129	1,170	5,990	22,950	7,520	3,410	1,040	43,720
1953	354	203	173	159	117	125	375	4,670	16,180	4,390	2,350	577	29,670
1954	285	214	151	117	111	121	994	7,150	7,740	3,420	1,030	919	22,250
1955	1,200	373	239	168	142	114	934	5,350	11,440	5,880	1,620	431	27,870
1956	259	226	185	-	-	-	-	-	-	-	-	-	-
1957													
1958													
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	35.7	25,830
1951	1213	573	June 21, 1951	2.7	53.9	39,040	54.0	39,070
1952	1243	685	June 7, 1952	1.9	60.2	43,720	59.6	43,250
1953	1283	656	June 13, 1953	1.8	41.0	29,670	40.9	29,590
1954	1343	260	May 21, 1954	1.6	30.7	22,250	32.3	23,410
1955	1393	448	June 23, 1955	1.7	38.5	27,870	36.9	26,730
1956	1393	-	-	-	-	-	-	-
1957								
1958								
1959								
1960								

145. Shadow Mountain Reservoir near Grand Lake, Colo.

Location.--Lat 40°12'30", long 105°50'20", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.19, T.3 N., R.75 W., in gatehouse on left side of outlet gates near center of Shadow Mountain Dam on the Colorado River, 1 mile upstream from Pole Creek and $3\frac{1}{4}$ miles south of Town of Grand Lake.

Drainage area.--190 sq mi.

Records available.--April 1947 to September 1960.

Gage.--Water-stage recorder for elevations above 8,364.0 ft and reference points along upstream face of dam for those below. Datum of gage is at mean sea level (Bureau of Reclamation bench mark). Supplementary water-stage recorder at Grand Lake outlet gates about 3 miles from dam.

Extremes.--1947-60: Maximum contents, 17,920 acre-ft May 22, 1955 (elevation, 8,367.03 ft); minimum since appreciable storage was first attained, 2,630 acre-ft May 14, 1948.

Remarks.--Figures given herein are combined figures of usable contents for Shadow Mountain Reservoir and Grand Lake. Reservoir is used for stabilization of water level in Grand Lake, from which it is separated by gates. Reservoir is formed by earth-and rock-fill dam and dikes. Storage began in April 1947. Capacity of reservoir, 17,860 acre-ft (including usable capacity of Grand Lake above elevation 8,365 ft) between elevations 8,347 (sill of outlet gate) and 8,367 ft (maximum water surface). Dead storage in Shadow Mountain Reservoir, 506 acre-ft. Dead storage in Grand Lake not determined. Capacity of reservoir and Grand Lake usable for diversion through Alva B. Adams tunnel, 3,660 acre-ft between elevations 8,365 (crest of tunnel inlet) and 8,367 ft (maximum water surface). Transmountain diversion from Colorado River basin, including water pumped from Lake Granby, is effected through Grand Lake and Alva B. Adams tunnel, for power and irrigation in South Platte River basin.

Cooperation.--Records furnished by Bureau of Reclamation.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	16,780	16,360	15,970	16,280	16,690	16,780	16,100	16,670	16,120	16,520	16,720	16,630
1952	16,300	16,540	16,720	16,610	16,700	16,500	16,820	17,290	17,380	17,570	17,440	16,720
1953	17,370	17,180	17,720	17,550	17,600	17,460	17,680	17,420	17,510	17,590	17,570	17,550
1954	17,550	17,490	17,640	17,640	17,680	17,600	17,350	16,980	16,850	17,000	17,070	16,870
1955	17,090	17,020	17,600	17,550	17,500	17,440	17,460	17,680	17,290	17,370	17,420	17,260
1956	17,510	17,510	17,600	17,440	17,490	17,340	17,250	16,660	17,550	17,640	17,120	17,400
1957	17,270	17,590	17,270	17,400	17,620	17,500	16,820	15,790	14,840	17,440	17,370	17,350
1958	17,180	17,200	17,040	17,310	17,160	17,200	17,050	16,430	16,800	16,700	17,140	17,200
1959	17,270	17,290	17,220	16,960	17,000	17,070	17,220	16,890	17,240	17,290	17,270	16,940
1960	17,020	17,240	17,070	17,130	16,980	17,090	16,280	17,370	17,240	17,070	17,040	17,220

150. Colorado River below Shadow Mountain Reservoir, Colo.

Location.--Lat 40°12'24", long 105°50'18", in NW $\frac{1}{4}$ sec.19, T.3 N., R.75 W., on right bank a quarter of a mile downstream from Shadow Mountain Dam, 0.7 mile upstream from Pole Creek, and 3 $\frac{1}{2}$ miles south of town of Grand Lake.

Drainage area.--190 sq mi.

Records available.--October 1947 to September 1959. Prior to October 1950, published as "below Shadow Mountain Dam."

Gage.--Water-stage recorder. Datum of gage is 8,320.00 ft above mean sea level (Bureau of Reclamation bench mark).

Extremes.--1947-59: Maximum discharge, 3,600 cfs July 3, 1957 (gage height, 5.78 ft); minimum daily, 11 cfs Oct. 18, 19, 1949.

Remarks.--Flow regulated by Shadow Mountain Reservoir (see preceding page). Diversions above station for irrigation of about 200 acres of hay meadows above station and about 2,000 acres below. Transmountain diversions by Grand River and Eureka ditches and by Alva B. Adams tunnel (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	49.0	41.6	19.9	20.0	22.5	44.8	22.2	360	954	412	123	62.2	178
1952	29.3	25.5	29.0	30.1	31.0	31.4	109	614	1,523	240	77.4	58.3	232
1953	32.4	39.4	24.0	25.1	25.7	24.6	49.9	244	580	59.1	59.5	57.3	102
1954	21.1	22.7	21.5	22.7	23.1	22.6	23.7	51.6	60.7	56.8	57.5	46.8	36.0
1955	19.1	24.9	25.6	25.1	24.2	19.2	22.7	120	488	70.6	49.9	50.5	78.1
1956	23.7	22.8	24.4	22.8	24.0	25.6	27.5	707	687	58.8	54.4	40.8	143
1957	28.2	27.6	25.7	24.5	23.2	22.9	25.1	284	1,471	1,134	171	51.0	275
1958	26.4	29.7	29.0	27.7	24.9	24.3	24.1	900	797	51.4	48.7	42.1	169
1959	24.2	23.0	22.0	22.2	23.8	24.8	24.3	213	903	93.8	50.9	39.0	121
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,010	2,480	1,220	1,230	1,250	2,760	1,320	22,140	56,740	25,310	7,570	3,700	128,700
1952	1,800	1,520	1,790	1,850	1,780	1,930	6,480	37,780	90,610	14,770	4,760	3,470	168,500
1953	1,990	2,340	1,480	1,540	1,430	1,520	2,970	15,030	34,520	3,630	3,660	3,410	73,520
1954	1,300	1,350	1,320	1,400	1,280	1,390	1,410	3,180	3,610	3,490	3,530	2,780	26,040
1955	1,170	1,480	1,570	1,540	1,350	1,180	1,350	7,390	29,060	4,340	3,070	3,010	56,510
1956	1,460	1,360	1,500	1,400	1,380	1,570	1,630	43,490	40,860	3,620	3,350	2,430	104,000
1957	1,730	1,640	1,580	1,500	1,290	1,410	1,490	17,470	87,500	69,700	10,530	3,030	198,900
1958	1,620	1,710	1,780	1,700	1,390	1,500	1,430	55,330	47,450	3,160	3,000	2,500	122,800
1959	1,490	1,370	1,350	1,360	1,320	1,520	1,450	13,100	53,750	5,770	3,130	2,320	87,930
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	94.3	68,280
1951	1213	2,940	May 18, 1951	16	178	128,700	176	127,100
1952	1243	3,210	June 11, 1952	24	232	168,500	233	169,200
1953	1293	2,110	June 13, 1953	22	102	73,520	99.0	71,680
1954	1343	1,210	May 20, 1954	20	36.0	26,040	36.3	26,290
1955	1393	2,290	June 22, 1955	18	78.1	56,510	78.2	56,610
1956	1443	2,030	May 22, 1956	22	143	104,000	144	104,700
1957	1513	3,600	July 3, 1957	22	275	199,900	275	199,000
1958	1563	3,230	May 28, 1958	24	169	122,600	168	121,700
1959	1633	1,420	June 8, 1959	20	121	87,930	-	-
1960								

155. Columbine Creek above Lake Granby, near Grand Lake, Colo.
(Formerly published as Columbine Creek above Granby Reservoir, near Grand Lake)

Location.--Lat 40°11'20", long 105°49'00", in SW¹ sec.29, T.3 N., R.75 W., on right bank a quarter of a mile upstream from high-water line of Lake Granby and 5 miles south of town of Grand Lake.

Drainage area.--7.3 sq mi.

Records available.--April 1950 to December 1955. Published as "above Granby Reservoir, near Grand Lake."

Gage.--Water-stage recorder and concrete control. Datum of gage is 8,282.08 ft above mean sea level (levels by Bureau of Reclamation).

Average discharge.--5 years (1950-55), 6.76 cfs (4,890 acre-ft per year).

Extremes.--1950-55: Maximum discharge, 130 cfs June 10, 1952 (gage height, 2.58 ft); minimum not determined.

Remarks.--No regulation or diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.40	1.15	0.7	0.5	0.5	0.5	1.65	20.3	45.0	21.5	4.19	1.98	8.30
1952	2.29	1.2	1.0	.9	.9	.8	5.08	26.1	64.7	12.6	5.33	2.78	10.3
1953	1.56	1.16	.9	.8	.8	.8	1.86	12.9	37.0	6.55	3.89	1.47	5.80
1954	1.17	.91	.6	.5	.5	.5	3.00	16.0	14.5	4.27	2.00	1.64	3.81
1955	2.03	1.24	1.06	.92	.82	.74	2.47	16.4	27.9	8.98	2.67	1.40	5.57
1956	1.16	.81	.69	-	-	-	-	-	-	-	-	-	-
1957													
1958													
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	86	68	43	31	28	31	98	1,250	2,680	1,320	258	118	6,010
1952	141	71	61	55	52	49	302	1,600	3,850	777	327	164	7,450
1953	96	69	55	49	44	49	111	792	2,200	402	259	98	4,190
1954	72	54	37	31	28	31	179	965	863	262	123	98	2,760
1955	125	74	65	56	45	45	147	1,010	1,660	552	164	83	4,030
1956	71	48	42	-	-	-	-	-	-	-	-	-	-
1957													
1958													
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	-
1951	1213	92	June 19, 1951	-	8.30	6,010	8.41
1952	1243	130	June 10, 1952	-	10.3	7,450	10.2
1953	1283	90	June 13, 1953	-	5.80	4,190	5.72
1954	1343	38	May 19, 1954	-	3.81	2,760	3.95
1955	1393	54	June 22, 1955	0.6	5.57	4,030	5.43
1956	1393	-	-	-	-	-	-
1957							
1958							
1959							
1960							

ROARING FORK BASIN

160. Roaring Fork above Lake Granby, Colo.
(Formerly published as Roaring Fork above Granby Reservoir)

Location.--Lat 40°08'00", long 105°45'50", in SW $\frac{1}{4}$ sec.14, T.2 N., R.75 W., on left bank just upstream from high-water line of Lake Granby, 8 $\frac{1}{2}$ miles southeast of town of Grand Lake, and 10 miles northeast of Granby.

Drainage area.--5.82 sq mi.

Records available.--October 1951 to December 1955. Published as "above Granby Reservoir."

Gage.--Water-stage recorder and Parshall flume with concrete overflow spillway. Datum of gage is 8,281.02 ft above mean sea level (Bureau of Reclamation bench mark).

Extremes.--1951-55: Maximum discharge, 187 cfs June 13, 1953; maximum gage height, 3.43 ft June 10, 1952; minimum discharge not determined.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1952	3.28	1.46	1.1	0.9	0.7	0.6	3.86	23.0	89.8	28.5	9.12	3.72	13.8
1953	1.95	1.55	1.1	1.0	1.0	1.1	2.67	17.7	59.5	15.3	6.73	2.38	9.31
1954	1.98	1.70	1.23	1.00	1.04	.95	4.76	25.3	27.5	9.70	3.50	2.51	6.75
1955	3.91	2.38	1.74	1.32	1.20	1.06	5.21	21.1	44.0	20.0	5.20	2.23	9.12
1956	1.95	1.93	1.6	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1952	201	87	68	55	40	37	230	1,410	5,340	1,750	561	221	10,000
1953	120	92	68	61	56	68	159	1,090	3,540	939	414	141	6,750
1954	122	101	75	61	59	59	283	1,550	1,620	596	203	149	4,880
1955	240	142	107	61	67	65	310	1,300	2,620	1,230	320	133	6,620
1956	120	115	98	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1952	1243	174	June 10, 1952	-	13.8	10,000	13.7	9,920
1953	1283	187	June 13, 1953	-	9.31	6,750	9.34	6,770
1954	1343	70	May 19, 1954	0.8	6.75	4,880	7.01	5,070
1955	1393	106	June 22, 1955	1.0	9.12	6,620	8.91	6,460
1956	1393	-	-	-	-	-	-	-

165. Arapaho Creek at Monarch Lake Outlet, Colo.

Location.--Lat 40°06'45", long 105°44'57", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.24, T.2 N., R.75 W., on right bank a quarter of a mile downstream from Monarch Lake Outlet and 10 miles east of Granby.

Drainage area.--47.1 sq mi.

Records available.--October 1944 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,310 ft (from topographic map). Staff gage at site 1 mile downstream at different datum, used for winter records.

Average discharge.--16 years (1944-60), 83.5 cfs (60,450 acre-ft per year).

Extremes.--1944-60: Maximum discharge, 1,300 cfs June 11, 1952 (gage height, 4.71 ft); minimum daily, 0.2 cfs Nov. 5, 1956 (spillway at Monarch Lake blocked for construction).

Remarks.--Natural regulation by Monarch Lake. No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	15.8	10.9	10.2	9.06	8.13	8.34	17.9	218	428	315	79.2	27.5	96.1
1952	22.1	13.4	10.4	9.81	8.06	8.25	39.7	222	677	209	85.5	34.6	111
1953	11.0	7.31	7.75	7.05	6.86	6.00	14.3	155	445	136	86.1	20.3	73.5
1954	8.83	8.73	7.57	5.85	5.29	5.07	36.0	200	182	96.7	30.1	32.2	51.7
1955	39.2	12.5	8.36	7.14	6.57	4.74	29.6	178	320	159	54.3	16.5	69.8
1956	9.16	8.13	8.56	7.52	6.79	6.93	28.0	346	392	94.2	50.4	18.2	81.5
1957	7.08	4.35	6.54	6.50	6.23	6.28	17.7	123	628	514	126	29.7	123
1958	27.3	19.3	11.5	9	8.00	8.5	12.0	365	411	93.5	42.9	19.7	86.0
1959	9.65	6.32	5.74	6.10	5.84	5.00	15.5	148	502	156	69.3	27.6	79.8
1960	41.6	28.5	10.1	7.60	5.48	7.65	43.8	201	476	153	45.0	21.2	86.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	970	651	625	557	451	531	1,070	13,400	25,440	19,360	4,870	1,640	69,550
1952	1,360	797	642	603	464	507	2,370	13,670	40,270	12,860	5,260	2,060	80,860
1953	678	435	476	433	370	369	849	9,500	26,470	8,370	4,060	1,210	53,220
1954	543	519	465	360	294	312	2,140	12,270	10,820	5,940	1,850	1,920	37,430
1955	2,410	745	514	439	365	292	1,760	10,810	19,060	9,780	3,340	980	50,500
1956	563	484	527	462	391	428	1,670	21,300	23,340	5,790	3,100	1,080	59,130
1957	435	259	402	399	346	388	1,050	7,550	37,370	31,650	7,760	1,770	89,360
1958	1,680	1,150	696	553	444	524	714	22,470	24,440	5,750	2,640	1,170	62,250
1959	594	376	353	375	324	307	924	9,110	29,300	9,590	4,260	1,640	57,750
1960	2,560	1,580	618	467	315	470	2,610	12,340	28,340	9,420	2,760	1,260	62,740

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	60.9	-	44,070
1951	1213	1,040	June 18, 1951	7.6	96.1	69,550	96.8	70,100	
1952	1243	1,300	June 11, 1952	7.2	111	80,860	110	79,650	
1953	1283	946	June 13, 1953	5.5	73.5	53,220	73.4	53,160	
1954	1343	392	May 21, 1954	4.8	51.7	37,430	54.7	39,580	
1955	1393	565	June 23, 1955	4.0	69.8	50,500	66.9	48,400	
1956	1443	990	May 23, 1956	5.0	81.5	59,130	80.8	58,660	
1957	1513	1,220	June 29, 1957	.2	123	89,360	127	91,790	
1958	1563	884	May 29, 1958	-	86.0	62,250	82.9	60,030	
1959	1633	782	June 19, 1959	4.5	79.8	57,750	82.9	61,190	
1960	1713	760	June 4, 1960	5.1	86.4	62,740	-	-	

STILLWATER CREEK BASIN

180. Stillwater Creek above Lake Granby, near Grand Lake, Colo.
(Formerly published as Stillwater Creek above Granby Reservoir, near Grand Lake)

Location.--Lat 40°11'20", long 105°53'40", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.27, T.3 N., R.76 W., on left bank a quarter of a mile upstream from high-water line of Lake Granby, half a mile upstream from U. S. Highway 34, and 6 miles southwest of town of Grand Lake.

Drainage area.--18.8 sq mi.

Records available.--June 1950 to December 1955. Published as "above Granby Reservoir, near Grand Lake."

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 8,310 ft (from topographic map). Prior to Oct. 26, 1950, water-stage recorder and concrete control at datum 0.32 ft higher. Oct. 26, 1950, to Oct. 31, 1953, water-stage recorder and Parshall flume at datum 0.88 ft higher.

Average discharge.--5 years (1950-55), 10.3 cfs (7,460 acre-ft per year).

Extremes.--1950-55: Maximum discharge, 145 cfs June 3, 1952, from rating curve extended above 84 cfs; maximum gage height, 4.52 ft June 3, 1952; minimum discharge not determined.

Remarks.--Small diversions for irrigation of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.87	1.85	1.5	1.3	1.3	1.8	9.26	41.2	50.3	25.5	7.24	2.26	12.2
1952	2.88	2.03	1.7	2.0	1.6	1.8	10.7	65.2	70.5	32.0	6.66	2.25	16.6
1953	1.32	1.84	1.9	1.8	1.2	1.4	7.74	21.8	43.0	19.9	6.48	1.91	9.25
1954	1.77	1.61	1.48	1.33	1.47	1.58	10.7	15.3	23.4	9.32	2.37	1.43	5.98
1955	1.59	1.41	1.15	1.23	1.59	1.30	7.16	27.2	27.7	13.8	4.26	1.37	7.51
1956	1.47	1.46	1.48	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	115	110	92	80	72	111	551	2,530	2,990	1,560	445	134	8,790
1952	177	121	105	123	92	111	637	4,010	4,200	1,970	410	134	12,090
1953	118	109	117	111	67	86	480	1,340	2,560	1,220	398	114	6,700
1954	109	96	91	82	82	97	639	938	1,390	573	146	85	4,330
1955	98	84	70	75	88	80	426	1,670	1,650	848	262	82	5,430
1956	90	87	91	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1213	108	June 21, 1951	-	12.2	8,790	12.3	8,880
1952	1243	145	June 3, 1952	-	16.6	12,090	16.6	12,030
1953	1283	87	June 13, 1953	-	9.25	6,700	9.19	6,650
1954	1343	54	May 30, 1954	0.8	5.98	4,330	5.92	4,280
1955	1393	82	June 14, 1955	.9	7.51	5,430	7.53	5,450
1956	1393	-	-	-	-	-	-	-

COLORADO RIVER MAIN STEM

185. Lake Granby near Granby, Colo.
(Formerly published as Granby Reservoir near Granby)

Location.--Lat 40°11'00", long 105°52'10", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.35, T.3 N., R.76 W., in Granby pumping plant at north shore of lake, $\frac{3}{4}$ miles north of Granby Dam on Colorado River and $\frac{7}{8}$ miles northeast of Granby.

Drainage area.--311 sq mi.

Records available.--October 1949 to September 1960. Prior to October 1955 published as Granby Reservoir near Granby.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (Bureau of Reclamation bench mark). Prior to Apr. 9, 1951, staff gage at Granby Dam at same datum.

Extremes.--1949-60: Maximum contents, 460,600 acre-ft July 8, 1958 (elevation, 8,279.31 ft); minimum since appreciable storage was first attained, 22,940 acre-ft Apr. 21, 1956 (elevation, 8,194.37 ft).

Remarks.--Lake is formed by earthfill dam and dikes. Regulation began Sept. 13, 1949, and usable storage began June 14, 1950, while dam was under construction. Usable capacity of lake, 465,600 acre-ft between elevations 8,186.00 (trashrack sills at outlet structures) and 8,280.00 ft (top of radial spillway gates). Dead storage, 74,190 acre-ft. Lake is used to store water for pumping to Shadow Mountain Reservoir and transmountain diversion through Alva B. Adams tunnel for power and irrigation in South Platte River basin. Figures given herein represent usable contents.

Cooperation.--Records furnished by Bureau of Reclamation.

Contents, in acre-feet, on last day of month, of Lake Granby near Granby, Colo.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	44,940	44,810	47,080	47,010	46,940	45,960	38,580	73,700	161,700	207,900	218,600	218,500
1952	217,200	212,500	211,800	204,700	198,800	200,100	210,900	272,400	408,900	437,600	436,500	432,400
1953	422,000	413,400	391,200	371,900	357,000	350,400	351,800	378,700	451,500	439,800	428,400	406,800
1954	390,500	371,800	353,100	339,700	322,600	298,700	287,200	301,900	298,900	275,700	243,600	222,700
1955	203,900	179,900	155,900	130,000	105,500	82,010	77,000	109,700	167,200	170,300	158,200	142,500
1956	124,500	109,300	94,250	79,070	56,650	31,130	24,910	119,400	200,000	196,500	192,400	175,500
1957	155,600	134,200	114,200	90,060	63,830	37,770	25,450	75,960	244,800	374,700	395,300	392,700
1958	376,300	359,100	343,900	320,800	309,300	286,300	281,100	378,900	458,800	454,700	432,800	406,400
1959	375,200	344,400	313,300	287,300	268,000	246,000	231,700	262,300	361,100	364,400	348,600	334,100
1960	320,200	303,300	278,400	250,500	231,400	216,400	236,300	288,500	399,700	409,700	387,100	361,900

190. Colorado River below Lake Granby, Colo.

Location.--Lat 40°08'39", long 105°52'00", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.11, T.2 N., R.76 W., on right bank 0.3 mile downstream from Granby Dam, 1 mile upstream from Walden Hollow, and 6 miles northeast of Granby.

Drainage area.--311 sq mi.

Records available.--October 1950 to September 1960. Prior to October 1955, published as "below Granby Reservoir."

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 8,050 ft (from topographic map).

Extremes.--1950-60: Maximum discharge, 437 cfs June 20-30, 1952; maximum gage height, 3.91 ft June 17, 1952; minimum daily discharge, 14 cfs May 1, 1957.

Remarks.--Seepage from Lake Granby, which varies from 2 to 8 cfs depending on elevation of Lake Granby, is not included in record. Flow completely regulated by Lake Granby (see preceding station). Several diversions for irrigation of hay meadows above station. Transmountain diversions by Eureka and Grand River ditches and Alva B. Adams tunnel (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	31.4	31.3	31.7	29.0	29.0	31.8	33.3	52.6	67.5	70.9	38.8	19.1	38.9
1952	18.9	19.5	19.8	19.0	19.8	23.5	36.8	76.0	236	78.9	65.4	97.3	59.1
1953	100	20.9	20.9	21.0	21.0	21.7	21.0	74.6	75.0	75.0	40.2	21.0	43.0
1954	20.5	20.2	20.6	20.0	20.0	20.6	21.5	75.0	75.1	75.8	39.6	21.7	36.0
1955	19.6	20.0	19.7	20.0	20.0	19.9	19.4	73.9	75.5	74.5	39.5	20.4	35.4
1956	20.1	20.0	19.8	20.0	20.0	20.2	19.8	74.8	75.1	74.9	40.6	18.3	35.4
1957	17.1	18.4	18.3	18.9	17.6	18.2	17.8	71.9	75.9	74.3	39.8	19.4	34.1
1958	19.9	18.8	20.0	20.0	20.0	19.8	19.2	64.5	76.1	77.3	40.7	19.9	34.9
1959	19.5	18.0	18.0	19.0	18.9	18.2	18.0	73.4	75.3	75.5	39.8	20.6	34.7
1960	21.2	19.7	20.1	20.2	20.0	19.9	21.0	73.3	74.3	74.9	40.1	20.7	35.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,930	1,860	1,950	1,780	1,610	1,950	1,980	3,230	4,010	4,360	2,380	1,140	28,180
1952	1,160	1,160	1,220	1,170	1,140	1,440	2,190	4,670	14,070	4,850	4,020	5,790	42,880
1953	6,170	1,250	1,290	1,290	1,170	1,340	1,250	4,590	4,460	4,610	2,470	1,250	31,140
1954	1,260	1,200	1,270	1,230	1,110	1,270	1,280	4,610	4,470	4,660	2,430	1,290	26,080
1955	1,210	1,190	1,210	1,230	1,110	1,230	1,150	4,550	4,490	4,580	2,430	1,220	25,600
1956	1,230	1,190	1,220	1,230	1,150	1,240	1,180	4,600	4,470	4,600	2,500	1,090	25,700
1957	1,050	1,100	1,120	1,160	980	1,120	1,060	4,420	4,510	4,570	2,450	1,150	24,690
1958	1,220	1,180	1,250	1,230	1,110	1,220	1,140	3,960	4,530	4,750	2,510	1,180	25,260
1959	1,200	1,070	1,110	1,170	1,050	1,120	1,070	4,510	4,480	4,640	2,450	1,230	25,100
1960	1,310	1,170	1,230	1,240	1,150	1,220	1,250	4,510	4,420	4,610	2,460	1,230	25,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950							
1951	1213	73	June 13, 1951	18	38.9	28,180	35.9
1952	1243	437	(a)	18	59.1	42,680	66.2
1953	1263	102	(b)	20	43.0	31,140	36.1
1954	1343	94	May 1, 1954	19	36.0	26,080	35.9
1955	1393	79	June 29, 1955	18	35.4	25,600	35.4
1956	1443	79	(c)	18	35.4	25,700	34.9
1957	1513	217	May 2, 1957	14	34.1	24,690	34.6
1958	1563	172	Mar. 25, 1958	18	34.9	25,260	34.5
1959	1633	79	July 5, 1959	18	34.7	25,100	35.1
1960	1713	84	May 2, 1960	19	35.6	25,800	-

a June 20-30, 1952.

b Oct. 4, 13, 1952.

c May 29, July 4, 1956.

195. Colorado River near Granby, Colo.

Location.--Lat 40°07'15", long 105°54'00", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.22, T.2 N., R.76 W., on right bank 0.3 mile upstream from bridge on U. S. Highway 34, 1.3 miles upstream from Willow Creek, and 3.2 miles northeast of Granby.

Drainage area.--322 sq mi.

Records available.--October 1907 to September 1911 (published as Grand River near Granby), October 1933 to September 1953. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,960 ft (from topographic map). June 10, 1908, to Sept. 30, 1911, staff gage and May 12 to June 10, 1934, chain gage, at site 300 ft upstream at different datum.

Extremes.--1907-11, 1933-53: Maximum discharge observed 4,100 cfs June 20, 1909 (gage height, 5.5 ft, site and datum then in use); minimum daily, 6.6 cfs Jan. 29, 1950; minimum observed, prior to starting construction of Shadow Mountain Reservoir, 20 cfs Apr. 6, 1936 (discharge measurement).

Remarks.--Flow regulated by Lake Granby (see elsewhere in this report) since Sept. 13, 1949. Several diversions for irrigation of hay meadows above station. Transmountain diversions above station by Eureka and Grand River ditches and Alva B. Adams tunnel (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	29.8	32.7	31.4	29.9	30.0	31.9	33.9	51.0	56.9	51.4	38.2	22.4	36.7
1952	18.4	20.8	21.7	20.1	20.4	21.7	46.6	93.0	226	61.2	72.5	101	60.0
1953	103	25.1	28.5	31.6	30.6	30.2	30.5	73.6	66.2	61.9	43.3	22.1	45.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,830	1,950	1,930	1,840	1,660	1,960	2,020	3,140	3,390	3,160	2,350	1,330	26,560
1952	1,130	1,240	1,340	1,240	1,170	1,330	2,770	5,720	13,420	3,760	4,460	6,010	43,590
1953	6,310	1,500	1,760	1,950	1,700	1,860	1,810	4,530	3,940	3,800	2,660	1,320	33,140

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	30.3	21,940	-
1951	1213	80	June 14, 1951	15	36.7	26,560	33.9	24,560	-
1952	1243	435	June 23, 1952	14	60.0	43,590	68.1	49,590	-
1953	1283	112	June 19, 1953	19	45.8	33,140	-	-	-

WILLOW CREEK BASIN

200. Willow Creek near Granby, Colo.

Location.--Lat 40°11', long 106°00', in NW $\frac{1}{4}$ sec.34, T.3 N., R.77 W., on right bank 10 ft upstream from bridge on State Highway 125, 100 ft downstream from Gold Run Creek, and 7 miles northwest of Granby.

Drainage area.--105 sq mi.

Records available.--October 1934 to September 1953. Prior to April 1935 monthly discharge only, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 8,236.88 ft above mean sea level, unadjusted. Prior to June 3, 1935, staff gage and June 3, 1935, to Sept. 30, 1937, water-stage recorder, at site 10 ft downstream at datum 1.53 ft higher. Oct. 1, 1937, to Sept. 20, 1946, and May 20 to Sept. 30, 1948, water-stage recorder at site 10 ft downstream at datum 0.95 ft higher. Sept. 21, 1946, to May 19, 1948, water-stage recorder at site 110 ft downstream at datum 1.70 ft lower.

Average discharge.--19 years (1934-53), 64.5 cfs (46,700 acre-ft per year).

Extremes.--1934-53: Maximum discharge, 956 cfs June 8, 1952 (gage height, 5.44 ft); minimum daily, 6 cfs Feb. 17-24, 1938, Dec. 15, 16, 27, 1941.

Remarks.--Diversions above station for irrigation of hay meadows.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	12.4	12.6	11.7	9.12	9.06	11.1	31.6	356	299	83.8	33.2	16.5	74.2
1952	18.0	11.8	9.20	8.75	8.62	11.5	74.5	488	486	69.1	41.0	16.7	104
1953	10.9	9.18	9.35	8.70	7.94	10.4	31.6	184	206	49.2	45.1	16.1	49.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	764	748	722	561	503	681	1,880	21,880	17,810	5,150	2,040	982	53,720
1952	1,110	705	566	538	496	710	4,430	30,000	28,910	4,250	2,520	992	75,230
1953	673	546	575	535	441	641	1,880	11,290	12,260	3,030	2,770	960	35,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	53.3	38,580	-
1951	1213	688	May 29, 1951	7.0	74.2	53,720	74.4	53,870	-
1952	1243	956	June 8, 1952	8.0	104	75,230	105	74,640	-
1953	1283	539	May 29, 1953	7.4	49.2	35,600	-	-	-

205. Willow Creek above Willow Creek Reservoir, Colo.

Location.--Lat 40°09'20", long 105°58'48", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.11, T.2 N., R.77 W., on right bank 0.2 mile upstream from high-water line of Willow Creek Reservoir at elevation 8,130 ft, $\frac{2}{3}$ miles downstream from Trail Creek, and $\frac{5}{8}$ miles northwest of Granby.

Drainage area.--128 sq mi.

Records available.--August 1953 to September 1960.

Gage.--Water-stage recorder and Parshall flume with overflow weirs. Datum of gage is 8,135.07 ft above mean sea level (Bureau of Reclamation bench mark).

Average discharge.--7 years (1953-60), 69.0 cfs (49,950 acre-ft per year).

Extremes.--1953-60: Maximum discharge, 1,280 cfs June 7, 1957 (gage height, 4.93 ft); maximum gage height, 5.34 ft May 27, 1958 (backwater from debris); minimum daily discharge, 1.6 cfs Sept. 22, 1954.

Remarks.--Diversions above station for irrigation of hay meadows.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	61.0	16.8	-
1954	13.0	12.4	10.2	8.45	9.08	9.03	73.0	165	50.3	17.0	13.0	9.41	32.7
1955	12.2	12.0	9.25	9.46	7.97	10.6	68.3	208	147	41.6	23.7	10.6	46.9
1956	10.4	10.4	10.4	10.4	9.57	10.9	69.9	507	226	35.3	20.3	7.17	77.7
1957	7.05	12.6	9.45	9.19	10.4	9.87	32.2	301	787	252	62.8	28.9	127
1958	24.0	17.2	13.4	12.8	14.5	14.5	35.9	428	183	26.2	16.6	11.8	67.0
1959	11.0	12.2	9.25	8.19	8.69	11.7	34.4	225	169	37.0	25.3	17.9	47.6
1960	37.2	28.2	16.3	13.7	13.4	28.1	160	342	281	53.2	21.1	16.0	84.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	3,750	998	-
1954	801	738	630	519	504	555	4,350	10,150	2,990	1,050	800	550	23,650
1955	752	716	569	582	443	653	4,070	12,770	8,750	2,560	1,460	631	33,960
1956	637	621	638	640	551	669	4,160	31,160	13,460	2,170	1,250	427	56,380
1957	433	752	581	565	575	607	1,920	18,530	46,810	15,490	3,860	1,720	91,840
1958	1,480	1,030	825	785	905	891	2,140	26,350	10,900	1,610	1,020	702	48,540
1959	676	728	568	504	483	717	2,050	13,830	9,990	2,280	1,560	1,070	34,460
1960	2,290	1,680	1,000	841	774	1,730	9,550	21,040	16,710	3,270	1,300	950	61,140

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-
1953	1343	-	-	-	-	-	-	-	-	-
1954	1343	230	May 12, 13, 1954	1.6	32.7	23,650	32.5	23,520		
1955	1393	295	May 16, 1955	7.2	46.9	33,960	46.7	33,820		
1956	1443	1,010	May 23, 1956	3.8	77.7	56,380	77.5	56,250		
1957	1513	1,280	June 7, 1957	4.4	127	91,840	129	93,410		
1958	1563	1,480	May 23, 1958	9.9	67.0	48,540	65.2	47,180		
1959	1633	334	May 13, 1959	6.8	47.6	34,460	51.7	37,500		
1960	1713	-	-	8	84.2	61,140	-	-		

a About.

207. Willow Creek Reservoir near Granby, Colo.

Location.--Lat 40°08'40", long 105°56'30", in SE $\frac{1}{4}$ sec.7, T.2 N., R.76 W., in shafthouse near right end of Willow Creek Dam on Willow Creek, $\frac{3}{4}$ miles upstream from mouth and 4 miles north of Granby.

Drainage area.--134 sq mi.

Records available.--May 1953 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 8,077.00 ft above mean sea level, datum of 1929 (levels by Bureau of Reclamation); gage readings have been reduced to elevations above mean sea level.

Extremes.--1953-60: Maximum contents observed, 9,060 acre-ft Aug. 3, 1953 (elevation, 8,129.99 ft); minimum since first filling to spillway level, 4,550 acre-ft Oct. 10, 11, 1957 (elevation, 8,110.92 ft).

Remarks.--Reservoir is formed by earth- and rock-fill dam. Storage began in March 1953 and dead storage pool filled May 3, 1953. Usable capacity, 9,060 acre-ft between elevations 8,077.00 (trashrack sill at Willow Creek Outlet) and 8,130.00 ft (crest of spillway). Dead storage, 1,490 acre-ft. Reservoir is used to store water for pumping to Lake Granby, Shadow Mountain Reservoir, and transmountain diversion through Alva B. Adams tunnel for power and irrigation in the South Platte River basin. It is part of the Colorado-Big Thompson project. Figures given herein represent usable contents.

Cooperation.--Records furnished by Bureau of Reclamation.

WILLOW CREEK BASIN

Contents, in acre-feet, on last day of month, of Willow Creek Reservoir near Granby, Colo.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	0	4,140	8,780	8,930	8,740	8,760
1954	8,840	8,790	5,360	5,600	5,810	5,430	5,720	6,110	6,040	5,940	6,190	5,770
1955	5,300	5,480	5,700	5,900	6,060	6,270	6,960	6,730	8,230	5,510	6,520	6,730
1956	6,990	7,360	5,690	6,040	6,330	6,620	5,790	9,000	7,540	7,640	6,720	6,790
1957	6,750	5,570	5,870	6,220	6,490	6,860	5,410	7,310	8,940	6,180	6,090	4,570
1958	5,180	5,900	6,510	6,940	7,360	7,860	6,670	8,670	8,860	8,750	8,830	6,110
1959	5,290	5,590	5,960	6,280	6,530	6,890	6,220	6,210	8,820	8,980	6,570	6,160
1960	8,000	5,500	6,090	6,530	6,930	7,880	6,030	6,490	6,660	6,760	7,600	7,920

210. Willow Creek below Willow Creek Reservoir, Colo.

Location.--Lat 40°08'45", long 105°56'22", in SE $\frac{1}{4}$ sec.7, T.2 N., R.76 W., on left bank 1,000 ft downstream from Willow Creek Dam, three-quarters of a mile upstream from Bunte Highline Canal diversion, .3 miles upstream from mouth, and 4 miles north of Granby.

Drainage area.--134 sq mi.

Records available.--August 1953 to September 1960.

Gage.--Water-stage recorder and Parshall flume with overflow weirs. Datum of gage is 8,023.64 ft above mean sea level (Bureau of Reclamation bench mark). Supplementary water-stage recorder and Parshall flume on McQueary ditch 500 ft downstream from point of diversion at Willow Creek Dam. Datum of gage is 8,031.68 ft above mean sea level (Bureau of Reclamation bench mark).

Average discharge (combined flow).--7 years (1953-60), 24.3 cfs (17,590 acre-ft per year).

Extremes (combined flow).--1953-60: Maximum discharge, 867 cfs June 7, 1957; minimum daily, 0.9 cfs Sept. 23, 1954.

Remarks.--Records show combined flow of creek, McQueary ditch, and waste from pump canal. Flow regulated by Willow Creek Reservoir (see preceding station). Diversions above station for irrigation of hay meadows. McQueary ditch diverts at Willow Creek Dam for irrigation below station. Water is diverted from Willow Creek Reservoir by Willow Creek Pump Canal to Lake Granby as part of the Colorado-Big Thompson project.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	55.5	15.5	-	-
1954	12.4	12.3	9.46	7.40	7.70	7.70	7.64	31.3	45.5	22.6	7.32	5.57	14.8
1955	6.18	7.45	6.68	7.13	7.00	7.00	7.15	13.7	41.6	36.4	7.92	6.88	12.9
1956	7.10	7.34	6.71	6.78	7.07	6.78	6.43	77.6	48.3	33.6	15.2	6.17	19.2
1957	8.73	7.32	6.50	7.00	7.00	7.00	6.28	5.78	316	44.5	10.1	21.0	36.9
1958	14.8	7.36	7.20	7.20	7.15	7.28	13.3	36.9	209	34.1	15.1	10.9	58.9
1959	11.7	7.03	6.58	6.67	6.70	6.70	7.36	22.3	40.4	22.5	7.88	8.25	13.7
1960	7.65	7.21	6.21	5.66	6.15	6.72	7.37	15.6	40.8	39.4	7.57	10.7	13.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	3,410	924	-	-
1954	763	733	582	455	428	473	454	1,920	2,710	1,390	450	332	10,690
1955	380	443	411	438	389	430	425	843	2,470	2,240	487	409	9,360
1956	437	437	412	416	407	417	383	4,770	2,870	2,060	935	367	13,910
1957	537	436	400	430	389	430	374	355	18,780	2,740	619	1,250	26,740
1958	909	438	443	443	397	448	792	22,680	12,440	2,090	930	646	42,660
1959	718	416	403	410	372	412	439	1,370	2,410	2,000	484	491	9,920
1960	471	429	382	348	354	413	439	960	2,430	2,420	466	638	9,750

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	1343	a215	Aug. 3, 1953	-	-	-	-	-	-
1954	1343, 1563	55	May 26, 1954	0.9	14.8	10,690	13.6	9,850	-
1955	1393, 1563	51	June 4, 1955	5.1	12.9	9,360	13.0	9,420	-
1956	1443	851	May 22, 1956	3.3	19.2	13,910	19.3	14,000	-
1957	1513	867	June 7, 1957	4.4	36.9	26,740	37.5	27,160	-
1958	1563	704	May 27, 1958	7.1	58.9	42,660	58.6	42,400	-
1959	1633	b62	June 29, 1959	6.4	13.7	9,920	13.3	9,750	-
1960	1713	51	July 7, 1960	5.0	13.4	9,750	-	-	-

a Maximum during period August to September.

b Maximum daily.

215. Berthoud Pass ditch at Berthoud Pass, Colo.
(Transmountain diversion)

Location.--Lat 39°47'55", long 105°46'35", in sec.10, T.3 S., R.75 W., at Berthoud Pass.

Records available.--October 1909 to September 1960. Diversion 1926-44 published in WSP 1310 (yearly diversion only for water years 1910-25).

Gage.--Water-stage recorder and 3-foot Parshall flume since June 5, 1948. Altitude of gage is 11,310 ft (from topographic map). Prior to June 19, 1932, type of gage and exact location not known. June 19, 1932, to Sept. 8, 1940, water-stage recorder at grouted-rock ditch section and May 1, 1941, to Aug. 8, 1947, water-stage recorder and 2½-foot Parshall flume, both at about present site.

Remarks.--Diversion is from tributaries of Fraser River in Colorado River basin, between headgate in sec.33, T.2 S., R.75 W., and Berthoud Pass, to Hoop Creek (tributary of West Fork Clear Creek) in sec.10, T.3 S., R.75 W., in Platte River basin. Ditch was built about 1909.

Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	0	154	435	127	0	716
1952	0	0	0	0	0	0	0	0	316	361	55	0	730
1953	0	0	0	0	0	0	0	0	329	233	32	0	594
1954	0	0	0	0	0	0	0	20	178	19	0	0	217
1955	0	0	0	0	0	0	0	2.6	249	208	0	0	458
1956	0	0	0	0	0	0	0	0	193	203	0	0	396
1957	0	0	0	0	0	0	0	0	365	203	0	0	568
1958	0	0	0	0	0	0	0	0	233	189	7	0	429
1959	0	0	0	0	0	0	0	0	481	369	146	0	996
1960	0	0	0	0	0	0	0	0	526	372	75	0	973

225. Moffat water tunnel at East Portal, Colo.
(Transmountain diversion)

Location.--Lat 39°54'10", long 105°38'50", in sec.2, T.2 S., R.74 W., at East Portal.

Records available.--October 1935 to September 1960.

Gage.--Water-stage recorder and 15-foot Parshall flume. Altitude of gage is 9,200 ft (from topographic map).

Remarks.--Diversion is from tributaries of Fraser River in Colorado River basin to South Boulder Creek in sec.2, T.2 S., R.74 W., in Platte River basin by means of three collection ditches extending from right bank of St. Louis Creek in sec.20, T.2 S., R.76 W., right bank of Vasquez Creek in sec.18, T.2 S., R.75 W., right bank of Fraser River in sec.23, T.2 S., R.75 W., left bank of North Fork Ranch Creek in sec.24, T.1 S., R.75 W., and intercepting intermediate tributaries to west portal of the tunnel. Since July 1959, water diverted by Jones Pass tunnel from tributaries of Williams Fork in Colorado River basin between headgates on right bank of Bottail Creek in sec.28, T.3 S., R.76 W., and headgate on left bank of McQueary Creek in sec.16, T.3 S., R.76 W., has been redirected through Vasquez tunnel to Vasquez Creek in the Fraser River basin in sec.1, T.3 S., R.76 W., thence via collection ditch to west portal of Moffat water tunnel where it is diverted to South Boulder Creek in sec.2, T.2 S., R.74 W., in Platte River basin.

Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	950	179	0	0	0	0	0	5,980	9,210	11,660	3,990	1,850	33,900
1952	1,490	48	0	0	0	0	0	3,090	11,480	8,960	4,040	2,120	31,230
1953	1,320	290	0	0	0	0	0	4,080	18,090	6,650	3,180	1,460	35,070
1954	1,190	338	0	0	0	0	582	5,780	5,550	3,140	1,680	1,280	19,540
1955	1,440	1,020	228	0	0	0	254	6,720	13,940	6,800	4,870	1,950	37,020
1956	1,280	77	0	0	0	0	0	17,590	25,030	4,880	2,940	1,630	53,430
1957	1,260	0	0	0	0	0	215	3,810	6,660	19,700	11,100	5,430	48,180
1958	87	0	0	0	0	0	0	0	3,050	6,000	2,660	1,850	13,650
1959	1,380	583	0	0	0	0	225	7,100	29,380	11,220	5,870	3,050	58,810
1960	3,360	1,230	795	706	547	556	1,360	11,030	19,700	9,960	4,370	2,680	56,290

240. Fraser River near Winter Park, Colo.

Location.--Lat 39°54'00", long 105°46'35", in NE $\frac{1}{4}$ sec 4, T.2 S., R.75 W., on left bank 500 ft downstream from bridge on U. S. Highway 40, 1.1 miles northwest of Winter Park, 2 miles upstream from Vasquez Creek, 3 $\frac{1}{2}$ miles downstream from point of diversion for Moffat water tunnel, and 4 miles southeast of Fraser.

Drainage area.--27.6 sq mi.

Records available.--September 1910 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as "near Arrow" 1910-23 and as "near West Portal" 1924-39. Records since June 9, 1936, equivalent to earlier records if transmountain diversions are added to flow past station.

Gage.--Water-stage recorder. Datum of gage is 8,906.23 ft above mean sea level (State Highway Department bench mark). Sept. 23, 1910, to May 12, 1916, staff gage at trail bridge 1 mile upstream at different datum.

Average discharge.--50 years (1910-60), 41.2 cfs (29,830 acre-ft per year), including diversions to Berthoud Pass ditch and Moffat water tunnel.

Extremes.--1910-60: Maximum discharge, 820 cfs June 13, 1918 (gage height, 2.9 ft); minimum, 2 cfs Mar. 30, 1912.

Remarks.--Transmountain diversions above station through Berthoud Pass ditch (see elsewhere in this report) and to Moffat water tunnel.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.13	7.56	7.02	6.79	7.57	7.12	8.39	24.2	93.5	16.7	5.24	3.63	15.9
1952	4.03	8.59	8.25	6.89	7.11	6.78	17.8	44.7	125	7.89	5.21	4.96	20.5
1953	4.57	8.68	8.95	8.19	7.61	6.31	8.00	15.5	24.0	6.67	4.02	3.04	8.78
1954	3.71	7.89	7.06	6.53	6.45	5.66	9.10	7.42	5.76	4.92	3.37	3.40	5.93
1955	3.99	3.74	6.24	5.95	5.28	5.08	9.67	14.8	13.5	7.78	3.97	3.06	6.93
1956	3.31	7.47	7.27	6.38	5.66	6.01	14.7	28.6	24.3	8.21	5.25	2.62	9.81
1957	2.93	10.9	6.52	5.56	6.73	7.85	10.1	16.9	228	209	13.6	5.23	43.7
1958	18.9	13.8	10.7	8.64	7.49	7.38	8.52	122	128	11.5	8.00	3.57	29.1
1959	4.94	10.6	8.57	7.46	7.2	7.6	10.2	19.3	46.8	9.16	5.45	3.31	11.7
1960	4.77	7.93	10.9	8.59	7.92	10.4	20.8	29.7	73.8	17.3	6.52	6.98	17.1

Monthly and annual discharge, in acre-feet (adjusted)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	728	545	431	417	420	438	529	4,080	10,060	6,570	2,020	1,110	27,350
1952	974	559	508	423	409	417	1,060	4,470	14,260	4,700	2,120	1,290	31,170
1953	914	676	550	504	422	388	476	2,820	9,740	3,350	1,590	845	22,280
1954	713	674	434	402	358	348	794	2,690	5,110	2,030	1,070	612	13,420
1955	964	686	472	366	293	313	732	3,610	6,160	3,550	2,660	1,280	21,090
1956	804	476	447	392	326	369	875	6,890	9,740	2,580	1,380	742	25,020
1957	672	650	401	342	374	483	602	2,080	13,970	12,840	3,670	1,810	37,890
1958	1,190	821	657	531	416	454	507	7,500	9,380	2,480	1,310	936	26,180
1959	820	650	527	459	400	467	604	3,050	11,330	3,830	1,950	1,090	25,180
1960	1,190	783	669	528	455	637	1,240	3,750	11,680	4,290	1,610	948	27,780

Note.--Figures include flow diverted above station to Berthoud Pass ditch and Moffat water tunnel.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year					
		Observed			Adjusted			Observed			Adjusted		
		Mean	Runoff	Mean	Runoff	Mean	Runoff	Mean	Runoff	Mean	Runoff	Mean	Runoff
		Discharge	Date	in acre-feet	in acre-feet	Discharge	Date	in acre-feet	in acre-feet	Discharge	Date	in acre-feet	in acre-feet
1950	-	-	-	-	-	-	-	9.34	6,760	28.1	20,320	-	-
1951	1213	318	June 20, 1951	3.2	15.9	11,530	37.8	27,350	16.1	11,660	39.2	28,380	-
1952	1243	471	June 6, 1952	3.6	20.5	14,870	42.9	31,170	20.6	14,950	43.1	31,290	-
1953	1283	237	June 14, 1953	2.9	8.78	6,360	30.8	22,280	8.48	6,140	30.3	21,960	-
1954	1343	18	Nov. 9, 1953	2.8	5.93	4,290	18.5	13,420	5.54	4,010	18.7	13,730	-
1955	1393	36	June 27, 1955	3.0	6.93	5,010	29.1	21,090	7.26	5,260	28.6	20,690	-
1956	1443	149	June 1, 1956	2.1	9.81	7,120	34.5	25,020	10.0	7,260	34.5	25,020	-
1957	1513	535	June 28, 1957	2.1	43.7	31,640	52.3	37,890	45.6	33,040	54.4	39,390	-
1958	1563	313	June 5, 1958	3.4	29.1	21,050	36.2	26,180	27.4	19,870	35.2	25,510	-
1959	1633	178	June 15, 1959	2.5	11.7	8,460	34.8	25,180	11.6	8,440	35.7	25,820	-
1960	1713	252	June 17, 1960	2.8	17.1	12,390	38.3	27,780	-	-	-	-	-

250. Vasquez Creek near Winter Park, Colo.

Location.--Lat 39°55'13", long 105°47'05", in NE¼NW¼ sec.33, T.1 S., R.75 W., on right bank 40 ft downstream from bridge on U. S. Highway 40, a quarter of a mile upstream from mouth, 2½ miles northwest of Winter Park, 2½ miles southeast of Fraser, and 4½ miles downstream from Moffat water tunnel diversion.

Drainage area.--27.8 sq mi.

Records available.--June 1907 to October 1909 (irrigation seasons only), October 1933 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as Vasquez River at lower station, near Fraser 1907-9 and as "near West Portal" 1934-39. Records for May 26, 1937, to September 1959 equivalent to earlier records if diversion to Moffat water tunnel is added to flow past station.

Gage.--Water-stage recorder and concrete control. Datum of gage is 8,768.48 ft above mean sea level, unadjusted. June 1, 1907, to Oct. 31, 1909, staff gage at site three-quarters of a mile upstream at different datum.

Average discharge.--26 years (1933-59), 32.3 cfs (23,380 acre-ft per year), including diversions to Moffat water tunnel.

Extremes.--1933-60: Maximum discharge, 470 cfs June 10, 1952 (gage height, 3.13 ft), from rating curve extended above 340 cfs; no flow at times in 1944, 1946, 1956, 1960.

Remarks.--Transmountain diversions above station to Moffat water tunnel.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.06	6.42	7.18	6.99	6.07	6.57	6.05	12.7	90.6	12.6	2.05	1.38	15.2
1952	1.80	7.00	7.58	8.27	7.55	6.58	9.37	61.9	178	2.12	2.05	1.40	24.3
1953	1.34	6.22	7.66	8.57	7.27	7.15	8.73	9.93	15.8	1.65	2.95	2.44	6.62
1954	1.96	6.58	6.03	4.87	4.80	4.40	6.71	2.81	.50	1.43	1.29	.50	3.48
1955	1.52	2.22	4.41	6.73	6.12	6.01	9.58	8.19	2.27	1.32	1.78	1.17	4.27
1956	1.49	6.67	5.36	4.62	4.56	5.83	9.63	38.3	45.8	.34	1.77	1.11	10.4
1957	1.16	7.45	8.99	7.39	4.72	7.56	4.28	11.3	145	45.3	11.1	8.13	21.8
1958	18.5	15.6	12.2	10.0	9.99	9.02	13.5	119	133	1.49	1.29	1.01	28.7
1959	.94	5.84	8.54	7.4	7.2	7.0	6.36	11.2	5.63	1.13	1.15	1.23	5.29
1960	1.84	5.79	3.7	1.7	.8	2.02	7.17	20.4	66.5	11.0	.39	1.69	10.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	65	382	442	430	337	404	360	779	5,390	778	126	82	9,580
1952	110	417	466	509	434	405	557	3,810	10,600	130	126	83	17,650
1953	82	370	471	527	404	439	519	611	942	101	181	145	4,790
1954	121	392	371	300	267	271	399	173	30	88	79	30	2,520
1955	93	132	271	414	340	370	570	503	135	81	109	69	3,090
1956	92	397	330	284	262	358	573	2,360	2,730	21	109	66	7,580
1957	71	443	553	455	262	465	255	694	8,650	2,790	683	484	15,900
1958	1,140	928	748	617	555	556	805	7,300	7,900	92	80	60	20,780
1959	58	348	525	455	400	430	378	689	335	69	70	73	3,830
1960	113	344	228	105	46	124	427	1,260	3,960	679	24	100	7,410

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	7.19	5,200	
1951	1213	314	June 21, 1951	0.4	13.2	9,580	13.4	9,680	
1952	1243	470	June 10, 1952	1.0	24.3	17,650	24.2	17,580	
1953	1283	228	June 14, 1953	.1	6.62	4,790	6.56	4,750	
1954	1343	21	Nov. 9, 1953	.2	3.48	2,520	2.94	2,130	
1955	1393	20	Apr. 26, 1955	.1	4.27	3,090	4.71	3,410	
1956	1443	338	May 23, 1956	0	10.4	7,580	10.8	7,830	
1957	1513	322	July 2, 1957	.9	21.8	15,800	24.2	17,550	
1958	1563	275	May 23, 1958	.1	28.7	20,780	26.1	18,900	
1959	1633	88	June 8, 1959	.1	5.29	3,830	4.95	3,580	
1960	1713	290	June 17, 1960	0	10.2	7,410	-	-	

265. St. Louis Creek near Fraser, Colo.

Location.--Lat 39°54'30", long 105°52'45", in sec.34, T.1 S., R.76 W., on left bank 300 ft downstream from West St. Louis Creek and 4 miles southwest of Fraser.

Drainage area.--32.8 sq mi.

Records available.--October 1933 to September 1960. Prior to August 1934 monthly discharge only, published in WSP 1313. Records for May 1956 to September 1959 equivalent to earlier records if diversion to Moffat water tunnel is added to flow past station.

Gage.--Water-stage recorder. Datum of gage is 8,980.17 ft above mean sea level, unadjusted.

Average discharge.--26 years (1933-59), 36.6 cfs (26,500 acre-ft per year), including diversion to Moffat water tunnel.

Extremes.--1933-60: Maximum discharge, 470 cfs June 15, 1952 (gage height, 2.89 ft); maximum gage height, 3.21 ft June 10, 1952 (backwater from log on control); minimum discharge not determined, probably occurred during February or March 1960.

Remarks.--Transmountain diversion above station to Moffat water tunnel.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	12.1	11.2	9.50	8.03	7.17	6.65	8.97	58.3	199	163	48.2	22.6	46.4
1952	17.4	12.8	9.80	7.05	7.73	8.25	14.1	64.9	257	95.6	55.5	28.0	47.9
1953	15.7	12.2	12.5	10.1	9.17	8.40	9.99	36.5	183	74.0	40.5	19.0	35.9
1954	13.2	11.4	9.96	8.20	7.93	7.89	13.2	44.3	50.4	30.2	14.4	42.5	18.7
1955	12.1	10.6	8.91	7.67	6.76	6.02	12.5	42.5	95.8	57.5	34.9	17.8	26.2
1956	13.1	11.0	8.43	7.73	7.32	7.40	9.87	29.8	63.0	47.9	21.6	9.10	21.4
1957	9.09	10.1	7.33	6.92	7.35	5.71	3.56	12.7	189	132	16.3	7.04	34.0
1958	19.9	16.6	12.7	11.3	10.0	8.85	5.74	90.1	191	35.6	18.8	12.7	36.1
1959	12.4	9.17	9.53	8.65	8.45	8.96	9.36	18.6	36.8	35.3	12.9	6.13	14.7
1960	6.44	6.56	3.50	4.11	3.17	3.1	26.2	17.2	96.1	37.0	11.8	4.42	18.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	746	668	564	494	398	409	534	3,560	11,640	10,030	2,970	1,350	33,600
1952	1,070	764	590	432	445	507	839	3,990	15,290	5,860	3,290	1,660	34,760
1953	966	724	770	623	509	516	594	2,240	10,900	4,550	2,490	1,130	26,010
1954	809	680	612	504	440	485	785	2,720	3,000	1,860	885	742	13,520
1955	742	633	548	471	375	370	743	2,620	5,700	3,540	2,150	1,060	18,950
1956	805	654	518	475	421	455	567	1,830	4,940	2,940	1,330	542	15,500
1957	559	549	451	426	408	351	212	780	11,260	8,120	1,000	419	24,580
1958	1,220	990	781	695	556	544	342	5,540	11,540	2,190	1,160	756	26,110
1959	764	548	586	532	469	551	558	1,150	2,190	2,170	795	365	10,680
1960	396	391	215	253	182	186	1,560	1,060	5,720	2,270	723	263	13,220

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	33.0	23,670	
1951	1213	377	June 21, 1951	5.0	46.4	33,600	47.0	34,030	
1952	1243	470	June 15, 1952	6.5	47.9	34,760	47.9	34,790	
1953	1283	400	June 18, 1953	7.5	35.9	26,010	35.4	25,650	
1954	1343	101	May 20, 1954	7.2	18.7	13,520	18.4	13,340	
1955	1393	153	June 22, 1955	5.4	26.2	18,950	26.2	19,010	
1956	1443	147	June 2, 1956	6.4	21.4	15,500	20.8	15,130	
1957	1513	419	July 1, 1957	2.7	34.0	24,580	35.9	25,970	
1958	1563	301	June 6, 1958	4.7	56.1	26,110	34.6	25,020	
1959	1633	78	June 20, 1959	5.1	14.7	10,680	13.5	9,780	
1960	1713	217	June 17, 1960	-	18.2	13,220	-	-	

320. Ranch Creek near Fraser, Colo.

Location.--Lat 39°57'00", long 105°45'54", in NW¼NE¼ sec.22, T.1 S., R.75 W., on right bank 450 ft downstream from Middle Fork and 2.7 miles east of Fraser.

Drainage area.--19.9 sq mi.

Records available.--August 1934 to September 1960. Records since May 15, 1949, equivalent to earlier records if diversion to Moffat water tunnel is added to flow past station.

Gage.--Water-stage recorder. Altitude of gage is 8,685 ft (from topographic map).

Average discharge.--26 years (1934-60), 21.1 cfs (15,280 acre-ft per year), including diversion to Moffat water tunnel.

Extremes.--1934-60: Maximum discharge, 402 cfs June 28, 1957 (gage height, 3.72 ft); minimum daily, 0.4 cfs Sept. 21, 1960.

Remarks.--Diversion above station for irrigation of hay meadows along Fraser River. Trans-mountain diversion above station to Moffat water tunnel.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.07	4.08	3.95	3.49	3.69	3.38	5.11	35.4	106	60.3	14.1	8.03	21.0
1952	7.53	5.51	4.44	4.11	4.44	3.70	8.88	50.7	185	36.4	16.0	8.26	27.8
1953	6.29	5.25	4.11	4.05	3.71	3.41	4.99	19.1	60.9	19.5	6.62	4.68	11.9
1954	3.12	2.01	3.59	3.67	3.53	3.16	3.51	3.69	9.96	4.96	2.85	3.13	3.99
1955	3.25	1.34	3.10	3.29	3.07	1.53	3.35	10.9	6.44	6.33	2.28	3.21	4.02
1956	1.82	4.25	3.98	3.38	3.01	3.50	3.39	20.2	13.7	7.43	4.77	2.62	6.02
1957	3.17	4.32	3.88	2.86	2.65	2.49	2.22	13.4	163	70.6	6.03	3.97	23.2
1958	9.79	7.93	5.69	4.52	4.28	3.99	4.81	74.7	91.6	6.33	5.38	2.08	18.5
1959	1.24	3.32	4.00	3.70	3.84	3.51	5.20	14.1	52.6	5.35	2.52	2.15	9.40
1960	2.31	4.86	4.01	3.81	4.03	4.26	13.0	26.6	115	11.5	1.52	.98	15.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	250	243	243	215	205	208	304	2,180	6,330	3,710	867	478	15,230
1952	487	328	273	253	255	228	528	3,120	11,000	2,240	983	492	20,190
1953	387	313	253	249	206	210	297	1,180	3,630	1,200	407	279	8,610
1954	192	173	221	226	185	195	209	227	593	305	175	186	2,890
1955	200	80	190	203	170	94	199	671	383	389	140	191	2,910
1956	112	253	245	208	173	215	202	1,240	816	457	293	156	4,370
1957	195	257	238	176	147	153	132	823	9,700	4,340	371	236	16,770
1958	602	472	350	278	238	245	286	4,600	5,450	389	331	124	13,360
1959	76	197	246	228	202	216	309	866	3,130	329	155	128	6,080
1960	142	289	247	234	232	262	772	1,640	6,850	708	94	59	11,530

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	12.8	9,280
1951	1213	232	June 21, 1951	2.6	21.0	15,230	21.5	15,580
1952	1243	387	June 10, 1952	3.3	27.8	20,190	27.6	20,050
1953	1283	174	June 14, 1953	2.8	11.9	8,610	11.4	8,240
1954	1343	18	June 19, 1954	1.7	3.99	2,890	3.83	2,770
1955	1393	24	June 8, 1955	1.1	4.02	2,910	4.21	3,050
1956	1443	75	June 2, 1956	1.4	6.02	4,370	6.13	4,450
1957	1513	402	June 28, 1957	1.8	23.2	16,770	24.2	17,500
1958	1563	215	May 28, 1958	1.4	18.5	13,360	17.2	12,460
1959	1633	132	June 14, 1959	1.0	8.40	6,080	8.62	6,240
1960	1713	222	June 18, 1960	.4	15.9	11,530	-	-

FRASER RIVER BASIN

325. Ranch Creek near Tabernash, Colo.

Location.--Lat 39°59'51", long 105°49'22", in NE1/4 sec.6, T.1 S., R.75 W., on right bank a quarter of a mile upstream from Meadow Creek and 1.2 miles east of Tabernash.

Drainage area.--50.7 sq mi.

Records available.--September 1934 to September 1960. Records since May 15, 1949, equivalent to earlier records if diversion to Moffat water tunnel is added to flow past station.

Gage.--Water-stage recorder. Datum of gage is 8,339.79 ft above mean sea level, datum of 1929.

Average discharge.--26 years (1934-60), 40.5 cfs (29,320 acre-ft per year), including diversion to Moffat water tunnel.

Extremes.--1934-60: Maximum discharge, 754 cfs June 29, 1957 (gage height, 5.01 ft); maximum gage height, 5.63 ft Mar. 25, 1960 (backwater from ice); no flow Feb. 15 to Mar. 13, 1937, Feb. 13, 1947, and perhaps other days.

Remarks.--Transmountain diversion above station to Moffat water tunnel. Small diversion to Fraser River basin and several small diversions for irrigation of about 300 acres of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6.57	7.58	6.20	5.94	4.93	5.08	25.1	117	204	84.4	21.2	12.9	41.8
1952	13.5	10.7	8.18	7.30	8.54	6.32	49.7	156	331	53.5	26.5	14.4	57.0
1953	10.7	9.87	6.55	6.07	6.44	6.34	21.6	73.7	159	33.8	15.7	8.47	29.8
1954	7.81	8.07	6.19	4.95	5.16	5.08	19.7	41.9	21.9	12.8	6.75	8.23	12.4
1955	10.9	5.45	5.24	5.81	5.51	5.63	24.0	71.7	56.5	20.1	12.4	6.68	19.2
1956	5.28	6.63	6.39	5.61	4.96	6.57	30.2	132	69.6	15.9	12.5	3.88	25.0
1957	9.41	11.0	6.03	4.94	5.20	5.03	6.67	91.1	347	154	26.1	14.5	56.7
1958	17.8	11.9	11.7	9.89	9.73	10.2	15.4	201	150	10.3	8.73	5.37	38.7
1959	5.75	7.28	6.93	6.45	5.82	6.88	17.9	85.7	155	26.7	13.5	8.00	28.8
1960	14.2	12	10	13	12	17.9	49.2	107	225	32.2	10.4	6.26	42.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	404	450	381	365	274	312	1,490	7,170	12,130	5,190	1,300	770	30,240
1952	829	637	503	449	492	389	2,950	9,600	19,720	3,290	1,630	857	41,350
1953	660	587	403	373	357	390	1,290	4,530	9,460	2,080	966	504	21,600
1954	480	480	381	304	286	312	1,170	2,580	1,300	786	415	490	8,980
1955	669	324	322	357	308	346	1,430	4,410	3,360	1,240	762	397	13,920
1956	325	395	393	345	285	404	1,800	8,090	4,140	979	770	231	18,160
1957	579	652	371	304	289	309	397	5,600	20,650	9,460	1,600	882	41,070
1958	1,090	708	720	608	540	626	918	12,330	8,950	636	537	320	27,980
1959	354	432	426	397	324	423	1,070	5,270	9,220	1,640	833	476	20,860
1960	871	714	615	799	690	1,100	2,930	6,600	13,380	1,980	640	372	30,690

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet		Mean	Acre-feet
		Discharge	Date						
1950	-	-	-	-	-	-	-	23.2	16,350
1951	1213	402	June 18, 1951	3.4	41.8	30,240	42.8	30,970	
1952	1243	636	June 11, 1952	5.8	57.0	41,350	56.5	41,030	
1953	1283	460	June 19, 1953	5.2	29.8	21,600	29.4	21,290	
1954	1343	88	May 23, 1954	3.8	12.4	8,980	12.4	8,960	
1955	1393	111	May 15, 1955	3.0	19.2	13,920	18.9	13,720	
1956	1443	382	May 23, 1956	3.6	25.0	18,160	25.7	18,650	
1957	1513	754	June 29, 1957	3.7	56.7	41,070	58.0	41,990	
1958	1563	445	May 28, 1958	4.3	38.7	27,980	36.9	26,680	
1959	1633	279	June 10, 1959	4.3	28.8	20,860	30.2	21,850	
1960	1713	402	June 6, 1960	-	42.3	30,690	-	-	

330. Meadow Creek near Tabernash, Colo.

Location.--Lat 40°02'55", long 105°46'30", in sec.15, T.1 N., R.75 W., on right bank 30 ft upstream from bridge and 5 miles northeast of Tabernash.

Drainage area.--7.0 sq mi, approximately.

Records available.--October 1935 to September 1956. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 9,780 ft (from topographic map). Prior to Sept. 23, 1940, at site 1,000 ft upstream at different datum.

Average discharge.--21 years (1935-56), 10.8 cfs (7,820 acre-ft per year).

Extremes.--1935-56: Maximum discharge, 316 cfs June 10, 1952 (gage height, 4.22 ft); probably no flow at times during ice periods.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	†1.02	0.97	1.0	0.9	0.8	0.7	2.0	35.8	80.6	21.8	4.31	1.67	12.6
1952	1.85	1.2	1.0	1.2	1.1	1.2	4.5	40.3	117	12.7	5.56	2.43	15.8
1953	1.06	.81	.7	.7	.8	.8	1.2	28	70.4	8.56	3.92	1.11	9.80
1954	.82	.72	.6	.7	.5	.5	3.65	33.0	13.9	4.25	1.24	1.69	5.17
1955	1.61	.85	.5	.4	.4	.4	3.38	42.7	39.5	8.96	2.82	.72	8.56
1956	.68	.6	.6	.5	.4	.4	1.07	58.0	45.3	4.78	2.44	.56	9.64
1957													
1958													
1959													
1960													

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	63	58	61	55	44	43	119	2,200	4,800	1,340	265	99	9,150
1952	114	71	61	74	63	74	268	2,480	6,980	779	342	145	11,450
1953	65	48	43	43	44	37	71	1,720	4,190	526	241	66	7,090
1954	50	43	37	43	28	31	216	2,030	827	261	76	101	3,740
1955	99	51	31	25	22	25	201	2,630	2,350	551	173	43	6,200
1956	42	36	37	31	23	25	63	3,570	2,700	294	150	33	7,000
1957													
1958													
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	9.24	6,700
1951	1213	255	June 17, 1951	-	12.6	9,150	12.7	9,210
1952	1393	516	June 10, 1952	-	15.8	11,450	15.6	11,560
1953	1393	283	June 19, 1953	-	9.80	7,090	9.77	7,070
1954	1393	103	May 17, 1954	-	5.17	3,740	5.24	3,790
1955	1393	129	May 15, 1955	-	8.56	6,200	8.47	6,140
1956	1443	230	May 23, 1956	-	9.64	7,000	-	-
1957								
1958								
1959								
1960								

FRASER RIVER BASIN

340. Fraser River at Granby, Colo.

Location.--Lat 40°05'00", long 105°56'50", in sec.1, T.1 N., R.76½ W., on left bank just downstream from Tenmile Creek, half a mile southwest of Granby and 2½ miles upstream from mouth.

Drainage area.--285 sq mi.

Records available.--July 1904 to September 1909, September 1937 to December 1955. Published as "near Coulter" in 1904. Records since September 1937 equivalent to earlier records if diversion to Moffat water tunnel is added to flow past station.

Gage.--Water-stage recorder. Altitude of gage is 7,900 ft (from topographic map). July 28, 1904, to Sept. 30, 1909, staff gage at former bridge near present site at different datum.

Average discharge.--23 years (1904-9, 1937-55), 196 cfs (141,900 acre-ft per year), including diversions to Berthoud Pass ditch and Moffat water tunnel.

Extremes.--1904-9, 1937-55: Maximum discharge, 2,500 cfs June 8, 1952; maximum gage height, 3.86 ft June 11, 1952; minimum daily discharge, 5.8 cfs Aug. 31, Sept. 1, 1954.

Remarks. --Transmountain diversions above station (see elsewhere in this report). Diversions above station for irrigation of about 6,500 acres above station and about 1,500 acres below.

Monthly and yearly mean discharge, in cubic feet per second

[illegible]

Monthly and yearly discharge, in acre-feet (adjusted)

[illegible]

Note.--Figures include flow diverted above station to Berthoud Pass ditch and Moffat water tunnel.

Yearly discharge, in cubic feet per second

[illegible]

345. Colorado River at Hot Sulphur Springs, Colo.

Location.--Lat 40°05'00", long 106°05'15", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.2, T.1 N., R.78 W., on left bank about 1,000 ft north of U. S. Highway 40, 1 mile northeast of Hot Sulphur Springs, and $\frac{1}{2}$ miles upstream from Beaver Creek.

Drainage area.--782 sq mi.

Records available.--July 1904 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Prior to 1907 and 1914-18, published as Grand River at Hot Sulphur Springs and as Grand River at Sulphur Springs 1907-13.

Gage.--Water-stage recorder. Altitude of gage is 7,670 ft (from railroad elevations). July 28, 1904, to Apr. 16, 1906, staff gage on bridge 1.7 miles downstream at different datum. Apr. 17, 1906, to Sept. 18, 1930, chain gage at bridge 1.4 miles downstream at datum 7,651.26 ft above mean sea level, unadjusted. Supplemental staff gage at different datum at site 1.7 miles downstream, used for winter records.

Extremes.--1904-60: Maximum discharge observed, 10,300 cfs June 15, 1921 (gage height, 8.7 ft, site and datum then in use); minimum daily, 33 cfs Sept. 27, 1956.

Remarks.--Flow affected by transmountain diversions, storage reservoirs, and diversions above station for irrigation of about 13,000 acres. Records of chemical analyses and water temperatures are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	90.2	110	92.3	73.1	88.2	98.7	318	1,058	1,267	467	197	102	531
1952	106	100	90.5	103	99.8	97.9	571	1,561	2,156	346	279	215	476
1953	184	102	99.8	90.1	85.2	103	185	534	767	272	205	86.8	227
1954	75.8	93.6	81.7	72.6	77.9	85.7	177	214	174	141	82.7	54.6	111
1955	68.8	70.1	62.9	63.8	66.1	71.6	251	365	515	189	143	61.2	142
1956	64.2	92.0	84.2	74.1	77.1	87.5	287	800	406	194	136	44.2	196
1957	53.6	84.1	73.4	70.0	67.4	70.5	191	852	2,111	830	174	108	391
1958	150	128	112	105	96.4	97.4	198	1,456	955	166	123	56.7	305
1959	69.4	97.4	100	85.1	84.1	84.6	191	436	500	200	132	75.9	172
1960	121	104	74.3	66.1	68.0	143	415	552	712	219	117	65.6	221

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5,540	6,560	5,670	4,490	4,900	6,070	18,950	65,130	75,390	29,710	12,130	6,060	239,600
1952	6,510	5,950	5,560	6,320	5,740	6,020	34,000	95,960	129,300	21,260	17,170	12,800	345,600
1953	11,320	6,100	6,140	5,540	4,730	6,340	11,030	32,810	45,660	16,700	12,630	5,160	164,200
1954	4,660	5,570	5,020	4,460	4,330	5,270	10,530	13,190	10,540	8,660	5,090	3,250	80,370
1955	4,230	4,170	3,870	3,920	3,670	4,400	13,750	22,420	18,640	11,640	8,770	3,640	103,100
1956	3,950	5,480	5,180	4,550	4,430	5,380	17,050	49,220	24,130	11,910	8,350	2,630	142,300
1957	3,300	5,000	4,510	4,300	3,740	4,330	11,370	52,420	125,600	51,040	10,710	6,410	282,700
1958	9,220	7,640	6,890	6,430	5,350	5,990	11,760	89,510	56,810	10,200	7,580	3,370	220,800
1959	4,260	5,800	6,170	5,230	4,670	5,200	11,370	26,820	29,760	12,290	8,140	4,510	124,200
1960	7,470	6,160	4,570	4,060	3,910	6,790	24,710	33,930	42,390	13,490	7,180	3,900	160,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	212	153,800
1951	1213	2,530	June 21, 1951	67	351	239,600	351	239,800
1952	1243	3,750	June 8, 1952	80	476	345,600	484	351,100
1953	1283	1,930	June 20, 1953	67	227	164,200	215	155,800
1954	1343	358	May 23, 1954	40	111	80,370	107	77,390
1955	1393	485	May 16, 1955	45	142	103,100	146	105,500
1956	1443	2,220	May 23, 1956	33	196	142,300	194	140,500
1957	1513	3,430	June 8, 1957	42	391	282,700	406	293,700
1958	1563	2,830	May 27, 1958	44	305	220,800	295	126,200
1959	1633	832	June 28, 1959	49	172	124,200	174	126,200
1960	1713	1,220	June 18, 1960	55	221	160,600	-	-

LITTLE MUDDY CREEK BASIN

348. Little Muddy Creek near Parshall, Colo.

Location.--Lat 39°57'47", long 106°04'08", in NW¼ sec.13, T.1 S., R.78 W., on left bank at bridge, 0.4 mile upstream from Sylvian Lake ditch headgate and 11.1 miles southeast of Parshall.

Drainage area.--6.50 sq mi.

Records available.--October 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,580 ft (from topographic map).

Extremes.--1958-60: Maximum discharge, 61 cfs May 13, 1960 (gage height, 3.44 ft), from rating curve extended above 20 cfs; maximum gage height, 4.47 ft Sept. 30, 1960 (backwater from beaver dam); minimum discharge not determined.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	0.23	0.21	0.1	0.1	0.1	0.3	1.15	13.1	8.19	1.48	0.22	0.25	2.13
1960	.81	.4	.4	.3	.3	.8	5.1	22.9	10.2	.79	.3	.2	3.56

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	14	12	6.1	6.1	5.6	18	68	806	488	91	13	15	1,540
1960	50	25	25	18	17	49	301	1,410	610	48	18	12	2,580

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1959	1633	21	May 14, 1959	-	2.13	1,540	2.22	1,610
1960	1713	61	May 13, 1960	-	3.56	2,580	-	-

WILLIAMS FORK BASIN

350. Jones Pass tunnel at east portal, near Jones Pass, Colo.
(Transmountain diversion)

Location.--Lat 39°46'15", long 105°50'55", in sec.24, T.3 S., R.76 W., 2 miles east of Jones Pass.

Records available.--October 1939 to September 1958.

Gage.--Water-stage recorder and 10-foot Parshall flume since May 10, 1940. Datum of gage is 10,312.5 ft above mean sea level (levels by City of Denver).

Remarks.--Diversion is from tributaries of Williams Fork in Colorado River basin between headgate on right bank of Bobtail Creek in sec.28, T.3 S., R.76 W., and headgate on left bank of McQueary Creek in sec.16, T.3 S., R.76 W., to West Fork Clear Creek in sec.24, T.3 S., R.76 W., in Platte River basin. Since July 1959, water has been diverted through Vasquez tunnel to Vasquez Creek in Fraser River basin in sec.1, T.3 S., R.76 W., thence via collection ditch to west portal of Moffat water tunnel where it is diverted to South Boulder Creek in Platte River basin. See table of diversions since July 1959 published with records for Williams Fork near Leal (see following page).

Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	1,120	2,840	5,350	1,570	256	11,140
1952	0	0	0	0	0	0	0	0	738	3,660	1,630	782	6,810
1953	97	0	0	0	0	0	0	0	2,550	2,930	1,450	388	7,420
1954	0	0	0	0	0	0	0	2,380	2,420	248	436	0	5,480
1955	0	0	0	0	0	0	0	1,480	4,700	1,920	1,580	618	10,300
1956	319	0	0	0	0	0	0	2,890	3,680	1,330	659	0	8,880
1957	0	0	0	0	0	0	0	38	0	4,470	32	0	4,540
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0	79	675	290	1,040
1960	307	40	0	0	0	0	178	1,510	255	0	248	338	2,880

360. Williams Fork near Leal, Colo.

Location.--Lat 39°49'55", long 106°03'20", in sec. 31, T.2 S., R.77 W., on right bank at downstream side of private bridge, 100 ft downstream from Kinney Creek and 1.7 miles northwest of Leal.

Drainage area.--89.5 sq mi.

Records available.--July 1933 to September 1960. Records since May 10, 1940, equivalent to earlier records if diversion to Jones Pass tunnel is added to flow past station. Prior to October 1958, published as Williams River near Leal.

Gage.--Water-stage recorder. Altitude of gage is 8,790 ft (from topographic map). Prior to Aug. 16, 1953, at site 15 ft downstream at same datum.

Average discharge.--27 years (1933-60), 103 cfs (74,570 acre-ft per year), including diversions to Jones Pass tunnel.

Extremes.--1933-60: Maximum discharge, 1,720 cfs June 10, 1952 (gage height, 4.23 ft); minimum daily, 13 cfs Dec. 28, 29, 1939.

Remarks.--Transmountain diversion above station from tributaries of Williams Fork through Jones Pass tunnel (see elsewhere in this report for diversions for water year 1951-58), then by way of Vasquez and Moffat water tunnels to South Boulder Creek in South Platte River basin. Diversions above station for irrigation of about 200 acres of hay meadows above station and about 40 acres below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	30.4	24.5	22.6	19.9	20.2	18.6	26.4	171	539	318	81.4	42.8	110
1952	42.1	31.5	26.9	25.1	20.8	18.6	45.4	218	856	175	87.6	50.0	131
1953	34.3	32.5	28.2	23.2	21.5	20.0	27.6	117	547	127	73.5	33.4	90.2
1954	31.1	27.0	22.8	19.8	18.6	18.0	41.8	122	119	66.3	29.0	27.7	45.4
1955	33.0	23.3	20.2	17.6	16.3	15.5	35.4	126	240	116	59.8	26.2	61.2
1956	23.4	28.3	27.7	24.0	22.0	21.6	38.0	226	398	88.7	47.5	31.6	81.3
1957	29.2	26.3	22.0	21.6	19.0	18.3	24.9	90.5	556	480	139	66.8	125
1958	47.3	37.8	30.1	24.5	22.8	21.5	27.5	325	534	107	56.9	38.0	106
1959	30.3	24.7	22.2	19.8	18.1	17.6	27.3	136	498	149	53.3	30.0	85.4
1960	40.3	34.4	26.4	21.4	17.7	19.7	46.7	138	600	197	54.0	32.1	102

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,870	1,460	1,390	1,220	1,120	1,140	1,590	10,520	32,080	19,530	5,000	2,550	79,470
1952	2,590	1,870	1,660	1,540	1,200	1,150	2,700	13,390	49,730	10,740	5,390	2,980	94,940
1953	2,110	1,940	1,730	1,430	1,190	1,230	1,640	7,180	32,530	7,810	4,520	1,990	65,300
1954	1,910	1,610	1,400	1,220	1,050	1,110	2,490	7,500	7,070	4,070	1,790	1,650	32,870
1955	2,030	1,380	1,240	1,080	904	952	2,110	7,740	14,260	7,240	3,680	1,680	44,300
1956	1,440	1,690	1,700	1,480	1,270	1,330	2,260	13,890	23,710	5,450	2,920	1,880	59,020
1957	1,800	1,570	1,350	1,330	1,060	1,120	1,480	5,560	33,060	29,530	8,530	3,970	90,360
1958	2,910	2,250	1,850	1,500	1,270	1,320	1,640	20,010	31,780	6,560	3,500	2,260	76,850
1959	1,860	1,470	1,370	1,220	1,000	1,060	1,630	8,370	29,620	9,190	3,280	1,790	61,680
1960	2,480	2,050	1,620	1,310	1,020	1,210	2,780	8,500	35,730	12,090	3,320	1,910	74,020

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean		Acre-feet	
		Discharge	Date							
1950	-	-	-	-	-	-	†82.5	-	59,740	
1951	1213	1,240	June 21, 1951	16	110	79,470	112	-	80,870	
1952	1243	1,720	June 10, 1952	17	131	94,940	130	-	94,600	
1953	1283	1,450	June 13, 1953	18	90.2	65,300	89.0	-	64,440	
1954	1343	256	May 20, 1954	17	45.4	32,870	45.0	-	32,600	
1955	1393	432	June 9, 1955	14	61.2	44,300	61.4	-	44,480	
1956	1443	1,010	June 2, 1956	19	81.3	59,020	81.1	-	58,910	
1957	1513	1,480	June 29, 1957	17	125	90,360	128	-	92,650	
1958	1563	1,300	June 5, 1958	19	106	76,850	103	-	74,540	
1959	1633	838	June 16, 1959	16	85.4	61,680	87.5	-	63,330	
1960	1713	1,090	June 18, 1960	15	102	74,020	-	-	-	

† Corrected.

Monthly and yearly diversion, in acre-feet, of Jones Pass tunnel

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	0	0	0	0	0	0	0	0	0	79	675	290	1,040
1960	307	40	0	0	0	0	178	1,510	255	0	248	338	2,880

WILLIAMS FORK BASIN

365. Keyser Creek near Leal, Colo.

Location.--Lat 39°54'30", long 106°01'00", in SW $\frac{1}{4}$ sec.33, T.1 S., R.77 W., on right bank 200 ft upstream from Simpson Creek and 7 miles northeast of Leal.

Drainage area.--13.7 sq mi.

Records available.--August 1942 to September 1952. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 9,080 ft (from topographic map).

Average discharge.--10 years (1942-52), 17.6 cfs (12,740 acre-ft per year).

Extremes.--1942-52: Maximum discharge, 210 cfs June 7, 1952 (gage height, 3.29 ft); minimum not determined, occurred during period of no gage-height record.

Remarks.--No regulation or diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5.28	4.06	4.0	3.5	3.0	2.8	3.8	30.6	81.5	56.4	16.5	7.89	18.3
1952	6.89	5.6	5.0	4.5	4.0	3.6	5.84	39.4	142	38.1	19.7	10.6	23.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	324	242	246	215	167	172	226	1,880	4,850	3,470	1,020	469	13,280
1952	423	333	307	277	230	221	349	2,420	8,470	2,340	1,210	629	17,210

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	14.8
1951	1213	150	June 21, 1951	-	18.3	13,280	18.7
1952	1243	210	June 7, 1952	-	23.7	17,210	-

372. Skylark Creek near Parshall, Colo.

Location.--Lat 39°54'20", long 106°10'10", in NW $\frac{1}{4}$ sec.6, T.2 S., R.78 W., on left bank 4.3 miles upstream from mouth and 10.8 miles south of Parshall.

Drainage area.--2.41 sq mi.

Records available.--October 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,640 ft (from topographic map).

Extremes.--1958-60: Maximum discharge not determined, occurred July 20, 1959 (gage height, 1.70 ft); minimum not determined.

Remarks.--No diversion above gage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	0.31	0.30	0.2	0.2	0.2	0.3	0.79	1.77	2.06	0.78	0.47	0.68	0.68
1960	.51	.34	.3	.3	.2	.37	.62	1.14	1.58	.65	.43	.46	.57

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	19	18	14	12	12	21	47	109	122	48	29	41	492
1960	32	20	18	18	12	23	37	70	94	40	27	28	419

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1959	1633	-	July 20, 1959	-	0.68	492	0.71
1960	1713	3.9	June 1, 1960	-	.57	419	-

375. Williams Fork near Parshall, Colo.

Location.--Lat 40°00'01", long 106°10'45", in SW $\frac{1}{4}$ sec.31, T.1 N., R.78 W., on right bank 150 ft downstream from bridge on State Highway 286, 2 $\frac{1}{2}$ miles upstream from Battle Creek, and 4 miles south of Parshall.

Drainage area.--186 sq mi.

Records available.--July 1904 to September 1924, June 1933 to September 1960. Records since May 10, 1940, equivalent to earlier records if diversion to Jones Pass tunnel is added to flow past station. Published as "near (Hot) Sulphur Springs" 1904-12, and as Williams River near Parshall June 1933 to September 1958.

Gage.--Water-stage recorder. Datum of gage is 7,805.00 ft above mean sea level, unadjusted. Prior to Oct. 18, 1919, staff gage and Oct. 18, 1919, to Sept. 30, 1924, water-stage recorder, at site $\frac{1}{2}$ miles downstream at different datum. June 19, 1933, to Aug. 8, 1938, water-stage recorder at bridge 150 ft upstream at datum 1.00 ft higher.

Average discharge.--47 years (1904-24, 1933-60), 148 cfs (107,100 acre-ft per year), including diversion to Jones Pass tunnel.

Extremes.--1904-24, 1933-60: Maximum discharge observed, 2,620 cfs June 14, 1918 (gage height, 6.05 ft, site and datum then in use), from rating curve extended above 1,400 cfs; minimum daily, 10 cfs Sept. 15-17, 1934, Sept. 22, 23, 1959.

Remarks.--Transmountain diversion above station from tributaries of Williams Fork through Jones Pass tunnel (see elsewhere in this report), then by way of Vasquez and Moffat water tunnels to South Boulder Creek in South Platte River basin. Diversions above station for irrigation of about 2,000 acres above station and about 300 acres below. About 150 acres above station irrigated by diversions into the drainage area.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	51.0	44.3	40.6	44.7	44.6	41.9	64.8	285	652	358	118	68.4	150
1952	52.6	53.1	45.7	34.9	32.7	32.9	106	456	974	160	136	77.2	179
1953	53.9	49.2	41.9	39.2	36.4	40.1	57.2	151	622	107	120	52.2	114
1954	51.2	43.7	37.8	34.5	33.6	34.1	64.2	66.6	38.6	36.5	44.3	16.7	41.9
1955	47.1	42.0	29.9	29.4	26.0	25.9	71.5	114	192	69.5	87.6	39.0	64.5
1956	17.6	47.6	45.3	39.7	34.7	37.8	78.9	302	385	57.8	58.8	29.0	94.4
1957	30.5	39.0	29.7	23.2	24.4	34.3	58.0	192	776	607	182	101	175
1958	73.2	59.7	52.0	32.1	26.7	35.5	59.3	484	568	71.5	32.2	48.2	129
1959	52.6	43.4	37.3	33.5	28.9	31.0	57.0	174	512	69.7	46.0	25.0	94.0
1960	75.0	60.5	43.7	36.0	29.9	40.5	151	213	557	122	36.7	33.7	116

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,130	2,640	2,500	2,750	2,480	2,580	3,860	17,550	38,770	20,800	7,240	4,070	108,400
1952	3,240	3,160	2,810	2,140	1,980	2,030	6,300	28,030	57,940	9,810	8,360	4,590	130,300
1953	3,310	2,930	2,590	2,410	2,020	2,470	3,410	9,270	36,980	6,600	7,360	3,110	82,450
1954	3,150	2,600	2,330	2,120	1,870	2,090	3,820	4,090	2,290	2,240	2,720	996	30,320
1955	2,900	2,500	1,840	1,810	1,440	1,590	4,260	7,010	11,400	4,270	5,390	2,320	46,730
1956	1,080	2,830	2,780	2,440	2,000	2,320	4,700	18,550	22,910	3,560	3,610	1,730	68,510
1957	1,880	2,320	1,820	1,430	1,360	2,110	3,450	11,800	46,150	37,320	11,180	5,990	126,800
1958	4,500	3,550	3,200	1,970	1,480	2,180	3,530	29,760	33,820	4,400	1,980	2,870	93,240
1959	3,240	2,580	2,290	2,060	1,600	1,900	5,390	10,690	30,450	5,510	2,830	1,490	68,030
1960	4,610	3,600	2,690	2,210	1,720	2,490	8,980	13,080	33,140	7,520	2,260	2,000	84,300

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	101	73,160
1951	1213	1,310	June 21, 1951	22	150	108,400	151	109,300
1952	1243	1,610	(a)	28	179	130,300	179	129,900
1953	1283	1,340	June 14, 1953	27	114	82,450	113	81,710
1954	1343	188	May 21, 1954	11	41.9	30,320	40.7	29,480
1955	1393	362	June 9, 1955	13	64.5	46,730	63.8	46,180
1956	1443	865	June 3, 1956	11	94.4	68,510	93.4	67,840
1957	1513	1,350	June 29, 1957	15	175	126,800	182	132,000
1958	1563	1,310	June 6, 1958	22	129	93,240	124	90,100
1959	1633	850	June 17, 1959	10	94.0	68,030	97.8	70,820
1960	1713	918	June 18, 1960	15	116	84,300	-	-

a June 15, 16, 1952.

380. Williams Fork Reservoir near Parshall, Colo.

Location.--Lat 40°02'06", long 106°12'17", in SE¹ sec.23, T.1 N., R.79 W., at dam on Williams River, 2.1 miles upstream from mouth and 2.2 miles southwest of Parshall.

Drainage area.--234 sq mi.

Records available.--April 1939 to September 1960. Prior to October 1948, published in WSP 1313.

Gage.--Mercury manometer gage. Datum of gage is at mean sea level (levels by city engineer of Denver). Prior to Sept. 2, 1959, tape-weight gage at same site and datum.

Extremes.--1939-60: Maximum contents observed, 94,350 acre-ft Aug. 1, 1960 (elevation, 7,809.46 ft); no contents Oct. 14 to Dec. 2, 1958, caused by construction operations at dam.

Remarks.--Reservoir is formed by concrete-arch dam. Dam completed in October 1938; storage began in April 1939; dam was enlarged Dec. 5, 1956, to Apr. 22, 1959. Enlarged capacity of reservoir, 96,820 acre-ft between elevations 7,634 (invert of outlet pipes) and 7,811 ft (top of radial gates on spillway). No dead storage. Figures given herein represent usable contents. Reservoir is used for power development and storage for replacement of water diverted through Jones Pass tunnel (see elsewhere in this report) during periods when flow of Colorado River is insufficient to supply decreed prior water rights below Williams Fork.

Cooperation.--Records furnished by Denver Board of Water Commissioners.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	237	237	237	237	237	237	237	5,590	5,690	6,620	6,620	2,430
1952	466	466	466	466	466	466	466	5,540	5,470	6,620	6,620	6,620
1953	4,270	1,160	237	466	172	276	649	5,520	6,360	6,620	6,620	4,480
1954	866	718	554	554	554	585	2,220	5,210	5,190	5,190	5,170	1,500
1955	790	711	790	790	790	1,030	3,400	6,340	6,540	6,620	6,580	3,270
1956	813	718	670	718	718	946	1,560	5,560	6,520	6,680	6,460	1,930
1957	988	930	930	50	41	6	276	988	2,890	2,070	617	754
1958	466	10	10	10	10	10	10	6,360	6,410	6,660	1,390	47
1959	0	0	191	200	220	188	3,050	14,180	45,720	52,190	52,000	49,960
1960	49,930	47,790	42,320	37,270	32,360	29,500	40,090	53,250	88,760	94,300	90,060	85,730

385. Williams Fork below Williams Fork Reservoir, Colo.

Location.--Lat 40°02'07", long 106°12'17", in SE¹ sec.23, T.1 N., R.79 W., on left bank 400 ft downstream from Williams Fork Reservoir, 2.1 miles upstream from mouth, and 2.1 miles southwest of Parshall.

Drainage area.--234 sq mi.

Records available.--October 1948 to September 1954, August 1958 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Prior to October 1958, published as Williams River below Williams Fork Reservoir.

Gage.--Water-stage recorder and concrete control. Datum of gage is 7,615.0 ft above mean sea level (datum of Denver Board of Water Commissioners). Oct. 1, 1948, to Sept. 30, 1954, at site a quarter of a mile downstream at different datum. Aug. 1, 1958, to Oct. 20, 1959, at site half a mile downstream at different datum.

Average discharge.--8 years (1948-54, 1958-60), 135 cfs (97,740 acre-ft per year), adjusted for storage in Williams Fork Reservoir.

Extremes.--1948-54, 1958-60: Maximum discharge, 2,640 cfs June 20, 1953 (gage height, 8.50 ft, site and datum then in use), from rating curve extended above 1,500 cfs; minimum daily recorded, 0.5 cfs Apr. 30 to May 3, 1959.

Remarks.--Flow regulated by Williams Fork Reservoir (see preceding station). Transmountain diversion above station from tributaries of Williams Fork through Jones Pass tunnel, then by way of Vasquez and Moffat water tunnels to South Boulder Creek in South Platte River basin (see elsewhere in this report). Diversions above station for irrigation of about 3,200 acres above station and about 100 acres below. About 450 acres above station irrigated by diversion into the drainage area.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	61.5	60.2	54.4	54.4	43.7	46.1	96.0	206	880	367	139	153	164
1952	92.3	58.8	53.0	52.6	51.2	50.1	153	401	1,007	197	163	95.7	197
1953	108	120	54	59	51	46	58.7	124	615	120	122	91.1	130
1954	110	66.6	49.9	36.5	41.3	42.9	48.2	26.3	79.2	62.8	53.6	90.2	58.9
1958	-	-	-	-	-	-	-	-	-	-	128	81.6	-
1959	61.7	49.4	44	40	35	37.7	22.2	9.49	11.4	23.7	61.1	73.7	39.1
1960	86.5	97.9	133	124	128	112	6.04	6.29	10.9	66.7	111	109	82.6

WILLIAMS FORK BASIN

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Monthly and yearly discharge, in acre-feet, of Williams Fork below Williams Fork Reservoir, Colo.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,780	3,580	3,350	3,340	2,430	2,840	5,710	12,650	40,490	22,570	8,560	9,110	118,400
1952	5,670	3,500	3,260	3,240	2,940	3,080	9,110	24,670	59,950	12,110	10,050	5,690	143,300
1953	6,650	7,120	3,320	3,630	2,830	2,850	3,490	7,600	36,600	7,370	7,510	5,420	94,370
1954	6,750	3,960	3,070	2,250	2,290	2,640	2,870	1,620	4,710	3,860	3,390	5,370	42,680
1958	-	-	-	-	-	-	-	-	-	-	7,890	4,850	-
1959	3,790	2,940	2,690	2,460	1,940	2,320	1,320	583	676	1,460	3,760	4,380	28,320
1960	5,320	5,830	8,170	7,600	7,370	6,870	360	387	648	4,100	6,810	6,470	59,940

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	121
1951	1213	1,410	June 21, 1951	42	164	118,400	166
1952	1243	1,660	June 11, 1952	47	197	143,300	204
1953	1283	2,640	June 20, 1953	5.3	130	94,370	126
1954	1343	215	Oct. 9, 1953	1.5	58.9	42,680	-
1958	1563	a214	Aug. 7, 1958	-	-	-	-
1959	1633	318	Sept. 7, 1959	-	39.1	28,320	52.8
1960	1713	307	July 1, 1960	.8	82.6	59,940	-

a Maximum during period August to September.

TROUBLESOME CREEK BASIN

390. Troublesome Creek near Pearmont, Colo.

Location.--Lat 40°13'03", long 106°18'45", in SE $\frac{1}{4}$ sec.14, T.3 N., R.80 W., on left bank 45 ft downstream from small tributary, 3 miles north of Pearmont, 4 miles downstream from Rabbit Ear Creek, S $\frac{1}{2}$ miles upstream from East Fork, and 12 miles northeast of Kremmling.

Drainage area.--44.6 sq mi.

Records available.--October 1953 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,049 ft (from topographic map).

Average discharge.--7 years (1953-60), 28.7 cfs (20,780 acre-ft per year).

Extremes.--1953-60: Maximum discharge, 503 cfs June 7, 1957 (gage height, 3.48 ft); minimum daily, 6.1 cfs Sept. 8, 1956.

Remarks.--One diversion above station for irrigation of about 250 acres below. Flow partly regulated during irrigation season by one reservoir (capacity, 1,070 acre-ft) above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	12	11	9.71	9.49	9.75	9.89	18.4	50.4	26.9	14.0	10.2	10.8	16.1
1955	11.4	10.0	8.78	8.35	8.01	7.99	14.0	70.0	58.9	24.2	14.3	10.9	20.6
1956	12.5	12.7	12.8	12.1	10.4	10.8	18.1	122	95.0	31.0	11.9	10.3	30.0
1957	12.5	10.7	10.3	10.6	10.9	12.7	14.4	64.4	265	92.2	28.0	20.7	46.4
1958	18.9	15.1	14.6	14.5	13.7	13.7	18.5	155	79.7	30.2	15.8	15.4	33.9
1959	12.5	11.3	11.0	12.0	11.4	11.4	17.8	65.6	81.3	28.5	17.2	14.3	24.6
1960	20.0	12.1	13.0	11.0	10	13.8	28.2	79.1	99.3	37.1	13.3	17.6	29.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	738	655	597	584	541	608	1,100	3,100	1,600	860	625	640	11,650
1955	698	597	540	513	445	491	835	4,300	3,500	1,490	881	649	14,940
1956	770	756	787	744	597	664	1,080	7,490	5,650	1,910	729	611	21,790
1957	772	639	635	653	607	783	855	3,360	15,750	5,980	1,720	1,230	35,580
1958	1,160	897	900	895	760	845	1,100	9,520	4,740	1,850	970	918	24,560
1959	772	672	674	740	635	698	1,060	4,030	4,840	1,750	1,060	851	17,780
1960	1,230	718	799	676	575	851	1,680	4,860	5,910	2,280	821	1,050	21,450

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1954	1343	85	May 22, 1954	-	16.1	11,650	15.9
1955	1393	166	May 24, 1955	7.2	20.6	14,940	21.3
1956	1443	256	May 23, 1956	6.1	30.0	21,790	29.6
1957	1513	503	June 7, 1957	9.0	46.4	33,580	47.7
1958	1563	332	May 23, 1958	12	33.9	24,560	32.8
1959	1633	118	June 8, 1959	8.1	24.6	17,780	25.4
1960	1713	180	May 14, 1960	7.2	29.5	21,450	-

TROUBLESOME CREEK BASIN

400. East Fork Troublesome Creek near Troublesome, Colo.

Location.--Lat 40°09'27", long 106°16'58", in NW¼ sec.7, T.2 N., R.79 W., on right bank 300 ft upstream from mouth and 6½ miles north of Troublesome.

Drainage area.--81.4 sq mi.

Records available.--April 1937 to September 1943, October 1953 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,670 ft (from topographic map). Apr. 18, 1937, to May 13, 1941, staff gage at site 100 ft upstream at different datum. May 13 to Aug. 8, 1941, staff gage and Aug. 8, 1941, to Sept. 30, 1943, chain gage, at same site at different datum. Datum differences for all sites not more than 0.4 ft.

Average discharge.--13 years (1937-43, 1953-60), 27.4 cfs (19,840 acre-ft per year).

Extremes.--1937-43, 1953-60: Maximum discharge, 716 cfs June 6, 1957 (gage height, 5.19 ft); minimum daily, 0.2 cfs Oct. 3, 1941, Sept. 2, 3, 26, 27, 1942.

Remarks.--Diversions above station for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954	3.5	6.0	4.96	4.94	5.04	5.44	26.6	48.3	10.9	2.36	1.54	2.69	10.2
1955	4.26	3.34	3.58	3.44	3.70	4.54	27.0	75.6	35.2	7.14	3.53	1.20	14.4
1956	3.42	4.97	4.37	3.38	4.08	5.84	41.1	212	55.4	9.78	4.00	1.96	29.3
1957	4.09	4.00	3.62	4.62	4.95	5.93	16.6	152	328	57.9	14.4	9.48	50.4
1958	8.92	8.93	8.45	6.8	6.5	7.5	24.9	213	63.2	9.33	4.76	3.55	30.7
1959	4.66	5.21	5.33	5.39	5.01	5.78	15.1	79.1	47.8	11.0	7.55	5.88	16.6
1960	14.7	10.4	5.25	6	5	11.6	83.1	129	80.0	14.1	4.21	5.48	30.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954	215	357	305	304	280	335	1,580	2,970	648	145	95	160	7,390
1955	262	199	220	211	206	279	1,610	4,650	2,090	439	217	72	10,460
1956	210	296	269	208	235	359	2,440	13,020	3,300	602	246	117	21,300
1957	252	238	223	284	275	364	990	9,350	19,500	3,560	884	564	36,480
1958	548	531	519	418	361	461	1,480	13,080	3,760	574	293	211	22,240
1959	287	310	328	332	278	355	901	4,860	2,850	677	465	350	11,990
1960	906	618	323	369	288	716	4,940	7,950	4,760	867	259	326	22,320

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953								
1954	1343	130	Apr. 25, 1954	0.7	10.2	7,390	9.94	7,200
1955	1393	126	May 2, 1955	.6	14.4	10,460	14.6	10,550
1956	1443	406	May 22, 1956	1.4	29.3	21,300	29.3	21,240
1957	1513	716	June 6, 1957	2.9	50.4	36,480	51.6	37,370
1958	1563	370	May 23, 1958	2.1	30.7	22,240	29.8	21,560
1959	1633	140	May 14, 1959	1.8	16.6	11,990	17.8	12,920
1960	1713	248	May 13, 1960	2.3	30.7	22,320	-	-

405. Troublesome Creek near Troublesome, Colo.

Location.--Lat 40°04', long 106°19', in sec.12, T.1 N., R.80 W., on left bank 50 ft upstream from bridge on U. S. Highway 40, half a mile upstream from mouth, and half a mile west of old Troublesome Post Office.

Drainage area.--178 sq mi.

Records available.--July 1904 to October 1905, October 1921 to September 1924, July 1937 to September 1956. Monthly discharge only for some periods, published in WSP 1313. Published as "at Troublesome" 1904-5.

Gage.--Water-stage recorder. Datum of gage is 7,344.13 ft above mean sea level, datum of 1929. July 22, 1904, to Oct. 31, 1905, staff gage at site a quarter of a mile upstream at different datum. Apr. 26, 1922, to Sept. 30, 1924, staff gage at site a quarter of a mile upstream at datum 6.85 ft higher. July 1, 1937, to Oct. 23, 1942, staff gage and Oct. 24, 1942, to Sept. 27, 1949, water-stage recorder, at site a quarter of a mile upstream at datum 7.03 ft higher.

Average discharge.--23 years (1904-5, 1921-24, 1937-56), 51.9 cfs (37,570 acre-ft per year).

Extremes.--1904-5, 1921-24, 1937-56: Maximum discharge, 1,230 cfs July 23, 1945 (gage height, 4.80 ft, site and datum then in use), from rating curve extended above 370 cfs; minimum daily, 1 cfs July 19-21, 26, 27, 1922.

Remarks.--Diversions for irrigation of about 4,000 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	16.0	26.7	27.7	22.1	22.3	28.1	63.2	272	159	41.2	40.1	21.6	61.9
1952	23.9	31.7	27.5	20.3	19.9	20.1	157	436	278	42.1	38.9	26.8	93.6
1953	20.4	22.7	25.7	23.2	21.2	28.1	53.1	109	89.2	36.7	33.3	11.0	39.6
1954	11.8	21.6	19.4	19.3	22.8	25.2	43.1	31.2	2.70	6.80	12.3	7.19	18.6
1955	11.3	15.6	19.0	16.6	16.8	13.2	76.5	75.9	23.8	10.1	20.1	7.49	25.5
1956	7.47	24.6	30.8	22.3	23.4	31.3	82.1	238	77.4	19.1	29.1	16.9	50.3
1957													
1958													
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	984	1,590	1,700	1,360	1,240	1,730	3,760	16,890	9,450	2,530	2,460	1,280	44,770
1952	1,470	1,890	1,690	1,250	1,140	1,240	9,530	26,810	16,550	2,590	2,390	1,600	67,950
1953	1,260	1,350	1,580	1,430	1,180	1,750	3,160	6,710	5,310	2,260	2,040	653	28,660
1954	727	1,290	1,190	1,190	1,270	1,550	2,560	1,920	161	418	754	428	13,460
1955	692	928	1,170	1,020	930	811	4,550	4,670	1,410	622	1,240	445	18,490
1956	460	1,460	1,890	1,370	1,350	1,930	4,890	14,610	4,600	1,170	1,790	1,000	36,520
1957													
1958													
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1213	516	May 29, 1951	12	61.9	44,770	38.6	27,970
1952	1243	1,060	May 6, 1952	18	93.6	67,950	62.9	45,550
1953	1283	361	July 17, 1953	8.2	39.6	28,660	92.4	67,090
1954	1343	105	Apr. 25, 1954	1.4	18.6	13,460	38.2	27,680
1955	1393	199	May 2, 1955	1.2	25.5	18,490	18.0	13,040
1956	1443	422	May 23, 1956	6.2	50.3	36,520	27.0	19,510
1957							-	-
1958								
1959								
1960								

MUDDY CREEK BASIN

410. Muddy Creek near Kremmling, Colo.

Location.--Lat 40°17'13", long 106°28'59", in SE $\frac{1}{4}$ sec.20, T.4 N., R.81 W., on left bank a quarter of a mile upstream from Lindsey Creek, half a mile upstream from bridge on U. S. Highway 40, 3 miles downstream from Albert Creek, and 17 miles northwest of Kremmling.

Drainage area.--74.2 sq mi.

Records available.--September 1937 to September 1943, October 1955 to September 1960.

Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,856 ft (from topographic map). September 1937 to Sept. 30, 1943, staff gage at site 3 miles upstream at different datum.

Average discharge.--11 years (1937-43, 1955-60), 53.2 cfs (38,520 acre-ft per year).

Extremes.--1937-43, 1955-60: Maximum discharge, 992 cfs May 9, 1957 (gage height, 6.46 ft); minimum daily, 0.1 cfs Aug. 19, 24, 1940.

Remarks.--Some regulation by Barber Reservoir (capacity, 4,290 acre-ft). Diversions for irrigation of about 900 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	4.65	6.01	5.77	3.85	3.51	8.05	109	351	104	17.7	7.94	1.82	52.2
1957	4.34	4.84	3.31	3.65	3.57	3.74	35.8	344	481	104	28.2	10.7	85.7
1958	11.3	9.52	5.61	6.15	7.49	8.92	58.6	144	17.1	4.13	4.11		61.6
1959	4.85	5.42	5.22	4.63	4.32	6.52	39.2	315	238	26.6	12.2	9.45	56.2
1960	27.3	26.7	13	9	7	46.5	196	241	147	23.2	4.43	4.14	62.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	286	358	355	236	202	495	6,460	21,610	6,210	1,090	488	108	37,900
1957	267	288	204	225	198	230	2,130	21,140	28,600	6,420	1,740	634	62,080
1958	696	566	345	378	416	548	3,480	28,020	8,600	1,050	254	244	44,600
1959	299	322	321	284	240	401	2,330	19,380	14,160	1,630	747	562	40,680
1960	1,680	1,590	799	553	403	2,860	11,680	14,840	8,760	1,420	272	246	45,100

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1956	1443	522	May 22, 1956	1.0	52.2	37,900	51.9	37,660
1957	1513	992	May 9, 1957	1.6	85.7	62,080	86.9	62,920
1958	1563	654	May 24, 1958	2.4	61.6	44,600	60.7	43,930
1959	1633	546	May 14, 1959	2.2	56.2	40,680	60.5	43,800
1960	1713	514	Apr. 8, 1960	2.2	62.1	45,100	-	-

411. Antelope Creek near Kremmling, Colo.

Location.--Lat 40°14'26", long 106°22'23", in N $\frac{1}{2}$ sec.8, T.3 N., R.80 W., on right bank $\frac{5}{8}$ miles upstream from mouth and 12 $\frac{1}{2}$ miles north of Kremmling.

Drainage area.--10.6 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,933 ft (from topographic map).

Average discharge.--5 years (1955-60), 2.38 cfs (1,720 acre-ft per year).

Extremes.--1955-60: Maximum discharge, 148 cfs Mar. 27, 1960 (gage height, 2.70 ft, from floodmarks); minimum daily, 0.1 cfs Aug. 11, 12, 14, 1956.

Remarks.--No regulation or diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	0.44	0.6	0.7	0.6	0.7	0.9	3.92	9.03	1.74	0.47	0.23	0.34	1.64
1957	.65	.60	.4	.4	.4	.5	3	16.6	16.5	3.22	1.31	1.14	3.73
1958	1.77	1.60	1.5	1.3	1.2	1.3	3.12	15.7	3.41	.93	.48	.44	2.75
1959	.58	.7	.7	.8	1.0	1.2	2.75	7.87	2.20	.60	.54	.56	1.63
1960	1.26	.86	.6	.5	.6	3.87	7.42	6.09	2.65	.72	.47	.66	2.14

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	27	36	43	37	40	55	233	555	104	29	14	20	1,190
1957	40	36	25	25	22	31	179	1,020	979	198	81	68	2,700
1958	109	95	92	80	67	80	185	968	203	57	30	26	1,990
1959	36	42	43	49	56	74	164	484	131	37	33	34	1,180
1960	78	51	37	31	35	238	442	374	157	44	29	39	1,560

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1956	1443	17	May 8, 1956	0.1	1.64	1,190	1.64	1,190
1957	1513	45	May 8, 1957	-	3.73	2,700	4.00	2,900
1958	1563	25	May 5, 1958	.2	2.75	1,990	2.51	1,820
1959	1633	18	May 13, 1959	.2	1.63	1,180	1.69	1,230
1960	1713	148	May 27, 1960	-	2.14	1,560	-	-

412. Red Dirt Creek near Kremmling, Colo.

Location.--Lat 40°09'41", long 106°33'32", in NE¼ sec.10, T.2 N., R.82 W., on left bank three-quarters of a mile upstream from Snow Shoe Ranch, 2 miles downstream from McMahon (Red Dirt) Reservoir, 9½ miles upstream from mouth, and 11½ miles northwest of Kremmling.

Drainage area.--18.3 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,961 ft (from topographic map).

Average discharge.--5 years (1955-60), 22.1 cfs (16,000 acre-ft per year).

Extremes.--1955-60: Maximum discharge, 343 cfs June 13, 1957 (gage height, 3.01 ft); minimum not determined.

Remarks.--No diversion above station. Flow regulated by McMahon (Red Dirt) Reservoir (capacity, about 4,500 acre-ft). A small amount of water is imported from the Yampa River basin to McMahon Reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	6.34	1.09	0.4	0.2	0.2	0.31	3.71	88.2	73.4	41.4	5.31	5.51	18.9
1957	3.74	3.20	3.5	3.6	3.8	3.9	4.0	38.6	186	77.7	23.5	15.3	30.6
1958	12.9	9.82	9	8	7	7.5	8	67.4	76.4	39.8	12.3	2.72	21.8
1959	1.94	91	5	5	7.6	8	3.5	45.4	85.7	41.7	12.7	11.7	17.2
1960	11.6	11.1	9	8	7	8.8	11	51.4	83.2	39.0	10.5	15.8	22.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	390	65	25	12	12	19	221	5,420	4,370	2,540	326	328	13,730
1957	230	190	215	221	211	240	238	2,370	11,070	4,780	1,450	912	22,130
1958	795	584	553	492	389	461	476	4,140	4,540	2,450	758	162	15,800
1959	118	54	31	31	33	49	208	2,790	5,100	2,560	779	696	12,450
1960	716	659	553	492	403	540	655	3,160	4,950	2,400	648	946	16,120

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1956	1443	198	May 24, 1956	-	18.9	13,730	19.1	13,880	
1957	1513	343	June 13, 1957	0.6	30.6	22,130	32.4	23,420	
1958	1563	242	May 29, 1958	1.9	21.8	15,800	19.4	14,070	
1959	1633	155	June 7, 1959	-	17.2	12,450	19.6	14,170	
1960	1713	214	June 4, 1960	-	22.2	16,120	-	-	

413. Pass Creek near Kremmling, Colo.

Location.--Lat 40°08'00", long 106°29'20", in NW¼ sec.20, T.2 N., R.81 W., on left bank half a mile downstream from Burke Spring Creek, 6 miles upstream from mouth, and 7½ miles northwest of Kremmling.

Drainage area.--17.8 sq mi.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,840 ft (from topographic map).

Extremes.--1957-60: Maximum discharge, 107 cfs May 22, 1958 (gage height, 3.16 ft), from rating curve extended above 64 cfs; maximum gage height recorded, 3.93 ft Mar. 20, 1960 (backwater from ice); minimum daily discharge, 0.6 cfs Aug. 2, 8, 12-14, 1958.

Remarks.--Some regulation by small reservoir on Spring Creek above station. Several small diversions above station for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	5	4.20	4	3.5	3	3	8.04	47.4	11.7	1.65	1.21	1.97	7.94
1959	2.33	3.03	3.2	3.0	2.4	3.4	8.62	50.8	22.7	6.81	5.53	3.78	9.69
1960	7.54	6.20	4	3.5	2.5	4.72	25.6	37.5	13.5	3.68	2.05	2.35	9.45

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	307	250	246	215	167	184	478	2,910	694	101	74	117	5,740
1959	143	180	197	184	133	209	515	3,130	1,350	419	340	225	7,020
1960	464	369	246	215	144	290	1,530	2,310	804	226	126	140	6,860

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1958	1563	107	May 22, 1958	0.6	7.94	5,740	7.55	5,460	
1959	1633	105	May 18, 1959	-	9.69	7,020	10.5	7,580	
1960	1713	75	May 13, 1960	1.2	9.45	6,860	-	-	

BLUE RIVER BASIN

420. Hoosier Pass tunnel at Hoosier Pass, Colo.
(Transmountain diversion)

Location.--Lat 39°21'35", long 106°04'35", in sec.14, T.8 S., R.78 W., at South portal of Hoosier Pass tunnel, 0.8 mile west of Hoosier Pass.

Records available.--October 1951 to September 1960.

Gage.--Water-stage recorder and 8-foot Parshall flume. Altitude of gage is 10,830 ft (from topographic map).

Remarks.--Diversion is from tributaries of Blue River in Colorado River basin to Montgomery Reservoir (Middle Fork South Platte River) in sec.14, T.8 S., R.78 W., in Platte River basin; this water is again diverted to South Catamount Creek (tributary of Catamount Creek) in SE $\frac{1}{4}$ sec.14, T.13 S., R.69 W., in Arkansas River basin. Three collection conduits from Monte Cristo Creek in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.2, T.8 S., R.78 W., Benrose Creek in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.6, T.8 S., R.77 W., and McCullough Gulch in sec.26, T.7 S., R.78 W., intercept intermediate tributaries and converge at north portal of the tunnel. Diversion began June 30, 1952.

Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952	0	0	0	0	0	0	0	0	50	1,310	898	123	2,380
1953	0	0	0	0	0	0	0	294	2,320	1,500	646	85	4,840
1954	0	0	0	0	0	0	0	1,060	1,400	1,050	42	0	3,550
1955	0	0	0	0	0	0	0	688	1,780	2,110	1,870	0	6,450
1956	0	0	0	0	0	0	0	2,200	4,760	1,840	492	0	9,290
1957	0	0	0	0	0	0	0	374	4,660	2,080	0	0	7,110
1958	0	0	0	0	0	0	0	3,040	2,130	1,250	0	0	6,420
1959	0	0	0	0	0	0	0	489	5,040	2,470	496	0	8,500
1960	0	0	0	0	0	0	0	901	4,610	2,390	315	0	8,220

429. Monte Cristo diversion near Hoosier Pass, Colo.

Location.--Lat 39°22'50", long 106°04'10", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.2, T.8 S., R.78 W., on left bank at entrance to Hoosier Pass tunnel, 2,000 ft downstream from diversion point, $\frac{1}{2}$ miles northwest of Hoosier Pass, and 7 miles southwest of Breckenridge.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 10,986 ft (from State engineer).

Extremes.--1957-60: Maximum daily discharge, 66 cfs June 15, 1959; no flow for most of each year.

Remarks.--This is a transmountain diversion from Monte Cristo Creek in Blue River basin through Hoosier Pass tunnel to South Platte River basin from whence it is again diverted to South Catamount Reservoir in the Arkansas River basin. Water is for municipal use by city of Colorado Springs. Diversion point is in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.2, T.8 S., R.78 W. The entire flow is regulated by diversion gates.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	0	0	0	0	0	0	0	22.0	19.4	11.4	0	0	4.43
1959	0	0	0	0	0	0	0	4.64	40.6	18.8	5.10	0	5.77
1960	0	0	0	0	0	0	0	7.25	36.2	19.5	3.49	0	5.53

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	0	0	0	0	0	0	0	1,350	1,150	704	0	0	3,200
1959	0	0	0	0	0	0	0	285	2,420	1,160	314	0	4,190
1960	0	0	0	0	0	0	0	444	2,150	1,200	214	0	4,010

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Maximum day		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1958	1633	44	May 23, 24, 1958	0	4.43	3,200	4.43	3,200	
1959	1633	66	June 15, 1959	0	5.77	4,190	5.77	4,190	
1960	1713	63	June 18, 1960	0	5.53	4,010	-	-	

430. Monte Cristo Creek near Hoosier Pass, Colo.

Location.--Creek: Lat 39°22'55", long 106°03'45", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.1, T.8 S., R.78 W., on right bank 500 ft downstream from bridge on State Highway 9, three-quarters of a mile downstream from diversion to Hoosier Pass tunnel, $1\frac{1}{2}$ miles north of Hoosier Pass, and 7 miles south of Breckenridge.

Diversion: Lat 39°22'50", long 106°04'10", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.2, T.8 S., R.78 W., on left bank at entrance to Hoosier Pass tunnel, 2,000 ft downstream from diversion point and $1\frac{1}{2}$ miles northwest of Hoosier Pass.

Drainage area.--5.66 sq mi.

Records available.--October 1953 to September 1958.

Gage.--Creek: Staff gage and V-notch weir. Datum of gage is 10,792.48 ft above mean sea level, datum of 1929.

Diversion: Water-stage recorder and Parshall flume. Altitude of gage is 10,986 ft (from State engineer).

Extremes (combined flow of creek and diversion).--1953-58: Maximum discharge not determined; minimum not determined.

Remarks.--Figures given herein include that portion of transmountain diversion through Hoosier Pass tunnel (see elsewhere in this report for total diversion through Hoosier Pass tunnel from all sources) which originates in Monte Cristo Creek basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	1.07	0.81	0.39	0.41	0.39	0.37	1.0	12.4	19.9	16.5	5.20	5.0	5.31
1955	3.42	1.74	.81	.34	.23	.38	1.57	9.05	24.1	19.5	18.8	4.25	7.06
1956	1.87	1.16	1.1	.7	.4	.3	1.1	20.0	42.2	15.3	8.62	2.8	7.96
1957	2.0	1.0	.6	.4	.3	.3	.4	7.0	48	52	17	4.5	11.2
1958	2.2	1.5	.7	.4	.2	.3	.6	25.3	31.3	14	6.4	4.6	7.32

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	66	48	24	25	22	23	60	760	1,180	1,020	320	298	3,850
1955	210	104	50	21	13	24	94	557	1,430	1,200	1,160	253	5,120
1956	115	69	68	43	23	18	65	1,230	2,510	939	530	167	5,780
1957	123	60	37	25	17	18	24	430	2,860	3,200	1,050	268	8,110
1958	135	89	43	25	11	18	36	1,550	1,860	861	394	274	5,300

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1954	1393	56	June 18, 1954	0.3	5.31	3,850	5.62		4,070	
1955	1393	66	June 22, 1955	.2	7.06	5,120	6.90		5,000	
1956	1443	82	June 2, 1956	-	7.96	5,780	7.92		5,740	
1957	1513	-	-	-	11.2	8,110	11.3		8,160	
1958	1563	-	-	-	7.32	5,300	-		-	

440. Hoosier Creek near Hoosier Pass, Colo.

Location.--Lat 39°22'25", long 106°03'15" (corrected), in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.12, T.8 S., R.78 W., on left bank 150 ft upstream from diversion to Hoosier Pass tunnel, 0.5 mile upstream from mouth, 0.9 mile north of Hoosier Pass, and $7\frac{1}{2}$ miles south of Breckenridge.

Drainage area.--1.15 sq mi.

Records available.--October 1953 to June 1958. Monthly figures only for 1957-58.

Gage.--Staff gage and Parshall flume. Altitude of gage is 11,050 ft (from topographic map).

Extremes.--1953-58: Maximum discharge not determined; minimum not determined.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	0.45	0.4	0.3	0.2	0.2	0.3	0.89	2.42	2.5	0.78	0.45	0.44	0.78
1955	.40	.2	.2	.1	.2	.2	.5	2.37	2.95	1.30	1.55	.81	.89
1956	.51	.34	.2	.2	.2	.4	.5	2.60	4.90	1.25	.59	.20	.99
1957	.5	.3	.2	.2	.2	.2	.4	.7	6.8	5.1	1.3	.7	1.39
1958	.8	.5	.3	.2	.1	.1	.2	.3	5	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	28	24	18	12	11	18	53	149	149	48	28	26	564
1955	25	12	12	6.1	11	12	30	146	175	80	85	48	640
1956	31	20	12	12	12	25	30	160	292	77	36	12	719
1957	31	18	12	12	11	12	24	45	405	314	80	42	1,000
1958	49	30	18	12	5.6	6.1	12	184	298	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1954	1393	-	-	-	0.78	564	0.75		543	
1955	1393	a5.7	June 8, 1955	-	.89	640	.91		654	
1956	1443	a9.6	June 5, 1956	-	.99	719	.98		717	
1957	1513	-	-	-	1.39	1,000	1.44		1,040	
1958	1563	-	-	-	-	-	-		-	

a Maximum observed.

BLUE RIVER BASIN

443. Bemrose-Hoosier diversion near Hoosier Pass, Colo.

Location.--Lat 39°22'50", long 106°04'10", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.2, T.8 S., R.78 W., on right bank at entrance to Hoosier Pass tunnel, $\frac{1}{2}$ miles northwest of Hoosier Pass, about 2 miles downstream from diversion point on Bemrose Creek, and 7 miles southwest of Breckenridge.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 10,986 ft (from State engineer).

Extremes.--1957-60: Maximum daily discharge, 40 cfs May 27, 1958; no flow for most of each year.

Remarks.--This is a transmountain diversion from Bemrose and Hoosier Creeks in Blue River basin through Hoosier Pass tunnel to South Platte River basin from whence it is again diverted to South Catamount Reservoir in the Arkansas River basin. Water is for municipal use by city of Colorado Springs. Diversion points are in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.6, T.8 S., R.77 W., and in sec.12, T.8 S., R.78 W. The entire flow is regulated by diversion gates.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	0	0	0	0	0	0	0	11.8	14.5	3.19	0	0	2.47
1959	0	0	0	0	0	0	0	2.69	17.4	5.91	1.73	0	2.31
1960	0	0	0	0	0	0	0	3.33	16.3	5.18	.77	0	2.12

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	0	0	0	0	0	0	0	726	865	196	0	0	1,790
1959	0	0	0	0	0	0	0	165	1,040	563	106	0	1,670
1960	0	0	0	0	0	0	0	204	971	318	47	0	1,540

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Maximum day		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1958	1633	40	May 27, 1958	0	2.47	1,790	2.47	1,790		
1959	1633	24	June 15-17, 1959	0	2.31	1,670	2.31	1,670		
1960	1713	22	June 17-19, 1960	0	2.12	1,540	-	-		

445. Bemrose Creek near Hoosier Pass, Colo.

Location.--Lat 39°22'35", long 106°03'00", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.6, T.8 S., R.77 W., on right bank 100 ft upstream from diversion to Hoosier Pass tunnel, 0.4 mile upstream from Hoosier Creek, $\frac{1}{4}$ miles northeast of Hoosier Pass, and $\frac{7}{8}$ miles south of Breckenridge.

Drainage area.--1.95 sq mi.

Records available.--October 1953 to June 1958. Monthly figures only for 1957-58.

Gage.--Staff gage and Parshall flume. Altitude of gage is 11,050 ft (from topographic map).

Extremes.--1953-58: Maximum discharge not determined; minimum not determined.

Remarks.--No diversions above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	0.6	0.4	0.3	0.3	0.3	0.3	1.08	2.45	3.0	1.73	1.11	1.25	1.07
1955	1.06	.6	.4	.3	.2	.2	.4	2.58	4.12	2.16	2.64	2.08	1.38
1956	.92	.5	.4	.3	.2	.1	.4	4.45	8.50	2.11	.97	.5	1.59
1957	.5	.2	.2	.2	.2	.2	.3	.7	10	9.0	3.0	1.5	2.17
1958	.9	.5	.3	.3	.1	.2	.2	5	8	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	37	24	18	18	17	18	67	150	179	106	68	75	777
1955	65	36	25	18	11	12	24	146	245	134	162	124	1,000
1956	56	30	25	18	12	6.1	24	274	494	130	60	30	1,160
1957	312	12	12	11	12	18	43	595	553	184	89	-	1,570
1958	55	30	18	18	5.6	6.1	12	307	476	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1954	1393	-	June 23, 1954	-	1.07	777	1.14	824		
1955	1393	a 6.1	June 2, 1955	-	1.38	1,000	1.36	987		
1956	1443	b 15	-	-	1.59	1,160	1.52	1,100		
1957	1513	-	-	-	2.17	1,570	2.24	1,620		
1958	1563	-	-	-	-	-	-	-		

a Maximum observed.

b Maximum daily.

448. McCullough diversion near Hoosier Pass, Colo.

Location.--Lat 39°22'50", long 106°04'10", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.2, T.8 S., R.78 W., on left bank at entrance to Hoosier Pass tunnel, $1\frac{1}{2}$ miles northwest of Hoosier Pass, about 2 miles downstream from diversion point, and $\frac{7}{8}$ miles southwest of Breckenridge.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 10,986 ft (from State engineer).

Extremes.--1957-60: Maximum daily discharge, 48 cfs June 15, 1959; no flow for most of each year.

Remarks.--This is a transmountain diversion from McCullough Gulch in Blue River basin through Hoosier Pass tunnel to South Platte River basin from whence it is again diverted to South Catamount Reservoir in the Arkansas River basin. Water is for municipal use by city of Colorado Springs. Diversion point is in sec.26, T.7 S., R.78 W. The entire flow is regulated by diversion gates.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	0	0	0	0	0	0	0	14.7	3.70	6.73	0	0	2.13
1959	0	0	0	0	0	0	0	1.64	30.0	17.6	1.57	0	4.23
1960	0	0	0	0	0	0	0	4.35	27.6	14.2	.82	0	3.90

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	0	0	0	0	0	0	0	906	220	414	0	0	1,540
1959	0	0	0	0	0	0	0	101	1,780	1,080	96	0	3,060
1960	0	0	0	0	0	0	0	267	1,640	874	50	0	2,830

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Maximum day		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1958	1633	42	May 29, 1958	0	2.13	1,540	2.13		1,540
1959	1633	48	June 15, 1959	0	4.23	3,060	4.23		3,060
1960	1713	41	June 20, 1960	-	3.90	2,830	-		-

450. McCullough Gulch near Breckenridge, Colo.

Location.--Gulch: Lat 39°24'10", long 106°03'05", in NE¼ sec.36, T.7 S., R.78 W., on right bank about 500 ft upstream from mouth, 1½ miles downstream from diversion to Hoosier Pass tunnel, 3 miles north of Hoosier Pass, and 5½ miles south of Breckenridge.
 Diversion: Lat 39°22'50", long 106°04'10", in NE¼ sec.2, T.8 S., R.78 W., on left (corrected) bank at entrance to Hoosier Pass tunnel, 1½ miles northwest of Hoosier Pass, 2 miles downstream from point of diversion, and 7 miles southwest of Breckenridge.

Drainage area.--4.79 sq mi.

Records available.--October 1953 to June 1958.

Gage.--Gulch: Water-stage recorder and Parshall flume. Altitude of gage is 10,300 ft (from topographic map). Oct. 1, 1953, to May 16, 1954, staff gage and Parshall flume at same site and datum.
 Diversion: Water-stage recorder and Parshall flume. Altitude of gage is 10,986 ft (from State engineer).

Extremes (combined flow creek and diversion).--1953-58: Maximum discharge, 94 cfs June 29, 1957; minimum not determined.

Remarks.--Transmountain diversion from McCullough Gulch through Hoosier Pass tunnel started July 4, 1955. Figures given herein include that portion of transmountain diversion through Hoosier Pass tunnel (see elsewhere in this report for total diversion through Hoosier Pass tunnel from all sources) which originates in McCullough Gulch basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	1.0	0.5	0.3	0.3	0.3	0.3	0.7	9.83	16.2	12.3	3.60	3.65	4.09
1955	3.31	1.3	.4	.2	.2	.2	2.56	7.86	19.0	15.7	14.5	2.74	5.70
1956	1.16	.71	.32	.35	.20	.18	1.42	17.5	31.9	13.8	6.03	2.08	6.31
1957	1.16	.7	.5	.5	.4	.61	5.66	37.3	41.2	15.1	-	3.40	8.95
1958	2	1	.6	.4	.2	.1	.3	24.1	29.6	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	61	30	18	18	17	18	42	605	961	753	221	217	2,960
1955	204	77	25	12	11	12	153	464	1,130	966	890	163	4,130
1956	71	42	19	22	12	11	84	1,080	1,900	850	371	124	4,590
1957	71	42	31	31	17	25	36	348	2,220	2,530	926	202	6,480
1958	123	60	37	25	11	6.1	18	1,480	1,760	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1954	1343	53	July 19, 1954	-	4.09	2,960	4.36	3,160	
1955	1393	51	June 22, 1955	-	5.70	4,130	5.46	5,950	
1956	1443	a50	June 2, 1956	0.1	6.31	4,590	6.33	4,600	
1957	1513	94	June 29, 1957	-	8.95	6,480	9.05	6,560	
1958	1563	b79	June 2, 1958	-	-	-	-	-	

a Maximum daily.

b Maximum during period October to June.

455. Spruce Creek near Breckenridge, Colo.

Location.--Lat 39°26'30", long 106°02'25", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.18, T.7 S., R.77 W., on right bank 75 ft downstream from bridge on State Highway 9, a quarter of a mile upstream from mouth, and 3 miles south of Breckenridge.

Drainage area.--5.23 sq mi.

Records available.--October 1953 to September 1958.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 9,950 ft (from topographic map). Oct. 1, 1953, to May 14, 1954, staff gage and Parshall flume at same site and datum.

Average discharge.--5 years (1953-58), 7.86 cfs (5,690 acre-ft per year).

Extremes.--1953-58: Maximum discharge, 102 cfs June 29, 1957 (gage height, 2.79 ft); minimum not determined.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	1.5	0.9	0.5	0.3	0.3	0.3	1.0	12.2	17.2	12.2	4.26	3.84	4.57
1955	3.81	1.7	.6	.5	.5	.4	2.45	10.3	23.2	17.4	17.7	3.79	6.90
1956	1.90	1.47	1.22	.87	.38	.31	1.03	21.9	39.3	15.6	7.46	2.34	7.82
1957	1.66	1.4	.9	.8	.6	.8	.90	5.64	44.4	55.0	23.2	5.41	11.8
1958	2.16	1.7	1.1	.9	.8	.7	1.1	27.9	38.9	12.6	6.52	4.00	8.23

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	92	54	31	18	17	18	60	752	1,030	748	262	228	3,310
1955	234	101	37	31	28	25	146	631	1,380	1,070	1,090	226	5,000
1956	117	87	75	53	22	19	61	1,350	2,340	958	459	139	5,680
1957	102	83	55	49	33	49	53	347	2,640	3,380	1,430	322	8,540
1958	133	101	68	55	44	43	65	1,720	2,310	774	401	238	5,950

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1954	1343	35	May 20, 1954	-	4.57	3,310	4.84	3,500	
1955	1393	51	Aug. 6, 1955	-	6.90	5,000	6.77	4,910	
1956	1443	69	June 2, 1956	0.2	7.82	5,680	7.77	5,640	
1957	1513	102	June 29, 1957	-	11.8	8,540	11.9	8,600	
1958	1563	-	May 27, 1958	-	8.23	5,950	-	-	

BLUE RIVER BASIN

460. Boreas Pass ditch at Boreas Pass, Colo.
(Transmountain diversion)

Location.--Lat 39°24'40", long 105°58'05", in sec.26, T.7 S., R.77 W., at Boreas Pass.
Records available.--October 1932 to September 1960. Diversion prior to 1948, published in WSP 1313.

Gage.--Water-stage recorder and 2-foot Parshall flume since June 2, 1960. Altitude of gage is 11,480 ft (from topographic map). Prior to June 2, 1960, water-stage recorder and 3-foot Parshall flume.

Remarks.--Diversion is from tributaries of Blue River between headgate in sec.26, T.7 S., R.77 W., and Boreas Pass, in Colorado River basin, to Tarryall Creek in sec.26, T.7 S., R.77 W., in Platte River basin. Ditch was first put in use about 1909.
Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	0	42	114	20	0	176
1952	0	0	0	0	0	0	0	0	0	0	13	0	13
1953	0	0	0	0	0	0	0	0	135	112	26	0	273
1954	0	0	0	0	0	0	0	0	44	49	26	17	136
1955	0	0	0	0	0	0	0	2.8	75	55	82	53	268
1956	0	0	0	0	0	0	0	6.3	156	76	22	0	260
1957	0	0	0	0	0	0	0	0	77	248	156	14	475
1958	0	0	0	0	0	0	0	0	145	69	27	19	250
1959	0	0	0	0	0	0	0	0	123	60	14	2	197
1960	0	0	0	0	0	0	0	0	123	58	0	0	181

† Corrected.

466. Blue River near Dillon, Colo.

Location.--Lat 39°32'58", long 106°02'22", in NW¼NE¼ sec.7, T.6 S., R.77 W., on right bank 0.3 mile downstream from Swan River and 4½ miles south of Dillon.

Drainage area.--120 sq mi, approximately.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 9,120 ft (from topographic map).

Extremes.--1957-60: Maximum discharge, 782 cfs June 8, 1958 (gage height, 4.73 ft); minimum daily, 20 cfs Mar. 3-6, 1958.

Remarks.--Transmountain diversion above station by Boreas Pass ditch and Hoosier Pass tunnel (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	48.3	43.1	32.5	28.7	23.6	23.3	28.1	326	434	118	71.3	51.8	103
1959	38.1	29.9	27.7	27.8	28.4	23.5	28.4	154	384	147	94.3	54.7	86.6
1960	51.9	36.9	30.1	24.2	21.8	23.2	57.3	124	318	150	76.1	48.9	80.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	2,970	2,560	2,000	1,780	1,310	1,430	1,670	20,040	25,800	7,230	4,380	3,080	74,230
1959	2,340	1,780	1,700	1,710	1,580	1,450	1,690	9,490	22,870	9,010	5,800	3,260	62,680
1960	3,190	2,200	1,850	1,490	1,250	1,430	3,410	7,630	18,890	9,200	4,680	2,910	58,130

Yearly discharge, in cubic feet per second

Water year ending Sept. 30										Calendar year	
Year	WSP	Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet			
		Discharge	Date								
1958	1563	782	June 8, 1958	20	103	74,230	100	72,520			
1959	1633	540	June 15, 1959	21	86.6	62,680	88.5	64,080			
1960	1713	439	June 18, 1960	21	80.1	58,130	-	-			

470. Blue River at Dillon, Colo.

Location.--Lat 39°36'50", long 106°03'05", in sec.18, T.5 S., R.77 W., on right bank 5 ft upstream from bridge on U. S. Highway 6 at east edge of Dillon, 300 ft upstream from Snake River, and 1,000 ft upstream from Tenmile Creek.

Drainage area.--129 sq mi.

Records available.--October 1910 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 8,821.17 ft above mean sea level, datum of 1929. Oct. 15, 1910, to Apr. 21, 1920, staff gage and Apr. 22, 1920, to Apr. 22, 1949, water-stage recorder, at site 15 ft upstream just below former bridge at same datum.

Average discharge.--50 years (1910-60), 116 cfs (83,980 acre-ft per year), including diversions to Hoosier Pass tunnel since 1952.

Extremes.--1910-60: Maximum discharge observed, 1,180 cfs June 2, 1914, June 14, 1924; maximum gage height observed, 4.35 ft June 2, 1914; minimum discharge observed, 7.4 cfs Mar. 22, 1935 (discharge measurement).

Remarks.--Transmountain diversion above station by Boreas Pass ditch and Hoosier Pass tunnel (see elsewhere in this report). Diversions for irrigation of about 150 acres of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	36.0	29.6	25.4	21.9	23.6	24.9	37.6	267	569	417	164	67.7	141
1952	46.3	37.1	27.5	20.5	21.3	19.1	68.6	285	574	188	112	61.9	122
1953	40.6	33.0	27.9	25.0	22.2	23.1	30.0	182	563	210	102	44.3	109
1954	32.7	27.0	24.8	22.2	23.2	21.8	42.5	109	125	83.5	46.2	37.7	49.7
1955	49.9	32.4	28.4	23.5	21.9	21.6	53.2	139	204	117	131	77.8	75.3
1956	43.8	38.1	30.7	29.1	24.3	25.7	37.7	338	366	114	73.8	40.6	96.9
1957	30.1	32.6	29.7	28.1	28.5	21.3	34.6	153	541	484	221	83.1	141
1958	54.5	42.1	36.4	32.3	27.3	26.3	32.0	333	434	108	68.7	47.6	104
1959	34.8	29.3	26.6	26.8	26.5	23.6	30.3	160	397	150	88.3	46.8	86.7
1960	51.9	38.7	31.5	25.4	23.4	24.5	62.2	137	360	160	73.5	44.4	86.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,210	1,760	1,560	1,350	1,310	1,530	2,240	16,400	33,840	25,630	10,100	4,030	102,000
1952	2,850	2,210	1,690	1,260	1,230	1,170	4,080	17,520	34,170	11,570	6,900	3,680	88,330
1953	2,500	1,960	1,710	1,540	1,230	1,420	1,790	11,200	33,480	12,890	6,260	2,640	78,620
1954	2,010	1,600	1,520	1,370	1,290	1,340	2,530	6,690	7,420	5,140	2,840	2,250	36,000
1955	3,070	1,930	1,750	1,440	1,220	1,330	3,170	8,580	12,150	7,190	8,070	4,630	54,530
1956	2,690	2,270	1,890	1,790	1,400	1,580	2,250	20,810	21,770	6,980	4,540	2,420	70,390
1957	1,850	1,940	1,830	1,730	1,580	1,310	2,060	9,420	32,180	29,730	13,610	4,940	102,200
1958	3,350	2,500	2,240	1,990	1,520	1,620	1,910	20,490	25,800	6,670	4,220	2,830	75,140
1959	2,140	1,740	1,630	1,650	1,470	1,450	1,800	9,820	23,630	9,200	5,430	2,780	62,740
1960	3,190	2,300	1,940	1,560	1,350	1,510	3,700	8,430	21,420	9,870	4,520	2,640	62,430

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	68,820
1951	1213	850	June 21, 1951	18	141	102,000	95.1	145	103,200
1952	1243	904	June 7, 1952	16	122	88,330	121	87,750	87,750
1953	1283	930	June 14, 1953	19	109	78,620	107	77,580	77,580
1954	1343	198	May 24, 1954	20	49.7	36,000	52.0	37,620	37,620
1955	1393	254	June 15, 1955	18	75.3	54,530	75.4	54,630	54,630
1956	1443	622	June 3, 1956	18	96.9	70,390	95.3	69,160	69,160
1957	1513	762	June 8, 1957	20	141	102,200	145	104,600	104,600
1958	1563	814	June 8, 1958	22	104	75,140	100	72,580	72,580
1959	1633	546	June 15, 1959	21	86.7	62,740	89.3	64,660	64,660
1960	1713	498	June 18, 1960	22	86.0	62,430	-	-	-

475. Snake River near Montezuma, Colo.

Location.--Lat 39°36'20", long 105°56'33", in NW $\frac{1}{4}$ sec.19, T.5 S., R.76 W. (projected), on right bank 200 ft downstream from North Fork, 500 ft upstream from power ditch, and $\frac{1}{2}$ miles northwest of Montezuma.

Drainage area.--58.9 sq mi (revised).

Records available.--July 1942 to September 1946, October 1951 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 9,320 ft (from topographic map). Prior to Oct. 14, 1943, staff gage at same site and datum.

Average discharge.--13 years (1942-46, 1951-60), 62.2 cfs (45,030 acre-ft per year).

Extremes.--1942-46, 1951-60: Maximum discharge, 1,250 cfs June 10, 1952 (gage height, 3.51 ft); minimum not determined.

Remarks.--Small diversions above station for irrigation and domestic use.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952	30.2	18.2	11.4	8.50	10.3	10.0	23.3	115	465	145	70.1	40.4	78.7
1953	23.4	17.2	14.8	13.1	11.7	12.8	15.1	63.1	362	132	54.3	25.2	62.0
1954	19.9	17.1	13.8	11.9	10.9	9.26	20.0	95.1	110	59.8	26.0	23.7	35.1
1955	26.0	17.1	13.9	9.47	8.06	7.39	21.9	85.8	176	104	86.8	41.8	50.1
1956	23.2	20.6	15.9	12.4	11.4	10.9	13.2	203	357	98.7	54.3	28.4	70.8
1957	21.6	17.4	16.8	14.2	10.3	10.2	11.9	43.2	390	378	138	55.1	92.6
1958	34.4	25.4	17.6	11.8	10.4	9.88	15.4	216	277	73.6	38.1	28.7	63.4
1959	18.1	15.6	13.2	12.5	10.2	9.60	12.8	62.5	299	110	51.5	26.6	53.5
1960	26.7	22.4	14.2	12.4	10.7	11.7	25.6	92.6	342	143	48.2	29.7	64.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952	1,850	1,080	700	523	590	615	1,390	7,090	27,670	8,890	4,310	2,410	57,120
1953	1,440	1,020	908	805	651	789	898	3,680	21,540	8,100	3,340	1,500	44,870
1954	1,230	1,020	849	732	606	569	1,190	5,850	6,570	3,680	1,720	1,410	25,430
1955	1,600	1,020	857	583	447	461	1,310	5,280	10,450	6,420	5,340	2,490	36,260
1956	1,430	1,230	978	760	655	672	787	12,500	21,270	6,070	3,340	1,690	51,380
1957	1,330	1,030	1,040	875	573	625	709	2,660	23,180	23,260	8,510	3,280	67,070
1958	2,110	1,510	1,080	728	590	606	916	13,290	16,470	4,530	2,340	1,710	45,070
1959	1,110	930	809	768	566	590	760	3,840	17,790	6,790	3,170	1,580	36,700
1960	1,640	1,330	873	760	617	718	1,530	5,700	20,380	8,810	2,960	1,770	47,090

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950									
1951									
1952	1243	1,250	June 10, 1952	7.5	78.7	57,120	78.3	56,860	
1953	1283	934	June 13, 1953	9.0	62.0	44,870	61.6	44,600	
1954	1343	214	May 13, 1954	8.5	35.1	25,430	35.6	25,800	
1955	1393	460	June 8, 1955	6.4	50.1	36,260	50.3	36,400	
1956	1443	901	June 2, 1956	9.8	70.8	51,380	70.5	51,140	
1957	1513	858	June 28, 1957	8.7	92.6	67,070	94.4	68,370	
1958	1563	736	May 26, 1958	8.5	63.4	45,870	60.8	44,020	
1959	1633	555	June 9, 1959	9.1	53.5	38,700	54.8	39,700	
1960	1713	634	June 17, 1960	8	64.8	47,090	-	-	

477. Keystone Gulch near Dillon, Colo.

Location.--Lat 39°35'40", long 105°58'19", in NE $\frac{1}{4}$ sec.26, T.5 S., R.77 W., on right bank 0.7 mile upstream from mouth and 4.7 miles southeast of Dillon.

Drainage area.--8.80 sq mi.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 9,350 ft (from topographic map).

Extremes.--1957-60: Maximum discharge, 90 cfs June 5, 1958 (gage height, 2.75 ft), from rating curve extended above 28 cfs; minimum not determined.

Remarks.--No known diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	3.7	3.51	3.0	2.4	2.2	2.0	2.7	18.3	24.4	8.22	4.22	3.22	6.50
1959	2.91	3.05	2.43	2.30	2.27	1.83	2.22	9.08	21.3	8.28	4.33	2.63	5.22
1960	2.96	2.8	2.0	1.8	1.5	2.35	5.09	12.5	23.2	7.83	3.65	2.69	5.70

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	228	209	184	148	122	123	159	1,120	1,450	505	260	192	4,700
1959	179	181	149	141	126	112	132	559	1,270	509	266	156	3,780
1960	182	167	123	111	86	145	303	766	1,380	462	224	172	4,140

Yearly discharge, in cubic feet per second, of Keystone Gulch near Dillon, Colo.

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1958	1563	90	June 5, 1958	-	6.50	4,700	6.34	4,590
1959	1633	36	June 9, 1959	1.6	5.22	3,780	5.17	3,740
1960	1713	36	June 5, 1960	-	5.70	4,140	-	-

480. Snake River at Dillon, Colo.

Location.--Lat 39°36'45", long 106°02'30", in SW $\frac{1}{4}$ sec.17, T.5 S., R.77 W., on left bank 0.6 mile upstream from mouth and 1 mile east of Dillon.

Drainage area.--92 sq mi., approximately.

Records available.--October 1910 to September 1919, October 1929 to September 1960.

Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 8,870 ft (from topographic map). Oct. 15, 1910, to Sept. 30, 1919, staff gage and Oct. 1, 1929, to Apr. 22, 1953, water-stage recorder, at site 0.6 mile downstream at different datums; datum lowered 1.54 ft Oct. 1, 1929.

Average discharge.--40 years (1910-19, 1929-60), 64.3 cfs (46,550 acre-ft per year).

Extremes.--1910-19, 1929-60: Maximum discharge, 1,200 cfs June 13, 1935, from rating curve extended above 700 cfs; maximum gage height, 4.89 ft June 10, 1952, site and datum then in use; minimum daily discharge, 3 cfs Nov. 9, 1912.

Remarks.--Diversion for irrigation of about 350 acres above station. Diversion for power 6 miles above station in sec.19, T.5 S., R.76 W., prior to Dec. 15, 1959; water returned to Blue River just above mouth of Straight Creek; miscellaneous discharge measurements of this diversion have been published in some annual water-supply papers.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9.63	10.2	9.48	8.83	9.39	8.83	17.0	115	511	375	73.8	16.8	97.4
1952	12.4	10.4	8.53	7.48	9.12	8.93	22.5	128	527	120	54.6	16.6	76.7
1953	10.2	10.7	9.95	9.66	8.53	9.01	15.1	70.5	423	101	32.1	13.1	59.0
1954	9.22	11.5	8.81	8.19	8.24	7.95	12.0	59.0	93.9	21.3	8.85	9.64	21.5
1955	8.18	7.84	7.96	7.27	10.1	11.2	34.4	64.8	128	48.8	48.0	28.9	33.8
1956	13.8	12.6	11.9	10.3	9.90	9.51	19.5	231	405	53.7	25.9	16.7	68.2
1957	14.4	11.8	10.8	9.53	11.6	11.9	14.1	54.6	418	389	124	43.9	93.2
1958	10.9	10.9	9.90	9.88	10.2	10.1	13.6	223	251	39.1	13.9	11.6	51.3
1959	12.5	10.7	7.75	10	10.8	9.2	12.2	48.4	266	65.2	23.8	15.8	40.9
1960	14.5	26.3	17.6	18.0	17.1	20.1	52.1	109	353	148	62.6	33.4	72.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	592	610	583	543	521	543	1,010	7,090	30,400	23,040	4,540	1,000	70,470
1952	762	617	525	460	525	549	1,340	7,850	31,340	7,390	3,360	988	55,710
1953	625	637	612	594	463	554	781	4,330	25,190	6,210	1,970	779	42,700
1954	567	687	542	503	457	489	711	3,630	5,590	1,310	544	574	15,600
1955	503	466	490	447	558	688	2,050	3,980	7,590	3,000	2,950	1,750	24,440
1956	851	748	732	635	569	585	1,160	14,210	24,120	3,300	1,590	996	49,500
1957	885	704	662	586	647	732	837	3,360	24,890	23,900	7,650	2,610	67,460
1958	688	649	609	608	566	622	812	13,740	14,920	2,400	857	691	37,140
1959	770	638	478	615	601	563	729	2,970	15,830	4,010	1,460	939	29,600
1960	891	1,560	1,080	1,110	982	1,240	3,100	6,690	21,000	9,080	3,850	1,990	52,570

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	47.3	34,240
1951	1213	948	June 20, 1951	7.6	76.7	70,470	97.5	70,590
1952	1243	1,170	June 10, 1952	6.5	76.7	55,710	76.7	55,680
1953	1283	896	June 13, 1953	7.6	59.0	42,700	58.9	42,670
1954	1343	217	May 19, 1954	7.0	21.5	15,600	21.1	15,270
1955	1393	411	June 8, 1955	6.3	33.8	24,440	35.0	25,310
1956	1443	873	June 2, 1956	8.0	68.2	49,500	68.1	49,420
1957	1513	887	June 28, 1957	8.7	93.2	67,460	92.7	67,140
1958	1563	745	May 26, 1958	8.5	51.3	37,140	51.2	37,100
1959	1633	479	June 9, 1959	7.0	40.9	29,600	43.2	31,250
1960	1713	628	June 4, 1960	10	72.4	52,570	-	-

BLUE RIVER BASIN

485. Fremont Pass ditch at Fremont Pass, Colo.
(Transmountain diversion)

Location.--Lat 39°22'00", long 106°11'10", in sec.11, T.8 S., R.79 W., at Fremont Pass.

Records available.--October 1928 to September 1960. Diversion prior to 1937 published in WSP 1313.

Gage.--Water-stage recorder and 4-foot Parshall flume since May 31, 1939. Altitude of gage is 11,320 ft (from topographic map). June 25, 1929, to Aug. 24, 1931, water-stage recorder and 8-foot Parshall flume, and May 9, 1932, to May 30, 1939, water-stage recorder and 6-foot Parshall flume, at about same site.

Remarks.--Diversion is from tributaries of Tenmile Creek in secs.2 and 3, T.8 S., R.79 W., in Colorado River basin, to East Fork Arkansas River in sec.11, T.8 S., R.79 W., in Arkansas River basin. No transmountain diversion August 1943 to September 1960, as water was used at Climax.

Cooperation.--Records furnished by State engineer of Colorado.

501. Tenmile Creek below North Fork, at Frisco, Colo.

Location.--Lat 39°34'35", long 106°06'30", in SW¹/₄NE¹/₄ sec.34, T.5 S., R.78 W., on left bank 500 ft downstream from North Fork, 800 ft downstream from bridge on U. S. Highway 6, and 0.6 mile west of Frisco.

Drainage area.--93.3 sq mi.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 9,090 ft (from topographic map).

Extremes.--1957-60: Maximum discharge, 1,260 cfs May 28, 1958; maximum gage height, 5.70 ft May 24, 1958; minimum daily discharge, 7 cfs Mar. 8, 14, 1960.

Remarks.--Natural flow of stream affected by a few small diversions above station for irrigation and municipal use and transbasin diversion from Robinson Reservoir (capacity, 2,520 acre-ft) in Eagle River basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	31.3	23.9	19.9	15.9	13.2	15.2	19.4	446	462	76.7	33.9	30.1	99.3
1959	20.5	15.2	13.3	13.8	13.6	13.2	39.0	184	498	113	46.3	29.9	83.2
1960	31.0	24.6	19.0	13.6	10.9	10.2	49.1	201	464	121	38.6	24.3	83.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	1,930	1,420	1,220	980	734	934	1,150	27,430	27,510	4,720	2,080	1,790	71,900
1959	1,260	906	817	849	758	811	2,320	11,330	29,630	6,930	2,840	1,780	60,230
1960	1,900	1,470	1,170	839	625	628	2,920	12,350	27,630	7,470	2,370	1,440	60,810

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1958	1563	1,260	May 28, 1958	11	99.3	71,900	97.1	70,310		
1959	1633	996	June 8, 1959	10	83.2	60,230	85.4	61,790		
1960	1713	1,010	June 4, 1960	7	83.8	60,810	-	-		

505. Tenmile Creek at Dillon, Colo.

Location.--Lat 39°36'45", long 106°03'15", in sec.18, T.5 S., R.77 W., on left bank at Dillon, 250 ft downstream from bridge on U. S. Highway 6 and 600 ft upstream from mouth.

Drainage area.--113 sq mi.

Records available.--October 1910 to September 1919, October 1929 to September 1960.
Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 8,817.97 ft above mean sea level, unadjusted. Oct. 15, 1910, to Sept. 30, 1919, staff gage and Oct. 26, 1929, to Aug. 4, 1939, water-stage recorder, at site 250 ft upstream at different datum.

Average discharge.--40 years (1910-19, 1929-60), 121 cfs (87,600 acre-ft per year).

Extremes.--1910-19, 1929-60: Maximum discharge, 2,010 cfs June 1, 1933 (gage height, 5.82 ft, site and datum then in use), from rating curve extended above 800 cfs; minimum not determined.

Remarks.--Transmountain diversion above station by Fremont Pass ditch (see elsewhere in this report) 1929-43. Diversions for irrigation of about 200 acres of hay meadows above station. Normal flow of stream affected by transbasin diversion from Robinson Reservoir (capacity, 2,520 acre-ft) in Eagle River basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	27.1	27.3	24.2	21.9	22.9	19.2	30.5	360	737	429	132	52.9	158
1952	39.6	33.9	27.2	21.0	21.1	24.2	70.0	359	780	201	101	58.3	144
1953	34.9	27.1	24.1	20.6	18.0	23.8	43.9	233	762	196	83.5	34.9	125
1954	29.3	24.1	20.7	17.7	17.1	14.5	52.0	235	173	76.4	31.7	35.6	60.8
1955	25.4	15.3	14.7	13.4	13.2	12.3	57.6	254	284	109	95.6	39.4	78.2
1956	29.4	33.6	30.3	28.1	28.9	27.2	47.6	485	504	122	57.1	30.6	119
1957	23.3	24.2	21.7	19.3	15.4	15.1	24.4	135	808	607	159	59.5	160
1958	39.6	30.1	26.7	21.2	17.5	20.0	26.9	468	516	92.5	38.9	32.7	111
1959	29.5	20.4	19.0	19.9	19.1	18.1	49.3	208	578	144	82.3	40.4	100
1960	43.4	30.9	23.6	17.2	15.2	16.7	60.2	212	591	138	48.8	26.0	102

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,660	1,620	1,490	1,350	1,270	1,180	1,810	22,140	43,850	26,400	8,140	3,150	114,100
1952	2,440	2,020	1,670	1,290	1,210	1,490	4,170	22,040	46,440	12,350	6,200	3,470	104,800
1953	2,140	1,610	1,480	1,270	1,000	1,470	2,610	14,300	45,350	12,040	5,130	2,080	90,480
1954	1,800	1,430	1,270	1,090	952	895	3,090	14,440	10,270	4,690	1,980	2,120	44,000
1955	1,560	908	904	821	732	759	3,430	15,630	16,910	6,710	5,880	2,350	56,590
1956	1,810	2,000	1,860	1,730	1,660	1,670	2,830	29,800	29,990	7,490	3,510	1,820	86,170
1957	1,430	1,440	1,330	1,180	853	926	1,450	8,290	48,090	37,300	9,780	3,540	115,600
1958	2,440	1,790	1,640	1,300	974	1,230	1,590	28,760	30,720	5,680	2,390	1,950	80,460
1959	1,810	1,210	1,170	1,230	1,060	1,110	2,930	12,820	34,280	8,670	3,830	2,400	72,720
1960	2,670	1,840	1,450	1,060	873	1,030	3,580	13,010	35,180	8,470	3,000	1,550	73,710

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	117	84,640
1951	1213	1,270	June 21, 1951	16	158	114,100	159	115,400
1952	1243	1,300	June 8, 1952	18	144	104,800	143	103,900
1953	1283	1,500	June 13, 1953	16	125	90,480	124	89,750
1954	1343	547	May 20, 1954	11	60.8	44,000	59.2	42,870
1955	1393	676	June 8, 1955	9.0	78.2	56,590	81.3	58,890
1956	1443	1,150	June 2, 1956	24	119	86,170	117	84,700
1957	1513	1,580	June 26, 1957	13	160	115,600	162	117,300
1958	1563	1,370	June 5, 1958	15	111	80,460	109	78,780
1959	1633	1,030	June 8, 1959	14	100	72,720	103	74,490
1960	1713	1,030	June 17, 1960	11	102	73,710	-	-

507. Blue River below Dillon, Colo.

Location.--Lat 39°37'30", long 106°04'05", in SE $\frac{1}{4}$ sec.12, T.5 S., R.78 W., on right bank 0.5 mile upstream from Straight Creek, 1.1 miles northwest of Dillon, and 1.2 miles downstream from Termmile Creek.

Drainage area.--335 sq mi.

Records available.--January to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,760 ft (from topographic map).

Extremes.--Maximum discharge for water year 1960, 1,720 cfs June 17, 1960 (gage height, 3.44 ft); minimum daily, 58 cfs Mar. 11, 1960.

Remarks.--Transmountain diversions above station (see elsewhere in this report). Diversions for irrigation of about 700 acres of hay meadows above station. Natural flow of stream affected by transbasin diversion from Robinson Reservoir (capacity, 2,520 acre-ft) in Eagle River basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	71.7	66.4	74.2	198	515	1,244	482	191	109	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	4,410	3,820	4,560	11,780	31,640	74,040	29,610	11,720	6,500	-

510. Straight Creek near Dillon, Colo.

Location.--Lat 39°38'55", long 106°01'05", in NW $\frac{1}{4}$ sec.4, T.5 S., R.77 W., on left bank 1,000 ft upstream from Laskey Creek and $\frac{3}{4}$ miles northeast of Dillon.

Drainage area.--12.8 sq mi.

Records available.--September 1943 to September 1952. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 9,386.17 ft above mean sea level, unadjusted. Prior to Sept. 22, 1949, at site 150 ft upstream at datum 6.52 ft higher.

Average discharge.--9 years (1943-52), 14.9 cfs (10,790 acre-ft per year).

Extremes.--1943-52: Maximum discharge, 234 cfs June 10, 1952 (gage height, 2.44 ft), from rating curve extended above 160 cfs; minimum not determined.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5.30	4.60	3.9	3.7	3.3	3.0	3.4	16.9	70.1	69.5	23.4	8.85	18.1
1952	7.31	4.90	4.26	3.8	3.4	3.2	6.39	21.5	106	38.5	20.2	11.3	19.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	326	274	240	228	183	184	202	1,040	4,170	4,270	1,440	527	13,080
1952	449	292	262	234	196	197	380	1,320	6,320	2,370	1,240	672	13,930

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	12.3	-	8,900
1951	1213	139	June 21, 1951	-	18.1	13,080	18.3	13,250	-
1952	1243	234	June 10, 1952	-	19.2	13,930	-	-	-

515. Willow Creek near Dillon, Colo.

Location.--Lat 39°39'00", long 106°04'45", in NW $\frac{1}{4}$ sec.1, T.5 S., R.78 W., on right bank at bridge on State Highway 9, 700 ft upstream from mouth and 3 miles northwest of Dillon.

Drainage area.--13.5 sq mi.

Records available.--July 1942 to September 1951.

Gage.--Water-stage recorder. Datum of gage is 8,691.59 ft above mean sea level, unadjusted. July 15, 1942, to Apr. 22, 1944, staff gage 5 ft downstream at same datum.

Average discharge.--9 years (1942-51), 15.9 cfs (11,510 acre-ft per year).

Extremes.--1942-51: Maximum discharge, 210 cfs June 21, 1951, from rating curve extended above 130 cfs; maximum gage height, 2.64 ft July 7, 1951; minimum daily discharge, 0.4 cfs July 29-31, Aug. 1, 6, 1942, Sept. 26, 28, 29, Oct. 4, 7, 1948.

Remarks.--Diversions for irrigation of about 50 acres of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.47	7.64	7.5	6.0	4.5	3.5	6.61	35.3	82.7	74.7	25.2	6.19	22.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	91	454	461	369	250	215	393	2,170	4,920	4,590	1,550	488	15,950

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	15.8	-	11,470
1951	1213	210	June 21, 1951	0.7	22.0	15,950	-	-	-

520. Rock Creek near Dillon, Colo.

Location.--Lat 39°43'25", long 106°07'40", in NE $\frac{1}{4}$ sec.9, T.4 S., R.78 W., on left bank 500 ft upstream from bridge on State Highway 9, a quarter of a mile upstream from mouth, and 9 miles northwest of Dillon.

Drainage area.--15.8 sq mi.

Records available.--July 1942 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 8,502.52 ft above mean sea level, unadjusted. Prior to Apr. 21, 1943, staff gage and Apr. 21, 1943, to Sept. 13, 1950, water-stage recorder, at site 500 ft downstream at datum 28.76 ft lower.

Average discharge.--14 years (1942-56), 23.5 cfs (17,010 acre-ft per year).

Extremes.--1942-56: Maximum discharge, 260 cfs June 18, 1951 (gage height, 4.35 ft), from rating curve extended above 190 cfs; minimum daily determined, 2.2 cfs Apr. 13, 17, 1945.

Remarks.--A few small diversions for irrigation of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5.54	4.96	4.36	3.94	3.32	3.64	7.18	57.9	104	92.0	34.9	11.6	27.9
1952	7.45	4.84	4.61	4.06	3.86	3.33	12.2	56.8	143	69.9	36.0	14.8	30.1
1953	6.55	4.6	4.6	3.6	3.2	3.39	5.55	31.2	107	59.0	27.2	9.10	22.1
1954	5.93	4.66	3.72	3.37	3.56	3.56	10.3	40.4	38.9	21.7	9.50	9.74	13.0
1955	9.51	5.35	3.44	3.47	3.11	2.96	10.5	40.0	59.9	58.5	19.1	6.80	17.0
1956	5.47	5.40	4.85	4.64	4.51	4.13	8.09	77.2	97.7	39.9	16.8	5.48	22.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	341	295	268	242	184	224	427	3,560	6,180	5,660	2,150	691	20,220
1952	458	288	283	250	222	205	725	3,490	8,520	4,300	2,210	878	21,830
1953	403	274	283	221	178	209	330	1,920	6,360	3,630	1,670	542	16,020
1954	364	277	229	207	199	219	612	2,480	2,310	1,340	584	580	9,400
1955	585	318	212	213	173	182	622	2,460	3,560	2,370	1,180	404	12,280
1956	336	322	299	265	260	254	482	4,750	5,820	2,460	1,030	326	16,620

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	21.6	-	15,760
1951	1213	260	June 18, 1951	2.9	27.9	20,220	28.1	-	20,350
1952	1243	228	June 16, 1952	3.0	30.1	21,830	30.0	-	21,760
1953	1283	210	June 13, 1953	-	22.1	16,020	22.0	-	15,830
1954	1343	107	May 20, 1954	3.0	15.0	9,400	13.3	-	9,640
1955	1393	118	June 8, 1955	2.7	17.0	12,280	16.7	-	12,120
1956	1443	170	June 2, 1956	3.8	22.9	16,620	-	-	-

525. Boulder Creek near Dillon, Colo.

Location.--Lat 39°44'15", long 106°08'05", in NW $\frac{1}{4}$ sec.4, T.4 S., R.78 W., on left bank at old bridge on State Highway 9, 500 ft upstream from mouth and 10 miles northwest of Dillon.

Drainage area.--9.7 sq mi, approximately.

Records available.--July 1942 to September 1951.

Gage.--Water-stage recorder. Datum of gage is 8,456.79 ft above mean sea level, unadjusted. Prior to Apr. 23, 1943, staff gage at site 20 ft downstream at datum 2.50 ft lower.

Average discharge.--9 years (1942-51), 13.8 cfs (9,990 acre-ft per year).

Extremes.--1942-51: Maximum discharge, 255 cfs June 21, 1943, from rating curve extended above 130 cfs; maximum gage height, 3.47 ft June 21, 1951; no flow at times.

Remarks.--Nine small diversions above station for irrigation of about 40 acres of hay meadows below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.29	1.39	1.0	0.9	0.7	0.9	1.81	22.1	71.1	59.9	14.1	3.63	14.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	18	83	61	55	39	55	108	1,360	4,230	3,680	867	216	10,770

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	10.7	-	7,780
1951	1213	232	June 21, 1951	0.2	14.9	10,770	-	-	-

530. Slate Creek near Dillon, Colo.

Location.--Lat 39°46'55", long 106°10'05", in NW $\frac{1}{4}$ sec.19, T.3 S., R.78 W., on left bank a quarter of a mile southwest of State Highway 9, 2,000 ft upstream from mouth, and 13 miles northwest of Dillon.

Drainage area.--16.8 sq mi.

Records available.--July 1942 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 8,227.70 ft above mean sea level, unadjusted. Prior to May 4, 1943, staff gage at site a quarter of a mile downstream at different datum.

Average discharge.--12 years (1942-54), 15.8 cfs (11,440 acre-ft per year).

Extremes.--1942-54: Maximum discharge, 288 cfs May 22, 1945 (gage height, 2.66 ft), from rating curve extended above 130 cfs; minimum daily, 0.1 cfs Sept. 30, Oct. 1, 23-31, 1950, July 14-25, 1954.

Remarks.--Diversions above station for irrigation of about 40 acres of hay meadows above and about 450 acres of hay meadows below station along the Blue River, Squaw Creek, and Brush Creek.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.39	2.77	2.4	2.2	1.6	2.0	7.68	39.9	60.5	55.9	39.1	9.79	18.8
1952	8.10	4.0	4.4	3.6	2.7	2.5	14.8	54.3	114	33.5	45.9	16.3	25.3
1953	4.41	3.8	4.2	3.8	3.0	3.4	5.48	23.4	64.9	19.7	21.0	4.67	13.5
1954	1.62	1.00	1.02	.95	1.08	1.62	7.74	23.8	6.65	.61	6.97	9.34	5.22

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	24	165	148	135	89	123	457	2,450	3,600	3,440	2,400	583	13,610
1952	498	238	271	221	155	154	878	3,340	6,790	2,060	2,820	972	18,400
1953	271	226	258	234	167	209	326	1,440	3,860	1,210	1,290	278	9,770
1954	99	60	62	59	60	99	460	1,470	396	37	428	556	3,790

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	12.0	-	8,660
1951	1213	246	June 21, 1951	0.1	18.8	13,610	19.7	-	14,280
1952	1243	223	June 11, 1952	-	25.3	18,400	25.0	-	18,140
1953	1283	234	June 13, 1953	-	13.5	9,770	12.8	-	9,240
1954	1343	67	May 20, 1954	.1	5.22	3,790	-	-	-

535. Blue River above Green Mountain Reservoir, Colo.

Location.--Lat 39°49'55", long 106°13'20", in S $\frac{1}{2}$ sec.24, T.2 S., R.79 W., on left bank 300 ft north of State Highway 9, just upstream from high-water line of Green Mountain Reservoir at elevation 7,950 ft, 1.3 miles downstream from Brush Creek, and 18 miles southeast of Kremmling.

Drainage area.--514 sq mi.

Records available.--October 1943 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 7,946.56 ft above mean sea level, unadjusted.

Average discharge.--17 years (1943-60), 446 cfs (322,900 acre-ft per year).

Extremes.--1943-60: Maximum discharge, 5,020 cfs June 11, 1952 (gage height, 4.93 ft); maximum gage height recorded, 6.75 ft Dec. 16, 1949 (ice jam); minimum daily discharge, 64 cfs Mar. 15, 1957.

Remarks.--Transmountain diversions above station (see elsewhere in this report). Many small diversions for irrigation of about 4,000 acres of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	143	144	122	105	116	120	218	1,159	2,439	1,692	696	288	606
1952	223	166	118	105	92.2	85.3	354	1,202	2,727	926	577	303	572
1953	173	141	112	101	92.2	98.0	174	664	2,244	861	457	189	442
1954	150	135	121	102	100	99.0	223	588	576	352	209	165	236
1955	181	132	99.5	86.4	84.4	87.7	257	677	932	517	490	252	318
1956	159	160	127	105	98.2	112	255	1,484	1,772	565	348	163	446
1957	141	131	98.2	93.9	84.6	69.5	114	644	2,376	2,216	871	357	602
1958	221	169	116	110	99.7	95.3	148	1,525	1,761	442	277	175	429
1959	133	121	103	96.0	90.2	106	199	651	1,743	639	388	206	373
1960	249	163	120	93.9	80.4	107	341	696	1,768	669	329	192	400

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8,820	8,570	7,520	6,440	6,460	7,350	12,940	71,270	145,100	104,000	42,770	17,160	458,400
1952	13,690	9,860	7,240	6,470	5,300	5,240	21,030	73,900	162,200	56,950	35,500	18,020	415,400
1953	10,630	8,370	6,910	6,220	5,120	6,030	10,380	40,840	135,500	52,870	28,080	11,230	320,300
1954	9,250	8,040	7,420	6,290	5,550	6,090	13,280	35,180	34,270	21,640	12,880	9,800	170,700
1955	11,140	7,870	6,120	5,310	4,680	5,400	15,300	41,620	55,460	31,810	30,150	14,990	229,600
1956	9,780	9,520	7,790	6,440	5,650	6,880	15,170	91,240	105,400	34,750	21,430	9,710	323,800
1957	8,700	7,790	6,040	5,770	4,700	4,270	6,810	39,570	141,400	136,300	53,540	21,220	456,100
1958	13,560	10,050	7,120	6,760	5,540	5,860	8,790	93,750	104,800	27,180	17,000	10,440	310,800
1959	8,190	7,200	6,360	5,900	5,010	6,500	11,840	40,000	103,700	39,300	23,860	12,260	270,100
1960	15,290	9,700	7,370	5,780	4,630	8,590	20,300	42,790	105,200	41,110	20,250	11,430	290,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	407	294,500
1951	1213	4,520	June 21, 1951	70	606	438,400	614	444,300
1952	1243	5,020	June 11, 1952	76	572	415,400	566	410,500
1953	1285	4,400	June 14, 1953	70	442	320,300	441	319,100
1954	1343	1,140	May 21, 1954	90	256	170,700	236	171,100
1955	1393	1,590	June 9, 1955	74	318	229,800	320	231,800
1956	1443	3,150	June 3, 1956	80	446	323,800	440	319,200
1957	1513	4,280	June 29, 1957	64	602	436,100	614	444,300
1958	1563	3,800	May 29, 1958	84	429	310,800	417	301,900
1959	1633	2,640	June 16, 1959	77	373	270,100	388	280,700
1960	1713	2,780	June 18, 1960	76	400	290,400	-	-

545. Black Creek above Green Mountain Reservoir, Colo.

Location.--Lat 39°51'15", long 106°15'10", in NE¼ sec.29, T.2 S., R.79 W., on right bank 30 ft upstream from bridge on State Highway 9, 400 ft upstream from high-water line of Green Mountain Reservoir at elevation 7,950 ft, and 16 miles southeast of Kremmling.

Drainage area.--18.2 sq mi.

Records available.--May 1944 to September 1953.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 7,960 ft (from topographic map).

Average discharge.--9 years (1944-53), 33.6 cfs (24,330 acre-ft per year).

Extremes.--1944-53: Maximum discharge, 390 cfs June 21, 1951, from rating curve extended above 180 cfs; maximum gage height, 2.46 ft June 21, 1947; minimum daily discharge, 1.4 cfs Dec. 15-20, 1944.

Remarks.--Diversions above station for irrigation of about 20 acres of hay meadows below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5.71	5.13	5.5	5.0	3.0	3.0	6.73	54.1	131	157	65.1	19.3	38.7
1952	18.9	7.22	6.0	4.5	3.0	4.0	17.4	80.9	210	109	62.2	16.3	45.0
1953	4.14	2.77	2.90	2.61	2.19	2.51	4.19	32.2	153	76.3	40.4	9.44	27.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	351	305	338	307	167	184	400	3,320	7,820	9,680	4,000	1,150	28,020
1952	1,160	429	369	277	173	246	1,040	4,970	12,510	6,700	3,820	973	32,670
1953	254	165	179	160	122	154	249	1,980	9,100	4,690	2,480	562	20,100

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	-	-
1951	1213	390	June 21, 1951	-	38.7	28,020	28.3	20,520		
1952	1243	388	June 8, 1952	-	45.0	32,670	40.1	28,990		
1953	1283	368	June 13, 1953	1.8	27.8	20,100	43.1	31,310		

550. Otter Creek above Green Mountain Reservoir, Colo.

Location.--Lat 39°51'10", long 106°16'00", in NW¼ sec.29, T.2 S., R.79 W., on right bank 20 ft upstream from State Highway 9, 1,000 ft upstream from high-water line of Green Mountain Reservoir at elevation 7,950 ft, and 16 miles southeast of Kremmling.

Drainage area.--9.4 sq mi, approximately.

Records available.--May 1944 to September 1953.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 7,980 ft (from topographic map).

Average discharge.--9 years (1944-53), 5.31 cfs (3,840 acre-ft per year).

Extremes.--1944-53: Maximum discharge, 100 cfs June 21, 1951; maximum gage height, 2.55 ft Apr. 23, 1948; minimum daily discharge, 0.1 cfs for many days during December 1944 and January 1945.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.94	1.16	1.5	1.0	0.9	1.3	2.86	12.3	23.2	10.3	5.23	1.84	5.22
1952	2.00	1.2	1.0	.6	.7	.8	4.78	23.2	39.5	8.84	7.16	2.65	7.70
1953	1.20	.99	.92	.91	.86	.85	2.13	9.38	20.8	4.75	5.04	.94	4.07

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	58	69	92	61	50	80	170	757	1,380	633	322	109	3,780
1952	123	71	61	37	40	49	285	1,430	2,350	543	441	158	5,590
1953	74	59	57	56	48	52	127	577	1,240	292	310	56	2,950

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	4.15	3,010		
1951	1213	100	June 21, 1951	-	5.22	3,780	5.27	3,820		
1952	1243	91	June 6, 1952	-	7.70	5,590	7.60	5,520		
1953	1283	66	June 13, 1953	0.5	4.07	2,950	-	-		

555. Cataract Creek above Green Mountain Reservoir, Colo.

Location.--Lat 39°51'00", long 106°17'25", in NE $\frac{1}{4}$ sec.25, T.2 S., R.80 W., on right bank at Lawson Ranch, 5 ft downstream from private bridge, 1 mile upstream from high-water line of Green Mountain Reservoir at elevation 7,950 ft, and 16 miles southeast of Kremmling.

Drainage area.--14.4 sq mi.

Records available.--May 1944 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 8,320 ft (from topographic map).

Average discharge.--9 years (1944-53), 21.2 cfs (15,350 acre-ft per year).

Extremes.--1944-53: Maximum discharge, 416 cfs June 21, 1951, from rating curve extended above 250 cfs; maximum gage height, 2.75 ft June 21, 1951; minimum daily discharge, 0.2 cfs at times in 1944.

Remarks.--Small diversions for irrigation of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.56	1.69	1.7	2.2	2.0	1.5	4.95	43.2	107	79.0	21.8	4.71	22.8
1952	6.10	2.87	2.8	2.0	1.2	1.8	11.6	55.4	145	49.4	22.3	5.34	25.4
1953	1.62	.64	1.2	1.0	1.0	1.0	3.67	29.2	116	36.1	17.0	2.23	17.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	158	100	105	135	111	92	295	2,660	6,360	4,860	1,340	280	16,500
1952	375	171	172	123	69	111	691	3,410	8,600	3,040	1,370	318	18,450
1953	99	38	74	61	56	61	219	1,800	6,910	2,220	1,050	133	12,720

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	16.8	12,150
1951	1213	416	June 21, 1951	-	22.8	16,500	23.3	16,850
1952	1243	312	June 10, 1952	-	25.4	18,450	24.7	17,940
1953	1283	253	June 14, 1953	0.4	17.6	12,720	-	-

565. Elliott Creek feeder canal to Green Mountain Reservoir, Colo.

Location.--Lat 39°52'10", long 106°20'00", in SE $\frac{1}{4}$ sec.15, T.2 S., R.80 W., on left bank at entrance to concrete flume, 700 ft upstream from high-water line of Green Mountain Reservoir at elevation 7,950 ft, 0.9 mile downstream from headgate, and 14 miles southeast of Kremmling.

Records available.--May 1944 to September 1953. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder and concrete control. Datum of gage is 8,054.92 ft above mean sea level (levels by Bureau of Reclamation).

Average discharge.--9 years (1944-53), 15.1 cfs (10,930 acre-ft per year).

Extremes.--1944-53: Maximum discharge, 277 cfs June 18, 1951; maximum gage height, 4.03 ft June 11, 1952; no flow at times.

Remarks.--Elliott Creek feeder canal can divert all the flow of Elliott Creek to Green Mountain Reservoir except during extreme high water. Drainage area of Elliott Creek above headgate of canal, 15.4 sq mi. Diversions above station for irrigation of about 260 acres of hay meadows below.

BLUE RIVER BASIN

Monthly and yearly mean discharge, in cubic feet per second, of Elliott Creek feeder canal to Green Mountain Reservoir, Colo.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.30	2.17	1.6	1.3	0.8	1.0	2.19	34.4	105	34.6	6.60	6.01	16.6
1952	3.87	2.32	2.3	2.1	1.6	1.4	4.49	46.8	156	30.8	12.8	8.45	22.7
1953	3.99	2.45	1.8	1.3	1.0	1.1	2.03	16.7	101	2.56	2.55	2.41	11.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	203	129	98	80	44	61	130	2,120	6,230	2,130	406	358	11,990
1952	238	138	141	129	92	86	267	2,880	9,290	1,900	789	503	16,450
1953	245	146	111	80	56	68	121	1,030	6,010	157	157	144	8,320

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	13.1	9,480
1951	1213	277	June 18, 1951	-	16.6	11,990	16.7	12,080
1952	1243	275	June 11, 1952	-	22.7	16,450	22.6	16,440
1953	1283	256	June 13, 1953	0.3	11.5	8,320	-	-

570. Green Mountain Reservoir near Kremmling, Colo.

Location.--Lat 39°52'45", long 106°19'45", in NE $\frac{1}{4}$ sec.15, T.2 S., R.80 W., in hoist house at right end of Green Mountain Dam on Blue River, 0.6 mile upstream from Elliott Creek and 13 miles southeast of Kremmling.

Drainage area.--599 sq mi (includes 15.4 sq mi of Elliott Creek above diversion for Elliott Creek feeder canal).

Records available.--November 1942 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 7,800 ft above mean sea level (Bureau of Reclamation bench mark). Gage heights have been reduced to elevations above mean sea level. Prior to Sept. 25, 1951, mercury gage in powerhouse at same datum. Sept. 25, 1951, to Oct. 1, 1953, electric-tape gage at present site and datum.

Extremes.--1942-60: Maximum contents observed, 148,900 acre-ft July 10, 1947 (elevation, 7,950.95 ft); minimum (since appreciable storage was attained), 19,600 acre-ft May 24, 1957 (elevation, 7,849.06 ft).

Remarks.--Reservoir is formed by earth- and rock-fill dam. Dam completed and storage began in November 1942. Capacity of reservoir, 146,900 acre-ft between elevations 7,800 (sill of outlet gate) and 7,950 ft (top of radial spillway gates). Dead storage, 7,760 acre-ft. Reservoir is used for power development and storage for replacement of water diverted to South Platte River basin during late irrigation season. Figures given herein represent usable contents.

Cooperation.--Records furnished by Bureau of Reclamation.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	117,300	113,100	103,700	82,110	66,800	54,830	36,600	38,400	110,100	146,000	141,200	132,000
1952	125,500	118,700	105,000	99,400	93,790	76,970	55,810	48,460	147,200	143,000	144,600	135,500
1953	126,300	118,100	107,200	100,400	90,730	79,100	56,230	62,380	135,300	143,500	132,200	114,500
1954	101,200	100,700	91,860	77,770	67,870	47,070	38,100	66,410	97,530	89,820	64,630	51,140
1955	46,520	43,350	41,620	36,800	37,400	34,890	44,020	76,290	122,900	137,600	140,700	115,200
1956	97,470	89,100	80,160	69,850	56,320	40,490	33,270	73,320	140,800	144,900	134,300	97,710
1957	70,130	65,670	63,800	59,480	54,800	50,170	31,830	23,680	114,500	147,200	146,300	141,800
1958	138,400	131,300	122,900	105,100	91,740	70,940	46,390	86,900	144,200	141,800	137,300	119,300
1959	104,200	97,960	89,600	70,140	53,410	49,100	42,610	38,120	136,500	146,200	141,100	123,200
1960	122,500	118,700	109,000	85,940	71,380	57,570	53,600	48,520	130,400	146,200	141,600	120,200

575. Blue River below Green Mountain Reservoir, Colo.

Location.--Lat 39°52'50", long 106°20'00", in NE¼ sec.15, T.2 S., R.80 W., on left bank 0.3 mile upstream from Elliott Creek, 0.3 mile downstream from Green Mountain Dam, and 13 miles southeast of Kremmling.

Drainage area.--599 sq mi (includes 15.4 sq mi of Elliott Creek above diversion for Elliott Creek feeder canal); at site used prior to Oct. 1, 1951, 623 sq mi.

Records available.--October 1937 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 7,682.66 ft above mean sea level (Bureau of Reclamation bench mark). Prior to Oct. 1, 1951, at site 3.7 miles downstream at different datum.

Average discharge.--23 years (1937-60), 507 cfs (367,100 acre-ft per year).

Extremes.--1937-60: Maximum discharge, 4,000 cfs June 4, 1938 (gage height, 5.93 ft, site and datum then in use), from rating curve extended above 3,000 cfs; minimum daily (prior to construction of Green Mountain Reservoir), 80 cfs Feb. 18-24, 1938, Feb. 18, 19, 1940; no flow at times in 1943.

Remarks.--Flow regulated by Green Mountain Reservoir (see preceding page). Diversions for irrigation of about 5,000 acres above station. Transmountain diversions above station (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	181	225	269	449	362	301	545	1,265	1,554	1,353	872	457	655
1952	356	296	383	238	224	406	771	1,557	1,576	1,196	655	478	679
1953	325	290	294	237	291	344	607	660	1,442	861	722	510	549
1954	379	159	278	360	299	462	421	278	135	528	661	440	368
1955	298	206	150	152	118	140	141	298	370	393	507	695	290
1956	456	310	289	292	355	382	409	1,206	1,007	551	556	811	552
1957	611	221	159	197	190	182	483	874	1,303	2,072	977	442	647
1958	291	288	282	417	359	467	601	1,220	1,117	559	394	508	542
1959	397	231	256	450	409	187	347	856	481	572	542	559	441
1960	313	270	312	490	374	387	473	958	707	532	437	559	483

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11,130	13,380	16,550	27,580	20,080	18,520	32,410	77,810	92,490	83,190	53,630	27,190	474,000
1952	21,890	17,640	23,530	14,630	12,880	24,950	45,870	95,710	93,760	73,510	40,290	28,470	493,100
1953	20,000	17,270	18,080	14,590	16,140	21,160	36,120	40,600	85,820	52,970	44,370	30,360	397,500
1954	23,300	9,480	17,120	22,150	16,600	28,400	25,030	17,110	8,040	32,440	40,630	26,210	266,500
1955	18,350	12,270	9,220	9,320	6,560	8,610	8,380	18,320	22,030	24,140	31,170	41,330	209,700
1956	28,070	18,430	17,770	17,960	20,410	23,470	24,340	74,140	59,890	33,860	34,170	48,260	400,800
1957	37,550	13,160	9,750	12,110	10,560	11,190	28,740	53,740	77,550	127,400	60,090	28,320	468,200
1958	17,910	17,130	17,320	25,630	19,950	28,740	35,750	75,040	66,450	34,360	23,620	30,500	392,200
1959	23,800	13,750	15,750	26,470	22,740	11,480	20,660	54,470	28,640	35,190	33,330	33,280	319,600
1960	19,240	16,070	19,210	30,110	21,500	23,780	28,160	57,690	42,070	32,710	26,860	33,240	350,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	520	376,400
1951	1213	2,310	July 17, 1951	16	655	474,000	685	496,000
1952	1243	2,620	June 21, 1952	14	679	493,100	669	485,400
1953	1283	1,830	June 2, 1953	6.5	549	397,500	542	392,000
1954	1343	1,810	Sept. 7, 1954	12	368	266,500	354	256,400
1955	1393	1,490	Oct. 5, 1954	11	290	209,700	323	234,100
1956	1443	1,850	June 1, 1956	15	552	400,800	547	397,000
1957	1513	3,520	July 8, 1957	7.8	647	468,200	635	460,100
1958	1563	1,920	May 19, 1958	185	542	392,200	543	393,100
1959	1633	1,920	May 15, 1959	41	441	319,600	443	320,800
1960	1713	1,640	May 25, 1960	209	483	350,600	-	-

585. Piney River below Piney Lake, near Minturn, Colo.

Location.--Lat 39°42'30", long 106°25'35", in W $\frac{1}{2}$ sec. 14, T.4 S., R.81 W., on left bank $\frac{1}{2}$ miles upstream from Dickson Creek, $\frac{1}{4}$ miles downstream from Piney Lake, and 8 miles north of Minturn.

Drainage area.--13.0 sq mi.

Records available.--October 1947 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 9,145.25 ft above mean sea level (levels by Bureau of Reclamation).

Average discharge.--7 years (1947-54), 24.9 cfs (18,030 acre-ft per year).

Extremes.--1947-54: Maximum discharge, 396 cfs June 11, 1952 (gage height, 5.47 ft); minimum not determined.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.81	1.90	1.3	1.2	1.4	2.2	4.5	77.3	133	101	22.6	5.36	29.8
1952	9.57	5.0	4.5	4.0	3.6	3.0	23.0	77.6	202	52.8	14.0	4.12	33.5
1953	2.11	2.38	2.8	2.8	2.6	3.4	6.34	47.1	137	36.3	19.3	3.11	22.1
1954	2.03	3.50	2.4	2.0	1.8	1.6	14.1	65.2	52.1	14.2	3.69	11.6	14.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	234	113	80	74	78	135	268	4,750	7,910	6,240	1,390	319	21,590
1952	589	298	277	246	207	184	1,370	4,770	12,000	3,240	864	245	24,290
1953	130	141	172	172	144	209	377	2,900	8,170	2,230	1,180	185	16,010
1954	125	208	148	123	100	98	840	3,890	3,100	871	227	691	10,420

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	20.6	14,880
1951	1213	324	June 18, 1951	-	29.8	21,590	30.8	22,350
1952	1243	396	June 11, 1952	-	33.5	24,290	32.5	23,570
1953	1283	323	June 13, 1953	-	22.1	16,010	22.2	16,050
1954	1343	158	May 22, 1954	1.0	14.4	10,420	-	-

595. Piney River near State Bridge, Colo.

Location.--Lat 39°48', long 106°35', in sec.16, T.3 S., R.82 W., on left bank at downstream side of private bridge at Perry Olsen Ranch just downstream from Rock Creek, 6 miles southeast of State Bridge.

Drainage area.--82.6 sq mi.

Records available.--May 1944 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 7,272.35 ft above mean sea level, unadjusted. Prior to July 29, 1944, staff gage and July 29, 1944, to Oct. 24, 1947, water-stage recorder, at datum 2.38 ft higher.

Average discharge.--16 years (1944-60), 74.9 cfs (54,230 acre-ft per year).

Extremes.--1944-60: Maximum discharge, 1,110 cfs June 8, 1952 (gage height, 5.61 ft); minimum daily, 1.9 cfs Sept. 1, 18, 19, 1954.

Remarks.--Diversions above station for irrigation of about 400 acres of hay meadows above and below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11.1	15.1	15.6	13.0	15.0	9.53	32.3	252	348	169	36.8	12.2	77.7
1952	18.4	13.2	14.6	13.5	11.0	11.4	96.6	334	551	102	38.8	17.5	102
1953	11.3	15.7	15.6	15.9	14.2	18.8	30.6	164	365	67.5	28.7	8.81	63.0
1954	8.99	14.2	11.9	11.9	11.6	11.9	45.4	134	74.1	21.7	6.22	11.5	30.4
1955	17.9	13.8	14.0	12.0	10.1	9.84	51.4	212	213	58.6	25.4	4.65	53.8
1956	8.11	14.0	14.3	13.1	10.2	15.3	54.5	337	246	44.2	18.5	4.30	65.1
1957	6.95	17.6	17.0	15.5	12.7	14.4	25.3	180	656	305	69.3	25.0	112
1958	22.9	21.5	18.8	15.4	15.5	14.7	35.0	495	338	46.3	12.4	9.48	87.5
1959	13.5	12.8	10.2	7.90	12.6	14.7	26.4	201	381	70.0	25.7	18.2	66.1
1960	34.6	25.2	19.5	15.5	13.8	15.1	86.5	233	340	67.2	16.9	10.6	73.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	685	899	962	799	835	586	1,920	15,500	20,720	10,370	2,270	725	56,270
1952	1,130	788	900	831	633	698	5,750	20,520	32,790	6,290	2,390	1,040	73,760
1953	698	936	960	980	791	1,160	1,820	10,110	21,720	4,150	1,770	524	45,620
1954	553	845	730	730	645	730	2,700	8,240	4,410	1,340	383	684	21,990
1955	1,100	819	859	740	561	605	3,060	13,050	12,690	3,620	1,560	277	38,920
1956	498	831	877	803	589	942	3,240	20,720	14,620	2,720	1,130	256	47,230
1957	427	1,050	1,040	950	706	885	1,550	11,050	39,030	18,640	4,260	1,490	81,080
1958	1,410	1,280	1,160	946	861	904	2,080	30,460	20,090	2,840	763	564	63,360
1959	831	760	626	486	698	902	1,570	12,380	22,640	4,310	1,580	1,080	47,860
1960	2,130	1,500	1,200	952	793	927	5,150	14,690	20,240	4,130	1,040	632	53,380

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	61.3	-	44,350
1951	1213	590	June 21, 1951	4.8	77.7	56,270	78.1	56,540	
1952	1243	1,110	June 8, 1952	7.4	102	73,760	101	73,540	
1953	1283	880	May 28, 1953	6.4	63.0	45,620	62.4	45,150	
1954	1343	234	May 22, 1954	1.9	30.4	21,990	31.3	22,640	
1955	1393	358	June 9, 1955	2.6	53.8	38,920	53.0	38,350	
1956	1443	808	May 22, 1956	3.0	65.1	47,230	65.5	47,540	
1957	1513	1,080	June 7, 1957	2.8	112	81,080	114	82,410	
1958	1563	898	May 28, 1958	6.2	87.5	63,360	85.3	61,720	
1959	1633	622	June 8, 1959	5	66.1	47,860	69.7	50,480	
1960	1713	575	June 5, 1960	8.5	73.5	53,380	-	-	

ROCK CREEK BASIN

605. Rock Creek near Toponas, Colo.

Location.--Lat 40°02'28", long 106°39'19", in NW $\frac{1}{4}$ sec.24, T.1 N., R.83 W., on right bank 0.1 mile upstream from Horse Creek, three-quarters of a mile downstream from Shoe and Stocking Creek, and 8 miles east of Toponas.

Drainage area.--48 sq mi, approximately.

Records available.--October 1952 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,620 ft (by barometer).

Average discharge.--8 years (1952-60), 30.5 cfs (22,080 acre-ft per year).

Extremes.--1952-60: Maximum discharge, 443 cfs June 6, 1957 (gage height, 4.77 ft); minimum daily, 2.2 cfs Aug. 30, 31, Sept. 2, 1954.

Remarks.--No regulation or diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	6.97	6.82	6.0	6.5	5.5	7.5	30.3	103	111	19.2	10.9	5.44	26.6
1954	6.90	8.06	7	7	7	7	27.9	39.8	12.6	6.14	5.18	6.90	11.8
1955	8.23	7.30	7.0	6.0	5.0	6.0	43.6	91.4	43.0	9.54	7.70	4.57	20.0
1956	6.29	7	7	7	6.5	7	56.9	176	64.9	13.2	10.8	5.08	30.7
1957	6.53	6.51	5.5	3.5	4.5	6.0	23.0	162	299	62.0	16.9	11.0	50.5
1958	15.1	8.86	8.5	5	6	7	25	210	85.0	11.5	5.84	7.91	32.9
1959	8.74	8.12	6	5	6	7.5	34.9	174	122	18.6	13.2	9.87	34.6
1960	22.2	16.4	9.41	8.5	8	20.4	88.4	140	93.9	18.5	8.54	9.28	37.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	428	406	369	400	305	461	1,800	6,340	6,590	1,180	673	324	19,280
1954	424	479	450	430	389	430	1,860	2,450	750	378	319	410	8,550
1955	506	434	450	369	278	369	2,600	5,620	2,560	587	473	272	14,500
1956	387	417	430	430	374	430	3,390	10,810	3,660	811	661	302	22,300
1957	389	388	338	215	250	369	1,370	9,980	17,770	3,810	1,040	655	36,570
1958	804	529	400	307	333	430	1,490	12,920	5,060	709	359	470	23,610
1959	537	483	369	307	333	461	2,080	10,680	7,260	1,140	809	587	25,050
1960	1,360	978	579	523	460	1,250	5,260	8,620	5,590	1,140	525	552	26,840

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953	1283	308	May 31, 1953	-	26.6	19,280	26.8	19,410
1954	1343	88	May 6, 1954	2.2	11.8	8,550	11.9	8,590
1955	1393	285	Apr. 26, 1955	3.5	20.0	14,500	19.8	14,360
1956	1443	318	May 21, 1956	4.2	30.7	22,300	30.6	22,180
1957	1513	443	June 6, 1957	-	50.5	36,570	51.4	37,190
1958	1563	365	May 28, 1958	3.4	32.9	23,610	32.4	23,470
1959	1633	330	May 13, 1959	-	34.6	25,050	36.7	26,570
1960	1713	256	Apr. 21, 1960	-	37.0	26,840	-	-

608. Big Alkali Creek near Burns, Colo.

Location.--Lat 39°51', long 106°48', in NE $\frac{1}{4}$ sec.28, T.2 S., R.84 W., on right bank half a mile upstream from Catamount Creek and 5 miles southeast of Burns.

Drainage area.--16 sq mi, approximately.

Records available.--October 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,400 ft (from topographic map).

Extremes.--1958-60: Maximum discharge, 715 cfs Aug. 2, 1959 (gage height, 7.00 ft, from floodmarks), from rating curve extended above 3 cfs on basis of slope-area measurement of peak flow; no flow for many days in each year.

Remarks.--Water is stored in Hurt Reservoir (capacity, about 100 acre-ft) for use in Catamount Creek drainage. One small diversion above station for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	0.07	0	0.03	0	0	0.04	0.15	1.55	1.38	0.54	1.11	0.12	0.42
1960	.14	.25	.1	.1	0	.50	1.55	3.79	1.83	.35	.05	0	.72

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	4.2	0	2.0	0	0	2.2	8.7	95	82	33	68	7.1	302
1960	8.7	15	6.1	6.1	0	31	92	233	109	22	3.4	0	526

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1959	1633	715	Aug. 2, 1959	0	0.42	302	0.45	326
1960	1713	a25	June 17, 1960	0	.72	526	-	-

a. About.

609. Catamount Creek near Burns, Colo.

Location.--Lat 39°51', long 106°48', in center of sec.33, T.2 S., R.84 W., on right bank three-quarters of a mile above unnamed tributary, 1 $\frac{1}{4}$ miles upstream from mouth, and 5 miles southeast of Burns.

Drainage area.--5.88 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,500 ft (from topographic map).

Average discharge.--5 years (1955-60), 2.03 cfs (1,470 acre-ft per year).

Extremes.--1955-60: Maximum discharge, 38 cfs May 9, 1957 (gage height, 3.86 ft); no flow at times in 1958-60.

Remarks.--One small diversion above station for irrigation of hay meadows and one diversion above station for irrigation of land along Colorado River.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	0.4	0.4	0.3	0.3	0.3	0.37	1.81	9.11	6.01	1.83	1.07	0.46	1.87
1957	.33	.27	.3	.3	.3	.33	1.13	9.51	19.8	8.17	1.75	.89	3.60
1958	.62	.58	.6	.5	.5	.4	.70	11.3	3.68	1.06	.52	.15	1.73
1959	.09	.24	.3	.3	.27	.22	.83	4.22	2.92	1.34	.53	.83	1.01
1960	1.43	.95	.49	.1	.15	.67	2.86	6.98	6.83	1.95	.83	.11	1.95

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	25	24	18	18	17	23	108	560	358	112	66	27	1,360
1957	20	16	18	18	17	20	67	585	1,180	503	108	53	2,600
1958	38	35	37	31	28	25	42	694	219	65	32	9.1	1,260
1959	5.4	14	18	18	15	13	49	260	174	82	33	49	730
1960	88	57	30	6.1	8.5	41	170	429	406	120	51	6.7	1,410

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1956	1443	16	May 20, 1956	0.1	1.87	1,360	1.85	1,340
1957	1513	38	May 9, 1957	.1	3.60	2,600	3.67	2,660
1958	1563	22	May 28, 1958	0	1.73	1,260	1.63	1,180
1959	1633	8.8	May 16, 1959	0	1.01	730	1.20	868
1960	1713	19	May 13, 1960	0	1.95	1,410	-	-

CABIN CREEK BASIN

610. Sunnyside Creek near Burns, Colo.

Location.--Lat 39°58', long 106°57', in sec.17, T.1 S., R.85 W., on left bank 6 ft downstream from bridge, 7 miles upstream from mouth, and $7\frac{1}{2}$ miles northwest of Burns.

Drainage area.--10 sq mi, approximately.

Records available.--October 1952 to September 1958.

Gage.--Water-stage recorder. Altitude of gage is 8,220 ft (by barometer).

Average discharge.--6 years (1952-58), 4.01 cfs (2,900 acre-ft per year).

Extremes.--1952-58: Maximum discharge, 110 cfs May 28, 1957; maximum gage height, 4.07 ft June 5, 1957; minimum daily discharge, 0.1 cfs Aug. 31, 1955, Aug. 2-4, 1958.

Remarks.--Two small diversions above station for irrigation of about 50 acres above and below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	0.94	0.81	1.0	1.5	1.2	1.5	3.05	14.3	9.78	2.52	2.92	0.4	3.34
1954	.55	1.0	1.6	1.6	1.6	1.64	5.77	5.14	1.78	1.40	.68	1.12	1.19
1955	1.74	1.09	1.0	1.0	.9	.9	4.67	17.1	7.25	.68	.71	1.37	3.13
1956	.31	.83	.8	.7	.7	.79	4.06	18.6	5.95	1.41	2.20	1.43	3.16
1957	1.10	1.82	1.2	.6	.5	.90	1.93	24.9	40.9	14.0	5.00	3.25	8.03
1958	2.15	1.39	1.5	1.3	1.4	1.51	2.78	31.4	6.09	1.38	.50	.82	4.39

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	58	48	61	92	67	92	182	881	582	155	180	24	2,420
1954	34	60	98	95	89	101	343	316	106	86	42	67	1,440
1955	107	65	61	61	50	55	278	1,050	431	42	44	22	2,270
1956	19	50	49	43	40	49	242	1,140	354	87	135	85	2,290
1957	67	108	74	37	28	55	115	1,530	2,440	860	307	193	5,810
1958	132	83	92	80	78	93	165	1,930	362	85	31	49	3,180

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1953	1283	39	May 27, 1953	0.2	3.34	2,420	3.38	2,450	
1954	1343	16	Apr. 24, 1954	.3	1.99	1,440	2.05	1,480	
1955	1393	41	May 7, 1955	.1	3.13	2,270	2.97	2,150	
1956	1443	32	May 8, 1956	.2	3.16	2,290	3.34	2,420	
1957	1513	110	May 28, 1957	-	8.03	5,810	8.11	5,870	
1958	1563	74	May 6, 1958	.1	4.39	3,180	-	-	

EAGLE RIVER BASIN

615. Columbine ditch near Fremont Pass, Colo.
(Transmountain diversion)

Location.--Lat 39°22'45", long 106°13'40", in NW $\frac{1}{4}$ sec.9, T.8 S., R.79 W., near Fremont Pass.

Records available.--October 1930 to September 1960. Diversion prior to 1938 published in WSP 1313.

Gage.--Water-stage recorder and 6-foot sharp-crested weir since May 21, 1960. Altitude of gage is 11,430 ft (from topographic map). June 5, 1931, to May 20, 1960, water-stage recorder and 4-foot Parshall flume.

Remarks.--Diversion is from tributaries of Eagle River in sec.5, T.8 S., R.79 W., in Colorado River basin, to Chalk Creek (tributary of East Fork Arkansas River) in NW $\frac{1}{4}$ sec.9, T.8 S., R.79 W., in Arkansas River basin.

Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	0	990	701	53	0	1,740
1952	0	0	0	0	0	0	0	0	810	164	46	0	1,020
1953	0	0	0	0	0	0	0	0	906	133	4	0	1,040
1954	0	0	0	0	0	0	0	449	321	74	0	0	844
1955	0	0	0	0	0	0	0	426	563	89	79	1.4	1,160
1956	0	0	0	0	0	0	0	312	1,000	77	3	0	1,390
1957	0	0	0	0	0	0	0	0	463	613	34	0	1,110
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	46	1,120	139	29	0	1,330
1960	0	0	0	0	0	0	0	196	1,370	292	27	0	1,880

620. Ewing ditch at Tennessee Pass, Colo.
(Transmountain diversion)

Location.--Lat 39°21'40", long 106°18'15", in sec.11, T.8 S., R.80 W., at Tennessee Pass.

Records available.--January 1908 to September 1960. Diversion for 1908-15, 1924-25, and 1928-36 published in WSP 1313.

Gage.--Water-stage recorder and 4-foot Cippoletti weir since May 1, 1956. Altitude of gage is 10,500 ft (from topographic map). May 1, 1923, to June 4, 1927, water-stage recorder and 4-foot rectangular flume at about same site. June 5, 1927, to Apr. 30, 1956, water-stage recorder and 4-foot Parshall flume. Prior to May 1, 1923, type of gage and exact location not known.

Remarks.--Diversion is from Piney Creek (tributary of Eagle River) in sec.11, T.8 S., R.80 W., in Colorado River basin, to Thayer Gulch (tributary of Tennessee Creek) in sec.11, T.8 S., R.80 W., in Arkansas River basin. First diversion by this ditch was in 1880 for placer mining. Records prior to 1908 are not available.

Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	288	763	272	86	10	1,420
1952	0	0	0	0	0	0	0	355	1,050	223	112	81	1,820
1953	20	0	0	0	0	0	0	154	689	204	76	0	1,140
1954	0	0	0	0	0	0	0	33	216	156	88	5	498
1955	0	0	0	0	0	0	0	0	209	164	42	0	415
1956	0	0	0	0	0	0	0	511	454	106	24	0	1,100
1957	0	0	0	0	0	0	0	48	601	482	120	105	1,360
1958	43	0	0	0	0	0	0	483	680	120	17	0	1,340
1959	0	0	0	0	0	0	0	219	653	153	35	0	1,060
1960	0	0	0	0	0	0	11	270	797	196	31	0	1,300

625. Wurtz ditch near Tennessee Pass, Colo.
(Transmountain diversion)

Location.--Lat 39°21'15", long 106°21'05", in sec.17, T.8 S., R.80 W., near Tennessee Pass.

Records available.--October 1931 to September 1960. Diversion prior to 1938 published in WSP 1313.

Gage.--Water-stage recorder and 6-foot Parshall flume since Apr. 26, 1934. Altitude of gage is 10,570 ft (from topographic map). May 18 to June 18, 1932, water-stage recorder and 8-foot Parshall flume; May 19 to July 24, 1933, water-stage recorder and 6-foot Parshall flume; and July 24 to Aug. 6, 1933, water-stage recorder and 3-foot Parshall flume; all at different datums but at about same site.

Remarks.--Diversion is from tributaries of Eagle River between headgate in sec.32, T.7 S., R.80 W., and Tennessee Pass, in Colorado River basin, to West Tennessee Creek (tributary of Tennessee Creek), revised, in sec.17, T.8 S., R.80 W., in Arkansas River basin.

Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	805	1,530	476	130	0.8	2,940
1952	0	0	0	0	0	0	0	517	1,960	301	148	25	2,950
1953	0	0	0	0	0	0	0	432	1,360	191	23	0	2,010
1954	0	0	0	0	0	0	2.6	600	249	53	0	0	905
1955	0	0	0	0	0	0	0	576	582	142	49	0	1,350
1956	0	0	0	0	0	0	0	1,410	1,040	122	15	0	2,590
1957	0	0	0	0	0	0	0	44	1,410	952	212	21	2,640
1958	0	0	0	0	0	0	0	1,170	809	63	0	0	2,040
1959	0	0	0	0	0	0	0	502	1,150	238	37	0	1,930
1960	0	0	0	0	0	0	19	710	1,320	144	9.9	0	2,200

630. Eagle River at Red Cliff, Colo.

Location.--Lat 39°30'35", long 106°22'00", in SE $\frac{1}{4}$ sec.19, T.6 S., R.80 W., on left bank at Red Cliff, 0.3 mile upstream from Turkey Creek.

Drainage area.--72.2 sq mi.

Records available.--October 1910 to September 1925, May 1944 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 8,648 48 ft above mean sea level, datum of 1929. Jan. 8, 1911, to Sept. 30, 1925, chain gage at bridge a quarter of a mile downstream at different datum. May 25, 1944, to Oct. 12, 1952, water-stage recorder at site 200 ft upstream at datum 3.54 ft higher.

Average discharge.--31 years (1910-25, 1944-60), 55.8 cfs (40,400 acre-ft per year).

Extremes.--1910-25, 1944-60: Maximum discharge observed, 1,010 cfs June 5, 1912 (gage height, 4.0 ft, site and datum then in use), from rating curve extended above 500 cfs; minimum daily, 1 cfs Oct. 15, 1917.

Remarks.--Transmountain diversions above station by Columbine, Ewing, and Wurtz ditches (See elsewhere in this report). Transbasin diversions above station from Robinson Reservoir (capacity, 2,520 acre-ft) to Tenmile Creek for mining development. Small diversions for irrigation of about 400 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	16.0	15.4	14.6	12.6	13.8	15.1	29.0	170	252	70.4	30.2	15.7	54.7
1952	12.5	13.0	11.4	12.1	12.0	12.1	51.7	202	286	48.4	25.6	17.1	58.5
1953	13.9	12.7	13.5	11.8	13.8	14.1	19.2	121	184	36.7	22.6	13.4	39.7
1954	11.7	10.6	10.0	11.6	11.0	10.1	25.8	71.6	38.4	20.7	11.1	11.1	20.4
1955	10.6	9.14	8.06	7.15	7.20	10.5	33.2	75.2	58.8	23.5	20.6	11.9	23.0
1956	10.9	10.6	10.5	10.0	8.81	11.2	30.7	158	122	27.5	16.8	12.1	35.8
1957	10.5	10.6	9.89	9.29	9.14	9.51	13.9	90.7	396	125	44.9	21.3	62.5
1958	17.8	14.4	13.2	11.1	10.8	9.92	15.6	210	151	35.5	16.9	15.6	43.7
1959	12.4	11.1	9.95	9.29	7.93	8.27	13.9	112	158	40.3	19.7	13.0	34.7
1960	17.1	12.0	9.25	9.86	8.86	8.82	47.5	123	225	47.3	19.6	13.2	45.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	984	914	897	776	768	928	1,730	10,480	15,000	4,330	1,860	934	39,600
1952	770	774	698	742	690	742	3,080	12,400	17,020	2,970	1,570	1,020	42,480
1953	857	756	833	724	768	869	1,140	7,440	10,920	2,260	1,390	795	28,750
1954	722	633	615	716	609	621	1,540	4,400	2,280	1,270	681	660	14,750
1955	653	544	496	439	400	647	1,970	4,620	3,500	1,440	1,270	706	16,680
1956	672	630	645	617	507	687	1,820	9,700	7,290	1,690	1,030	722	26,010
1957	647	629	608	571	507	585	829	5,580	23,550	7,710	2,760	1,270	45,250
1958	1,090	858	813	680	598	610	328	12,930	9,000	2,180	1,040	928	31,660
1959	760	662	612	571	440	509	826	6,900	9,410	2,480	1,210	777	25,160
1960	1,050	712	569	606	510	542	2,820	7,580	13,370	2,910	1,200	783	32,650

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentum maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet			
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	-	-	30,660
1951	1213	510	May 31, 1951	11	54.7	39,600	53.9	39,050			
1952	1243	630	June 7, 1952	8.0	58.5	42,480	59.0	42,680			
1953	1343	628	May 28, 1953	9	39.7	28,750	39.1	28,280			
1954	1343	135	May 22, 1954	7	20.4	14,750	20.0	14,470			
1955	1393	132	May 15, 1955	5.0	23.0	16,680	23.4	16,940			
1956	1443	371	May 24, 1956	7	35.8	26,010	35.7	25,950			
1957	1513	712	June 7, 1957	6.5	62.5	45,250	63.7	46,120			
1958	1563	530	May 26, 1958	9.0	43.7	31,660	42.7	30,930			
1959	1633	234	June 8, 1959	6.5	34.7	25,160	35.2	25,450			
1960	1713	440	June 9, 1960	7	45.0	32,650	-	-			

635. Turkey Creek at Red Cliff, Colo.

Location.--Lat 39°30'50", long 106°22'05", in sec.19, T.6 S., R.80 W., on left bank at Red Cliff, 1,000 ft upstream from mouth.

Drainage area.--28.6 sq mi.

Records available.--July 1913 to September 1921, May 1944 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 8,641.79 ft above mean sea level, datum of 1929. July 1, 1913, to Sept. 30, 1921, staff or chain gage at bridge 200 ft downstream at different datum. May 24, 1944, to Oct. 22, 1947, water-stage recorder at bridge 200 ft downstream at datum 2.37 ft lower.

Average discharge.--20 years (1913-21, 1944-56), 28.6 cfs (20,710 acre-ft per year).

Extremes.--1913-21, 1944-56: Maximum discharge observed, 670 cfs June 13, 1918 (gage height, 4.7 ft, site and datum then in use); minimum daily, 0.4 cfs Feb. 21, 1955, Feb. 3, 1956.

Remarks.--Diversion above station for municipal supply of Red Cliff. Small diversions for irrigation of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.47	3.13	2.50	1.39	1.28	1.76	6.05	68.5	164	64.0	21.2	7.37	28.9
1952	4.78	3.41	2.96	1.99	1.60	1.54	14.5	76.6	288	37.0	11.7	7.87	32.5
1953	4.24	2.73	1.58	1.30	1.18	1.51	4.79	42.3	176	32.9	12.5	5.84	23.8
1954	3.38	2.03	1.39	1.16	.96	.76	7.25	37.8	30.7	11.6	4.31	3.39	8.76
1955	3.14	1.68	1.34	.92	.67	.90	12.4	52.4	63.0	25.9	12.4	5.42	15.1
1956	3.13	2.32	1.40	.92	.89	1.96	11.2	87.2	127	20.4	9.30	5.74	22.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	275	186	154	85	71	108	360	4,210	9,780	3,930	1,300	438	20,900
1952	294	203	182	123	92	83	861	4,110	13,580	2,280	718	468	23,590
1953	261	162	97	80	65	80	285	2,600	10,460	2,030	768	347	17,240
1954	208	121	85	72	54	47	431	2,320	1,820	711	265	202	6,340
1955	193	100	83	57	37	56	737	3,220	3,750	1,590	762	322	10,910
1956	192	138	86	56	51	120	669	5,360	7,560	1,250	572	341	16,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	26.1	18,860	
1951	-	-	-	-	-	-	29.0	20,960	
1952	1213	467	June 21, 1951	0.7	28.9	20,900	32.5	23,440	
1953	1245	454	June 11, 1952	1.1	32.5	23,590	23.8	17,130	
1954	1283	410	June 13, 1953	1.1	23.8	17,240	8.71	6,300	
1955	1343	75	May 20, 1954	.6	8.76	6,340	15.1	10,950	
1956	1443	93	June 8, 1955	.4	15.1	10,910	-	-	
1956	1443	239	June 2, 1956	.4	22.6	16,400	-	-	

640. Homestake Creek at Gold Park, Colo.

Location.--Lat 39°24'05", long 106°26'10", in NW $\frac{1}{4}$ sec.34, T.7 S., R.81 W., on left bank at Gold Park, 850 ft downstream from French Creek, 0.4 mile downstream from Missouri Creek, $\frac{2}{3}$ miles downstream from confluence of East and Middle Forks, and $6\frac{1}{2}$ miles southwest of Pando.

Drainage area.--33.2 sq mi.

Records available.--October 1947 to September 1954.

Gage.--Water-stage recorder. Datum of gage is 9,245 ft above mean sea level (river-profile survey).

Average discharge.--7 years (1947-54), 63.4 cfs (45,900 acre-ft per year).

Extremes.--1947-54: Maximum discharge, 1,080 cfs June 13, 1953 (gage height, 6.84 ft), from rating curve extended above 700 cfs; minimum not determined, occurred during period of no gage-height record.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5.74	5.19	5.4	3.7	3.5	4.5	12.6	171	396	258	48.5	8.79	77.2
1952	11.0	6.20	5.5	4.5	4.0	3.5	13.1	123	480	153	61.7	22.2	75.8
1953	6.47	4.19	3.7	3.9	3.7	3.75	11.1	118	408	127	36.6	6.58	61.1
1954	3.94	4.81	3.81	3.74	3.50	3.36	32.0	186	134	39.1	12.3	11.6	56.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	353	309	332	228	194	277	750	10,496	23,570	15,870	2,980	523	55,880
1952	676	369	338	277	230	215	782	7,570	28,540	9,430	3,800	1,320	55,550
1953	398	249	228	240	205	231	658	7,280	24,260	7,850	2,250	392	44,220
1954	242	286	234	230	194	207	1,900	11,410	8,000	2,400	754	690	26,550

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	55.5	38,720	
1951	-	-	-	-	-	-	77.7	56,260	
1952	1213	915	June 21, 1951	-	77.2	55,880	73.1	53,040	
1953	1243	1,050	June 10, 1952	-	73.8	53,550	60.9	44,110	
1954	1283	1,080	June 13, 1953	-	61.1	44,220	-	-	
1954	1343	465	May 19, 1954	2.8	36.7	26,550	-	-	

EAGLE RIVER BASIN

645. Homestake Creek near Red Cliff, Colo.

Location.--Lat 39°28'25", long 106°22'00", in sec.6, T.7 S., R.80 W., on right bank 15 ft downstream from Forest Service highway bridge, 3 miles upstream from mouth, and 3 miles south of Red Cliff.

Drainage area.--58.9 sq mi.

Records available.--October 1910 to September 1918, May 1944 to September 1960. Published as "at Redcliff" October 1910 to September 1916.

Gage.--Water-stage recorder. Datum of gage is 8,783 ft above mean sea level (river-profile survey). Jan. 8, 1911, to Sept. 30, 1918, staff gage at three sites $2\frac{1}{4}$ to $2\frac{3}{4}$ miles downstream at different datums.

Average discharge.--24 years (1910-18), 89.6 cfs (64,870 acre-ft per year).

Extremes.--1910-18, 1944-60: Maximum discharge observed, 1,300 cfs June 24, 1918 (gage height, 6.2 ft, site and datum then in use); minimum observed, 0.6 cfs Jan. 25, 1915 (discharge measurement).

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7.81	6.71	8.27	5.25	5.12	7.61	37.2	270	470	283	65.9	12.3	98.6
1952	14.4	8.86	6.85	7.13	6.00	6.90	54.5	266	585	176	73.6	27.0	102
1953	9.50	7.74	6.72	7.57	7.31	7.83	31.7	173	477	153	51.9	8.77	78.6
1954	6.64	7.92	6.35	5.97	5.57	5.34	48.5	204	136	44.9	14.8	13.7	41.8
1955	22.3	12.2	9.42	6.35	4.89	5.95	52.8	193	285	99.7	50.6	11.2	63.0
1956	6.75	9.44	9.31	8.24	8.26	11.2	65.5	404	382	71.0	22.2	5.04	83.7
1957	4.90	4.97	4.5	4.0	4.5	6.50	28.9	164	607	493	106	25.4	122
1958	11.8	12.1	10	9	9	8	23.7	356	368	53.9	19.0	8.00	74.2
1959	4.77	4.65	3.94	3.65	3.24	3.99	24.3	200	458	78.6	23.8	9.47	68.2
1960	28.9	17.6	7.36	5.66	5.36	12.0	81.6	184	431	108	29.7	9.57	76.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	480	399	509	323	285	468	2,220	16,570	27,950	17,420	4,050	731	71,400
1952	887	527	421	439	345	424	3,240	18,350	34,790	10,850	4,520	1,610	74,360
1953	584	461	413	466	406	482	1,880	10,670	28,380	9,420	3,190	522	56,870
1954	408	471	390	367	309	328	2,890	12,550	8,070	2,760	909	816	30,270
1955	1,370	728	579	391	272	366	3,140	11,890	16,980	6,130	3,110	665	45,620
1956	415	562	572	507	475	691	3,900	24,860	22,750	4,370	1,370	300	60,770
1957	301	296	277	246	250	400	1,720	10,070	36,130	30,310	6,500	1,510	88,010
1958	723	721	615	553	500	492	1,410	21,860	21,890	3,320	1,170	476	53,730
1959	293	277	242	224	180	246	1,450	12,300	27,280	4,850	1,460	563	49,340
1960	1,780	1,050	452	348	308	737	4,860	11,330	25,630	6,640	1,820	570	55,520

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	74.5	53,970
1951	1213	-	-	-	-	-	89.2	71,850
1952	1243	1,080	June 21, 1951	4.5	98.6	71,400	89.2	74,010
1953	1283	1,060	June 11, 1952	5.4	102	74,560	102	74,010
1954	1343	476	June 13, 1953	5.5	78.6	56,870	78.3	56,880
1955	1393	552	May 19, 1954	4.5	41.8	30,270	43.8	31,680
			June 12, 1955	3.5	63.0	45,620	61.5	44,490
1956	1443	893	June 3, 1956	3.3	83.7	60,770	82.8	60,100
1957	1513	1,120	June 29, 1957	-	122	88,010	123	89,200
1958	1563	1,120	June 8, 1958	5.0	74.2	53,730	72.5	52,480
1959	1633	855	June 8, 1959	2.4	68.2	49,340	71.6	51,820
1960	1713	855	June 8, 1960	4.5	76.5	55,520	-	-

651. Cross Creek near Minturn, Colo.

Location.--Lat 39°34'05", long 106°24'45", in SW $\frac{1}{4}$ sec.36, T.5 S., R.81 W., on right bank 0.4 mile upstream from mouth and $\frac{1}{2}$ miles southeast of Minturn.

Drainage area.--38.5 sq mi.

Records available.--May 1956 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,990 ft (from topographic map). Prior to July 18, 1956, staff gage at site 0.3 mile downstream at different datum.

Extremes.--1956-60; Maximum discharge, 754 cfs June 30, 1957; maximum gage height, 5.54 ft July 18, 1957; minimum daily discharge, 1.3 cfs Dec. 10, 1956.

Remarks.--Diversion above station for municipal supply of Minturn.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	207	232	57.3	23.9	3.60	-
1957	3.39	1.99	1.81	1.87	1.89	2.13	11.0	76.8	309	355	95.7	18.4	73.7
1958	7.19	4.96	4.12	3.4	3.0	2.49	8.89	206	244	47.6	16.4	9.92	46.6
1959	5.80	2.69	2.13	2.25	3.05	3.29	14.4	88.9	311	71.7	25.1	14.1	45.3
1960	25.5	10.3	4.67	2.25	2.39	4.45	38.3	109	288	90.3	22.0	12.4	50.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	12,740	15,800	3,520	1,470	214	-
1957	209	118	111	115	105	131	655	4,720	18,400	21,830	5,880	1,110	53,370
1958	442	295	253	209	167	153	529	12,700	14,500	2,950	1,010	590	33,780
1959	356	160	131	138	170	202	854	5,470	18,520	4,410	1,540	841	32,790
1960	1,570	612	287	138	138	274	2,280	6,690	17,170	5,550	1,360	740	36,610

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1956	1443	a510	May 23, 1956	-	-	-	-	-	-
1957	1513	754	June 30, 1957	1.3	73.7	53,370	74.5	53,930	
1958	1563	614	June 6, 1958	2.2	46.6	33,780	46.2	33,440	
1959	1633	546	June 9, 1959	1.6	45.3	32,790	47.8	36,610	
1960	1733	654	June 18, 1960	1.4	50.7	36,610	-	-	

a Maximum observed during period May to September.

655. Gore Creek at upper station, near Minturn, Colo.

Location.--Lat 39°37'40", long 106°16'30", in NW $\frac{1}{4}$ sec.18, T.5 S., R.79 W., on left bank 120 ft downstream from bridge on U. S. Highway 6, half a mile upstream from Black Gore Creek, and $\frac{1}{2}$ miles northeast of Minturn.

Drainage area.--14.4 sq mi.

Records available.--October 1947 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 8,620 ft (from topographic map). Prior to Aug. 26, 1952, at site 20 ft upstream at same datum.

Average discharge.--9 years (1947-56), 28.4 cfs (20,560 acre-ft per year).

Extremes.--1947-56; Maximum discharge, 588 cfs June 10, 1952, from rating curve extended above 260 cfs; maximum gage height, 6.65 ft June 18, 1951, site then in use; minimum daily discharge determined, 1.7 cfs Feb. 15-24, 1950, but may have been less during periods of no gage-height record.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.93	3.28	3.92	2.90	2.68	3.41	7.14	65.3	173	130	30.0	6.14	36.2
1952	5.93	4.02	3.59	2.8	2.5	1.8	19.9	60.5	206	61.5	21.8	8.74	33.1
1953	4.72	4.06	3.85	3.48	3.03	3.75	9.35	48.0	187	59.5	20.2	5.42	29.4
1954	3.76	4.28	3.40	2.82	2.49	2.43	13.4	81.0	59.2	20.8	7.37	6.74	17.4
1955	8.05	5.19	3.68	2.87	2.49	3.13	14.5	64.6	93.8	36.8	19.6	6.45	21.8
1956	4.32	4.67	3.94	3.65	3.26	3.73	11.7	106	192	37.4	11.8	3.52	32.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	242	195	241	179	149	209	425	4,020	10,310	8,000	1,840	365	26,180
1952	364	239	221	172	144	111	1,180	3,720	12,280	3,780	1,340	520	24,050
1953	290	241	237	214	168	230	586	2,950	11,150	3,660	1,240	323	21,260
1954	231	252	209	161	138	149	799	4,980	3,520	1,280	453	401	12,570
1955	445	309	226	177	138	192	862	3,970	5,580	2,270	1,210	384	15,810
1956	266	278	242	225	187	229	695	6,530	11,420	2,300	728	210	23,310

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1213	514	June 18, 1951	2.3	36.2	26,180	24.3	17,600	
1952	1243	588	June 10, 1952	2.3	33.1	24,050	36.4	26,320	
1953	1283	430	June 13, 1953	2.2	29.4	21,260	29.3	21,180	
1954	1343	320	May 20, 1954	2.1	17.4	12,570	17.8	12,910	
1955	1393	158	June 12, 1955	1.8	21.8	15,810	21.5	15,570	
1956	1443	a350	June 2, 1956	2.3	32.1	23,310	-	-	

a About.

EAGLE RIVER BASIN

660. Black Gore Creek near Minturn, Colo.

Location.--Lat 39°35'45", long 106°15'50", in NW¼ sec.29, T.5 S., R.79 W., on right bank 300 ft south of U. S. Highway 6, half a mile upstream from Timber Creek, 2½ miles upstream from mouth, and 9 miles east of Minturn.

Drainage area.--11.8 sq mi.

Records available.--October 1947 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 9,180 ft (from topographic map).

Average discharge.--9 years (1947-56), 16.8 cfs (12,160 acre-ft per year).

Extremes.--1947-56: Maximum discharge, 365 cfs June 7, 1952 (gage height, 5.42 ft); maximum gage height, 5.70 ft Mar. 31, 1956 (ice jam); minimum discharge, 0.9 cfs Jan. 11, 1950 (gage height, 2.79 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.90	1.96	2.69	1.92	2.21	2.94	4.35	66.7	117	37.4	8.47	4.39	21.1
1952	4.68	3.05	2.93	2.22	2.23	1.62	8.97	68.4	142	18.5	7.05	3.55	22.1
1953	2.68	2.91	2.78	2.47	2.15	2.38	4.20	37.2	103	17.5	6.20	3.20	15.5
1954	2.85	2.62	2.05	1.83	1.65	1.61	8.43	45.3	21.8	6.09	12.59	2.55	8.16
1955	2.97	2.3	2.2	2.1	2.0	2.2	11.4	61.4	39.5	10.2	7.24	3.10	12.3
1956	2.81	2.69	2.33	2.09	1.89	2.45	7.86	79.4	68.6	10.1	4.72	2.43	15.6
1957													
1958													
1959													
1960													

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	117	117	165	118	123	180	259	4,100	6,980	2,300	521	261	15,240
1952	288	182	180	136	129	100	534	4,200	8,480	1,140	433	211	16,010
1953	165	173	171	152	119	146	250	2,290	6,120	1,080	381	191	11,240
1954	175	158	128	112	92	99	501	2,660	1,300	375	157	152	5,900
1955	183	137	135	129	111	135	680	3,770	2,350	626	445	185	8,890
1956	173	160	143	129	108	151	568	4,680	4,080	622	290	144	11,350
1957													
1958													
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	15.9	11,520
1951	1213	234	June 19, 1951	1.2	21.1	15,240	21.4	15,490
1952	1243	365	June 7, 1952	1.1	22.1	16,010	21.9	15,870
1953	1283	262	June 12, 1953	2.0	15.5	11,240	15.4	11,190
1954	1343	94	May 17, 1954	1.5	8.16	5,900	8.15	5,900
1955	1393	147	May 14, 1955	-	12.3	8,890	12.3	8,910
1956	1443	a200	(b)	1.5	15.6	11,350	-	-
1957								
1958								
1959								
1960								

a About.

b May 22 or 23, 1956.

665. Gore Creek near Minturn, Colo.

Location--Lat 39°36'55", long 106°26'25", in SE $\frac{1}{4}$ sec.15, T.5 S., R.81 W., on right bank half a mile upstream from mouth and 2 miles north of Minturn.

Drainage area--100 sq mi.

Records available--July 1911 to September 1914 (fragmentary gage heights and discharge measurements), May 1944 to September 1956.

Gage--Water-stage recorder. Datum of gage is 7,756.24 ft above mean sea level, unadjusted. July 15, 1911, to Sept. 30, 1914, staff gage at site half a mile downstream at different datum. May 26, 1944, to Oct. 8, 1952, water-stage recorder at site half a mile upstream at different datum.

Average discharge--12 years (1944-56), 129 cfs (93,390 acre-ft per year).

Extremes--1944-56: Maximum discharge, 1,780 cfs June 7, 1952 (gage height, 5.28 ft, site and datum then in use), from rating curve extended above 1,300 cfs; minimum daily, 10 cfs Feb. 21, 1955.

At site 1 mile downstream a discharge of 1,540 cfs was measured June 24, 1912, and a stage 1.5 ft higher than the measurement was observed June 8, 1912.

Remarks--Divisions for irrigation of about 600 acres of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	23.6	20.1	20	19	21	20	38.3	340	758	451	114	35.4	156
1952	31.4	23.6	20.2	19.0	20.5	21.3	94.4	438	969	239	90.9	44.3	167
1953	25.4	23.3	22.4	19.6	18.9	20.5	39.1	198	782	212	82.4	30.1	123
1954	21.9	22.8	18.0	15.9	15.9	16.2	50.7	295	218	71.0	28.7	28.6	67.1
1955	36.0	21.5	18.7	15.1	12.5	13.3	69.2	355	394	140	70.5	25.2	98.0
1956	23.1	24.3	20.5	18.8	16.8	19.5	63.3	566	619	121	51.5	22.5	131
1957													
1958													
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,450	1,200	1,230	1,170	1,170	1,230	2,280	20,910	45,130	27,750	6,980	2,100	112,600
1952	1,930	1,400	1,240	1,170	1,180	1,310	5,620	26,900	57,640	14,720	5,590	2,630	121,300
1953	1,560	1,380	1,370	1,210	1,050	1,260	2,330	12,160	46,540	13,040	5,070	1,790	88,760
1954	1,340	1,360	1,100	978	881	996	3,020	18,160	12,940	4,370	1,770	1,700	48,610
1955	2,210	1,280	1,150	926	696	817	4,120	21,830	23,460	8,640	4,340	1,500	70,970
1956	1,420	1,450	1,260	1,160	968	1,200	3,760	34,780	36,820	7,450	3,170	1,340	94,780
1957													
1958													
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	114	82,190
1951	1213	1,370	June 18, 1951	-	156	112,600	157	113,300
1952	1243	1,780	June 7, 1952	16	167	121,300	167	121,100
1953	1283	1,600	June 13, 1953	16	123	88,760	122	88,250
1954	1343	610	May 20, 1954	13	67.1	48,610	68.3	49,450
1955	1393	680	June 8, 1955	10	98.0	70,970	97.3	70,460
1956	1443	1,320	June 2, 1956	13	131	94,780	-	-
1957								
1958								
1959								
1960								

EAGLE RIVER BASIN

673. Alkali Creek near Wolcott, Colo.

Location.--Lat 39°45', long 106°40', in SE $\frac{1}{4}$ sec.27, T.3 S., R.83 W., on right bank 100 ft below unnamed tributary, 100 ft above ford and headgate, and 3 $\frac{1}{2}$ miles north of Wolcott.

Drainage area.--27 sq mi, approximately.

Records available.--October 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is about 7,300 ft (estimated from nearby level line).

Extremes.--1958-60: Maximum discharge, 45 cfs Mar. 24, 1960 (gage height, 3.46 ft); maximum gage height, 4.17 ft Mar. 20, 1960; no flow for many days in each year.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	0.20	0.20	0.22	0.19	0.28	0.68	1.51	5.67	1.63	0.33	0.45	0.08	0.96
1960	.31	.20	0	0	0	5.58	6.36	6.48	2.65	.90	.59	.02	1.33

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	12	12	14	12	15	42	90	348	97	20	28	5.0	695
1960	19	12	0	0	0	343	379	399	158	55	36	1.4	1,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1959	1633	14	May 22, 1959	0	0.96	695	0.95
1960	1713	45	Mar. 24, 1960	0	1.93	1,400	-

680. Brush Creek near Eagle, Colo.

Location.--Lat 39°33'40", long 106°46'20", in SE $\frac{1}{4}$ sec.1, T.6 S., R.84 W., on left bank 150 ft downstream from Beecher Creek, $\frac{1}{4}$ miles downstream from confluence of East and West Brush Creeks, and $\frac{7}{8}$ miles southeast of Eagle.

Drainage area.--71 sq mi, approximately.

Records available.--October 1950 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,450 ft (estimated from nearby level line).

Average discharge.--10 years (1950-60), 44.9 cfs (32,510 acre-ft per year).

Extremes.--1950-60: Maximum discharge, 775 cfs June 7, 1952 (gage height, 5.10 ft), from rating curve extended above 400 cfs; minimum daily, 12 cfs Feb. 21, 1955.

Remarks.--Small diversions for irrigation of hay meadows above station. One small diversion to Gypsum Creek above station. Slight regulation by Zurcher's Lake (capacity, 450 acre-ft), on West Brush Creek, for irrigation of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	29.1	24.0	21.4	18.7	16.5	16.1	22.0	57.7	131	82.5	38.7	28.2	40.6
1952	24.5	24.5	21.9	21.2	18.7	20.7	35.8	92.1	287	102	60.3	47.8	62.9
1953	53.0	28.6	22.3	20.1	18.8	18.7	20.7	70.8	175	65.9	42.4	23.5	44.9
1954	23.5	22.9	21.5	18.4	18.0	17.0	22.2	50.8	57.1	34.1	23.3	23.4	27.7
1955	26.9	19.0	16.1	16.2	14.6	16.1	23.3	56.9	92.2	45.7	32.2	20.3	31.7
1956	19.9	20.0	20.5	19.9	15.2	16.7	24.6	94.2	147	49.1	33.8	20.7	40.2
1957	21.1	19.5	18.8	17.2	16.1	15.6	21.1	50.0	269	231	71.5	44.1	66.5
1958	34.6	33.9	24.9	21.1	19.6	18.0	20.6	103	184	46.6	26.7	21.4	46.2
1959	20.4	20.4	19.6	18.8	17.8	17.6	21.1	72.0	172	59.8	35.7	26.2	41.8
1960	35.0	28.9	17.8	17.6	18.7	19.2	32.8	71.1	197	66.2	30.2	25.0	46.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,790	1,430	1,320	1,150	918	990	1,310	3,550	7,780	5,070	2,380	1,680	29,370
1952	1,510	1,460	1,340	1,300	1,070	1,280	2,130	5,660	17,060	6,300	3,710	2,850	45,670
1953	2,030	1,580	1,370	1,230	1,050	1,150	1,230	4,340	10,440	4,050	2,610	1,400	32,480
1954	1,440	1,360	1,320	1,130	1,000	1,050	1,320	3,130	3,400	2,090	1,430	1,390	20,060
1955	1,650	1,130	940	998	811	992	1,390	3,500	5,490	2,810	1,980	1,210	22,950
1956	1,220	1,240	1,260	1,220	873	1,030	1,470	5,790	8,760	3,020	2,080	1,230	29,190
1957	1,300	1,180	1,150	1,060	895	958	1,260	3,070	18,030	14,210	4,400	2,630	48,120
1958	2,130	2,020	1,530	1,300	1,090	1,110	1,230	6,350	10,950	2,860	1,640	1,280	33,490
1959	1,260	1,210	1,210	1,160	988	1,080	1,250	4,430	10,240	3,680	2,200	1,560	30,270
1960	2,150	1,720	1,090	1,080	1,080	1,180	1,950	4,370	11,700	4,070	1,860	1,490	33,740

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950									
1951	1213	294	June 21, 1951	14	40.6	29,370	40.3	29,140	
1952	1243	775	June 7, 1952	17	62.9	45,670	63.6	46,340	
1953	1283	439	June 12, 1953	17	44.9	32,480	43.7	31,620	
1954	1343	151	May 21, 1954	16	27.7	20,060	27.2	19,710	
1955	1393	222	June 8, 1955	12	31.7	22,950	31.6	22,900	
1956	1443	274	June 1, 1956	13	40.2	29,190	40.1	29,080	
1957	1513	690	June 29, 1957	14	66.5	48,120	69.3	50,190	
1958	1563	445	June 5, 1958	17	46.2	33,490	43.5	31,490	
1959	1633	566	June 20, 1959	15	41.8	30,270	43.6	31,550	
1960	1713	306	June 21, 1960	14	46.5	33,740	-	-	

695. Gypsum Creek near Gypsum, Colo.

Location.--Lat 39°33', long 106°56', in sec.9, T.6 S., R.85 W., on left bank 1 mile upstream from Sundell Creek and 7 miles south of Gypsum.

Drainage area.--63 sq mi, approximately.

Records available.--October 1950 to September 1955.

Gage.--Water-stage recorder.

Average discharge.--5 years (1950-55), 32.3 cfs (23,380 acre-ft per year).

Extremes.--1950-55: Maximum discharge, 395 cfs June 11, 1952 (gage height, 4.65 ft); minimum daily, 9.4 cfs Dec. 9, 1954.

Remarks.--Diversion from tributary about 1 mile upstream for municipal supply of Gypsum. Small diversions for irrigation of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	24.4	20.8	19.5	19.1	17.4	16.9	18.8	23.1	107	62.1	34.3	26.7	32.5
1952	24.3	22.9	21.9	21.4	19.2	17.5	21.2	41.7	218	79.6	48.2	37.8	47.7
1953	31.9	28.7	25.8	23.2	21.4	21.8	22.2	26.1	113	44.8	31.7	25.4	34.6
1954	22.5	22.4	20.4	18.9	16.5	16.1	17.3	27.2	30.0	27.9	21.7	21.2	21.9
1955	19.1	17.7	14.9	15.0	13.6	14.7	17.4	24.6	75.6	37.3	28.0	21.7	25.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,500	1,240	1,200	1,170	968	1,040	1,120	1,420	6,350	3,820	2,110	1,590	23,530
1952	1,490	1,360	1,350	1,310	1,100	1,080	1,250	2,570	12,960	4,890	2,960	2,250	34,580
1953	1,960	1,710	1,580	1,420	1,190	1,340	1,320	1,600	6,710	2,760	1,950	1,510	25,050
1954	1,380	1,330	1,260	1,160	918	988	1,030	1,670	1,780	1,710	1,330	1,260	15,820
1955	1,170	1,050	919	920	758	902	1,040	1,510	4,500	2,290	1,720	1,290	18,070

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951	1213	256	June 21, 1951	14	32.5	23,530	32.9	23,790
1952	1243	595	June 11, 1952	16	47.7	34,580	49.1	35,630
1953	1283	210	June 15, 1953	18	34.6	25,050	32.8	23,770
1954	1343	75	May 23, 1954	14	21.9	15,820	20.7	14,980
1955	1393	125	June 14, 1955	9.4	25.0	18,070	-	-

700. Eagle River below Gypsum, Colo.

Location.--Lat 39°39', long 106°57', in NW¼ sec.5, T.5 S., R.85 W., on right bank 30 ft downstream from bridge on U. S. Highways 6 and 24 at Gypsum and 150 ft downstream from Gypsum Creek.

Drainage area.--957 sq mi.

Records available.--October 1946 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,270 ft.

Average discharge.--14 years (1946-60), 597 cfs (432,200 acre-ft per year).

Extremes.--1946-60: Maximum discharge, 6,580 cfs June 11, 1952; maximum gage height, 9.17 ft June 29, 1957; minimum daily discharge, 110 cfs Feb. 21, 1955, Feb. 3, 1956.

Remarks.--Transmountain diversions above station (see elsewhere in this report). Trans-basin diversions above station from Robinson Reservoir (capacity, 2,520 acre-ft) to Tenmile Creek for mining development. Many small diversions for irrigation of hay meadows above station. Records of chemical analyses and water temperatures are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	224	228	206	185	175	186	293	1,370	2,529	1,545	500	233	641
1952	254	246	207	195	174	178	569	1,849	3,885	1,051	639	371	800
1953	218	228	234	217	183	199	248	913	2,841	830	397	175	557
1954	170	243	194	174	160	148	289	873	742	319	161	185	305
1955	248	213	175	156	144	153	349	1,052	1,307	545	331	161	404
1956	147	228	201	175	166	210	404	2,054	2,039	459	247	141	540
1957	129	205	178	172	167	173	270	1,031	3,860	2,989	754	370	850
1958	268	292	247	209	209	194	253	2,208	2,454	436	184	169	594
1959	153	216	194	177	164	153	254	971	2,677	670	254	194	506
1960	329	270	188	171	165	243	562	1,201	2,498	700	237	178	561

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13,790	13,560	12,650	11,580	9,740	11,410	17,430	84,220	150,500	94,970	30,720	13,850	464,200
1952	15,600	14,650	12,720	11,980	10,020	10,920	33,880	13,700	231,200	64,630	39,310	22,100	580,700
1953	13,390	15,590	14,370	13,370	10,160	12,240	14,760	56,150	169,000	51,060	24,390	10,400	402,900
1954	10,450	14,490	11,920	10,720	8,900	9,100	17,190	55,650	44,140	19,610	9,880	11,030	221,100
1955	15,240	12,690	10,740	9,620	7,970	9,410	20,780	64,670	77,760	33,490	20,350	9,590	292,300
1956	9,030	13,580	12,350	10,760	9,530	12,910	24,060	126,300	121,300	28,190	15,220	8,400	391,600
1957	7,930	12,170	10,950	10,570	9,290	10,630	16,050	63,380	229,700	183,800	46,380	22,010	622,900
1958	16,450	17,360	15,180	12,830	11,600	11,940	15,040	135,700	146,000	26,780	11,300	10,030	430,200
1959	9,430	12,830	11,930	10,870	9,120	9,400	15,110	59,680	159,300	41,230	15,600	11,560	366,100
1960	20,210	16,090	11,580	10,510	9,480	14,970	33,450	73,850	148,600	43,020	14,590	10,580	406,900

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	534	386,300
1951	1213	4,840	June 21, 1951	130	641	464,200	645	467,200
1952	1243	6,580	June 11, 1952	144	800	580,700	798	579,100
1953	1283	5,780	June 14, 1953	128	557	402,900	550	398,400
1954	1343	1,850	May 22, 1954	124	305	221,100	308	222,900
1955	1383	2,080	June 9, 1955	110	404	292,300	399	288,600
1956	1443	4,260	June 3, 1956	110	540	391,600	534	387,700
1957	1513	6,460	June 29, 1957	116	860	622,900	865	640,800
1958	1563	5,140	June 6, 1958	157	594	430,200	574	415,400
1959	1633	3,980	June 8, 1959	130	506	366,100	525	379,800
1960	1713	4,040	June 8, 1960	139	561	406,900	-	-

705. Colorado River near Dotsero, Colo.

Location.--Lat 39°38'40", long 107°04'40", in sec.6, T.5 S., R.86 W., on left bank about 500 ft south of U. S. Highways 6 and 24, 1½ miles west of Dotsero, and 1½ miles downstream from Eagle River.

Drainage area.--4,390 sq mi, approximately.

Gage.--Water-stage recorder. Altitude of gage is 6,130 ft (from topographic map).

Records available.--October 1940 to September 1960.

Average discharge.--20 years (1940-60), 2,185 cfs (1,582,000 acre-ft per year).

Extremes.--1940-60: Maximum discharge, 19,100 cfs June 8, 1952 (gage height, 11.56 ft); minimum daily, 350 cfs Jan. 5, 1944.

Remarks.--Natural flow of stream affected by transmountain diversions, storage reservoirs, power development, diversions for irrigation of 68,000 acres above station, and return flow from irrigated areas. Records of chemical analyses and water temperatures for the period May 1959 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	769	854	893	978	1,017	905	1,649	5,618	8,141	4,269	2,032	1,242	2,368
1952	1,108	1,008	975	807	753	948	2,993	8,693	11,910	3,600	2,387	1,504	3,056
1953	1,081	1,031	929	987	919	1,050	1,569	3,430	7,864	2,631	1,913	1,051	2,038
1954	965	874	859	939	821	991	1,408	2,248	1,373	1,220	1,110	919	1,147
1955	894	774	595	579	583	661	1,477	3,119	3,397	1,513	1,345	1,120	1,340
1956	957	893	839	788	805	1,050	1,976	6,606	5,475	1,628	1,303	1,196	1,961
1957	1,061	820	647	710	779	786	1,539	5,458	13,100	8,794	2,802	1,415	3,167
1958	1,160	1,132	982	981	1,016	1,129	1,687	7,917	6,854	1,653	1,050	969	2,216
1959	883	848	841	989	956	732	1,273	3,979	5,282	1,888	1,301	1,112	1,675
1960	1,328	1,133	933	1,044	917	1,463	2,713	4,325	5,521	1,877	1,107	1,098	1,953

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	47,290	50,850	54,930	60,120	58,490	55,650	98,120	345,500	484,400	262,500	124,900	73,900	1,715,000
1952	68,130	59,960	59,950	49,650	43,340	58,320	178,100	534,500	708,600	221,400	146,800	89,470	2,218,000
1953	66,450	61,350	57,140	60,710	51,010	64,580	93,360	210,900	468,000	61,800	117,600	62,520	1,475,000
1954	59,330	52,010	52,830	57,720	45,610	60,900	83,800	138,200	81,680	75,020	68,230	54,660	830,000
1955	55,000	46,090	36,560	35,620	32,370	40,620	87,860	191,800	201,500	93,040	82,730	66,660	969,800
1956	58,820	53,160	51,580	48,430	46,310	64,540	117,600	408,200	325,800	100,100	80,100	71,160	1,424,000
1957	65,250	48,820	39,790	43,640	43,290	48,330	91,550	335,600	779,700	540,700	172,300	84,180	2,293,000
1958	71,350	67,360	60,400	60,300	56,430	69,430	100,400	468,800	407,900	101,600	64,590	57,680	1,604,000
1959	54,290	50,470	51,710	60,810	53,080	44,980	75,780	244,700	314,300	116,100	79,890	66,140	1,212,000
1960	81,560	67,420	57,380	64,170	52,760	99,980	161,400	265,900	328,500	115,400	68,060	65,340	1,419,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	1,835	1,329,000		
1951	1213	13,500	June 22, 1951	590	2,368	1,715,000	2,417	1,750,000		
1952	1243	19,100	June 8, 1952	440	3,056	2,218,000	3,051	2,215,000		
1953	1283	12,800	June 14, 1953	560	2,038	1,475,000	2,009	1,455,000		
1954	1343	3,530	May 22, 1954	600	1,147	830,000	1,110	803,500		
1955	1393	5,380	Aug. 5, 1955	450	1,340	969,800	1,375	995,800		
1956	1443	11,500	May 24, 1956	615	1,961	1,424,000	1,948	1,414,000		
1957	1513	17,700	June 8, 1957	450	3,167	2,293,000	3,230	2,338,000		
1958	1563	14,400	May 30, 1958	700	2,216	1,604,000	2,157	1,562,000		
1959	1633	7,630	June 10, 1959	610	1,675	1,212,000	1,743	1,262,000		
1960	1713	8,270	June 5, 1960	780	1,953	1,419,000	-	-		

725. Colorado River at Glenwood Springs, Colo.

Location.--Lat 39°33'00", long 107°19'20", in sec.9, T.6 S., R.89 W., on right bank at powerplant at Glenwood Springs, 10 ft from U. S. Highways 6 and 24 and half a mile upstream from Roaring Fork.

Drainage area.--4,560 sq mi, approximately.

Records available.--May 1899 to September 1960. Prior to October 1918, published as Grand River at Glenwood Springs.

Gage.--Water-stage recorder. Datum of gage is 5,720.71 ft above mean sea level, adjustment of 1912. Prior to Jan. 1, 1900, wire-weight gage at railroad bridge 2,500 ft downstream at different datum. Jan. 1, 1900, to May 16, 1910, staff or float gage at present site and datum.

Average discharge.--61 years (1899-1960), 2,776 cfs (2,010,000 acre-ft per year).

Extremes.--1899-1960: Maximum discharge, 30,100 cfs June 14, 1918 (gage height, 12.55 ft); minimum daily, 286 cfs Jan. 22, 1935.

Remarks.--Natural flow of stream affected by transmountain diversions, storage reservoirs, power development, diversions for irrigation of about 70,000 acres, and return flow from irrigated areas. Low flow regulated by Shoshone powerplant 6 miles above station. Records of chemical analyses and water temperatures are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	791	892	903	966	1,045	941	1,753	6,201	9,002	4,631	2,151	1,292	2,552
1952	1,215	1,059	1,029	858	812	1,025	3,262	9,715	13,190	3,981	2,548	1,670	3,362
1953	1,250	1,110	973	1,038	957	1,099	1,731	3,730	8,552	2,778	1,968	1,153	2,194
1954	1,040	917	942	1,004	870	1,016	1,450	2,375	1,498	1,351	1,205	998	1,224
1955	937	815	644	614	617	707	1,510	3,348	3,642	1,620	1,396	1,133	1,418
1956	987	918	899	838	838	1,116	2,015	6,857	5,538	1,697	1,339	1,224	2,024
1957	1,078	834	662	749	789	825	1,547	5,693	14,020	9,280	2,870	1,485	3,327
1958	1,224	1,205	1,027	1,010	1,039	1,179	1,717	8,879	7,382	1,695	1,087	1,048	2,380
1959	959	908	882	1,016	981	802	1,354	4,102	5,742	2,055	1,454	1,228	1,790
1960	1,368	1,152	955	1,093	964	1,505	2,791	4,685	5,994	1,992	1,185	1,121	2,066

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	48,630	53,050	55,550	59,400	58,050	57,880	104,300	381,300	535,600	284,700	132,300	76,860	1,848,000
1952	74,720	63,010	63,290	52,740	48,710	63,010	194,100	597,400	785,100	244,800	156,700	99,350	2,441,000
1953	76,840	66,020	59,840	53,130	48,340	67,600	103,000	229,300	508,900	170,700	121,000	68,600	1,589,000
1954	63,970	54,590	57,940	61,760	48,340	62,490	86,280	146,000	85,540	83,070	74,110	58,800	885,900
1955	57,590	48,500	39,590	37,740	34,260	43,470	89,840	205,900	216,700	99,610	85,820	67,430	1,026,000
1956	60,670	54,610	55,260	51,530	48,230	68,600	119,900	421,600	329,500	104,400	82,350	72,830	1,469,000
1957	66,250	49,600	40,680	46,030	43,820	50,720	92,040	350,000	634,000	70,600	76,500	88,360	2,409,000
1958	75,270	71,680	63,120	62,090	57,730	72,520	102,200	546,000	439,300	104,200	66,860	62,350	1,723,000
1959	58,390	54,060	54,230	62,500	54,460	49,310	80,580	252,000	341,700	126,300	89,400	73,040	1,296,000
1960	84,120	68,550	58,750	67,220	55,450	92,560	166,100	288,100	356,700	22,500	72,860	66,730	1,500,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	2,015
1951	1213	14,400	June 21, 1951	484	2,552	1,848,000	2,613
1952	1243	20,800	June 8, 1952	448	3,362	2,441,000	3,365
1953	1283	14,000	June 14, 1953	584	2,194	1,589,000	2,158
1954	1343	4,060	May 22, 1954	602	1,224	885,900	1,181
1955	1393	5,400	May 24, 1955	480	1,418	1,026,000	1,452
1956	1443	12,600	May 24, 1956	492	2,024	1,469,000	2,005
1957	1513	18,900	June 8, 1957	366	3,327	2,409,000	3,400
1958	1563	16,000	May 29, 1958	708	2,380	1,723,000	2,320
1959	1633	8,480	June 10, 1959	615	1,790	1,296,000	1,852
1960	1713	9,730	June 4, 1960	694	2,066	1,500,000	-

ROARING FORK BASIN

730. Twin Lakes tunnel at east portal, near Twin Lakes, Colo.
(Transmountain diversion)

Location.--Lat 39°05'00", long 106°32'30", in sec.22, T.11 S., R.82 W., at east portal of Twin Lakes tunnel.

Records available.--October 1934 to September 1960.

Gage.--Water-stage recorder since May 24, 1945. An 8-foot Parshall flume used at east portal May to October and 3-foot Parshall flume used in the tunnel at west portal 3.8 miles from main gage November to April of each year. Altitude of gage is 10,500 ft (from topographic map).

Remarks.--Diversion is from tributaries of Roaring Fork between headgates (in sec.21, T.11 S., R.83 W., and sec.11, T.11 S., R.82 W.), and west portal of Twin Lakes tunnel (in sec.24, T.11 S., R.83 W.), in Colorado River basin, to North Fork Lake Creek in sec.22, T.11 S., R.82 W., in Arkansas River basin. Diversion began May 24, 1935.

Cooperation.--Records furnished by State engineer of Colorado.

ROARING FORK BASIN

Monthly and yearly diversion, in acre-feet, of Twin Lakes tunnel at east portal, near Twin Lakes, Colo.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	221	100	157	123	128	113	155	5,750	22,020	12,680	3,000	478	44,920
1952	475	320	224	280	153	148	503	7,150	25,140	11,380	4,260	1,330	51,360
1953	448	223	234	257	215	215	239	3,740	22,950	8,570	2,840	374	40,300
1954	16	216	163	119	105	109	869	10,750	10,340	4,840	139	0	27,470
1955	1,530	463	89	80	54	62	498	7,720	15,990	5,780	2,710	88	35,060
1956	0	123	90	99	82	61	105	13,260	19,040	3,300	282	0	36,440
1957	29	190	69	94	55	75	87	1,300	15,570	10,500	5,440	1,330	32,740
1958	639	549	281	178	165	103	159	7,800	9,480	3,820	544	313	24,030
1959	0	83	155	117	103	121	125	6,530	24,530	6,540	1,740	377	40,420
1960	211	366	132	75	80	86	485	6,260	24,480	8,220	1,520	0	41,920

735. Roaring Fork at Aspen, Colo.

Location.--Lat 39°11'20", long 106°48'55", in sec.7, T.10 S., R.84 W., on right bank at Aspen, three-quarters of a mile upstream from Hunter Creek.

Drainage area.--109 sq mi.

Records available.--October 1910 to September 1921, October 1931 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Records since May 24, 1935, are equivalent to prior records if diversion to Twin Lakes tunnel is added to flow past station.

Gage.--Water-stage recorder. Datum of gage is 7,884.58 ft above mean sea level, datum of 1929. Jan. 1, 1911, to Feb. 23, 1915, staff gage at bridge 1,800 ft upstream at different datum. Feb. 24, 1915, to Sept. 30, 1921, staff gage and Apr. 24, 1932, to Oct. 5, 1935, water-stage recorder, at bridge half a mile downstream at different datum.

Average discharge.--40 years (1910-21, 1931-60), 153 cfs (110,800 acre-ft per year), including diversions by Twin Lakes tunnel.

Extremes.--1910-21, 1931-60: Maximum discharge, 3,170 cfs June 18, 1917 (gage height, 7.2 ft, site and datum then in use, from floodmarks), from rating curve extended above 1,800 cfs; minimum daily prior to construction of Twin Lakes tunnel, 15 cfs July 15, 1934; minimum daily since diversion through Twin Lakes tunnel, 0.4 cfs Sept. 24, 27, 28, 1956.

Remarks.--Transmountain diversion 15 miles upstream through Twin Lakes tunnel to Arkansas River basin since May 24, 1935 (see elsewhere in this report). Salvation ditch diverts water above station for irrigation of about 1,000 acres below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	28.8	24.7	24.0	20.4	20.5	21.0	36.5	217	377	156	39.1	13.3	81.7
1952	28.0	25.8	25.3	23.0	22.1	18.5	64.7	237	651	149	60.2	43.8	112
1953	34.0	29.1	26.2	24.0	21.4	22.1	35.3	148	483	92.8	42.6	27.8	82.0
1954	32.5	28.7	23.9	21.9	20.1	19.7	54.0	164	103	30.9	18.3	21.6	44.9
1955	42.8	26.1	26.8	21.7	16.8	17.5	49.6	185	228	56.2	37.0	11.6	60.0
1956	11.0	22.7	20.5	18.3	17.6	18.1	41.3	252	282	42.6	16.7	1.86	60.4
1957	7.41	17.9	18.6	18.2	16.5	16.4	31.4	120	835	898	137	45.0	181
1958	37.3	34.7	39.0	30.1	24.5	20.5	33.9	411	661	66.5	22.9	16.9	117
1959	28.9	25.9	22.0	20.8	21.3	22.3	40.1	186	485	69.5	20.8	20.2	80.0
1960	47.0	35.2	33.7	24.8	20.7	22.4	74.5	183	466	90.4	19.9	12.5	85.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,770	1,470	1,480	1,260	1,140	1,290	2,170	13,350	22,450	9,580	2,400	789	59,150
1952	1,720	1,540	1,550	1,420	1,270	1,140	3,850	14,560	38,760	9,170	3,700	2,610	81,290
1953	2,090	1,750	1,610	1,480	1,190	1,360	2,100	9,090	28,750	5,710	2,620	1,680	59,390
1954	2,000	1,710	1,470	1,340	1,120	1,210	3,210	10,060	6,110	1,900	1,130	1,290	32,550
1955	2,630	1,550	1,650	1,330	932	1,080	2,950	11,380	13,550	3,450	2,270	689	43,460
1956	679	1,350	1,260	1,130	1,010	1,110	2,460	15,510	15,560	2,620	1,030	111	43,830
1957	455	1,060	1,140	1,120	916	1,010	1,870	7,390	49,700	55,190	8,450	2,680	131,000
1958	2,290	2,070	2,400	1,850	1,360	1,260	2,020	24,290	39,350	4,090	1,410	1,010	84,000
1959	1,780	1,540	1,350	1,280	1,180	1,370	2,390	11,440	28,830	4,270	1,280	1,200	57,910
1960	2,890	2,090	2,070	1,520	1,190	1,380	4,430	11,260	27,750	5,560	1,220	742	62,100

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	68.0	-	49,240
1951	1213	780	June 20, 1951	8.3	81.7	59,150	81.8	59,240	
1952	1243	1,360	June 12, 1952	12	112	81,290	113	81,910	
1953	1283	1,310	June 14, 1953	19	82.0	59,390	81.7	59,140	
1954	1343	360	May 21, 1954	5.0	44.9	32,550	45.8	33,200	
1955	1393	595	June 9, 1955	5.8	80.0	43,460	56.5	40,920	
1956	1443	921	June 3, 1956	4	60.4	43,830	59.5	43,200	
1957	1513	1,910	June 29, 1957	5	181	131,000	187	135,100	
1958	1563	1,560	June 8, 1958	12	117	84,000	114	82,310	
1959	1633	1,020	June 17, 1959	6.7	80.0	57,910	83.3	60,290	
1960	1713	956	June 21, 1960	9.1	85.6	62,100	-	-	

740. Hunter Creek near Aspen, Colo.

Location.--Lat 39°12'20", long 106°48'00", in SW $\frac{1}{4}$ sec.5, T.10 S., R.84 W., on right bank 60 ft upstream from headgate of Red Mountain ditch, 100 ft upstream from road bridge, $\frac{1}{2}$ miles upstream from mouth, and $\frac{1}{2}$ miles northeast of Aspen.

Drainage area.--40 sq mi, approximately.

Records available.--June 1950 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 8,600 ft (from topographic map).

Average discharge.--6 years (1950-56), 48.5 cfs (35,110 acre-ft per year).

Extremes.--1950-56: Maximum discharge, 1,010 cfs June 13, 1953 (gage height, 7.02 ft), from rating curve extended above 580 cfs; minimum not determined.

Remarks.--Several small diversions above station for irrigation of hay meadows above and below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11.0	9.53	9.02	7.6	7.2	7.0	15.7	151	289	106	25.5	8.23	54.0
1952	13.3	9.68	7.31	4.9	4.0	5.41	40.1	181	413	90.3	32.9	20.9	68.3
1953	9.30	8.47	7.51	6.25	5.97	5.60	12.6	101	356	82.0	48.4	8.41	54.2
1954	8.72	8.92	8	7	6	5.93	31.6	153	79.7	22.8	11.1	15.5	30.0
1955	23.8	12.5	8	6	5	6	24.2	149	171	44.5	29.5	8.73	40.8
1956	6.53	6.80	5.77	5.0	4.0	7.45	24.3	242	177	23.9	11.0	7.21	43.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	676	567	555	467	400	430	935	9,270	17,190	6,540	1,570	490	39,090
1952	815	576	449	301	230	333	2,390	11,130	24,560	5,550	2,020	1,250	49,600
1953	572	504	462	394	331	344	752	6,210	21,170	5,040	2,970	501	39,240
1954	536	531	492	430	333	364	1,880	9,340	4,740	1,400	682	922	21,700
1955	1,460	742	492	369	278	369	1,440	9,170	10,180	2,740	1,810	520	29,570
1956	402	405	355	307	230	458	1,450	14,890	10,530	1,470	678	429	31,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950									
1951	1213	574	June 21, 1951	-	54.0	39,090	54.1	39,130	
1952	1243	995	June 10, 1952	-	68.3	49,600	67.9	49,500	
1953	1283	1,010	June 13, 1953	5.1	54.2	39,240	54.2	39,260	
1954	1343	346	May 21, 1954	-	30.0	21,700	31.6	22,840	
1955	1393	520	June 8, 1955	-	40.8	29,570	38.7	28,040	
1956	1443	600	June 2, 1956	-	43.5	31,600	-	-	

775. Busk-Ivanhoe tunnel at east portal, near Malta, Colo.
(Transmountain diversion)

Location.--Lat 39°14'55", long 106°28'15", in sec.20, T.9 S., R.81 W., at east portal of Busk-Ivanhoe tunnel.

Records available.--October 1924 to September 1960. Diversion prior to 1937 published in WSP 1313.

Gage.--Water-stage recorder and 8-foot Parshall flume since May 9, 1960. Altitude of gage is 10,790 ft (from topographic map). June 9, 1925, to June 3, 1926, water-stage recorder and 6-foot rectangular weir and June 4, 1926, to Aug. 21, 1945, water-stage recorder and 12-foot rectangular weir, at about same site. Aug. 22, 1945, to May 8, 1960, water-stage recorder and 5-foot Parshall flume.

Remarks.--Diversion is from Ivanhoe Lake (Ivanhoe Creek, revised), tributary to Fryingpan Creek, in sec.13, T.9 S., R.82 W., in Colorado River basin, to Busk Creek (tributary of Lake Fork) in sec.20, T.9 S., R.81 W., in Arkansas River basin.

Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	65	857	2,120	1,660	431	1	5,130
1952	0	0	0	0	0	0	0	1,280	2,830	1,550	612	63	6,340
1953	235	0	0	0	0	0	0	493	2,450	1,460	439	0	5,080
1954	0	0	0	0	0	0	0	1,450	1,230	519	0	0	3,200
1955	202	0	0	0	0	0	135	1,250	2,150	1,060	267	202	5,270
1956	0	0	0	0	0	0	0	1,530	2,290	519	57	0	4,400
1957	0	0	0	0	0	0	0	62	2,380	2,810	259	0	5,510
1958	0	0	0	0	0	0	0	590	1,600	98	363	0	2,650
1959	0	0	0	0	0	0	0	599	3,340	1,100	136	0	5,190
1960	0	0	0	0	0	0	0	482	3,850	561	417	0	5,310

780. Fryingspan Creek at Norrie, Colo.

Location.--Lat 39°19'50", long 106°39'30", in NE $\frac{1}{4}$ sec.28, T.8 S., R.83 W., on right bank 300 ft south of State Highway 104 at Norrie, 1 mile upstream from North Fork, and 2 miles downstream from Chapman Gulch.

Drainage area.--89.5 sq mi.

Records available.--October 1910 to March 1917, October 1947 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,410 ft (from river-profile map). February 1911 to March 1917 staff gages at site 200 ft upstream at different datums.

Average discharge.--19 years (1910-16, 1947-60), 128 cfs (92,670 acre-ft per year).

Extremes.--1910-17, 1947-60: Maximum discharge, 1,780 cfs June 30, 1957; maximum gage height, 5.55 ft June 28, 1957; minimum daily discharge, 10 cfs Feb. 26, 1957, Feb. 14, 1959, but may have been less during period of no gage-height record.

Remarks.--Transmountain diversions above station through Busk-Ivanhoe tunnel to Arkansas River basin since June 1929 (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	26.1	23.3	22.0	19.2	17.7	19.3	47.2	340	637	350	99.0	37.9	137
1952	34.5	24.0	19.8	19.8	17.8	17.5	79.9	337	820	244	118	59.9	149
1953	28.9	22.3	20.2	17.9	17.8	18.0	36.2	203	645	188	114	38.5	112
1954	26.6	23.2	20.6	16.5	15.7	15.3	63.2	258	163	66.0	43.1	39.6	64.5
1955	51.0	28.2	21.8	15.5	13.8	15.2	63.3	284	367	144	81.1	28.9	93.2
1956	23.1	22.1	18.5	17.3	17.2	21.6	62.2	453	449	96.8	47.2	21.9	104
1957	20.2	15.7	13.9	15.2	12.0	13.9	37.9	171	874	741	207	67.4	183
1958	35.2	27.5	26.9	22.5	22.9	22.6	33.7	434	577	113	49.0	29.9	116
1959	20.4	18.1	14.8	13.7	13.1	14.0	27.0	242	634	176	49.0	28.0	104
1960	42.3	30.2	18.9	14.1	13.3	16.6	76.9	259	548	182	54.3	28.1	107

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,600	1,390	1,350	1,180	984	1,190	2,810	20,930	37,900	21,510	6,090	2,260	99,190
1952	2,120	1,430	1,220	1,220	1,020	1,070	4,750	20,730	48,800	14,980	7,270	3,550	108,200
1953	1,780	1,330	1,240	1,100	986	1,110	2,150	12,500	38,360	11,580	6,990	2,290	81,420
1954	1,640	1,390	1,270	1,010	873	938	3,760	15,880	9,690	5,290	2,650	2,360	46,740
1955	3,140	1,680	1,340	952	766	936	3,760	17,430	21,860	8,850	4,980	1,720	67,470
1956	1,420	1,310	1,140	1,060	992	1,330	3,700	27,840	26,710	5,950	2,900	1,310	75,660
1957	1,240	932	853	932	664	855	2,260	10,520	51,990	45,540	12,740	4,010	132,500
1958	2,160	1,640	1,650	1,380	1,270	1,390	2,000	25,710	34,330	6,930	3,010	1,780	84,250
1959	1,250	1,080	908	845	726	863	1,610	14,900	37,750	10,800	3,010	1,670	75,410
1960	2,600	1,800	1,160	865	764	1,020	4,580	15,910	32,620	11,220	3,340	1,670	77,550

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	106	76,660
1951	1213	1,080	June 21, 1951	14	137	99,190	138	99,620
1952	1243	1,430	June 11, 1952	15	149	108,200	148	107,800
1953	1283	1,240	June 13, 1953	15	112	81,420	112	81,360
1954	1343	636	May 21, 1954	15	64.5	46,740	67.1	48,610
1955	1393	762	June 8, 1955	11	93.2	67,470	90.0	65,180
1956	1443	1,070	June 2, 1956	11	104	75,660	103	74,820
1957	1513	1,780	June 30, 1957	10	183	132,500	186	135,000
1958	1563	1,410	June 6, 1958	15	116	84,250	113	82,040
1959	1633	938	June 16, 1959	10	104	75,410	107	77,730
1960	1713	848	June 17, 1960	11	107	77,550	-	-

785. North Fork Fryingpan Creek near Norrie, Colo.

Location.--Lat 39°20'40", long 106°39'50", in N $\frac{1}{2}$ sec.21, T.8 S., R.83 W., on left bank 1,000 ft upstream from bridge on State Highway 104, a quarter of a mile upstream from mouth, half a mile downstream from Last Chance Creek, and 1 mile northwest of Norrie.

Drainage area.--41.2 sq mi.

Records available.--October 1910 to March 1917, October 1947 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,400 ft (from topographic map). Feb. 18, 1911, to Mar. 31, 1917, staff gage at site 10 ft downstream at different datum. Oct. 1, 1947, to Sept. 30, 1949, water-stage recorder at present site at datum 2.00 ft higher.

Average discharge.--19 years (1910-16, 1947-60), 54.2 cfs (39,240 acre-ft per year).

Extremes.--1910-17, 1947-60: Maximum discharge, 1,320 cfs June 6, 1958, from rating curve extended above 700 cfs; maximum gage height, 5.80 ft May 21, 1948 (present datum); minimum daily discharge, 0.5 cfs Nov. 1, 1950.

Remarks.--One small diversion bypasses station for development of power for private use.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.58	2.46	3.5	3.2	3.6	4.4	20.2	158	287	130	21.1	4.19	53.4
1952	8.11	4.08	4.5	4.2	3.5	3.8	49.1	166	412	81.4	33.3	15.8	65.2
1953	5.13	4.06	3.5	3.8	3.7	5.4	18.2	121	339	79.5	37.4	5.73	52.2
1954	2.98	5.34	4.2	4.0	3.8	4.2	30.9	110	76.7	24.9	9.38	8.74	23.9
1955	14.7	7.0	5.5	4.5	4.0	4.5	30.3	130	169	45.6	20.5	3.36	36.6
1956	3.34	6	5	4	3.5	8.11	36.8	250	217	29.2	10.5	1.66	48.0
1957	2.11	3.5	2.5	3.5	5.5	5.5	20.0	239	428	296	47.8	11.9	89.2
1958	8.25	9.34	10	8.0	7.5	7.81	17.6	217	262	30.5	8.04	4.00	49.2
1959	2.14	3.29	3.55	3.34	3.61	4.47	15.8	119	261	44.9	12.2	7.46	40.0
1960	18.5	10.6	7	6	5.5	7.14	42.5	127	299	57.4	13.9	3.64	49.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	159	146	215	197	200	271	1,200	9,710	17,080	7,970	1,300	249	38,700
1952	499	243	277	258	201	234	2,920	10,180	24,500	5,010	2,050	942	47,310
1953	315	242	215	234	205	332	1,080	7,460	20,190	4,890	2,300	341	37,800
1954	183	318	258	246	211	258	1,840	6,770	4,560	1,530	577	520	17,270
1955	902	417	338	277	222	277	1,800	7,970	10,070	2,800	1,260	200	26,530
1956	205	357	307	246	201	499	2,190	15,340	12,940	1,800	644	99	34,830
1957	130	208	154	215	305	338	1,190	14,700	25,490	18,180	2,940	709	64,560
1958	508	556	615	492	417	480	1,050	13,330	15,600	1,880	494	238	35,660
1959	132	196	218	205	200	275	937	7,290	15,550	2,760	753	444	28,960
1960	1,140	628	430	369	316	439	2,530	7,830	17,800	3,530	853	217	36,080

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	36.9	-	26,680
1951	1243	648	June 17, 1951	0.5	53.4	38,700	54.1	-	39,200
1952	1243	927	June 10, 1952	-	65.2	47,310	64.8	-	47,070
1953	1283	720	June 13, 1953	1.0	52.2	37,800	52.2	-	37,790
1954	1343	255	May 21, 1954	2.1	23.9	17,270	25.1	-	18,170
1955	1393	333	June 8, 1955	2.4	36.6	26,530	35.6	-	25,740
1956	1443	570	May 22, 1956	1.2	48.0	34,830	47.5	-	34,450
1957	1513	1,140	June 30, 1957	1.5	89.2	64,560	90.8	-	65,750
1958	1563	1,320	June 6, 1958	2.9	49.2	35,660	47.7	-	34,530
1959	1633	530	June 7, 1959	1.6	40.0	28,960	42.3	-	30,610
1960	1713	710	June 5, 1960	2.3	49.7	36,080	-	-	-

790. Lime Creek at Troutville, Colo.

Location.--Lat 39°25'10", long 106°38'30", in sec.22, T.7 S., R.83 W., on right bank a quarter of a mile downstream from Woods Lake and three-quarters of a mile west of Troutville.

Drainage area.--8.4 sq mi, approximately.

Records available.--June 1950 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 9,390 ft (from topographic map). Prior to July 31, 1950, staff gage at site 20 ft upstream at same datum.

Average discharge.--6 years (1950-56), 13.8 cfs (9,990 acre-ft per year).

Extremes.--1950-56: Maximum discharge, 214 cfs June 13, 1953 (gage height, 6.52 ft), from rating curve extended above 140 cfs; minimum daily, 0.3 cfs Oct. 29-31, 1950.

Remarks.--Flow regulated by several small lakes above station. No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.80	1.51	1.37	1.1	1.0	1.65	5.14	30.9	68.8	53.7	14.3	4.13	15.5
1952	4.77	2.52	1.49	1.3	1.4	1.51	7.54	33.3	92.5	35.5	20.5	6.67	17.4
1953	2.13	1.65	1.11	1.1	1.3	2.12	3.34	26.2	35.8	34.6	14.9	1.99	15.4
1954	1.53	2.35	2.0	1.8	1.8	1.5	7.08	33.3	27.2	12.1	6.29	7.18	8.70
1955	8.08	2.73	1.65	1.4	1.3	1.2	8.58	31.2	50.9	19.4	17.8	3.59	12.4
1956	1.61	1.65	1.5	1.5	1.5	2.39	7.50	60.2	81.9	15.9	6.34	2.16	13.7
1957													
1958													
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	110	90	84	68	56	102	306	1,900	4,090	3,300	882	246	11,230
1952	294	150	92	80	81	93	449	2,040	5,500	2,180	1,260	397	12,620
1953	131	97	68	68	72	130	199	1,610	5,580	2,130	914	119	11,120
1954	94	140	123	107	100	92	421	2,050	1,620	742	387	427	6,310
1955	497	163	102	86	72	74	511	1,920	3,030	1,190	1,090	214	8,950
1956	99	98	92	92	86	147	448	3,700	3,690	979	390	128	9,950
1957													
1958													
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1213	147	June 22, 1951	0.3	15.5	11,230	15.9	11,490
1952	1243	170	June 11, 1952	-	17.4	12,620	17.1	12,380
1953	1283	214	June 13, 1953	-	15.4	11,120	15.4	11,180
1954	1343	88	May 22, 1954	.9	8.70	6,310	9.26	6,710
1955	1393	120	June 21, 1955	-	12.4	8,950	11.7	8,480
1956	1443	174	May 23, 1956	-	13.7	9,950	-	-
1957								
1958								
1959								
1960								

795. Lime Creek at Thomasville, Colo.

Location.--Lat 39°21'20", long 106°41'30", in sec.18, T.8 S., R.83 W., on right bank 150 ft upstream from mouth, half a mile southeast of Thomasville, and 1½ miles downstream from Spring Creek.

Drainage area.--32 sq mi, approximately.

Records available.--June 1950 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 8,050 ft (from topographic map).

Average discharge.--6 years (1950-56), 30.0 cfs (21,720 acre-ft per year).

Extremes.--1950-56: Maximum discharge, 344 cfs June 11, 1952 (gage height, 5.82 ft); maximum gage height, 6.60 ft June 8, 1952 (backwater from footbridge); minimum daily discharge, 4.5 cfs Feb. 21, 1955.

Remarks.--Small diversions for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9.85	8.96	8.67	8.71	9.08	9.70	13.1	85.7	134	80.2	26.8	12.6	34.1
1952	15.3	12.1	9.85	9.49	8.77	8.64	23.8	114	217	66.9	40.3	21.2	45.5
1953	14.5	12.8	10.6	9.37	8.57	8.62	12.4	55.1	148	48.0	27.9	11.6	30.6
1954	10.5	9.95	8.48	7.37	7.55	6.81	17.9	56.0	38.7	19.4	11.9	12.6	17.5
1955	14.4	8.29	8.30	5.63	5.86	5.73	15.7	58.9	74.4	33.5	25.2	10.1	22.3
1956	8.88	7.34	6.35	7.21	7.27	7.66	18.6	128	114	30.7	16.0	8.63	30.1
1957													
1958													
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	606	533	533	536	504	597	781	5,270	7,990	4,930	1,650	751	24,680
1952	938	720	606	583	504	531	1,410	6,990	12,890	4,120	2,480	1,280	33,030
1953	889	764	650	576	476	530	738	3,390	6,810	2,950	1,720	689	22,180
1954	635	592	522	453	408	419	1,060	3,450	2,300	1,190	733	750	12,510
1955	885	493	510	359	325	352	936	3,620	4,430	2,060	1,550	599	16,120
1956	546	437	391	443	418	471	1,110	7,850	6,810	1,890	982	513	21,860
1957													
1958													
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSF	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950		-						
1951	1213	256	May 29, 1951	7.6	34.1	24,680	34.9	25,270
1952	1243	344	June 11, 1952	8.0	45.5	33,030	45.6	33,070
1953	1283	280	June 13, 1953	7.5	30.6	22,180	29.9	21,630
1954	1343	102	May 22, 1954	6.0	17.3	12,510	17.5	12,650
1955	1393	142	June 12, 1955	4.5	22.3	16,120	21.5	15,800
1956	1443	274	May 23, 1956	5.8	30.1	21,860	-	-
1957								
1958								
1959								
1960								

802. Fryingpan Creek at Ruedi, Colo.

Location.--Lat 39°21'40", long 106°49'10", in NW $\frac{1}{4}$ sec.18, T.8 S., R.84 W., on right bank 200 ft upstream from Rocky Ford, half a mile downstream from Ruedi Creek, and 1 mile west of Ruedi.

Drainage area.--223 sq mi.

Records available.--October 1959 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,500 ft (from river-profile map).

Extremes.--1959-60: Maximum discharge, 1,790 cfs June 5, 1960 (gage height, 4.39 ft); minimum daily, 28 cfs Jan. 17, 18, Feb. 25, 1960.

Remarks.--Diversions for irrigation of several hundred acres and small transmountain diversions above station to Arkansas River basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	93.0	66.5	45.3	33.0	31.7	41.9	176	495	1,076	278	97.6	54.3	207

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	5,720	3,960	2,780	2,030	1,820	2,580	10,470	30,440	64,010	17,090	6,000	3,230	150,100

815.5. Crystal River at Placita, Colo.

Location.--Lat 39°08'30", long 107°15'20", in SE $\frac{1}{4}$ sec.31, T.10 S., R.88 W., on right bank 0.1 mile downstream from highway bridge, 0.4 mile upstream from Bears Gulch, 0.7 mile north of Placita, and 3 miles upstream from Coal Creek.

Drainage area.--107 sq mi.

Records available.--October 1959 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,380 ft (from river-profile map).

Extremes.--1959-60: Maximum discharge, 1,430 cfs June 17, 1960 (gage height, 5.42 ft); minimum daily, 22 cfs Mar. 17, 1960.

Remarks.--A few small diversions above station for irrigation of hay meadows.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	87.0	58.7	41.7	33.1	30.3	34.5	158	434	925	272	112	70.9	188

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	5,350	3,490	2,560	2,040	1,740	2,120	9,390	26,680	55,020	16,750	6,860	4,220	136,200

816. Crystal River above Avalanche Creek, near Redstone, Colo.

Location.--Lat 39°14', long 107°14', in SW $\frac{1}{4}$ sec.33, T.9 S., R.88 W., on right bank $\frac{1}{4}$ miles upstream from avalanche Creek and $3\frac{1}{2}$ miles north of Redstone.

Drainage area.--167 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,905 ft (from river-profile map).

Average discharge.--5 years (1955-60), 299 cfs (216,500 acre-ft per year).

Extremes.--1955-60: Maximum discharge, 3,980 cfs July 1, 1957 (gage height, 5.65 ft); minimum daily, 22 cfs Dec. 5, 1955.

Remarks.--A few small diversions for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	62.1	54.7	47.0	41.7	38.6	60.1	197	957	1,123	230	103	59.8	248
1957	50.4	44.0	43.2	48.1	44.9	52.7	142	561	2,019	1,872	551	185	468
1958	111	83.5	65.5	51.1	49.7	56.2	131	1,085	1,366	313	131	102	296
1959	71.5	52.1	45.2	39.8	38.4	40.3	104	521	1,280	304	146	95.4	228
1960	114	85.2	51.9	45.3	40.1	57.9	324	646	1,162	329	130	84.5	255

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	3,820	3,250	2,890	2,560	2,220	3,700	11,700	58,840	66,830	14,130	6,340	3,560	179,800
1957	3,100	2,620	2,650	2,960	2,490	3,240	8,470	34,480	20,200	15,100	32,650	10,980	338,900
1958	6,820	4,970	4,030	3,150	2,760	3,460	7,810	66,700	81,260	19,240	8,080	6,060	214,300
1959	4,400	3,100	2,780	2,450	2,130	2,480	6,170	32,010	76,150	18,720	9,000	5,680	165,100
1960	7,000	5,070	3,190	2,820	2,310	3,560	19,310	39,700	69,130	20,210	7,990	5,030	185,300

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1956	1443	2,400	June 2, 1956	22	248	179,800	246	178,200		
1957	1513	3,980	July 1, 1957	30	469	338,900	478	346,400		
1958	1563	2,890	June 6, 1958	36	296	214,300	288	208,800		
1959	1633	2,100	June 14, 1959	24	228	165,100	235	170,000		
1960	1713	1,760	June 4, 1960	30	255	185,300	-	-		

820. Avalanche Creek near Redstone, Colo.

Location.--Lat 39°15', long 107°13', in SE $\frac{1}{4}$ sec.28, T.9 S., R.88 W., on left bank half a mile downstream from Bulldog Creek, 1 mile upstream from mouth, and $4\frac{1}{2}$ miles north of Redstone.

Drainage area.--41.8 sq mi.

Records available.--September 1955 to September 1957.

Gage.--Water-stage recorder. Altitude of gage is 7,000 ft (from river-profile map).

Extremes.--1955-57: Maximum discharge, about 850 cfs June 30 or July 1, 1957; minimum daily, 7 cfs Feb. 2, 1956, but may have been less during periods of no gage-height record.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	-	-	-	-	-	-	-	-	-	-	-	-	24.6
1956	21.0	16.4	14.8	10.6	9.86	11.3	22.7	190	290	70.8	33.1	23.0	59.5
1957	19.4	13.7	11	11	9.0	9.97	15.2	69.6	387	400	150	60	96.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	-	-	-	-	-	-	-	-	-	-	-	-	1,460
1956	1,290	976	908	651	567	694	1,350	11,700	17,280	4,350	2,040	1,370	43,180
1957	1,190	815	676	676	500	613	904	4,280	23,030	24,600	9,220	3,570	70,070

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1955	1443	-	-	-	-	-	-	-	-	-
1956	1443	-	June 2, 1956	7	59.5	43,180	58.8	42,680		
1957	1513	a850	(b)	-	96.8	70,070	-	-		

a About.

b June 30 or July 1, 1957.

825. Crystal River near Redstone, Colo.

Location.--Lat 39°18', long 107°13', in NE¼ sec.9, T.9 S., R.88 W., on right bank 20 ft downstream from private bridge, 75 ft downstream from Nettle Creek, and 7 miles north of Redstone.

Drainage area.--220 sq mi; at site used Oct. 21, 1946, to Aug. 28, 1957, 225 sq mi.

Records available.--May 1935 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 6,483.77 ft above mean sea level, datum of 1929. Prior to Oct. 21, 1946, water-stage recorder at same site and datum. Oct. 21, 1946, to Aug. 28, 1957, at site 1 mile downstream at different datum.

Average discharge.--25 years (1935-60), 357 cfs (258,500 acre-ft per year).

Extremes.--1935-60: Maximum discharge, 4,400 cfs June 21, 1938, from rating curve extended above 2,400 cfs; maximum gage height, 9.24 ft July 1, 1957 (site and datum then in use); minimum daily discharge, 16 cfs Oct. 9, 1956.

Remarks.--Diversions above station for irrigation of about 115 acres above and about 2,040 acres below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	71.2	85.5	79.4	69.9	67.2	69.3	146	782	1,671	907	207	80.4	354
1952	85.0	95.1	79.8	71.4	63.7	61.8	359	1,146	2,365	1,041	580	145	491
1953	72.0	85.4	99.7	83.8	76.7	95.6	122	368	1,749	497	173	69.5	292
1954	83.4	86.3	68.1	63.3	60.8	55.2	177	617	637	295	88.5	125	197
1955	169	97.4	79.5	67.4	60.1	63.9	186	703	1,291	597	170	40.1	294
1956	43.2	71.3	68.7	61.5	56.4	77.5	227	1,011	1,566	253	89.6	27.7	279
1957	51.1	68.7	58.3	62.9	62.5	73.7	171	658	2,364	2,252	675	204	561
1958	141	129	104	71.2	75.8	80.7	161	1,121	1,610	378	131	83.0	341
1959	66.4	82.7	72.0	59.7	57.0	59.9	133	536	1,603	345	143	72.7	269
1960	137	116	82.3	65.3	60.5	85.9	322	728	1,435	406	124	56.7	301

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,380	5,090	4,880	4,300	3,730	4,260	8,690	48,100	99,450	55,780	12,700	4,790	256,200
1952	5,230	5,660	4,910	4,390	3,670	3,800	21,340	70,470	140,700	64,000	23,370	8,640	356,200
1953	4,430	5,080	6,130	5,150	4,260	5,750	7,280	23,860	104,100	30,590	10,660	4,130	211,400
1954	5,130	5,140	4,190	3,890	3,380	3,390	10,510	37,920	37,890	18,140	5,440	7,440	142,500
1955	10,390	5,800	4,890	4,150	3,340	3,930	11,080	43,210	76,840	36,720	10,470	2,390	213,200
1956	2,660	4,240	4,220	3,780	3,240	4,770	13,520	62,140	81,300	15,570	5,510	1,650	202,600
1957	3,140	4,090	3,590	3,870	3,470	4,530	10,170	40,450	140,700	139,400	41,520	12,110	406,000
1958	8,680	7,680	6,370	4,380	4,210	4,960	9,590	68,920	95,820	23,250	8,070	4,940	246,900
1959	4,080	4,920	4,430	3,670	3,160	3,680	7,910	32,950	95,400	21,200	8,780	4,330	194,500
1960	8,410	6,900	5,060	4,020	3,480	5,280	19,160	44,790	85,400	24,990	7,600	3,370	218,500

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1213	3,250	June 21, 1951	45	354	256,200	335	242,600	
1952	1243	3,960	June 15, 1952	49	491	356,200	358	257,600	
1953	1283	4,110	June 14, 1953	50	292	211,400	290	356,000	
1954	1343	1,220	May 21, 1954	40	197	142,500	206	210,200	
1955	1393	2,480	June 23, 1955	25	294	213,200	281	149,100	
1956	1443	2,720	June 2, 1956	18	279	202,600	279	203,200	
1957	1513	4,390	July 1, 1957	16	561	406,000	577	202,500	
1958	1563	2,800	June 6, 1958	58	341	246,900	328	418,000	
1959	1633	2,540	June 16, 1959	37	269	194,500	278	237,600	
1960	1713	2,120	June 4, 1960	38	301	218,500	-	201,400	

830. Thompson Creek near Carbondale, Colo.

Location.--Lat 39°20', long 107°13', in sec.28, T.8 S., R.88 W., on right bank 1 mile upstream from mouth and 5 miles south of Carbondale.

Drainage area.--76 sq mi, approximately.

Records available.--October 1950 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,480 ft (from river-profile map).

Average discharge.--10 years (1950-60), 36.6 cfs (26,500 acre-ft per year).

Extremes.--1950-60: Maximum discharge, about 800 cfs between June 4 and 8, 1957; maximum gage height, 4.4 ft Aug. 27, 1955, from floodmarks; minimum daily discharge, 1.5 cfs Aug. 30 to Sept. 1, 1954.

Remarks.--Small diversions for irrigation of hay meadows above station. Transbasin diversion above station through Thompson Creek feeder ditch to West Divide Creek.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.14	6.01	6.82	5.29	5.23	7.37	18.9	144	105	16.0	8.32	4.00	27.7
1952	5.07	4.75	4.61	4.69	4.74	4.35	67.5	352	295	34.9	12.2	6.05	66.3
1953	4.53	4.57	4.30	4.11	4.54	7.35	18.5	114	188	14.6	9.03	3.58	31.5
1954	5.79	4.73	4.76	4.02	4.40	4.65	40.8	78.3	17.1	6.22	3.63	5.71	14.9
1955	6.97	3.31	4.29	3.90	3.19	5.43	20.6	142	94.5	13.0	7.35	2.74	25.7
1956	5.41	4.69	4.26	4.16	3.91	7.50	34.6	170	93.0	10.3	5.71	2.23	28.8
1957	5.50	3.44	3.32	3.48	4.58	7.65	21.1	130	497	175	20.1	7.47	73.0
1958	9.62	9.37	8.20	6.54	7.30	8.61	24.9	215	128	10.3	3.58	4.07	36.5
1959	3.06	3.92	4.17	3.99	4.71	6.58	23.0	145	98.3	11.7	5.79	4.51	26.3
1960	8.24	4.42	4.31	4.14	3.75	7.47	66.4	168	140	13.3	5.16	3.37	35.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	255	358	419	325	290	453	1,130	8,860	6,260	986	511	238	20,080
1952	312	283	283	288	273	267	4,010	21,640	17,550	2,140	750	360	48,160
1953	278	272	264	253	252	452	1,100	7,030	11,210	896	555	213	22,780
1954	233	281	293	247	245	286	2,430	4,810	1,020	382	223	340	10,790
1955	429	197	264	240	177	334	1,220	8,750	5,620	800	452	163	18,650
1956	210	279	262	256	225	461	2,060	10,480	5,540	636	351	132	20,890
1957	215	205	204	214	254	470	1,250	7,990	29,570	10,790	1,240	445	52,850
1958	591	557	504	390	406	529	1,480	13,250	7,600	632	220	242	26,400
1959	188	233	257	245	262	405	1,370	8,900	5,850	722	356	269	19,060
1960	507	263	265	254	216	459	3,950	10,310	8,350	819	318	201	25,910

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951	1213	318	May 28, 1951	3.0	27.7	20,080	27.5	19,930
1952	1243	725	June 7, 1952	1.8	66.3	48,160	66.3	48,090
1953	1285	474	May 28, 1953	2.9	31.5	22,780	31.5	22,770
1954	1343	163	May 9, 1954	1.5	14.9	10,790	15.0	10,870
1955	1393	730	Aug. 27, 1955	1.7	25.7	18,650	25.6	18,510
1956	1443	298	May 7, 1956	1.8	28.8	20,890	28.6	20,760
1957	1513	a800	(b)	2.5	73.0	52,850	74.4	53,880
1958	1563	422	May 28, 1958	2.1	36.5	26,400	35.1	25,430
1959	1633	780	June 20, 1959	2.1	26.3	19,060	26.8	19,410
1960	1713	270	May 13, 1960	2.0	35.7	25,910	-	-

a About.

b Between June 4 and 8, 1957.

840. Cattle Creek near Carbondale, Colo.

Location.--Lat 39°28', long 107°03', in sec.12, T.7 S., R.87 W., on left bank just downstream from Taylor Creek, half a mile upstream from Missouri Heights Reservoir diversion and 10 miles northeast of Carbondale.

Drainage area.--34 sq mi, approximately.

Records available.--October 1950 to September 1955.

Gage.--Water-stage recorder.

Average discharge.--5 years (1950-55), 15.9 cfs (11,510 acre-ft per year).

Extremes.--1950-55: Maximum discharge, 280 cfs about June 4, 1952 (gage height, 4.75 ft, from recorded range in stage); minimum daily, 2.0 cfs Sept. 1, 1954.

Remarks.--Small diversions for irrigation of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.08	4.02	3.55	3.39	3.36	3.51	11.5	69.5	44.5	12.2	5.29	3.71	14.1
1952	4.04	4.46	4.52	4.42	4.10	3.29	57.5	126	112	16.5	7.24	6.31	29.1
1953	5.63	5.83	4.73	4.0	3.8	4.85	12.4	66.6	99.7	12.2	5.60	3.81	19.1
1954	4.07	3.96	3.57	3.21	3.05	3.03	8.07	23.8	8.09	5.98	2.78	3.21	5.92
1955	3.92	3.30	2.95	2.92	2.91	2.94	12.4	55.5	34.5	8.11	4.51	2.85	11.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	251	239	218	208	187	216	682	4,270	2,650	751	325	221	10,220
1952	249	265	278	272	236	203	3,420	7,750	6,630	1,000	445	375	21,120
1953	346	347	291	246	211	299	736	4,100	5,930	748	344	227	13,820
1954	250	236	220	197	170	186	480	1,460	481	245	171	191	4,290
1955	241	197	181	180	161	180	739	3,410	2,050	499	277	170	8,280

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950									
1951	1213	148	May 27, 1951	2.8	14.1	10,220	14.2	10,300	
1952	1243	280	June 4, 1952	2.7	29.1	21,120	29.4	21,320	
1953	1283	270	May 28, 1953		19.1	13,820	18.7	13,550	
1954	1343	37	May 22, 1954	2.0	5.92	4,290	5.80	4,200	
1955	1393	100	May 14, 1955	2.1	11.4	8,280	-	-	

a About.

846. Fourmile Creek near Glenwood Springs, Colo.

Location.--Lat 39°24', long 107°19', in W $\frac{1}{2}$ sec.34, T.7 S., R.89 W., on left bank 100 ft below National Forest boundary, 3 miles upstream from Freeman Creek, 6 miles west of Carbondale, 8 miles upstream from mouth, and 10 miles south of Glenwood Springs.

Drainage area.--16.7 sq mi.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder.

Extremes.--1957-60: Maximum discharge, 125 cfs May 12, 1958, from rating curve extended above 80 cfs; maximum gage height, 4.58 ft May 12, 1960; minimum daily discharge, 0.1 cfs Sept. 5, 7-11, 1959.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	1.39	1.19	1.32	1.15	1.10	1.36	11.0	78.8	13.7	1.35	0.57	0.31	9.54
1959	.44	.43	.45	.59	.60	.56	4.31	50.4	10.6	1.28	.40	.25	5.92
1960	.82	.87	.45	.42	.54	1.08	21.8	44.0	14.1	1.46	.28	.27	7.18

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	85	71	81	71	61	84	656	4,840	818	83	35	18	6,900
1959	25	25	28	36	33	35	256	3,100	633	79	24	15	4,290
1960	50	52	28	26	31	68	1,300	2,700	839	90	17	16	5,220

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1958	1563	125	May 12, 1958	0.2	9.54	6,900	9.32	6,740	
1959	1633	111	May 12, 1959	.1	5.92	4,290	5.99	4,340	
1960	1713	115	May 12, 1960	.2	7.18	5,220	-	-	

850. Roaring Fork at Glenwood Springs, Colo.

Location.--Lat 39°32'50", long 107°19'50", in sec.9, T.6 S., R.89 W., on left bank at Glenwood Springs, 1,500 ft upstream from mouth.

Drainage area.--1,460 sq mi, approximately.

Records available.--October 1905 to September 1909, September 1910 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 5,720.73 ft above mean sea level, adjustment of 1912. Prior to Nov. 20, 1915, chain gage on highway bridge 800 ft downstream at different datum. Nov. 20, 1915, to Oct. 26, 1917, staff gage at present site and datum.

Average discharge.--54 years (1905-9, 1910-60), 1,409 cfs (1,020,000 acre-ft per year).

Extremes.--1905-9, 1910-60: Maximum discharge, 19,000 cfs July 1, 1957; maximum gage height, 8.7 ft June 14, 1921, from floodmarks; minimum discharge, 145 cfs Jan. 21, 1935 (gage height, 0.65 ft); minimum daily, 179 cfs Jan. 21, 1935.

Remarks.--Diversion above station for irrigation of about 35,000 acres. Transmountain diversions to Arkansas River basin through Busk-Ivanhoe tunnel since 1925 and through Twin Lakes tunnel since 1935 (see elsewhere in this report). Records of chemical analyses and water temperatures for the period May 1959 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	506	495	430	374	354	387	637	2,325	4,618	2,781	1,033	489	1,205
1952	589	503	415	383	328	328	1,242	3,669	7,897	2,862	1,480	806	1,706
1953	511	502	451	407	379	406	539	1,644	5,406	1,699	883	445	1,105
1954	471	516	409	346	317	300	493	1,632	1,570	878	454	519	660
1955	715	474	398	351	295	301	612	1,935	3,131	1,555	801	355	913
1956	375	465	369	325	311	365	741	3,260	3,947	935	486	284	988
1957	373	458	378	368	518	339	683	2,442	8,811	8,031	2,059	889	2,102
1958	698	635	564	503	448	433	608	3,612	5,266	1,046	536	519	1,240
1959	529	517	441	379	343	325	567	1,742	4,927	1,247	691	505	1,017
1960	768	549	400	361	324	447	1,027	1,983	4,493	1,424	566	451	1,064

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	31,130	29,440	26,430	22,990	19,680	23,790	37,920	142,900	274,800	171,000	63,490	29,100	872,700
1952	36,230	29,910	25,500	23,560	18,840	20,180	73,910	225,600	469,900	176,000	91,000	47,930	1,239,000
1953	31,400	29,870	27,750	25,020	21,030	24,990	32,070	101,100	321,700	104,500	54,290	28,460	800,100
1954	28,980	30,700	25,130	21,250	17,600	18,440	29,360	100,300	93,400	54,000	27,890	30,890	477,900
1955	43,940	28,210	24,490	21,600	16,390	18,530	36,390	119,000	186,300	95,620	49,260	21,100	660,800
1956	23,080	27,690	22,700	19,980	17,900	22,440	44,090	200,400	234,900	57,500	29,860	16,890	717,400
1957	22,960	27,090	23,270	22,650	17,660	20,850	39,480	150,100	524,300	493,800	126,300	52,900	1,521,000
1958	42,890	37,800	34,650	30,920	24,870	26,650	36,160	222,100	313,300	64,290	32,930	30,860	897,400
1959	32,540	30,770	27,100	23,290	19,070	19,980	33,750	107,100	293,200	76,670	42,470	30,040	736,000
1960	47,210	32,640	24,580	22,210	18,660	27,470	61,100	121,900	267,400	87,540	34,810	26,850	772,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	maximum Date						
1950	-	-	-	-	-	-	1,085	785,200	
1951	1213	8,290	June 22, 1951	255	1,205	872,700	1,212	877,300	
1952	1243	13,000	June 11, 1952	278	1,706	1,239,000	1,702	1,236,000	
1953	1283	11,500	June 14, 1953	320	1,105	800,100	1,099	796,000	
1954	1343	3,480	May 22, 1954	264	660	477,900	677	489,800	
1955	1393	5,480	June 14, 1955	230	913	660,800	881	637,700	
1956	1443	8,920	June 3, 1956	240	988	717,400	988	717,300	
1957	1513	19,000	July 1, 1957	270	2,102	1,521,000	2,180	1,565,000	
1958	1563	13,900	June 6, 1958	406	1,240	897,400	1,205	872,500	
1959	1633	7,880	June 15, 1959	292	1,017	736,000	1,036	750,000	
1960	1713	6,820	June 5, 1960	280	1,064	772,400	-	-	

855. Canyon Creek near New Castle, Colo.

Location.--Lat 39°34'30", long 107°26'50", in NW $\frac{1}{4}$ sec.36, T.5 S., R.90 W., on left bank 20 ft upstream from The Denver & Rio Grande Western Railroad Co. bridge, 250 ft upstream from mouth, and 5 miles east of New Castle.

Drainage area.--54.3 sq mi.

Records available.--October 1954 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,620 ft (from river-profile map).

Average discharge.--6 years (1954-60), 62.0 cfs (44,890 acre-ft per year).

Extremes.--1954-60: Maximum discharge, about 1,000 cfs June 29, 1957; maximum gage height, 9.60 ft July 1, 1957 (backwater from Colorado River); minimum daily discharge, 0.5 cfs Oct. 8-10, 1956.

Remarks.--Diversions above station for irrigation of about 1,100 acres, of which about 800 acres is along the Colorado River.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	20.0	20.3	19.8	18.8	16.8	15.8	26.0	216	246	22.3	3.17	2.61	52.3
1956	6.71	17.4	20.2	19.3	16.0	18.5	37.0	291	210	10.2	1.27	.79	54.0
1957	4.99	15.4	15.4	15.9	15.0	15.2	27.1	95.1	558	310	28.1	26.1	93.9
1958	17.3	26.6	27.2	24.2	21.7	21.6	37.5	304	329	22.0	2.03	8.89	70.3
1959	13.4	18.8	18.5	17.7	18.6	17.2	24.4	147	310	28.2	4.19	6.52	51.9
1960	31.2	27.1	21.0	18.3	16.7	18.7	54.3	165	226	15.6	2.26	1.42	49.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	1,230	1,210	1,220	1,160	930	974	1,550	13,250	14,650	1,370	195	155	37,890
1956	413	1,040	1,240	1,190	918	1,130	2,200	17,870	12,470	629	78	47	39,220
1957	307	916	946	978	835	932	1,610	5,850	33,220	19,080	1,730	1,550	67,960
1958	1,060	1,580	1,670	1,500	1,200	1,330	2,230	18,690	19,600	1,360	125	529	50,870
1959	823	1,120	1,140	1,090	1,040	1,060	1,450	9,030	18,420	1,730	257	368	37,550
1960	1,920	1,610	1,290	1,130	960	1,150	3,230	10,140	13,450	957	139	85	36,060

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950							
1951							
1952							
1953							
1954							
1955	1393	630	June 8, 1955	1.6	52.3	37,890	51.0
1956	1443	710	June 2, 1956	.6	54.0	39,220	53.3
1957	1513	1,000	June 29, 1957	.5	93.9	67,960	96.8
1958	1563	1,900	May 28, 1958	1.4	70.3	50,870	68.6
1959	1633	798	June 8, 1959	1.5	51.9	37,550	54.3
1960	1713	630	June 4, 1960	1.0	49.7	36,060	-

a About.

875. Elk Creek at New Castle, Colo.

Location.--Lat 39°34'10", long 107°32'40", in SW $\frac{1}{4}$ sec.31, T.5 S., R.90 W., on left bank at upstream side of The Denver & Rio Grande Western Railroad Co. bridge in New Castle, 300 ft upstream from mouth.

Drainage area.--177 sq mi.

Records available.--March 1922 to September 1924, October 1954 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,550 ft (from river-profile map). Mar. 17, 1922, to Sept. 30, 1924, staff gage at site 300 ft upstream at different datum.

Average discharge.--8 years (1922-24, 1954-60), 94.3 cfs (68,270 acre-ft per year).

Extremes.--1922-24, 1954-60: Maximum discharge, 1,770 cfs June 10, 1957 (gage height, 6.23 ft); minimum daily, 1.1 cfs Sept. 11, 1958, July 17, 18, 1960.

Remarks.--Diversions above station for irrigation of about 3,500 acres, of which about 1,500 acres is along the Colorado River.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	24.9	21.5	21.1	19.4	17.0	18.4	28.8	429	312	9.99	20.6	2.82	77.4
1956	4.35	14.4	21.2	20.1	17.3	21.9	58.1	499	207	3.69	2.25	2.23	72.9
1957	3.26	13.5	15.6	15.5	13.2	14.4	30.6	221	1,204	369	18.5	16.8	161
1958	21.2	28.4	30.2	22.4	26.2	25.3	39.7	647	498	12.0	1.96	4.24	113
1959	11.9	10.8	18.3	17.8	16.8	9.59	20.5	263	402	13.8	1.93	5.66	65.9
1960	20.3	18.1	20.1	20.1	16.6	19.6	71.8	379	321	3.78	1.76	1.64	74.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	1,530	1,280	1,300	1,190	946	1,130	1,720	26,350	18,560	614	1,260	168	56,050
1956	267	857	1,300	1,240	998	1,350	3,460	30,670	12,330	227	138	133	52,970
1957	201	804	962	950	734	887	1,820	13,570	71,660	22,710	1,130	999	116,400
1958	1,300	1,690	1,860	1,380	1,460	1,550	2,360	39,750	29,620	735	120	252	82,080
1959	729	645	1,120	1,090	952	590	1,220	16,200	23,900	846	119	337	47,730
1960	1,250	1,080	1,240	1,240	952	1,210	4,270	23,320	19,090	233	108	98	54,090

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953								
1954								
1955	1393	836	May 16, 1955	2.0	77.4	56,050	75.1	54,360
1956	1443	a950	(b)	1.4	72.9	52,970	72.3	52,610
1957	1513	1,770	June 10, 1957	1.2	161	116,400	165	119,300
1958	1563	1,560	May 28, 1958	1.1	113	82,080	110	79,720
1959	1633	980	June 8, 1959	1.4	65.9	47,730	67.4	48,800
1960	1713	795	May 14, 1960	1.1	74.5	54,090	-	-

a About.

b May 21 or 22, 1956.

GARFIELD CREEK BASIN

880. Baldy Creek near New Castle, Colo.

Location.--Lat 39°29', long 107°30', in NE $\frac{1}{4}$ sec.36, T.6 S., R.91 W., on left bank 100 ft upstream from diversion headgate, 2.3 miles above mouth, and 6 miles southeast of New Castle.

Drainage area.--16.1 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Water-stage recorder.

Average discharge.--5 years (1955-60), 5.78 cfs (4,180 acre-ft per year).

Extremes.--1955-60: Maximum discharge, 242 cfs June 2, 1957 (gage height, 5.80 ft); no flow at times in each year.

Remarks.--One small diversion above station for irrigation below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	0	0	0	0	0	0.75	5.59	28.6	4.78	0.50	0.14	0	3.39
1957		.04	0		.13	.59	4.56	45.5	79.2	7.05	1.15	.46	11.5
1958	.70	.58	.36	.16	.18	.70	5.51	60.5	10.8	.55	.07	.15	6.77
1959	.13	.17	.11	.05	.18	.30	3.31	25.7	8.18	.63	.07	.12	3.27
1960	.58	.33	.05	.02	.1	.59	9.33	27.6	8.45	.33	.02	0	3.97

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	0	0	0	0	0	46	333	1,760	284	31	8.5	0	2,460
1957	0	+2.6	0	0	7.1	36	272	2,800	4,710	433	71	27	8,360
1958	43	35	22	10	9.9	43	328	3,720	644	34	4.4	9.1	4,900
1959	7.7	9.9	6.9	1.8	10	18	197	1,580	487	38	4.2	7.3	2,370
1960	36	19	2.8	1.2	5.8	36	555	1,700	503	20	1.2	0	2,880

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1956	1443	54	May 8, 1956	0	3.39	2,460	3.39	2,470		
1957	1513	242	June 2, 1957	0	11.5	8,360	11.7	8,460		
1958	1563	104	May 21, 1958	0	6.77	4,900	6.67	4,830		
1959	1633	56	May 14, 1959	0	3.27	2,370	3.32	2,400		
1960	1713	67	May 12, 1960	0	3.97	2,890	-	-		

DIVIDE CREEK BASIN

895. West Divide Creek near Raven, Colo.

Location.--Lat 39°20', long 107°35', in W $\frac{1}{2}$ sec.29, T.8 S., R.91 W., on left bank 10 ft downstream from private road bridge, 0.8 mile upstream from Brook Creek, 8 miles south of Raven, and 16 miles south of Silt.

Drainage area.--65.8 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Water-stage recorder.

Average discharge.--5 years (1955-60), 27.8 cfs (20,130 acre-ft per year).

Extremes.--1955-60: Maximum discharge, 535 cfs June 4, 1957 (gage height, 5.04 ft); no flow at times in most years.

Remarks.--Natural flow of stream affected by water diverted from Thompson Creek (Roaring Fork basin), Muddy Creek (Muddy Creek basin), and Buzzard Creek (Plateau Creek basin).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	0.14	0.68	1.05	1.07	0.98	3.09	28.8	104	55.0	1.92	0.78	0	16.3
1957	.10	.28	.4	.4	.7	2.32	16.6	154	275	69.3	7.95	2.92	44.2
1958	5.07	4.42	3.13	3	3.5	5.5	34.2	259	88.8	6.01	.77	.82	34.8
1959	1.00	1.40	1.31	1.8	2	2.35	19.8	111	70.1	5.25	.98	.52	18.2
1960	2.00	2.24	1	1	1.2	6.61	57.4	140	88.4	5.91	.25	0	25.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	8.7	39	65	66	57	190	1,600	6,410	3,270	118	48	0	11,870
1957	6.0	17	25	25	39	143	988	9,480	16,370	4,260	489	174	32,020
1958	312	263	193	184	192	340	2,040	15,950	5,290	369	47	49	25,230
1959	61	83	81	111	111	145	1,180	8,820	4,170	323	60	31	13,180
1960	123	133	61	61	69	407	3,410	8,630	5,260	363	15	0	18,530

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1956	1443	163	May 20, 1956	0	16.3	11,870	16.3	11,810		
1957	1513	535	June 4, 1957	0	44.2	32,020	45.2	32,740		
1958	1563	402	May 7, 1958	.2	34.8	25,230	34.1	24,690		
1959	1633	248	May 14, 1959	0	18.2	13,180	18.3	13,270		
1960	1713	285	May 12, 1960	0	25.5	18,530	-	-		

DIVIDE CREEK BASIN

97

907. East Divide Creek near Silt, Colo.

Location.--Lat 39°26', long 107°34', in NE¹/₄ sec.20, T.7 S., R.91 W., on right bank an eighth of a mile upstream from unnamed tributary, three-quarters of a mile upstream from June Creek, and 9 miles southeast of Silt.

Drainage area.--40.8 sq mi.

Records available.--October 1959 to September 1960.

Gage.--Water-stage recorder.

Extremes.--1959-60: Maximum discharge, 130 cfs May 12, 1960 (gage height, 4.54 ft); no flow for many days.

Remarks.--One small diversion above station for irrigation of hay meadows.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	1.11	0.71	0.03	0.14	0.31	1.81	18.8	57.8	24.3	1.52	0	0	8.90

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	68	42	1.6	8.3	18	111	1,120	3,550	1,450	93	0	0	6,460

RIFLE CREEK BASIN

915. East Rifle Creek near Rifle, Colo.

Location.--Lat 39°41', long 107°41', in sec.22, T.4 S., R.92 W., on right bank 100 ft downstream from abandoned powerplant outlet, 100 ft upstream from Grass Valley Canal, and 12 miles northeast of Rifle.

Drainage area.--32 sq mi, approximately.

Records available.--October 1936 to September 1943 (published as East Fork Rifle Creek near Rifle), October 1956 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 6,550 ft (by barometer). Prior to Apr. 20, 1938, staff gage just downstream at different datum. Apr. 20, 1938, to Dec. 3, 1938, staff gage and Dec. 4, 1938, to Sept. 30, 1943, water-stage recorder, at same site and datum.

Average discharge.--11 years (1936-43, 1956-60), 39.5 cfs (28,600 acre-ft per year).

Extremes.--1936-43, 1956-60: Maximum discharge observed, 409 cfs Aug. 5, 1937 (gage height, 4.00 ft, datum then in use), from rating curve extended above 50 cfs; minimum daily, 24 cfs Feb. 18, 1938, Dec. 27-29, 1939, Feb. 26-28, 1941.

Remarks.--Several small diversions for irrigation above station. One diversion to Colorado Fish and Game Department fish hatchery; water is returned to stream above gage. Regulation by powerplant prior to October 1958.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	32.3	32.2	30.3	28.4	28.6	28.5	28.6	37.3	84.0	55.5	45.9	40.6	39.4
1958	38.5	38.5	36.0	34.7	32.8	31.7	35.6	79.0	66.3	50.0	45.8	40.9	44.2
1959	40.1	38.8	38.0	35.3	34.5	32.0	34.3	43.5	60.1	37.4	34.7	34.7	37.0
1960	32.1	33.9	33.5	31.9	30.4	31.2	35.2	48.7	42.6	37.9	34.9	35.4	35.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	1,990	1,920	1,860	1,750	1,590	1,750	1,700	2,290	5,000	3,410	2,820	2,410	28,490
1958	2,370	2,290	2,210	2,140	1,820	1,950	2,120	4,860	3,950	3,070	2,920	2,430	32,030
1959	2,460	2,310	2,340	2,170	1,910	1,970	2,040	2,670	2,390	2,300	2,140	2,060	26,760
1960	1,970	2,020	2,060	1,960	1,750	1,920	2,090	3,000	2,530	2,330	2,150	2,110	25,890

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1957	1513	138	June 5, 1957	26	39.4	28,490	40.9	29,590		
1958	1563	115	May 23-25, 1958	30	44.2	32,030	44.6	32,270		
1959	1633	87	May 17-19, 1959	30	37.0	26,760	35.5	25,700		
1960	1713	80	May 12, 1960	29	35.6	25,890	-	-		

a Maximum daily.

RIFLE CREEK BASIN

920. Rifle Creek near Rifle, Colo.

Location.--Lat 39°37'10", long 107°45'45", in NE¼NW¼ sec.18, T.5 S., R.92 W., on right bank 0.5 mile downstream from East Rifle Creek and 6.2 miles northeast of Rifle.

Drainage area.--140 sq mi.

Records available.--October 1939 to September 1946, October 1952 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Concrete control since Apr. 20, 1960. Altitude of gage is 5,810 ft (from topographic map). Prior to July 21, 1942, staff gage at same site at datum 1.31 ft higher. July 21, 1942, to Sept. 30, 1946, water-stage recorder at site 100 ft downstream at same datum.

Average discharge.--15 years (1939-46, 1952-60), 25.3 cfs, unadjusted (18,320 acre-ft per year).

Extremes.--1939-46, 1952-60: Maximum discharge, 758 cfs July 18, 1953 (gage height, 6.14 ft, from floodmarks), from rating curve extended above 110 cfs on basis of slope-area measurement of peak flow; minimum daily, 2.7 cfs Feb. 6, 1941. Maximum stage known, 7.7 ft July 27, 1951, from floodmarks at site 100 ft downstream (discharge, about 1,500 cfs).

Remarks.--Diversions for irrigation of about 870 acres above station in Rifle Creek basin. Some regulation by small reservoir on West Rifle Creek. Diversion above station from East Rifle Creek by Grass Valley Canal to Harvey Gap Reservoir for use outside Rifle Creek basin (see fourth table below). A small amount of water diverted from canal for irrigation in Elk Creek drainage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	25	13.9	11.2	9.85	8.07	15.4	15.3	41.8	42.4	35.1	38.9	37.4	24.6
1954	28.8	8.52	8.0	7	5.71	6.37	19.5	36.3	34.2	31.9	29.2	32.0	20.7
1955	18.9	7.93	5.94	6.0	6.0	14.7	6.76	39.8	38.9	33.6	34.1	31.2	20.4
1956	20.1	7.83	8	7.26	7	9.90	8.62	39.3	38.4	35.0	33.8	27.9	20.3
1957	16.9	5.06	4.29	5.0	5.5	7.36	20.5	35.3	83.9	46.4	28.1	26.9	23.8
1958	29.3	11.2	16.4	33.3	34.3	33.0	24.6	78.1	41.0	44.4	46.3	37.2	35.9
1959	16.9	9.89	8.90	8.49	12.7	34.0	15.0	40.4	41.4	38.1	38.4	34.2	25.0
1960	17.6	11.7	8.00	7.80	7.72	21.3	17.5	42.6	46.0	36.9	36.0	34.0	24.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	1,540	827	688	606	448	949	909	2,570	2,520	2,160	2,390	2,220	17,830
1954	1,770	507	491	430	317	392	1,160	2,230	2,040	1,960	1,800	1,910	15,010
1955	1,160	472	365	369	333	904	402	2,450	2,320	2,070	2,100	1,850	14,800
1956	1,230	466	492	446	403	609	513	2,420	2,280	2,150	2,080	1,660	14,750
1957	1,040	301	264	307	305	453	1,220	2,170	4,990	2,850	1,750	1,600	17,230
1958	1,800	665	1,010	2,050	1,900	2,030	1,460	4,800	2,440	2,730	2,850	2,220	25,950
1959	1,040	589	547	522	708	2,090	894	2,480	2,460	2,340	2,360	2,040	18,070
1960	1,080	698	492	480	444	1,310	1,040	2,620	2,740	2,270	2,210	2,020	17,400

* Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953	1283	758	July 18, 1953	4.9	24.6	17,830	24.2	17,540
1954	1343	277	July 19, 1954	3.2	20.7	15,010	19.7	14,240
1955	1393	295	Oct. 9, 1954	-	20.4	14,800	20.7	14,990
1956	1443	162	Aug. 16, 1956	-	20.3	14,750	19.5	14,170
1957	1513	183	June 6, 1957	-	23.8	17,230	26.4	19,100
1958	1563	139	May 20, 1958	9.0	35.9	25,950	34.1	24,680
1959	1633	68	May 16, 1959	6.8	25.0	18,070	25.1	18,160
1960	1713	150	Sept. 15, 1960	6	24.0	17,400	-	-

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	1,090	1,930	1,900	1,870	1,660	1,840	993	1,410	3,100	1,600	1,630	1,370	20,390
1958	1,270	2,220	1,660	419	312	516	1,120	2,560	2,160	638	114	614	13,600
1959	1,880	2,110	2,190	2,070	1,550	271	1,490	459	6.0	13	58	136	12,230
1960	1,320	1,650	1,980	1,850	1,700	1,180	1,160	982	59	0	0	193	12,070

Note.--No records available prior to October 1956.

925. Beaver Creek near Rifle, Colo.

Location.--Lat 39°29', long 107°50', in NE $\frac{1}{4}$ sec.1, T.7 S., R.94 W., on left bank 150 ft upstream from road bridge, 4 miles upstream from mouth, and 4 $\frac{1}{4}$ miles southwest of Rifle.

Drainage area.--16 sq mi, approximately.

Records available.--October 1952 to September 1960.

Gage.--Water-stage recorder and plank control. Altitude of gage is 6,610 ft (by barometer).

Average discharge.--8 years (1952-60), 3.96 cfs (2,870 acre-ft per year).

Extremes.--1952-60: Maximum discharge, 72 cfs June 5, 1957, from rating curve extended above 40 cfs; maximum gage height, 3.70 ft May 29, 1958; minimum daily discharge, 0.3 cfs Jan. 4-6, 1959.

Remarks.--Diversions above station for irrigation of about 170 acres below station and about 380 acres in Mamm Creek basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	1.2	1.23	1.20	1.28	0.99	1.01	1.80	6.85	16.2	3.49	1.72	1.13	3.17
1954	1.00	.89	.74	.62	.61	.68	3.84	15.3	6.37	2.62	1.37	1.32	2.95
1955	1.71	.80	.75	.65	.58	.80	1.59	16.8	17.1	4.04	1.88	1.10	4.00
1956	.93	.84	.76	.63	.72	.86	2.00	13.4	11.1	2.89	2.08	.78	3.09
1957	1.00	.94	.7	.8	1.09	.85	1.92	9.13	37.7	17.9	4.32	2.50	6.57
1958	2.00	1.41	.86	.75	.86	.93	2.89	25.8	23.3	4.21	1.65	1.92	5.57
1959	1.52	1.28	1.04	.79	.84	.65	1.86	10.5	9.69	2.94	1.64	1.19	2.83
1960	1.35	.81	.68	.78	.88	.91	3.56	13.9	14.0	3.18	1.17	1.09	3.52

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	74	73	74	79	55	62	107	421	966	214	106	67	2,300
1954	62	53	45	38	34	42	217	943	379	161	84	79	2,140
1955	105	48	46	40	32	49	95	1,030	1,020	248	116	66	2,900
1956	57	50	47	39	42	53	119	824	658	178	128	46	2,240
1957	61	56	43	49	60	52	114	561	2,240	1,100	266	149	4,750
1958	123	84	53	46	48	57	172	1,590	1,390	259	102	114	4,040
1959	93	76	64	48	47	40	111	643	576	181	101	71	2,050
1960	85	48	42	48	50	56	212	854	832	195	72	65	2,560

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953	1283	32	May 29, 1953	0.6	3.17	2,300	3.09	2,240
1954	1343	27	May 21, 1954	.4	2.95	2,140	3.00	2,180
1955	1393	43	May 14, 1955	.4	4.00	2,900	3.94	2,850
1956	1443	22	May 7, 1956	.4	3.09	2,240	3.10	2,250
1957	1513	72	June 5, 1957	-	6.57	4,750	6.71	4,850
1958	1563	57	May 29, 1958	.7	5.57	4,040	5.54	4,010
1959	1633	31	May 15, 1959	.3	2.83	2,050	2.75	1,990
1960	1713	29	June 1, 1960	.4	3.52	2,560	-	-

BATTLEMENT CREEK BASIN

926. Battlement Creek near Grand Valley, Colo.

Location.--Lat 39°26', long 107°59', in SE $\frac{1}{4}$ sec.15, T.7 S., R.95 W., on left bank 300 ft downstream from ford, 4 $\frac{1}{2}$ miles upstream from mouth, and 5 miles southeast of Grand Valley.

Drainage area.--8.31 sq mi.

Records available.--October 1956 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,630 ft (from topographic map).

Extremes.--1956-60: Maximum discharge, 102 cfs June 7, 1957 (gage height, 2.79 ft); maximum gage height, 2.96 ft May 26, 1958 (backwater from debris); minimum daily discharge determined, 1.0 cfs Nov. 28, 1959.

Remarks.--Slight regulation by Battlement Reservoir. No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	1.63	1.59	1.4	1.4	1.5	1.47	3.46	19.1	88.7	40.8	9.04	7.50	13.2
1958	7.58	5.02	2.8	1.8	1.4	2.0	5.28	45.7	50.3	15.1	6.22	3.65	12.3
1959	3.55	3.07	1.95	1.6	1.78	1.58	2.67	13.5	14.0	5.92	4.08	2.82	4.73
1960	2.73	1.71	1.4	1.2	1.3	1.64	5.30	18.8	29.4	7.24	3.35	2.22	6.35

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	100	95	86	86	83	90	206	1,180	4,090	2,510	556	446	9,530
1958	466	299	172	111	78	123	314	2,810	2,990	926	382	217	8,890
1959	218	182	120	98	99	97	159	831	833	364	251	168	3,420
1960	168	102	86	74	75	101	315	1,160	1,750	445	206	132	4,610

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1957	1513	102	June 7, 1957	-	13.2	9,530	14.1	10,180		
1958	1563	91	May 28, 1958	-	12.3	8,890	11.7	8,470		
1959	1633	26	May 16, 1959	1.4	4.73	3,420	4.50	3,260		
1960	1713	41	June 4, 1960	1.0	6.35	4,610	-	-		

PARACHUTE CREEK BASIN

928. West Fork Parachute Creek near Grand Valley, Colo.

Location.--Lat 39°35'15", long 108°07'30", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.25, T.5 S., R.96 W., on left bank 0.3 mile upstream from bridge, a quarter of a mile downstream from Red Gulch, 1.1 miles upstream from Parachute Creek, and 10 miles north of Grand Valley.

Drainage area.--48.1 sq mi.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder. Metal control since May 27, 1959. Altitude of gage is 5,900 ft (from topographic map).

Extremes.--1957-60: Maximum discharge, about 120 cfs Apr. 12, 1960; maximum gage height, 4.46 ft Apr. 15, 1960; no flow at times in 1957, 1960.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	3	1.5	0.93	0.55	1.78	3.07	12.0	34.1	7.52	3.85	1.58	1.88	6.02
1959	1.82	1.34	.61	.67	1.05	1.86	4.97	3.39	.85	.79	1.49	1.43	1.69
1960	1.58	.77	.33	.1	.1	1.91	23.6	3.45	1.49	.59	.15	.34	2.84

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	184	89	57	34	99	189	717	2,100	447	237	97	112	4,360
1959	112	80	37	41	58	114	296	208	50	49	91	85	1,220
1960	97	46	20	6.1	5.8	118	1,400	212	88	36	9.5	20	2,060

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1958	1563	79	May 7, 1958	0	6.02	4,360	5.88	4,260		
1959	1633	24	Aug. 3, 1959	.1	1.69	1,220	1.60	1,160		
1960	1713	a120	Apr. 12, 1960	0	2.84	2,060	-	-		

a About.

930. Parachute Creek near Grand Valley, Colo.

Location.--Lat 39°34'30", long 108°06'35", in NE $\frac{1}{4}$ sec.36, T.5 S., R.96 W., on right bank 100 ft downstream from bridge, 0.1 mile downstream from confluence of West and East Forks, and 9 miles north of Grand Valley.

Drainage area.--144 sq mi.

Records available.--October 1948 to September 1954.

Gage.--Water-stage recorder. Altitude of gage is 5,780 ft (from topographic map).

Average discharge.--6 years (1948-54), 20.8 cfs (15,060 acre-ft per year).

Extremes.--1948-54: Maximum discharge, 738 cfs May 5, 1952; maximum gage height, 5.20 ft May 6, 1952; no flow Dec. 2, 1948 (field observation).

Remarks.--Diversions for irrigation of about 75 acres above station. One diversion from East Fork bypasses station for irrigation of about 100 acres below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5.34	4.08	3.75	2.46	2.81	8.94	14.0	22.8	11.6	7.16	3.56	2.29	7.44
1952	2.25	1.76	1.37	2.47	2.99	3.01	129	324	67.2	22.2	15.4	7.63	46.5
1953	5.63	2.72	.75	2.43	3.68	5.42	8.11	54.2	23.4	10.1	8.30	5.55	10.9
1954	4.39	3.08	2.66	2.61	3.99	6.00	54.6	22.4	9.21	5.84	4.82	4.26	10.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	328	243	231	151	156	550	833	1,400	692	441	219	136	5,380
1952	136	105	84	152	172	185	7,650	19,950	4,000	1,360	948	454	35,200
1953	359	162	46	149	204	333	482	3,330	1,390	619	510	330	7,910
1954	270	183	163	160	221	369	3,250	1,380	548	359	296	253	7,450

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	19.6	-	14,180	-
1951	1213	147	July 21, 1951	0.9	7.44	5,380	6.78	4,900	4,900	-
1952	1243	738	May 5, 1952	1.0	48.5	35,200	48.8	35,440	35,440	-
1953	1283	320	Aug. 10, 1953	.6	10.9	7,910	11.0	7,960	7,960	-
1954	1343	100	Apr. 18, 1954	1.9	10.3	7,450	-	-	-	-

935. Parachute Creek at Grand Valley, Colo.

Location.--Lat 39°27'10", long 108°03'30", in NW $\frac{1}{4}$ sec.12, T.7 S., R.96 W., on right bank at west edge of Grand Valley, half a mile upstream from bridge on U. S. Highways 6 and 24 and 1 $\frac{1}{2}$ miles upstream from mouth.

Drainage area.--200 sq mi.

Records available.--April 1921 to September 1927, October 1948 to September 1954.

Gage.--Water-stage recorder. Altitude of gage is 5,100 ft (from topographic map). Apr. 7, 1921, to Sept. 30, 1927, staff gage 25 ft upstream at two different datums; datum lowered 1.0 ft Oct. 1, 1923.

Average discharge.--12 years (1921-27, 1948-54), 30.3 cfs (21,940 acre-ft per year).

Extremes.--1921-27, 1948-54: Maximum discharge, 912 cfs May 5, 1952 (gage height, 4.99 ft); no flow for short periods in 1926-27, 1949.

Remarks.--Diversions above station for irrigation of about 1,400 acres above station and about 400 acres along Colorado River.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5.21	15.0	14.0	10.5	10.9	17.5	17.4	4.34	1.30	1.89	3.06	2.00	8.57
1952	5.63	11.4	9.25	9.26	10.9	17.3	157	372	56.9	15.3	29.0	7.72	58.7
1953	5.28	12.0	12.0	12.2	11.8	13.7	13.3	39.8	12.7	1.03	8.37	2.04	12.0
1954	5.99	8.94	7.59	10.7	11.4	14.7	34.0	4.47	.78	.78	.86	7.73	8.93

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	320	890	863	644	604	1,080	1,040	267	77	116	188	119	6,210
1952	346	880	569	568	626	1,060	9,320	22,900	3,390	941	1,780	460	42,640
1953	324	716	738	750	655	843	794	2,450	754	63	515	122	8,720
1954	368	532	467	657	634	902	2,020	275	46	48	53	450	6,460

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	20.4	-	14,740	-
1951	1213	600	Aug. 5, 1951	0.1	8.57	6,210	7.90	5,730	5,730	-
1952	1243	912	May 5, 1952	.7	58.7	42,640	59.0	42,820	42,820	-
1953	1283	284	Aug. 10, 1953	.7	12.0	8,720	11.5	8,310	8,310	-
1954	1343	194	Sept. 8, 1954	.1	8.93	6,460	-	-	-	-

955. Colorado River near Cameo, Colo.

Location.--Lat 39°14'20", long 108°16'00", in SW1/4 sec.30, T.9 S., R.97 W., on left bank 100 ft north of U. S. Highways 6 and 24, half a mile upstream from Jackson Canyon, 5.9 miles upstream from Grand Valley project diversion dam, and 7 miles northeast of Cameo.

Drainage area.--8,050 sq mi, approximately. 8,060 sq mi, approximately, at site used prior to Feb. 28, 1958.

Records available.--October 1933 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 4,813.73 ft above mean sea level, datum of 1929. Prior to Oct. 10, 1934, staff gage on river and water-stage recorder on highline canal, about 10 miles downstream at different datum. Oct. 10, 1934, to Feb. 27, 1958, at site 3 miles downstream at datum 22.55 ft lower.

Average discharge.--27 years (1933-60), 3,970 cfs (2,874,000 acre-ft per year).

Extremes.--1933-60: Maximum discharge, 36,000 cfs June 16, 1935; maximum gage height, 11.60 ft June 8, 1952 (site and datum then in use); minimum daily discharge, 700 cfs Dec. 29, 1939.

Remarks.--Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, and diversions for irrigation of about 160,000 acres. Records of chemical analyses and water temperatures are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,569	1,649	1,593	1,567	1,589	1,608	2,539	8,725	14,410	7,665	3,373	1,866	4,020
1952	1,948	1,751	1,726	1,561	1,466	1,836	5,259	15,910	22,180	7,295	4,495	2,870	5,689
1953	2,000	1,879	1,613	1,601	1,440	1,651	2,285	5,634	14,897	4,804	3,153	1,695	3,554
1954	1,649	1,668	1,495	1,537	1,460	1,530	2,287	4,807	3,435	2,372	1,711	1,730	2,144
1955	2,035	1,650	1,331	1,197	1,204	1,399	2,379	6,248	7,529	3,476	2,560	1,676	2,730
1956	1,476	1,587	1,454	1,315	1,309	1,693	3,099	11,140	10,700	2,610	1,867	1,473	3,328
1957	1,510	1,403	1,184	1,297	1,384	1,345	2,535	9,616	23,750	17,430	5,505	2,645	5,819
1958	2,205	2,069	1,667	1,492	1,709	1,996	2,884	13,780	13,580	3,135	1,771	1,735	4,009
1959	1,618	1,574	1,400	1,532	1,554	1,341	1,988	6,375	11,490	3,496	2,135	1,763	3,022
1960	2,242	1,957	1,623	1,627	1,593	2,191	4,133	7,028	11,220	3,525	1,903	1,711	3,391

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	96,460	98,100	97,940	96,360	88,260	98,860	51,100	536,500	857,400	471,300	207,400	11,000	2,911,000
1952	119,800	104,200	106,200	96,000	84,300	112,900	312,900	978,200	1,320,000	448,600	276,400	170,800	4,130,000
1953	123,000	111,800	99,170	98,480	79,990	101,500	36,000	348,400	886,400	295,400	193,800	100,900	2,573,000
1954	101,400	99,230	91,890	94,490	81,080	94,080	36,100	295,600	204,400	45,900	105,200	102,900	1,552,000
1955	125,200	98,190	81,820	73,590	66,840	86,000	41,600	354,200	448,000	213,700	157,400	99,750	1,976,000
1956	90,740	94,430	89,400	80,830	75,310	104,100	184,400	684,900	636,800	72,800	114,800	87,630	2,416,000
1957	92,850	83,460	72,790	79,740	76,860	82,730	150,800	591,300	1,155,000	772,000	338,500	157,400	4,213,000
1958	135,600	123,100	102,500	91,740	94,910	22,800	171,600	847,200	808,000	192,800	108,900	103,300	2,902,000
1959	99,490	93,660	86,100	94,210	86,280	82,470	118,300	392,000	683,900	215,000	131,200	104,900	2,188,000
1960	137,900	116,400	99,790	100,000	91,660	134,700	245,900	432,200	687,900	216,800	117,000	101,800	2,462,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	3,475	2,516,000
1951	1213	22,800	June 22, 1951	1,100	4,020	2,911,000	4,072	2,948,000
1952	1243	32,500	June 8, 1952	1,000	5,689	4,130,000	5,694	4,134,000
1953	1283	24,700	June 14, 1953	1,150	3,554	2,573,000	3,497	2,531,000
1954	1343	8,490	May 22, 1954	1,100	2,144	1,552,000	2,182	1,565,000
1955	1393	10,400	June 9, 1955	1,000	2,730	1,976,000	2,687	1,946,000
1956	1443	20,600	June 3, 1956	1,000	3,328	2,416,000	3,293	2,391,000
1957	1513	31,400	July 1, 1957	800	5,819	4,213,000	5,974	4,326,000
1958	1563	25,900	May 30, 1958	1,200	4,009	2,902,000	3,896	2,820,000
1959	1633	16,400	June 10, 1959	1,030	3,022	2,188,000	3,125	2,262,000
1960	1713	16,700	June 5, 1960	1,300	3,391	2,462,000	-	-

958. Plateau Creek near Heiberger, Colo.

Location.--Lat 39°13'10", long 107°46'30", near center sec.4, T.10 S., R.93 W., on right bank 50 ft upstream from ford, 7 miles south of Heiberger, and 9½ miles southeast of Collbran.

Drainage area.--19 sq mi, approximately.

Records available.--May 1958 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 8,016.31 ft above mean sea level (Bureau of Reclamation bench mark).

Extremes.--1958-60: Maximum discharge, 272 cfs May 23, 1958 (gage height, 3.56 ft); minimum daily, 0.3 cfs Sept. 11, 1959.

Remarks.--Diversion for irrigation of hay meadows and slight regulation by one reservoir (capacity, 200 acre-ft) above station. Erie Canal diverts water above station to Buzzard Creek drainage for irrigation of about 280 acres.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	96.1	41.6	2.40	1.25	1.60	-
1959	0.69	0.75	1.4	1.2	1.4	1.82	7.55	32.7	8.99	2.18	1.67	1.17	5.16
1960	1.49	.95	.9	.8	.8	2.3	†17.0	58.3	22.1	2.75	1.26	1.05	9.17

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	5,910	2,480	148	77	95	-
1959	42	44	86	74	78	112	449	2,010	529	134	103	70	3,730
1960	92	57	55	49	46	140	1,010	3,580	1,310	169	77	62	6,650

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Discharge	Maximum Date	Minimum day	Mean	Acre-feet	Acre-feet
1958	1563	a272	May 23, 1958	-	-	-	-
1959	1633	98	May 15, 1959	0.3	5.16	3,730	5.20
1960	1713	201	May 13, 1960	.4	9.17	6,650	-

a Maximum during period May to September.

960. Plateau Creek at upper station, near Collbran, Colo.

Location.--Lat 39°13'20", long 107°48'00", in NW¼NW¼ sec.5, T.10 S., R.93 W., on left bank 1½ miles upstream from Park Creek and 6½ miles southeast of Collbran.

Drainage area.--24 sq mi, approximately.

Records available.--May 1937 to September 1943, May 1951 to April 1958. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,885 ft (from topographic map). Prior to Nov. 26, 1939, staff gages at several sites within 1½ miles of present site at various datums. Mar. 18, 1940, to Sept. 30, 1943, and May 1 to Oct. 5, 1951, water-stage recorder at site half a mile downstream at different datum.

Average discharge.--12 years (1937-43, 1951-57), 16.4 cfs (11,870 acre-ft per year).

Extremes.--1937-43, 1951-58: Maximum discharge, 450 cfs May 27, 1942 (gage height, 3.90 ft, site and datum then in use) from rating curve extended above 180 cfs; no flow at times.

Remarks.--One small reservoir (capacity, 200 acre-ft) and diversions for irrigation of about 730 acres above station. Erie Canal diverts water above station to Buzzard Creek drainage for irrigation of about 140 acres.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	42.8	29.3	2.81	0.94	0.66	-
1952	1.41	1.75	2.02	2.2	2.2	2.5	31.1	97.2	95.8	8.00	4.45	2.19	20.9
1953	1.35	2.57	3.36	3.14	2.90	3.91	13.8	45.4	44.2	3.96	3.49	.87	10.8
1954	1.42	2.77	2.30	2.26	2.40	2.69	19.4	38.2	5.73	2.95	1.49	4.50	7.20
1955	3.05	2.71	2.63	2.42	2.25	2.52	15.6	67.6	26.5	2.52	2.21	.61	11.0
1956	.79	.83	1.48	1.56	1.94	4.23	14.9	50.1	18.9	2.05	1.29	.38	8.23
1957	1.22	1.61	2.12	2.0	2.02	2.16	14.7	55.6	158	45.8	6.69	4.27	24.6
1958	6.55	7.01	4.10	4.90	6.34	6.24	23.4	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	2,630	1,740	173	58	39	-
1952	87	104	124	135	127	154	1,850	5,970	5,700	492	274	130	15,150
1953	83	153	206	193	161	240	824	2,790	2,630	243	214	52	7,790
1954	87	165	142	139	133	165	1,150	2,350	3,41	181	92	268	5,210
1955	168	161	161	149	125	155	928	4,160	1,580	155	136	36	7,930
1956	49	50	91	96	112	260	887	3,080	1,120	126	79	23	5,970
1957	75	96	131	123	112	133	873	3,420	9,390	2,810	411	254	17,830
1958	403	417	252	301	352	384	1,390	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Discharge	Maximum Date	Minimum day	Mean	Acre-feet	Acre-feet
1951	1213	a125	May 28, 1951	-	-	-	-
1952	1243	213	June 7, 1952	0.7	20.9	15,150	21.0
1953	1283	159	May 28, 1953	.2	10.8	7,790	10.7
1954	1343	94	May 19, 1954	.5	7.20	5,210	7.36
1955	1393	140	May 14, 1955	.4	11.0	7,930	10.5
1956	1443	120	May 20, 1956	.3	8.23	5,970	8.39
1957	1513	255	June 15, 1957	.5	24.6	17,830	25.7
1958	1563	b93	Apr. 22, 1958	-	-	-	-

a Maximum daily during period May to September.

b Maximum during period October to April.

961. Vega Reservoir near Collbran, Colo.

Location.--Lat 39°13'30", long 107°48'40", in sec.6, T.10 S., R.93 W., at dam on Plateau Creek, 10 miles southeast of Collbran.

Drainage area.--24.4 sq mi.

Records available.--April to September 1960.

Gage.--Staff gage. Datum of gage is 7,906 ft above mean sea level (Bureau of Reclamation bench mark); gage readings have been reduced to elevations above mean sea level.

Extremes.--April to September 1960: Maximum contents observed, 6,500 acre-ft June 16-20 (elevation, 7,939.4 ft); minimum observed, 1,260 acre-ft Apr. 15, (elevation, 7,917.4 ft, revised).

Remarks.--Reservoir is formed by an earth- and rock-fill dam. Dam completed by Bureau of Reclamation in 1960. Usable storage began in May 1958 while dam was under construction. Capacity of reservoir, 33,000 acre-ft between elevations 7,906 (bottom of outlet gates) and 7,984 ft (crest of spillway). Dead storage, 820 acre-ft. Figures given herein represent usable contents. Reservoir is used to store water for irrigation and power development.

Cooperation.--Records furnished by Bureau of Reclamation.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1960	-	-	-	-	-	-	2,120	5,670	6,250	6,060	4,900	4,720

965. Plateau Creek near Collbran, Colo.

Location.--Lat 39°15'00", long 107°50'25", in NE $\frac{1}{4}$ sec.26, T.9 S., R.94 W., on right bank 10 ft downstream from private bridge, $\frac{1}{2}$ miles downstream from Leon Creek, and 6 miles east of Collbran.

Drainage area.--88 sq mi, approximately.

Records available.--September 1921 to September 1960. Prior to October 1933 monthly discharge only, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,130 ft (from topographic map).

Average discharge.--39 years (1921-60), 92.2 cfs (66,750 acre-ft per year).

Extremes.--1921-60: Maximum discharge, 3,080 cfs May 27, 1922 (gage height, 6.90 ft), from rating curve extended above 1,300 cfs; minimum daily, 3 cfs Sept. 21, 1926.

Remarks.--Flow regulated by Vega Reservoir since 1959. Diversions above station for irrigation of about 800 acres above and about 550 acres below station or in Buzzard Creek drainage. Also diversion above station to Surface Creek in Gunnison River basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9.76	9.71	10.6	9.41	8.75	9.57	29.1	279	184	21.6	15.8	10.2	50.0
1952	12.5	8.69	9.61	11.3	11.5	82.9	512	635	57.1	33.7	21.1	13	117
1953	12.4	12.8	14.3	13.1	11.9	14.1	37.4	256	358	21.3	16.1	7.87	62.9
1954	9.26	11.6	9.97	10.5	10.3	11.7	118	319	41.3	20.4	12.4	15.7	49.6
1955	18.1	12.1	9.92	9.61	10.2	11.8	38.8	395	194	20.6	20.1	9.84	63.0
1956	8.69	9.08	9.87	9.77	9.61	13.9	52.5	379	115	21.4	15.9	7.13	54.7
1957	7.85	8.77	10.9	9.02	9.44	10.9	35.2	163	974	311	39.9	30.1	134
1958	52.2	29.1	17.3	16.3	18.9	17.3	61.2	592	271	21.3	16.1	16.3	93.0
1959	10.1	9.46	9.13	8.76	8.94	13.2	36.9	265	94.5	16.5	18.6	9.77	41.9
1960	13.4	10.3	9.37	7.99	9.47	13.5	63.4	340	154	20.2	20.4	11.4	56.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	600	578	654	579	486	589	1,730	17,150	10,950	1,330	970	608	36,220
1952	766	517	591	694	662	711	4,930	31,500	37,870	3,510	2,070	1,260	84,880
1953	764	759	877	805	662	869	2,230	15,750	20,090	1,310	987	468	45,570
1954	570	688	613	647	574	718	7,040	19,820	2,460	1,250	763	934	35,680
1955	1,110	722	610	603	566	726	2,310	24,290	11,560	1,270	1,240	586	45,590
1956	535	540	607	601	553	856	3,120	23,280	6,860	1,320	978	424	39,670
1957	483	522	670	554	524	668	2,100	10,050	57,930	19,120	2,460	1,790	98,870
1958	1,980	1,730	1,060	1,000	1,050	1,060	3,640	36,400	16,150	1,310	988	968	67,340
1959	619	563	561	539	496	812	2,200	16,310	5,620	1,020	581	303	30,340
1960	821	614	576	491	544	830	3,770	20,890	9,180	1,240	1,250	676	40,880

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	77.5	56,080
1951	1213	1,170	May 27, 1951	4.0	50.0	36,220	58.1	36,270
1952	1243	1,480	June 10, 1952	6.5	117	84,880	118	85,410
1953	1283	1,560	June 2, 1953	6.5	62.9	45,570	62.2	45,040
1954	1343	618	May 17, 1954	6.7	49.6	35,880	50.3	36,450
1955	1393	1,020	May 14, 1955	7	63.0	45,590	61.9	44,830
1956	1443	942	May 20, 1956	4.6	54.7	39,670	54.6	39,670
1957	1513	1,590	June 24, 1957	5.0	134	96,870	138	99,970
1958	1563	1,270	May 28, 1958	9.4	93.0	67,340	88.8	64,310
1959	1633	680	May 15, 1959	6.5	41.9	30,340	42.3	30,610
1960	1713	815	May 14, 1960	7	56.3	40,880	-	-

968. Buzzard Creek below Owens Creek, near Heiberger, Colo.

Location.--Lat 39°14', long 107°38', in N $\frac{1}{2}$ sec.35, T.9 S., R.92 W., on left bank 500 ft downstream from Owens Creek, 2 $\frac{1}{2}$ miles upstream from Porter Creek, 4 $\frac{1}{4}$ miles southeast of Hightower ranger station, and 8 $\frac{1}{2}$ miles southeast of Heiberger.

Drainage area.--52.2 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,215 ft (from topographic map).

Average discharge.--5 years (1955-60), 24.7 cfs (17,880 acre-ft per year).

Extremes.--1955-60: Maximum discharge, 636 cfs June 4, 1957 (gage height, 5.82 ft); no flow at times in 1956-60.

Remarks.--Natural flow of stream affected by diversions above station from Owens Creek to West Divide Creek basin for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	0.45	1.31	1.4	1.5	2.0	7.65	36.0	89.9	16.6	0.79	0.36	0.02	13.2
1957	.22	.7	.6	.7	1.1	2.0	36.0	153	297	41.8	4.65	2.41	44.9
1958	4.80	4.21	3.8	5	4	4.5	45.7	279	65.5	1.83	.13	.27	35.2
1959	.74	.87	.80	1	1	1.74	25.1	87.7	17.7	1.31	.40	.65	11.7
1960	1.14	1.35	.4	.5	1	1.5	47.7	126	39.2	1.56	.03	0	18.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	27	78	86	92	115	470	2,140	5,530	966	49	22	0.99	9,600
1957	13	42	37	43	61	123	2,140	9,390	17,650	2,570	286	143	32,500
1958	295	250	234	307	222	277	2,720	17,160	3,900	112	7.7	16	25,500
1959	45	52	49	61	56	107	1,490	5,390	1,050	80	24	38	8,440
1960	70	81	25	31	58	93	2,840	7,750	2,330	96	2.0	0	13,380

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1956	1443	256	May 7, 1956	0	13.2	9,600	13.1	9,500
1957	1513	636	June 4, 1957	0	44.9	32,500	45.8	33,180
1958	1563	512	May 7, 1958	0	35.2	25,500	34.3	24,870
1959	1633	260	May 15, 1959	0	11.7	8,440	11.7	8,470
1960	1713	385	May 12, 1960	0	18.4	13,380	-	-

975. Buzzard Creek near Collbran, Colo.

Location.--Lat 39°16'20", long 107°51'00", in sec.14, T.9 S., R.94 W., on right bank 150 ft upstream from county bridge, half a mile upstream from Brush Creek, and 7 miles east of Collbran.

Drainage area.--139 sq mi.

Records available.--September 1921 to September 1960. Prior to October 1933 monthly discharge only, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 6,955 ft (from topographic map).

Average discharge.--39 years (1921-60), 48.4 cfs (35,040 acre-ft per year).

Extremes.--1921-60: Maximum discharge, 1,630 cfs May 14, 1941 (gage height, 7.80 ft), from rating curve extended above 900 cfs; no flow for many days in 1959-60.

Remarks.--Diversions for irrigation of about 1,300 acres above station. Erie Canal Imports water from Plateau Creek for irrigation of about 280 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.92	2.28	2.66	3.67	3.84	7.15	28.7	99.7	37.9	1.93	1.36	0.86	16.0
1952	1.49	1.99	2.96	2.95	1.94	8.97	201	377	135	11.0	5.72	1.59	62.7
1953	1.67	2.44	3.26	4.41	4.50	9.71	44.0	166	82.3	3.32	3.75	.91	27.3
1954	2.37	4.11	5.11	3.18	4.31	7.03	61.4	71.3	4.76	2.09	.73	.61	13.8
1955	4.22	2.92	2.31	2.57	2.99	6.37	56.6	149	31.7	1.52	.61	.59	21.9
1956	.8	1.3	1.8	2.2	2.8	10.3	60.1	108	21.3	1.60	.91	.32	17.6
1957	.89	1.85	1.58	1.89	3.20	6.50	78.3	331	420	59.4	7.73	5.87	76.6
1958	10.1	8.82	6.77	6.68	10.5	20.3	151	500	81.6	3.79	.80	.97	67.3
1959	1.42	2.31	3.2	3.6	4	5.42	48.4	108	22.8	2.09	1.03	.29	17.0
1960	3.64	3.72	.78	3.65	4.79	15.1	135	163	48.3	1.90	.58	.09	31.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	57	135	164	226	213	440	1,710	6,130	2,250	119	84	51	11,580
1952	92	118	182	181	112	551	11,950	23,180	8,020	675	352	95	45,520
1953	103	145	200	271	250	597	2,620	10,180	4,900	204	231	54	19,760
1954	146	245	191	196	239	432	3,650	4,380	283	129	45	36	9,970
1955	259	174	142	158	168	392	3,370	9,140	1,890	94	37	35	15,860
1956	49	77	111	135	161	635	3,580	6,610	1,270	98	56	19	12,800
1957	55	110	97	116	178	400	4,660	20,330	25,020	3,650	475	349	55,440
1958	623	525	416	411	581	1,250	8,990	30,720	4,860	233	49	58	48,720
1959	87	137	197	221	222	333	2,880	6,660	1,360	129	63	17	12,310
1960	224	221	48	224	275	927	8,010	10,030	2,870	117	36	5.2	22,990

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet			
		Discharge	Date								
1950	-	-	-	-	-	-	29.6	-	-	-	21,420
1951	1213	244	May 28, 1951	0.2	16.0	11,580	16.0	11,620	-	-	11,620
1952	1243	914	May 5, 1952	.1	62.7	45,520	62.8	45,570	-	-	45,570
1953	1263	500	May 29, 1953	.3	27.3	19,760	27.5	19,890	-	-	19,890
1954	1343	184	May 10, 1954	.1	13.8	9,970	13.8	9,960	-	-	9,960
1955	1393	355	May 8, 1955	.1	21.9	15,860	21.4	15,520	-	-	15,520
1956	1443	266	May 8, 1956	.1	17.6	12,800	17.7	12,850	-	-	12,850
1957	1513	968	June 5, 1957	.4	76.6	55,440	78.4	56,740	-	-	56,740
1958	1563	1,040	May 8, 1958	.1	67.3	48,720	65.7	47,570	-	-	47,570
1959	1633	268	May 15, 1959	0	17.0	12,310	17.1	12,380	-	-	12,380
1960	1713	563	Apr. 10, 1960	0	31.7	22,990	-	-	-	-	-

976. Brush Creek near Collbran, Colo.

Location.--Lat 39°19'30", long 107°50'30", in W½ sec.36, T.8 S., R.94 W., on right bank at site of former highway bridge, 1 mile downstream from West Brush Creek, 4 miles upstream from mouth, and 8½ miles northeast of Collbran.

Drainage area.--10.6 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,183 ft (from topographic map).

Average discharge.--5 years (1955-60), 7.67 cfs (5,550 acre-ft per year).

Extremes.--1955-60: Maximum discharge, 317 cfs June 7, 1957 (gage height, 4.35 ft); minimum daily determined, 0.2 cfs Oct. 25, 26, 1959, Aug. 20, 21, 1960.

Remarks.--One small diversion for hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	0.9	0.87	0.9	1.0	0.9	1.82	12.0	27.2	8.80	2.83	1.15	0.59	4.93
1957	1.02	.98	.92	.78	1.02	1.10	4.08	31.7	93.0	13.8	3.52	2.30	12.8
1958	2.56	2.17	1.9	1.7	1.5	1.39	7.88	76.2	26.9	2.99	.90	1.36	10.7
1959	1.43	.92	.8	1	1	1.01	5.50	26.4	11.3	2.24	1.43	.88	4.50
1960	.85	.64	.5	.6	.6	1.53	18.5	27.0	11.5	2.08	.56	.73	5.42

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	55	52	55	61	52	112	717	1,670	524	174	71	35	3,580
1957	62	59	57	48	57	68	243	1,950	5,530	850	216	137	9,280
1958	157	129	117	105	83	86	468	4,690	1,600	184	55	82	7,760
1959	98	55	49	61	56	62	316	1,620	675	138	88	52	3,260
1960	52	38	31	37	35	94	1,100	1,660	686	128	34	43	3,940

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1956	1443	69	May 7, 1956	-	4.93	3,580	4.96	3,590	
1957	1513	317	June 7, 1957	0.6	12.8	9,280	13.1	9,500	
1958	1563	133	May 20, 1958	.4	10.7	7,760	10.4	7,540	
1959	1635	51	May 15, 1959	.4	4.50	3,260	4.41	3,190	
1960	1713	81	May 12, 1960	a.2	5.42	3,940	-	-	

a Minimum determined.

980. Big Creek below Bonham Reservoir, near Collbran, Colo.

Location.--Lat 39°06', long 107°54', in SE¼ sec.9, T.11 S., R.94 W., on right bank at outlet of Bonham Reservoir, 75 ft upstream from Atkinson Creek and 10 miles southeast of Collbran.

Drainage area.--6.1 sq mi, approximately.

Records available.--October 1939 to October 1940, June to November 1941, June to September 1942, October 1952 to September 1954. Monthly discharge only for some periods, published in WSP 1310.

Gage.--Water-stage recorder and Parshall flume with auxiliary water-stage recorder and staff gage on two spillways. Altitude of gage is 9,700 ft (by barometer). Prior to Sept. 30, 1942, water-stage recorder and Cippoletti weir with auxiliary staff gages on two spillways at same sites at different datums.

Extremes.--1939-42, 1952-54: Maximum discharge observed, 132 cfs June 8, 1942; no flow July 10-12, 1941.

Remarks.--Figures given herein represent combined flow of outlet and two spillways. Flow regulated by Bonham Reservoir (capacity, 1,450 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	5.14	2.35	2.31	2.5	2.4	1.76	0.5	4.03	44.0	28.8	11.5	7.82	9.44
1954	2.11	1.59	1.5	1.5	1.4	.73	2.97	28.6	26.4	19.3	13.0	5.17	8.75

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	316	140	142	154	133	108	30	248	2,620	1,770	707	465	6,830
1954	130	95	92	92	78	45	177	1,760	1,570	1,190	802	307	6,340

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Maximum day		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1953	1283	80	June 10, 1953	0.5	9.44	6,830	9.05	6,550	
1954	1343	52	May 22, 1954	-	8.75	6,340	-	-	

PLATEAU CREEK BASIN

985. Atkinson Creek near Collbran, Colo.

Location.--Lat 39°06', long 107°54', in NE $\frac{1}{4}$ sec.16, T.11 S., R.94 W., on left bank half a mile upstream from mouth, 1 mile downstream from Atkinson Reservoir, and 10 $\frac{1}{2}$ miles southeast of Collbran.

Drainage area.--1.0 sq mi, approximately.

Records available.--October 1952 to September 1955.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 9,900 ft (by barometer).

Extremes.--1952-55: Maximum discharge, 33 cfs July 26, 1953 (gage height, 1.49 ft); minimum not determined, occurred during winter periods of no gage-height record.

Remarks.--Diversion above station from East Fork Big Creek basin to Atkinson Reservoir. Flow regulated by Atkinson Reservoir (capacity, 1,800 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	0.74	1.03	0.52	0.1	0.1	0.2	0.5	2.04	1.68	10.8	13.9	1.44	2.81
1954	1.20	.97	.4	.1	.1	.2	.60	3.78	1.65	14.5	4.32	.42	2.47
1955	.27	.12	.10	.1	.1	.1	.28	2.22	1.86	12.7	13.2	.80	2.69

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	45	61	32	6.1	5.6	12	30	125	112	661	856	85	2,030
1954	74	58	25	6.1	5.6	12	36	233	98	950	265	25	1,790
1955	16	7.3	6.1	6.1	5.6	6.1	16	136	110	781	810	48	1,950

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1953	1343	33	July 26, 1953	-	2.81	2,030	2.83	2,050	
1954	1343	28	July 27, 1954	-	2.47	1,790	2.29	1,660	
1955	1393	31	July 25, 1955	-	2.69	1,950	-	-	

990. East Fork Big Creek near Collbran, Colo.

Location.--Lat 39°06', long 107°53', in SW $\frac{1}{4}$ sec.10, T.11 S., R.94 W., on left bank 150 ft upstream from road bridge, a quarter of a mile upstream from mouth, and 9 $\frac{1}{2}$ miles southeast of Collbran.

Drainage area.--About 5 sq mi.

Records available.--May, June 1940 and June 1941 (monthly discharge only, published in WSP 1313), October 1950 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 9,650 ft (by barometer). Prior to June 1951, staff gage at bridge 150 ft downstream at various datums.

Average discharge.--5 years (1950-55), 5.27 cfs (3,820 acre-ft per year).

Extremes.--1940-41, 1950-55: Maximum discharge, 190 cfs June 6, 1952 (gage height, 6.30 ft); minimum not determined, occurred during period of no gage-height record.

Remarks.--Flow regulated by Lambert Reservoir (capacity, about 200 acre-ft). Diversion by Atkinson Reservoir feeder canal about 1 mile above station during winter and spring months only.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.36	0.14	0.1	0.1	0.1	0.40	0.96	16.7	16.8	4.04	1.99	0.68	3.55
1952	.49	.40	.40	.4	.3	.3	2.01	28.9	59.2	13.0	5.82	3.10	9.50
1953	1.02	.41	.4	.4	.3	.4	.83	12.7	34.5	5.58	2.41	.53	4.95
1954	.55	.41	.3	.3	.3	.3	5.19	22.3	6.96	5.24	2.28	3.28	3.99
1955	1.51	1.02	.6	.5	.4	.3	1.0	18.6	20.5	4.86	2.08	.97	4.38

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	22	8.1	6.1	6.1	5.6	24	57	1,030	998	248	123	40	2,570
1952	36	24	25	25	17	18	119	1,770	3,520	797	358	184	6,890
1953	62	24	25	25	17	25	50	782	2,050	343	148	32	3,580
1954	34	24	18	18	17	18	309	1,380	414	322	140	194	2,890
1955	93	61	37	31	22	18	60	1,140	1,220	299	128	58	3,170

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950									
1951	1213	94	May 27, 1951	-	3.55	2,570	3.60	2,610	
1952	1243	190	June 6, 1952	-	9.50	6,890	9.54	6,920	
1953	1283	132	June 9, 1953	-	4.95	3,580	4.90	3,550	
1954	1343	64	May 19, 1954	-	3.99	2,890	4.15	3,000	
1955	1393	87	June 7, 1955	-	4.38	3,170	-	-	

995. Big Creek at upper station, near Collbran, Colo.

Location.--Lat 39°08', long 107°55', in NE $\frac{1}{4}$ sec.5, T.11 S., R.94 W., on right bank at downstream side of bridge, half a mile downstream from Barter Creek, 8 miles south of Collbran, and 9 miles upstream from mouth.

Drainage area.--17 sq mi, approximately.

Records available.--June 1945 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 8,590 ft (from topographic map).

Average discharge.--11 years (1945-56), 27.0 cfs (19,550 acre-ft per year).

Extremes.--1945-56: Maximum discharge, 474 cfs May 21, 1948 (gage height, 4.67 ft), from rating curve extended above 130 cfs; maximum gage height, 4.91 ft May 29, 1947 (failure of small reservoir dam); minimum discharge not determined.

Remarks.--Flow regulated by several small storage reservoirs above station. No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6.47	4.80	4.72	4.29	4.22	4.05	7.90	63.9	60.1	35.8	19.4	9.73	18.9
1952	10.0	5.23	4.47	4.50	4.61	4.8	20.3	111	164	57.4	39.1	19.0	37.0
1953	9.26	7.33	6.01	5.5	5.0	5.48	6.92	45.8	122	51.4	30.5	11.0	25.5
1954	5.46	5.30	4.99	4.76	4.57	4.27	26.6	84.7	37.8	47.3	19.9	11.7	21.6
1955	8.66	7.20	6	5	4.5	4	7.58	98.2	81.3	44.4	31.3	9.52	25.8
1956	7.72	5.5	5.0	5.0	5.0	5.05	12.9	82.1	52.6	39.5	16.9	10.3	20.7
1957													
1958													
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	398	286	290	264	234	249	470	3,930	3,580	2,200	1,190	579	13,670
1952	617	311	275	277	265	295	1,210	6,820	9,770	3,530	2,400	1,130	26,900
1953	569	436	370	358	278	337	412	2,810	7,250	3,160	1,870	656	18,490
1954	336	316	307	293	254	263	1,580	5,210	2,250	2,910	1,220	696	15,640
1955	533	428	369	307	250	246	451	6,040	4,840	2,730	1,920	566	18,680
1956	474	327	307	307	288	311	770	5,050	3,130	2,430	1,040	612	15,050
1957													
1958													
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	25.2	18,210
1951	1213	184	May 27, 1951	3.3	18.9	13,670	19.2	13,900
1952	1243	400	June 6, 1952	-	37.0	26,900	37.3	27,070
1953	1283	308	June 2, 1953	-	25.5	18,490	25.0	18,070
1954	1343	165	May 17, 1954	3.3	21.6	15,640	22.1	16,000
1955	1393	221	May 20, 1955	-	25.8	18,680	25.5	18,460
1956	1443	160	May 7, 1956	-	20.7	15,050	-	-
1957								
1958								
1959								
1960								

PLATEAU CREEK BASIN

1005. Cottonwood Creek at upper station, near Molina, Colo.

Location.--Lat 39°07'40", long 107°59'40", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.3, T.11 S., R.95 W., on left bank 6 miles southeast of Molina and 7 miles upstream from mouth.

Drainage area.--16 sq mi. approximately.

Records available.--May 1945 to September 1957.

Gage.--Water-stage recorder. Altitude of gage is 7,685 ft (from topographic map). Prior to Oct. 11, 1951, water-stage recorder and Parshall flume 100 ft downstream at datum 2.90 ft lower.

Average discharge.--12 years (1945-57), 15.2 cfs (11,000 acre-ft per year).

Extremes.--1945-57: Maximum discharge, 101 cfs May 18, 1948 (gage height, 3.01 ft, site and datum then in use), from rating curve extended above 45 cfs; minimum not determined.

Remarks.--Flow regulated by several small reservoirs (combined capacity, about 3,200 acre-ft). No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7.38	4.59	3.55	3.39	4.40	5.87	7.89	19.3	25.8	22.3	14.5	10.4	10.8
1952	6.30	2.87	2.81	3.80	4.46	6.22	12.4	35.0	39.2	36.2	32.5	25.0	17.3
1953	7.16	3.79	4.32	5.60	6.56	7.32	8.51	21.4	34.0	33.2	22.7	13.0	14.0
1954	8.06	3.51	3.35	3.23	3.62	4.85	10.7	25.9	21.0	23.1	17.6	9.56	11.3
1955	5	3.5	3.5	3.2	3.2	4	8.54	22.5	29.3	26.8	21.9	13.5	12.1
1956	8.26	3.05	3.27	3.47	3.87	5.69	8.11	25.7	22.5	21.3	14.4	8.87	10.7
1957	6.00	2.89	2.72	2.92	3.70	4.55	7.32	23.8	52.0	40.4	43.6	26.5	18.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	454	273	219	209	245	361	470	1,190	1,540	1,370	891	621	7,840
1952	387	171	173	234	256	382	738	2,150	2,330	2,220	2,000	1,490	12,530
1953	440	226	265	344	364	450	506	1,310	2,020	2,040	1,400	771	10,140
1954	496	209	206	198	201	298	635	1,580	1,250	1,420	1,080	569	8,150
1955	307	208	215	197	178	246	508	1,380	1,740	1,650	1,350	801	8,780
1956	508	182	201	213	223	350	483	1,580	1,340	1,310	885	528	7,800
1957	369	172	167	179	205	280	435	1,460	3,090	2,480	2,680	1,570	13,090

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	14.9	10,790
1951	1213	34	May 20, 1951	2.5	10.8	7,840	10.5	7,630
1952	1243	54	May 5, 1952	2.6	17.3	12,530	17.5	12,730
1953	1283	71	May 27, 1953	2.6	14.0	10,140	14.0	10,120
1954	1343	56	Aug. 12, 1954	3.0	11.3	8,150	11.0	7,970
1955	1393	42	May 14, 1955	-	12.1	8,780	12.4	8,940
1956	1443	37	June 5, 1956	2.5	10.7	7,800	10.5	7,620
1957	1513	84	June 8, 1957	2.6	18.1	13,090	-	-

1015. Bull Creek at upper station, near Molina, Colo.

Location.--Lat 39°07'; long 108°02', in SW $\frac{1}{4}$ sec.5, T.11 S., R.95 W., on right bank 6 miles upstream from mouth and 6 miles south of Molina.

Drainage area.--9.85 sq mi (revised).

Records available.--May 1945 to September 1953.

Gage.--Water-stage recorder. Altitude of gage 7,200 ft (by barometer).

Average discharge.--8 years (1945-53), 8.23 cfs (5,960 acre-ft per year).

Extremes.--1945-53: Maximum discharge, 100 cfs June 10, 1952 (gage height, 2.51 ft), from rating curve extended above 50 cfs by logarithmic plotting; maximum gage height, 2.94 ft Oct. 12, 1946 (backwater from beaver dam); minimum daily discharge, 0.7 cfs Nov. 11, 1950, Nov. 2, 6, 1951.

Remarks.--Flow regulated by several small reservoirs for irrigation. Diversions for irrigation of about 20 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.54	1.05	0.89	1.06	1.01	2.23	2.90	11.8	13.4	9.25	6.46	3.50	4.70
1952	1.86	.88	.81	.94	1.02	.99	4.73	27.3	38.7	16.4	11.2	10.5	9.61
1953	4.65	1.44	1.34	1.42	2.77	2.59	3.75	15.1	25.1	13.8	7.21	7.77	7.22

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	156	62	55	65	56	137	173	727	797	569	397	208	3,400
1952	114	52	50	58	59	61	281	1,680	2,300	1,010	686	623	6,970
1953	286	86	83	87	154	159	223	923	1,490	849	443	462	5,250

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	6.62	4,790
1951	1213	30	May 28, 1951	0.7	4.70	3,400	4.62	3,340
1952	1243	100	June 10, 1952	.7	9.61	6,970	9.94	7,210
1953	1283	72	May 28, 1953	1.1	7.26	5,250	-	-

1045. Mesa Creek near Mesa, Colo.

Location.--Lat 39°05', long 108.07', in SW $\frac{1}{4}$ sec.16, T.11 S., R.96 W., on right bank an eighth of a mile upstream from unnamed stream, $5\frac{1}{2}$ miles southeast of Mesa, and $7\frac{1}{2}$ miles upstream from mouth.

Drainage area.--About 7 sq mi.

Records available.--May 1937 to September 1960. Prior to April 1941 monthly discharge only, published in WSP 1313.

Gage.--Water-stage recorder and log control. Altitude of gage is 7,400 ft (by barometer). Prior to Apr. 29, 1943, staff gage at site half a mile upstream at different datum.

Average discharge.--23 years (1937-60), 11.8 cfs (8,540 acre-ft per year).

Extremes.--1937-60: Maximum discharge observed, 140 cfs May 12, 1941 (gage height, 2.00 ft, site and datum then in use), from rating curve extended above 50 cfs; maximum gage height, 3.41 ft Jan. 31, 1951 (ice jam); minimum daily discharge, 0.6 cfs Mar. 9, 11-14, 1946, Mar. 18-20, 1948.

Remarks.--Some regulation by small reservoirs above station. No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8.17	4.25	5.01	4.64	4.71	4.40	5.11	11.6	15.2	15.5	8.84	7.89	7.97
1952	6.43	5.81	5.56	5.60	4.77	4.85	7.39	27.5	35.7	26.3	18.1	15.1	13.6
1953	7.58	4.30	4.72	5.08	2.59	4.81	5.52	13.8	19.0	21.9	15.7	7.56	9.44
1954	5.83	5.17	3.55	5.06	4.83	5.68	9.34	18.6	15.3	16.1	9.84	7.02	8.71
1955	6.15	4.34	5.14	4.48	3.56	4.02	5.82	19.2	18.4	16.1	14.1	7.70	9.10
1956	7.79	7.82	5.07	4.68	4.05	4.32	7.78	17.9	17.9	17.5	11.0	6.76	9.40
1957	5.57	3.03	2.21	4.76	4.46	4.58	5.69	15.8	43.0	29.3	24.9	19.9	13.6
1958	15.9	11.3	9.74	9.05	9.06	8.64	9.51	31.0	34.1	24.4	19.6	12.1	16.3
1959	8.88	6.50	5.00	6.27	5.84	5.78	3.44	14.0	12.3	12.4	9.83	7.11	8.14
1960	6.18	6.50	4.69	5.44	5.94	5.26	5.60	18.3	19.4	17.3	12.5	8.65	9.67

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	502	263	308	285	262	271	304	714	906	954	543	470	5,770
1952	396	346	342	345	275	299	440	1,690	2,130	1,620	1,110	900	9,890
1953	466	266	290	313	144	296	329	849	1,130	1,350	964	450	8,840
1954	359	188	206	311	268	348	556	1,140	912	990	605	418	6,300
1955	378	258	316	276	187	247	346	1,180	1,090	990	865	458	6,590
1956	479	465	312	288	233	266	463	1,100	1,070	1,080	675	402	6,830
1957	342	180	136	293	248	282	338	971	2,560	1,800	1,530	1,190	9,870
1958	976	675	599	556	503	531	566	1,910	2,030	1,500	1,210	718	11,770
1959	546	387	308	396	324	355	205	861	732	761	604	423	5,890
1960	360	387	288	334	342	324	333	1,130	1,150	1,060	772	515	7,010

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	9.63	6,970
1951	1213	27	June 1, 1951	1.3	7.97	5,770	8.00	5,790
1952	1243	51	June 14, 1952	4.5	13.6	9,890	13.5	9,820
1953	1293	45	May 25, 1953	1.4	9.44	6,840	9.09	6,560
1954	1343	29	May 11, 1954	1.5	8.71	6,300	8.96	6,500
1955	1393	36	May 6, 1955	1.2	9.10	6,590	9.52	6,900
1956	1443	29	June 5, 1956	2.5	9.40	6,830	8.58	6,240
1957	1513	74	June 15, 1957	1.3	13.6	9,870	15.8	11,460
1958	1563	57	May 22, 1958	6.6	16.3	11,770	14.9	10,760
1959	1633	22	May 16, 1959	.7	8.14	5,890	7.88	5,710
1960	1713	30	May 15, 1960	2.2	9.67	7,010	-	-

1050. Plateau Creek near Cameo, Colo.

Location.--Lat 39°11'00", long 108°16'10", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.18, T.10 S., R.97 W., on left bank 300 ft from State Highway 65, 1.1 miles upstream from mouth, and 4 miles northeast of Cameo.

Drainage area.--604 sq mi.

Records available.--October 1935 to September 1960. Prior to May 1936 monthly discharge only, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 4,836 ft (from topographic map). Prior to Aug. 27, 1936, staff gage at same site and datum.

Average discharge.--25 years (1935-60), 195 cfs (141,200 acre-ft per year).

Extremes.--1935-60: Maximum discharge, 3,920 cfs May 27, 1942 (gage height, 7.73 ft), from rating curve extended above 3,000 cfs; minimum daily, 13 cfs July 31, 1959.

Remarks.--Natural flow of stream affected by storage reservoirs, diversions for irrigation of about 25,000 acres, and return flow from irrigated areas.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	54.0	62.2	63.1	47.6	63.5	63.1	80.3	405	264	26.2	30.2	24.8	98.8
1952	49.5	48.8	53.8	61.8	53.2	88.6	407	1,073	942	103	79.9	72.2	253
1953	74.8	79.5	85.8	80.8	70.7	84.9	151	501	453	33.2	52.1	38.4	142
1954	59.3	85.4	69.2	69.4	69.9	67.8	214	421	48.4	25.1	26.0	42.2	99.9
1955	80.9	65.8	59.4	55.6	47.9	82.7	150	649	245	29.4	39.5	30.5	128
1956	43.2	58.8	57.8	49.4	56.3	77.3	152	455	126	36.9	18.7	17.5	96.1
1957	29.6	46.4	43.0	45.6	74.5	66.6	174	589	1,709	496	114	110	291
1958	177	149	118	113	148	148	329	1,456	537	53.3	43.8	76.4	278
1959	88.2	92.3	83.7	81.8	89.6	89.9	144	394	114	18.7	25.6	31.9	105
1960	64.4	69.7	46.5	42.6	53.0	106	263	531	221	30.8	30.1	31.5	124

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,320	3,700	3,880	2,930	3,530	3,880	4,780	24,880	15,710	1,610	1,850	1,470	71,540
1952	3,050	2,900	3,310	3,800	3,060	5,450	24,210	65,950	56,070	6,360	4,910	4,290	183,400
1953	4,600	4,730	5,270	4,970	3,930	5,220	8,970	30,830	26,940	2,040	3,210	2,280	103,000
1954	3,640	4,960	4,250	4,270	3,880	4,170	12,710	25,880	2,880	1,540	1,600	2,510	72,290
1955	4,980	3,920	3,650	3,420	2,660	5,090	8,910	39,920	14,450	1,800	2,430	1,810	93,020
1956	2,650	3,500	3,550	3,040	3,240	4,750	9,060	28,020	7,500	2,270	1,150	1,040	69,770
1957	1,820	2,760	2,640	2,800	4,140	4,100	10,330	56,190	101,700	30,480	7,000	6,570	210,500
1958	10,870	8,860	7,280	6,950	8,230	9,080	19,580	88,280	31,950	3,270	2,690	4,550	201,600
1959	5,420	5,490	5,150	5,030	4,980	5,530	8,550	24,200	6,790	1,150	1,580	1,900	75,770
1960	3,960	4,150	2,860	2,620	3,050	6,500	15,630	32,640	13,160	1,890	1,850	1,870	90,200

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	155	-	111,900	
1951	1213	1,480	May 28, 1951	18	98.8	71,540	96.6	-	69,900	
1952	1243	2,280	June 7, 1952	36	253	183,400	260	-	188,700	
1953	1283	1,830	May 28, 1953	25	142	103,000	140	-	101,200	
1954	1343	940	Oct. 23, 1953	19	99.9	72,290	99.4	-	71,900	
1955	1393	1,310	May 15, 1955	22	128	93,020	125	-	90,170	
1956	1443	2,820	July 30, 1956	15	96.1	69,770	92.7	-	67,290	
1957	1513	2,540	June 15, 1957	21	291	210,500	318	-	231,300	
1958	1563	2,440	May 24, 1958	35	278	201,600	263	-	190,600	
1959	1633	965	May 16, 1959	13	105	75,770	97.6	-	70,680	
1960	1713	1,270	May 13, 1960	16	124	90,200	-	-	-	

GUNNISON RIVER BASIN

1085. Taylor Park Reservoir at Taylor Park, Colo.

Location.--Lat 38°49'05", long 106°36'15", in sec.24, T.14 S., R.83 W., at dam on Taylor River just downstream from Taylor Park, 17 miles northeast of Almont.

Records available.--October 1937 to September 1960. Prior to October 1938, published in WSP 1313.

Drainage area.--245 sq mi.

Gage.--Staff gage. Datum of gage is 9,187 ft above mean sea level (Bureau of Reclamation bench mark); gage readings have been reduced to elevations above mean sea level.

Extremes.--1937-60: Maximum contents observed, 111,000 acre-ft July 1, 1957; minimum (after first filling), 8,780 acre-ft Oct. 19, 20, 1956.

Remarks.--Reservoir is formed by an earth- and rock-fill dam. Dam completed by Bureau of Reclamation in September 1937. Capacity of reservoir, 106,200 acre-ft between elevations 9,187 (bottom of outlet gates) and 9,330 ft (crest of spillway). No dead storage. Water used for irrigation in Uncompahgre Valley. No other reservoirs of any consequence in Gunnison River basin. Figures given herein represent usable contents.

Cooperation.--Records furnished by Uncompahgre Valley Water Users Association.

Contents, in acre-feet, on last day of month, of Taylor Park Reservoir at Taylor Park, Colo.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	36,940	39,340	43,990	47,220	49,820	51,130	50,130	73,900	109,000	107,000	88,510	46,170
1952	42,950	46,110	49,530	53,010	54,900	55,475	58,910	63,820	108,500	107,400	104,000	78,290
1953	61,730	61,440	62,940	63,870	63,950	64,110	63,710	77,780	107,900	106,600	90,500	49,570
1954	39,760	43,230	44,950	47,280	49,820	52,440	58,380	77,180	93,530	85,020	57,780	37,590
1955	39,840	42,930	46,110	49,010	51,380	54,020	61,220	82,940	107,700	90,320	75,070	35,880
1956	25,460	28,610	31,930	34,720	37,590	40,510	45,930	80,180	107,800	90,590	63,090	19,860
1957	10,070	13,650	16,530	19,590	22,360	25,220	28,930	43,400	110,700	108,800	108,000	104,100
1958	98,130	91,050	82,240	83,280	84,580	83,200	76,590	91,230	107,100	98,330	75,750	51,760
1959	47,030	48,140	49,440	51,630	54,210	56,680	50,880	65,310	101,000	86,860	62,710	29,090
1960	34,160	37,900	40,970	43,340	46,350	49,760	61,000	81,210	108,700	100,200	68,900	26,510

1090. Taylor River below Taylor Park Reservoir, Colo.

Location.--Lat 38°48'50", long 106°36'40", in sec.24, T.14 S., R.83 W., on left bank 500 ft downstream from Taylor Park Reservoir Dam, 3¼ miles upstream from Lottis Creek, and 16 miles northeast of Almont.

Drainage area.--245 sq mi.

Records available.--June 1929 to September 1934 (monthly discharge only, published in WSP 1313), October 1938 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 9,169.67 ft above mean sea level (Bureau of Reclamation bench mark). Prior to Nov. 11, 1952, at site 1,000 ft downstream at datum 1.00 ft lower. Oct. 15, 1946, to May 4, 1952, supplementary chain and staff gages just downstream from reservoir outlet at different sites and datums used during winter months.

Average discharge.--27 years (1929-34, 1938-60), 187 cfs (135,400 acre-ft per year).

Extremes.--1938-60: Maximum discharge, 2,270 cfs July 1, 1957 (gage height, 7.56 ft); no flow May 1 to July 3, 1940, May 7-22, 1942, May 5-21, 1943.

Remarks.--Flow regulated by Taylor Park Reservoir (see preceding station) since 1937. One small diversion from Willow Creek above reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	48.4	50.3	19.0	19.0	19.7	39.2	112	20.4	182	350	494	759	175
1952	128	24.3	60.0	20.0	31.0	63.0	77.9	522	617	437	278	574	233
1953	352	64.7	63.0	63.0	63.0	63.1	96.0	82.5	335	300	412	742	220
1954	213	25.5	29.5	18.3	13.5	12.4	92.3	118	69.3	323	506	368	150
1955	53.7	12.6	11.0	11.0	11.3	12.0	13.5	24.0	170	472	413	698	159
1956	244	13.6	12.0	12.0	11.2	11.0	10.5	24.8	339	445	579	809	209
1957	212	12.3	13.0	13.0	13.0	13.0	13.9	82.3	320	1,249	437	251	222
1958	219	241	242	69.9	67.2	105	160	377	377	280	498	469	260
1959	145	47.9	45.4	27.9	19.0	19.0	199	34.5	56.0	391	500	615	174
1960	33.6	18.1	10.5	9.48	9.40	9.45	11.0	18.9	398	410	640	753	193

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,980	1,800	1,170	1,170	1,090	2,410	6,650	1,260	10,840	21,510	30,370	45,160	126,400
1952	7,850	1,450	1,230	1,230	1,780	3,880	4,640	32,110	36,740	26,870	17,120	34,160	169,100
1953	21,640	3,850	3,870	3,870	3,500	3,880	5,710	5,070	19,910	18,450	25,310	44,140	159,200
1954	13,080	1,520	1,810	1,120	748	764	5,490	7,270	4,130	19,850	31,090	21,890	108,800
1955	3,300	748	676	676	629	738	801	1,480	10,090	29,030	25,410	41,520	115,100
1956	14,990	811	738	738	647	674	623	1,520	20,190	27,390	35,600	48,140	152,100
1957	13,060	734	799	799	722	799	829	5,060	19,040	76,820	26,870	14,940	160,500
1958	13,440	14,320	14,880	4,302	3,730	6,470	9,520	23,210	22,410	17,210	30,640	27,900	188,000
1959	8,930	2,850	2,790	1,720	1,060	1,170	11,850	2,110	2,140	24,070	30,760	36,600	126,000
1960	2,070	1,080	647	583	541	581	857	1,160	23,710	25,180	39,350	44,790	140,300

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	204	147,800	
1951	1213	915	Sept. 12, 1951	16	175	126,400	181	131,000	
1952	1243	1,540	June 16, 1952	11	233	169,100	259	187,900	
1953	1283	948	Sept. 8, 1953	16	220	159,200	202	146,200	
1954	1343	855	Aug. 31, 1954	6	150	108,800	134	97,080	
1955	1393	696	Sept. 14, 1955	8.2	159	115,100	175	126,900	
1956	1443	936	Sept. 8, 1956	9.1	209	152,100	207	150,100	
1957	1513	2,270	July 1, 1957	12	222	160,500	260	188,500	
1958	1563	735	Sept. 4, 1958	36	260	188,000	221	160,000	
1959	1633	851	Sept. 9, 1959	14	174	126,000	159	115,300	
1960	1713	990	Aug. 30, 1960	8.2	193	140,300	-	-	

1100. Taylor River at Almont, Colo.

Location.--Lat 38°40', long 106°51', in sec.22, T.51 N., R.1 E., on left bank at Almont, 15 ft downstream from bridge on State Highway 306 and 800 ft upstream from confluence with East River.

Drainage area.--440 sq mi, approximately.

Records available.--July 1910 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 8,010.76 ft above mean sea level, datum of 1929. Prior to Apr. 16, 1922, staff gage at same site and datum.

Average discharge.--50 years (1910-60), 344 cfs (249,000 acre-ft per year).

Extremes.--1910-60: Maximum discharge observed, 3,760 cfs June 9, 1920 (gage height, 5.0 ft), from rating curve extended above 2,300 cfs; maximum gage height, 5.32 ft July 1, 1957; minimum discharge observed before storage began in Taylor Park Reservoir, 50 cfs for several days in August 1913 (gage height, 1.2 ft); minimum daily, 24 cfs Mar. 12, 1938.

Remarks.--Flow regulated since September 1937 by Taylor Park Reservoir (see elsewhere in this report), 24 miles above station. Diversions for irrigation of about 360 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	98.8	89.6	67.2	67.5	67.7	85.4	168	268	556	505	597	805	282
1952	199	73.7	64.8	70.5	82.8	106	223	1,084	1,383	665	405	653	419
1953	444	119	109	116	102	111	176	307	804	453	507	815	339
1954	286	82.8	63.3	58.9	56.2	60.0	191	301	189	438	593	423	230
1955	103	56.7	43.0	45.3	45.6	44.9	93.6	216	395	577	513	799	245
1956	294	60.4	59.1	49.6	48.8	53.8	85.4	378	643	543	634	855	309
1957	268	58.3	44.5	48.5	46.6	55.0	99.4	392	1,373	1,975	693	385	456
1958	311	356	505	109	109	172	296	893	803	410	580	542	407
1959	209	105	73.1	52.3	44.1	56.6	267	174	255	480	571	656	246
1960	103	80.0	46.5	48.6	42.8	55.9	143	263	794	523	707	807	301

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6,080	5,330	4,130	4,150	3,760	5,250	9,980	16,510	33,100	31,050	36,710	47,920	204,000
1952	12,240	4,390	3,980	4,340	4,760	6,520	13,260	67,250	82,320	40,910	24,990	39,450	304,400
1953	27,300	7,070	6,720	7,130	5,680	6,810	10,450	18,880	47,830	27,830	31,160	48,470	245,300
1954	17,620	4,930	3,890	3,620	3,120	3,690	11,370	18,480	11,270	26,940	36,440	25,190	166,600
1955	6,330	3,380	2,650	2,790	2,530	2,760	5,570	13,290	23,490	35,510	31,570	47,520	177,400
1956	18,100	3,590	3,630	3,050	2,810	3,310	5,080	23,240	38,280	33,390	38,980	50,900	224,400
1957	16,450	3,470	2,740	2,990	2,590	3,580	5,920	24,110	81,710	121,400	42,590	22,920	330,300
1958	19,130	19,990	16,780	6,710	6,030	10,570	17,600	64,930	47,810	25,190	35,680	32,220	294,600
1959	12,880	6,270	4,490	3,220	2,450	3,480	15,900	10,670	15,180	29,540	35,130	39,060	178,300
1960	6,310	4,760	2,860	2,990	2,460	3,440	8,490	16,150	47,250	32,150	43,490	48,030	218,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	300	217,000
1951	1213	1,040	June 27, 1951	40	282	204,000	289	209,000
1952	1243	2,280	June 16, 1952	54	419	304,400	448	324,900
1953	1283	1,050	June 13, 1953	56	339	245,300	319	230,700
1954	1343	914	(a)	45	230	166,600	211	152,500
1955	1393	1,030	Sept. 17, 18, 1955	30	245	177,400	263	190,400
1956	1443	1,050	June 14, 1956	35	309	224,400	305	221,700
1957	1513	3,590	July 1, 1957	30	456	330,300	505	365,500
1958	1563	1,380	June 6, 1958	80	407	294,600	360	260,400
1959	1633	876	Sept. 7, 8, 1959	38	246	178,300	233	168,600
1960	1713	1,370	June 18, 1960	30	301	218,400	-	-

a Aug. 31 to Sept. 4, 1954.

1105. East River near Crested Butte, Colo.

Location.--Lat 38°51'50", long 106°54'20", in NE $\frac{1}{4}$ sec.5, T.14 S., R.85 W., on right bank at highway bridge, 1.2 miles downstream from Brush Creek, 4 miles upstream from Slate River, and $4\frac{1}{2}$ miles east of Crested Butte.

Drainage area.--89.2 sq mi.

Records available.--October 1939 to September 1951. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 8,880 ft (from river-profile map). May 4 to Nov. 20, 1940, staff gage at site 1 mile downstream at different datum. May 13 to Oct. 16, 1941, staff gage at present site and datum.

Average discharge.--12 years (1939-51), 134 cfs (97,010 acre-ft per year).

Extremes.--1939-51: Maximum discharge, 1,270 cfs May 19, 1948; maximum gage height, 2.90 ft June 18, 1951; minimum discharge not determined.

Remarks.--Diversions for irrigation of about 500 acres above station and about 100 acres below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	31.1	27.6	23.1	19.9	16.0	18.2	42.1	344	632	299	105	44.1	134

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,910	1,640	1,420	1,230	891	1,120	2,510	21,160	37,590	18,410	6,480	2,620	96,980

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	127	92,190
1951	1213	1,170	June 18, 1951	13	134	96,980	-	-

1115. Slate River near Crested Butte, Colo.

Location.--Lat 38°52'00", long 106°57'50", in sec.2, T.14 S., R.86 W., on right bank half a mile downstream from Coal Creek, 1 mile east of Crested Butte, and 6 miles upstream from mouth.

Drainage area.--69.0 sq mi.

Records available.--April 1940 to September 1951. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 8,826.88 ft above mean sea level, datum of 1929. Prior to Oct. 15, 1941, staff gage at same site and datum.

Average discharge.--11 years (1940-51), 138 cfs (99,910 acre-ft per year).

Extremes.--1940-51: Maximum discharge observed, 1,240 cfs May 13, 1941; maximum gage height, 4.13 ft May 22, 1948; minimum daily discharge, 3.9 cfs Nov. 26, 1942.

Remarks.--Diversions for irrigation of about 1,300 acres above and below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	14.5	11.0	11.2	10.1	8.41	13.7	58.0	472	619	224	46.1	17.1	126

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	890	653	688	620	467	842	3,450	29,000	36,810	13,780	2,830	1,020	91,050

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	121	87,660
1951	1213	1,020	(a)	7.0	126	91,050	-	-

a May 29, June 19, 1951.

1120. Cement Creek near Crested Butte, Colo.

Location.--Lat 38°50'00", long 106°49'30", in sec.13, T.14 S., R.85 W., on right bank near Pioneer Resort, 1¼ miles upstream from Ward Gulch, 3 miles upstream from mouth, and 9 miles southeast of Crested Butte.

Drainage area.--27.7 sq mi.

Records available.--October 1910 to December 1913, April 1940 to September 1951. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 9,050 ft (from topographic map). Nov. 23, 1910, to Nov. 30, 1913, staff gage at site 2 miles downstream at different datum. Apr. 17, 1940, to Oct. 18, 1941, staff gage at site half a mile downstream at different datum.

Average discharge.--14 years (1910-13, 1940-51), 36.5 cfs (26,420 acre-ft per year).

Extremes.--1910-13, 1940-51: Maximum discharge recorded, 358 cfs June 2, 1948 (gage height, 3.47 ft), from rating curve extended above 260 cfs by logarithmic plotting; minimum daily, 4.5 cfs Mar. 13, 14, 1950.

Remarks.--Diversions for irrigation of about 80 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	14.0	10.9	9.71	9.02	8.12	8.35	13.7	70.4	162	66.4	29.1	19.0	35.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	859	647	597	554	451	513	817	4,330	9,660	4,080	1,790	1,130	25,430

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950		-	-	-	-	-	28.1	20,330
1951	1213	265	June 18, 1951	7.0	35.1	25,430	-	-

1125. East River at Almont, Colo.

Location.--Lat 38°40', long 106°51', in sec.22, T.51 N., R.1 E., on left bank at Almont, 200 ft upstream from bridge on State Highway 135 and 400 ft upstream from confluence with Taylor River.

Drainage area.--295 sq mi.

Records available.--April to October 1905, July 1910 to September 1922, October 1934 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 8,006.29 ft above mean sea level, datum of 1929. Apr. 16 to Sept. 30, 1905, and July 27, 1910, to Apr. 30, 1922, staff gages at bridge 200 ft downstream at different datums; Oct. 1, 1934, to Sept. 22, 1954, water-stage recorder at present site at datum 2.00 ft higher.

Average discharge.--38 years (1910-22, 1934-60), 348 cfs (251,900 acre-ft per year).

Extremes.--1905, 1910-22, 1934-60: Maximum discharge observed, 6,500 cfs June 15, 1921 (gage height, 6.6 ft, site and datum then in use), from rating curve extended above 3,000 cfs; minimum daily, 19 cfs Aug. 13, 1913.

Remarks.--Diversions for irrigation of about 7,400 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	83.4	66.7	67.2	62.2	61.7	62.6	189	904	1,426	607	274	78.5	324
1952	78.3	107	77.6	61.3	54.4	52.8	330	1,541	2,307	740	337	168	487
1953	105	85.0	77.2	64.7	55.6	58.5	136	672	1,384	410	210	67.6	277
1954	82.8	89.1	69.8	57.4	51.6	53.8	275	612	412	186	126	72.1	175
1955	149	67.8	73.4	64.4	53.0	48.6	245	684	888	339	206	69.2	243
1956	61.1	80.5	72.7	62.6	58.9	51.1	306	1,187	1,086	206	130	59.9	280
1957	72.6	82.8	52.6	50.8	49.6	49.9	136	836	2,650	2,037	621	210	573
1958	128	107	78.3	65.0	61.8	66.4	173	1,627	1,344	294	173	110	354
1959	79.8	74.7	55.6	50.0	48.0	46.4	136	536	1,057	246	163	67.1	213
1960	165	121	61.6	66.6	58.6	65.5	388	634	1,035	295	140	58.4	257

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5,130	3,970	4,130	3,820	3,430	3,850	11,280	55,570	84,830	37,330	16,860	4,670	234,800
1952	4,820	6,390	4,590	3,770	3,130	3,250	19,640	94,760	137,300	45,480	20,750	9,970	553,800
1953	6,340	5,060	4,750	3,980	3,090	3,600	8,090	41,320	92,370	25,220	12,920	4,020	200,800
1954	5,090	5,300	4,290	3,530	2,870	3,310	16,250	37,620	24,550	11,460	7,780	4,290	126,300
1955	9,150	5,230	4,510	3,960	2,950	2,980	14,470	42,060	52,830	20,850	12,690	4,120	175,800
1956	3,760	4,790	4,470	3,850	3,390	3,140	18,220	73,010	64,640	12,800	8,000	3,570	203,600
1957	4,460	4,930	3,230	3,120	2,750	3,070	8,090	51,410	157,700	25,300	38,210	12,520	414,800
1958	7,890	6,390	4,810	3,990	3,430	4,080	10,290	100,100	79,950	18,080	10,630	6,550	256,200
1959	4,810	4,450	3,420	3,070	2,670	2,850	8,080	32,950	62,870	15,140	10,040	3,990	154,400
1960	10,180	7,190	3,790	4,100	3,370	4,030	23,060	38,970	61,610	18,140	8,590	3,480	186,500

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	299	216,300
1951	1213	2,520	June 19, 1951	44	324	234,800	328	237,400
1952	1243	3,630	June 8, 1952	46	467	353,800	468	354,200
1953	1283	2,900	June 14, 1953	48	277	200,800	275	199,300
1954	1343	1,170	May 22, 1954	45	175	126,300	160	130,600
1955	1393	1,540	June 9, 1955	39	243	175,800	235	169,900
1956	1443	2,320	June 3, 1956	41	280	203,600	280	203,200
1957	1513	4,260	June 29, 1957	35	573	414,800	582	421,300
1958	1563	2,720	May 23, 1958	55	354	256,200	345	249,900
1959	1633	1,610	June 8, 1959	39	213	154,400	225	162,800
1960	1713	1,640	June 5, 1960	43	257	186,500	-	-

1133. Ohio Creek at Baldwin, Colo.

Location.--Lat 38°46'00", long 107°02'50", in NW $\frac{1}{4}$ sec.7, T.15 S., R.86 W., on left bank a quarter of a mile northwest of Baldwin and 0.6 mile downstream from Castle Creek.

Drainage area.--48 sq mi, approximately.

Records available.--October 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,600 ft (from topographic map).

Extremes.--1958-60: Maximum discharge, 270 cfs June 8, 1960 (gage height, 3.18 ft); minimum daily, 4.7 cfs Sept. 15, 1959.

Remarks.--Diversions above station for irrigation of 1,750 acres. Two diversions above station for irrigation below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	11.5	10.6	12	11	10	8.94	23.6	140	143	31.4	20.0	8.07	35.9
1960	19.6	18.9	11	10	9	9.1	75.8	116	160	34.4	15.2	8.18	40.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	706	628	738	676	555	550	1,400	8,580	8,500	1,930	1,230	480	25,970
1960	1,200	1,120	676	615	518	561	4,510	7,140	9,540	2,110	934	487	29,410

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1959	1633, 1713	268	June 16, 1959	4.7	35.9	25,970	37.2	26,900	
1960	1713	270	June 8, 1960	6.6	40.5	29,410	-	-	

1135. Ohio Creek near Baldwin, Colo.

Location.--Lat 38°42', long 107°00', in SW $\frac{1}{4}$ sec.34, T.15 S., R.86 W., on right bank 600 ft upstream from bridge, 800 ft downstream from Mill Creek, 5 $\frac{1}{2}$ miles southeast of Baldwin, and 11 miles upstream from mouth.

Drainage area.--124 sq mi.

Records available.--April 1940 to September 1950, October 1958 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 8,180 ft (by barometer). Prior to Apr. 3, 1942, staff gage at same site and datum.

Average discharge.--12 years (1940-50, 1958-60), 93.2 cfs (67,470 acre-ft per year).

Extremes.--1940-50, 1958-60: Maximum discharge, 1,260 cfs May 19, 1948 (gage height, 4.65 ft), from rating curve extended above 560 cfs; minimum daily, 6.9 cfs Sept. 12, 1960.

Floods in May 1952 and June 1957 reached a stage of 5.5 ft, from floodmarks (discharge, about 1,500 cfs).

Remarks.--Diversions for irrigation of 3,850 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	18.5	19.2	15	14	16	17.1	62.1	225	242	48.7	33.2	15.9	60.6
1960	38.3	23.2	16	14	12	27.3	191	217	244	59.3	23.1	9.98	72.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	1,140	1,140	922	861	889	1,050	3,700	13,820	14,380	3,000	2,040	947	43,890
1960	2,350	1,380	984	861	690	1,680	11,350	13,340	14,520	3,640	1,420	592	52,810

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1959	1633	469	May 14, 1959	7.7	60.6	43,890	62.7	45,400	
1960	1713	793	Apr. 10, 1960	6.9	72.8	52,810	-	-	

1145. Gunnison River near Gunnison, Colo.

Location.--Lat 38°32'50", long 106°57'00", on line between secs.34 and 35, T.50 N., R.1 W., on right bank 1,500 ft downstream from Antelope Creek and 1 mile west of Gunnison.

Drainage area.--1,010 sq mi, approximately.

Records available.--October 1910 to December 1928, October 1944 to September 1960.

Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,670 ft (from river-profile map).

Nov. 25, 1910, to Dec. 31, 1928, staff or chain gages (supplementary water-stage recorder

Apr. 28, 1916, to June 17, 1918) at bridge about 1 mile downstream at various datums.

Average discharge.--34 years (1910-28, 1944-60), 798 cfs (577,700 acre-ft per year).

Extremes.--1910-28, 1944-60: Maximum discharge observed, 11,400 cfs June 13, 1918 (gage height, 4.05 ft, site and datum then in use), from rating curve extended above 5,000 cfs; minimum daily determined, 90 cfs Feb. 21, 1955.

Remarks.--Flow regulated by Taylor Park Reservoir (see elsewhere in this report), 37 miles above station. Diversions for irrigation of about 22,000 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	221	182	161	159	160	186	445	1,293	2,001	1,084	907	809	635
1952	306	206	159	152	156	179	858	3,169	3,959	1,481	858	774	1,020
1953	571	284	239	224	197	200	338	1,006	2,448	900	756	799	664
1954	384	226	162	143	139	157	455	787	487	574	706	461	392
1955	270	178	143	130	111	121	447	929	1,244	888	777	756	501
1956	347	163	148	127	123	142	587	1,693	1,800	701	801	839	623
1957	375	198	155	148	141	150	400	1,608	4,860	4,621	1,510	610	1,237
1958	462	490	448	246	220	263	625	2,957	2,328	629	759	590	838
1959	282	227	203	182	165	155	480	758	1,371	662	750	673	491
1960	346	249	144	152	136	181	781	884	1,832	797	848	833	597

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13,570	10,810	9,890	9,800	8,880	11,430	26,490	79,520	119,100	66,670	55,800	48,120	460,100
1952	18,820	12,250	9,770	9,320	8,990	11,010	51,070	194,900	235,600	91,050	51,500	46,060	740,300
1953	35,150	16,880	14,680	13,740	10,950	12,320	20,120	61,890	145,700	55,350	46,510	47,540	480,800
1954	23,640	13,450	9,940	8,810	7,720	9,680	27,090	48,400	28,990	35,280	43,430	27,410	293,800
1955	16,590	10,590	8,770	7,990	6,170	7,420	26,580	57,150	73,990	54,580	47,790	44,980	362,600
1956	21,360	9,700	9,080	7,810	7,070	8,700	34,910	104,100	107,100	43,070	49,230	49,940	452,100
1957	23,040	11,890	9,520	9,100	7,810	9,220	23,820	98,850	289,200	284,100	92,830	36,310	895,600
1958	28,430	29,140	27,550	15,130	12,240	16,170	37,180	181,800	38,500	38,660	46,680	35,090	606,600
1959	17,360	13,500	12,480	11,170	9,180	9,540	28,550	46,600	81,590	40,710	44,890	40,050	355,600
1960	21,250	14,820	8,830	9,320	7,800	11,140	46,450	54,350	109,000	48,990	52,110	49,590	433,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	633	458,400
1951	1213	3,320	May 29, 1951	110	635	460,100	645	466,600
1952	1243	5,710	June 16, 1952	135	1,020	740,300	1,055	766,200
1953	1283	4,220	June 14, 1953	160	664	480,800	637	461,200
1954	1345	1,350	May 23, 1954	120	392	283,800	377	272,800
1955	1383	1,970	June 9, 1955	90	501	362,600	507	366,800
1956	1443	3,260	June 3, 1956	100	623	452,100	629	456,300
1957	1513	9,320	July 1, 1957	110	1,237	895,600	1,293	936,400
1958	1563	4,670	June 7, 1958	190	838	606,600	780	564,800
1959	1633	2,080	June 9, 1959	130	491	355,600	493	357,200
1960	1713	2,690	June 18, 1960	110	597	433,600	-	-

GUNNISON RIVER BASIN

1150. Larkspur ditch at Marshall Pass, Colo.
(Transmountain diversion)

Location.--Lat 38°24', long 106°15', in SE $\frac{1}{4}$ sec.24, T.48 N., R.6 E., at Marshall Pass.

Records available.--October 1934 to September 1960. Diversion prior to 1948, published in WSP 1313.

Gage.--Water-stage recorder and 3-foot Parshall flume since June 1, 1958. Altitude of gage is 10,850 ft. June 13, 1935, to May 20, 1956, water-stage recorder and 5-foot Parshall flume. May 21, 1956, to May 31, 1958, water-stage recorder and 4-foot Parshall flume.

Remarks.--Diversion is from tributaries of Tomichi Creek in Gunnison River basin, between headgates (in sec.11, T.48 N., R.6 E., and sec. 1, T.47 N., R.6 E.) and Marshall Pass, to Poncha Creek (tributary of South Arkansas River, revised) in SE $\frac{1}{4}$ sec.24, T.48 N., R.6 E., in Arkansas River basin.

Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	24	97	0	0	0	121
1952	0	0	0	0	0	0	0	14	338	70	0	0	422
1953	0	0	0	0	0	0	0	0	196	21	0	0	217
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	12	3.6	0	0	0	16
1956	0	0	0	0	0	0	0	15	20	0	0	0	35
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	185	14	0	0	199
1959	0	0	0	0	0	0	0	8.5	42	0	0	0	50
1960	0	0	0	0	0	0	0	41	31	0	0	0	72

1155. Tomichi Creek at Sargents, Colo.

Location.--Lat 38°24', long 106°25', in SW $\frac{1}{4}$ sec.21, T.48 N., R.5 E., on right bank 300 ft from U. S. Highway 50, half a mile downstream from Marshall Creek, and three-quarters of a mile south of Sargents.

Drainage area.--155 sq mi.

Records available.--October 1916 to September 1922, October 1937 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 8,420 ft (estimated from railroad elevation). May 12 to Oct. 5, 1917, staff gage and Oct. 6, 1917, to Sept. 30, 1922, water-stage recorder, at railroad bridge 1,000 ft upstream at different datum. Apr. 18, 1938, to Sept. 9, 1953, water-stage recorder at present site at datum 1.00 ft higher.

Average discharge.--29 years (1916-22, 1937-60), 64.8 cfs (46,910 acre-ft per year).

Extremes.--1916-22, 1937-60: Maximum discharge, 804 cfs June 6, 1957 (gage height, 3.66 ft); minimum recorded, 6 cfs Nov. 16, 1920.

Remarks.--Diversions for irrigation of about 1,900 acres above station. Larkspur ditch (see preceding station) diverts water above station to Arkansas River basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	19.1	23.9	24.2	21.2	27.4	35.8	60.7	190	186	41.8	32.3	17.0	56.7
1952	28.0	25.1	22.3	19.3	22.3	24.9	112	321	369	88.0	54.0	35.2	93.3
1953	31.7	29.4	25.8	23.1	23.5	27.9	60.1	198	298	82.0	41.6	23.0	72.1
1954	30.4	31.7	25.2	21.2	23.7	27.2	40.5	50.4	19.8	22.5	16.1	18.8	27.3
1955	19.8	20.9	19.7	17.2	14.8	15.9	37.3	84.4	67.1	24.7	28.8	16.0	30.6
1956	18.8	21.4	21.1	20.1	19.2	17.5	59.0	192	115	28.4	23.6	17.3	46.2
1957	24.3	26.1	18.6	18.7	18.2	18.1	62.9	210	588	255	128	59.5	119
1958	43.5	36.8	27.4	22.9	24.4	25.1	92.8	382	233	46.5	31.5	25.5	82.2
1959	28.7	29.5	23.6	21.0	22.4	31.7	54.6	108	105	28.8	25.6	20.1	41.7
1960	35.8	28.8	20.0	18.4	16.7	44.1	113	158	173	44.8	22.2	20.6	58.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,170	1,420	1,490	1,310	1,520	2,200	3,610	11,700	11,070	2,570	1,980	1,010	41,050
1952	1,720	1,500	1,370	1,180	1,280	1,530	6,640	19,740	21,930	5,410	3,320	2,090	67,710
1953	1,950	1,750	1,580	1,420	1,310	1,720	3,570	12,190	17,700	5,040	2,560	1,370	52,160
1954	1,870	1,880	1,550	1,310	1,320	1,670	2,410	3,100	1,180	1,380	988	1,120	19,780
1955	1,220	1,250	1,210	1,060	821	980	2,220	5,190	3,990	1,520	1,770	952	22,180
1956	1,160	1,280	1,300	1,230	1,110	1,080	3,510	11,820	6,860	1,750	1,450	1,030	33,580
1957	1,490	1,550	1,140	1,150	1,010	1,110	3,740	12,930	35,020	15,670	7,880	3,540	86,230
1958	2,680	2,190	1,680	1,410	1,360	1,540	5,520	23,520	13,280	2,860	1,930	1,520	59,490
1959	1,760	1,750	1,450	1,290	1,240	1,950	3,250	6,670	6,250	1,770	1,570	1,190	30,140
1960	2,210	1,720	1,240	1,130	960	2,710	6,730	9,730	10,320	2,760	1,360	1,230	42,100

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	38.2	-	27,680
1951	1213	440	May 29, 1951	10	56.7	41,050	57.4	-	41,560
1952	1243	627	June 8, 1952	15	93.3	67,710	94.2	-	68,400
1953	1283	591	May 29, 1953	20	72.1	52,160	72.1	-	52,180
1954	1343	89	May 11, 1954	13	27.3	19,780	25.1	-	18,160
1955	1393	126	May 24, 1955	10	30.6	22,180	30.7	-	22,240
1956	1443	288	May 24, 1956	13	46.2	33,580	46.9	-	34,020
1957	1513	804	June 6, 1957	14	119	86,230	122	-	86,600
1958	1563	628	May 27, 1958	20	82.2	59,490	80.0	-	57,900
1959	1633	168	June 8, 1959	7.4	41.7	30,140	41.9	-	30,350
1960	1713	306	June 4, 1960	14	58.0	42,100	-	-	-

1165. Razor Creek near Doyleville, Colo.

Location.--Lat 38°23', long 106°40', in sec.30, T.48 N., R.3 E., on right bank 300 ft downstream from county highway culvert, 1½ miles downstream from Prosser Creek, and 5½ miles southwest of Doyleville.

Drainage area.--51 sq mi, approximately.

Records available.--May 1955 to September 1956.

Gage.--Water-stage recorder.

Extremes.--1955-56: Maximum discharge not determined, occurred Aug. 27, 1955 (gage height, 4.10 ft, backwater from beaver dam); minimum daily, 0.1 cfs for many days.

Remarks.--Diversions for irrigation above station. Natural flow affected by storage in small reservoir about 3 miles upstream which was completed in November 1955.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	-	-	-	-	-	-	-	4.16	2.09	0.56	1.93	0.23	-
1956	0.5	0.3	0.2	0.1	0.1	0.4	2.73	8.36	5.76	1.51	.29	.15	1.70

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	-	-	-	-	-	-	-	256	125	35	118	13	-
1956	31	18	12	6.1	5.8	25	162	514	343	93	18	9.1	1,240

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1955	1393	-	Aug. 27, 1955	-	-	-	-	-	-
1956	1443	.14	May 10, 1956	-	1.70	1,240	-	-	-

1170. Tomichi Creek at Parlin, Colo.

Location.--Lat 38°29'55", long 106°43'35", in NW¼ sec.23, T.49 N., R.2 E., on right bank at Parlin, 300 ft from U. S. Highway 50 and a quarter of a mile upstream from Quartz Creek.

Drainage area.--427 sq mi (revised).

Records available.--October 1944 to September 1951.

Gage.--Water-stage recorder. Altitude of gage is 7,920 ft (from topographic map).

Average discharge.--7 years (1944-51), 61.7 cfs (44,670 acre-ft per year).

Extremes.--1944-51: Maximum discharge, 669 cfs May 25, 1948 (gage height, 6.37 ft), from rating curve extended above 400 cfs; minimum daily, 0.5 cfs Sept. 10-12, 1950.

Remarks.--Diversions for irrigation of about 11,000 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6.67	22.6	30.1	26.1	31.3	47.3	120	176	165	15.2	24.7	8.30	56.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	410	1,340	1,850	1,600	1,740	2,910	7,140	10,820	9,830	935	1,520	494	40,590

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	36.0	-	26,110
1951	1213	454	May 30, 1951	2.6	56.1	40,590	-	-	-

1180. Quartz Creek near Ohio City, Colo.
(Formerly published as Quartz Creek near Ohio)

Location.--Lat 38°33'35", long 106°38'10", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.27, T.50 N., R.3 E., on left bank 10 ft downstream from bridge on State Highway 162, 0.7 mile downstream from Willow Creek, 1.3 miles southwest of Ohio City, and 1.4 miles downstream from Gold Creek.

Drainage area.--106 sq mi.

Records available.--October 1937 to September 1950 (published as "near Ohio"), October 1959 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 8,430 ft (from topographic map). Prior to Oct. 1, 1945, at site 75 ft upstream at datum 3.00 ft higher. Oct. 1, 1945, to Sept. 30, 1950, at site 75 ft upstream at datum 2.00 ft higher.

Average discharge.--14 years (1937-50, 1959-60), 54.8 cfs (39,670 acre-ft per year).

Extremes.--1937-50, 1959-60: Maximum discharge, 640 cfs May 26, 1942 (gage height, 5.90 ft, present datum), from rating curve extended above 470 cfs; maximum gage height, 7.73 ft (present datum) July 31, 1945 (backwater from Flick Gulch, 225 ft below station); minimum daily discharge, 8.5 cfs Sept. 30, 1950.

Remarks.--Diversion for irrigation of about 700 acres above and 200 acres below station. Slight regulation prior to 1946 by small powerplant 3 miles above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1930	29.7	23.3	20	18	16	19.0	49.8	116	199	52.3	30.1	16.3	49.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	1,830	1,390	1,230	1,110	920	1,170	2,960	7,140	11,860	3,220	1,850	970	35,650

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1960	1713	377	June 3, 1960*	12	49.1	35,650	-	-

* Not previously published.

1182. Fairbell ditch near Cochetopa Pass, Colo.
(Transmountain diversion)

Location.--Lat 37°59'35", long 106°47'35", in NE $\frac{1}{4}$ sec.18 (revised), T.43 N., R.2 E. (projected), near Cochetopa Pass, 12 miles northeast of Creede.

Records available.--October 1948 to September 1960.

Gage.--Water-stage recorder and 2 $\frac{1}{2}$ -foot Parshall flume. Altitude of gage is 11,200 ft (from topographic map).

Remarks.--Diversion is from Lake Fork Cochetopa Creek, revised (tributary of Cochetopa Creek), in NW $\frac{1}{4}$ sec.18 (revised), T.43 N., R.2 E., in Gunnison River basin, to Lake Fork Saguache Creek, revised (tributary of Middle Fork Saguache Creek), in NE $\frac{1}{4}$ sec.18 (revised), T.43 N., R.2 E., in Rio Grande basin. Ditch constructed in 1913, and first used the following year. All records available are published herewith.

Cooperation.--Records furnished by State engineer of Colorado; those for October 1951 to September 1960 not previously published by Geological Survey.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1949	0	0	0	0	0	0	0	0	0	*337	*325	*165	*827
1950	0	0	0	0	0	0	0	0	*57	0	0	0	*57
1951	0	0	0	0	0	0	0	*26	*151	*3.8	*36	*33	*250
1952	0	0	0	0	0	0	0	0	376	188	162	108	834
1953	46	0	0	0	0	0	0	0	214	148	112	0	520
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	14	203	35	120	187	559
1956	80	0	0	0	0	0	0	0	93	0	0	0	173
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	61	0	0	0	61
1959	0	0	0	0	0	0	0	10	219	53	17	0	299
1960	0	0	0	0	0	0	0	0	266	185	76	5.8	533

* Only monthly figures revised; revised daily figures not available.

1190. Tomichi Creek at Gunnison, Colo.

Location.--Lat 38°31'20", long 106°56'25", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.11, T.49 N., R.1 W., on right bank 300 ft downstream from highway bridge, 1.8 miles southwest of post office in Gunnison, and 2 miles upstream from mouth.

Drainage area.--1,020 sq mi, approximately.

Records available.--November and December 1910 (gage heights and discharge measurements only), October 1937 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as "near Gunnison" 1910.

Gage.--Water-stage recorder. Datum of gage is 7,628.58 ft above mean sea level, datum of 1929. Nov. 25 to Dec. 24, 1910, staff gage 300 ft upstream at different datum. Apr. 20, 1938, to Oct. 2, 1940, water-stage recorder at present site at datum 1.00 ft higher.

Average discharge.--23 years (1937-60), 175 cfs (126,700 acre-ft per year).

Extremes.--1937-60: Maximum discharge, 1,900 cfs June 8, 1957 (gage height, 4.10 ft); minimum daily, 13 cfs Sept. 12, 14-16, 1956.

Remarks.--Diversions for irrigation of about 24,000 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	40.1	62.4	59.6	53.3	57.0	101	213	301	360	82.2	122	30.1	124
1952	51.1	83.1	71.6	68.6	70.6	80.0	542	842	903	250	193	109	272
1953	72.7	81.4	76.7	77.4	73.2	130	199	302	614	203	180	55.3	172
1954	70.4	103	72.9	61.5	70.2	86.6	107	51.1	52.7	64.0	66.8	26.4	69.4
1955	53.9	66.1	57.6	49.2	46.1	71.7	176	120	119	42.5	125	44.3	81.0
1956	35.9	71.8	70.0	65.5	62.6	73.7	270	334	260	45.5	67.5	19.2	115
1957	42.1	94.7	60.6	56.1	60.9	64.9	289	589	1,472	859	440	203	355
1958	148	143	94.7	73.7	81.8	105	375	926	601	80.3	95.4	52.6	232
1959	75.0	102	81.6	70.3	68.4	104	170	128	173	47.4	115	39.6	97.8
1960	120	97.4	64.4	60.5	55.0	139	303	278	390	111	93.7	32.9	145

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,470	3,710	3,670	3,280	3,170	6,190	12,680	18,520	21,440	5,050	7,510	1,790	89,460
1952	3,140	4,950	4,400	4,220	4,060	4,920	32,260	51,750	53,700	15,340	11,900	6,470	197,100
1953	4,470	4,850	4,720	4,760	4,070	7,980	11,820	18,580	36,530	12,480	11,070	3,290	124,600
1954	4,330	6,150	4,480	3,780	3,900	5,330	6,390	3,140	3,140	3,940	4,110	1,570	50,260
1955	3,310	3,930	3,540	3,020	2,560	4,410	10,470	7,370	7,080	2,610	7,720	2,630	58,650
1956	2,210	4,270	4,300	4,030	3,600	4,530	16,080	20,520	15,490	2,800	4,150	1,140	83,120
1957	2,590	5,640	3,730	3,450	3,380	5,220	17,180	36,220	87,570	52,830	27,070	12,060	256,900
1958	9,090	8,480	5,820	4,530	4,540	6,430	22,330	56,920	35,760	4,940	5,870	3,130	167,800
1959	4,610	6,070	5,020	4,320	3,800	6,380	10,120	7,850	10,290	2,910	7,050	2,360	70,780
1960	7,360	5,800	3,960	3,720	3,160	8,550	18,010	17,090	23,180	6,840	5,760	1,960	105,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	103	74,320
1951	1213	635	May 31, 1951	19	124	89,460	127	92,100
1952	1243	1,360	June 12, 1952	30	272	197,100	274	198,700
1953	1283	875	May 29,30, 1953	39	172	124,600	173	125,500
1954	1343	370	July 23, 1954	14	69.4	50,260	63.6	46,080
1955	1393	328	Aug. 3, 1955	23	81.0	58,650	81.0	58,650
1956	1443	682	June 5, 1956	13	115	83,120	116	84,300
1957	1513	1,900	June 8, 1957	28	355	256,900	371	268,400
1958	1563	1,380	May 26, 1958	24	232	167,800	221	160,200
1959	1633	360	Apr. 7, 1959	22	97.8	70,780	99.7	72,200
1960	1713	620	June 7, 1960	23	145	105,400	-	-

1205. Gunnison River at Iola, Colo.

Location.--Lat 38°28'50", long 107°05'30", in NW¼ sec.28, T.49 N., R.2 W., on right bank 1,000 ft upstream from bridge on State Highway 149 and 3,000 ft northeast of Iola.
Drainage area.--2,490 sq mi, approximately.
Records available.--October 1899 to December 1903, October 1937 to September 1951.
Monthly discharge only for some periods, published in WSP 1313.
Gage.--Water-stage recorder. Datum of gage is 7,434.63 ft above mean sea level, datum of 1929. Apr. 1, 1900, to Dec. 23, 1903, staff gage on pier of highway bridge 1,000 ft downstream at different datum.
Average discharge.--18 years (1899-1903, 1937-51), 886 cfs (641,400 acre-ft per year).
Extremes.--1899-1903, 1937-51: Maximum discharge, 7,140 cfs May 22, 1948 (gage height, 5.11 ft), and June 19, 1949 (gage height, 4.85 ft); maximum gage height recorded, 5.55 ft Dec. 22, 1949 (ice jam); minimum daily discharge, 130 cfs Feb. 19, 1939.
Remarks.--Flow partly regulated by Taylor Park Reservoir since September 1937 (see elsewhere in this report). Diversions for irrigation of about 51,000 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	304	282	254	242	248	329	666	1,626	2,595	1,237	1,043	842	807

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	18,690	16,770	15,610	14,900	13,770	20,210	39,600	99,960	154,400	76,070	64,140	50,080	584,200

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	-	-
1951	1213	4,170	May 29, 1951	180	807	584,200	791	-	572,900	-

1210. Tabor ditch at Spring Creek Pass, Colo.
(Transmountain diversion)

Location.--Lat 37°56'20", long 107°09'30", in sec.35, T.43 N., R.3 W., at Spring Creek Pass.
Records available.--October 1927 to September 1960. Diversion prior to 1948 published in WSP 1313 (yearly diversion only for water years 1941-42).
Gage.--Water-stage recorder and 3-foot Parshall flume since June 1950. Altitude of gage is 10,950 ft (from topographic map). June 1928 to May 1950 water-stage recorder and 2-foot Parshall flume at about same site.
Remarks.--Diversion is from tributaries of Cebolla Creek in secs.29 and 36, T.43 N., R.3 W., in Gunnison River basin, to Corral Creek (formerly Big Spring Creek), tributary to North Clear Creek (corrected) in sec.35, T.43 N., R.3 W., in Rio Grande basin. (Location of gage and points of diversion and delivery are incorrectly published in WSP 1313).
Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	132	149	77	38	0	396
1952	0	0	0	0	0	0	0	0	211	57	40	0	308
1953	0	0	0	0	0	0	0	0	168	14	0	0	182
1954	0	0	0	0	0	0	0	107	67	0	0	0	174
1955	0	0	0	0	0	0	0	0	31	0	0	0	51
1956	0	0	0	0	0	0	0	112	55	0	0	0	167
1957	0	0	0	0	0	0	0	0	434	354	0	0	788
1958	0	0	0	0	0	0	0	98	557	125	14	0	794
1959	0	0	0	0	0	0	0	82	265	38	0	0	366
1960	0	0	0	0	0	0	0	183	436	86	8.7	0	714

1215. Cebolla Creek near Lake City, Colo.

Location.--Lat 37°58'50", long 107°10'00", in sec.14, T.43 N., R.3 W., on left bank 10 ft downstream from Tumble Creek, a quarter of a mile from State Highway 149, 3½ miles upstream from Brush Creek, and 9 miles southeast of Lake City.
Drainage area.--25.5 sq mi.
Records available.--July 1946 to September 1954.
Gage.--Water-stage recorder. Altitude of gage 10,200 ft (from topographic map).
Average discharge.--8 years (1946-54), 14.4 cfs (10,430 acre-ft per year).
Extremes.--1946-54: Maximum discharge, 218 cfs June 12, 1949 (gage height, 2.99 ft); minimum not determined, occurred during period of no gage-height record.
Remarks.--Tabor ditch (see preceding station) diverts about 4½ miles above station to Clear Creek in Rio Grande basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5.99	5.38	5.0	4.5	5.0	5.5	8.0	31.0	17.8	8.87	7.15	4.89	9.13
1952	5.06	5.5	5.0	4.5	4.5	5.5	20	49.3	63.6	16.1	11.9	8.83	16.6
1953	6.79	5.60	5.5	5.5	5.5	6.0	12	35.2	23.4	8.79	7.49	5.81	10.7
1954	7.10	6	5.5	5	5	6	17.2	23.6	10.2	11.2	7.53	6.55	9.27

GUNNISON RIVER BASIN

Monthly and yearly discharge, in acre-feet, of Cebolla Creek near Lake City, Colo.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	368	320	307	277	278	338	476	1,910	1,060	545	440	291	6,610
1952	311	327	307	277	259	338	1,190	3,030	3,800	988	734	525	12,100
1953	418	333	338	338	305	369	714	2,160	1,390	541	461	346	7,710
1954	437	357	338	307	278	369	1,030	1,450	606	686	463	390	6,710

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	10.5	7,570
1951	1213	a130	May 30, 1951	-	9.13	6,610	9.06	6,560
1952	1243	169	June 7, 1952	-	16.6	12,100	16.8	12,230
1953	1283	178	May 26, 1953	-	10.7	7,710	10.7	7,760
1954	1343	53	May 12, 1954	-	9.27	6,710	-	-

a Maximum recorded.

1218. Cebolla Creek near Powderhorn, Colo.

Location.--Lat 38°13'40", long 107°04'20", in NW¼ sec.23, T.46 N., R.2 W., on right bank 50 ft downstream from private bridge, 1.4 miles upstream from Beaver Creek, and 4.5 miles southeast of Powderhorn.

Drainage area.--223 sq mi.

Records available.--April to September 1960.

Gage.--Water-stage recorder. Datum of gage is 8,281.04 ft above mean sea level, datum of 1929.

Extremes.--April to September 1960: Maximum discharge, 380 cfs June 4, 1960 (gage height, 3.19 ft); minimum daily, 32 cfs Aug. 22, 24, 25, Sept. 13, 1960.

Remarks.--Small diversions above station for irrigation of hay meadows. Tabor ditch diverts water into Corral Creek (tributary of Clear Creek) in the Rio Grande basin (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	-	-	-	114	158	200	71.4	43.9	35.9	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	-	-	-	6,760	9,740	11,920	4,390	2,700	2,140	-

1220. Cebolla Creek at Powderhorn, Colo.

Location.--Lat 38°17'30", long 107°07'00", in SE¼ sec.29, T.47 N., R.2 W., on left bank 200 ft downstream from bridge on State Highway 149, 250 ft downstream from Powderhorn Creek, and half a mile north of Powderhorn.

Drainage area.--334 sq mi.

Records available.--October 1937 to December 1955. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 8,000 ft (from topographic map).

Average discharge.--18 years (1937-55), 102 cfs (73,840 acre-ft per year).

Extremes.--1937-55: Maximum discharge, 2,150 cfs May 16, 1944, from rating curve extended above 710 cfs; maximum gage height, 3.40 ft June 17, 1949; minimum daily discharge, 20 cfs Nov. 11, 1950.

Remarks.--Diversions for irrigation of about 2,800 acres above station. Tabor ditch (see elsewhere in this report) diverts water above station to Rio Grande basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	40.6	36.5	37.3	39.1	42.2	45.5	67.1	129	104	43.2	63.4	34.5	56.9
1952	39.5	38.0	52.6	52.5	35.8	41.8	194	336	374	109	112	79.3	122
1953	62.3	49.8	46.1	48.2	44.6	50.8	70.2	138	153	73.5	90.1	50.0	73.2
1954	47.8	49.6	41.5	38.2	40.9	44.3	79.6	69.2	44.7	69.3	72.0	49.7	54.0
1955	43.5	33.9	34.4	30.4	32.6	39.7	77.5	108	118	42.2	68.7	34.8	55.3
1956	38.3	38.0	35	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,500	2,170	2,290	2,410	2,350	2,800	3,990	7,900	6,180	2,650	3,900	2,050	41,190
1952	2,430	2,260	3,240	3,230	2,060	2,570	11,560	20,650	22,250	6,720	6,870	4,720	88,560
1953	3,830	2,960	2,830	2,970	2,480	3,130	4,180	8,480	9,120	4,520	5,540	2,970	53,010
1954	2,940	2,950	2,550	2,350	2,270	2,720	4,740	4,250	2,660	4,260	4,430	2,960	39,080
1955	2,670	2,020	2,110	1,870	1,810	2,440	4,610	6,630	7,010	2,590	4,220	2,070	40,050
1956	2,350	2,260	2,150	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1213	465	May 28, 1951	20	56.9	41,190	67.0	48,480
1952	1243	776	June 8, 1952	25	122	88,560	58.2	42,160
1953	1283	514	May 28, 1953	33	73.2	53,010	71.6	90,250
1954	1343	228	July 22, 1954	30	54.0	39,080	51.7	37,440
1955	1393	405	June 9, 1955	24	55.3	40,050	55.3	40,010
1956	1393	-	-	-	-	-	-	-

1225. Soap Creek near Sapinero, Colo.

Location.--Lat 38°33'40", long 107°19'30", in SW $\frac{1}{4}$ sec.29, T.50 N., R.4 W., on right bank 1 $\frac{1}{2}$ miles upstream from Cow Creek and $\frac{6}{8}$ miles north of Sapinero.

Drainage area.--57.3 sq mi.

Records available.--August 1955 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,790 ft (from topographic map).

Average discharge.--5 years (1955-60), 66.3 cfs (48,000 acre-ft per year).

Extremes.--1955-60: Maximum discharge, about 1,000 cfs sometime during period June 4-6, 1957; maximum gage height, 6.07 ft June 6, 1957; minimum daily discharge, 2.6 cfs Oct. 23, 1958.

Remarks.--One small diversion for irrigation of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	-	-	-	-	-	-	-	-	-	-	17.7	5.39	-
1956	4.54	5.19	5.5	5.5	5	14	114	259	178	19.1	7.89	3.52	51.8
1957	3.71	5.44	6	6	6.5	8	58.9	257	629	288	53.7	18.7	112
1958	12.7	11.9	10.9	10.9	11.2	12.4	94.8	430	266	24.1	7.72	5.80	75.2
1959	4.09	3.93	5	4.4	5	6.5	66.5	203	180	18.7	10.5	8.59	43.1
1960	18.8	10.1	7	6	5	12.0	145	182	174	21.8	7.54	3.88	49.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	-	-	-	-	-	-	-	-	-	-	1,090	321	-
1956	279	309	338	358	288	863	6,810	15,930	10,570	1,180	485	209	37,600
1957	228	324	389	369	361	492	3,390	15,820	37,720	17,720	3,300	1,110	80,900
1958	782	708	688	670	623	760	5,640	26,460	15,800	1,480	475	345	54,410
1959	251	234	307	271	278	401	3,960	12,470	10,700	1,150	647	511	31,180
1960	1,160	599	430	369	288	736	8,600	11,190	10,320	1,340	464	231	35,730

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1955	1443	-	-	-	-	-	-	-	-
1956	1443	410	June 2, 1956	3.0	51.8	37,600	51.8	37,590	
1957	1513	al,000	(b)	2.8	112	80,900	113	82,140	
1958	1563	611	May 28, 1958	4.4	75.2	54,410	73.3	53,040	
1959	1833	415	May 15, 1959	2.6	43.1	31,180	45.0	32,580	
1960	1713	485	May 12, 1960	2.9	49.2	35,730	-	-	

a About.

b Sometime during period June 4-6, 1957.

1230. Soap Creek at Sapinero, Colo.
(Formerly published as Sapinero Creek at Sapinero)

Location.--Lat 38°28'30", long 107°18'00", in sec.28, T.49 N., R.4 W., on right bank 50 ft upstream from bridge on U. S. Highway 50, 500 ft upstream from mouth, and five-eighths of a mile northeast of Sapinero.

Drainage area.--85.5 sq mi.

Records available.--October 1910 to September 1914, October 1945 to September 1952. Published as Sapinero Creek at Sapinero in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 7,226.84 ft above mean sea level, datum of 1929. Mar. 17, 1911, to July 21, 1913, staff gage at bridge 50 ft downstream at datum 5.5 ft higher. July 22, 1913, to Sept. 30, 1914, chain gage 200 ft upstream at different datum.

Average discharge.--11 years (1910-14, 1945-52), 72.5 cfs (52,490 acre-ft per year).

Extremes.--1945-52: Maximum discharge, 892 cfs May 22, 1948, from rating curve extended above 300 cfs; maximum gage height, 4.77 ft June 11, 1952; minimum daily discharge, 0.6 cfs Sept. 16, 1948.

Remarks.--Divisions above station for irrigation of about 400 acres, drainage from which is mostly tributary to nearby streams.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.38	6.07	10.9	10.1	9.61	18.7	80.6	223	193	31.7	15.5	4.06	50.6
1952	6.10	8.02	8.06	7.60	10.2	13.8	219	451	440	60.7	22.9	10.8	105

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	146	361	673	622	534	1,150	4,800	13,700	11,490	1,950	951	241	36,620
1952	375	477	496	467	587	849	13,010	27,760	26,190	3,730	1,410	645	76,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	51.2	37,060	
1951	1213	615	Aug. 1, 1951	0.9	50.6	36,620	50.8	36,790	
1952	1243	820	May 5, 1952	1.7	105	76,000	-	-	

1245. Lake Fork at Gateview, Colo.

Location.--Lat 38°17'50", long 107°13'50", in sec.29, T.47 N., R.3 W., on left bank at old village of Gateview, 15 ft downstream from private bridge, a quarter of a mile upstream from Indian Creek, and 15 miles upstream from mouth.

Drainage area.--338 sq mi.

Records available.--October 1937 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 7,827.66 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1938, at datum 2.00 ft higher and Oct. 1, 1938, to Sept. 30, 1945, at datum 1.00 ft higher.

Average discharge.--23 years (1937-60), 249 cfs (180,300 acre-ft per year).

Extremes.--1937-60: Maximum discharge, 2,700 cfs June 29, 1957 (gage height, 4.30 ft); minimum daily determined, 25 cfs Dec. 5, 1955, Jan. 10, 17, 1957.

Remarks.--Diversions for irrigation of about 1,600 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	57.1	48.4	48.7	48.0	46.6	56.0	80.4	365	775	325	141	65.4	172
1952	53.0	51.4	60.0	53.4	44.5	49.1	340	740	1,568	642	335	192	344
1953	112	63.2	51.4	52.7	46.1	59.0	106	275	970	344	180	73.7	194
1954	59.9	62.2	46.2	39.7	42.7	44.4	107	373	358	514	136	82.9	139
1955	87.5	49.1	42.9	38.8	38.5	43.7	72.6	319	732	224	170	78.5	158
1956	49.3	44.9	39.5	34.9	32.0	48.5	111	502	666	162	82.5	45.5	151
1957	40.3	45.4	38.2	36.8	39.3	42.9	122	332	1,553	1,266	443	198	347
1958	101	89.3	72.1	56.6	49.1	53.1	151	1,040	1,346	382	163	110	302
1959	84.7	66.8	55.0	46.2	43.9	42.6	90.8	359	846	217	141	87.3	173
1960	103	71.5	41.1	38.4	35.5	83.6	252	501	1,091	368	124	77.0	232

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,510	2,880	2,990	2,950	2,590	3,440	4,780	22,430	46,120	20,000	8,690	3,890	124,300
1952	3,260	3,060	3,690	3,280	2,560	3,020	20,200	45,510	93,290	39,480	20,610	11,430	249,400
1953	6,880	3,760	3,160	3,240	2,560	3,630	6,310	16,900	57,720	21,160	11,090	4,390	410,800
1954	3,690	3,700	2,840	2,440	2,370	2,730	6,360	22,920	21,280	19,290	8,380	4,930	100,900
1955	5,380	2,920	2,640	2,390	2,140	2,690	4,320	19,610	43,580	13,760	10,480	4,670	114,600
1956	3,030	2,670	2,430	2,150	1,840	2,990	6,600	30,840	39,600	9,960	5,070	2,710	109,900
1957	2,480	2,700	2,350	2,280	2,180	2,640	7,250	20,410	82,400	77,830	27,230	11,780	251,500
1958	6,200	5,320	4,430	3,480	2,730	3,260	9,000	63,970	80,070	23,460	10,020	6,530	218,500
1959	5,210	3,980	3,380	2,840	2,440	2,620	5,400	22,100	50,370	13,370	8,670	5,200	125,600
1960	6,320	4,260	2,530	2,360	2,040	5,140	14,990	30,800	64,900	22,630	7,630	4,580	168,200

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	173	125,000	
1951	1213	1,100	June 17, 1951	30	172	124,300	173	124,900	
1952	1243	2,610	June 8, 1952	40	344	249,400	349	253,200	
1953	1283	2,600	June 13, 1953	36	194	140,800	190	137,200	
1954	1343	856	July 23, 1954	30	139	100,900	140	101,600	
1955	1393	1,530	June 9, 1955	33	158	114,600	154	111,800	
1956	1443	1,340	June 3, 1956	25	151	109,900	151	109,300	
1957	1513	2,700	June 29, 1957	25	347	251,500	359	259,900	
1958	1563	2,440	June 7, 1958	40	302	218,500	297	215,100	
1959	1633	1,330	June 8, 1959	34	173	125,600	174	126,100	
1960	1713	1,800	June 4, 1960	30	232	168,200	-	-	

1250. Curecanti Creek near Sapinero, Colo.

Location--Lat 38°29'20", long 107°24'40", in sec.21, T.49 N., R.5 W., on downstream side of left pier of bridge on State Highway 92, 2½ miles upstream from mouth and 6 miles west of Sapinero.

Drainage area--31.8 sq mi.

Records available--October 1945 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage--Water-stage recorder. Altitude of gage is 7,867 ft (from topographic map). Prior to Oct. 1, 1947, at site 65 ft upstream at datum 3.00 ft higher. Oct. 1, 1947, to Sept. 17, 1952, at site 65 ft upstream at datum 1.00 ft higher.

Average discharge--15 years (1945-60), 34.2 cfs (24,760 acre-ft per year).

Extremes--1945-60: Maximum discharge, 480 cfs June 5, 1957; maximum gage height, 4.30 ft June 28, 1957; minimum daily discharge, 2.0 cfs Aug. 1-3, 1948, but may have been less during periods of ice effect.

Remarks--One diversion above station for irrigation in Smith Fork drainage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.16	5.15	5.25	4.5	4.0	7.84	32.3	111	129	24.7	6.35	5.17	28.4
1952	4.37	4.40	4.0	4.0	4.0	6.0	75.5	207	225	41.5	8.42	6.26	49.3
1953	5.17	4.87	6.0	6.5	7.5	16	33.4	102	156	19.2	8.75	4.84	30.8
1954	5.48	7.28	7	7	8	8.0	36.2	56.4	17.5	6.34	3.93	5.80	14.1
1955	6.06	4.79	4.5	4.0	4.0	5.0	29.8	94.3	83.2	14.0	6.27	4.13	21.7
1956	4.67	5.34	5.0	5.0	4.5	11	57.6	135	96.7	8.85	4.71	3.41	28.5
1957	4.62	5.5	5.0	4.8	4.5	6.0	37.8	141	342	164	24.6	10.5	62.6
1958	8.37	7.43	5.4	5.2	5.2	5.8	750.1	254	196	14.1	5.25	5.15	47.0
1959	4.75	4.5	5.5	5	5.5	7.0	32.9	107	88.7	8.67	5.37	5.35	23.4
1960	10.2	6.45	4.5	3.5	3	9.99	90.3	119	110	10.4	3.92	3.48	31.1

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	256	306	323	277	222	482	1,920	6,840	7,690	1,520	391	308	20,540
1952	269	262	246	246	230	369	4,550	12,740	13,400	2,550	518	372	35,750
1953	318	290	369	400	417	984	1,990	6,250	9,250	1,180	537	276	22,260
1954	336	433	430	430	444	489	2,150	3,470	1,040	390	241	345	10,200
1955	372	285	277	246	222	307	1,780	5,800	4,950	858	386	246	15,730
1956	287	318	307	307	259	674	3,430	8,290	5,750	544	290	203	20,660
1957	284	327	307	295	250	369	2,250	8,680	20,320	10,090	1,510	615	45,300
1958	515	442	332	320	289	357	2,980	15,610	11,660	869	323	307	34,000
1959	292	268	338	307	305	432	1,960	6,550	5,280	533	330	318	16,910
1960	629	384	277	215	173	614	5,370	7,290	6,520	640	241	207	22,560

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	30.5	22,050
1951	1213	263	May 27, 1951	-	28.4	20,540	28.2	20,430
1952	1243	422	June 6, 1952	-	49.3	35,750	49.5	35,950
1953	1283	312	May 28, 1953	-	30.8	22,260	31.1	22,480
1954	1343	92	May 15, 1954	2.9	14.1	10,200	13.7	9,930
1955	1393	160	May 14, 1955	-	21.7	15,730	21.7	15,710
1956	1443	225	June 2, 1956	-	28.5	20,660	28.5	20,660
1957	1513	480	June 5, 1957	-	62.6	45,300	63.1	45,670
1958	1563	426	May 28, 1958	-	47.0	34,000	46.4	33,610
1959	1633	183	May 14, 1959	3.3	23.4	16,910	23.9	17,300
1960	1713	244	May 13, 1960	2.6	31.1	22,560	-	-

1260. Cimarron Creek near Cimarron, Colo.

Location.--Lat 38°15'30", long 107°32'40", in sec.8, T.46 N., R.6 W., on right bank 0.2 mile downstream from highway bridge, 0.5 mile upstream from headgate on Cimarron ditch, 2.5 miles downstream from West Fork, and 13 miles south of Cimarron.

Drainage area.--66.8 sq mi.

Records available.--October 1954 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,650 ft (from topographic map).

Average discharge.--6 years (1954-60), 92.6 cfs (67,040 acre-ft per year).

Extremes.--1954-60: Maximum discharge, 1,790 cfs June 28, 1957 (gage height, 8.32 ft); minimum not determined.

Remarks.--Diversion above station through Owl Creek ditch into Uncompahgre River basin. Diversion below station by Cimarron ditch (see fourth table below).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	30.7	18.5	15.2	14.2	14.1	17.5	34.9	150	284	91.7	71.6	22.9	63.9
1956	14.0	13.6	13	12	11	19	57.1	308	279	51.9	33.3	17.1	69.1
1957	14.2	15.1	14	12	11	11.8	29.3	178	772	636	162	53.5	160
1958	31.1	25.4	21.9	17.4	15.0	14.8	36.8	424	638	145	50.1	34.3	121
1959	27.5	22.8	20.5	19.0	17.9	19.3	44.8	177	335	63.7	38.3	24.5	67.5
1960	27.3	16.8	15.6	14.6	13.7	16.5	87.1	180	377	93.9	29.7	16.7	73.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	1,890	1,100	932	873	781	1,080	2,080	9,240	16,910	5,640	4,400	1,360	46,290
1956	861	809	799	738	633	1,170	3,400	18,930	16,580	3,190	2,040	1,020	50,170
1957	871	900	861	738	611	726	1,750	10,970	45,950	39,110	9,990	3,180	115,700
1958	1,910	1,510	1,350	1,070	831	912	2,190	26,090	37,960	8,900	3,080	2,040	87,840
1959	1,690	1,360	1,280	1,170	994	1,190	2,670	10,910	19,910	3,920	2,350	1,440	46,860
1960	1,680	998	962	899	789	1,010	5,180	11,060	22,420	5,770	1,820	994	53,580

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1955	1393	1,590	Aug. 4, 1955	11	63.9	46,290	61.9	44,830
1956	1443	700	May 31, 1956	-	69.1	50,170	69.3	50,330
1957	1513	1,790	June 28, 1957	-	160	115,700	163	117,800
1958	1563	1,260	June 6, 1958	12	121	87,840	121	87,380
1959	1633	655	June 9, 1959	15	67.5	48,860	66.6	48,190
1960	1713	781	June 3, 1960	10	73.8	53,580	-	-

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	1,410	206	0	0	0	0	0	3,460	8,150	4,960	1,060	632	19,880

Note.--No records collected on canal at this site prior to October 1959.

1270. Cimarron Creek below Squaw Creek, at Cimarron, Colo.

Location.--Lat 38°27'00", long 107°33'30", in sec.5, T.48 N., R.6 W., on left bank 150 ft upstream from road bridge, 850 ft downstream from Squaw Creek, a quarter of a mile northeast of Cimarron, and three-quarters of a mile upstream from mouth.

Drainage area.--232 sq mi.

Records available.--October 1942 to September 1952. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 6,864.10 ft above mean sea level, datum of 1929. Prior to Oct. 21, 1943, chain gage on bridge 150 ft downstream at different datum.

Average discharge.--10 years (1942-52), 122 cfs (88,320 acre-ft per year).

Extremes.--1942-52: Maximum discharge, 1,840 cfs June 11, 1952 (gage height, 7.68 ft);

minimum daily, 8.6 cfs Sept. 13, 1951.

Remarks.--Natural flow of stream affected by diversions by Cimarron and Owl Creel ditches for irrigation of about 5,000 acres in Uncompahgre River drainage, diversions importing water from Blue Creek drainage, diversions for irrigation of about 3,000 acres above station, return flow from irrigated areas, and storage reservoirs (combined capacity, about 900 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	17.0	31.7	32.8	32.0	33.4	39.3	53.7	192	335	59.0	33.1	18.7	73.0
1952	18.7	20.4	24.1	28.4	28.0	26.7	222	430	827	102	56.6	33.5	151

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,050	1,880	2,020	1,970	1,850	2,410	3,200	11,790	19,930	3,630	2,040	1,110	52,880
1952	1,150	1,210	1,480	1,750	1,610	1,640	13,210	26,440	49,210	6,240	3,480	1,990	109,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year				
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet			
		Discharge	Date								
1950	-	-	-	-	-	-	72.2	52,270	-	-	-
1951	1213	764	June 17, 1951	8.6	73.0	52,880	71.5	51,770	-	-	-
1952	1243	1,840	June 11, 1952	12	151	109,400	-	-	-	-	-

1275. Crystal Creek near Maher, Colo.

Location.--Lat 38°33'05", long 107°30'20", in SE¹ sec.35, T.50 N., R.6 W., on right bank 500 ft downstream from private bridge, half a mile upstream from diversion dam for Cattlemans ditch, 0.7 mile downstream from Dyer Creek (revised), 7 miles upstream from mouth, and 7 miles southeast of Maher.

Drainage area.--39.1 sq mi.

Records available.--July 1945 to September 1954. Records for October 1916 to September 1919 at site 1 mile downstream (revised) not equivalent owing to diversion by Cattlemans ditch.

Gage.--Water-stage recorder. Altitude of gage is 8,070 ft (from topographic map).

Average discharge.--9 years (1945-54), 29.1 cfs (21,070 acre-ft per year).

Extremes.--1945-54: Maximum discharge, 542 cfs Apr. 29, 1948 (gage height, 5.05 ft), from rating curve extended above 200 cfs; minimum daily, 1.8 cfs Aug. 29, 31, 1954.

Remarks.--Small diversions for irrigation of hay meadows above station. Diversions above station for irrigation of about 800 acres below station and about 700 acres in Iron Creek basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.74	5.14	6.80	5.39	4.96	7.48	23.3	83.7	69.3	16.7	6.94	4.26	20.0
1952	5.95	6.17	6.90	6.66	5.83	5.01	103	188	168	25.5	9.46	7.34	44.7
1953	4.62	5.47	6.39	7.02	7.12	9.73	28.6	126	136	18.5	9.58	4.60	30.3
1954	5.14	5.71	3.79	4	4.5	6.55	27.6	36.8	15.7	6.52	3.16	7.20	10.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	292	306	418	351	276	460	1,390	5,150	4,120	1,020	426	253	14,440
1952	366	367	424	410	355	308	6,140	11,550	9,970	1,560	582	437	32,450
1953	294	325	393	432	396	598	1,700	7,740	8,110	1,140	589	274	21,980
1954	316	340	233	246	250	402	1,640	2,260	932	401	195	429	7,640

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year				
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet			
		Discharge	Date								
1950	-	-	-	-	-	-	23.3	16,850	-	-	-
1951	1213	270	May 27, 1951	3.5	20.0	14,440	20.1	14,580	-	-	-
1952	1243	420	May 5, 1952	2.5	44.7	32,450	44.5	32,290	-	-	-
1953	1283	436	May 28, 1953	3.1	30.3	21,980	30.2	21,870	-	-	-
1954	1343	61	May 6, 1954	1.8	10.6	7,640	-	-	-	-	-

1280. Gunnison River below Gunnison tunnel, Colo.

Location.--Lat 38°32', long 107°39', in NW¹/₄ sec.10, T.49 N., R.7 W., on left bank a quarter of a mile downstream from east portal of Gunnison tunnel, 5 miles downstream from Crystal Creek, and 12 miles northeast of Montrose.

Drainage area.--3,980 sq mi, approximately.

Records available.--October 1903 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as "at east portal of Gunnison tunnel" 1905-6 and as "at River Portal" 1907-11.

Gage.--Water-stage recorder. Datum of gage is 6,526.06 ft above mean sea level, datum of 1929. Apr. 9, 1905, to Aug. 20, 1915, staff gage at site 300 ft upstream from diversion dam at east portal of Gunnison tunnel at different datum. Aug. 21, 1915, to Jan. 19, 1943, staff gage at site 500 ft downstream from diversion dam at east portal of Gunnison tunnel at different datum. Jan. 20, 1943, to Sept. 30, 1956, water-stage recorder at same site at datum 1.0 ft higher.

Average discharge.--57 years (1903-60), 1,491 cfs, unadjusted (1,079,000 acre-ft per year).

Extremes.--1903-60: Maximum discharge observed, 19,000 cfs June 15, 1921 (gage height, about 15.8 ft, present datum), from rating curve extended above 14,000 cfs; no flow Sept. 25, 26, 1936, Oct. 8, 1949, Sept. 5, 6, 15, 16, 1950.

Remarks.--Natural flow of stream affected by transbasin diversions (see following page), Taylor Park Reservoir (see elsewhere in this report), diversions for irrigation of about 63,000 acres, and return flow from irrigated areas. Record of diversion through Gunnison tunnel for irrigation in Uncompahgre Valley is shown in first table on following page.

Cooperation.--Record of diversion through Gunnison tunnel furnished by Uncompahgre Valley Water Users Association.

Corrections.--The figures of monthly mean discharge and runoff for parts of water years 1918-19 and corresponding yearly figures have been corrected as given below. They supersede figures published in WSP 1313.

Month	Mean	Acre-feet	Month	Mean	Acre-feet
April 1918.....	1,071	63,740	October 1918.....	435	26,720
May.....	4,452	273,700	Calendar year 1918..	1,639	1,186,000
June.....	8,498	505,600	April 1919.....	1,896	112,800
July.....	1,390	85,480	Water year 1919..	1,255	908,700
August.....	479	29,420	Calendar year 1919..	1,248	903,500
September.....	634	37,710			
Water year 1917-18..	1,629	1,179,000			

In WSP 1313 the diversion figures by Gunnison tunnel for April 1948 and water year 1948 are listed in error; they should be 9,400 and 308,000 acre-ft, respectively.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	36.3	216	411	394	394	527	388	2,129	3,673	864	333	68.3	786
1952	82.9	298	408	450	439	450	2,668	6,505	8,788	2,024	764	431	1,938
1953	315	292	516	484	432	481	516	1,709	4,928	890	413	130	924
1954	143	458	460	373	404	356	177	696	123	224	110	82.8	301
1955	213	260	377	325	279	299	672	1,350	2,118	342	342	79.7	554
1956	61.4	334	461	376	329	431	1,034	2,994	2,982	271	205	32.7	792
1957	58.3	413	322	317	377	445	989	4,073	11,670	8,468	2,237	610	2,505
1958	459	884	878	543	535	595	1,627	8,060	6,170	485	309	76.1	1,723
1959	39.0	390	475	411	422	328	303	1,194	2,708	177	268	78.7	564
1960	584	550	361	395	443	880	2,414	1,883	3,958	550	200	136	1,026

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,230	12,830	25,270	24,200	21,900	32,420	23,110	130,900	218,600	53,120	20,490	4,060	569,100
1952	5,090	17,730	25,090	27,670	25,230	27,670	158,800	400,000	522,900	124,400	47,000	25,630	1,407,000
1953	19,370	17,350	31,760	29,750	24,020	29,560	30,720	105,100	293,300	54,740	25,390	7,720	668,800
1954	8,810	27,250	28,290	22,910	22,450	21,890	10,530	42,810	7,330	13,790	6,770	4,920	217,800
1955	13,070	15,470	23,190	19,850	15,470	18,410	39,990	83,000	126,000	21,030	21,040	4,740	401,400
1956	3,770	19,880	28,330	23,150	18,940	26,520	61,530	184,100	177,400	16,640	12,510	1,950	574,700
1957	3,590	24,560	19,800	19,480	20,930	27,350	58,870	250,400	694,300	520,700	137,600	36,270	1,814,000
1958	28,240	52,620	54,010	33,380	29,690	36,680	96,800	495,600	367,100	29,820	19,020	4,530	1,247,000
1959	2,400	23,220	29,180	25,250	23,460	20,170	18,040	73,420	161,100	10,860	16,470	4,680	408,200
1960	35,890	32,710	23,440	24,300	25,490	54,110	143,600	115,800	235,500	33,850	12,290	8,090	745,100

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	782	566,000		
1951	1213	6,450	May 29, 1951	0.3	786	569,100	797	576,700		
1952	1243	14,000	June 9, 1952	4.4	1,938	1,407,000	1,967	1,428,000		
1953	1283	9,640	June 14, 1953	37	924	668,800	918	664,600		
1954	1343	1,860	May 22, 1954	4	301	217,800	283	205,100		
1955	1393	4,250	June 9, 1955	19	554	401,400	555	401,600		
1956	1443	6,350	June 3, 1956	7.5	792	574,700	786	570,700		
1957	1513	16,800	June 30, 1957	16	2,505	1,814,000	2,625	1,901,000		
1958	1563	12,800	May 28, 1958	1.8	1,723	1,247,000	1,612	1,187,000		
1959	1633	5,160	June 15, 1959	1.8	564	408,200	615	445,500		
1960	1713	5,960	June 20, 1960	14	1,026	745,100	-	-		

Monthly and yearly diversions, in acre-feet, of Gunnison River below Gunnison tunnel, Colo.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	26,410	13,670	0	0	0	3,690	49,720	56,910	52,350	58,650	59,450	56,870	377,700
1952	31,270	9,000	0	0	0	1,100	19,360	45,660	35,560	57,870	57,110	49,330	306,300
1953	41,280	18,510	0	0	0	6,890	32,030	52,090	51,280	59,300	59,080	55,650	376,100
1954	32,820	8,190	0	0	0	7,440	48,850	58,930	56,580	58,530	57,180	37,910	366,400
1955	22,530	10,250	0	0	0	1,630	28,530	56,240	51,380	58,760	57,680	50,500	337,500
1956	28,150	5,950	0	0	0	2,220	37,300	58,000	49,980	50,140	50,580	52,100	334,400
1957	31,170	825	0	0	0	1,530	28,000	37,480	29,390	32,100	49,390	39,670	248,600
1958	28,720	4,250	0	0	0	0	27,100	37,520	34,810	59,210	54,540	50,330	298,500
1959	32,610	9,290	0	0	0	6,650	50,500	58,090	53,810	58,260	57,380	48,670	375,300
1960	16,320	4,820	0	0	0	0	17,840	56,500	45,140	58,450	57,470	52,100	308,600

1285. Smith Fork near Crawford, Colo.

Location.--Lat 38°44', long 107°31', in sec.24, T.15 S., R.91 W., on left bank 20 ft upstream from county road bridge, 0.4 mile upstream from Second Creek, 6 miles north-east of Crawford, and 6½ miles upstream from Iron Creek.

Drainage area.--42 sq mi, approximately.

Records available.--October 1935 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,200 ft (by barometer). Prior to Nov. 16, 1938, staff gage at same site and datum.

Average discharge.--25 years (1935-60), 43.5 cfs (31,490 acre-ft per year).

Extremes.--1935-60: Maximum discharge, about 1,050 cfs June 6, 1957; maximum gage height, 5.56 ft June 8, 1957; minimum discharge not determined.

Remarks.--Diversions for irrigation of a few acres of hay meadows above station. Saddle Mountain ditch diverts water above station for irrigation of about 800 acres below. One small ditch diverts from Virginia Creek to Iron Creek drainage, and Head and Ferrier ditch diverts water from Curecanti Creek drainage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6.19	6.58	5.97	4.56	4.73	8.87	36.2	112	78.1	26.7	10.6	7.28	25.8
1952	6.63	5.56	5.37	5.05	4.76	7.02	136	252	182	36.5	16.0	11.2	56.0
1953	7.89	6.42	5.92	5.21	6.82	11.4	31.5	132	125	25.6	16.9	7.32	32.0
1954	5.36	7.08	5.39	5.00	5.69	5.97	38.5	69.0	29.7	13.0	7.72	12.1	17.1
1955	7.23	6.92	6.85	6.02	5.62	7.17	45.3	116	64.3	21.6	13.0	6.99	25.7
1956	5.75	6.35	6.14	6.27	5.51	16.6	86.2	146	61.2	18.3	11.0	6.51	31.4
1957	6.19	6.71	5.55	5.58	8.06	11.1	59.7	293	496	122	34.0	19.7	89.0
1958	15.8	12.8	10.2	7.56	11.3	12.0	104	353	132	25.5	12.1	10.6	59.2
1959	8.48	7.44	7.40	6.88	7.21	8.32	36.8	108	74.1	18.9	12.0	11.2	25.6
1960	15.6	9.80	5.16	5.25	5.32	15.2	112	150	76.9	21.1	10.7	7.25	34.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	381	391	367	281	263	545	2,150	6,910	4,650	1,640	649	433	18,660
1952	407	331	330	311	274	432	8,070	15,500	11,070	2,240	986	665	40,620
1953	485	382	364	320	379	703	1,870	8,140	7,440	1,570	1,040	436	23,130
1954	351	421	331	308	316	367	2,290	4,240	1,770	796	475	721	12,370
1955	445	412	421	370	312	441	2,700	7,110	3,820	1,330	796	416	18,570
1956	354	378	377	386	317	1,020	5,130	8,990	3,640	1,130	677	388	22,790
1957	381	399	341	331	447	682	3,550	18,020	29,630	7,530	2,090	1,170	64,470
1958	974	759	626	465	629	736	6,180	21,730	7,830	1,570	747	630	42,880
1959	521	443	455	423	401	511	2,190	6,610	4,410	1,160	741	666	18,530
1960	962	583	317	323	306	937	6,660	7,990	4,580	1,300	655	432	25,040

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	36.3	26,260
1951	1213	238	May 28, 1951	3.5	25.8	18,660	25.7	18,590
1952	1243	616	May 5, 1952	4.1	56.0	40,620	56.2	40,780
1953	1283	468	May 29, 1953	4.4	32.0	23,130	31.8	22,980
1954	1343	98	May 10, 1954	4.0	17.1	12,370	17.4	12,560
1955	1393	214	May 8, 1955	4.5	25.7	18,570	25.4	18,400
1956	1443	313	May 8, 1956	4.5	31.4	22,790	31.4	22,800
1957	1513	al,050	June 6, 1957	4.5	89.0	64,470	90.8	65,710
1958	1563	546	May 24, 1958	6.5	59.2	42,880	57.9	41,940
1959	1633	232	May 14, 1959	5.8	25.6	18,530	26.2	18,970
1960	1713	281	May 12, 1960	4.4	34.5	25,040	-	-

a About.

1290. Smith Fork at Crawford, Colo.

Location.--Lat 38°43', long 107°35', in SE $\frac{1}{4}$ sec.29, T.15 S., R.91 W., on right bank 100 ft upstream from former bridge site, $1\frac{1}{2}$ miles northeast of Crawford, and 2 miles upstream from Iron Creek.

Drainage area.--63 sq mi, approximately.

Records available.--October 1954 to September 1960.

Gage.--Water-stage recorder.

Average discharge.--6 years (1954-60), 39.4 cfs (28,520 acre-ft per year).

Extremes.--1954-60: Maximum discharge, about 1,200 cfs June 5 or 6, 1957; maximum gage height, 4.13 ft June 6, 1957; minimum daily discharge, 1.9 cfs Dec. 5, 1955.

Remarks.--Natural flow affected by diversions above station for irrigation above and below station, 1 diversion to Cottonwood Creek drainage, 1 small diversion to Iron Creek drainage, and water imported from Curecanti Creek drainage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	9.11	8.64	6.42	5.27	4.58	7.02	40.0	95.5	40.4	12.2	8.04	6.51	20.4
1956	4.70	2.61	2.86	2.71	2.60	11.1	88.8	118	36.8	10.1	7.51	4.76	24.4
1957	4.01	4.15	4.25	4.68	7.12	10.5	55.2	311	497	77.7	17.3	13.6	83.9
1958	13.4	14.1	10.9	8.50	12.5	18.0	118	372	95.3	14.5	9.32	10.1	58.5
1959	8.78	6.92	6.74	6.66	6.42	8.41	31.7	77.4	52.1	11.1	9.60	8.97	19.6
1960	15.1	7.70	5.48	4.62	4.62	14.4	111	112	52.0	11.9	8.80	6.44	29.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	560	514	395	324	254	432	2,380	5,870	2,410	750	494	387	14,770
1956	289	156	176	166	150	685	5,280	7,230	2,190	621	462	283	17,690
1957	247	247	261	288	395	645	3,290	19,130	29,590	4,780	1,060	809	60,740
1958	826	838	670	522	695	1,100	7,050	22,900	5,670	889	573	603	42,340
1959	540	412	414	410	357	517	1,890	4,760	3,100	684	590	534	14,210
1960	926	458	337	284	266	883	6,620	6,900	3,100	731	541	383	21,430

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1955	1393	232	May 8, 1955	3.8	20.4	14,770	19.2
1956	1443	292	May 7, 1956	1.9	24.4	17,690	24.5
1957	1513	al, 200	(b)	2.6	83.9	60,740	86.1
1958	1563	575	May 24, 1958	7.4	58.5	42,340	57.1
1959	1633	210	May 14, 1959	4.6	19.6	14,210	20.1
1960	1713	376	May 13, 1960	3.8	29.5	21,430	-

a About.

b June 5 or 6, 1957.

1295. Iron Creek near Crawford, Colo.

Location.--Lat 38°41', long 107°36', in SW $\frac{1}{4}$ sec.13, T.51 N., R.7 W., on right bank a quarter of a mile downstream from Clear Fork and 1.8 miles southeast of Crawford.

Drainage area.--67 sq mi, approximately.

Records available.--September 1947 to September 1952.

Gage.--Water-stage recorder. Datum of gage is 6,443.73 ft above mean sea level (levels by Bureau of Reclamation).

Average discharge.--5 years (1947-52), 16.9 cfs (12,240 acre-ft per year).

Extremes.--1947-52: Maximum discharge, 367 cfs Oct. 14, 1947 (gage height, 6.05 ft), from rating curve extended above 100 cfs on basis of slope-area measurement at gage height 5.70 ft; minimum daily, 2.6 cfs Sept. 8, 9, 1951.

Remarks.--Natural flow of stream affected by water imported from Crystal Creek, storage in Gould (Onion Valley) Reservoir (capacity, 6,420 acre-ft), diversions for irrigation, and return flow from irrigated areas.

Monthly and yearly mean discharge, in cubic feet per second, of Iron Creek near Crawford, Colo.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8.04	10.4	10.0	8.11	8.42	7.52	7.68	19.0	22.9	10.3	9.65	4.36	10.5
1952	6.22	8.69	10.0	9.06	8.95	12.6	35.3	43.7	43.4	36.0	15.8	10	20.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	494	619	617	498	468	463	457	1,170	1,360	630	594	259	7,630
1952	382	517	615	557	515	776	2,100	2,690	2,580	2,210	974	595	14,510

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	14.8	10,750
1951	1213	218	Aug. 20, 1951	2.6	10.5	7,630	10.2	7,410
1952	1243	282	Aug. 20, 1952	4.2	20.0	14,510	-	-

1305. East Muddy Creek near Bardine, Colo.

Location.--Lat 39°01', long 107°22', in sec.17, T.12 S., R.89 W., on left bank 5 ft from State Highway 133, a quarter of a mile downstream from Spring Creek, 1½ miles upstream from West Muddy Creek, and 6½ miles upstream from Bardine.

Drainage area.--136 sq mi, approximately.

Records available.--October 1934 to September 1953. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 6,654.78 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1936, at datum 0.50 ft higher.

Average discharge.--19 years (1934-53), 88.4 cfs (64,000 acre-ft per year).

Extremes.--1934-53: Maximum discharge, 2,190 cfs May 13, 1941 (gage height, 3.41 ft), from rating curve extended above 800 cfs; minimum not determined.

Remarks.--Diversions for irrigation of about 2,000 acres of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13.6	16.7	15.5	13.5	14.7	19.1	92.6	307	134	25.3	20.2	15.5	57.6
1952	13.6	12.1	14.7	14.6	14.0	14.8	342	697	276	47.5	44.9	22.4	126
1953	16.0	12.9	12.4	13.3	13.3	22.3	70.0	272	215	26.5	26.8	15.2	59.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	837	992	954	831	815	1,170	5,510	18,860	7,990	1,560	1,240	924	41,680
1952	839	722	904	897	806	908	20,370	42,860	15,390	2,920	2,760	1,330	91,700
1953	982	770	765	819	740	1,370	4,170	16,710	12,780	1,630	1,650	902	43,290

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	80.5	58,250
1951	1213	480	May 26, 1951	9.0	57.6	41,680	57.1	41,360
1952	1243	1,500	May 5, 1952	7.0	126	91,700	126	91,760
1953	1283	806	May 27, 1953	9.5	59.8	43,290	-	-

Monthly and yearly discharge, in acre-feet, of Muddy Creek at Bardine, Colo.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,310	1,580	1,400	1,210	1,240	1,800	9,350	30,590	12,260	2,240	1,560	1,030	65,570
1952	1,270	1,180	1,400	1,410	1,540	1,650	39,640	85,130	30,750	5,640	4,800	2,160	176,400
1953	1,620	1,450	1,430	1,360	1,230	2,240	7,600	26,640	18,290	2,180	2,180	1,150	67,370
1954	1,120	1,430	1,170	1,180	1,200	1,870	11,490	10,170	2,040	1,420	1,110	1,200	35,400
1955	2,000	1,330	1,120	1,100	994	2,120	11,190	36,230	11,580	1,910	1,750	849	72,170
1956	746	900	922	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	158	114,400
1951	1213	714	May 8, 1951	14	90.6	65,570	90.0	65,130
1952	1243	3,400	May 4, 1952	12	243	176,400	244	177,000
1953	1283	1,080	May 27, 1953	13	93.1	67,370	92.0	66,590
1954	1343	382	Apr. 21, 1954	8.4	48.9	35,400	49.9	36,130
1955	1393	1,220	May 8, 1955	11	99.7	72,170	97.1	70,290
1956	1393	-	-	-	-	-	-	-

1320. Anthracite Creek near Floresta, Colo.

Location--Lat 38°51'45", long 107°09'40", in sec.6, T.14 S., R.87 W., on right bank 300 ft downstream from highway bridge, 1 mile downstream from Bracken Creek, 2 miles northwest of old Floresta, and 9 miles west of Crested Butte.

Drainage area--17.5 sq mi.

Records available--October 1938 to September 1943, October 1954 to September 1958.

Monthly discharge only for some periods, published in WSP 1313.

Gage--Water-stage recorder. Altitude of gage is 8,830 ft (from topographic map). October 1938 to September 1943 at same site at different datum.

Average discharge--9 years (1938-43, 1954-58), 43.9 cfs (31,780 acre-ft per year).

Extremes--1938-43, 1954-58: Maximum discharge, 709 cfs June 28, 1957 (gage height, 5.17 ft); maximum gage height, 6.16 ft Apr. 14, 1957 (ice jam); minimum discharge not determined.

Remarks--One small diversion above station to Coal Creek in East River basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	11.5	2.99	1.63	1.26	1.2	2.0	18.0	121	168	36.5	11.3	2.57	31.5
1956	1.75	1.69	1.94	2.22	1.59	2.66	23.7	192	162	16.9	5.00	1.78	34.5
1957	1.76	1.88	1.97	2.35	1.85	1.83	6.64	91.4	415	299	43.8	9.56	73.3
1958	3.94	3.40	2.80	2.26	2.75	3.05	114.6	234	259	25.7	5.92	3.38	46.8

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	710	178	100	77	67	123	1,070	7,420	9,990	2,250	698	153	22,840
1956	108	101	119	137	91	164	1,410	11,810	9,630	1,040	308	106	25,020
1957	108	112	121	145	103	112	395	5,620	24,670	18,410	2,690	569	53,060
1958	242	202	172	139	153	188	867	14,380	15,410	1,580	364	201	33,900

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1955	1393	402	June 8, 1955	-	31.5	22,840	30.6	22,180
1956	1443	512	June 2, 1956	1.2	34.5	25,020	34.5	25,040
1957	1513	709	June 28, 1957	1.2	73.3	53,060	73.7	53,330
1958	1563	673	June 6, 1958	2.0	46.8	33,900	-	-
1960								

1325. North Fork Gunnison River near Somerset, Colo.

Location.--Lat 38°55'45", long 107°26'55", in sec.9, T.13 S., R.90 W., on right bank $\frac{1}{4}$ miles east of Somerset and 4 miles upstream from Hubbard Creek.

Drainage area.--521 sq mi.

Records available.--October 1933 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 6,038.6 ft above mean sea level, datum of 1929.

Average discharge.--27 years (1933-60), 438 cfs (317,100 acre-ft per year).

Extremes.--1933-60: Maximum discharge, 7,860 cfs June 4, 1957 (gage height, 6.14 ft); minimum daily, 17 cfs Nov. 10, 1950.

Remarks.--Natural flow of stream affected by small diversions for irrigation in nearby drainage areas, irrigation of about 3,000 acres above station, and storage in Overland Reservoir (capacity, 2,660 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	70.4	66.3	65.5	62.3	70.1	97.0	448	1,566	1,200	364	123	76.1	354
1952	75.8	65.4	71.3	73.5	70.6	78.4	1,290	2,984	2,235	533	239	129	654
1953	81.8	68.2	64.9	60.4	62.0	105	337	1,253	1,551	295	159	68.8	343
1954	61.5	72.8	50.0	52.9	63.8	75.7	511	787	337	146	88.3	107	197
1955	124	73.5	60.8	59.8	57.6	94.2	487	1,535	994	258	151	61.6	331
1956	52.9	59.8	61.2	65.2	61.1	146	691	1,732	877	169	90.0	47.9	338
1957	47.9	52.9	50.2	54.7	74.9	120	494	2,404	4,095	1,817	438	173	820
1958	146	129	104	76.7	106	127	650	2,770	1,522	234	109	85.1	507
1959	65.5	62.3	57.0	50.5	55.9	70.4	305	1,188	982	186	108	86.7	267
1960	142	91.5	55.5	52.2	52.7	123	901	1,433	1,011	191	102	67.6	352

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,330	3,950	4,030	3,830	3,900	5,960	26,670	97,550	71,430	22,380	7,560	4,530	256,100
1952	4,660	3,890	4,380	4,520	4,060	4,820	76,790	183,500	133,000	32,750	14,670	7,670	474,700
1953	5,030	4,060	3,990	3,720	3,440	6,440	20,040	77,070	92,280	18,120	9,750	4,100	248,000
1954	3,780	4,330	3,070	3,250	3,540	4,650	30,430	48,420	20,080	9,000	5,430	6,370	142,300
1955	7,620	4,370	3,740	3,680	3,200	5,790	29,000	94,410	59,130	15,880	9,280	3,670	239,800
1956	3,250	3,560	3,760	4,010	3,520	9,000	41,110	106,500	52,180	10,370	5,530	2,850	245,600
1957	2,950	3,150	3,090	3,370	4,160	7,370	29,390	147,800	243,600	111,700	26,960	10,290	593,800
1958	9,000	7,690	6,390	4,720	5,680	7,810	38,680	170,300	90,560	14,400	6,670	5,060	367,200
1959	4,030	3,710	3,500	3,110	2,990	4,330	18,120	73,020	58,440	10,230	6,620	5,160	193,300
1960	8,740	5,440	3,410	3,210	3,030	7,580	53,630	88,120	60,140	11,760	6,270	4,020	255,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	462
1951	1213	3,210	May 27, 1951	17	354	256,100	355
1952	1243	5,320	May 4, 1952	28	654	474,700	654
1953	1283	3,660	May 28, 1953	35	343	248,000	340
1954	1343	1,150	May 20, 1954	30	197	142,300	203
1955	1393	2,700	May 14, 1955	36	331	239,800	324
1956	1443	2,940	May 6, 1956	35	338	245,600	336
1957	1513	7,860	June 4, 1957	29	820	593,800	840
1958	1563	3,920	June 6, 1958	60	507	367,200	491
1959	1633	2,390	May 15, 1959	35	267	193,300	276
1960	1713	3,370	May 13, 1960	40	352	255,400	-

1345. Leroux Creek near Cedaredge, Colo.

Location.--Lat 38°55'35" (revised), long 107°47'35", in NW $\frac{1}{4}$ sec.16, T.13 S., R.93 W., on right bank 200 ft upstream from headgate of Overland ditch, 400 ft upstream from Cow Creek, and 7 miles northeast of Cedaredge.

Drainage area.--43 sq mi, approximately.

Records available.--October 1936 to September 1956. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,160 ft (by barometer).

Average discharge.--20 years (1936-56), 48.7 cfs (35,260 acre-ft per year).

Extremes.--1936-56: Maximum discharge, 1,310 cfs May 26, 1942 (gage height, 4.95 ft), from rating curve extended above 650 cfs; maximum gage height, 5.10 ft May 10, 1937 (backwater from diversion dam); minimum daily discharge, 1.8 cfs Nov. 10, 1950.

Remarks.--One small diversion and several small reservoirs above station for irrigation below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6.62	5.81	7.82	6.44	6.14	6.21	18.5	176	105	33.4	30.5	19.0	35.4
1952	10.9	6.00	5.51	5.29	5.25	5.15	72.5	361	298	48.7	37.3	30.1	73.9
1953	13.9	6.55	6.21	6.13	5.82	7.46	28.2	124	119	27.6	30.7	16.0	32.7
1954	9.16	7.53	6.61	6.58	7.09	6.46	71.6	149	31.8	29.9	25.1	19.6	31.0
1955	13.2	6.23	6.10	7.04	5.78	6.41	28.4	224	121	37.2	31.4	20.7	42.5
1956	7.32	5.65	5.96	5.36	5.21	7.82	49.7	202	70.8	30.8	24.4	15.0	36.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	407	346	481	396	341	362	1,100	10,850	6,260	2,050	1,880	1,130	25,620
1952	669	357	339	325	302	316	4,310	22,180	17,750	2,990	2,290	1,790	53,620
1953	854	390	382	377	323	459	1,680	7,600	7,110	1,700	1,890	950	23,720
1954	563	448	407	405	394	397	4,260	9,150	1,890	1,840	1,540	1,160	22,450
1955	812	371	375	433	321	394	1,690	13,750	7,170	2,290	1,930	1,250	30,770
1956	450	336	366	329	300	481	2,960	12,450	4,210	1,890	1,500	893	26,170

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	47.7	34,510
1951	1213	765	May 27, 1951	1.8	35.4	25,620	35.6	25,750
1952	1243	815	June 4, 1952	4.8	73.9	53,620	74.2	53,880
1953	1263	498	May 31, 1953	5.0	32.7	23,720	32.5	23,510
1954	1343	412	May 9, 1954	4.5	31.0	22,450	31.2	22,580
1955	1393	512	May 20, 1955	4.0	42.5	30,770	41.9	30,360
1956	1443	553	May 7, 1956	4.0	36.1	26,170	-	-

1365. Currant Creek near Cedaredge, Colo.

Location.--Lat 38°51', long 107°53', in sec.10, T.14 S., R.94 W., on right bank 4 miles southeast of Cedaredge and 6 miles upstream from mouth.

Drainage area.--36 sq mi, approximately.

Records available.--May 1948 to September 1954.

Gage.--Water-stage recorder. Altitude of gage is 5,700 ft (by barometer).

Average discharge.--6 years (1948-54), 6.02 cfs (4,360 acre-ft per year).

Extremes.--1948-54: Maximum discharge, 320 cfs May 4, 1952 (gage height, 5.30 ft); minimum daily, 0.2 cfs July 13, 1954.

Remarks.--Natural flow of stream affected by several small storage reservoirs, water exported to and imported from nearby streams, diversions for irrigation, and return flow from irrigated areas.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.18	2.28	2.19	2.35	2.64	3.01	2.01	12.6	5.23	2.44	2.23	1.02	3.28
1952	.82	1.48	2.52	3.41	3.29	4.50	47.4	57.5	14.1	2.36	2.19	2.11	11.8
1953	2.22	2.47	2.40	2.89	2.58	3.99	10.1	14.4	2.94	1.43	1.75	.88	4.01
1954	1.24	2.12	2.94	3.29	4.52	3.47	5.82	4.57	1.22	.60	.49	.94	2.59

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	73	156	134	145	147	185	120	775	311	150	137	60	2,370
1952	51	88	155	210	189	277	2,820	3,530	840	145	135	126	8,570
1953	136	147	147	178	143	245	599	887	175	88	108	52	2,900
1954	76	126	181	202	251	213	346	281	73	37	30	56	1,870

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	5.55	4,010
1951	1213	77	May 7, 1951	0.3	3.26	2,370	3.21	2,320
1952	1243	320	May 4, 1952	.5	11.8	8,570	12.0	8,700
1953	1263	41	May 19, 1953	.5	4.01	2,900	3.95	2,860
1954	1343	18	Apr. 20, 1954	.2	2.59	1,870	-	-

1378. George Creek near Grand Mesa, Colo.

Location.--Lat 38°57', long 108°C2', in NW¼ sec.5, T.13 S., R.95 W., on left bank 200 ft upstream from falls on Cedar Park ditch, 3½ miles upstream from confluence with Sara Creek, 7½ miles northwest of Cedaredge, and 8 miles southwest of Grand Mesa.

Drainage area.--8.3 sq mi, approximately.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder.

Extremes.--1957-60: Maximum discharge, 75 cfs May 11, 1958 (gage height, 1.72 ft); minimum not determined.

Remarks.--Natural flow of stream affected by storage reservoirs, diversion above station for municipal water supply of town of Delta, and three small diversions above station for irrigation below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	10	8.5	6.5	5	5	5.5	18.5	46.8	28.6	10.9	6.24	7.44	13.3
1959	5.41	3.15	3	3	2.8	2.58	5.30	6.77	6.77	4.85	3.98	2.99	4.22
1960	2.77	1.78	1	1	1	1.5	10.6	11.4	7.71	9.21	8.03	5.52	5.13

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	615	506	400	307	278	338	1,100	2,880	1,700	669	383	443	9,620
1959	333	188	184	184	156	159	315	416	403	298	245	178	3,060
1960	170	106	61	61	58	92	631	699	459	566	494	328	3,720

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1958	1563	75	May 11, 1958	-	13.3	9,620	12.2	8,800		
1959	1633	15	May 12, 1959	2.2	4.22	3,060	3.72	2,690		
1960	1713	32	Apr. 10, 1960	-	5.13	3,720	-	-		

1392. Ward Creek near Grand Mesa, Colo.

Location.--Lat 38°59', long 107°58', on line between secs.25 and 26, T.12 S., R.95 W., on left bank 300 ft upstream from headgate of Lake Fork and Surface Creek Canal, 3½ miles upstream from William Creek, 4½ miles south of Grand Mesa, and 6 miles northwest of Cedaredge.

Drainage area.--14 sq mi, approximately.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder. Prior to June 4, 1958, at site half a mile upstream at different datum.

Extremes.--1957-60: Maximum discharge, about 150 cfs May 25, 1958; minimum daily determined, 1 cfs Nov. 10-15, 1959.

Remarks.--Flow regulated by numerous small storage reservoirs. At times water is exported from Hotel Lake above station to Baron Lake in Kiser Creek basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	12.3	7.32	6.0	5.5	5.0	5.0	16.8	72.5	53.9	30.1	30.3	17.6	22.0
1959	6.66	2.19	1.89	1.99	1.8	2.05	2.87	14.8	15.6	14.6	16.9	8.80	7.39
1960	5.46	2.09	1.8	1.6	1.4	1.82	7.63	22.8	19.4	21.4	21.3	10.6	9.81

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	759	436	369	338	278	307	1,000	4,450	3,210	1,850	1,860	1,050	15,910
1959	410	130	116	123	100	126	171	908	808	898	1,040	523	5,350
1960	336	125	111	98	81	112	454	1,400	1,150	1,320	1,310	630	7,130

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1958	1513	a150	May 25, 1958	-	22.0	15,910	20.7	15,000		
1959	1633	39	May 12, 1959	1.5	7.39	5,350	7.27	5,270		
1960	1713	68	May 12, 1960	1	9.81	7,130	-	-		

a About.

1402. Kiser Creek near Grand Mesa, Colo.

Location.--Lat 39°00', long 107°56', in N $\frac{1}{2}$ sec.19, T.12 S., R.94 W., on left bank a quarter of a mile upstream from unnamed tributary, 3 $\frac{1}{2}$ miles south of Grand Mesa, 5 $\frac{1}{2}$ miles upstream from Cottonwood Creek, and 7 miles northwest of Cedaredge.

Drainage area.--5.3 sq mi, approximately.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder.

Extremes.--1957-60: Maximum discharge, 83 cfs June 7, 1958 (gage height, 3.40 ft), from rating curve extended above 33 cfs; minimum not determined.

Remarks.--No diversion above station. Flow regulated by numerous small storage reservoirs. At times water is imported from Hotel Lake in Ward Creek basin to Baron Lake above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	10.5	1.01	1.0	0.8	0.8	1.0	9.84	25.3	36.2	33.8	34.4	17.4	14.4
1959	17.1	1.01	.6	.6	.5	.69	2.17	8.52	11.5	22.8	11.8	8.30	7.19
1960	3.76	.76	.43	.3	.2	.49	4.26	7.59	7.42	24.4	20.4	9.94	6.71

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	644	60	61	49	44	61	586	1,560	2,150	2,080	2,120	1,040	10,460
1959	1,050	60	37	37	28	42	129	524	685	1,400	723	494	5,210
1960	231	45	27	18	12	30	253	467	441	1,500	1,250	592	4,870

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1958	1563	83	June 7, 1958	-	14.4	10,460	15.0	10,840	
1959	1633	45	June 30, 1959	0.3	7.19	5,210	6.03	4,360	
1960	1713	44	June 29, 1960	-	6.71	4,870	-	-	

1407. Cottonwood Creek near Grand Mesa, Colo.

Location.--Lat 38°58', long 107°57', in SW $\frac{1}{4}$ sec.30, T.12 S., R.94 W., on left bank 300 ft upstream from culvert on State Highway 65, 3 $\frac{1}{2}$ miles upstream from mouth, 5 miles south of Grand Mesa, and 5 $\frac{1}{2}$ miles northwest of Cedaredge.

Drainage area.--2.5 sq mi, approximately.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder and timber weir.

Extremes.--1957-60: Maximum discharge, about 35 cfs May 26, 1958; no flow for many days in 1959-60.

Remarks.--Flow regulated by numerous small storage reservoirs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	0.54	0.73	0.6	0.5	0.4	0.4	4.55	14.4	5.52	2.39	0.11	0.21	2.54
1959	.11	.10	.1	.1	.1	.13	1.34	1.72	4.32	.09	.13	.08	.69
1960	.20	.13	.1	.1	.1	.37	4.09	5.59	4.40	.92	.05	.01	1.33

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	33	43	37	31	22	25	271	885	329	147	6.9	12	1,840
1959	6.5	6.1	6.1	6.1	5.6	8.1	80	106	357	5.6	8.1	4.6	500
1960	12	7.5	6.1	6.1	5.8	23	244	344	260	57	3.4	.6	970

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1958	1563	a35	May 26, 1958	0.1	2.54	1,840	2.41	1,750	
1959	1633	12	June 21, 1959	0	.69	500	.70	507	
1960	1713	24	May 18, 1960	0	1.33	970	-	-	

a About.

1412. Youngs Creek near Grand Mesa, Colo.

Location.--Lat 38°58', long 107°55', in S $\frac{1}{2}$ sec.32, T.12 S., R.94 W., on left bank 200 ft upstream from bridge, a quarter of a mile downstream from Horse Creek, 4 $\frac{1}{2}$ miles north of Cedaredge, and 6 miles southeast of Grand Mesa.

Drainage area.--10 sq mi, approximately.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder.

Extremes.--1957-60: Maximum discharge, 86 cfs June 6, 1958 (gage height, 2.77 ft); minimum not determined.

Remarks.--Flow regulated by numerous small storage reservoirs. At times water is diverted from Eureka Reservoirs No. 1 and 2 above station to Milk Creek in Surface Creek basin. Three small diversions above station for irrigation below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	6.06	3.17	2.6	2.2	2.2	2.76	20.3	52.2	27.8	13.0	10.8	6.07	12.5
1959	3.28	1.77	1.4	1.2	.8	1.42	4.60	12.2	7.42	5.54	5.28	4.36	4.13
1960	2.50	1.20	.7	.7	.7	2.14	12.6	20.0	14.3	8.97	5.13	2.43	5.95

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	373	189	160	135	122	170	1,210	3,210	1,650	796	667	361	9,040
1959	202	105	86	74	44	87	274	752	441	341	325	259	2,990
1960	154	71	43	43	40	131	748	1,230	849	551	316	145	4,320

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1958	1513	86	June 6, 1958	-	12.5	9,040	12.0	8,710		
1959	1633	35	May 13, 1959	-	4.13	2,990	3.96	2,860		
1960	1713	64	May 12, 1960	-	5.95	4,320	-	-		

1420. Ward Creek below Kiser Creek, near Cedaredge, Colo.

Location.--Lat 38°53', long 107°58', in SE $\frac{1}{4}$ sec.26, T.13 S., R.95 W., on right bank 15 ft downstream from highway bridge, 1 mile downstream from Kiser Creek, and 3 miles southwest of Cedaredge.

Drainage area.--57.8 sq mi.

Records available.--September 1944 to September 1952.

Gage.--Water-stage recorder. Altitude of gage is 5,660 ft (by barometer).

Average discharge.--8 years (1944-52), 9.23 cfs (6,680 acre-ft per year).

Extremes.--1944-52: Maximum discharge, 193 cfs Apr. 18, 1952 (gage height, 3.78 ft); no flow July 14-17, 1946.

Remarks.--Natural flow of stream affected by storage reservoirs, diversions exporting water to and importing water from nearby streams, diversions for irrigation, and return flow from irrigated areas.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.03	3.17	4.48	3.33	3.98	3.55	1.41	1.48	1.65	1.19	1.14	0.76	2.34
1952	1.48	3.42	4.57	4.49	4.43	5.21	60.1	68.4	38.4	5.66	6.41	5.37	17.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	125	188	276	204	221	218	84	91	98	73	70	45	1,690
1952	91	204	281	276	255	320	3,580	4,210	2,280	348	394	320	12,560

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	3.80	2,820		
1951	1213	21	July 16, 1951	0.6	2.34	1,690	2.32	1,680		
1952	1243	193	Apr. 18, 1952	1.1	17.3	12,560	-	-		

1430. Surface Creek near Cedaredge, Colo.

Location.--Lat 38°59', long 107°51', in NW¼NW¼ sec.25, T.12 S., R.94 W., on left bank 5 ft downstream from private bridge, 1½ miles downstream from Caesar Creek, and 7 miles northeast of Cedaredge.

Drainage area.--28 sq mi, approximately.

Records available.--June 1939 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 8,180 ft (by barometer).

Average discharge.--21 years (1939-60), 43.0 cfs (31,130 acre-ft per year).

Extremes.--1939-60: Maximum discharge, 578 cfs May 12, 1941 (gage height, 3.62 ft), from rating curve extended above 300 cfs; maximum gage height, 5.10 ft Apr. 13, 1958 (ice jam); minimum discharge not determined.

Remarks.--Flow regulated by many small reservoirs. Some water imported from Leon Lake in Plateau Creek drainage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	20.5	8.85	6.59	5.98	6.30	6.31	14.6	83.5	94.4	55.9	45.9	29.6	31.7
1952	19.2	10.0	6.08	5.85	5.85	6.03	56.9	258	250	102	62.4	43.8	69.0
1953	16.7	10.5	6.57	5.95	4.89	5.56	18.0	64.6	114	60.8	40.8	26.5	31.4
1954	12.9	7.72	5.07	4.54	3.95	4.30	41.4	93.7	55.1	37.7	38.4	21.6	27.3
1955	12.0	8.48	6.39	6.52	5.88	6.45	21.1	127	111	81.1	52.6	26.3	36.9
1956	13.5	7.34	5.04	4.83	4.71	5.42	29.9	109	69.4	38.3	37.7	25.1	29.3
1957	10.7	8.35	5.27	4.89	4.81	4.62	12.1	77.2	286	141	84.3	60.8	58.4
1958	24.3	12.8	9.04	7.85	9.89	11.7	61.5	214	164	89.0	59.6	31.1	58.1
1959	19.6	5.22	5.93	5.6	5.4	5.62	17.8	79.7	64.1	47.5	40.8	18.0	26.4
1960	14.0	5.04	3	2.4	2.6	4.91	36.8	86.3	90.6	70.9	53.6	19.8	32.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,260	527	405	368	350	388	868	5,130	5,620	3,440	2,820	1,760	22,940
1952	1,180	597	374	359	335	369	3,380	15,870	14,890	6,280	3,830	2,600	50,060
1953	1,030	625	404	366	277	342	1,070	3,970	6,810	3,740	2,510	1,570	22,710
1954	795	459	312	279	219	264	2,460	5,760	3,280	2,320	2,360	1,290	19,800
1955	737	504	393	401	326	396	1,250	7,790	6,590	4,990	3,230	1,560	28,170
1956	832	437	310	297	271	333	1,780	6,730	4,130	2,350	2,320	1,490	21,280
1957	659	497	324	300	267	284	719	4,750	17,000	8,670	5,180	3,620	42,270
1958	1,490	759	556	483	549	718	3,660	13,140	9,740	5,470	3,670	1,850	42,060
1959	1,210	311	364	344	300	346	1,060	4,900	3,820	2,920	2,500	1,070	19,140
1960	863	300	184	148	150	302	2,190	5,430	5,400	4,360	3,300	1,180	23,810

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	41.2	-	29,820
1951	1213	192	May 27, 1951	3.0	31.7	22,940	31.6	22,900	
1952	1243	508	(a)	5.4	69.0	50,060	68.8	49,970	
1953	1283	221	May 28, 1953	4.5	31.4	22,710	30.7	22,220	
1954	1343	172	May 19, 1954	3.0	27.3	19,800	27.4	19,870	
1955	1393	308	May 14, 1955	4.5	38.9	28,170	38.8	28,110	
1956	1443	234	May 7, 1956	4.5	29.3	21,280	29.2	21,180	
1957	1513	517	June 6, 1957	4.0	58.4	42,270	60.2	43,600	
1958	1563	509	June 5, 1958	7.0	58.1	42,080	56.9	41,160	
1959	1633	155	May 14, 1959	4.4	26.4	19,140	25.7	18,610	
1960	1713	279	May 12, 1960	-	32.8	23,810	-	-	

a May 14 or 15, 1952.

1435. Surface Creek at Cedaredge, Colo.

Location.--Lat 38°54', long 107°55', in sec.20, T.13 S., R.94 W., on left bank at Cedaredge, 500 ft east of State Highway 65 and $8\frac{1}{2}$ miles upstream from mouth.

Drainage area.--43 sq mi, approximately.

Records available.--October 1916 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 6,500 ft (by barometer). Prior to June 8, 1917, staff gage at same site at datum 0.5 ft higher.

Average discharge.--44 years (1916-60), 27.6 cfs (19,980 acre-ft per year).

Extremes.--1916-60: Maximum discharge, 1,190 cfs May 13, 1941 (gage height, 2.50 ft), from rating curve extended above 640 cfs; no flow Sept. 25, 1939, and practically no flow at times in some winters.

Remarks.--Natural flow of stream affected by diversions to and from nearby streams, many small storage reservoirs, diversions for irrigation, and return flow from irrigated areas.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7.11	4.05	2.05	1.42	1.51	1.73	12.4	64.8	52.4	21.2	16.2	7.90	16.2
1952	8.32	2.98	1.04	1.98	2.04	1.42	47.1	161	121	42.6	23.3	12.6	35.5
1953	5.32	5.47	3.34	2.13	1.93	2.70	16.3	47.1	57.4	34.4	15.8	9.93	16.9
1954	8.86	4.29	1.20	1.10	.70	.65	45.5	70.3	33.8	20.4	17.0	13.4	18.2
1955	6.98	4.11	6.33	2.84	2.87	4.81	24.0	92.9	61.9	36.1	30.5	12.1	23.9
1956	7.48	2.93	1.71	.95	.99	2.71	33.5	78.3	44.9	18.6	17.3	14.6	18.5
1957	6.87	6.06	3.40	2.75	2.64	1.30	16.3	111	199	74.9	33.3	25.0	40.3
1958	13.6	6.55	3.05	3.41	5.54	6.36	67.8	144	91.0	30.6	26.7	14.6	34.5
1959	13.7	2.12	1.07	1.25	1.16	1.77	20.5	67.6	40.5	19.9	19.6	8.93	16.6
1960	8.57	4.24	.72	1.07	1.15	4.13	43.8	70.9	51.4	31.6	26.3	11.4	21.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	437	241	125	87	84	106	739	3,980	3,120	1,310	999	470	11,700
1952	512	172	64	122	118	87	2,810	9,880	7,250	2,620	1,430	763	25,810
1953	327	325	205	131	107	166	967	2,900	3,420	2,110	970	591	12,220
1954	545	255	74	68	39	40	2,710	4,320	2,010	1,250	1,050	797	13,160
1955	429	244	389	175	159	296	1,430	5,710	3,690	2,220	1,880	720	17,340
1956	460	175	105	58	57	167	1,990	4,690	2,670	1,140	1,070	871	13,450
1957	423	360	209	169	147	80	972	6,820	11,850	4,610	2,050	1,490	29,180
1958	836	388	188	210	307	581	4,040	8,840	5,420	1,880	1,640	872	25,010
1959	839	126	66	77	65	109	1,220	4,160	2,410	1,220	1,210	531	12,030
1960	527	252	44	66	66	254	2,610	4,360	3,060	1,940	1,620	680	15,480

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	-
1951	1213	132	May 27, 1951	0.5	16.2	11,700	20.8
1952	1243	351	May 5, 1952	.8	35.5	25,810	16.1
1953	1283	153	May 21, 1953	1.7	16.9	12,220	35.7
1954	1343	119	Apr. 18, 1954	.1	18.2	13,160	16.9
1955	1393	186	May 14, 1955	.5	23.9	17,340	18.4
1956	1443	152	May 6, 1956	.3	18.5	13,450	23.5
1957	1513	396	June 6, 1957	.1	40.3	29,180	18.9
1958	1563	357	May 5, 1958	2.3	34.5	25,010	40.8
1959	1633	110	May 14, 1959	.6	16.6	12,030	34.0
1960	1713	140	May 12, 1960	.1	21.3	15,480	16.3

a About.

1440. Surface Creek at Eckert, Colo.

Location.--Lat 38°50', long 107°58', in SE $\frac{1}{4}$ sec.14, T.14 S., R.95 W., on left bank a quarter of a mile west of State Highway 65, 0.5 mile southwest of Eckert, and 2 $\frac{1}{4}$ miles upstream from mouth.

Drainage area.--55 sq mi, approximately.

Records available.--March to May 1939, April, May 1940, April to June 1941, April 1942 to September 1951. Prior to April 1942 monthly discharge only, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 5,450 ft (by barometer). Mar. 4, 1939, to Apr. 1, 1942, staff gage 1,000 ft upstream at different datum. Apr. 2, 1942, to Sept. 11, 1944, staff gage 1,000 ft upstream at datum 12 ft higher. Sept. 11, 1944, to Sept. 25, 1946, water-stage recorder at site 1,000 ft upstream at datum 12 ft higher.

Average discharge.--9 years (1942-51), 4.52 cfs (3,270 acre-ft per year).

Extremes.--1939-51: Maximum discharge observed, 550 cfs May 13, 1941 (gage height, 4.20 ft, site and datum then in use), from rating curve extended above 310 cfs; no flow Apr. 14, 15, 1946.

Remarks.--Natural flow of stream affected by diversions to and from nearby streams, storage reservoirs, and diversions for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.26	0.89	0.64	0.47	0.30	0.21	1.01	7.56	4.68	1.30	1.88	0.77	1.76

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	78	53	39	29	17	13	60	465	278	80	116	46	1,270

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	2.17	-	1,570
1951	1213	53	May 7, 1951	0.1	1.76	1,270	-	-	-

1442. Tongue Creek at Cory, Colo.

Location.--Lat 38°47', long 108°00', in S $\frac{1}{2}$ sec.34, T.14 S., R.95 W., on left bank at downstream side of bridge, 500 ft upstream from North Delta Canal headgate, half a mile west of Cory, and 1 mile upstream from mouth.

Drainage area.--200 sq mi, approximately.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder.

Extremes.--1957-60: Maximum discharge, 748 cfs June 7, 1958 (gage height, 5.32 ft); minimum daily, 1.3 cfs June 28, 1959.

Remarks.--Natural flow of stream affected by many small storage reservoirs, diversions for irrigation, and return flow from irrigated areas. Diversions to and from nearby streams.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	80.0	63.9	51.5	45.2	59.4	53.6	185	259	157	12.6	12.8	31.2	84.2
1959	30.8	35.2	31.5	28.0	26.2	16.7	61.4	6.69	4.18	2.11	3.17	2.66	16.1
1960	18.0	17.2	17.1	15.7	14.7	27.2	30.3	7.45	5.02	2.36	2.74	4.30	13.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	4,920	3,800	3,160	2,780	3,300	3,300	11,000	15,940	9,370	774	786	1,860	60,990
1959	1,900	2,100	1,940	1,720	1,450	1,030	365	411	249	130	195	158	11,650
1960	1,110	1,030	1,050	964	847	1,670	1,800	458	299	145	168	256	9,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1958	1563	748	June 7, 1958	7.1	84.2	60,990	76.0	55,050	
1959	1633	60	Sept. 16, 1959	1.3	16.1	11,650	12.3	8,900	
1960	1713	190	Oct. 1, 1959	1.4	13.5	9,800	-	-	

1462. Uncompahgre River near Ridgway, Colo.

Location.--Lat 38°11'05", long 107°44'40", in NE $\frac{1}{4}$ sec.4, T.45 N., R.8 W., on right bank 15 ft upstream from bridge, 0.7 mile upstream from Dallas Creek, and 2 miles north of Ridgway.

Drainage area.--150 sq mi, approximately.

Records available.--October 1958 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 6,877.58 ft above mean sea level (levels by Bureau of Reclamation).

Extremes.--1958-60: Maximum discharge, 1,270 cfs June 17, 1960 (gage height, 4.75 ft); minimum daily, 32 cfs Jan. 6, 7, 1960.

Remarks.--Diversions for irrigation above station. Water is imported above station by Red Mountain ditch from Mineral Creek in San Juan River basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	68.4	68.1	54.3	45.3	47.8	52.8	82.4	234	587	154	135	52.9	132
1960	104	63.1	45.2	37.8	39.3	71.8	173	305	682	264	98.0	63.1	162

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	4,200	4,050	3,340	2,780	2,650	3,250	4,900	14,400	34,920	9,440	8,270	3,150	95,350
1960	6,410	3,750	2,780	2,320	2,280	4,410	10,280	18,750	40,600	16,220	6,030	3,750	117,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1959	1633	1,060	June 9, 1959	35	132	95,350	134	96,700	
1960	1713	1,270	June 17, 1960	32	162	117,600	-	-	

1464. West Fork Dallas Creek near Ridgway, Colo.

Location.--Lat 38°04'30", long 107°51'10", in SE $\frac{1}{4}$ sec.9, T.44 N., R.9 W., on right bank 100 ft downstream from unnamed tributary, 5 miles upstream from confluence with East Fork, and $7\frac{1}{2}$ miles southwest of Ridgway.

Drainage area.--13.2 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,400 ft (from topographic map).

Average discharge.--5 years (1955-60), 13.1 cfs (9,480 acre-ft per year).

Extremes.--1955-60: Maximum discharge, 187 cfs July 2, 1957, from rating curve extended above 47 cfs; maximum gage height, 3.46 ft Mar. 17, 1959; minimum daily discharge, 2.5 cfs Mar. 27, 1957, Mar. 18, 1958, Mar. 17, 1960.

Remarks.--One diversion above station for irrigation below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	4.96	4.72	4.37	4.06	3.79	4.14	6.00	18.7	35.0	17.8	7.54	5.46	9.71
1957	4.55	4.57	3.43	3.16	2.96	2.97	5.01	18.8	52.7	73.8	36.3	17.5	18.9
1958	9.11	6.90	5.26	3.47	2.77	2.72	9.16	42.3	52.5	23.1	13.7	10.1	15.1
1959	5.88	6.01	5.18	4.28	3.44	3.42	6.66	14.8	34.7	17.2	13.4	8.32	10.3
1960	7.17	4.88	3.96	2.93	2.70	3.16	10.6	16.8	41.1	24.0	11.7	8.26	11.4

Monthly and yearly discharges, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	305	281	269	250	218	254	357	1,150	2,080	1,090	464	325	7,040
1957	279	272	211	194	164	183	298	1,150	3,140	4,540	2,230	1,040	13,700
1958	560	410	324	214	154	167	545	2,600	3,120	1,420	842	599	10,960
1959	361	357	319	263	191	210	396	910	2,060	1,060	822	495	7,440
1960	441	290	244	180	156	195	629	1,030	2,440	1,480	721	492	8,300

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1956	1443	42	June 14, 1956	3.0	9.71	7,040	9.58	6,950	
1957	1513	187	July 2, 1957	2.5	18.9	13,700	19.7	14,230	
1958	1563	90	June 7, 1958	2.5	15.1	10,960	14.8	10,700	
1959	1633	73	Aug. 4, 1959	3.2	10.3	7,440	10.2	7,380	
1960	1713	78	June 18, 1960	†2.5	11.4	8,300	-	-	

† Corrected.
a About.

1465. East Fork Dallas Creek near Ridgway, Colo.

Location.--Lat 38°06'10", long 107°49'00", in NE $\frac{1}{4}$ sec.2, T.44 N., R.9 W., on left bank a quarter of a mile upstream from private bridge, 1 $\frac{1}{4}$ miles upstream from Beaver Creek, and 5 miles southwest of Ridgway.

Drainage area.--17.3 sq mi (revised).

Records available.--October 1947 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 7,900 ft (from topographic map). Prior to Oct. 1, 1949, at site 130 ft downstream at datum 3.00 ft lower.

Average discharge.--6 years (1947-53), 23.2 cfs (16,800 acre-ft per year).

Extremes.--1947-53: Maximum discharge, 297 cfs June 18, 1949 (gage height, 3.43 ft, site and datum then in use), from rating curve extended above 100 cfs; minimum daily determined, 3.7 cfs Mar. 1-7, 12, 19, 1951.

Remarks.--One small diversion above station diverts water to Beaver Creek drainage for irrigation of about 50 acres of hay meadows.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9.85	9.04	8.0	6.0	4.5	3.83	5.49	9.66	45.7	37.7	20.4	13.7	14.5
1952	9.35	8.5	7.0	5.5	5.5	5.0	7.45	18.5	122	78.0	57.2	22.3	28.9
1953	13.6	9.92	7.61	7.16	6.98	7.35	7.84	11.7	81.6	60.3	28.9	14.5	21.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	606	538	492	369	250	235	327	594	2,720	2,320	1,280	817	10,530
1952	575	506	430	338	318	307	443	1,140	7,280	4,800	3,510	1,330	20,980
1953	835	590	468	440	388	452	466	718	4,860	3,710	1,780	863	15,570

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	18.7	-	-	13,550
1951	1213	85	June 16, 1951	-	14.5	10,530	14.4	-	-	10,400
1952	1243	207	June 15, 1952	-	28.9	20,980	29.4	-	-	21,360
1953	1283	158	June 12, 1953	6.0	21.5	15,570	-	-	-	-

1466. Pleasant Valley Creek near Noel, Colo.

Location.--Lat 38°08'50", long 107°55'00", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.13, T.45 N., R.10 W., on right bank 3 miles north of Noel and 7 miles upstream from mouth.

Drainage area.--7.88 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,680 ft (from topographic map).

Average discharge.--5 years (1955-60), 2.81 cfs (2,030 acre-ft per year).

Extremes.--1955-60: Maximum discharge, about 500 cfs July 29, 1957 (gage height, 4.60 ft), from rating curve extended above 140 cfs; no flow for some days in July 1958, September, October, November 1959.

Remarks.--Diversions above station for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	0.10	0.10	0.1	0.1	0.1	0.94	12.3	1.77	0.11	0.19	0.13	0.10	1.32
1957	.10	.10	.1	.1	.1	.12	15.1	18.8	1.95	1.83	3.76	.38	3.55
1958	.72	.98	.8	.4	.4	1.4	34.2	16.9	.67	.12	.25	.17	4.74
1959	.12	.13	.10	.1	.1	.43	8.85	1.48	.15	.10	.10	.03	.97
1960	.04	.09	.1	.1	.1	4.40	34.0	2.46	.22	.13	.10	.10	3.45

Monthly and yearly discharge, in acre-feet, of Pleasant Valley Creek near Noel, Colo.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	6.1	6.0	6.1	6.1	5.8	58	729	109	6.5	12	7.7	6.1	958
1957	6.1	6.0	6.1	6.1	5.6	7.1	899	1,150	116	112	251	23	2,570
1958	44	58	49	25	22	86	2,040	1,040	40	7.1	15	10	3,440
1959	7.5	7.9	6.1	6.1	5.6	26	527	91	8.5	6.1	6.1	1.6	700
1960	2.4	5.4	6.1	6.1	5.8	*271	2,020	151	13	7.7	6.3	6.0	2,500

† Corrected.

Yearly discharge, in cubic feet per second

Daily discharge in cubic feet per second								
Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1956	1443	84	Apr. 12, 1956	-	1.32	958	1.32	958
1957	1513	a500	July 29, 1957	0.1	3.55	2,570	3.74	2,700
1958	1563	182	Apr. 20, 1958	0	4.74	3,440	4.56	3,510
1959	1633	35	Apr. 23, 1959	0	.97	700	.96	692
1960	1713	248	Apr. 10, 1960	0	3.45	2,500	-	-

a About.

1470. Dallas Creek near Ridgway, Colo.

Location.--Lat 38°10'30", long 107°45'40", in SE $\frac{1}{4}$ sec.5, T.45 N., R.8 W., on right bank 20 ft downstream from highway bridge, $\frac{1}{2}$ miles upstream from mouth, and $\frac{1}{2}$ miles north-west of Ridgway.

Drainage area.--90 sq mi, approximately.

Records available.--March 1922 to October 1927, October 1955 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 6,980 ft (from topographic map). Mar. 1, 1922, to Oct. 31, 1927, staff gage at different datum.

Average discharge.--10 years (1922-27, 1955-60), 42.9 cfs (31,060 acre-ft per year).

Extremes.--1922-27, 1955-60: Maximum discharge observed, 1,120 cfs Aug. 15, 1923 (gage height, 4.40 ft, datum then in use), from rating curve extended above 160 cfs; minimum daily, 0.8 cfs Oct. 14, 1955, May 10-13, 18, 1956.

Remarks.--Divisions above station for irrigation of about 4,500 acres above and 700 acres below station. One small diversion from Leopard Creek (Dolores River basin).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	2.80	18.4	16.7	15.4	14.4	21.5	40.6	7.97	35.0	27.8	6.25	2.58	17.4
1957	2.07	14.4	15.7	14.5	18.4	15.7	51.3	66.1	75.1	199	133	48.0	54.8
1958	17.8	30.1	25.6	18.7	23.1	27.5	108	100	117	30.4	40.0	25.6	46.9
1959	18.3	16.1	14.7	12.2	16.2	16.3	34.2	15.8	18.4	16.7	48.2	9.37	19.7
1960	22.0	18.2	13.8	11.1	13.3	25.1	72.3	8.53	47.2	23.5	*31.1	*8.61	*24.5

* Revised; revised daily discharge for the periods thus affected are available and will be published in a future water-supply paper.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	172	1,090	1,030	944	829	1,320	2,420	490	2,080	1,710	384	154	12,620
1957	127	859	964	895	1,020	966	3,050	4,060	4,470	12,230	8,190	2,860	39,690
1958	1,090	1,790	1,570	1,150	1,290	1,690	6,450	6,150	6,940	1,870	2,460	1,520	35,970
1959	1,130	958	906	748	900	1,000	2,040	969	1,090	1,030	2,960	558	14,290
1960	1,350	1,080	849	680	764	1,540	4,300	525	2,810	1,450	*1,910	*513	*17,770

* Revised; see note to preceding table.

Yearly discharge, in cubic feet per second

Year	WSP	Daily discharge, in cubic feet per second						
		Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
Discharge	Date							
1956	1443	146	Apr. 12, 1956	0.8	17.4	12,620	16.9	12,280
1957	1513	509	July 29, 1957	1.2	54.8	39,690	58.3	42,190
1958	1563	399	Apr. 22, 1958	4.0	46.9	33,970	44.9	32,510
1959	1633	241	Aug. 4, 1959	.9	19.7	14,290	20.1	14,570
1960	1713	391	Apr. 10, 1960	1.7	*24.5	*17,770		

* Revised.

GUNNISON RIVER BASIN

1471. Cow Creek near Ridgway, Colo.

Location.--Lat 38°08'20", long 107°38'20", in N½ sec.21, T.45 N., R.7 W., on left bank 400 ft upstream from Cobbs Gulch and 6½ miles southeast of Ridgway.

Drainage area.--41.1 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,900 ft (from topographic map).

Average discharge.--5 years (1955-60), 68.2 cfs (49,370 acre-ft per year).

Extremes.--1955-60: Maximum discharge, 1,360 cfs June 28, 1957 (gage height, 7.70 ft); minimum daily, 2.0 cfs Jan. 9, 1957.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	7.51	7.62	7.39	6.48	5.95	14.7	33.5	219	222	37.4	18.8	8.00	49.1
1957	5.94	6.06	4.48	3.96	5.5	7.95	25.0	98.0	492	366	102	33.1	96.1
1958	15.9	11.0	9	6.5	8	9	33.2	287	455	120	33.9	20.6	84.1
1959	12.9	8.84	7	5.5	5.5	6	16.9	127	286	54.6	30.3	13.1	47.8
1960	18.2	9.50	6.21	5.04	4.69	11.6	65.3	152	384	87.6	18.0	11.8	64.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	462	454	454	398	342	903	2,000	13,460	13,210	2,300	1,160	476	35,620
1957	365	360	275	243	305	489	1,490	6,020	29,270	22,490	6,280	1,970	69,560
1958	976	657	553	400	444	553	1,980	17,640	27,050	7,350	2,080	1,220	60,900
1959	791	526	430	338	305	369	1,000	7,790	17,050	3,360	1,860	781	34,600
1960	1,120	565	382	310	270	711	3,890	9,320	22,830	5,390	1,110	703	46,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1956	1443	628	May 31, 1956	4.0	49.1	35,620	48.5	35,250
1957	1513	1,360	June 28, 1957	2.0	96.1	69,560	97.7	70,740
1958	1563	855	June 7, 1958	-	84.1	60,900	83.5	60,460
1959	1633	532	June 9, 1959	-	47.8	34,600	48.2	34,920
1960	1713	672	June 16, 1960	4.2	64.2	46,600	-	-

1475. Uncompahgre River at Colona, Colo.

Location.--Lat 38°19'50", long 107°46'40", in NW $\frac{1}{4}$ sec.17, T.47 N., R.8 W., on right bank 15 ft downstream from county highway bridge, a quarter of a mile north of Colona, and 1 mile upstream from Beaton Creek.

Drainage area.--437 sq mi.

Records available.--April 1903 to November 1905, April to June 1906 (gage heights and discharge measurements only), October 1912 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as "near Colona" 1904-6, 1922-34.

Gage.--Water-stage recorder. Datum of gage is 6,318.80 ft above mean sea level, datum of 1929. Supplementary water-stage recorder on left bank at same datum. Prior to June 24, 1921, staff or chain gages and June 24, 1921, to Oct. 28, 1938, water-stage recorder, at several sites within 5 miles of present site at various datums. Oct. 29, 1938, to Aug. 2, 1949, water-stage recorder at present site at datum 3.00 ft higher and Aug. 3, to Sept. 30, 1949, at datum 1.00 ft higher.

Average discharge.--50 years (1903-5, 1912-60), 275 cfs (199,100 acre-ft per year).

Extremes.--1903-5, 1912-60: Maximum daily discharge, 4,080 cfs June 13, 14, 1921; minimum daily, 12 cfs Sept. 19, 1956.

Remarks.--Natural flow of stream affected by water diverted from West Fork Cimarron Creek, Mineral Creek (San Juan River basin), and Leopard Creek (Dolores River basin), diversions for irrigation of about 19,000 acres (part of which is below station), and return flow from irrigated areas.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	44.3	66.6	72.7	72.7	72.8	73.8	76.0	234	480	215	103	39.7	129
1952	55.4	79.3	83.1	71.1	62.8	73.1	310	618	1,273	566	308	132	302
1953	82.0	77.5	82.7	85.4	76.9	90.8	149	323	926	284	175	36.4	199
1954	58.7	115	85.1	68.7	76.9	64.5	124	234	213	211	67.0	134	121
1955	135	79.7	70.6	67.1	63.7	86.9	148	327	606	166	183	35.6	164
1956	32.8	76.8	85.4	73.5	66.6	120	203	449	572	162	82.0	28.7	163
1957	44.4	74.4	73.6	81.4	92.0	79.7	167	497	1,412	1,249	545	240	381
1958	120	143	114	70.0	98.9	113	419	1,295	1,340	352	189	124	365
1959	84.4	107	90.6	78.1	79.0	86.4	161	315	785	177	178	44.4	182
1960	154	95.9	72.4	61.6	62.7	134	395	436	944	326	113	48.2	236

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,720	3,960	4,470	4,470	4,040	4,540	4,520	14,410	28,580	13,210	6,310	2,360	93,590
1952	3,410	4,720	5,110	4,370	3,610	4,490	18,440	38,030	75,740	34,830	18,910	7,820	219,500
1953	5,040	4,610	5,090	5,250	4,270	5,590	8,850	19,860	55,080	17,480	10,780	2,170	144,100
1954	3,610	6,840	5,230	4,220	4,270	3,970	7,380	14,410	12,660	12,960	4,120	7,950	87,620
1955	8,310	4,740	4,340	4,120	3,540	5,350	8,820	20,120	36,080	10,230	11,230	2,120	119,000
1956	2,020	4,570	5,250	4,520	3,830	7,400	12,090	27,610	34,040	9,960	5,040	1,710	118,000
1957	2,730	4,430	4,530	5,000	5,110	4,900	9,940	30,560	84,020	76,780	33,500	14,300	275,800
1958	7,590	8,490	7,000	4,300	5,490	6,960	24,960	79,620	79,760	21,650	11,630	7,360	264,600
1959	5,130	6,390	5,570	4,800	4,390	5,310	9,610	19,360	46,680	10,890	10,920	2,640	131,700
1960	9,450	5,710	4,450	3,790	3,610	8,260	23,530	26,820	56,160	20,060	6,950	2,870	171,700

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	164	118,600
1951	1213	996	June 17, 1951	29	129	93,590	132	95,680
1952	1243	2,680	June 16, 1952	38	302	219,500	305	221,000
1953	1283	2,570	June 13, 1953	18	198	144,100	200	145,000
1954	1343	620	July 22, 1954	18	121	87,020	123	89,330
1955	1393	1,700	June 8, 1955	16	164	119,000	157	113,400
1956	1443	1,240	June 1, 1956	12	163	118,000	162	117,900
1957	1513	a3,300	(b)	28	381	275,800	396	287,000
1958	1563	2,400	June 7, 1958	46	365	264,600	358	258,900
1959	1633	1,400	June 10, 1959	24	182	131,700	185	134,200
1960	1713	1,630	June 4, 1960	29	236	171,700	-	-

a About.

b June 29 or 30, 1957.

1495. Uncompahgre River at Delta, Colo.

Location.--Lat 38°45', long 108°05', in SW¼ sec.13, T.15 S., R.96 W., on left bank 40 ft upstream from The Denver & Rio Grande Western Railroad Co. bridge at west edge of Delta and 1¼ miles upstream from mouth.

Drainage area.--1,110 sq mi, approximately.

Records available.--April 1903 to October 1931 (no winter records in most years), September 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as "near Delta" 1907-24.

Gage.--Water-stage recorder. Datum of gage is 4,929.92 ft above mean sea level, datum of 1929. Prior to Oct. 31, 1923, staff gage at several sites a quarter to 2 miles upstream at various datums. Apr. 26, 1924, to Nov. 2, 1931, water-stage recorder at site 50 ft upstream at different datum. Sept. 1, 1938, to May 5, 1941, water-stage recorder at site 330 ft downstream at same datum. May 9, 1941, to Apr. 25, 1946, chain gage at site 250 ft downstream at same datum. Apr. 26, 1946, to Feb. 17, 1960, water-stage recorder at site 150 ft downstream at same datum.

Average discharge.--24 years (1907-8, 1920-21, 1938-60), 274 cfs (198,400 acre-ft per year).

Extremes.--1903-31, 1938-60: Maximum discharge recorded, 3,730 cfs May 5, 1941 (gage height, 5.90 ft, site and datum then in use), from rating curve extended above 1,900 cfs; no flow at times in 1908; minimum daily determined since beginning of diversion through Gunnison tunnel, 7 cfs July 10-15, 17, 21, 24-28, 1910.

Remarks.--Natural flow of stream affected by water diverted from Gunnison River (see record of diversion with record for Gunnison River below Gunnison tunnel, p. 132) and other adjacent basins, diversions for irrigation of about 90,000 acres above station, and return flow from irrigated areas. Records of chemical analyses for the period May 1949 to September 1960, suspended sediment loads for the period May 1959 to September 1960, and water temperatures for the period May 1959 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	173	216	127	97.1	108	80.7	85.5	174	295	143	157	199	155
1952	284	287	154	125	96.2	99.5	401	492	610	350	395	319	299
1953	309	306	178	149	114	145	186	240	514	355	252	200	229
1954	327	344	176	131	90.4	110	92.0	125	136	207	157	349	187
1955	407	262	162	121	106	147	198	261	361	112	200	205	212
1956	226	258	166	124	100	143	148	275	263	116	93.7	123	168
1957	185	228	158	154	191	101	267	737	1,022	601	469	418	397
1958	464	353	193	138	175	140	485	752	758	154	121	371	342
1959	390	373	168	127	116	101	125	158	413	131	229	235	214
1960	486	265	150	122	117	218	370	211	535	156	147	222	250

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	10,650	12,840	7,610	5,970	5,990	4,960	5,090	10,680	17,560	8,610	9,650	11,870	111,900
1952	17,470	17,080	9,460	7,580	5,540	6,120	23,860	30,260	36,290	20,320	24,310	19,000	217,300
1953	19,010	18,180	10,930	9,190	6,330	8,920	11,090	14,750	30,580	9,440	15,480	11,890	165,600
1954	20,120	20,440	10,840	8,080	5,020	6,750	5,480	7,660	8,100	12,760	9,670	20,740	135,700
1955	25,050	15,570	9,970	7,420	5,900	9,040	11,780	16,050	21,440	6,910	12,320	12,190	155,700
1956	13,890	14,170	10,210	7,600	5,760	8,780	8,780	16,890	15,680	7,140	5,760	7,330	122,000
1957	11,380	13,590	9,740	9,490	10,590	6,220	15,860	45,320	60,810	44,280	50,040	24,880	287,200
1958	28,540	21,000	11,860	8,490	9,740	8,610	28,850	46,240	45,130	9,460	7,470	22,080	247,500
1959	23,990	22,200	10,340	7,780	6,440	6,220	7,440	9,740	24,600	8,030	14,060	13,960	154,800
1960	29,880	15,750	9,240	7,490	6,710	13,420	22,020	12,990	31,840	9,610	9,050	13,190	181,200

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	193	139,600
1951	1213	900	May 28, 1951	40	155	111,900	172	124,600
1952	1243	1,910	May 5, 1952	75	299	217,300	305	221,400
1953	1283	2,430	June 13, 1953	60	229	165,800	234	169,100
1954	1343	1,200	Oct. 25, 1953	30	167	135,700	186	134,800
1955	1393	1,220	June 9, 1955	74	212	153,700	195	141,400
1956	1443	958	May 31, 1956	52	168	122,000	163	118,400
1957	1513	2,070	Aug. 31, 1957	85	397	287,200	434	315,900
1958	1563	2,290	June 7, 1958	66	342	247,500	335	242,600
1959	1633	1,080	June 10, 1959	30	214	154,800	212	153,200
1960	1713	1,500	June 19, 1960	72	250	181,200	-	-

1505. Roubideau Creek at mouth, near Delta, Colo.

Location.--Lat 38°44', long 108°09', in sec.19, T.15 S., R.96 W., on left bank 90 ft upstream from railroad bridge, a quarter of a mile upstream from mouth, and 5 miles west of Delta.

Drainage area.--245 sq mi.

Records available.--October 1938 to September 1954. Prior to April 1939 monthly discharge only, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 4,864.34 ft above mean sea level, datum of 1929. Prior to Oct. 27, 1948, water-stage recorder at site a quarter of a mile upstream at datum 4.86 ft higher.

Average discharge.--16 years (1938-54), 124 cfs (89,770 acre-ft per year).

Extremes.--1938-54: Maximum discharge, 2,950 cfs Aug. 5, 1945 (gage height, 7.76 ft, site and datum then in use), from rating curve extended above 1,300 cfs; minimum observed, 11 cfs Feb. 1, 1951 (discharge measurement).

Remarks.--Part of discharge is return flow from irrigated lands under lower end of Ironstone Canal from Uncompahgre River. Diversions for irrigation of a few hundred acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	53.8	45.4	43.0	43.5	30.8	28.2	47.7	239	77.1	42.9	52.7	74.3	65.2
1952	85.7	69.7	57.5	46.0	40.1	37.0	246	715	179	72.2	114	106	148
1953	85.6	96.8	54.1	41.5	32.8	41.7	87.4	168	88.1	49.8	77.8	101	77.1
1954	100	79.8	40.7	35.6	37.9	40.5	151	98.3	46.3	61.8	51.5	120	71.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,310	2,700	2,640	2,670	1,710	1,730	2,840	14,700	4,590	2,640	3,240	4,420	47,190
1952	5,270	4,150	3,530	2,830	2,300	2,280	14,640	43,970	10,670	4,440	7,020	6,300	107,400
1953	5,260	5,760	3,330	2,550	1,810	2,560	5,200	10,230	5,240	3,060	4,780	6,030	55,810
1954	6,170	4,750	2,510	2,190	2,100	2,490	8,970	6,040	2,760	3,790	3,170	7,140	52,080

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	111	80,410
1951	1213	403	May 12, 1951	12	65.2	47,190	71.1	51,490
1952	1243	1,500	May 5, 1952	25	148	107,400	150	108,800
1953	1283	574	June 18, 1953	23	77.1	55,810	75.8	54,890
1954	1343	642	Oct. 23, 1953	25	71.9	52,080	-	-

1520. Kahnah Creek near Whitewater, Colo.

Location.--Lat 38°59', long 108°14', in sec.34, T.12 S., R.97 W., on right bank at downstream side of private bridge, a quarter of a mile downstream from intake of pipeline for Grand Junction water supply and 12 miles east of Whitewater.

Drainage area.--55.0 sq mi.

Records available.--October 1917 to September 1921, September 1922 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder and concrete control. Prior to Sept. 30, 1932, staff gage and Sept. 30, 1932, to Oct. 14, 1935, water-stage recorder, at site 300 ft upstream at different datum.

Average discharge (combined flow).--42 years (1917-21, 1922-60), 40.7 cfs (29,470 acre-ft per year).

Extremes (combined flow).--1917-21, 1922-60: Maximum discharge observed, 1,640 cfs June 6, 1921 (gage height, 4.5 ft, site and datum then in use), from rating curve extended above 700 cfs; minimum daily, 4.3 cfs Dec. 19, 1939.

Remarks.--Diversions above station for municipal supply of Grand Junction and by Raber ditch for irrigation of about 60 acres below station. Records of these diversions furnished by State engineer and monthly figures are adjusted to show total flow of stream. Regulation by a few small reservoirs above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9.58	8.62	8.25	7.70	8.35	8.01	10.2	84.6	55.4	27.2	20.2	12.2	21.8
1952	10.7	8.95	8.31	8.03	7.89	7.29	32.0	243	139	33.2	29.6	23.1	46.2
1953	12.1	10.3	9.71	8.45	7.98	8.61	13.8	75.8	109	28.5	22.1	16.2	27.0
1954	11.1	9.52	8.10	6.97	6.68	7.07	50.4	96.5	23.1	22.1	19.9	13.6	21.4
1955	13.7	9.60	8.25	9.49	9.93	8.62	13.9	140	58.7	33.3	27.0	17.5	29.4
1956	12.8	8.33	7.35	7.04	6.92	8.05	12.7	101	33.3	23.4	21.8	13.6	21.5
1957	9.57	8.44	8.02	7.25	6.90	6.94	†13.0	†55.9	†377	†72.6	†37.2	†44.5	53.7
1958	29.0	19.9	13.2	12.9	14.4	13.3	36.0	297	125	40.5	30.2	20.6	54.7
1959	16.0	12.0	10.3	9.85	9.56	10.0	14.9	87.3	37.7	29.8	21.4	10.9	22.6
1960	10.3	8.80	8.18	7.99	7.69	9.71	23.6	133	75.6	32.5	24.7	19.3	30.1

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	568	513	507	473	463	493	604	5,200	3,300	1,670	1,240	724	15,780
1952	658	532	511	494	453	448	1,910	14,950	8,290	2,040	1,820	1,380	33,490
1953	746	613	597	520	443	530	822	4,660	6,500	1,750	1,360	961	19,500
1954	685	566	498	429	371	435	1,820	5,930	1,380	1,360	1,220	810	15,500
1955	842	572	508	584	551	530	826	8,620	3,490	2,050	1,660	1,040	21,280
1956	786	495	451	433	398	495	754	6,220	1,980	1,440	1,340	807	15,600
1957	598	502	493	446	383	426	775	3,440	22,450	4,470	2,290	2,650	38,910
1958	1,780	1,190	810	790	797	815	2,140	18,240	7,430	2,490	1,650	1,230	39,570
1959	981	713	633	608	531	617	885	5,370	2,240	1,830	1,310	649	18,360
1960	631	523	503	492	443	597	1,410	8,150	4,500	2,000	1,520	1,150	21,920

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	25.4	18,340
1951	-	-	-	-	-	-	21.9	15,870
1952	a1213	675	May 27, 1951	5.1	21.8	15,780	46.5	33,740
1953	a1243	520	May 14, 1952	5.7	46.2	33,490	26.7	19,300
1954	a1283	611	May 31, 1953	6.5	27.0	19,500	21.6	15,670
1955	a1343	351	May 9, 1954	5.7	21.4	15,500	29.1	21,080
1956	a1393	634	May 14, 1955	6.9	29.4	21,280	21.3	15,450
1957	a1443	514	May 7, 1956	5.4	21.5	15,600	56.8	41,080
1958	a1513	772	June 9, 1957	6.2	53.7	38,910	52.6	38,110
1959	a1563	726	May 23, 1958	11	54.7	39,570	21.7	15,700
1960	a1633	456	May 15, 1959	8.5	22.6	16,360	-	-
	a1713	379	May 14, 1960	6.0	30.1	21,920	-	-

a Daily figures in annual reports are for stream below city diversions; figures herein are for combined flow.

1525. Gunnison River near Grand Junction, Colo.

Location.--Lat 38°59', long 108°27', near center of sec.14, T.2 S., R.1 E., Ute meridian, on right bank 180 ft upstream from bridge on State Highway 141, 0.4 mile downstream from Whitewater Creek, 0.5 mile south of Whitewater, and 8 miles southeast of Grand Junction.

Drainage area.--7,870 sq mi, approximately; 8,020 sq mi, approximately, at site 1½ miles downstream.

Records available.--October 1894 to December 1895 (gage heights only), October 1896 to September 1899, October 1901 to October 1906, October 1916 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as "at Whitewater" 1901-6.

Gage.--Water-stage recorder. Datum of gage is 4,628.12 ft above mean sea level, datum of 1929. Prior to Apr. 11, 1895, staff gage 13 miles downstream near mouth at different datum. Apr. 11, 1895, to July 6, 1901, and Apr. 10, 1902, to October 1906 staff or chain gage at present site at datum 1.04 ft lower. Apr. 1, 1917, to June 24, 1934, staff gage and June 25, 1934, to Sept. 30, 1959, water-stage recorder, at site 1½ miles downstream at datum 72.98 ft lower.

Average discharge.--52 years (1896-99, 1901-6, 1916-60), 2,647 cfs (1,916,000 acre-ft per year).

Extremes.--1896-99, 1901-6, 1916-60: Maximum discharge observed, 35,700 cfs May 23, 1920 (gage height, 14.95 ft, site and datum then in use), from rating curve extended above 22,000 cfs; minimum daily, 106 cfs July 20, 1934.

Remarks.--Records show flow that enters Colorado River from Gunnison River basin except for about 40 cfs diverted below gage during irrigation season. Natural flow of river affected by diversions for irrigation of about 233,000 acres above station, storage reservoirs, and return flow from irrigated lands. Records of chemical analyses for the period October 1933 to September 1960 and water temperatures for the period April 1949 to September 1960 are published in reports of Geological Survey. Records of suspended sediment loads for the period May 1959 to September 1960 collected at Whitewater are published in reports of Geological Survey as for near Grand Junction.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	596	825	977	786	828	897	1,046	4,305	5,434	1,507	855	628	1,557
1952	801	1,005	744	854	827	868	5,742	13,310	12,750	3,262	1,963	1,285	3,616
1953	1,084	1,072	1,165	1,059	909	995	1,443	3,745	7,346	1,399	1,096	775	1,859
1954	938	1,236	839	798	813	730	1,171	1,796	660	849	509	866	916
1955	1,048	853	800	752	725	953	1,811	4,260	3,676	753	852	596	1,426
1956	617	906	928	817	770	916	2,385	5,266	4,395	599	467	341	1,533
1957	561	926	770	847	986	909	2,277	9,004	19,630	11,700	3,639	1,821	4,432
1958	1,727	1,868	1,495	1,065	1,262	1,336	4,275	14,200	9,577	1,063	693	859	3,292
1959	841	1,199	1,058	924	893	845	927	2,720	4,301	551	831	691	1,313
1960	1,564	1,211	818	799	711	1,420	4,533	4,217	5,645	943	548	632	1,915

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	36,630	49,100	60,070	47,110	46,010	55,140	62,230	264,700	323,400	92,650	52,600	37,390	1,127,000
1952	49,280	59,790	45,730	52,520	47,580	53,400	341,700	818,400	58,900	200,600	120,700	76,490	2,625,000
1953	66,850	63,780	71,620	65,100	50,500	61,200	85,840	230,100	437,100	86,020	67,400	46,100	1,331,000
1954	57,650	73,550	51,580	48,420	45,160	44,920	69,690	110,500	39,300	39,920	31,300	51,540	663,500
1955	64,420	50,780	49,190	46,230	40,260	58,580	107,800	261,900	218,700	46,300	52,400	35,450	1,032,000
1956	37,960	53,920	57,050	50,210	44,280	56,330	141,900	323,800	261,500	36,850	28,730	20,300	1,113,000
1957	34,510	53,080	47,370	52,090	54,170	55,910	355,500	853,600	389,000	719,400	230,800	108,300	3,208,000
1958	106,200	111,100	91,690	65,490	70,100	82,160	254,400	872,900	69,900	65,350	42,590	51,140	2,383,000
1959	51,740	71,330	65,080	56,840	49,610	51,960	55,130	167,300	255,900	33,870	51,080	41,120	951,000
1960	96,180	72,070	50,260	49,070	40,920	87,320	269,700	259,300	335,900	57,970	33,720	37,630	1,390,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1213	9,950	May 29, 1951	380	1,557	1,127,000	1,844	1,335,000	
1952	1243	23,300	May 6, 1952	600	3,616	2,625,000	1,589	1,136,000	
1953	1283	14,100	June 14, 1953	624	1,839	1,331,000	1,612	1,312,000	
1954	1343	4,570	Oct. 23, 1953	272	916	663,500	891	645,100	
1955	1393	8,150	May 9, 1955	308	1,426	1,032,000	1,404	1,017,000	
1956	1443	8,670	June 3, 1956	234	1,533	1,113,000	1,516	1,101,000	
1957	1513	27,800	June 6, 1957	463	4,432	3,208,000	4,670	3,381,000	
1958	1563	20,400	May 24, 1958	456	3,292	2,585,000	3,125	2,262,000	
1959	1633	7,160	June 15, 1959	256	1,313	951,000	1,355	961,000	
1960	1713	9,500	May 14, 1960	394	1,915	1,390,000	-	-	

1635. Colorado River near Colorado-Utah State line

Location.--Lat 39°09', long 108°57', in sec.25, T.10 S., R.104 W., on right bank $\frac{1}{4}$ miles downstream from Salt Creek, $\frac{1}{2}$ miles southwest of Mack, Colo., and $\frac{7}{8}$ miles upstream from Colorado-Utah State line.

Drainage area.--17,900 sq mi, approximately.

Records available.--May 1951 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,370 ft (from river-profile map).

Average discharge.--9 years (1951-60), 5,922 cfs (4,287,000 acre-ft per year).

Extremes.--1951-60: Maximum discharge, 56,800 cfs June 9, 1957 (gage height, 16.40 ft); minimum daily, 960 cfs Sept. 7, 1956.

Remarks.--Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, and diversions for irrigation. (Records include all return flow from irrigated areas.)

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	12,340	19,960	8,661	3,616	2,278	-
1952	2,726	2,967	2,832	2,830	2,431	2,810	11,290	30,500	36,080	9,887	5,451	3,427	9,431
1953	2,683	2,999	2,910	2,799	2,514	2,802	3,557	8,905	22,051	5,341	3,888	2,142	5,211
1954	2,548	3,179	2,452	2,477	2,321	2,464	3,013	6,256	3,481	2,341	1,514	2,496	2,881
1955	3,213	2,685	2,214	2,057	2,060	2,907	4,265	10,130	10,760	3,233	2,703	1,814	4,009
1956	1,932	2,726	2,650	2,353	2,293	2,792	5,056	15,640	14,270	2,553	1,672	1,361	4,607
1957	1,916	2,549	2,071	2,248	2,587	2,494	4,878	18,710	43,830	29,590	9,183	4,379	10,390
1958	4,206	4,411	3,543	2,881	3,486	3,625	7,379	28,820	23,960	3,349	1,692	2,437	7,492
1959	2,404	3,074	2,715	2,544	2,416	2,312	2,425	8,337	15,300	3,219	2,364	2,078	4,110
1960	3,951	3,129	2,430	2,490	2,356	3,898	8,628	11,170	16,790	3,745	1,635	1,877	5,164

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	758.9	1,198	532.5	222.4	135.6	-
1952	167.6	176.5	174.1	174	139.9	172.8	671.8	1,876	2,147	608	335.2	203.9	6,847
1953	165	178.5	178.9	172.1	139.6	172.3	211.7	547.6	1,312	328.4	239	127.5	3,773
1954	156.7	189.2	150.8	152.3	128.9	151.5	179.3	384.7	207.1	144	93.08	148.5	2,086
1955	197.6	159.8	136.1	126.5	114.4	178.8	253.8	622.6	640.1	198.8	166.2	107.9	2,903
1956	118.8	162.2	162.9	144.7	131.9	171.7	300.9	961.6	849.2	157	102.8	80.99	3,345
1957	117.8	151.7	127.3	158.2	143.7	153.3	290.2	1,150	2,608	1,820	564.6	260.6	7,525
1958	259.6	262.5	217.9	177.2	193.6	222.9	439.1	1,772	1,426	206.9	104	145	5,425
1959	147.8	182.9	166.9	156.4	145.3	142.2	144.3	512.6	910.2	197.9	145.3	123.6	2,975
1960	243	186.2	149.4	153.1	135.6	239.7	513.4	687	999	230.3	100.5	111.7	3,749

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951	1213	a30,200	June 23, 1951	-	-	-	-	-
1952	1243	52,000	June 9, 1952	2,000	9,431	6,847,000	9,437	6,851,000
1953	1283	37,300	June 15, 1953	1,880	5,211	3,773,000	5,175	3,747,000
1954	1343	11,600	May 23, 1954	1,000	2,881	2,086,000	2,877	2,083,000
1955	1393	17,100	June 10, 1955	1,400	4,009	2,903,000	3,941	2,853,000
1956	1443	28,900	June 4, 1956	960	4,607	3,345,000	4,542	3,298,000
1957	1513	56,800	June 9, 1957	1,700	10,390	7,525,000	10,870	7,868,000
1958	1563	45,000	May 31, 1958	1,200	7,492	5,425,000	7,159	5,183,000
1959	1633	23,200	June 11, 1959	1,310	4,110	2,975,000	4,222	3,056,000
1960	1713	24,700	June 5, 1960	1,190	5,164	3,749,000	-	-

a Maximum during period May to September.

1650. Dolores River below Rico, Colo.

Location.--Lat 37°38'25", long 108°03'05", in SW $\frac{1}{4}$ sec.15, T.39 N., R.11 W., on left bank at upstream side of bridge on State Highway 145, at Dolores-Montezuma County line, half a mile upstream from Ryman Creek and 4 miles southwest of Rico.

Drainage area.--105 sq mi.

Records available.--October 1951 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 8,422.23 ft above mean sea level, datum of 1929.

Average discharge.--9 years (1951-60), 135 cfs (97,740 acre-ft per year).

Extremes.--1951-60: Maximum discharge, 2,120 cfs June 10, 1952 (gage height, 6.15 ft); minimum daily, 7.0 cfs Nov. 16, 17, 1956.
Maximum flood known occurred Oct. 5, 1911.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952	20.4	15.3	13.3	12	11	18	152	693	1,169	247	77.5	53.4	206
1953	26.8	20.5	18.8	15.7	15.5	21.6	99.4	303	474	90.9	56.6	24.7	97.4
1954	24.5	27.4	21.5	17.3	15.5	17.0	178	372	159	66.9	40.8	61.9	83.7
1955	75.2	24.8	19.7	16.9	14.5	16.9	74.0	381	400	73.8	93.0	31.2	102
1956	18.9	17.1	16.2	16.1	15.6	39.3	138	476	328	51.6	32.1	17.1	97.3
1957	14.5	12.1	13.7	23.1	15.2	17.9	121	226	1,288	646	255	124	230
1958	52.0	50.5	42.6	37.7	31.8	35.7	202	1,015	717	89.6	44.6	43.8	199
1959	28.3	21.6	15.9	13.9	15.4	46.0	84.4	251	220	37.1	52.5	26.6	66.3
1960	40.9	33.9	15.9	17.4	17.9	42.1	238	444	591	83.0	36.2	28.8	132

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952	1,250	910	815	738	633	1,110	9,070	42,610	69,550	15,180	4,760	3,180	149,800
1953	1,650	1,220	1,160	966	863	1,330	5,910	18,630	28,210	5,590	3,480	1,470	70,480
1954	1,510	1,630	1,320	1,070	861	1,050	10,580	22,840	9,460	4,110	2,510	3,690	60,630
1955	4,630	1,480	1,210	1,040	807	1,040	4,400	23,430	23,800	4,540	5,720	1,850	73,950
1956	1,160	1,020	996	988	895	2,420	8,190	29,260	19,530	3,170	1,980	1,020	70,630
1957	895	720	843	1,420	843	1,100	7,230	13,890	76,640	39,700	15,670	7,380	166,300
1958	3,200	3,000	2,620	2,320	1,750	2,200	12,050	62,430	42,640	5,510	2,740	2,600	143,100
1959	1,740	1,290	980	857	853	2,830	3,830	15,420	13,110	2,280	3,230	1,580	48,000
1960	2,510	2,020	975	1,070	1,030	2,590	14,170	27,320	35,180	5,100	2,230	1,710	95,910

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952	1243	2,120	June 10, 1952		206	149,800	208	150,900
1953	1283	1,460	May 28, 1953	13	97.4	70,480	97.9	70,910
1954	1343	786	May 21, 1954	13	83.7	60,630	87.7	63,490
1955	1393	1,360	June 8, 1955	12	102	73,950	96.4	69,800
1956	1443	1,020	May 31, 1956	12	97.3	70,630	96.3	69,910
1957	1513	2,080	June 5, 1957	7.0	230	166,300	239	172,700
1958	1563	1,900	May 27, 1958	26	198	143,100	191	138,200
1959	1633	1,585	May 15, 1959	11	66.3	48,000	68.4	49,500
1960	1713	1,170	June 3, 1960	12	132	95,910	-	-

1665. Dolores River at Dolores, Colo.

Location.--Lat 37°28', long 108°30', in sec.16, T.37 N., R.15 W., on left bank 70 ft downstream from bridge on State Highway 184 in Dolores and a quarter of a mile upstream from Lost Canyon Creek.

Drainage area.--556 sq mi.

Records available.--June 1895 to October 1903, August 1910 to November 1912, October 1921 to September 1960. Monthly discharge only for some periods, published in WSP 1813.

Gage.--Water-stage recorder. Datum of gage is 6,918.74 ft above mean sea level, datum of 1929. June 23, 1895, to Oct. 31, 1903, staff gage at site a quarter of a mile upstream at different datum. Aug. 27, 1910, to Nov. 30, 1912, and Apr. 11, 1922, to Mar. 26, 1934, chain gage, staff gage, or water-stage recorder on downstream side of bridge 70 ft upstream at different datums. Mar. 27, 1934, to Oct. 7, 1952, water-stage recorder at site 340 ft upstream at datum 6.17 ft higher.

Average discharge.--49 years (1895-1903, 1910-12, 1921-60), 443 cfs (320,700 acre-ft per year).

Extremes.--1895-1903, 1910-12, 1921-60: Maximum discharge, 10,000 cfs Oct. 5, 1911 (gage height, 10.2 ft, site and datum then in use), from rating curve extended above 2,800 cfs; minimum daily, 8 cfs Aug. 16, 1896.

Remarks.--Diversions for irrigation of about 2,000 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	64.3	42.6	42.8	36.4	37.9	71.2	179	800	716	154	104	40.2	191
1952	46.9	40.6	39.8	41.5	37.1	55.5	1,289	2,720	2,780	660	272	174	679
1953	64.8	44.3	45.0	42.9	45.5	80.3	388	830	1,067	311	216	93.9	270
1954	63.7	62.8	51.9	36.0	41.9	54.7	539	920	329	186	142	141	215
1955	158	59.1	39.3	36.3	39.0	62.1	300	1,158	860	232	294	111	280
1956	56.5	35.6	45.5	47.2	44.4	157	523	1,208	747	193	145	50.2	272
1957	27.2	31.8	25.6	43.9	49.6	68.0	501	1,636	3,470	1,490	637	372	696
1958	202	134	85.3	68.2	65.3	104	1,175	2,877	1,585	332	227	138	585
1959	67.4	50.0	38	33	40	60.7	182	664	439	124	144	78.5	161
1960	85.5	76.3	33.7	32.2	30.2	143	1,062	1,363	1,406	243	134	70.5	391

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,950	2,530	2,630	2,240	2,100	4,380	10,630	49,200	42,600	9,480	6,590	2,390	138,500
1952	2,890	2,410	2,450	2,550	2,130	3,410	76,680	167,200	165,400	40,590	16,750	10,320	492,800
1953	3,980	2,640	2,760	2,640	2,530	4,940	23,100	51,060	63,500	19,100	13,280	5,590	195,100
1954	3,920	3,740	3,190	2,210	2,330	3,360	32,100	56,540	19,580	11,480	8,750	8,410	155,800
1955	9,720	3,520	2,420	2,230	2,160	3,820	17,830	71,210	51,150	14,260	18,070	6,620	203,000
1956	3,470	2,120	2,800	2,900	2,560	9,640	31,140	74,350	44,430	11,660	8,900	2,990	197,200
1957	1,670	1,890	1,580	2,700	2,750	4,180	29,820	100,300	206,500	91,620	39,190	22,120	504,300
1958	12,400	7,960	5,250	4,200	3,630	6,410	69,930	176,900	94,330	20,440	13,980	8,240	423,700
1959	4,150	2,980	2,340	2,030	2,220	3,730	10,840	40,850	26,090	7,650	8,870	4,670	116,400
1960	5,260	4,540	2,070	1,980	1,740	8,800	63,190	85,010	83,680	14,950	8,220	4,200	283,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	316	229,000
1951	1213	2,520	May 28, 1951	17	191	138,500	189	137,200
1952	1243	5,440	May 4, 1952	22	679	492,800	681	494,400
1953	1263	2,900	May 28, 1953	23	270	195,100	272	196,600
1954	1343	1,560	May 22, 1954	17	215	155,600	222	160,400
1955	1393	2,300	June 9, 1955	30	280	203,000	270	195,700
1956	1443	2,100	June 1, 1956	11	272	197,200	267	193,900
1957	1513	6,690	June 6, 1957	19	696	504,300	726	524,800
1958	1563	4,490	May 28, 1958	60	585	423,700	563	407,500
1959	1633	1,670	May 15, 1959	-	161	116,400	164	118,800
1960	1713	3,350	May 13, 1960	20	391	283,600	-	-

1675. Dolores River near McPhee, Colo.

Location.--Lat 37°34', long 108°34', in NE $\frac{1}{4}$ sec.12, T.38 N., R.16 W., on right bank 0.8 mile downstream from Beaver Creek and 4 $\frac{1}{2}$ miles northwest of McPhee.

Drainage area.--793 sq mi.

Records available.--October 1938 to September 1952.

Gage.--Water-stage recorder. Datum of gage is 6,666.45 ft above mean sea level, unadjusted.

Average discharge.--14 years (1938-52), 403 cfs (291,800 acre-ft per year).

Extremes.--1938-52: Maximum discharge, 8,650 cfs Oct. 13, 1941 (gage height, 7.58 ft), from rating curve extended above 5,900 cfs; minimum daily, 0.2 cfs Sept. 12, 1951.

Remarks.--Diversion for irrigation of about 3,000 acres above station and about 37,000 acres in Montezuma Valley in the San Juan River basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.73	3.45	27.8	34.6	42.9	34.4	11.3	419	284	635	9.26	0.74	73.4
1952	2.27	18.6	44.5	44.3	35.7	56.1	2,551	3,198	2,463	228	16.4	25.8	721

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	229	205	1,710	2,130	2,380	2,120	675	25,780	16,930	391	569	44	53,160
1952	139	1,110	2,730	2,720	2,050	3,450	151,800	196,600	146,500	14,020	1,010	1,530	523,700

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean		Acre-feet
		Discharge	Date						
1950	-	-	-	-	-	-	185	-	134,300
1951	1213	1,890	May 28, 1951	0.2	73.4	53,160	76.0	-	55,000
1952	1243	7,230	May 6, 1952	.8	721	523,700	-	-	-

1681. Disappointment Creek near Dove Creek, Colo.

Location.--Lat 37°52', long 108°35', in SE $\frac{1}{4}$ sec.25, T.42 N., R.16 W., a quarter of a mile downstream from ford, 6 $\frac{1}{2}$ miles southeast of Cedar, and 19 miles northeast of town of Dove Creek.

Drainage area.--145 sq mi, approximately.

Records available.--August 1957 to September 1960.

Gage.--Water-stage recorder.

Extremes.--1957-60: Maximum discharge, 1,770 cfs Aug. 4, 1959 (gage height, 10.30 ft), from rating curve extended above 250 cfs on basis of slope-area measurements at gage heights 7.55 and 10.30 ft; no flow for several days in 1959-60.

Remarks.--Several small reservoirs and ponds above station. Small diversions for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	-	-	14.7	3.18	-
1958	15.5	9.30	1.6	1.4	6.52	21.2	155	144	29.2	2.01	2.05	7.61	32.9
1959	3.70	2.12	.8	.7	1.88	8.32	11.6	33.8	8.81	1.18	14.2	1.31	7.42
1960	3.09	2.36	.4	.6	1.2	45.5	56.2	42.7	18.7	4.23	.34	.53	14.7

Monthly and yearly discharge, in acre-feet, of Disappointment Creek near Dove Creek, Colo.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	-	-	902	189	-
1958	956	554	98	86	362	1,300	9,200	8,830	1,740	124	126	453	23,830
1959	228	126	49	43	104	512	689	2,080	524	73	875	78	5,380
1960	190	140	25	37	69	2,800	3,340	2,630	1,110	260	21	32	10,650

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1957	1563	8730	Aug. 15, 1957	-	-	-	-	-
1958	1563	824	Sept. 8, 1958	0.1	32.9	23,830	31.2	22,620
1959	1633	1,770	Aug. 4, 1959	0	7.42	5,380	7.36	5,330
1960	1713	600	July 30, 1960	0	14.7	10,650	-	-

a Maximum during period August to September.

1685. Disappointment Creek near Cedar, Colo.

Location.--Lat 37°54', long 108°38', in sec.15, T.42 N., R.16 W., on left bank at downstream side of highway bridge, 2½ miles southeast of Cedar, 3 miles upstream from Dawson Draw, and 13 miles upstream from mouth.

Drainage area.--180 sq mi, approximately.

Records available.--October 1940 to September 1941, March 1953 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 5,972.38 ft above mean sea level (Bureau of Reclamation bench mark). Oct. 30, 1940, to Sept. 30, 1941, staff gage at present site at different datum.

Extremes.--1940-41, 1953-56: Maximum discharge, 2,540 cfs July 27, 1955 (gage height, 13.8 ft, from floodmarks), from rating curve extended above 70 cfs on basis of slope-area measurement at gage heights 4.77 and 9.56 ft, and contracted-opening measurement at gage height 12.6 ft.

Remarks.--Diversions above station for irrigation of several hundred acres above and below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	-	-	-	-	-	5.59	15.9	21.6	17.4	13.6	8.01	0.15	-
1954	10.9	1.25	0.40	0.18	2.91	6.10	22.2	17.8	2.02	1.15	2.34	13.5	6.72
1955	11.9	.59	.69	.4	.4	19.1	23.2	45.1	17.1	19.7	3.0	.4	11.9
1956	0	.16	.67	.8	1.20	10.6	18.9	41.7	11.4	4.54	.22	0	7.55

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	-	-	-	-	-	344	944	1,330	1,040	833	493	8.9	-
1954	672	74	25	11	161	375	1,320	1,090	120	71	144	794	4,860
1955	730	35	42	25	22	1,170	1,380	2,770	1,020	1,210	184	24	8,610
1956	0	9.5	41	49	69	650	1,120	2,570	681	279	13	0	5,480

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1953	1443	al,180	July 29, 1953	-	-	-	-	-
1954	1443	1,340	Oct. 23, 1953	0	6.72	4,860	6.77	4,890
1955	1443	2,540	July 27, 1955	0	11.9	8,610	10.9	7,860
1956	1443	2,060	July 26, 1956	0	7.55	5,480	-	-

a Maximum during period March to September.

1690. Twomile Creek near La Sal, Utah

Location.--Lat 38°21', long 109°07', in sec.24, T.28 S., R.25 E., on left bank just downstream from Pole Springs Canyon, 2 miles upstream from mouth and 8½ miles northeast of La Sal.

Drainage area.--21.9 sq mi.

Records available.--August 1944 to September 1951.

Gage.--Water-stage recorder. Altitude of gage is 7,840 ft (by barometer).

Average discharge.--7 years (1944-51), 2.22 cfs (1,610 acre-ft per year).

Extremes.--1944-51: Maximum discharge, 96 cfs May 1, 1945 (gage height, 3.07 ft), from rating curve extended above 57 cfs; minimum daily, 0.1 cfs July 1-8, July 10 to Sept. 17, 1946.

Remarks.--Two diversions for irrigation of hay meadows above station. One diversion above station exports water to West Paradox Creek basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.40	0.42	0.51	0.55	0.50	0.70	0.78	1.19	0.50	0.39	0.42	0.40	0.56

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	25	25	31	34	28	43	47	73	30	24	28	24	410

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet			
		Discharge	Date								
1950	-	-	-	-	-	-	1.81	-	-	1,310	-
1951	1213	2.6	May 28, 1951	0.3	0.56	410	-	-	-	-	-

1700. Buckeye Reservoir Outlet near Paradox, Colo.

Location.--Lat 38°26', long 109°03', in sec.11, T.48 N., R.20 W., on right bank 700 ft downstream from Buckeye Reservoir and 6½ miles northwest of Paradox.

Records available.--October 1944 to September 1951. Prior to May 1945 monthly discharge only, published in WSP 1313.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 7,550 ft (by barometer).

Average discharge.--7 years (1944-51), 6.66 cfs (4,820 acre-ft per year).

Extremes.--1944-51: Maximum daily discharge, 59 cfs June 16-27, 1949; probably no flow at times during most winters.

Remarks.--Flow consists entirely of water diverted from Deep and Geyser Creeks in Roc Creek basin and regulated by Buckeye Reservoir (capacity, 3,000 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.36	0	0	0	0	0	2.38	7.93	7.61	8.73	3.49	3.92	3.06

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	145	0	0	0	0	0	142	467	453	537	215	233	2,210

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Maximum day		Minimum day	Mean	Acre-feet	Mean	Acre-feet			
		Discharge	Date								
1950	-	-	-	-	-	-	7.20	-	-	5,210	-
1951	1213	16	May 13-17, 1951	0	3.06	2,210	-	-	-	-	-

1705. West Paradox Creek near Paradox, Colo.

Location.--Lat 38°23'00", long 108°59'45", in NW¼SW¼ sec.29, T.48 N., R.19 W., on left bank at La Sal National Forest boundary, 2 miles northwest of Paradox.

Drainage area.--25 sq mi, approximately.

Records available.--August 1944 to September 1952.

Gage.--Water-stage recorder. Altitude of gage is 5,590 ft (from topographic map).

Average discharge.--8 years (1944-52), 8.61 cfs (6,230 acre-ft per year).

Extremes.--1944-52: Maximum discharge, 678 cfs Sept. 27, 1948 (gage height, 5.96 ft), from rating curve extended above 90 cfs; minimum daily, 0.1 cfs Mar. 1-13, 1946, Jan. 28, 29, Dec. 2-10, 1948, Feb. 25, Mar. 18, 19, 1951.

Remarks.--Water diverted from Geyser and Deep Creeks in Roc Creek basin is stored in Buckeye Reservoir (capacity, 3,000 acre-ft) and released down West Paradox Creek (see Buckeye Reservoir Outlet) for irrigation below station. One diversion above station for irrigation of about 50 acres below. One diversion imports water from Twomile Creek to West Paradox Creek below Buckeye Reservoir.

DOLORES RIVER BASIN

Monthly and yearly mean discharge, in cubic feet per second, of West Paradox Creek, near Paradox, Colo.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.34	0.59	0.33	0.39	0.29	0.19	2.89	7.86	7.43	8.04	3.77	3.96	3.28
1952	2.31	.63	.67	.75	.39	.77	59.4	50.4	41.5	19.0	12.5	10.9	16.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	205	35	20	24	16	12	172	484	442	494	232	236	2,370
1952	142	37	41	46	23	48	3,540	3,100	2,470	1,170	769	647	12,030

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Nontemporary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet			
		Discharge	Date								
1950	-	-	-	-	-	-	7.22	5,220			
1951	1213	18	May 15, 1951	0.1	3.28	2,370	3.22	2,330			
1952	1243	273	Apr. 18, 1952	.2	16.6	12,030	-	-			

1710. West Paradox Creek near Bedrock, Colo.

Location.--Lat 38°19'45", long 108°52'15", in SE¼ sec.17, T.47 N., R.18 W., on right bank 1 mile upstream from mouth and 1½ miles northeast of Bedrock.

Drainage area.--55 sq mi, approximately.

Records available.--August 1944 to September 1952.

Gage.--Water-stage recorder. Altitude of gage is 4,940 ft (from topographic map).

Average discharge.--8 years (1944-52), 4.41 cfs (3,190 acre-ft per year).

Extremes.--1944-52: Maximum discharge not determined, occurred Aug. 27, 1945; maximum gage height, 5.97 ft Apr. 17, 1952; no flow at times in 1946-48, 1951-52.

Remarks.--Natural flow of stream affected by water imported from Roc Creek basin through Buckeye Reservoir (see record for Buckeye Reservoir Outlet), diversions for irrigation of about 3,000 acres, and return flow from irrigated areas.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.88	4.18	7.01	7.89	6.66	1.20	0.21	0.19	0.14	0.04	0.01	0.003	2.35
1952	.01	.76	8.56	13.0	6.95	6.82	32.7	6.5	3.24	.61	.5	2.79	6.84

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	54	249	431	485	370	74	12	12	8.5	2.2	0.6	0.2	1,700
1952	.6	45	527	800	400	419	1,950	400	193	37	31	166	4,970

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet			
		Discharge	Date								
1950	-	-	-	-	-	-	3.13	2,270			
1951	1213	19	Nov. 19, 1950	0	2.35	1,700	2.12	1,540			
1952	1243	54	Apr. 17, 1952	0	6.84	4,970	-	-			

1712. San Miguel River near Telluride, Colo.

Location.--Lat 37°56'55", long 107°52'35", in NW¼ sec.33, T.43 N., R.9 W., on left bank 0.1 mile upstream from Remine Creek, 0.3 mile downstream from bridge on State Highway 145, 0.5 mile downstream from Prospect Creek, 1.6 miles upstream from South Fork, and 3.5 miles west of Telluride.

Drainage area.--42.8 sq mi.

Records available.--October 1959 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 8,622.31 ft above mean sea level (levels by Bureau of Reclamation).

Extremes.--1959-60: Maximum discharge, 605 cfs June 17, 1960 (gage height, 5.01 ft); minimum daily, 13 cfs Jan. 19, 1960.

Remarks.--Several small diversions for irrigation of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	30.7	25.0	18.1	15.6	15.1	18.9	58.5	115	320	125	41.2	28.5	67.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	1,890	1,490	1,110	958	869	1,160	3,480	7,090	19,030	7,680	2,530	1,700	48,990

1721. Leopard Creek at Noel, Colo.

Location--Lat 38°06'10", long 107°55'10", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.36, T.45 N., R.10 W., on right bank 10 ft downstream from abandoned railroad, 0.6 mile west of Noel, and 2 miles upstream from Dead Horse Canyon.

Drainage area--9.11 sq mi.

Records available--October 1955 to September 1960.

Gage--Water-stage recorder. Altitude of gage is 8,700 ft (from topographic map).

Average discharge--5 years (1955-60), 2.97 cfs (2,150 acre-ft per year).

Extremes--1955-60: Maximum discharge, 85 cfs May 4, 1958 (gage height, 3.58 ft); minimum daily, 0.1 cfs for many days in 1956-57, 1959.

Remarks--One diversion above station to Dallas Creek drainage. Small diversions for irrigation of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	0.45	0.28	0.37	0.27	0.27	0.75	6.92	4.67	2.18	0.70	0.33	0.19	1.44
1957	.15	.22	.3	.2	.36	.6	6.12	19.1	11.1	6.07	3.56	3.37	4.28
1958	2.04	1.92	1.33	1.07	1.13	1.11	14.9	28.0	5.77	1.05	.61	.30	4.96
1959	.65	.79	1.01	.59	.50	.53	5.28	4.26	1.93	.49	.18	.23	1.37
1960	1.74	1.09	.58	.47	.57	2.43	14.1	5.57	4.24	1.41	.71	.67	2.79

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	28	17	23	17	16	46	412	287	130	43	20	11	1,050
1957	9.3	13	18	12	20	37	364	1,170	659	373	219	201	3,100
1958	125	114	82	66	63	68	885	1,720	344	64	37	18	3,590
1959	40	47	62	36	28	32	314	262	115	30	11	13	990
1960	107	65	36	29	33	150	840	343	252	87	44	40	2,030

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1956	1443	20	Apr. 12, 1956	0.1	1.44	1,050	1.41	1,020
1957	1513	61	May 4, 1957	.1	4.28	3,100	4.67	3,380
1958	1563	85	May 4, 1958	.2	4.96	3,590	4.72	3,410
1959	1633	21	Apr. 23, 1959	.1	1.37	990	1.45	1,050
1960	1713	72	Apr. 10, 1960	.2	2.79	2,030	-	-

1725. San Miguel River near Placerville, Colo.

Location.--Lat 38°02'05", long 108°07'15", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.30, T.44 N., R.11 W., on right bank 0.7 mile downstream from Specie Creek and 4 miles northwest of Placerville.

Drainage area.--308 sq mi.

Records available.--January to December 1909, September 1910 to December 1912 (published as "at Placerville"), April 1930 to September 1934, April 1942 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 7,055.80 ft above mean sea level (Bureau of Reclamation bench mark). Jan. 1 to Dec. 31, 1909, staff gage at site 3.3 miles downstream at different datum. Aug. 27, 1910, to Nov. 30, 1912, staff gage and Apr. 25, 1930, to Sept. 30, 1934, water-stage recorder, at site 3.2 miles upstream at different datums. Apr. 1, 1942, to Oct. 21, 1958, at site 0.7 mile upstream at datum 40.64 ft higher.

Average discharge.--24 years (1910-12, 1930-34, 1942-60), 232 cfs (168,000 acre-ft per year).

Extremes.--1909-12, 1930-34, 1942-60: Maximum discharge, 10,000 cfs Sept. 5, 1909 (result of failure of Trout and Middle Reservoir Dams); minimum daily, 26 cfs Jan. 5, 1960.

Remarks.--Diversions for irrigation of about 1,700 acres above station. One diversion from Fall Creek for irrigation of about 2,000 acres in Beaver and Saltado Creek basins. One small ditch diverts water from Leopard Creek to Uncompahgre River basin. Slight regulation by Lake Hope and Trout Lake of Western Colorado Power Co. (combined capacity, 5,040 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	68.4	57.4	56.0	55.2	56.8	55.4	79.6	238	487	237	120	76.6	132
1952	67.7	56.1	54.8	56.5	55.4	56.4	282	743	1,168	597	290	166	299
1953	95.2	71.7	71.3	72.1	61.5	68.7	161	338	810	288	174	89.4	192
1954	71.7	68.0	65.0	66.4	61.8	62.5	157	326	336	213	134	142	142
1955	142	73.2	56.7	57.7	54.0	63.2	177	392	599	232	166	88.2	175
1956	60.7	56.5	58.7	53.3	50.3	64.6	169	457	593	174	103	63.8	159
1957	50.9	54.6	51.9	55.3	53.4	51.5	166	491	1,270	1,130	425	219	336
1958	121	122	103	68.2	68.1	79.1	479	1,515	1,225	352	156	130	367
1959	101	77.4	74.8	70.4	70.5	61.3	132	261	570	152	165	89.6	154
1960	96.2	77.1	55.8	53.0	55.7	75.8	376	450	886	363	127	102	226

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,210	3,410	3,440	3,400	3,150	3,410	4,740	14,650	28,970	14,550	7,380	4,560	95,870
1952	4,160	3,340	3,370	3,490	3,190	3,470	16,750	45,670	69,490	36,720	17,820	9,860	217,300
1953	5,730	4,260	4,380	4,430	3,420	4,280	9,610	20,770	48,190	17,690	10,690	5,320	138,800
1954	4,410	4,050	4,000	4,080	3,430	3,850	9,330	20,040	19,970	13,120	8,240	4,470	103,000
1955	8,750	4,350	3,480	3,550	3,000	3,890	10,520	24,100	35,620	14,290	10,200	5,250	127,000
1956	3,730	3,360	3,610	3,280	2,890	3,970	10,030	28,110	35,280	10,700	6,330	3,800	115,100
1957	3,130	3,250	3,190	3,400	2,960	3,170	9,850	50,170	75,580	69,480	26,100	13,040	243,300
1958	7,420	7,230	6,340	4,070	3,780	4,860	28,500	93,120	72,880	20,420	9,570	7,710	265,900
1959	6,190	4,610	4,600	4,330	3,910	3,770	7,840	17,260	33,940	9,370	10,160	5,330	111,300
1960	5,920	4,590	3,430	3,260	3,200	4,540	22,350	27,670	52,700	22,290	7,790	6,080	163,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		* Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	165	119,300
1951	1213	734	(a)	-	35	132	132	95,680
1952	1243	1,710	June 9, 1952	-	39	299	217,300	304
1953	1283	1,760	June 13, 1953	-	52	192	138,800	189
1954	1343	600	May 22, 1954	-	50	142	103,000	148
1955	1393	1,140	June 8, 1955	-	40	175	127,000	167
1956	1443	b980	June 4, 1956	-	35	159	115,100	157
1957	1513	2,350	June 29, 1957	-	32	336	243,300	352
1958	1563	2,180	May 30, 1958	-	55	367	265,900	380
1959	1633	1,120	June 9, 1959	-	48	154	111,300	152
1960	1713	1,720	Apr. 10, 1960	-	26	226	163,800	-

a Aug. 28, June 17, 1951.

b About.

1730. Beaver Creek near Norwood, Colo.

Location.--Lat 37°58', long 108°11', in sec.28, T.43 N., R.12 W., on left bank 550 ft upstream from Goat Creek and 13 miles southeast of Norwood.

Drainage area.--35.2 sq mi.

Records available.--October 1941 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 8,008.81 ft above mean sea level (Bureau of Reclamation bench mark). Prior to Oct. 1, 1948, at site 50 ft downstream at datum 2.00 ft higher. Oct. 1, 1948, to July 16, 1952, at site 50 ft downstream at same datum.

Average discharge.--19 years (1941-60), 18.9 cfs (13,680 acre-ft per year).

Extremes.--1941-60: Maximum discharge, 750 cfs June 9 or 10, 1952 (gage height, 5.67 ft, from floodmarks), from rating curve extended above 370 cfs; no flow at times in 1946, 1950-51, 1954, 1956, 1959.

Remarks.--Gurley ditch diverts water above station to Gurley Reservoir (capacity, 8,800 acre-ft, 3,200 acre-ft prior to September 1948) for irrigation of about 12,000 acres in Naturita Creek drainage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.65	1.62	3.23	3.91	3.8	3.75	6.88	8.29	3.05	0.32	0.02	0	3.04
1952	.26	2.10	5.5	5.0	5.0	5.0	39.5	159	184	14.2	2.22	4.00	35.4
1953	3.97	3.33	5.0	5.0	5.0	5.5	15.9	30.4	8.62	.90	.62	.97	7.12
1954	1.78	3.76	4	4	3.5	3.92	10.5	4.75	1.05	.15	.07	.41	3.15
1955	1.01	3.18	3.2	3.0	2.8	3.00	3.9	31.7	6.21	.89	6.36	.39	6.34
1956	.39	2.98	3.5	3	3	5.48	20.7	18.5	4.56	.20	.42	.99	5.30
1957	.84	3.06	3.2	3.2	3.5	3.20	16.3	53.9	249	37.2	10.7	14.4	33.0
1958	9.22	10.0	8	7	6.5	6.80	60.4	284	29.8	1.26	.85	1.44	35.8
1959	1.25	1.36	1.8	2.2	2.8	4.4	15.5	17.7	1.68	.09	1.09	1.20	4.26
1960	1.90	1.37	1	.9	1	6.29	55.3	36.8	8.79	.61	.99	2.56	9.74

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	101	97	199	240	211	230	410	510	181	20	1.0	0	2,200
1952	16	125	338	307	288	307	2,350	9,750	10,960	874	137	238	25,690
1953	244	198	307	307	278	338	949	1,870	513	55	38	58	5,160
1954	110	224	246	246	194	241	627	292	63	9.5	4.6	24	2,280
1955	62	189	197	184	156	184	828	1,850	370	54	391	23	4,590
1956	24	178	215	184	173	337	1,230	1,140	271	12	26	59	3,850
1957	52	182	197	197	194	197	972	3,310	14,820	2,290	657	856	23,910
1958	567	597	492	430	361	418	3,590	17,470	1,770	77	52	85	25,910
1959	77	81	111	135	156	271	924	1,090	100	4.8	67	71	3,080
1960	117	82	61	55	58	387	3,290	2,260	523	37	61	141	7,070

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet		Mean	Acre-feet		
		Discharge	Date								
1950	-	-	-	-	-	-	-	7.55	-	5,470	-
1951	1213	60	May 27, 1951	0	3.04	2,200	3.15	25,690	35.8	25,960	25,960
1952	1243	750	(a)	0	35.4	25,690	6.88	2,150	2.97	2,150	4,560
1953	1283	168	May 28, 1953	.2	7.12	5,160	6.88	2,280	6.29	4,560	4,560
1954	1343	44	Apr. 9, 1954	0	3.15	2,280	6.29	4,590	6.29	4,590	4,590
1955	1393	189	May 8, 1955	.1	6.34	4,590	6.29	4,590	6.29	4,590	4,590
1956	1443	116	May 20, 1956	0	5.30	3,850	5.32	23,910	34.7	25,140	25,140
1957	1513	534	June 4, 1957	.4	33.0	23,910	34.7	25,140	33.9	24,540	24,540
1958	1563	b550	(c)	.2	35.8	25,910	33.9	3,080	4.25	3,080	3,080
1959	1633	132	May 14, 1959	0	4.26	3,080	4.25	7,070	-	-	-
1960	1713	219	Apr. 10, 1960	.1	9.74	7,070	-	-	-	-	-

a June 9 or 10, 1952.

b About.

c May 6 or 7, 1958.

1735. Horsefly Creek near Sams, Colo.

Location--Lat 38°12', long 108°03', in NW¼ sec.35, T.46 N., R.11 W., on left bank at boundary of Uncompahgre National Forest, 30 ft downstream from highway bridge and 8 miles northwest of Sams.

Drainage area--23.3 sq mi.

Records available--May 1942 to September 1951. Monthly discharge only for some periods, published in WSP 1313.

Gage--Water-stage recorder. Altitude of gage is 8,330 ft (by barometer).

Average discharge--9 years (1942-51), 9.19 cfs (6,650 acre-ft per year).

Extremes--1942-51: Maximum discharge, 1,030 cfs May 12, 1944 (gage height, 5.43 ft), from rating curve extended above 500 cfs; no flow at times in each year.

Remarks--Slight regulation of low flow by many small stock reservoirs. Many small diversions for irrigation of a few hundred acres of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0.08	0.39	0.30	0.3	0.47	2.17	3.63	0.03	0	0	0	0.62

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	5.0	24	18	17	29	129	223	1.8	0	0	0	447

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	4.46	3,230
1951	1213	16	May 5, 1951	0	0.62	447	-	-

1740. San Miguel River near Nucla, Colo.

Location.--Lat 38°15', long 108°24', in NE¼ sec.10, T.46 N., R.14 W., on right bank 0.4 mile upstream from highway bridge, three-quarters of a mile upstream from Cottonwood Creek, and 8½ miles east of Nucla.

Drainage area.--660 sq mi, approximately.

Records available.--October 1953 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,800 ft (from topographic map).

Average discharge.--7 years (1953-56), 248 cfs (179,500 acre-ft per year), unadjusted.

Extremes.--1953-60: Maximum discharge, 3,810 cfs Apr. 22, 1958 (gage height, 7.80 ft); minimum daily, 0.5 cfs Oct. 11-22, 1956.

Remarks.--Slight regulation by Lake Hope and Trout Lake of Western Colorado Power Co. (combined capacity, 5,040 acre-ft). Natural flow of stream also affected by water exported from Beaver Creek to Naturita Creek drainage for irrigation of about 12,000 acres, diversions for irrigation of about 5,000 acres above station, and diversion by Colorado Cooperative Canal (see fourth table below) 4 miles upstream for irrigation below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954	45	68.5	72.6	79.5	67.1	68.1	173	295	260	143	56.3	73.9	117
1955	99.0	74.9	55.8	64.5	63.4	65.3	391	503	568	167	117	16.9	182
1956	33.3	53.5	65.9	60.3	59.1	89.9	303	467	512	86.4	20.4	13.1	146
1957	5.48	51.7	51.9	49.8	58.1	66.3	533	962	1,729	1,163	429	238	448
1958	130	135	118	80.0	88.4	103	1,032	1,933	1,323	253	69.2	49.4	145
1959	52.3	75.0	80.5	90.4	85.2	68.1	230	283	488	84.7	108	17.5	138
1960	79.5	78.2	68.5	61.0	61.0	134	908	572	851	276	47.1	19.1	262

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954	2,770	4,080	4,460	4,890	3,720	4,190	10,270	18,120	15,460	8,800	3,460	4,400	84,620
1955	6,090	4,460	3,430	3,970	3,520	4,010	23,240	30,960	33,820	10,250	7,210	1,010	132,000
1956	2,050	3,190	4,050	3,710	3,400	5,530	18,040	28,690	30,480	5,310	1,250	78	105,800
1957	337	3,080	3,190	3,060	3,230	4,080	31,740	59,140	102,900	71,500	26,400	14,150	322,800
1958	8,020	8,010	7,250	4,920	4,910	6,360	61,430	118,900	78,740	16,150	4,280	2,940	321,900
1959	3,220	4,460	4,950	5,560	4,820	4,190	13,660	17,430	29,020	5,210	6,660	1,040	100,000
1960	4,890	4,680	4,210	3,750	3,510	8,220	54,020	35,180	50,660	16,980	2,900	1,140	190,100

Yearly discharge, in cubic feet per second

Year	MSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950										
1951										
1952										
1953										
1954	1343	a500	May 22, 1954	10	117	84,620	121	87,290		
1955	1393	#2,190	Apr. 25, 1955	4	182	132,000	176	127,300		
1956	1443	905	June 5, 1956	.8	146	105,800	142	103,100		
1957	1513	2,600	June 6, 1957	.5	446	322,800	469	339,500		
1958	1563	3,810	Apr. 22, 1958	17	445	321,900	430	311,200		
1959	1633	898	June 9, 1959	6.5	138	100,000	140	101,200		
1960	1713	3,650	Apr. 10, 1960	6.5	262	190,100	-	-		

* Not previously published.
a Maximum daily.

Monthly and yearly diversion, in acre-feet, by Colorado Cooperative Canal

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954	2,840	510	50	0	720	0	2,590	3,520	4,160	4,130	4,760	4,150	27,430
1955	2,590	0	440	0	0	640	0	2,420	4,870	4,710	4,610	4,130	24,410
1956	1,510	280	160	340	0	0	3,690	5,130	5,110	5,580	4,990	3,360	30,090
1957	2,800	307	109	387	0	0	990	3,350	5,190	5,400	4,930	3,550	27,010
1958	1,280	327	0	0	0	831	0	3,400	5,080	5,150	4,880	4,770	25,720
1959	3,020	496	0	0	50	448	1,300	4,450	4,980	4,610	4,750	4,410	28,510
1960	1,600	615	0	0	0	670	60	3,750	5,400	5,300	5,190	4,570	27,160

1745. Cottonwood Creek near Nucla, Colo.

Location.--Lat 38°16', long 108°22', in sec.1, T.46 N., R.14 W., on right bank 10 ft from State Highway 90, half a mile upstream from North Fork, and 10 miles east of Nucla.

Drainage area.--43 sq mi, approximately.

Records available.--May 1942 to September 1951. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 6,080 ft (by barometer).

Average discharge.--9 years (1942-51), 4.75 cfs (3,440 acre-ft per year).

Extremes.--1942-51: Maximum discharge, 321 cfs Apr. 16, 1948, from rating curve extended above 200 cfs; maximum gage height, 4.48 ft May 1, 1945; no flow at times.

Remarks.--Diversions for irrigation of about 100 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.07	0	0.01	0	0	0	0	6.34	1.58	0.25	0.18	0.10	0.72

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.4	0	0.8	0	0	0	0	390	94	15	11	6.0	521

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	4.16	3,010
1951	1213	32	May 5, 1951	0	0.72	521	-	-

1750. Naturita Creek near Norwood, Colo.

Location.--Lat 37°58', long 108°19', in SE $\frac{1}{4}$ sec.20, T.43 N., R.13 W., on right bank 500 ft downstream from confluence of Middle and West Naturita Creeks and 11 miles south of Norwood.

Drainage area.--27.7 sq mi.

Records available.--October 1940 to September 1952. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 7,601.12 ft above mean sea level (Bureau of Reclamation bench mark). Prior to May 5, 1942, at datum 1.00 ft higher.

Average discharge.--12 years (1940-52), 10.6 cfs (7,670 acre-ft per year).

Extremes.--1940-52: Maximum discharge, 943 cfs July 24, 1945 (gage height, 5.19 ft), from rating curve extended above 200 cfs on basis of slope-area measurement at gage height 4.80 ft; no flow at times in 1945, 1948, 1950-51.

Remarks.--Many small diversions above station for irrigation of a few hundred acres above and below station and one small diversion above station for irrigation of a few hundred acres in Dry Creek basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.07	0.39	1.44	1.5	2.0	3.00	1.37	1.73	0.29	0.02	0.67	0	1.04
1952	0.003	0.02	1.5	1.5	1.0	2.0	46.9	42.3	8.75	1.60	.68	.27	8.77

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.6	23	89	92	111	184	82	107	17	1.0	41	0	752
1952	.2	1.0	31	92	58	123	2,790	2,600	521	98	42	16	6,370

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	2.49	1,800
1951	1213	430	Aug. 3, 1951	0	1.04	752	.92	667
1952	1243	194	Apr. 14, 1952	0	8.77	6,370	-	-

1755. San Miguel River at Naturita, Colo.

Location.--Lat 38°13'10", long 108°34'00", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.19, T.46 N., R.15 W., on left bank 20 ft downstream from bridge on State Highway 97 in Naturita and 1.2 miles downstream from Naturita Creek.

Drainage area.--1,080 sq mi, approximately.

Records available.--October 1917 to September 1929, May 1940 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 5,392.85 ft above mean sea level, datum of 1929. Apr. 26, 1918, to Sept. 2, 1926, chain gage and Sept. 3, 1926, to Sept. 30, 1929, water-stage recorder, at same site at different datums. Oct. 1, 1940, to Dec. 9, 1941, staff gage at same site and datum.

Average discharge.--32 years (1917-29, 1940-60), 364 cfs (263,500 acre-ft per year).

Extremes.--1917-29, 1940-60: Maximum discharge, 7,100 cfs Apr. 15, 1942 (gage height, 9.80 ft), from rating curve extended above 3,800 cfs; minimum daly, 5.8 cfs Sept. 25-28, 30, 1956.

Remarks.--Natural flow of stream affected by storage reservoirs, diversions for irrigation of about 22,000 acres above station and 4,000 acres below, and return flow from irrigated areas.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	73.1	65.4	72.5	71.0	64.8	68.4	58.1	230	442	156	124	57.6	124
1952	59.9	64.6	62.0	75.8	75.8	82.5	1,058	1,218	1,318	558	245	124	411
1953	112	90.7	98.7	103	85.3	101	283	428	810	253	133	38.4	211
1954	60.5	85.5	81.0	84.5	72.8	61.5	172	294	249	142	86.0	115	125
1955	141	93.1	73.6	75.8	76.4	142	489	536	585	172	136	30.6	213
1956	42.9	62.2	72.8	65.8	63.4	105	357	537	548	95.1	33.2	7.63	165
1957	15.9	58.1	56.2	65.7	92.4	83.5	574	1,291	1,998	1,306	538	273	531
1958	177	174	124	93.2	181	178	1,552	2,263	1,442	290	96.3	80.5	555
1959	89.4	92.2	84.0	88.7	96.1	101	248	296	493	87.9	118	31.8	152
1960	95.6	90.2	75.1	67.9	68.0	217	948	599	868	295	60.7	57.4	286

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,500	3,890	4,450	4,370	3,600	4,200	3,460	14,170	26,320	9,590	7,620	3,430	89,600
1952	3,680	3,850	3,810	4,660	4,360	5,070	62,970	74,910	78,440	34,330	15,060	7,370	298,500
1953	5,870	5,400	6,070	6,340	4,740	6,230	16,870	26,320	48,200	15,550	8,210	2,290	153,100
1954	3,720	5,090	4,980	5,200	4,040	5,010	10,240	18,080	14,850	8,740	4,080	6,840	90,830
1955	8,690	5,540	4,530	4,680	4,240	8,710	29,110	32,950	34,790	10,590	8,340	1,820	154,000
1956	2,640	3,700	4,480	4,050	3,650	6,430	21,270	33,020	32,500	5,850	2,040	454	120,100
1957	976	3,460	3,450	4,040	5,130	5,130	34,180	79,380	118,900	80,280	33,070	16,270	384,300
1958	10,910	10,350	7,850	5,730	10,060	10,970	92,360	139,100	85,830	17,860	5,920	4,790	401,500
1959	5,500	5,480	5,160	5,450	5,340	6,240	14,770	18,210	29,310	5,410	7,250	1,890	110,000
1960	5,880	5,370	4,620	4,180	3,910	13,320	56,430	36,820	51,680	18,120	3,730	3,410	207,500

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	193	139,900
1951	1213	1,130	Aug. 5, 1951	25	124	89,600	133	96,150
1952	1243	2,760	Apr. 19, 1952	26	411	298,500	421	306,500
1953	1283	1,820	June 13, 1953	21	211	153,100	205	148,500
1954	1343	800	Oct. 23, 1953	17	125	90,830	132	95,800
1955	1393	3,000	Apr. 26, 1955	17	213	154,000	202	146,000
1956	1443	a950	June 5, 1956	5.8	165	120,100	161	117,200
1957	1513	3,330	July 27, 1957	-	531	384,300	560	405,300
1958	1563	5,880	Apr. 19, 1958	43	555	401,500	537	388,800
1959	1633	958	June 9, 1959	8.0	152	110,000	152	109,700
1960	1713	4,540	Apr. 10, 1960	19	266	207,500	-	-

a About.

1765. Tabeguache Creek near Nucla, Colo.

Location.--Lat 38°22', long 108°20', in SE $\frac{1}{4}$ sec.31, T.48 N., R.13 W., on right bank 15 ft downstream from bridge, 1 mile downstream from headgate of Glencoe ditch, and 13 miles northeast of Nucla.

Drainage area.--20.7 sq mi.

Records available.--April 1946 to September 1953.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 8,010 ft (by barometer).

Average discharge.--7 years (1946-53), 11.2 cfs (8,110 acre-ft per year).

Extremes.--1946-53: Maximum discharge, 303 cfs May 15, 1949, from rating curve extended above 170 cfs; maximum gage height, 4.10 ft May 5, 1952; no flow at times in most years.

Remarks.--Glencoe ditch diverts water above station for irrigation of a few hundred acres in a nearby drainage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.39	1.01	0.29	0.3	0.3	0.4	6.16	41.4	6.23	0.03	0.12	0.003	4.77
1952	.06	.06	.19	.3	.3	.3	47.1	123	25.1	.42	.17	.05	16.5
1953	.07	.15	.2	.3	.3	1.01	9.89	31.5	7.24	.26	.68	.02	4.34

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	24	60	18	18	17	25	366	2,540	371	2.0	7.5	0.2	3,450
1952	4.0	3.6	12	18	17	18	2,800	7,590	1,490	26	10	3.0	11,990
1953	4.4	8.9	12	18	17	62	588	1,940	431	16	42	1.0	3,140

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	13.1	9,490	
1951	1213	140	May 12, 1951	0	4.77	3,450	4.66	3,370	
1952	1243	264	May 5, 1952	0	16.5	11,990	16.5	12,000	
1953	1283	114	May 18, 1953	0	4.34	3,140	-	-	

1770. San Miguel River at Uravan, Colo.

Location.--Lat 38°21'25", long 108°42'40", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.2, T.47 N., R.17 W., on right bank 20 ft downstream from bridge on State Highway 141, 300 ft downstream from Tabeguache Creek, and $1\frac{1}{4}$ miles southeast of Uravan.

Drainage area.--1,550 sq mi, approximately.

Records available.--August 1954 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,000 ft (from topographic map). Prior to Sept. 3, 1959, at site 0.5 mile downstream at different datum.

Average discharge.--6 years (1954-60), 356 cfs (257,700 acre-ft per year).

Extremes.--1954-60: Maximum discharge, 6,690 cfs Apr. 19, 1958 (gage height, 11.75 ft, site and datum then in use); minimum daily, 14 cfs Sept. 16, 18-20, 1956.

Remarks.--Natural flow of stream affected by storage reservoirs, diversions for irrigation of about 28,000 acres above station, and return flow from irrigated areas.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954	-	-	-	-	-	-	-	-	-	-	77.5	136	-
1955	171	91.5	75.0	80.3	94.0	212	519	701	618	184	158	43.7	246
1956	49.1	60.9	73.5	64.0	64.1	107	401	592	559	107	66.0	16.8	180
1957	30.6	64.3	58.0	80.4	114	81.6	613	1,478	2,361	1,306	592	270	589
1958	207	190	144	105	226	201	1,777	2,546	1,612	300	104	90.5	625
1959	94.3	101	88.5	95.1	99.2	101	265	321	494	103	148	45.6	163
1960	127	100	79.0	75.5	76.7	459	1,100	713	884	300	70.1	62.3	336

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													*
1952													
1953													
1954	-	-	-	-	-	-	-	-	-	-	4,760	8,100	-
1955	10,500	5,440	4,610	4,940	5,220	13,020	30,890	43,120	36,790	11,320	9,710	2,600	178,200
1956	3,020	3,620	4,520	3,930	3,690	6,570	23,850	36,400	33,240	6,610	4,060	1,000	130,500
1957	1,880	3,820	3,560	4,940	6,350	5,020	36,460	90,880	140,500	80,330	36,380	16,040	426,200
1958	12,730	11,330	8,880	6,430	12,520	12,350	105,700	156,600	95,900	18,430	6,400	5,390	452,700
1959	5,800	6,040	5,440	5,850	5,510	6,220	15,770	19,730	29,380	6,330	9,100	2,710	117,900
1960	7,790	5,970	4,860	4,640	4,410	28,220	65,250	43,830	52,610	18,440	4,310	3,710	244,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953								
1954	1343	al,040	Sept. 25, 1954	-	-	-	-	-
1955	1393	3,000	Apr. 26, 1955	30	246	178,200	233	168,800
1956	1443	3,490	Aug. 15, 1956	14	180	130,500	177	128,600
1957	1513	5,530	Aug. 30, 1957	-	589	426,200	621	449,800
1958	1563	6,690	Apr. 19, 1958	47	625	452,700	604	437,000
1959	1633	1,750	Aug. 4, 1959	21	163	117,900	165	119,200
1960	1713	4,210	Apr. 11, 1960	22	336	244,000	-	-

a Maximum during period August to September.

1775. Taylor Creek near Gateway, Colo.

Location.--Lat 38°31', long 109°07', in sec.24, T.26 S., R.25 E., in Utah, on left bank at downstream side of bridge, a quarter of a mile downstream from South Taylor Creek and 12 miles southwest of Gateway.

Drainage area.--12 sq mi, approximately.

Records available.--October 1944 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,120 ft (by barometer). Prior to Aug. 31, 1949, at site 770 ft downstream at datum 6.00 ft lower.

Average discharge.--16 years (1944-60), 3.55 cfs (2,570 acre-ft per year), unadjusted.

Extremes.--1944-60: Maximum discharge, 555 cfs Apr. 18, 1948, from rating curve extended above 220 cfs; no flow at times June to August 1946, Sept. 29, 1949.

Remarks.--Diversions by Hubbard ditch (see fourth table below) above station to John Brown Creek basin began in spring of 1956.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.36	0.34	0.39	0.41	0.55	1.61	2.60	4.22	1.57	0.24	0.45	0.21	1.08
1952	.34	.36	.48	.5	.5	.6	49.5	36.6	10.4	.73	.45	.47	8.38
1953	.47	.43	.46	.49	.41	1.32	6.55	6.13	2.79	.46	.53	.30	1.70
1954	.6	.5	.4	.4	.5	1.60	6.19	3.45	.50	.18	.23	.19	1.23
1955	.20	.29	.35	.35	.38	.50	10.9	10.5	2.61	.23	.25	.22	2.23
1956	.24	.26	.35	.41	.38	1.70	1.37	.91	.19	.18	.22	.23	.54
1957	.28	.20	.20	.33	.43	.78	5.77	17.4	12.4	1.32	.84	.28	3.36
1958	.81	2.50	.97	.56	1.04	1.31	44.7	29.1	1.35	.33	.37	.28	6.93
1959	.29	.41	.38	.37	.50	.80	2.53	.48	.20	.23	.30	.27	.56
1960	.26	.22	.20	.27	.30	.59	12.9	3.30	1.82	.24	.21	.12	1.69

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	22	20	24	25	31	99	155	260	93	15	28	12	784
1952	21	21	30	31	29	37	2,950	2,250	616	45	28	28	6,090
1953	29.0	26	28	30	23	81	590	377	166	28	32	18	1,230
1954	37	30	25	25	28	98	368	212	30	11	14	12	890
1955	12	17	21	22	21	31	646	644	155	14	15	13	1,610
1956	15	16	21	25	22	105	82	56	12	11	14	14	393
1957	17	12	12	20	24	48	344	1,070	737	81	51	16	2,430
1958	50	149	60	35	58	81	2,660	1,790	81	20	23	16	5,020
1959	18	24	23	23	28	49	151	30	12	14	18	16	406
1960	16	13	12	16	17	36	768	203	108	15	13	8.9	1,230

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	3.87	2,800	
1951	1213	19	Aug. 1, 1951	0.1	1.08	784	1.09	790	
1952	1243	212	Apr. 25, 1952	.3	8.38	6,090	8.40	6,100	
1953	1263	21	Apr. 26, 1953	.1	1.70	1,230	1.71	1,240	
1954	1343	70	(a)	.1	1.23	890	1.17	848	
1955	1393	67	Apr. 16, 1955	.1	2.23	1,610	2.23	1,610	
1956	1443	13	Aug. 1, 1956	.1	.54	393	.52	382	
1957	1513	201	July 19, 1957	.1	3.36	2,430	3.66	2,650	
1958	1563	217	Apr. 18, 1958	.2	6.93	5,020	6.67	4,830	
1959	1633	48	Aug. 3, 1959	.1	.56	406	.53	382	
1960	1713	111	Apr. 10, 1960	.1	1.69	1,230	-	-	

a Sometime during period Apr. 2-15, 1954.

Monthly and yearly diversion, in acre-feet, by Hubbard ditch

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	0	0	0	0	0	0	191	437	266	0	0	0	894
1959	0	0	0	0	0	0	49	53	1.2	0	1.0	0	103
1960	0	0	0	0	0	0	272	399	69	0	0	0	740

Note.--No records available prior to 1958.

DOLORES RIVER BASIN

1780. Deep Creek near Paradox, Colo.

Location.--Lat 38°30', long 109°09', in SE $\frac{1}{4}$ sec.34, T.26 S., R.25 E., in Utah, on right bank a quarter of a mile downstream from diversion to Buckeye Reservoir and 13 miles northwest of Paradox.

Records available.--August 1944 to September 1953. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder and log control. Datum of gage is 8,659.59 ft above mean sea level (Bureau of Reclamation bench mark).

Average discharge.--9 years (1944-53), 1.80 cfs (1,300 acre-ft per year).

Extremes.--1944-53: Maximum discharge recorded, 29 cfs June 18, 1949, from rating curve extended above 15 cfs; maximum gage height, 1.67 ft June 15, 1952; no flow Oct. 15-23, 27, Nov. 1, 4-6, 1948, Oct. 3-8, 1951, and probably at other times during the winter months.

Remarks.--Most of flow diverted a quarter of a mile above station to Buckeye Reservoir in West Paradox Creek basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.14	0.98	1.5	1.6	1.7	1.8	1.15	0.28	0.20	0.12	0.13	0.10	0.80
1952	.08	1.29	1.4	1.5	1.5	1.7	3.12	11.4	10	.30	.21	.15	2.73
1953	.21	1.6	3.0	2.5	2.5	2.5	2.66	.28	.32	.17	.16	.12	1.33

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8.5	58	92	98	94	111	68	16	12	7.3	8.1	6.0	579
1952	5.0	77	86	92	88	105	186	703	603	18	13	8.7	1,980
1953	15	95	184	154	159	154	158	17	19	11	9.9	7.3	961

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	1.09	790
1951	1213	2.3	Nov. 19, 1950	0.1	0.80	579	.81	588
1952	1243	19	June 15, 1952	0	2.73	1,980	2.90	2,110
1953	1283	7.0	Apr. 24, 1953	.1	1.33	961	-	-

1785. Geyser Creek near Paradox, Colo.

Location.--Lat 38°28', long 109°09', in NE $\frac{1}{4}$ sec.15, T.27 S., R.25 E., in Utah, at spillway of Geyser Creek Reservoir, 11 miles northwest of Paradox.

Records available.--August 1944 to September 1951.

Gage.--Water-stage recorder. Sharp-crested weir since Sept. 1, 1949. Datum of gage is 8,628.00 ft above mean sea level (Bureau of Reclamation bench mark).

Average discharge.--7 years (1944-51), 0.28 cfs (203 acre-ft per year).

Extremes.--1944-51: Maximum discharge, 134 cfs June 18, 1949 (gage height, 2.88 ft), by computation of flow over broad crested weir; no flow for most of each year.

Remarks.--No flow since June 1949. Flow diverted just above station to Buckeye Reservoir in West Paradox Creek basin.

1790. Roc Creek near Uranium, Colo.

Location.--Lat 38°26'05", long 108°55'20", in NW¼ sec.12, T.48 N., R.19 W., on right bank at La Sal National Forest boundary, 1¼ miles west of Uranium.

Drainage area.--69.5 sq mi.

Records available.--August 1944 to September 1952. Monthly discharge only for some periods, published in WSP 1813.

Gage.--Water-stage recorder. Altitude of gage is 5,200 ft (from topographic map). Prior to July 26, 1946, at site a quarter of a mile downstream at different datum.

Average discharge.--8 years (1944-52), 10.5 cfs (7,600 acre-ft per year).

Extremes.--1944-52: Maximum discharge, 885 cfs July 10, 1952, (gage height, 5.55 ft), from rating curve extended above 240 cfs on basis of slope-area measurement of peak flow; no flow July 7, 1946, Dec. 3-7, 13-22, 1948.

Remarks.--Most of flow of Geyser and Deep Creeks in Roc Creek basin is diverted to Buckeye Reservoir in West Paradox Creek basin; release through Buckeye Reservoir Outlet (see elsewhere in this report) shows approximately the diversion from Roc Creek basin. Between the present gage and the site a quarter of a mile downstream used prior to July 26, 1946, there is one small diversion for irrigation of a few acres below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.32	1.98	2.41	3.03	3.84	4.79	5.74	5.73	2.41	0.52	1.09	1.02	2.82
1952	1.95	2.64	3.77	4.6	5.3	5.55	83.6	97.4	41.9	5.14	1.84	1.55	21.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	81	118	148	186	213	294	342	352	144	32	67	61	2,040
1952	120	157	232	283	305	341	4,980	5,990	2,490	193	113	82	15,290

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	8.24	5,960		
1951	1213	a18	Aug. 20, 1951	0.1	2.82	2,040	3.04	2,200		
1952	1243	885	July 10, 1952	.5	21.1	15,290	-	-		

a Maximum recorded.

1795. Dolores River at Gateway, Colo.

Location.--Lat 38°40'55", long 108°58'50", in SW¼ sec.15, T.51 N., R.19 W., on right bank 500 ft downstream from bridge on State Highway 141, 0.3 mile northwest of Gateway, 0.3 mile downstream from West Creek, and 8 miles upstream from Colorado-Utah State line.

Drainage area.--4,350 sq mi, approximately.

Records available.--October 1936 to December 1954. Prior to March 1937 monthly discharge only, published in WSP 1813.

Gage.--Water-stage recorder. Datum of gage is 4,547.76 ft above mean sea level, datum of 1929. Prior to Oct. 10, 1941, at site 300 ft upstream at same datum.

Average discharge.--18 years (1936-54), 938 cfs (679,100 acre-ft per year).

Extremes.--1936-54: Maximum discharge, 15,400 cfs May 14, 1941 (gage height, 11.33 ft, present site); minimum daily, 23 cfs Sept. 6, 1950.

Remarks.--Divisions for irrigation of about 35,000 acres above station and about 37,000 acres in Montezuma Valley in the San Juan River basin. Records of chemical analyses for the period October 1947 to September 1952 and water temperatures for the period April 1949 to September 1952 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	77.7	90.0	101	116	142	121	108	607	793	174	204	87.4	219
1952	77.3	91.8	102	206	158	226	5,434	5,929	4,298	1,048	337	182	1,504
1953	139	122	162	178	157	191	680	1,038	1,528	304	302	65.7	405
1954	286	187	129	135	160	151	697	855	298	157	95.6	215	281
1955	315	141	113	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,780	5,360	6,220	7,150	7,880	7,460	6,400	37,330	47,210	10,710	12,530	5,200	158,200
1952	4,750	5,480	6,270	12,640	8,970	13,920	523,300	564,500	255,800	64,430	20,700	10,800	1,092,000
1953	8,560	7,250	9,940	10,950	8,700	11,740	40,450	63,820	90,810	18,680	18,590	3,910	293,400
1954	17,590	11,140	7,910	8,290	8,870	9,310	41,470	52,590	17,710	9,650	5,880	12,790	203,200
1955	19,380	8,360	6,960	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	505	365,900		
1951	1213	1,830	May 29, 1951	44	219	158,200	219	158,400		
1952	1243	10,500	May 6, 1952	50	1,504	1,092,000	1,516	1,101,000		
1953	1283	3,110	June 14, 1953	34	405	293,400	420	304,300		
1954	1343	5,260	Oct. 23, 1953	37	261	203,200	278	201,300		
1955	1343	a2,150	Oct. 9, 1954	-	-	-	-	-		

a Maximum during period October to December.

1800. Dolores River near Cisco, Utah

Location.--Lat 38°47'50", long 109°11'40", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.18, T.23 S., R.25 E., on left bank 9 miles upstream from mouth, 13 $\frac{1}{2}$ miles downstream from Colorado-Utah state line, and 14 miles southeast of Cisco.

Drainage area.--4,580 sq mi, approximately.

Records available.--October 1950 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,165 ft (from river-profile map).

Average discharge.--10 years (1950-60), 716 cfs (518,400 acre-ft per year).

Extremes.--1950-60: Maximum discharge, 17,400 cfs Apr. 21, 1958 (gage height, 9.84 ft); minimum, 3.4 cfs Sept. 23, 1956.

Remarks.--Many diversions for irrigation above station. Records of chemical analyses for the period October 1931 to September 1933 and chemical analyses, suspended sediment loads, and water temperatures for the period March 1951 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	#80	#90	122	148	160	127	123	620	806	192	186	64.3	#227
1952	67.0	95.2	108	234	164	251	5,450	5,930	4,076	1,093	343	176	1,496
1953	136	122	162	184	166	196	660	1,035	1,481	297	315	66.4	402
1954	265	169	133	143	170	165	724	866	309	158	107	226	288
1955	327	150	109	92.1	129	515	1,094	1,884	1,108	205	276	57.5	497
1956	58.0	101	143	128	150	265	946	1,372	1,052	131	105	13.8	371
1957	30.0	106	87.3	95	230	207	1,912	4,818	5,916	2,562	1,280	720	1,500
1958	511	451	320	208	578	573	5,726	5,981	2,757	322	136	146	1,475
1959	126	157	157	159	176	175	420	536	534	113	210	55.8	235
1960	171	150	107	138	160	712	2,631	1,808	1,743	330	79.7	60.6	672

* Not previously published; estimated on basis of records for station near Gateway, Colo.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	#4,920	#5,360	7,520	9,070	8,860	7,800	7,310	38,130	47,980	11,830	11,470	3,830	#164,100
1952	4,120	5,660	6,660	14,400	9,460	15,430	524,300	564,600	242,600	67,220	21,070	10,490	1,086,000
1953	8,340	7,260	9,960	11,330	9,220	12,060	39,270	63,680	88,110	18,280	19,340	3,950	290,800
1954	16,280	11,260	8,160	8,820	9,420	10,140	43,090	53,250	18,400	9,710	6,550	13,460	208,500
1955	20,090	8,900	6,690	5,660	7,180	31,640	65,130	115,800	65,920	12,590	16,940	3,420	360,000
1956	3,570	6,020	8,780	7,850	8,630	16,280	56,290	84,340	62,580	8,060	6,430	823	269,700
1957	1,840	6,290	5,370	5,840	12,760	12,740	113,800	296,300	552,000	157,500	78,680	42,820	1,086,000
1958	31,440	26,830	19,690	12,810	32,120	35,250	340,700	567,700	164,100	19,800	8,360	8,690	1,067,000
1959	7,760	9,340	9,640	9,790	9,750	10,740	24,990	32,980	31,800	6,930	12,930	3,320	170,000
1960	10,540	8,900	6,590	8,460	9,200	43,760	156,500	111,200	103,700	20,280	4,900	3,610	487,600

* Not previously published; estimated on basis of records for station near Gateway, Colo.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952	1213	2,140	May 28, 1951	#31	#227	#164,100	225	162,700
1953	1243	11,100	May 6, 1952	34	1,496	1,086,000	1,509	1,095,000
1954	1283	3,060	June 14, 1953	38	402	290,800	416	300,900
1954	1343	3,220	Oct. 23, 1953	38	288	208,500	288	208,500
1955	1393	3,690	May 10, 1955	36	497	360,000	473	342,600
1956	1443	2,470	June 2, 1956	4.2	371	269,700	365	264,800
1957	1513	9,500	June 7, 1957	14	1,500	1,086,000	1,589	1,150,000
1958	1563	17,400	Apr. 21, 1958	64	1,475	1,067,000	1,404	1,016,000
1959	1633	3,300	Aug. 5, 1959	30	235	170,000	234	169,300
1960	1713	6,160	Apr. 11, 1960	28	672	487,600	-	-

* Not previously published.

1805. Colorado River near Cisco, Utah

Location.--Lat 38°48'40", long 109°17'35", in NW¼NW¼ sec.17, T.23 S., R.24 E., on left bank 1 mile downstream from Dolores River, 11 miles south of Cisco, 97 miles upstream from Green River, and 235 miles upstream from San Juan River.

Drainage area.--24,100 sq mi, approximately.

Records available.--January 1895 to September 1960 (1895-1910, calendar-year estimates only). Monthly discharge only for some periods, published in WSP 1313. Published as Grand River near Moab, October 1913 to November 1914, and as Grand River near Cisco, November 1914 to September 1917.

Gage.--Water-stage recorder. Altitude of gage is 4,090 ft (from river-profile map). Prior to Nov. 10, 1914, several staff and chain gages at bridge near Moab, 31 miles downstream at datum 3,937.73 ft above mean sea level.

Average discharge.--49 years (1911-60), 8,057 cfs (5,833,000 acre-ft per year).

Extremes.--1913-17, 1922-60: Maximum discharge, 76,800 cfs June 19, 1917 (gage height, 19.7 ft); minimum recorded, 558 cfs July 21, 1934 (gage height, 0.44 ft).

Maximum discharge known, about 125,000 cfs July 4, 1884, from flood record at Fruita, Colo.

Remarks.--Diversions above station for irrigation and power, including several transmountain diversions. Records of chemical analyses for the period October 1928 to September 1960, suspended sediment loads for the period October 1929 to September 1960, and water temperatures for the period April 1949 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,037	2,712	2,723	2,484	2,721	2,625	2,904	12,330	19,720	8,610	3,875	2,193	5,417
1952	2,749	2,995	2,797	3,103	2,706	3,150	16,290	35,000	38,890	10,430	5,817	3,585	10,620
1953	2,696	2,971	3,051	3,015	2,563	3,036	4,207	9,857	23,510	5,741	4,161	2,148	5,576
1954	2,866	3,475	2,782	2,870	2,574	2,612	3,714	7,089	3,644	2,439	1,602	2,879	3,217
1955	3,502	2,760	2,275	2,171	2,185	3,219	5,384	12,226	11,580	3,486	3,008	1,811	4,476
1956	1,941	2,853	2,862	2,521	2,458	3,043	5,976	16,350	15,520	2,800	1,931	1,369	4,965
1957	1,984	2,782	2,305	2,571	3,018	2,724	6,885	22,360	48,040	31,750	10,750	5,273	11,720
1958	4,750	5,034	3,862	3,255	4,052	4,154	12,700	33,050	26,220	5,805	1,779	2,573	8,777
1959	2,522	3,188	2,860	2,725	2,752	2,432	2,735	8,710	15,520	3,482	2,595	2,087	4,296
1960	4,075	3,533	2,652	2,666	2,490	4,442	10,580	12,330	17,950	4,075	1,716	1,959	5,693

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	125.2	161.4	167.4	152.7	151.1	161.4	172.6	757.9	1,173	529.4	238.3	130.5	3,921
1952	169.0	178.2	172.0	190.8	155.6	193.7	969.5	2,152	2,314	641.2	357.7	213.3	7,707
1953	165.8	176.8	187.6	185.4	142.4	186.7	250.3	606.1	1,399	353.0	255.8	127.8	4,037
1954	177.4	206.8	171.1	176.5	142.9	160.6	221.0	435.9	216.8	150.0	98.48	171.3	2,329
1955	215.3	164.2	139.9	133.5	121.4	197.9	520.4	751.8	689.1	214.4	185.0	107.7	3,241
1956	119.4	168.6	176.0	155.0	141.4	187.1	355.6	1,005	923.8	172.2	118.7	81.48	3,604
1957	120.8	165.5	141.7	164.3	167.6	167.5	397.8	1,375	2,859	1,952	660.7	313.8	8,486
1958	292.1	299.5	238.7	200.2	225.1	254.2	755.6	2,032	1,560	234.0	109.4	153.1	6,354
1959	155.1	189.7	175.8	167.6	152.8	149.6	162.8	535.6	923.7	214.1	159.6	124.2	3,111
1960	250.5	210.2	163.1	164.0	143.2	273.1	629.3	758.0	1,068	250.6	105.5	116.6	4,132

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	5,627	4,074,000	
1951	1213	29,800	June 23, 1951	1,400	5,417	3,921,000	5,507	3,986,000	
1952	1243	57,200	June 9, 1952	2,000	10,620	7,707,000	10,630	7,718,000	
1953	1263	38,900	June 15, 1953	1,820	5,576	4,037,000	5,610	4,062,000	
1954	1343	12,900	May 23, 1954	1,060	3,217	2,329,000	3,167	2,293,000	
1955	1393	18,100	June 10, 1955	1,370	4,476	3,241,000	4,399	3,185,000	
1956	1443	30,900	June 4, 1956	1,000	4,965	3,604,000	4,916	3,568,000	
1957	1513	64,200	June 9, 1957	1,740	11,720	8,486,000	12,280	8,888,000	
1958	1563	49,700	May 31, 1958	1,200	8,777	6,354,000	8,349	6,044,000	
1959	1633	22,300	June 11, 1959	1,240	4,296	3,111,000	4,439	3,214,000	
1960	1713	26,100	June 5, 1960	1,220	5,693	4,132,000	-	-	

1810. Onion Creek near Moab, Utah

Location.--Lat 38°43'30", long 109°20'40", in SW $\frac{1}{4}$ sec.11, T.24 S., R.23 E., on right bank $\frac{1}{4}$ miles upstream from mouth and 15 miles northeast of Moab.

Drainage area.--18.8 sq mi.

Records available.--July 1950 to September 1955. Monthly discharge only; not previously published.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 4,160 ft (from topographic map).

Average discharge.--5 years (1950-55), 1.13 cfs (8.18 acre-ft per year).

Extremes.--1950-55: Maximum discharge, 2,100 cfs Aug. 29, 1951 (gage height, 5.10 ft), from slope-area measurement of peak flow; no flow Aug. 17, Oct. 24, 1950, and parts of several days in 1953-54.

Remarks.--Diversions above station for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	1.65	0.21	0.98	-
1951	0.52	0.65	0.57	0.65	0.57	0.68	0.88	0.57	0.40	.16	7.28	.33	1.11
1952	.60	.76	1.34	1.31	1.52	1.59	1.12	.70	.47	.35	.41	.47	.84
1953	.81	.97	.80	.92	1.08	1.02	1.04	.91	.54	1.02	1.25	.57	.91
1954	1.07	1.00	.72	.84	.87	1.50	.82	.81	.46	.76	1.18	1.53	.96
1955	.61	1.96	1.59	.80	1.86	9.36	1.20	1.87	.70	.40	1.25	.31	1.83

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	101	13	58	-
1951	32	39	35	40	32	42	52	35	24	10	447	20	808
1952	37	45	82	81	87	98	67	43	28	22	25	28	645
1953	50	58	49	57	60	63	62	56	32	62	77	34	660
1954	66	60	44	52	48	92	49	50	27	47	72	91	698
1955	37	117	98	49	103	576	71	115	42	25	77	19	1,330

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	546	July 8, 1950	-	-	-	-	-
1951	-	2,100	Aug. 29, 1951	0	1.11	808	1.20	866
1952	-	167	June 2, 1952	.2	.84	645	.87	636
1953	-	902	Aug. 1, 1953	.1	.91	660	.93	673
1954	-	1,270	Aug. 13, 1954	.1	.96	698	1.08	780
1955	-	1,020	May 22, 1955	-	1.83	1,330	-	-

1815. Professor Creek near Moab, Utah
(Formerly published as Rock Creek near Moab)

Location.--Lat 38°43'45", long 109°22'30", in NE¼ sec.16, T.24 S., R.23 E., on left bank a quarter of a mile upstream from mouth and 14 miles northeast of Moab.

Drainage area.--336 sq mi, approximately.

Records available.--July 1950 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 4,070 ft (by barometer).

Extremes.--1950-53: Maximum discharge, 3,330 cfs Aug. 29, 1951 (gage height, 8.26 ft), from rating curve extended above 6 cfs on basis of slope-area measurements at gage heights, 3.53 and 8.26 ft; no flow Sept. 6-15, Oct. 7, 1951.

Remarks.--Diversions above station for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	3.95	0.14	4.09	-
1951	3.72	2.62	2.14	2.80	3.46	2.28	0.26	0.26	0.20	.20	6.43	.59	2.08
1952	1.25	3.51	2.79	3.40	3.33	4.08	6.14	.17	.38	.23	1.34	.22	2.23
1953	2.48	4.96	3.07	3.60	4.54	1.29	1.77	.20	.20	.48	1.30	.47	2.01

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	243	9	243	-
1951	228	156	132	172	192	140	15	16	12	12	395	35	1,500
1952	77	209	171	209	192	251	365	11	23	14	83	13	1,620
1953	152	295	189	221	252	80	108	12	12	30	80	28	1,460

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	1213	31,270	Sept. 19, 1950	-	-	-	-	-
1951	1213	3,330	Aug. 29, 1951	0	2.08	1,500	2.00	1,450
1952	1243	735	Aug. 21, 1952	0	2.23	1,620	2.47	1,800
1953	1283	9.6	Feb. 20, 1953	.1	2.01	1,460	-	-

a Maximum recorded.

TRIBUTARIES BETWEEN DOLORES RIVER AND GREEN RIVER

1820. Castle Creek above diversions, near Moab, Utah

Location.--Lat 38°35'30", long 109°15'55", in NE $\frac{1}{4}$ sec.33, T.25 S., R.24 E., 1 mile east of La Sal National Forest boundary and 15 miles east of Moab.

Drainage area.--7.58 sq mi.

Records available.--July 1950 to September 1955, April 1957 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 7,070 ft (by barometer).

Average discharge.--8 years (1950-55, 1957-60), 1.01 cfs (731 acre-ft per year).

Extremes.--1950-55, 1957-60: Maximum discharge, 23 cfs June 7, 1952; maximum gage height, 1.72 ft June 6, 1957; no flow for many days in 1959-60.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	0.70	0.42	-
1951	0.20	0.27	0.30	0.30	0.20	0.25	0.23	0.35	0.54	0.49	.43	.40	0.33
1952	.42	.29	.30	.30	.35	.40	3.81	11.5	12.8	4.36	1.61	1.05	3.08
1953	.76	.58	.5	.57	.42	.39	.51	1.37	4.28	1.56	1.11	.52	1.05
1954	.32	.31	.30	.3	.34	.36	.22	.97	1.12	1.65	.37	.33	.47
1955	.35	.37	.23	.2	.2	.97	.26	2.15	3.61	1.01	.49	.33	.85
1956	-	-	-	-	-	-	-	2.94	11.0	7.63	1.92	1.04	-
1957	.73	.58	.18	.25	.37	.48	1.13	8.79	7.61	2.07	.68	.45	1.95
1958	.32	.17	.11	.1	.09	.07	.12	.20	.10	.14	.11	.03	.13
1959	0	0	0	0	0	.007	.003	.53	1.45	.53	.03	0	.21

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	43	25	-
1951	12	16	18	18	11	16	13	21	32	30	26	24	237
1952	26	17	18	18	20	25	215	706	760	268	99	62	2,230
1953	47	35	31	35	23	24	30	84	255	96	68	31	759
1954	19	18	18	18	19	22	13	60	67	40	23	19	336
1955	21	22	14	12	12	60	16	132	215	62	30	19	615
1956	-	-	-	-	-	-	-	180	653	469	118	62	-
1957	-	-	-	-	-	-	-	540	453	127	42	27	1,410
1958	45	35	9.9	15	21	30	67	7.3	12	6.1	8.7	6.5	94
1959	20	10	6.5	6.1	5.0	4.4	.2	.33	86	33	2	0	154
1960	0	0	0	0	0	.4	.2	.33	86	33	2	0	154

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	1213	a3.0	Sept. 1, 1950	-	-	-	-	-
1951	1213	3.2	Apr. 10, 1951	-	0.33	237	0.35	252
1952	1243	25	June 7, 1952	-	3.08	2,230	3.15	2,290
1953	1283	20	Aug. 1, 1953	-	1.05	759	.97	701
1954	1343	4.8	Apr. 20, 1954	-	.47	336	.47	338
1955	1393	9.6	June 12, 1955	-	.85	615	-	-
1956								
1957	b1513	19	June 6, 1957	-	-	-	-	-
1958	1563	18	May 30, 1958	-	1.95	1,410	1.88	1,360
1959	1633	1.0	Sept. 15, 1959	0	.13	94	.08	57.7
1960	1713	2.5	June 10, 1960	0	.21	154	-	-

a Maximum recorded.

b Figures of daily discharge for water year 1957 were inadvertently published in daily table for Castle Creek near Moab, Utah, and vice versa.

1825. Castle Creek near Moab, Utah

Location.--Lat 38°40'45", long 109°26'55", in NE $\frac{1}{4}$ sec.35, T.24 S., R.22 E., on right bank at downstream side of highway bridge, half a mile upstream from mouth and $\frac{3}{8}$ miles northeast of Moab.

Drainage area.--53.1 sq mi.

Records available.--July 1950 to September 1955, May 1957 to September 1958.

Gage.--Water-stage recorder. Altitude of gage is 4,060 ft (from river-profile map).

Average discharge.--6 years (1950-55, 1957-58), 5.25 cfs (3,800 acre-ft per year).

Extremes.--1950-55, 1957-58: Maximum discharge, 11,000 cfs Aug. 13, 1954 (gage height, 16.9 ft, from floodmark), from rating curve extended above 15 cfs on basis of slope-area measurements at gage heights 4.45, 10.35, and 16.9 ft; no flow for several days in most years.

Remarks.--Small diversions above station for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	0.86	3.92	-
1951	4.63	6.41	6.69	6.78	8.07	6.45	0.66	3.13	0.94	0.15	6.65	2.24	4.39
1952	2.99	8.42	5.71	8.29	7.07	7.73	7.72	3.45	2.99	.15	.88	2.44	4.80
1953	3.07	4.32	7.31	8.03	8.10	6.55	5.05	.10	.08	1.07	3.67	.72	3.99
1954	3.16	7.77	7.95	7.21	7.59	5.95	2.89	.17	.23	.85	20.5	6.33	5.88
1955	5.33	8.09	9.28	8.78	10.7	14.9	7.33	2.69	.03	.48	3.49	1.34	6.02
1956	-	-	-	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	8.14	2.73	34.0	6.13	-
1958	7.98	11.8	8.30	8.32	8.91	8.13	9.01	4.92	3.00	.17	2.09	4.64	6.41
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	53	233	-
1951	285	381	412	417	446	397	39	195	56	9.3	409	133	3,180
1952	184	501	351	510	407	475	459	212	178	9.1	54	145	3,490
1953	189	257	450	493	450	403	300	6.3	4.8	66	228	43	2,890
1954	195	463	469	444	410	366	172	11	13	52	1,280	377	4,250
1955	328	481	569	540	597	919	436	168	1.6	29	214	90	4,360
1956	-	-	-	-	-	-	-	-	484	168	2,090	365	-
1957	-	-	-	-	-	-	-	-	179	10	128	276	-
1958	491	701	510	512	495	500	536	302	-	-	-	-	4,640
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	a539	Sept. 19, 1950	-	-	-	-	-
1951	1213	4,360	Aug. 29, 1951	0.1	4.39	3,180	4.33	3,140
1952	1243	174	Aug. 21, 1952	0	4.80	3,490	4.61	3,350
1953	1285	230	July 30, 1953	0	3.99	2,890	4.34	3,140
1954	1343	11,000	Aug. 13, 1954	0	5.88	4,250	6.20	4,480
1955	1393	552	Aug. 25, 1955	0	6.02	4,360	-	-
1956	-	-	-	-	-	-	-	-
1957	b1513	5,000	Aug. 5, 1957	-	-	-	-	-
1958	1563	187	Nov. 4, 1957	.1	6.41	4,640	-	-
1959	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-

a Maximum recorded.

b The figures of daily discharge for water year 1957 were inadvertently published in daily table for Castle Creek above diversions, near Moab, Utah, and vice versa.

1829. Courthouse Wash at Arches Highway Crossing, near Moab, Utah

Location.--Lat 38°38'55", long 109°35'55", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.9, T.25 S., R.21 E., on left bank under bridge on access road into Arches National Monument, $\frac{5}{8}$ miles upstream from mouth and $\frac{5}{8}$ miles northwest of Moab.

Drainage area.--143 sq mi (revised).

Records available.--October 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,100 ft (from topographic map).

Extremes.--1958-60: Maximum discharge, 514 cfs Aug. 6, 1959 (gage height, 3.19 ft, from floodmarks), from rating curve extended above 3 cfs on basis of slope-area measurement of peak flow; no flow for many days in each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	0	0	0.06	0.003	0.12	0.18	0.03	0	0	0	2.70	0.95	0.34
1960	.39	0	.30	.52	.85	.26	.06	.18	0	0	.26	.90	.31

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	0	0	3.8	0.2	6.7	11	1.8	0	0	0	166	57	246
1960	24	0	18	32	49	16	3.8	11	0	0	16	54	224

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1959	1713	514	Aug. 6, 1959	0	0.34	246	0.39	285
1960	1713	181	Sept. 6, 1960	0	.31	224	-	-

1830. Courthouse Wash near Moab, Utah

Location.--Lat 38°36'45", long 109°34'54", in SE $\frac{1}{4}$ sec.22, T.25 S., R.21 E., on left bank three-quarters of a mile upstream from mouth and 3 miles northwest of Moab.

Drainage.--162 sq mi (revised).

Records available.--October 1949 to September 1955, April to September 1957.

Gage.--Water-stage recorder. Altitude of gage is 3,980 ft (from river-profile map).

Average discharge.--6 years (1949-55), 1.78 cfs (1,290 acre-ft per year).

Extremes.--1949-55, 1957: Maximum discharge, 12,300 cfs Aug. 5, 1957 (gage height, 9.38 ft), from rating curve extended above 500 cfs on basis of slope-area measurement of peak flow; no flow at times.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	7.16	0.43	0.84	0.40	1.69	0.55	0.15	1.99	0.10	3.98	0.09	10.6	2.33
1951	.16	.20	.28	.40	.71	.38	1.36	.28	.11	.13	6.05	.11	.85
1952	.33	.77	7.84	10.2	.80	1.02	.43	.13	.07	.06	2.11	.30	2.02
1953	.13	.20	.23	.61	.50	.40	.39	.72	.04	4.23	16.7	.08	2.05
1954	6.49	2.44	.47	1.14	.66	2.04	1.01	1.40	.08	.11	3.12	3.18	1.86
1955	3.57	8.25	.35	.24	.87	1.47	.27	.95	.10	.23	2.47	.13	1.57
1956	-	-	-	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	4.84	.1	1.66	54.1	.12	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	440	26	52	25	94	34	9.1	122	6.1	24.5	5.4	632	1,690
1951	9.9	12	17	25	39	24	81	17	6.5	7.9	372	6.3	618
1952	20	46	482	624	46	63	25	8.1	4.2	4.0	130	18	1,470
1953	7.9	12	14	37	28	24	23	44	2.6	260	1,020	5.0	1,480
1954	399	145	29	70	37	125	60	86	4.6	6.7	192	189	1,340
1955	220	491	21	14	48	90	16	59	6.0	14	152	7.7	1,140
1956	-	-	-	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	297	6.0	102	3,330	6.9	-

Yearly discharge, in cubic feet per second, of Courthouse Wash near Moab, Utah

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	1513	1,810	Sept. 19, 1950	0	2.33	1,690	-	-
1951	1513	902	Aug. 29, 1951	0	.85	618	1.56	1,130
1952	1513	630	Jan. 18, 1952	0	2.02	1,470	1.32	956
1953	1513	3,140	Aug. 27, 1953	0	2.05	1,480	2.79	2,020
1954	1513	2,420	Aug. 13, 1954	0	1.86	1,340	2.08	1,500
1955	1513	1,700	Nov. 13, 1954	0	1.57	1,140	-	-
1956								
1957	1513	212,300	Aug. 5, 1957	-	-	-	-	-

a Period April to September.

1835. Mill Creek at Sheley tunnel, near Moab, Utah

Location.--Lat 38°29'00", long 109°24'25", in E $\frac{1}{2}$ sec. 5, T. 27 S., R. 23 E., on left bank 9 miles southeast of Moab.

Drainage area.--27.4 sq mi.

Records available.--October 1954 to September 1959.

Gage.--Water-stage recorder. Altitude of gage is 5,400 ft (from topographic map).

Average discharge.--5 years (1954-59), 11.4 cfs (8,250 acre-ft per year).

Extremes.--1954-59: Maximum discharge, 204 cfs Aug. 30, 1957 (gage height, 3.97 ft), from rating curve extended above 96 cfs on basis of logarithmic plotting; minimum recorded, 2.1 cfs Apr. 5, 1955.

Remarks.--Small diversion for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	7.41	4.44	4.30	4.88	4.61	5.07	7.59	21.6	15.9	10.0	9.37	6.60	8.52
1956	5.15	4.58	4.79	4.96	4.48	5.02	6.71	11.9	10.9	7.46	5.72	5.40	6.43
1957	4.84	3.89	5.01	4.60	4.89	4.88	7.44	23.1	67.9	33.7	16.3	12.7	15.8
1958	12.1	9.49	8.79	8.06	7.41	6.87	22.2	70.5	49.0	15.6	12.9	11.6	19.6
1959	8.28	6.94	6.97	6.16	5.83	6.17	8.24	10.3	7.08	5.32	5.77	5.00	6.84

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	455	264	265	300	256	312	452	1,330	948	615	576	393	6,170
1956	317	273	295	305	257	308	399	734	646	459	351	321	4,660
1957	298	231	308	283	272	300	443	1,420	4,040	2,070	1,000	756	11,420
1958	747	565	540	495	412	423	1,320	4,330	2,920	960	793	689	14,190
1959	509	413	429	379	324	379	490	632	421	327	355	298	4,960

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1955	1513	112	Oct. 7, 1954	3.1	8.52	6,170	8.38	6,070
1956	1513	118	July 31, 1956	3.3	6.43	4,660	6.36	4,620
1957	1513	204	Aug. 30, 1957	2.8	15.8	11,420	17.2	12,440
1958	1563	116	Sept. 12, 1958	5.1	19.6	14,190	18.9	13,690
1959	1633	171	Aug. 19, 1959	4.4	6.84	4,960	-	-

TRIBUTARIES BETWEEN DOLORES RIVER AND GREEN RIVER

1840. Mill Creek near Moab, Utah

Location.--Lat 38°33'50", long 109°30'35", in SE $\frac{1}{4}$ sec.5, T.26 S., R.22 E., on left bank 800 ft downstream from North Fork, 2 miles southeast of Moab, and 4 miles upstream from mouth.

Drainage area.--74.8 sq mi (revised).

Records available.--October 1914 (fragmentary); November 1914, February to September 1915; October to November 1915, February to March 1916, June 1916 to June 1917, and April to July 1918 (fragmentary); April to July 1919, July 1949 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,250 ft (by barometer). Prior to Apr. 28, 1918, staff gage and Apr. 28, 1918, to Aug. 2, 1919, water-stage recorder, in vicinity of present site at various datums.

Average discharge.--11 years (1949-60), 14.3 cfs (10,350 acre-ft per year).

Extremes.--1949-60: Maximum discharge, about 5,110 cfs Aug. 21, 1953, from rating curve extended above 700 cfs on basis of slope-area measurements at gage heights 8.24, 8.62, 9.81, and 11.1 ft and logarithmic plotting; maximum gage height, 11.1 ft Aug. 5, 1957; minimum discharge, 3.5 cfs Mar. 7, 1956.

Remarks.--Small diversions near headwaters for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7.43	8.17	7.24	8.07	7.85	6.77	8.68	12.7	11.6	8.09	25.3	7.90	10.0
1952	8.10	7.51	10.1	9.43	8.05	9.39	41.9	76.5	59.4	20.8	18.4	14.3	23.6
1953	10.1	9.47	9.90	9.56	9.04	10.0	13.0	22.7	27.2	16.5	19.5	9.74	13.9
1954	13.3	9.77	8.99	8.92	8.83	9.10	11.3	14.2	10.5	8.63	10.1	12.2	10.5
1955	10.7	8.29	8.51	8.5	9.26	9.67	11.7	25.9	20.6	11.1	10.4	7.68	11.9
1956	7.02	7.15	8.15	8.96	8.83	8.39	9.76	14.3	11.5	8.46	9.89	6.41	9.08
1957	6.92	7.56	8.70	9.05	9.06	8.47	12.8	32.1	72.2	36.0	22.6	13.5	19.9
1958	19.9	13.7	11.8	10.6	14.8	12.4	32.0	68.2	44.0	15.4	14.2	16.3	22.8
1959	11.4	12.6	10.6	10.5	9.97	9.48	10.9	12.8	8.35	6.20	7.62	6.35	9.74
1960	7.08	7.04	8.58	7.46	9.99	8.80	13.0	19.9	20.4	9.92	11.8	7.08	10.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	457	486	445	496	436	416	516	783	692	497	1,560	470	7,250
1952	498	447	620	580	463	578	2,490	4,690	3,480	1,280	1,130	853	17,110
1953	620	564	609	589	502	615	773	1,400	1,620	1,020	1,200	579	10,090
1954	817	581	553	548	491	559	672	871	626	531	621	725	7,600
1955	659	493	523	523	515	595	695	1,590	1,230	685	642	457	8,610
1956	432	426	501	551	508	516	581	879	687	520	608	381	6,590
1957	425	450	535	557	503	521	761	1,970	4,300	2,210	1,390	801	14,420
1958	1,220	815	726	650	823	765	1,900	4,190	2,620	944	871	968	16,490
1959	700	750	653	647	554	583	647	790	497	381	469	378	7,050
1960	435	419	527	459	574	541	776	1,230	1,210	610	727	421	7,950

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	13.6	-	9,640
1951	1213	2,940	Aug. 29, 1951	5.7	10.0	7,250	10.3	-	7,430
1952	1243	202	July 29, 1952	5.6	23.6	17,110	23.9	-	17,340
1953	1263	5,110	Aug. 21, 1953	7.3	13.9	10,090	14.1	-	10,250
1954	1343	2,080	Aug. 13, 1954	5.7	10.5	7,600	10.1	-	7,320
1955	1393	163	Nov. 12, 1954	-	11.9	8,610	11.4	-	8,290
1956	1443	257	Aug. 15, 1956	4.8	9.08	6,590	9.15	-	6,640
1957	1513	4,450	Aug. 5, 1957	6.2	19.9	14,420	21.8	-	15,770
1958	1563	1,080	Sept. 12, 1958	8.4	22.8	16,490	21.9	-	15,850
1959	1633	228	Aug. 19, 1959	4.7	9.74	7,050	8.74	-	6,350
1960	1713	212	July 31, 1960	5.3	10.9	7,950	-	-	-

1845. Pack Creek at M4 Ranch, near Moab, Utah

Location.--Lat 38°26'10", long 109°21'15", in SE $\frac{1}{4}$ sec.23, T.27 S., R 23 E., on left bank half a mile upstream from M4 Ranch and 14 miles southeast of Moab.

Drainage area.--15.8 sq mi.

Records available.--October 1954 to September 1959.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 6,140 ft (from topographic map).

Average discharge.--5 years (1954-59), 2.54 cfs (1,840 acre-ft per year).

Extremes.--1954-59: Maximum discharge, 1,200 cfs July 26, 1955 (gage height, 9.02 ft), from rating curve extended above 80 cfs on basis of slope-area measurement of peak flow; minimum daily, 0.3 cfs Sept. 2, 4, 1956.

Remarks.--Small diversion for irrigation above station.

Monthly and yearly mean discharge, in cubic fee. per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	0.97	0.79	0.70	0.67	0.79	0.98	1.08	4.19	3.07	3.07	1.56	0.79	1.56
1956	.74	.80	.73	.72	.68	.68	.62	.77	.62	.51	.50	.40	.65
1957	.49	.51	.47	.50	.61	.70	.69	1.96	37.5	8.05	2.29	1.54	4.58
1958	1.39	1.13	.97	.79	1.06	1.07	3.53	30.9	13.8	2.91	1.45	1.14	5.04
1959	.90	1.08	.98	.88	.98	1.00	1.00	.92	.89	.68	.60	.63	.88

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	60	47	43	41	44	60	64	258	182	189	96	47	1,130
1956	46	47	45	44	39	42	37	47	37	31	31	24	470
1957	30	31	29	31	34	43	41	120	2,230	495	141	92	3,320
1958	85	67	60	49	59	66	210	1,900	820	179	89	68	3,650
1959	56	64	60	54	53	61	60	57	53	42	37	37	634

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1955	1513	1,200	July 26, 1955	0.5	1.56	1,130	1.54	1,120	
1956	1513	10	July 31, 1956	.3	.65	470	.58	422	
1957	1513	118	June 10, 1957	.4	4.58	3,320	4.75	3,440	
1958	1563	47	May 24, 1958	-	5.04	3,650	4.99	3,620	
1959	1633	4.8	Sept.16, 1959	.4	.88	634	-	-	

1850. Pack Creek near Moab, Utah

Location.--Lat 38°32'25", long 109°30'00", in SW $\frac{1}{4}$ sec.16, T.26 S., R.22 E., on left bank 3.5 miles southeast of Moab.

Drainage area.--57.4 sq mi (revised).

Records available.--October 1954 to September 1959.

Gage.--Water-stage recorder and concrete control.

Average discharge.--5 years (1954-59), 4.02 cfs Oct. 8, 1954 (gage height, 4.05 ft), from rating curve extended above 60 cfs on basis of slope-area measurement of peak flow; minimum, 0.7 cfs Aug. 27, 1956.

Remarks.--Several diversions for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	4.34	3.93	4.34	4.19	5.61	5.76	3.86	3.09	2.47	1.88	2.17	1.81	3.61
1956	2.41	3.49	3.93	4.31	4.45	3.79	3.09	2.93	2.42	1.70	2.08	1.55	3.01
1957	2.25	3.11	3.10	3.15	3.32	3.34	3.13	3.38	24.3	3.89	2.96	2.63	4.86
1958	4.86	3.68	3.73	3.90	4.05	3.91	4.77	22.3	12.0	1.51	1.46	1.88	5.69
1959	2.48	3.08	3.67	3.95	4.42	4.16	3.94	2.98	1.86	1.48	1.56	1.69	2.93

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	267	234	267	258	311	354	229	190	147	116	133	108	2,610
1956	146	208	242	265	256	233	184	180	144	104	128	92	2,180
1957	136	185	191	194	184	205	186	208	1,450	239	182	157	3,520
1958	299	219	229	240	225	241	284	1,370	713	93	90	112	4,120
1959	153	183	226	243	245	256	235	183	111	91	96	101	2,120

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1955	1393	510	Oct. 8, 1954	1.2	3.61	2,610	3.38	2,440	
1956	1443	177	Aug. 15, 1956	1.2	3.01	2,180	2.89	2,100	
1957	1513	390	Aug. 30, 1957	1.7	4.86	3,520	5.18	3,750	
1958	1563	151	Oct. 21, 1957	1.1	5.69	4,120	5.43	3,950	
1959	1633	6.2	Feb. 12, 1959	1.4	2.93	2,120	-	-	

1855. Hatch Wash near La Sal, Utah

Location.--Lat 38°14'35", long 109°26'25", in SW¹/₄ sec.30, T.29 S., R.23 E., on right bank 10 miles southwest of La Sal.

Drainage area.--378 sq mi.

Records available.--July 1950 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,500 ft (from topographic map).

Average discharge.--10 years (1950-60), 1.79 cfs (1,300 acre-ft per year).

Extremes.--1950-60: Maximum discharge, 3,210 cfs Aug. 4, 1959 (gage height, 6.43 ft, from high-water mark), from rating curve extended above 280 cfs on basis of velocity-area studies at gage heights 2.76 and 2.93 ft and slope-area measurement of peak flow; no flow for many days in each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	0.09	3.15	-
1951	0.03	0.07	0.06	0.10	0.45	0.25	0.04	0.02	0.007	0.01	12.8	.04	1.18
1952	.03	.03	.13	.42	.44	22.5	25.2	.04	.02	.12	2.11	.05	4.26
1953	.06	.10	.09	.21	.31	.12	.13	.09	.003	.32	1.08	.04	.21
1954	.17	.14	.06	.14	.19	.11	.07	.03	0	.07	.18	1.75	.24
1955	4.26	.22	.11	.10	.22	5.45	.20	.06	.04	.02	.61	0	.96
1956	0	.04	.07	.10	.08	.09	.03	.20	0	.63	.41	0	.14
1957	.02	.07	.10	.10	5.48	.11	.18	.37	.05	10.4	14.6	.09	2.63
1958	10.6	.76	.17	.05	6.18	.46	.29	.14	.02	0	0	.59	1.58
1959	.26	.06	.04	.12	.10	.10	.12	.03	0	.003	32.9	.83	2.94
1960	.03	0	.09	.12	.14	44.0	.12	.07	.10	0	.21	0	3.80

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	5.6	187	-
1951	1.8	4.2	3.8	6.0	25	15	2.6	1.2	0.4	.08	789	2.2	852
1952	1.8	2.0	7.9	26	25	1,380	1,500	2.6	1.0	7.5	130	3.2	3,090
1953	4.0	6.0	5.8	13	17	7.3	7.5	5.6	.2	20	66	2.4	155
1954	10	8.1	4.0	8.7	10	6.5	4.4	1.6	0	4.6	11	104	173
1955	262	13	6.9	6.1	12	335	12	3.8	2.2	1.0	37	0	691
1956	0	2.4	4.6	6.0	4.8	5.4	1.8	12	0	38	25	0	100
1957	1.2	4.4	6.0	6.1	304	6.9	11	23	3.2	640	896	5.4	1,910
1958	654	45	10	3.4	343	28	17	8.5	1.4	0	0	35	1,150
1959	16	3.8	2.6	7.3	5.8	6.1	7.1	1.6	0	.2	2,020	50	2,120
1960	1.6	0	5.6	7.5	7.9	2,710	7.1	4.6	6.0	0	13	0	2,760

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	1513	5728	Sept. 20, 1950	0	-	-	-	-
1951	1513	574	Aug. 30, 1951	0	1.18	852	1.18	854
1952	1513	1,100	Mar. 30, 1952	0	4.26	3,090	4.26	3,090
1953	1513	157	July 31, 1953	0	.21	155	.22	161
1954	1513	61	Sept. 8, 1954	0	.24	173	.60	433
1955	1513	574	(b)	0	.96	691	.58	416
1956	1513	253	July 31, 1956	0	.14	100	.15	105
1957	1513	640	July 18, 1957	0	2.63	1,910	3.60	2,600
1958	1563	497	Nov. 3, 1957 ^a	0	1.58	1,150	.63	459
1959	1633	3,210	Aug. 4, 1959	0	2.94	2,120	2.91	2,110
1960	1713	462	Mar. 22, 1960	0	3.80	2,760	-	-

a Maximum recorded.

b Between Mar. 10 and 24, 1955.

c About.

1858. Indian Creek tunnel near Monticello, Utah

Location.--Lat 37°50'30", long 109°30'20", in sec.9, T.34 S., R.22 E. (unsurveyed), on left bank 200 ft downstream from headgate, 500 ft upstream from tunnel entrance, and 9 miles southwest of Monticello.

Records available.--October 1957 to September 1959, June to September 1960 (fragmentary, monthly discharge only).

Gage.--Water-stage recorder and Cippoletti weir. Altitude of gage is 9,120 ft (from topographic map).

Extremes.--1957-60: Maximum daily discharge, 17 cfs June 6, 1958; no flow for several days in 1958-59.

Remarks.--Water is diverted from Indian Creek to San Juan River basin for domestic use and irrigation in vicinity of Blanding.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	76	68	49	32	33	48	70	119	493	119	52	38	1,200
1959	21	33	24	12	5.6	11	57	73	78	31	25	13	384
1960	-	-	-	-	-	-	-	-	+433	+71	+40	+31	-

* Not previously published.

1860. Indian Creek near Monticello, Utah

Location.--Lat 37°50'40", long 109°31'05", in SW $\frac{1}{4}$ sec.4, T.34 S., R.22 E. (unsurveyed), on left bank 1 mile northwest of Indian Creek guard station and 10 miles west of Monticello.

Drainage area.--4.70 sq mi (revised).

Records available.--October 1949 to September 1957.

Gage.--Water-stage recorder. Altitude of gage is 8,700 ft (from topographic map).

Average discharge.--8 years (1949-57), 2.88 cfs (2,090 acre-ft per year).

Extremes.--1949-57: Maximum discharge, 122 cfs Aug. 6, 1955 (gage height, 2.74 ft), from rating curve extended above 50 cfs on basis of logarithmic plotting; no flow for several days in September, October, and November 1956.

Remarks.--A tunnel diverts water about 1 mile above station (diversion began June 1952) to San Juan River basin for domestic use and irrigation in the vicinity of Blanding.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.55	0.33	0.35	0.3	0.3	0.35	0.97	4.78	4.68	1.30	0.91	1.19	1.34
1952	.82	.57	.40	.30	.30	.50	5.95	45.1	26.5	3.95	1.21	.42	7.19
1953	.31	.20	.2	.2	.2	.26	2.24	5.34	5.00	.83	.47	.23	1.29
1954	.20	.14	.1	.1	.1	.2	3.93	10.8	1.97	.47	.20	.44	1.57
1955	.77	.23	.22	.1	.1	.2	5.99	15.6	6.38	1.15	2.54	.40	2.82
1956	.24	.35	.35	.35	.2	.29	1.53	3.45	2.25	.43	.31	.08	.82
1957	.05	.08	.1	.1	.1	.1	1.24	10.8	36.7	4.64	1.83	.49	4.67

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	34	20	22	18	17	22	58	294	278	80	56	71	970
1952	50	34	25	18	17	31	354	2,770	1,580	243	74	25	5,220
1953	19	12	12	12	11	16	133	328	298	51	29	14	935
1954	12	8.5	6.1	6.1	5.6	12	234	663	117	29	12	26	1,130
1955	47	14	14	6.1	5.6	12	356	957	379	71	156	24	2,040
1956	14	21	22	21	12	18	91	212	134	26	19	5.0	595
1957	3.4	4.8	6.1	6.1	5.6	6.1	74	663	2,180	285	112	29	3,380

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	3.08	2,220	
1951	1213	20	Aug. 29, 1951	-	1.34	970	1.38	1,000	
1952	1243	108	June 3, 1952	-	7.19	5,220	7.10	5,160	
1953	1283	12	May 24, 1953	-	1.29	935	1.27	919	
1954	1343	19	May 22, 1954	-	1.57	1,130	1.63	1,180	
1955	1393	122	Aug. 6, 1955	-	2.82	2,040	2.80	2,020	
1956	1443	17	Aug. 15, 1956	0	.82	595	.76	552	
1957	1513	62	June 11, 1957	0	4.67	3,380	-	-	

1865. Indian Creek above Cottonwood Creek, near Monticello, Utah

Location.--Lat 37°58'30", long 109°31'05", in SE $\frac{1}{4}$ sec.21, T.32 S., R.22 E., on right bank 8 miles upstream from Cottonwood Creek and 12 miles northwest of Monticello.

Drainage area.--31.2 sq mi.

Records available.--October 1949 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,290 ft (by barometer).

Average discharge.--11 years (1949-60), 4.76 cfs (3,450 acre-ft per year).

Extremes.--1949-60: Maximum discharge, 582 cfs July 20, 1955 (gage height, 8.15 ft), from rating curve extended above 82 cfs on basis of slope-area measurements at gage heights 5.55 and 8.15 ft; no flow for all or part of many days in some years.

Remarks.--Indian Creek tunnel diverts water above station to San Juan River basin for irrigation and municipal supply (see p. 187).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.34	1.35	1.18	0.92	0.80	0.89	1.77	6.88	5.87	1.15	1.53	1.46	2.10
1952	1.20	.93	.76	.89	.97	1.16	18.6	64.5	39.5	7.19	3.06	1.15	11.7
1953	1.29	1.39	1.03	1.08	1.19	1.08	3.59	7.73	7.79	1.14	1.20	.47	2.42
1954	.87	1.09	.98	.45	.36	.72	5.52	15.8	4.38	.97	.45	1.78	2.80
1955	1.41	1.13	1.02	.9	.9	1.77	6.72	24.0	12.9	2.44	3.39	.62	4.80
1956	.69	.72	.59	.51	.73	.72	2.25	6.33	3.00	.50	.39	.12	1.38
1957	.44	.51	.41	1.41	.48	.22	3.42	20.1	55.0	7.64	3.10	1.03	7.70
1958	2.75	5.83	1.00	1.22	.98	1.52	12.5	60.7	22.9	2.37	1.05	1.40	9.41
1959	1.18	1.61	.74	.62	.51	.66	2.07	2.77	.92	.11	.19	.08	.96
1960	.29	.29	.32	.35	.29	.95	8.03	15.7	11.2	.85	1.17	.86	3.36

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	83	81	71	57	44	55	106	423	349	71	94	87	1,520
1952	74	55	47	55	56	71	1,100	3,970	2,350	442	188	68	8,480
1953	80	83	63	66	66	67	214	475	464	70	74	28	1,750
1954	54	65	60	27	20	44	328	973	261	60	28	106	2,030
1955	87	67	63	55	50	109	400	1,480	770	150	208	37	3,480
1956	42	43	36	31	42	44	134	389	179	31	24	6.9	1,000
1957	27	30	25	25	27	13	204	1,230	3,270	469	191	61	5,570
1958	169	228	61	75	55	94	743	3,730	1,360	146	65	84	6,810
1959	73	96	45	38	28	41	123	170	55	6.7	12	4.6	692
1960	18	17	19	21	16	59	478	968	667	52	72	51	2,440

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	5.23	3,790
1951	1213	179	July 27, 1951	0.1	2.10	1,520	2.02	1,460
1952	1243	293	July 10, 1952	-	11.7	8,480	11.7	8,530
1953	1283	63	July 30, 1953	-	2.42	1,750	2.35	1,700
1954	1343	53	Sept. 25, 1954	0	2.80	2,030	2.85	2,060
1955	1393	582	July 20, 1955	-	4.80	3,480	4.66	3,380
1956	1443	107	July 28, 1956	.1	1.38	1,000	1.33	963
1957	1513	138	June 10, 1957	-	7.70	5,570	8.22	5,950
1958	1563	108	May 23, 1958	.4	9.41	6,810	9.07	6,570
1959	1633	18	Nov. 12, 1958	0	.96	692	.74	532
1960	1713	62	Aug. 23, 1960	.1	3.36	2,440	-	-

1870. Cottonwood Creek near Monticello, Utah

Location.--Lat 38°03'45", long 109°34'25", in SE $\frac{1}{4}$ sec.23, T.31 S., R.21 E., on left bank 1 mile upstream from mouth and 18 miles northwest of Monticello.

Drainage area.--115 sq mi.

Records available.--October 1949 to September 1957.

Gage.--Water-stage recorder and control of bedrock capped with concrete. Altitude of gage is 5,340 ft (from topographic map).

Average discharge.--8 years (1949-57), 3.10 cfs (2,240 acre-ft per year).

Extremes.--1949-57: Maximum discharge, 2,140 cfs July 10, 1953 (gage height, 6.00 ft); no flow for some days in most years.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	3.32	2.25	2.83	2.50	3.12	2.76	2.98	2.79	3.00	1.44	0.65	1.03	2.34
1951	1.21	1.96	1.15	2.95	5.16	2.79	2.55	2.56	.54	.57	4.67	.25	2.18
1952	1.19	2.06	1.44	3.15	3.50	3.69	26.2	17.2	13.6	4.16	3.42	1.44	6.73
1953	1.83	2.42	3.07	3.64	2.88	3.24	2.78	2.23	1.90	4.00	3.23	.67	2.66
1954	2.55	2.75	2.51	2.28	2.24	1.87	3.51	4.92	1.62	.91	.99	1.76	2.33
1955	1.65	1.90	2.61	2.58	2.43	4.44	3.98	4.29	4.95	.95	5.47	.34	2.97
1956	.85	1.77	1.62	2.35	2.38	2.04	1.69	1.96	.16	.73	3.92	.07	1.64
1957	.42	1.20	1.23	1.69	2.83	2.37	4.33	7.96	11.3	5.70	7.21	1.05	3.95
1958													
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	204	134	143	154	173	170	178	172	179	88	40	61	1,700
1951	75	116	71	181	287	172	152	158	32	35	287	15	1,580
1952	73	122	88	193	201	227	1,580	1,060	810	256	210	86	4,890
1953	113	144	189	224	169	199	165	137	113	246	198	40	1,950
1954	157	164	154	140	125	115	209	302	97	56	81	105	1,880
1955	101	113	161	159	135	273	237	264	295	58	336	20	2,150
1956	52	105	100	144	137	125	101	120	9.7	45	241	4.0	1,180
1957	26	71	76	104	157	146	257	490	674	350	443	63	2,860
1958													
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	a30	Oct. 19, 1949	0.3	2.34	1,700	2.04	1,480
1951	1513	1,520	Aug. 29, 1951	0	2.18	1,580	2.21	1,600
1952	1513	112	Jan. 18, 1952	.5	6.73	4,890	6.95	5,050
1953	1513	2,140	July 10, 1953	.1	2.66	1,930	2.70	1,960
1954	1513	78	Sept. 12, 1954	0	2.33	1,680	2.19	1,580
1955	1513	167	Aug. 16, 1955	0	2.97	2,150	2.81	2,030
1956	1513	236	May 22, 1956	0	1.64	1,180	1.52	1,100
1957	1513	766	July 17, 1957	0	3.95	2,860	-	-
1958								
1959								
1960								

a Maximum daily.

1885. Green River at Warren Bridge, near Daniel, Wyo.

Location.--Lat 43°01'00", long 110°07'20", in sec.8, T.35 N., R.111 W., on left bank 100 ft upstream from bridge on U. S. Highways 187 and 189, 3 miles upstream from Beaver Creek, and 12 miles north of Daniel.

Drainage area.--468 sq mi.

Records available.--October 1931 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 7,468.09 ft above mean sea level, datum of 1929.

Average discharge.--29 years (1931-60), 502 cfs (363,400 acre-ft per year).

Extremes.--1931-60: Maximum discharge, 4,460 cfs June 29, 1954; maximum gage height, 5.56 ft June 17, 1959; minimum discharge recorded, 31 cfs Nov. 26, 1933 (gage height, 0.70 ft), from rating curve extended below 120 cfs.

Remarks.--Diversion above station for irrigation of about 6,900 acres. (For details on adjudication of diversions, see Remarks for this station in WSP 1243.)

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	275	177	158	147	146	159	287	1,605	1,998	1,808	919	372	675
1952	270	204	167	150	149	150	517	1,333	1,631	1,050	625	297	546
1953	180	113	98.9	102	90.4	101	291	588	2,231	1,384	514	240	495
1954	145	114	98.6	95	100	105	195	1,724	1,585	1,564	490	273	544
1955	137	128	111	88.6	85.9	112	217	808	1,549	935	451	218	405
1956	143	103	111	101	98.8	141	447	1,811	2,853	1,338	579	239	664
1957	168	146	130	110	120	130	180	1,064	2,212	1,890	774	371	611
1958	260	174	140	105	100	97.6	235	1,360	1,409	587	418	267	431
1959	148	132	130	100	110	110	219	669	2,417	1,042	537	251	489
1960	207	144	105	85	105	105	246	587	1,290	667	374	257	348

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	16,920	10,520	9,690	9,020	8,090	9,760	17,090	98,680	118,900	111,200	56,530	22,120	488,500
1952	16,590	12,170	10,280	9,250	8,600	9,190	30,770	81,940	97,060	64,530	38,410	17,650	396,400
1953	11,070	6,730	6,080	6,260	5,020	6,210	17,340	36,180	32,800	85,080	31,610	14,290	358,700
1954	8,920	6,780	6,060	5,840	5,580	6,460	11,600	106,000	94,300	96,180	30,150	16,260	394,100
1955	8,440	7,590	6,810	5,450	4,770	6,910	12,940	49,670	92,190	57,500	27,750	12,940	292,900
1956	8,790	6,120	6,800	6,190	5,680	8,690	26,600	111,300	169,800	82,270	35,620	14,240	482,100
1957	10,330	8,660	7,990	6,760	6,660	7,990	10,710	65,420	131,600	116,200	47,590	22,080	442,000
1958	15,970	10,380	8,590	6,450	5,550	6,000	13,980	83,650	83,870	36,080	25,670	15,910	312,100
1959	9,080	7,840	7,990	6,150	6,110	6,780	13,030	41,140	143,800	64,070	33,030	14,930	353,900
1960	12,710	8,540	6,460	5,230	6,040	6,460	14,640	36,120	76,770	41,030	23,030	15,320	252,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	647	468,700
1951	1213	3,180	June 19, 1951	92	675	488,500	677	490,400
1952	1243	2,960	June 9, 1952	135	546	396,400	525	381,300
1953	1283	4,080	June 16, 1953	84	495	358,700	492	356,600
1954	1343	4,460	June 29, 1954	-	544	394,100	546	395,200
1955	1393	2,280	June 25, 1955	70	405	292,900	405	291,800
1956	1443	4,030	June 3, 1956	50	664	482,100	671	487,400
1957	1513	3,720	June 7, 1957	-	811	442,000	622	450,000
1958	1563	2,430	May 27, 1958	-	431	312,100	417	302,100
1959	1633	4,420	June 17, 1959	-	489	353,900	493	356,700
1960	1710	1,730	June 5, 1960	-	348	252,400	-	-

1890. Beaver Creek near Daniel, Wyo.

Location.--Lat 43°00'20", long 110°08'30", in sec.18, T.35 N., R.111 W., on left bank at Hanson Ranch, half a mile downstream from forks, 1 mile upstream from mouth, 2 miles southwest of Warren Bridge, and 11 miles northwest of Daniel.

Drainage area.--141 sq mi.

Records available.--October 1938 to September 1954. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,440 ft (from topographic map).

Average discharge.--16 years (1938-54), 33.4 cfs (24,180 acre-ft per year).

Extremes.--1938-54: Maximum discharge, 1,540 cfs May 16, 1950 (gage height, 8.34 ft), from rating curve extended above 1,060 cfs; no flow at times in most years.

Remarks.--Water rights totaling 152.38 cfs (priorities 1897-1917) for irrigation of about 10,700 acres (part of which is above and part below station) adjudicated by Wyoming for diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11.7	19.1	20	18	13	16	198	346	198	31.8	40.4	17.6	77.6
1952	30.0	25.6	25	23	25	30	190	228	45.8	1.51	1.59	.55	52.2
1953	.46	8.70	13.4	14.5	15.6	16.5	77.7	112	49.9	.09	2.37	2.41	26.2
1954	2.84	6.76	7.21	7.98	10.9	11.5	130	111	21.1	.28	2.84	3.60	26.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	718	1,130	1,230	1,110	722	984	11,760	21,280	11,770	1,960	2,490	1,050	56,200
1952	1,850	1,520	1,540	1,410	1,440	1,840	11,330	13,990	2,730	93	98	33	37,870
1953	29	517	825	893	867	1,020	4,820	6,910	2,970	5.4	148	143	18,950
1954	175	402	443	491	607	708	7,730	6,820	1,250	16	162	214	19,020

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	77.6	-	56,200
1951	1213	726	May 12, 1951	7.5	77.6	56,200	80.1	58,040	
1952	1243	1,080	May 3, 1952	0	52.2	37,870	47.3	34,340	
1953	1283	348	May 6, 1953	0	26.2	18,950	25.7	18,590	
1954	1343	605	Apr. 28, 1954	0	26.3	19,020	-	-	

1895. Horse Creek at Sherman ranger station, Wyo.

Location.--Lat 42°56'40", long 110°23'20", in SW $\frac{1}{4}$ sec.6, T.34 N., R.113 W., on left bank half a mile east of Sherman ranger station, three-quarters of a mile downstream from Spring Creek, 5 $\frac{1}{2}$ miles upstream from South Horse Creek, and 17 miles southwest of Daniel.

Drainage area.--43.0 sq mi.

Records available.--October 1954 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 7,770.71 ft above mean sea level, datum of 1929.

Average discharge.--6 years (1954-60), 61.3 cfs (44,380 acre-ft per year).

Extremes.--1954-60: Maximum discharge, 1,860 cfs June 1, 1956 (gage height, 6.43 ft); minimum not determined.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	4.75	3.46	3.5	3.5	3.5	6.0	16	227	241	34.5	8.83	4.20	46.5
1956	5.07	5.05	4.5	4.0	45.0	6.0	77.6	491	540	46.8	7.58	4.77	99.7
1957	4.83	4.81	4.5	4.0	3.8	3.93	16.1	205	490	89.1	3.49	6.85	68.4
1958	4.59	3.10	2.5	2.5	3	4	8	370	228	22.9	7.72	3.93	55.3
1959	3.13	6.07	4.5	3	3.5	5.8	25.0	108	458	35.9	9.03	7.41	55.4
1960	12.4	4.58	4.25	4.01	3.5	5.53	25.7	182	234	24.3	6.39	4.36	42.5

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	292	206	215	215	194	369	952	13,960	14,360	2,120	543	250	33,680
1956	312	300	277	246	288	369	4,610	30,220	32,100	2,880	466	284	72,350
1957	297	286	277	246	211	242	960	12,600	29,170	5,480	214	407	50,390
1958	282	184	154	154	167	246	476	22,730	13,540	1,410	475	234	40,050
1959	192	361	276	184	192	357	1,490	6,650	27,230	2,170	555	441	40,100
1960	764	273	261	247	201	340	1,530	11,190	13,900	1,490	393	260	30,850

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1955	1393	850	June 7, 1955	-	46.5	33,680	46.7	33,860	
1956	1443	1,860	June 1, 1956	-	99.7	72,350	99.6	72,320	
1957	1513	1,260	June 7, 1957	-	68.4	50,390	69.3	50,150	
1958	1563	879	May 27, 1958	-	55.3	40,050	55.6	40,260	
1959	1633	1,780	June 16, 1959	-	55.4	40,100	56.0	40,570	
1960	1713	882	June 3, 1960	-	42.5	30,850	-	-	

1900. Horse Creek near Daniel, Wyo.

Location.--Lat 42°55'40", long 110°12'00", in SE $\frac{1}{4}$ sec.10, T.34 N., R.112 W., on left bank 8 miles northwest of Daniel.
Drainage area.--124 sq mi.
Records available.--October 1931 to September 1954. Monthly discharge only for some periods, published in WSP 1313.
Gage.--Water-stage recorder. Datum of gage is 7,350.15 ft above mean sea level, datum of 1929. Prior to Nov. 30, 1948, at site 350 ft downstream at datum 0.27 ft lower.
Average discharge.--23 years (1931-54), 63.7 cfs (46,120 acre-ft per year).
Extremes.--1931-54: Maximum discharge, 1,670 cfs May 31, 1936 (gage height, 3.53 ft, site and datum then in use), from rating curve extended above 800 cfs; maximum gage height, 4.42 ft May 29, 1951; minimum daily discharge, 1 cfs July 22, 23, 1940.
Remarks.--Water rights totaling about 232 cfs (priorities 1889-1937) for irrigation of about 16,300 acres (part of which is above and part below station) adjudicated by Wyoming for diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	22.4	24.4	20.0	19.4	22.4	20.9	157	471	502	136	72.4	30.2	125
1952	25.7	21	17	16	15	16	88.2	347	287	16.2	20.3	15.8	74.0
1953	12.9	12.0	12.3	13.3	15.5	17.3	48.7	81.3	362	30.5	19.0	8.55	52.5
1954	7.08	9.17	9.89	9.71	9.52	13.2	55.8	302	203	45.0	19.1	12.4	58.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,380	1,450	1,230	1,190	1,240	1,290	9,340	28,330	29,850	8,340	4,450	1,800	90,490
1952	1,580	1,250	1,050	984	863	1,110	5,250	21,370	17,090	999	1,250	940	53,740
1953	795	716	756	817	859	1,070	2,900	5,000	21,510	1,870	1,180	509	37,980
1954	435	546	608	597	529	813	3,320	18,540	12,090	2,770	1,180	736	42,160

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	110
1951	1213	1,230	May 29, 1951	16.	125	90,490	125
1952	1243	750	June 7, 1952	3.5	74.0	53,740	71.8
1953	1283	884	June 14, 1953	6.0	52.5	37,980	51.5
1954	1343	872	May 22, 1954	5.4	58.2	42,160	-

1915. Cottonwood Creek near Daniel, Wyo.

Location.--Lat 42°46'30", long 110°09'10", in sec.11, T.32 N., R.112 W., on right bank 1 $\frac{1}{2}$ miles downstream from confluence of North and South Cottonwood Creeks and 7 miles southwest of Daniel.
Drainage area.--202 sq mi.
Records available.--October 1938 to September 1954. Monthly discharge only for some periods, published in WSP 1313.
Average discharge.--16 years (1938-54), 69.7 cfs (50,460 acre-ft per year).
Extremes.--1938-54: Maximum discharge, 954 cfs May 30, 1951; maximum gage height, 6.75 ft June 19, 1946; no flow Aug. 19-22, 1940.
Remarks.--Water rights totaling 258.6 cfs (priorities 1899-1941) for irrigation of about 18,000 acres (part of which is above and part below station) adjudicated by Wyoming for diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	40.0	44.0	30	20	22	35	364	466	571	322	103	50.9	173
1952	55.6	37	30	32	35	33	193	298	273	63.3	44.0	26.8	35.3
1953	22.1	17.5	14.2	18.3	20.8	24.4	83.8	94.5	240	94.4	44.7	16.9	57.5
1954	16.5	17.5	12.6	5.58	5.38	16.0	82.9	188	160	85.1	23.8	17.8	52.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,460	2,620	1,840	1,230	1,220	2,150	21,680	28,680	33,950	19,810	6,350	3,030	125,000
1952	3,420	2,200	1,840	1,970	2,010	2,030	11,500	18,310	16,260	3,890	2,710	1,600	67,740
1953	1,360	1,040	871	1,120	1,150	1,500	4,990	5,810	14,260	5,800	2,750	1,010	41,660
1954	1,020	1,040	775	343	299	982	4,930	11,560	9,500	5,230	1,460	1,060	38,200

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	132
1951	1213	954	May 30, 1951	-	173	125,000	173
1952	1243	689	Apr. 27, 1952	21	93.3	67,740	87.5
1953	1283	393	June 19, 1953	12	57.5	41,660	56.9
1954	1343	459	May 22, 1954	4.7	52.8	38,200	-

1930. New Fork River below New Fork Lake, near Cora, Wyo.

Location.--Lat 43°05'00", long 110°00'30", in sec.20, T.36 N., R.110 W., on left bank 2 miles downstream from New Fork Lake and 9 miles north of Cora.

Drainage area.--36.2 sq mi.

Records available.--October 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Prior to October 1943, published as New Fork below New Fork Lake, near Cora.

Gage.--Water-stage recorder. Altitude of gage is 7,670 ft (from topographic map). Prior to Sept. 16, 1949, at site 70 ft downstream at same datum.

Average discharge.--22 years (1938-60), 50.1 cfs (36,270 acre-ft per year).

Extremes.--1938-60: Maximum discharge, 566 cfs June 21, 1959 (gage height, 5.56 ft); minimum daily, 0.1 cfs May 13, 1941, Sept. 20-22, 1950, when gates in dam at New Fork Lake were closed.

Remarks.--Flow regulated for irrigation by New Fork Lake (capacity, 45,900 acre-ft). No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	76.4	19.2	8.4	6.2	5.0	6.5	8.57	61.3	307	243	42.1	64.1	70.9
1952	73.0	13.3	9.0	8.5	8.0	7.5	7.74	76.9	285	189	13.3	13.1	56.7
1953	21.8	14.7	8.0	8.2	9.6	10	7.39	7.13	250	258	12.8	12.0	51.7
1954	25.8	15.8	6.70	3.1	3.3	3.5	4.42	60.3	237	235	12.5	20.5	52.6
1955	18.3	9.21	3.5	3.6	3.7	3.8	3.86	17.4	253	186	15.0	5.75	43.7
1956	4.26	4.65	5.0	5.5	6.0	6.5	7.0	14.2	340	263	36.3	56.6	62.3
1957	18.2	5.95	9.0	9.0	8.5	7.0	6.0	2.31	218	234	20.0	21.4	46.7
1958	21.1	12.4	7.94	7	7.5	7.5	8	75.1	310	180	3.25	27.6	55.6
1959	20.9	6.78	2.21	1.60	.5	.4	1.00	.74	263	247	18.2	9.36	47.7
1960	8.55	6.38	9	8	6	5	3.69	25.6	251	157	4.02	8.52	41.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,700	1,140	516	381	278	400	510	3,770	18,290	14,920	2,590	3,820	51,320
1952	4,490	790	553	523	460	461	461	4,730	16,980	11,600	819	778	42,640
1953	1,340	875	492	504	533	615	440	438	14,850	15,850	787	717	37,440
1954	1,580	942	412	191	183	215	263	3,710	14,100	14,460	766	1,220	38,040
1955	1,120	548	215	221	205	234	230	1,070	15,060	11,460	922	342	31,630
1956	262	277	327	338	345	400	416	872	20,210	16,170	2,230	3,370	45,220
1957	1,120	354	553	553	472	430	357	142	12,940	14,390	1,230	1,270	33,810
1958	1,300	740	489	430	417	461	476	4,620	18,460	11,050	200	1,640	40,280
1959	1,280	403	136	37	28	25	60	46	15,630	15,200	1,120	557	34,520
1960	526	380	553	492	345	307	219	1,570	14,960	9,670	247	507	29,780

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	57.4	41,520
1951	1213	401	June 10, 1951	0.2	70.9	51,320	70.1	50,790
1952	1243	354	June 7, 1952	.7	58.7	42,640	54.4	39,520
1953	1283	333	June 22, 1953	2.7	51.7	37,440	52.0	37,670
1954	1343	326	July 8, 1954	-	52.6	38,040	51.1	36,990
1955	1393	282	May 31, 1955	-	43.7	31,630	42.3	30,610
1956	1443	464	June 11, 1956	-	62.3	45,220	63.9	46,380
1957	1513	401	July 23, 1957	-	46.7	33,810	47.4	34,310
1958	1563	481	May 29, 1958	-	55.6	40,280	54.7	39,570
1959	1633	566	June 21, 1959	-	47.7	34,520	47.2	34,160
1960	1713	369	May 31, 1960	2.5	41.0	29,780	-	-

1965. Pine Creek above Fremont Lake, Wyo.

Location.--Lat 43°01'50", long 109°46'10", in S $\frac{1}{2}$ sec.5, T.35 N., R.108 W., on right bank half a mile upstream from Fremont Lake, half a mile downstream from Fremont Creek, and 12 miles northeast of Pinedale.

Drainage area.--75.8 sq mi.

Records available.--October 1954 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,540 ft (from topographic map).

Average discharge.--6 years (1954-60), 166 cfs (120,200 acre-ft per year).

Extremes.--1954-60: Maximum discharge, 2,550 cfs June 16, 1959 (gage height, 7.15 ft); minimum daily, 8.5 cfs Feb. 20, 1955.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	24.5	12.2	14.0	10.8	9.31	14.8	18.6	297	767	356	117	49.5	141
1956	28.7	30.1	29.6	25.6	20.8	22.9	65.9	418	1,167	543	163	52.7	214
1957	21.7	16.7	15.9	14.5	14.5	17.2	21.0	178	939	802	198	115	197
1958	90.7	39.8	22.4	18.1	17.4	15.1	22.8	578	624	170	110	70.5	149
1959	30.0	25.5	24.8	16.6	21.1	16.1	28.6	139	1,060	426	174	64.8	169
1960	70.7	33.0	12.8	11.8	13.2	16.5	44.3	193	716	233	102	77.4	127

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	1,510	726	863	662	517	908	1,110	18,230	45,650	21,870	7,210	2,940	102,200
1956	1,760	1,790	1,820	1,580	1,190	1,410	3,920	25,680	69,460	33,370	10,050	3,140	155,200
1957	1,340	996	978	889	807	1,060	1,250	10,960	55,900	49,290	12,150	6,830	142,400
1958	5,580	2,370	1,580	1,110	966	928	1,360	35,510	37,130	10,470	6,750	4,200	107,800
1959	1,840	1,520	1,530	1,020	1,170	988	1,700	8,530	63,310	26,190	10,730	3,850	122,400
1960	4,350	1,970	785	724	758	1,020	2,640	11,900	42,580	14,320	6,250	4,610	91,900

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1955	1393	1,390	June 23, 1955	8.5	141	102,200	144	104,500		
1956	1443	1,710	June 13, 1956	19	214	155,200	211	153,100		
1957	1513	1,700	June 7, 1957	12	197	142,400	205	148,400		
1958	1563	1,380	May 29, 1958	14	149	107,800	143	103,300		
1959	1633	2,550	June 16, 1959	14	169	122,400	172	124,600		
1960	1713	1,340	June 4, 1960	10	127	91,900	-	-		

1980. Pine Creek at Pinedale, Wyo.

Location.--Lat 42°52', long 109°52', at north edge of sec.4, T.33 N., R.109 W., on left bank 30 ft downstream from bridge on U. S. Highway 187 at Pinedale and 3 miles upstream from mouth.

Drainage area.--118 sq mi.

Records available.--October 1903 to October 1904, October 1914 to September 1954. Monthly discharge only for some periods, published in WSP 1313. Published as "near Pinedale" 1904.

Gage.--Water-stage recorder. Datum of gage is 7,162.34 ft above mean sea level, datum of 1929. Prior to Aug. 17, 1917, staff gages at sites within a quarter of a mile downstream at different datums. Aug. 17, 1917, to May 3, 1926, staff gage at highway bridge 30 ft upstream at different datum. May 4, 1926, to Nov. 11, 1948, water-stage recorder at sites 20 to 50 ft upstream from highway bridge at datum 3.06 ft higher.

Average discharge.--41 years (1903-4, 1914-54), 134 cfs (97,010 acre-ft per year).

Extremes.--1903-4, 1914-54: Maximum discharge observed, 2,170 cfs June 17, 18, 1918 (gage height, 4.8 ft, site and datum then in use); minimum daily, 2 cfs Apr. 1-26, May 2, 6-8, 1931.

Remarks.--Diversion above station for irrigation of about 6,000 acres, most of which is below station (for details on adjudication of diversions, see Remarks for this station in WSP 1243). Flow regulated by Fremont Lake (regulated capacity, 20,600 acre-ft of which 9,840 acre-ft is for power purposes and 10,760 acre-ft is for irrigation).

Correction.--In WSP 1313, the date of the maximum discharge observed is listed in error; it should be June 17, 18, 1918.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	38.6	64.7	52.9	48.2	46.7	40.1	40.5	148	563	691	319	97.4	180
1952	26.8	28.5	38.9	39.8	37.7	38.6	48.3	205	580	202	55.9	46.6	112
1953	14.9	14.7	29.8	26.1	25.8	25.9	26.5	12.9	646	458	140	23.7	120
1954	4.94	15.3	13.4	12.8	23.2	23.8	18.1	342	398	542	71.6	17.2	125

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,380	3,850	3,250	2,960	2,590	2,470	2,410	9,120	33,530	42,500	19,580	5,800	130,400
1952	1,650	1,690	2,390	2,450	2,170	2,370	2,870	12,580	34,510	12,430	3,440	2,770	81,320
1953	915	874	1,830	1,600	1,430	1,590	1,580	795	38,410	28,160	8,630	1,410	87,220
1954	304	909	825	787	1,290	1,460	1,070	21,060	23,680	33,320	4,410	1,020	90,140

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	161	116,400		
1951	1213	923	July 8, 1951	24	180	130,400	176	124,700		
1952	1243	991	June 9, 1952	15	112	81,320	109	79,210		
1953	1283	1,710	June 21, 1953	6.9	120	87,220	118	85,640		
1954	1343	1,660	June 28, 1954	3.8	125	90,140	-	-		

1985. Pole Creek below Little Half Moon Lake, near Pinedale, Wyo.

Location.--Lat 42°53', long 109°43', in sec.26, T.34 N., R.108 W., on left bank 1½ miles downstream from Little Half Moon Lake and 7 miles east of Pinedale.

Drainage area.--87.5 sq mi.

Records available.--October 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,350 ft (by barometer). Prior to Oct. 27, 1948, at site a quarter of a mile upstream at different datum.

Average discharge.--22 years (1938-60), 106 cfs (76,740 acre-ft per year).

Extremes.--1938-60: Maximum discharge, 1,300 cfs June 17, 1959 (gage height, 6.74 ft); minimum not determined.

Remarks.--Natural regulation by several lakes above station. Diversions above station for irrigation of about 490 acres (for details on adjudication of diversions, see Remarks for this station in WSP 1243).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	43.4	54.8	48.3	30.2	35.1	21.3	44.0	354	626	432	169	53.5	160
1952	30.9	26.9	21.8	24	25	30	47.1	360	536	194	63.4	24.1	115
1953	9.26	3.93	4.43	9.15	13.0	12.9	17.5	95.4	693	260	74.1	13.0	100
1954	4.97	4.69	5.99	9.58	12.9	16.2	28.4	478	397	287	49.0	17.6	110
1955	11.1	6.59	6.04	10.4	12.0	14.0	16.6	241	456	148	48.9	10.6	81.8
1956	6.88	8.42	17.3	22.6	21.9	19.9	48.9	381	709	222	73.1	13.6	128
1957	6.99	7.41	10.8	11.2	10.8	11.5	16.8	158	701	445	94.7	53.6	128
1958	54.2	28.8	17.7	12	9.58	9	15.2	381	356	75.4	36.0	15.7	84.8
1959	10.5	13.0	19.5	21.0	18.8	15.8	17.6	119	725	176	65.6	20.8	102
1960	32.9	25.5	9.09	9.10	9.10	11.6	43.6	177	427	97.5	24.6	15.8	73.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,670	3,260	2,970	1,860	1,950	1,310	2,820	21,790	37,260	26,550	10,390	3,180	115,800
1952	1,900	1,600	1,340	1,480	1,440	1,840	2,800	22,170	31,870	11,910	3,900	1,440	83,690
1953	589	234	272	563	720	791	1,040	5,860	41,230	15,980	4,560	774	72,590
1954	306	279	369	589	714	994	1,890	29,420	23,610	17,650	3,010	1,050	79,680
1955	684	392	371	642	668	863	986	14,810	27,100	9,090	3,010	632	59,250
1956	420	501	1,060	1,390	1,260	1,220	2,910	23,410	42,180	13,670	4,490	807	93,320
1957	430	441	666	690	599	710	1,000	9,730	41,740	27,370	5,850	3,190	92,400
1958	3,330	1,720	1,090	738	522	553	906	23,450	21,300	4,640	2,220	936	61,410
1959	643	778	1,200	1,290	1,050	972	1,050	7,300	43,130	10,830	4,030	1,240	73,510
1960	2,030	1,520	559	560	524	712	2,590	10,910	25,430	5,990	1,510	926	53,260

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentsry maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	139	-	100,900
1951	1213	1,140	June 18, 1951	17	160	115,800	154	111,800	
1952	1243	1,040	June 8, 1952	-	115	83,690	110	79,920	
1953	1283	1,270	June 16, 1953	2.8	100	72,590	100	72,470	
1954	1343	1,250	May 23, 1954	3.9	110	79,680	111	80,170	
1955	1393	728	May 23, 1955	4.6	81.8	59,250	82.6	59,780	
1956	1443	1,130	June 5, 1956	6.0	128	93,320	128	92,670	
1957	1513	1,190	June 8, 1957	5.0	128	92,400	134	97,000	
1958	1563	925	May 25, 1958	-	84.8	61,410	79.9	57,680	
1959	1633	1,300	June 17, 1959	6.4	102	73,510	104	75,000	
1960	1713	754	June 5, 1960	7	73.4	53,260	-	-	

1995. Fall Creek near Pinedale, Wyo.

Location.--Lat 42°51', long 109°43', in sec.2, T.33 N., R.108 W., on right bank at McBride Ranch, half a mile downstream from Meadow Creek, 3 miles downstream from Burnt Lake, and 8 miles east of Pinedale.

Drainage area.--37.2 sq mi.

Records available.--October 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,300 ft (by barometer). Prior to Apr. 4, 1942, at datum 2.00 ft higher.

Average discharge.--22 years (1938-60), 38.6 cfs (27,950 acre-ft per year).

Extremes.--1938-60: Maximum discharge, 707 cfs June 15, 1953 (gage height, 8.56 ft); minimum daily, 0.1 cfs Sept. 21, 1942.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11.4	18.2	13.2	12.2	13.0	9.83	20.2	169	273	157	49.5	9.02	63.2
1952	3.75	4.12	6.72	8.73	10.2	7.34	19.0	172	233	69.5	9.90	.88	45.4
1953	.35	.57	.39	1.28	2.81	5.68	7.62	42.5	271	67.7	15.6	3.58	34.7
1954	2.70	.51	.47	1.37	3.36	5.93	11.6	218	187	91.5	12.4	4.68	45.0
1955	2.27	.72	.67	2.22	3.04	3.80	5.88	95.4	161	32.7	8.09	2.39	26.5
1956	1.34	1.01	2.78	8.18	5.83	6.44	16.8	155	281	58.5	15.6	4.20	46.4
1957	.98	.46	.84	1.96	2.73	3.85	6.59	67.0	308	148	21.2	9.28	47.5
1958	16.3	11.3	10.1	8	7	7	9.27	164	127	19.7	5.92	1.45	32.4
1959	.57	.46	.70	.81	3.72	3.94	4.25	48.4	307	49.4	15.4	5.47	36.5
1960	3.44	6.27	5.42	3.23	3.29	4.63	18.7	98.7	156	30.3	5.52	1.89	28.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	704	1,080	813	750	720	605	1,200	10,390	16,270	9,660	3,050	537	45,780
1952	231	245	413	537	585	451	1,130	10,580	13,840	4,280	609	52	32,950
1953	22	34	24	79	156	226	453	2,610	16,150	4,160	959	213	25,090
1954	43	30	29	84	187	365	688	13,380	11,110	5,630	763	278	32,590
1955	139	43	41	136	169	233	350	5,860	9,590	2,010	497	142	19,210
1956	82.5	62.1	171	503	335	396	1,000	9,560	16,740	3,600	959	250	33,660
1957	60	27	52	121	152	236	592	4,120	18,300	9,070	1,300	552	34,380
1958	1,000	673	622	492	389	430	551	10,100	7,550	1,210	364	85	23,470
1959	35	27	42	50	207	242	253	2,980	18,260	3,040	946	325	26,410
1960	211	373	333	198	189	285	1,110	6,070	9,260	1,860	339	112	20,340

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	51.7	37,440
1951	1213	546	June 17, 1951	4.8	63.2	45,780	60.9	44,070
1952	1243	502	June 7, 1952	.3	45.4	32,950	44.3	32,140
1953	1283	707	June 15, 1953	.3	34.7	25,090	34.7	25,110
1954	1343	556	May 22, 1954	.3	45.0	32,590	45.2	32,710
1955	1393	278	May 22, 1955	.3	26.5	19,210	26.7	19,300
1956	1443	505	June 4, 1956	.6	46.4	33,660	46.1	33,480
1957	1513	611	June 5, 1957	.3	47.5	34,580	50.5	36,540
1958	1563	375	May 22, 1958	.7	32.4	23,470	29.4	21,260
1959	1633	575	June 17, 1959	.3	36.5	26,410	37.6	27,220
1960	1713	302	June 4, 1960	1.0	28.0	20,340	-	-

2010. New Fork River near Boulder, Wyo.

Location.--Lat 42°45', long 109°44', in sec.9, T.32 N., R.108 W., on left bank 70 ft downstream from highway bridge, 700 ft upstream from Boulder Creek, and half a mile northwest of Boulder.

Drainage area.--552 sq mi.

Records available.--October 1914 to September 1960. Prior to October 1943, published as New Fork near Boulder. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 6,900 ft (by barometer). Prior to Sept. 7, 1936, staff gage at bridge 70 ft upstream at same datum.

Average discharge.--46 years (1914-60), 390 cfs (282,300 acre-ft per year).

Extremes.--1914-60: Maximum discharge observed, 12,300 cfs June 17, 1918 (gage height, 8.7 ft), from rating curve extended above 6,000 cfs; minimum daily, 42 cfs Dec. 14-17, 1915.

Remarks.--Flow regulated by Fremont, New Fork, and Willow Lakes (total capacity, 81,500 acre-ft), and Little Half Moon Lake. Diversions above station for irrigation of hay meadows above and below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	225	267	206	142	136	148	350	860	1,923	1,711	790	338	594
1952	284	159	124	118	119	111	294	790	1,602	702	283	183	397
1953	119	113	117	122	106	125	194	188	1,783	1,062	398	131	372
1954	99.4	111	87.7	78.1	84.6	105	219	1,160	1,136	1,310	277	152	404
1955	129	125	92.9	88.1	86.4	108	170	388	1,216	521	249	122	275
1956	111	104	115	109	120	167	302	780	2,237	876	340	137	449
1957	125	134	109	100	100	109	189	419	1,659	1,566	359	250	424
1958	243	211	170	150	150	185	287	798	902	308	158	121	506
1959	120	120	139	96.8	96.1	115	181	226	1,746	682	349	156	335
1960	237	200	148	89.4	91.4	125	174	239	913	303	110	90.6	226

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13,810	15,910	12,700	8,750	7,530	9,090	20,820	52,880	114,400	105,200	48,600	20,100	429,800
1952	17,480	9,450	7,620	7,280	6,840	6,800	17,500	48,560	95,340	43,150	17,410	10,920	288,400
1953	7,310	6,740	7,190	7,480	5,870	7,690	11,530	11,540	106,100	65,300	24,490	7,790	269,000
1954	6,110	6,600	5,400	4,800	4,700	6,440	13,020	71,350	67,620	80,520	17,050	9,030	292,600
1955	7,960	7,440	5,710	5,420	4,900	6,650	10,130	23,840	72,370	32,060	15,330	7,280	199,000
1956	6,840	6,180	7,100	6,690	6,910	10,270	17,970	47,970	133,100	53,840	20,920	8,160	326,000
1957	7,710	7,970	6,700	6,150	5,550	6,700	11,240	25,740	98,740	96,300	20,830	13,690	307,300
1958	14,920	12,560	10,450	9,220	8,330	10,180	17,100	49,040	53,650	18,970	9,720	7,200	221,300
1959	7,370	7,160	8,570	5,950	5,340	7,040	10,800	13,910	103,900	41,930	21,440	9,290	242,700
1960	14,580	11,900	9,080	5,490	5,260	7,720	10,360	14,720	54,300	18,650	6,740	5,390	164,200

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	585	423,600
1951	1213	3,100	June 20, 1951	115	594	429,800	583	421,900
1952	1243	2,860	June 9, 1952	96	397	288,400	379	275,000
1953	1283	3,540	June 20, 1953	98	372	269,000	367	265,900
1954	1343	3,780	June 28, 1954	75	404	292,600	408	295,600
1955	1393	1,680	June 24, 1955	72	275	199,000	273	199,000
1956	1443	3,140	June 6, 1956	75	449	326,000	452	328,200
1957	1513	2,730	June 11, 1957	80	424	307,300	446	322,900
1958	1563	1,980	May 30, 1958	-	306	221,300	285	206,500
1959	1633	3,250	June 17, 1959	80	335	242,700	352	255,200
1960	1713	1,470	June 10, 1960	70	226	164,200	-	-

2020. Boulder Creek below Boulder Lake, near Boulder, Wyo.

Location.--Lat 42°50', long 109°43', in sec.14, T.33 N., R.108 W., on right bank 1 mile downstream from outlet of Boulder Lake and 5 miles north of Boulder.

Drainage area.--130 sq mi.

Records available.--October 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,200 ft (by barometer).

Average discharge.--21 years (1939-60), 193 cfs (139,700 acre-ft per year).

Extremes.--1938-60: Maximum discharge, 2,810 cfs June 15, 1953 (gage height, 6.12 ft); no flow Nov. 28, 1939, to Apr. 15, 1940, Nov. 18, 1944.

Remarks.--Flow slightly regulated by Boulder Lake (capacity, 11,000 acre-ft). No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	85.5	45.9	54.3	57.5	64.8	55.0	41.9	478	1,200	686	319	134	269
1952	70.5	37.7	33	36	35	38	59.1	603	1,189	409	135	65.8	224
1953	32.4	11.2	6.34	10.5	17.4	19.0	20.0	95.0	1,155	388	156	50.3	163
1954	9.27	.71	.51	.5	2.0	6.0	40.0	837	833	470	174	63.5	204
1955	23.3	3.19	.65	.3	1.5	5.0	22.1	466	968	296	119	25.1	161
1956	7.46	2.97	2.0	5.0	7.5	8.4	63.2	574	1,421	353	154	61.5	221
1957	30.9	1.78	1.5	1.5	4.64	13.4	33.7	183	1,566	874	192	95.0	233
1958	89.5	33.2	32.4	32.2	20	20	50	648	1,720	208	84.5	23.0	162
1959	12.1	9.73	11.0	10	14.6	22.6	20.0	108	1,230	278	123	45.5	156
1960	42.7	37.4	12.6	7.63	7.90	10.7	37.1	232	782	206	63.3	25.9	122

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5,260	2,730	3,340	3,530	3,600	3,380	2,490	29,420	71,410	42,170	19,600	7,950	194,900
1952	4,340	2,250	2,030	2,210	2,010	2,340	3,520	37,090	69,560	25,160	8,330	3,920	162,800
1953	1,990	665	390	645	964	1,170	1,190	5,720	68,710	23,850	9,590	2,990	117,900
1954	570	42	32	31	111	369	2,380	51,450	49,570	28,890	10,700	3,780	147,900
1955	1,430	190	40	18	83	307	1,310	28,660	57,620	18,220	7,310	1,490	116,700
1956	459	177	123	307	431	516	3,760	35,300	84,570	21,720	9,470	3,660	160,300
1957	1,900	106	92.2	92.2	258	823	2,000	11,270	81,280	53,730	11,650	5,650	169,000
1958	5,490	1,980	990	1,980	1,110	1,230	1,790	39,810	42,850	12,760	5,190	1,370	117,600
1959	742	579	674	615	813	1,390	1,190	6,630	75,170	16,950	7,580	2,710	115,000
1960	2,630	2,230	777	469	454	660	2,210	14,270	46,520	12,690	3,890	1,540	88,340

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	252	182,300	
1951	1213	2,450	June 18, 1951	37	269	194,900	265	192,200	
1952	1243	2,240	June 8, 1952	-	224	162,800	217	157,200	
1953	1283	2,810	June 15, 1953	1.4	163	117,900	160	115,500	
1954	1343	2,300	May 22, 1954	-	204	147,900	206	148,900	
1955	1393	1,470	May 23, 1955	-	161	116,700	160	115,800	
1956	1443	2,180	June 3, 1956	-	221	160,300	223	161,800	
1957	1513	2,520	June 8, 1957	-	235	169,000	244	176,400	
1958	1563	1,850	May 28, 1958	-	162	117,600	152	110,100	
1959	1633	2,340	June 16, 1959	-	156	115,000	161	116,700	
1960	1713	1,340	June 5, 1960	5.2	122	88,340	-	-	

2030. East Fork near Big Sandy, Wyo.

Location.--Lat 42°40', long 109°25', in sec.7, T.31 N., R.105 W., on left bank 1 mile downstream from Jim Creek and 4 miles northeast of Big Sandy.

Drainage area.--79.2 sq mi.

Records available.--October 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,800 ft (by barometer).

Average discharge.--22 years (1938-60), 98.4 cfs (71,240 acre-ft per year).

Extremes.--1938-60: Maximum discharge, 1,720 cfs June 14, 1953 (gage height, 7.05 ft), From rating curve extended above 1,200 cfs on basis of slope-area measurement at gage height 6.88 ft; minimum not determined.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	41.4	28.2	20	18	16	17	36.0	464	541	243	81.3	39.7	129
1952	24.2	21.5	23	25	27	25	48.2	475	617	169	35.2	11.5	125
1953	4.16	2.68	3.03	7.26	9.18	6.69	12.8	96.0	672	140	38.0	5.13	82.7
1954	3.66	5.13	8.0	7.4	9.4	11	26.0	545	370	151	26.9	11.8	98.7
1955	11.0	8.68	7.77	6.27	6.01	7.19	13.0	384	401	85.1	23.6	5.08	80.2
1956	7.55	8.0	10.0	9.5	8.0	10.3	31.9	473	590	109	29.2	6.41	108
1957	7.04	7.36	4.51	4.5	7	8	10.7	188	879	320	50.0	27.6	126
1958	33.0	18	9	9	10	12	18	502	275	48.9	17.2	14.6	81.2
1959	6.65	5.93	4.5	4	4.5	5.1	15.3	115	478	88.7	25.0	12.6	63.6
1960	24.4	10.5	3.34	1.7	1.5	5.34	38.8	239	248	46.4	10.3	10.8	53.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,550	1,680	1,230	1,110	889	1,050	2,140	28,520	32,220	14,940	5,000	2,360	93,690
1952	1,490	1,280	1,410	1,540	1,550	1,540	2,870	29,210	36,710	10,360	2,160	882	90,800
1953	256	160	186	447	510	411	764	5,900	39,970	8,630	2,340	305	59,880
1954	225	305	492	455	522	678	1,550	33,530	22,030	9,290	1,650	701	71,430
1955	675	516	478	386	334	442	774	23,590	23,880	5,230	1,450	302	58,060
1956	464	476	615	584	460	631	1,900	29,100	35,110	6,680	1,790	382	78,190
1957	433	438	277	277	389	492	635	11,530	52,330	19,650	3,070	1,640	91,160
1958	2,030	1,070	553	553	738	1,070	30,890	16,350	3,010	1,060	870		58,750
1959	409	353	276	246	248	311	910	7,090	28,450	5,460	1,540	749	46,040
1960	1,500	625	205	105	86	328	2,310	14,690	14,780	2,850	631	642	38,750

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	151		109,300	
1951	1213	1,470	May 28, 1951	-	129	93,690	128		92,410	
1952	1243	1,520	June 7, 1952	6.2	125	90,800	120		87,220	
1953	1283	1,720	June 14, 1953	1.7	82.7	59,880	83.3		60,300	
1954	1343	1,430	May 22, 1954	-	98.7	71,430	99.6		72,070	
1955	1393	1,240	May 21, 1955	2.7	80.2	58,060	80.0		57,940	
1956	1443	1,370	June 2, 1956	4.3	108	78,190	107		77,780	
1957	1513	1,630	June 7, 1957	-	126	91,160	129		93,670	
1958	1563	1,440	May 25, 1958	-	81.2	58,750	77.5		56,130	
1959	1633	929	June 10, 1959	-	63.6	46,040	65.4		47,330	
1960	1713	852	May 13, 1960	-	53.4	38,750	-		-	

2040. Silver Creek near Big Sandy, Wyo.

Location.--Lat 42°45', long 109°31', in sec.17, T.32 N., R.106 W., on right bank at Miller Ranch, 1 mile downstream from South Fork, 8 miles northwest of Big Sandy, and 11 miles east of Boulder.

Drainage area.--45.4 sq mi.

Records available.--October 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,500 ft (by barometer).

Average discharge.--22 years (1938-60), 42.7 cfs (30,910 acre-ft per year).

Extremes.--1938-60: Maximum discharge, 1,030 cfs May 28, 1951 (gage height, 7.53 ft), from rating curve extended above 810 cfs on basis of velocity-area studies; no flow at times in most years.

Remarks.--Diversion above station for irrigation of about 120 acres above and below station. Some regulation by Silver Lake (capacity, 2,150 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7.14	9.92	7.0	6.5	6.0	6.5	13.5	290	293	48.4	4.40	2.64	58.1
1952	5.60	5.6	5.4	5.0	5.6	6.0	23.7	304	254	35.0	1.94	.35	54.5
1953	.23	.32	.2	.9	1.1	1.3	6.38	42.1	319	41.3	7.11	.37	34.8
1954	.19	.70	1.7	1.7	1.9	3.0	14.6	319	143	35.2	.58	9.54	44.6
1955	1.83	1.39	2.33	1.25	.98	1.58	4.47	212	184	38.3	1.02	3.58	37.9
1956	.86	1.46	2.26	2.5	2.5	3.98	15.9	284	234	35.5	.40	2.37	48.9
1957	.57	1.06	1.6	1.5	1.4	1.7	3.44	87.9	454	53.4	2.88	42.1	54.0
1958	25.4	8.75	6	5	5	6	7	293	68.3	20.9	.31	.02	37.4
1959	.14	.43	.9	.5	.7	1.1	5.12	71.7	254	35.4	2.01	13.0	31.8
1960	9.63	3.97	.5	.1	.1	3.85	23.4	147	73.6	24.5	.21	.23	24.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	439	590	430	400	333	400	803	17,820	17,410	2,980	271	157	42,030
1952	344	333	332	307	322	369	1,410	18,690	15,140	2,150	119	19	39,540
1953	14	19	12	55	61	80	380	2,590	19,000	2,540	437	22	25,210
1954	12	41	105	105	106	184	866	19,600	8,510	2,160	36	568	32,290
1955	112	83	143	77	55	97	266	13,020	10,930	2,360	63	213	27,420
1956	53	87	139	154	144	245	946	17,490	13,920	2,180	25	141	35,520
1957	35	63	98	92	78	105	205	5,400	27,040	3,280	177	2,510	39,080
1958	1,440	521	369	307	278	369	417	18,020	4,070	1,280	19	1.0	27,090
1959	8.3	25	56	31	41	67	304	4,410	15,120	2,050	124	775	23,010
1960	592	236	31	6.1	5.8	237	1,390	9,010	4,380	1,510	13	13	17,420

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	69.4	-	50,250
1951	1213	1,030	May 28, 1951	1.7	58.1	42,030	57.4	-	41,580
1952	1243	658	June 2, 1952	.1	54.5	39,540	53.1	-	38,570
1953	1283	952	June 15, 1953	0	34.8	25,210	35.0	-	25,330
1954	1343	996	May 21, 1954	0	44.6	32,290	44.9	-	32,470
1955	1393	816	May 20, 1955	0	37.9	27,420	37.8	-	27,360
1956	1443	896	May 24, 1956	0	48.9	35,520	48.8	-	35,440
1957	1513	994	June 6, 1957	.2	54.0	39,080	56.9	-	41,220
1958	1563	998	May 25, 1958	0	37.4	27,090	34.3	-	24,850
1959	1633	756	June 7, 1959	-	31.8	23,010	32.9	-	23,780
1960	1713	614	May 12, 1960	0	24.0	17,420	-	-	-

2050. New Fork River near Big Piney, Wyo.

Location.--Lat 42°34', long 109°56' in NE $\frac{1}{4}$ sec.22, T.30 N., R.110 W., on right bank 35 ft downstream from old highway bridge, 2 miles upstream from mouth, and 9 $\frac{1}{2}$ miles north-east of Big Piney.

Drainage area.--1,230 sq mi, approximately.

Records available.--September 1954 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,800 ft (by barometer).

Average discharge.--6 years (1954-60), 621 cfs (449,600 acre-ft per year).

Extremes.--1954-60: Maximum discharge, 6,970 cfs June 8, 1957 (gage height, 7.00 ft, from floodmark); minimum daily, 100 cfs Jan. 4, 1959.

Remarks.--Natural flow of stream affected by storage reservoirs, power developments, diversion for irrigation, and return flow from irrigated areas.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954	-	-	-	-	-	-	-	-	-	-	-	293	-
1955	263	237	180	154	141	164	282	1,146	2,470	868	440	234	549
1956	202	194	208	206	179	243	377	1,592	3,886	1,322	598	267	771
1957	254	258	200	180	200	280	289	680	4,023	2,722	659	445	847
1958	421	409	300	200	250	265	465	1,973	1,773	599	353	250	606
1959	230	194	165	155	158	202	242	304	3,129	973	562	264	547
1960	354	307	239	165	139	192	260	538	1,652	537	288	192	404

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954	-	-	-	-	-	-	-	-	-	-	-	17,430	-
1955	16,150	14,080	11,090	9,440	7,850	10,060	16,780	70,460	147,000	53,380	27,080	13,940	397,300
1956	12,400	11,510	12,770	12,650	10,290	15,310	22,450	97,900	231,300	81,270	36,170	15,890	559,900
1957	15,640	15,330	12,300	9,220	11,110	17,220	17,200	41,810	239,400	67,300	40,540	26,450	613,500
1958	25,870	24,360	18,450	12,300	13,880	16,320	27,690	121,300	105,500	36,800	21,690	14,890	439,000
1959	14,170	11,570	10,140	9,560	8,690	12,400	14,420	18,690	186,200	59,810	34,540	15,690	395,900
1960	21,760	18,260	14,680	10,180	8,010	11,800	15,460	33,060	98,330	33,000	17,700	11,400	293,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950							
1951							
1952							
1953							
1954	1393						
1955	1393	3,610	June 15, 1955	130	549	397,300	542
1956	1443	6,060	June 5, 1956	140	771	559,900	780
1957	1513	6,970	June 8, 1957	-	847	613,500	883
1958	1563	4,880	May 26, 1958	-	606	439,000	561
1959	1633	5,700	June 18, 1959	100	547	395,900	573
1960	1713	2,960	June 8, 1960	120	404	293,600	-

2055. North Piney Creek near Mason, Wyo.

Location.--Lat 42°39'20", long 110°20'40", in sec.19, T.31 N., R.113 W., on left bank 3 miles west of Mason and 15 miles northwest of Big Piney.

Drainage area.--58 sq mi, approximately.

Records available.--May 1915 to October 1916, October 1931 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as "near Marbleton" 1915-16.

Gage.--Water-stage recorder. Altitude of gage is 7,520 ft (from topographic map). Prior to Oct. 12, 1931, at datum 1.05 ft lower.

Average discharge.--30 years (1915-16, 1931-60), 56.6 cfs (40,980 acre-ft per year).

Extremes.--1915-16, 1931-60: Maximum discharge, 619 cfs June 2, 1956 (gage height, 4.38 ft); minimum not determined.

Remarks.--Diversions above station for irrigation of about 1,600 acres (for details on adjudication of diversions, see Remarks for this station in WSP 1243).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	31.4	29.0	24	22	26	25	54.3	236	394	281	80.2	39.6	104
1952	32.8	19.1	14	13	12	14	40.1	208	320	80.5	40.3	29.3	68.6
1953	19.6	14.1	14.2	13.3	14.9	16.1	23.4	57.7	240	152	49.5	27.6	53.6
1954	19.6	14.7	12.2	14.2	17.0	11.8	25.4	185	189	118	35.1	27.2	55.8
1955	21.9	15.7	12.3	10.3	8.93	9.14	12.7	70.3	172	80.4	35.0	24.1	39.3
1956	18.1	10.7	9.21	7.66	8.80	12.0	41.0	249	410	107	40.9	26.1	78.2
1957	20.8	17.6	15	13	15	17	22	117	340	221	50.5	31.7	73.5
1958	23.5	17.4	15	13	15	15	20	168	264	65.8	33.0	23.5	56.1
1959	15.2	17.3	15	12	13	15	21.0	61.7	270	94.9	47.9	51.3	51.1
1960	27.2	19.8	16	15	14	22.4	46.0	72.0	180	60.2	26.7	18.7	43.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,930	1,730	1,480	1,350	1,440	1,540	3,230	14,530	23,450	17,290	4,930	2,350	75,250
1952	2,020	1,140	861	799	690	861	2,390	12,790	19,070	4,950	2,480	1,750	49,800
1953	1,210	841	873	819	825	990	1,390	3,550	14,290	9,370	3,040	1,640	38,840
1954	1,200	873	752	875	942	728	1,510	11,250	11,250	7,250	2,160	1,620	40,410
1955	1,350	934	756	634	496	562	758	4,320	10,250	4,940	2,030	1,440	28,470
1956	1,110	639	566	471	506	736	2,440	15,290	24,380	6,570	2,510	1,560	56,780
1957	1,280	1,040	922	799	833	1,040	1,510	7,210	20,200	13,570	3,110	1,880	53,190
1958	1,450	1,040	922	799	722	922	1,190	10,340	15,730	4,040	2,030	1,400	40,580
1959	935	1,030	922	738	722	922	1,250	3,790	16,050	5,830	2,950	1,860	37,000
1960	1,670	1,180	984	922	805	1,380	2,740	4,430	10,690	3,700	1,640	1,110	31,250

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	86.5	62,610	
1951	1213	-	-	-	-	-	102	74,130	
1952	1243	606	June 17, 1951	-	104	75,250	102	74,130	
1953	1283	576	June 7, 1952	-	68.6	49,800	67.1	48,700	
1954	1343	399	June 20, 1953	11	53.6	38,840	53.5	38,740	
1955	1393	382	June 27, 1954	10	55.8	40,410	56.1	40,620	
1956	1443	230	June 12, 1955	7.5	39.3	28,470	38.3	27,750	
1957	1513	619	June 2, 1956	6.4	78.2	56,780	79.5	57,700	
1958	1563	492	June 30, 1957	-	73.5	53,190	73.7	53,360	
1959	1633	452	June 8, 1958	-	56.1	40,580	55.3	40,060	
1960	1703	467	June 17, 1959	-	51.1	37,000	52.4	37,950	
		265	June 15, 1960	-	43.0	31,250	-	-	

2060. Middle Piney Creek below South Fork, near Big Piney, Wyo.

Location.--Lat 42°36'10", long 110°27'20", in sec.7, T.30 N., R.114 W., on left bank 1 mile downstream from South Fork and 18 miles northwest of Big Piney.

Drainage area.--34.3 sq mi.

Records available.--July 1939 to September 1954. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,980 ft (from topographic map).

Average discharge.--15 years (1939-54), 28.2 cfs (20,420 acre-ft per year).

Extremes.--1939-54: Maximum discharge, 254 cfs June 29, 1943, from rating curve extended above 190 cfs; maximum gage height, 6.41 ft May 28, 1951; minimum discharge not determined, occurred during period of ice effect.

Remarks.--Flow regulated by Middle Piney Lake (usable capacity, 4,200 acre-ft). Adjudicated diversions for irrigation of about 400 acres of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13.1	9.5	7.5	6.2	6.4	6.5	14.2	83.5	170	159	51.4	19.7	45.8
1952	14.2	9.87	7.0	6.5	6.0	6.8	11.5	58.3	117	70.0	26.9	13.6	29.0
1953	8.32	6.89	4.81	4.22	4.59	4.82	7.17	14.0	85.5	103	36.7	12.4	24.5
1954	6.77	5.12	2.13	3.02	4.72	4.77	7.64	53.0	73.9	78.2	24.9	11.2	23.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	807	565	461	381	355	400	842	5,130	10,140	9,770	3,160	1,170	33,180
1952	871	587	430	400	345	418	684	3,580	6,980	4,300	1,660	811	21,070
1953	512	410	296	259	255	296	426	862	5,090	6,340	2,260	738	17,740
1954	417	304	131	186	262	293	454	3,260	4,400	4,810	1,530	668	16,720

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	43.0
1951	1213	244	May 28, 1951	-	45.8	33,180	45.9
1952	1243	170	June 9, 1952	-	29.0	21,070	28.1
1953	1283	144	July 10, 1953	3.8	24.5	17,740	24.0
1954	1343	155	June 27, 1954	1.9	23.1	16,720	-

2080. La Barge Creek near La Barge Meadows ranger station, Wyo.

Location.--Lat 42°30'30", long 110°40'10", in SE $\frac{1}{4}$ sec. 8, T.29 N., R.116 W., on left bank half a mile upstream from Crystal Creek, 2 miles southeast of La Barge Meadows ranger station, and 29 miles northwest of La Barge.

Drainage area.--6.3 sq mi, approximately.

Records available.--October 1940 to September 1942, October 1950 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 8,410 ft (from topographic map). Oct. 1, 1940, to Sept. 30, 1942, at site 300 ft upstream at different datum.

Average discharge.--12 years (1940-42, 1950-60), 13.6 cfs (9,850 acre-ft per year).

Extremes.--1940-42, 1950-60: Maximum discharge, 189 cfs June 2, 1956 (gage height, 5.32 ft); minimum not determined.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6.32	4.18	3.77	3.5	3.0	2.7	3.48	64.0	75.3	28.5	11.3	7.21	17.8
1952	6.25	3.96	3.5	3.3	3.2	3.0	13.9	86	48.9	12.8	6.95	5.39	16.5
1953	4.65	4.61	3.55	3.3	3.5	3.8	6.5	19.7	74.2	20.9	9.20	5.20	13.2
1954	4.96	4.11	3.0	2.6	3.8	4.5	7.86	58.2	36.8	14.6	6.70	5.39	12.8
1955	5.09	4.32	3.25	3.2	3.4	3.4	3.6	39.0	39.1	12.1	6.11	4.79	10.6
1956	4.2	4.41	9.76	3.57	4.22	3.51	6.72	61.9	94.6	18.7	8.85	6.73	18.9
1957	5.55	3.55	3.74	3.0	4.5	4.0	3.75	24.1	84.4	26.2	9.64	7.28	15.0
1958	6.71	5.29	4.5	3.5	3.6	4	6.7	60.5	67.1	15.6	8.43	6.55	16.1
1959	5.41	5.03	3.74	3.01	3.23	3.76	5.22	24.2	61.4	11.8	6.73	5.14	11.5
1960	7.11	4.04	2.95	2.5	2.3	3.46	7.45	33.9	39.3	9.95	6.26	5.17	10.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	389	249	232	215	167	166	207	3,940	4,480	1,750	696	429	12,920
1952	384	235	215	203	184	184	829	†5,290	2,910	787	427	321	11,970
1953	286	275	218	203	194	234	387	1,210	4,420	1,290	566	310	9,590
1954	305	245	184	160	211	277	468	3,580	2,190	900	412	321	9,250
1955	313	257	200	197	189	209	214	2,400	2,320	746	375	285	7,700
1956	258	263	600	220	243	216	400	3,800	5,630	1,150	544	401	13,720
1957	342	211	230	184	250	246	223	1,480	5,020	1,610	592	433	10,820
1958	413	315	277	215	202	246	397	3,720	3,990	960	518	390	11,640
1959	332	299	230	185	180	231	310	1,490	3,650	728	414	306	8,360
1960	437	241	181	154	132	212	443	2,080	2,340	612	385	308	7,520

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950									
1951	1213	188	May 26, 1951	-	17.8	12,920	17.8		12,880
1952	1243	a132	June 7, 1952b/	-	16.5	11,970	16.4		11,910
1953	1283	140	June 13, 1953	-	13.2	9,590	13.2		9,550
1954	1343	136	May 19, 1954	-	12.8	9,250	12.8		9,290
1955	1393	107	May 22, 1955	-	10.6	7,700	11.1		8,060
1956	1443	189	June 2, 1956	2.9	18.9	13,720	18.4		13,390
1957	1513	186	June 6, 1957	-	15.0	10,820	15.3		11,040
1958	1563	142	May 29, 1958	-	16.1	11,640	15.9		11,500
1959	1633	127	June 15, 1959	-	11.5	8,360	11.5		8,350
1960	1713	82	June 3, 1960	-	10.4	7,520	-		-

a Maximum recorded.

b About.

2095. Green River near Fontenelle, Wyo.

Location.--Lat 42°07', long 110°11', in SW $\frac{1}{4}$ sec.20, T.25 N., R.112 W., on right bank 200 ft from U. S. Highway 189, $\frac{1}{2}$ miles downstream from Muddy Creek, and 4 miles north-west of Fontenelle.

Drainage area.--3,970 sq mi.

Records available.--August 1946 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 6,490 ft (river-profile survey).

Average discharge.--14 years (1946-60), 1,625 cfs (1,176,000 acre-ft per year).

Extremes.--1946-60: Maximum discharge, 13,300 cfs June 6, 1956 (gage height, 8.33 ft); minimum daily, 210 cfs Dec. 25, 26, 1954.

Remarks.--Natural flow of stream affected by storage reservoirs, diversions for irrigation, and return flow from irrigated areas.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	937	1,007	649	597	668	755	2,213	4,815	7,768	5,294	3,005	1,308	2,424
1952	1,011	602	547	622	616	673	2,415	4,526	5,572	2,295	1,393	814	1,757
1953	558	389	372	432	500	634	1,111	1,039	5,726	2,855	1,425	579	1,301
1954	476	513	357	386	498	565	1,002	4,513	3,835	3,594	1,147	664	1,470
1955	566	535	281	299	320	428	948	1,968	4,024	1,738	1,088	542	1,063
1956	477	399	494	601	492	1,020	2,031	4,722	8,699	2,897	1,415	745	1,997
1957	596	567	398	345	474	708	862	2,850	7,521	5,493	1,879	1,048	1,883
1958	909	724	654	517	726	669	1,375	4,418	3,955	1,234	830	590	1,386
1959	485	481	453	332	383	564	944	1,185	5,513	2,087	1,312	644	1,198
1960	785	609	435	379	327	837	1,216	1,048	2,833	1,070	649	467	887

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	57,630	59,920	39,920	36,120	37,070	46,400	31,700	296,100	462,200	325,500	184,800	77,840	1,755,000
1952	62,170	35,820	33,660	38,240	35,440	41,400	143,700	278,300	331,500	141,100	85,630	48,440	1,275,000
1953	34,310	23,160	22,890	26,580	27,770	38,990	66,110	63,910	340,700	175,600	87,610	34,480	942,100
1954	29,260	30,540	21,980	23,760	27,650	34,760	59,620	277,500	228,200	221,000	70,500	39,540	1,064,000
1955	34,830	31,810	17,300	18,370	17,770	26,320	56,380	121,000	239,400	106,900	66,870	32,270	769,200
1956	29,340	23,730	30,390	36,930	28,270	62,740	120,800	290,300	517,600	178,100	86,990	44,340	1,500,000
1957	36,680	33,760	24,500	21,200	26,300	45,560	51,310	175,300	447,500	537,700	103,200	62,390	1,363,000
1958	55,870	43,070	40,220	31,800	40,340	41,120	81,870	271,600	235,300	75,870	51,010	35,090	1,003,000
1959	29,840	28,650	27,850	20,410	21,260	34,670	56,200	72,850	528,100	28,300	80,700	38,330	867,200
1960	48,280	36,260	26,750	23,290	18,820	51,490	72,370	64,420	168,600	65,780	39,900	27,810	643,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	2,416	1,749,000
1951	1213	12,300	May 31, 1951	395	2,424	1,755,000	2,389	1,729,000
1952	1243	9,980	June 10, 1952	390	1,757	1,275,000	1,686	1,224,000
1953	1283	11,200	June 18, 1953	230	1,301	942,100	1,303	943,500
1954	1343	10,900	June 30, 1954	290	1,470	1,064,000	1,473	1,066,000
1955	1393	5,880	June 16, 1955	210	1,063	769,200	1,062	768,700
1956	1443	13,300	June 6, 1956	240	1,997	1,500,000	2,013	1,461,000
1957	1513	12,500	June 10, 1957	300	1,883	1,363,000	1,944	1,408,000
1958	1563	8,660	May 28, 1958	360	1,386	1,003,000	1,313	950,300
1959	1633	10,300	June 19, 1959	250	1,198	867,200	1,232	892,100
1960	1713	4,760	June 11, 1960	280	887	643,800	-	-

2105. Fontenelle Creek near Herschler Ranch, near Fontenelle, Wyo.

Location.--Lat 42°05'45", long 110°25'10", in NW¼ sec.2, T.24 N., R.115 W., on left bank 2 miles downstream from Dutch George Creek and 14 miles west of Fontenelle.

Drainage area.--152 sq mi.

Records available.--August 1951 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,950 ft (from topographic map).

Average discharge.--9 years (1951-60), 65.9 cfs (47,710 acre-ft per year).

Extremes.--1951-60: Maximum discharge, 728 cfs Apr. 29, 1952 (gage height, 6.35 ft), from rating curve extended above 450 cfs by logarithmic plotting; maximum gage height, 7.93 ft Dec. 24, 1955 (backwater from ice); minimum discharge not determined.

Remarks.--Diversions above station for irrigation of about 4,100 acres (for details on adjudication of diversions, see Remarks for this station in WSP 1243).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	44.6	-
1952	45.5	44.9	40	37	35	33	161	378	237	68.0	38.5	32.5	95.9
1953	30.8	26.5	20.5	18.2	26.1	31.5	78.8	103	210	65.6	34.1	23.5	55.7
1954	25.0	25.2	23.5	29.3	34.5	27.6	100	197	105	46.2	25.5	20.7	55.0
1955	27.2	25.4	19.1	23.7	24.3	28.6	65.0	167	146	45.9	26.9	20.9	51.7
1956	26.7	24.7	30.3	27.3	27.4	54.3	174	308	263	66.6	36.9	25.4	88.7
1957	31.9	31.3	29.3	25.8	27.5	27.7	61.7	216	283	84.2	37.7	35.0	74.1
1958	35.4	34.4	25	15	15	20	67.4	339	225	55.0	32.5	25.1	74.3
1959	24.9	23.9	28.4	25	27.9	29.3	68.0	109	153	46.0	27.7	28.5	49.3
1960	34.4	25.8	23.9	22.6	21.9	47.9	114	111	101	35.2	19.2	21.7	48.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	2,660	-
1952	2,790	2,670	2,460	2,280	2,010	2,030	9,570	23,220	14,120	4,180	2,370	1,940	69,640
1953	1,890	1,580	1,260	1,120	1,450	1,930	4,750	6,330	12,510	4,030	2,090	1,400	40,340
1954	1,540	1,500	1,440	1,800	1,920	1,700	5,960	12,080	6,270	2,840	1,560	1,230	39,840
1955	1,670	1,510	1,180	1,480	1,350	1,760	3,870	10,250	8,670	2,820	1,660	1,240	37,440
1956	1,640	1,470	1,860	1,680	1,580	3,340	10,360	18,970	17,640	4,090	2,270	1,510	66,410
1957	1,960	1,860	1,800	1,460	1,530	1,710	3,670	13,270	16,810	5,180	2,320	2,080	53,650
1958	2,050	2,040	1,540	922	833	1,230	4,010	20,850	13,410	3,380	2,000	1,490	53,760
1959	1,530	1,420	1,750	1,540	1,550	1,800	4,040	6,720	9,100	2,830	1,700	1,690	35,670
1960	2,110	1,540	1,470	1,390	1,260	2,950	6,810	6,840	6,030	2,170	1,180	1,290	35,040

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952	1243	728	Apr. 29, 1952	-	95.9	69,640	91.5	66,450
1953	1283	343	June 14, 1953	15	55.7	40,340	55.4	40,090
1954	1343	328	May 22, 1954	18	55.0	39,840	54.9	39,720
1955	1393	272	May 25, 1955	13	51.7	37,440	52.6	38,050
1956	1443	494	May 29, 1956	18	88.7	66,410	89.6	65,060
1957	1513	511	June 7, 1957	18	74.1	53,650	74.1	53,660
1958	1563	717	May 15, 1958	-	74.3	53,760	73.0	52,820
1959	1633	266	June 16, 1959	-	49.3	35,670	49.9	36,090
1960	1713	516	Apr. 5, 1960	15	48.3	35,040	-	-

2110. Fontenelle Creek near Fontenelle, Wyo.

Location.--Lat 42°05'50", long 110°13'20", in sec.3, T.24 N., R.113 W., on left bank 5 miles west of Fontenelle and 5 miles upstream from mouth.

Drainage area.--224 sq mi.

Records available.--May 1914 to September 1919 (no winter records 1914-15), October 1931 to September 1953. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 6,580 ft (by barometer). Prior to Sept. 30, 1919, staff gage at site 150 ft upstream at different datum. Oct. 1, 1931, to July 29, 1938, staff gage 150 ft upstream at datum 0.90 ft higher.

Average discharge.--26 years (1915-19, 1931-53), 66.3 cfs (48,000 acre-ft per year).

Extremes.--1914-19, 1931-53: Maximum discharge observed, 922 cfs Apr. 19, 1938 (gage height, 4.00 ft, site and datum then in use), from rating curve extended above 380 cfs; no flow Aug. 1-5, Aug. 23 to Sept. 15, 1934, June 27-30, Sept. 18-27, 1940.

Remarks.--Water rights totaling 116.67 cfs (priorities 1878-1931) for irrigation of about 8,120 acres (part of which is above and part below station) adjudicated by Wyoming for diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	40.1	46.2	39.9	34.7	46.0	42.1	233	403	371	97.2	64.9	44.3	122
1952	43.6	36.9	40	36	36	34	145	369	192	33.1	39.4	34.3	86.7
1953	29.8	28.7	36.9	40.1	42.4	38.6	72.7	52.5	144	22.7	34.0	15.0	46.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,470	2,750	2,460	2,130	2,550	2,590	13,840	24,810	22,100	5,980	3,990	2,640	88,310
1952	2,690	2,200	2,460	2,210	2,070	2,090	8,610	22,660	11,440	2,040	2,420	2,040	62,920
1953	1,830	1,710	2,270	2,470	2,350	2,370	4,320	3,230	8,570	1,400	2,090	895	33,500

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	129	93,230
1951	1213	680	May 30, 1951	32	122	88,310	122	87,970
1952	1243	527	Apr. 30, 1952	22	86.7	62,920	84.6	61,390
1953	1283	282	June 16, 1953	9.5	46.3	33,500	-	-

2125. Big Sandy Creek at Leckie Ranch, near Big Sandy, Wyo.

Location.--Lat 42°35', long 109°17', in sec.18, T.30 N., R.104 W., on left bank at Leckie Ranch, half a mile downstream from Squaw Creek and 9 miles southeast of Big Sandy.

Drainage area.--94 sq mi, approximately.

Records available.--July to November 1910, May to August 1911, July 1939 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as Big Sandy Creek near Big Sandy 1910-11.

Gage.--Water-stage recorder. Altitude of gage is 7,800 ft (by barometer). Prior to Sept. 27, 1910, staff gage and Sept. 27, 1910, to Aug. 31, 1911, chain gage, at sites near present location at different datum.

Average discharge.--21 years (1939-60), 82.0 cfs (59,370 acre-ft per year).

Extremes.--1910-11, 1939-60: Maximum discharge, 1,310 cfs June 14, 1953, from rating curve extended above 810 cfs; maximum gage height, 6.85 ft June 17, 1950; minimum discharge not determined.

Remarks.--Diversions above station for irrigation of about 480 acres (for details on adjudication of diversions, see Remarks for this station in WSP 1243).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	34.8	29.9	24	22	19	20	40	315	392	221	99.7	45.8	106
1952	35.7	19	18	17	19	21	58.1	332	461	166	48.6	20.9	101
1953	15.0	11.1	10	11	13	14	35.4	87.8	423	120	41.6	15.7	66.3
1954	12.7	13.2	13	12	16	18	35.1	342	243	141	34.0	20.5	75.5
1955	19.5	14.8	11.5	10.7	11.0	15.1	35.8	260	264	82.1	33.9	15.2	64.7
1956	15.9	16.0	14.8	15.6	11.7	14.2	39.2	350	451	92.2	35.1	15.4	89.2
1957	14.7	11.1	9	8	11	13	35	172	612	313	63.1	36.1	108
1958	41.3	21.7	10	10	12	15	20	358	201	46.9	24.6	24.9	65.9
1959	14.6	15.3	14.6	10	10	10	12.8	102	336	82.4	26.7	22.6	54.7
1960	29.8	13.6	5	4	3.5	8.85	48.2	151	167	43.5	17.9	19.5	42.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,140	1,780	1,480	1,350	1,060	1,230	2,380	19,590	23,310	13,610	6,130	2,730	76,590
1952	2,200	1,130	1,110	1,050	1,090	1,290	3,460	20,400	27,430	10,220	2,990	1,250	73,620
1953	920	659	615	676	722	861	2,110	5,400	25,160	7,360	2,560	934	47,980
1954	780	784	799	738	889	1,110	2,090	21,010	14,460	8,700	2,090	1,220	54,670
1955	1,200	879	708	657	609	930	2,130	15,980	15,690	5,050	2,080	902	46,820
1956	980	954	908	960	672	875	2,330	21,550	26,810	5,670	2,160	914	64,780
1957	906	660	553	492	611	799	2,080	10,600	36,400	19,260	3,880	2,150	78,390
1958	2,540	1,290	615	615	666	922	1,190	22,020	11,970	2,890	1,510	1,480	47,710
1959	900	910	897	615	555	615	760	6,290	19,980	5,070	1,640	1,340	39,570
1960	1,830	811	307	246	201	544	2,870	9,250	9,930	2,670	1,100	1,160	30,920

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	127	92,170
1951	1213	984	May 28, 1951	-	106	76,590	104	75,630
1952	1243	1,110	June 7, 1952	-	101	73,620	98.3	71,370
1953	1283	1,310	June 14, 1953	-	66.3	47,980	66.5	48,150
1954	1343	611	May 22, 1954	-	75.5	54,670	76.1	55,090
1955	1393	635	May 21, 1955	9.0	64.7	46,820	64.7	46,880
1956	1443	1,060	June 2, 1956	10	89.2	64,780	88.2	64,060
1957	1513	1,180	June 7, 1957	-	108	78,390	111	80,720
1958	1563	.968	May 25, 1958	-	65.9	47,710	63.5	45,970
1959	1633	614	June 16, 1959	-	54.7	39,570	55.0	39,810
1960	1713	505	May 13, 1960	-	42.6	30,920	-	-

2135. Big Sandy Creek near Farson, Wyo.

Location.--Lat 42°19', long 109°29', in NW¼ sec.17, T.27 N., R.106 W., on left bank just upstream from Big Sandy Reservoir, 14 miles north of Farson and 18 miles upstream from Little Sandy Creek.

Drainage area.--322 sq mi.

Records available.--October 1914 to September 1917, October 1920 to October 1924, October 1926 to September 1934, April 1953 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 6,800 ft (by barometer). Prior to Apr. 28, 1921, staff gage and Apr. 28, 1921, to Aug. 3, 1934, water-stage recorder, at site half a mile upstream at different datum. Apr. 17, 1953, to Nov. 11, 1954, water-stage recorder at site 1½ miles upstream at different datum.

Average discharge.--22 years (1914-17, 1920-24, 1926-34, 1953-60), 83.6 cfs (60,520 acre-ft per year).

Extremes.--1914-17, 1920-24, 1926-34, 1953-60: Maximum discharge, 1,330 cfs Aug. 14, 1930 (gage height, 5.96 ft, site and datum then in use), from rating curve extended above 770 cfs; minimum not determined.

Remarks.--Divisions above station for irrigation of about 3,000 acres above and below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953				-	-	-	44.7	112	440	143	51.1	16.0	-
1954	15.8	14.6	13	12	16	18	48.9	342	262	158	38.3	21.3	80.4
1955	25.0	14.7	7.0	3.0	6.0	22	40	231	264	75.9	34.4	12.2	61.5
1956	18.0	18.1	15.8	12.5	10.9	16.1	51.3	318	425	103	36.4	14.4	86.6
1957	15.0	1.6	5.98	5	7	20	41.2	182	629	371	79.0	38.0	117
1958	43.5	30.5	13	10	12.3	17.6	22.5	339	238	52.0	17.0	10.7	67.5
1959	12.3	13.0	11.5	11	11	17.4	50	107	321	77.3	26.7	16.9	56.2
1960	31.1	18.2	3	.3	.1	8.40	67.4	146	166	45.8	11.6	13.9	42.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	-	-	-	-	-	-	2,660	6,860	26,190	8,820	3,140	952	-
1954	974	869	799	738	889	1,110	2,910	21,020	15,580	9,700	2,350	1,270	58,210
1955	1,540	874	430	184	333	1,350	2,380	14,210	15,730	4,670	2,110	726	44,540
1956	1,100	1,080	974	771	628	990	3,050	19,550	25,280	6,350	2,240	857	62,870
1957	924	688	368	307	389	1,230	2,450	11,170	37,430	22,830	4,860	2,260	84,910
1958	2,680	1,810	799	615	684	1,080	1,340	20,860	14,150	3,200	1,040	635	48,890
1959	758	771	706	676	611	1,070	2,980	6,610	19,080	4,750	1,640	1,010	40,660
1960	1,910	1,080	184	18	5.8	517	4,010	8,970	9,910	2,810	713	829	30,960

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953	1343	972	June 15, 1953	-	-	-	-	-
1954	1343	890	May 21, 1954	-	80.4	58,210	80.7	58,410
1955	1393	444	May 22, 1955	-	61.5	44,540	62.0	44,850
1956	1443	865	June 3, 1956	9.0	86.6	62,870	85.0	61,700
1957	1513	1,190	June 8, 1957	-	117	84,910	122	88,220
1958	1563	898	May 26, 1958	-	67.5	48,890	63.3	45,840
1959	1633	563	June 17, 1959	-	56.2	40,660	57.5	41,600
1960	1713	492	May 14, 1960	-	42.6	30,960	-	-

2140. Little Sandy Creek near Elkhorn, Wyo.

Location.--Lat 42°32', long 109°13', in sec.35, T.30 N., R.104 W., on left bank 500 ft upstream from road bridge and 7 miles northeast of Elkhorn.

Drainage area.--20.9 sq mi.

Records available.--July 1939 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 8,000 ft (estimated on basis of nearby bench mark).

Average discharge.--21 years (1939-60), 20.6 cfs (14,910 acre-ft per year).

Extremes.--1939-60: Maximum discharge, 298 cfs June 30, 1957 (gage height, 4.04 ft); maximum gage height, 4.66 ft Apr. 29, 1955 (backwater from ice); minimum discharge not determined.

Remarks.--Transmountain diversion above station by Continental Divide ditch (see elsewhere in this report). Diversions above station for irrigation of about 2,460 acres (for details on adjudication of diversions, see Remarks for this station in WSP 1243).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	14.5	11.6	8.0	7.0	6.0	6.0	10	47.6	84.6	79.8	32.6	14.5	27.0
1952	10.4	7.0	6.5	6.0	5.8	5.5	15.5	64.7	127	61.0	21.1	7.48	28.2
1953	2.68	2.67	2.6	3.5	4.0	3.8	8.50	22.7	99.8	42.7	14.9	3.82	17.6
1954	2.87	3.83	4.2	4.0	5.3	6.0	13.6	73.5	59.0	59.0	10.9	3.27	20.6
1955	4.49	4.14	3.29	3.14	3.18	3.77	6.93	45.2	68.1	24.1	11.2	1.72	15.0
1956	1.88	4.26	5.27	5.54	3.89	4.90	12.7	53.8	96.2	35.5	15.7	4.30	20.3
1957	2.89	3.0	2.8	2.5	2.88	3.90	5.69	37.1	123	106	27.0	14.4	27.7
1958	15.3	8.84	6	4.5	4	4	6	71.6	60.6	12.1	4.58	5.38	17.0
1959	3.69	3.92	5.32	3.83	4.21	4.00	6.38	20.8	78.9	18.9	6.01	4.52	13.3
1960	7.04	5.85	1.53	2.08	2.69	8.50	15.0	22.8	55.5	13.4	4.97	1.66	11.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	889	689	492	430	333	369	595	2,930	5,040	4,910	2,000	864	19,540
1952	637	417	400	369	334	338	922	3,980	7,560	3,750	1,300	444	20,450
1953	165	159	160	215	222	234	506	1,400	5,940	2,630	919	216	12,770
1954	177	228	258	246	294	369	808	4,520	3,510	3,630	673	195	14,910
1955	276	247	203	193	177	232	412	2,780	4,050	1,480	688	102	10,840
1956	116	253	324	341	224	301	754	3,310	5,720	2,180	965	256	14,740
1957	178	179	172	154	152	240	338	2,280	7,340	6,510	1,680	655	20,060
1958	942	526	369	277	222	246	357	4,400	5,610	745	281	314	12,290
1959	227	233	327	235	234	246	380	1,280	4,700	1,180	370	269	9,660
1960	433	348	94	128	166	523	892	1,400	3,300	825	305	99	8,510

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	32.4	23,470
1951	1213	178	June 17, 1951	-	27.0	19,540	26.1	18,920
1952	1243	266	June 7, 1952	-	28.2	20,450	26.8	19,480
1953	1283	289	June 14, 1953	0.8	17.6	12,770	17.9	12,940
1954	1343	198	June 27, 1954	.7	20.6	14,910	20.7	14,970
1955	1393	112	June 14, 1955	.5	15.0	10,840	14.9	10,810
1956	1443	190	June 2, 1956	1.3	20.3	14,740	20.1	14,580
1957	1513	298	June 30, 1957	-	27.7	20,060	29.5	21,370
1958	1563	232	May 26, 1958	-	17.0	12,290	15.5	11,240
1959	1633	174	June 16, 1959	2.2	13.3	9,660	13.5	9,750
1960	1713	120	June 4, 1960	1.0	11.7	8,510	-	-

2145. Little Sandy Creek above Eden, Wyo.

Location.--Lat 42°15', long 109°18', in SW $\frac{1}{4}$ sec.11, T.26 N., R.105 W., on right bank above diversion to Eden No. 2 Reservoir, 9 miles upstream from Pacific Creek, 11 miles north-east of Farson, and 14 miles northeast of Eden.

Drainage area.--170 sq mi, approximately.

Records available.--October 1954 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,760 ft (by barometer).

Average discharge.--6 years (1954-60), 13.0 cfs (9,410 acre-ft per year).

Extremes.--1954-60: Maximum discharge recorded, 227 cfs July 2, 1957 (gage height, 7.76 ft); no flow at times in each year.

Remarks.--Flow regulated by Elkhorn Reservoir (capacity, 1,450 acre-ft). Diversions above station for irrigation of about 6,450 acres.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	0	3.20	3.42	0.70	1.40	3.79	11.9	36.3	45.4	7.78	4.26	0.31	9.88
1956	0	3.84	6.40	5.53	3.45	10.3	16.0	44.4	86.4	18.0	3.04	.01	16.4
1957	.95	3.52	1.37	.5	1.64	5.0	13.9	40.4	102	89.9	15.4	6.11	23.4
1958	10.1	7.1	4	4	4.5	6	10	62.7	43.6	3.14	.003	0	13.0
1959	0	1.81	2.5	2	2.5	4.5	11.6	15.8	50.2	7.47	.02	0	8.17
1960	2.06	4.57	2	1	.8	14.5	21.1	11.6	30.0	.71	0	0	7.32

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	0	191	210	43	78	233	707	2,230	2,700	479	262	18	7,150
1956	0	229	394	340	198	636	951	2,730	5,140	1,110	186	.6	11,910
1957	58	210	84	31	91	307	825	2,480	6,050	5,530	944	363	16,970
1958	622	422	246	246	250	369	595	3,880	2,590	193	.2	0	9,390
1959	0	108	154	123	139	280	688	974	2,990	460	1.0	0	5,920
1960	127	272	123	61	46	890	1,260	716	1,780	44	0	0	5,320

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953								
1954								
1955	1393	70	June 16, 1955	0	9.88	7,150	10.2	7,370
1956	1443	150	June 5, 1956	0	16.4	11,910	16.0	11,640
1957	1513	227	July 2, 1957	0	23.4	16,970	24.7	17,910
1958	1563	188	May 28, 1958	0	13.0	9,390	11.6	8,370
1959	1633	117	June 18, 1959	0	8.17	5,920	8.53	6,180
1960	1713	125	Mar. 28, 1960	0	7.32	5,320	-	-

a Maximum observed.

2150. Pacific Creek near Parson, Wyo.

Location.--Lat 42°08', long 109°18', in sec.23, T.25 N., R.105 W., on left bank 1.0 mile upstream from Eden Canal, about 5 miles upstream from mouth, and 7.5 miles east of Parson.

Drainage area.--500 sq mi, approximately.

Records available.--October 1954 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,680 ft (by barometer).

Average discharge.--6 years (1954-60), 4.36 cfs (3,160 acre-ft per year).

Extremes.--1954-60: Maximum discharge observed, about 550 cfs Mar. 21, 1956 (gage height, 6.24 ft, backwater from ice); no flow for many days each year.

Remarks.--Some regulation by Pacific No. 2 Reservoir (capacity, 1,400 acre-ft). Diversions for irrigation of about 650 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	0.76	0.90	0	0	0	0	26.6	1.53	0.23	1.55	0	0.25	2.63
1956	.09	.12	12.7	4.39	0	56.0	5.54	11.2	.44	0	.96	.24	7.75
1957	.76	.73	0	0	9.16	22.7	12.1	28.0	5.87	0.01	0	0	6.61
1958	0	0	0	0	0	3.75	24.6	6.13	.01	0	0	0	2.87
1959	0	.14	0	0	0	2.33	24.2	.95	0	0	0	0	2.28
1960	0	.24	0	0	0	41.1	5.16	1.19	.09	0	0	0	4.04

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	47	54	0	0	0	0	1,580	94	14	95	0	15	1,900
1956	5.6	7.1	783	270	0	3,440	329	688	26	0	59	14	5,620
1957	47	43	0	0	509	1,390	720	1,720	349	.4	0	0	4,780
1958	0	0	0	0	0	230	1,470	377	.4	0	0	0	2,080
1959	0	8.1	0	0	0	143	1,440	58	0	0	0	0	1,650
1960	0	14	0	0	0	2,530	307	73	5.4	0	0	0	2,930

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953								
1954								
1955	1713	265	July 24, 1955	0	2.63	1,900	3.59	2,590
1956	1713	a550	Mar. 21, 1956	0	7.75	5,620	6.78	4,920
1957	1713	294	Mar. 9, 1957	0	6.61	4,780	6.48	4,690
1958	1713	120	May 9, 1958	0	2.87	2,080	2.88	2,090
1959	1713	461	Apr. 6, 1959	0	2.28	1,650	2.29	1,660
1960	1713	461	Mar. 27, 1960	0	4.04	2,930	-	-

a Maximum observed.

2160. Big Sandy Creek below Eden, Wyo.

Location.--Lat 42°00', long 109°35', in SE $\frac{1}{4}$ sec.31, T.24 N., R.107 W., on right bank an eighth of a mile downstream from Simpson Gulch and 8.0 miles southwest of Eden.

Drainage area.--1,610 sq mi, approximately.

Records available.--October 1954 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,460 ft (by barometer).

Average discharge.--6 years (1954-60), 34.6 cfs (25,050 acre-ft per year).

Extremes.--1954-60: Maximum discharge, about 650 cfs Mar. 20, 1956 (gage height, 7.22 ft, backwater from ice); minimum daily, 0.1 cfs Feb. 24, Feb. 26 to Mar. 1, 1960.

Remarks.--Natural flow of stream affected by storage reservoirs, diversions for irrigation, and return flow from irrigated areas.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	23.0	19.5	11.8	6.38	4.81	14.6	95.6	29.7	33.3	37.5	29.2	21.1	27.2
1956	19.1	13.1	29.5	18.8	10.6	69.6	21.5	32.6	52.7	28.5	31.4	20.8	29.1
1957	26.0	18.5	9.94	4.59	16.5	48.7	32.2	68.6	202	221	60.2	35.3	62.0
1958	27.4	28.5	12.2	6	8	15.7	82.1	210	90.7	50.4	51.2	36.0	51.8
1959	26.1	23.2	16.3	6.5	6	20.3	52.9	14.7	28.4	21.3	24.0	21.7	21.8
1960	18.7	12.6	8.54	.86	.30	45.6	25.6	13.1	19.0	21.8	8.61	8.81	15.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	1,410	1,160	724	392	267	900	5,690	1,830	1,980	2,300	1,800	1,260	18,710
1956	1,170	777	1,810	1,160	609	4,280	1,280	2,010	3,130	1,750	1,930	1,240	21,150
1957	1,600	1,100	611	282	917	2,870	1,910	4,220	12,010	13,590	3,700	2,100	44,910
1958	1,680	1,700	750	369	444	965	4,880	12,900	5,400	3,100	3,150	2,140	37,480
1959	1,610	1,380	1,000	399	333	1,250	3,150	904	1,690	1,310	1,470	1,290	15,790
1960	1,150	748	525	53	17	2,800	1,520	808	1,130	1,340	530	524	11,140

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950							
1951							
1952							
1953							
1954							
1955	1443	313	Apr. 10, 1955	3.5	27.2	18,710	28.4
1956	1443	a650	Mar. 20, 1956	7.0	29.1	21,150	28.5
1957	1513	447	July 2, 1957	2.0	62.0	44,910	63.2
1958	1563	612	May 28, 1958	-	51.8	37,480	51.6
1959	1633	280	Apr. 6, 1959	-	21.8	15,790	19.6
1960	1713	-	-	.1	15.4	11,140	-

a About.

2170. Green River near Green River, Wyo.

Location.--Lat 41°31', long 109°27', in NW 1/4 sec. 26, T.18 N., R.107 W., on right bank a quarter of a mile downstream from Bitter Creek, 1 mile southeast of town of Green River, and 4 miles upstream from high-water line of proposed Flaming Gorge Reservoir.

Drainage area.--About 10,000 sq mi, of which 300 sq mi is probably noncontributing.

Records available.--April 1951 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,050 ft (from river-profile map).

Average discharge.--9 years (1951-60), 1,614 cfs (1,168,000 acre-ft per year).

Extremes.--1951-60: Maximum discharge, 14,600 cfs May 29, 1956 (gage height, 7.42 ft); minimum daily, 170 cfs Nov. 16, 1955.

Maximum discharge observed, 22,200 cfs June 19, 1918, at site 1½ miles upstream.

Remarks.--Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions for irrigation, and return flow from irrigated areas. Records of chemical analyses, suspended sediment loads, and water temperatures are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	5,159	8,869	5,682	3,385	1,534	-
1952	1,310	845	703	670	727	842	3,201	5,665	6,209	2,775	1,616	955	2,168
1953	676	474	454	519	589	716	1,290	1,211	6,401	3,358	1,693	657	1,501
1954	547	611	386	417	491	778	1,481	4,578	3,903	4,065	1,401	784	1,629
1955	657	659	288	317	368	543	1,247	2,069	4,109	1,894	1,113	561	1,155
1956	530	479	632	685	496	1,474	2,663	5,035	9,324	3,197	1,601	696	2,232
1957	629	582	418	365	665	928	1,009	2,865	8,007	6,184	1,908	1,135	2,062
1958	1,077	806	672	553	849	829	1,672	4,725	4,477	1,243	824	604	1,528
1959	537	558	511	389	442	792	1,232	1,279	5,406	2,282	1,277	700	1,281
1960	834	712	441	446	392	1,214	1,412	1,079	2,903	1,101	622	462	967

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	517,200	527,800	349,400	208,100	91,300	-
1952	80,530	50,270	43,220	41,200	41,810	51,750	190,500	548,500	399,200	170,600	99,370	56,810	1,574,000
1953	41,540	28,190	26,700	31,930	32,730	44,010	76,740	74,430	380,900	206,500	104,100	59,070	1,087,000
1954	33,640	36,380	23,740	25,640	27,260	47,860	88,100	281,500	232,200	250,000	86,150	46,630	1,179,000
1955	40,380	39,200	17,710	19,520	20,410	33,360	74,190	127,200	244,500	113,500	66,450	34,550	836,000
1956	32,620	28,480	38,980	42,100	28,560	90,660	158,500	509,600	554,800	196,600	98,460	41,400	1,631,000
1957	38,670	34,610	25,750	22,420	36,920	57,050	60,040	178,200	476,500	880,200	17,300	67,540	1,493,000
1958	66,210	47,960	41,300	32,770	47,150	51,000	99,490	290,600	266,400	76,450	50,670	35,910	1,106,000
1959	35,030	31,990	31,400	23,900	24,540	46,710	75,310	78,660	217,000	140,500	78,510	41,640	927,700
1960	51,290	42,380	27,110	27,450	22,530	74,620	84,010	66,320	172,700	67,690	38,250	27,500	701,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950							
1951	1213	413,600	June 3, 1951	-	-	-	-
1952	1243	11,500	June 11, 1952	374	2,168	1,574,000	2,061
1953	1283	11,800	June 19, 1953	256	1,501	1,087,000	1,498
1954	1343	10,600	July 1, 1954	290	1,829	1,179,000	1,634
1955	1393	6,060	June 16, 1955	210	1,155	836,000	1,158
1956	1443	14,600	May 29, 1956	170	2,232	1,631,000	2,231
1957	1513, 1713	13,400	June 11, 1957	310	2,062	1,493,000	2,140
1958	1563	9,410	May 28, 1958	370	1,528	1,106,000	1,446
1959	1633	9,820	June 19, 1959	280	1,281	927,700	1,315
1960	1713	8,200	Mar. 26, 1960	330	967	701,800	-

a For period April to September.

2185. Blacks Fork near Millburne, Wyo.

Location.--Lat 41°03', long 110°34', in sec.35, T.13 N., R.117 W., on right bank 3 miles downstream from Little West Fork, 4½ miles north of Utah-Wyoming State line, and .15 miles southwest of Millburne.

Drainage area.--156 sq mi.

Records available.--July 1939 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 8,380 ft (by barometer). Prior to Nov. 5, 1948, at site 150 ft upstream at different datum. Nov. 5, 1948, to Sept. 30, 1952, at present site at datum 2.00 ft higher.

Average discharge.--21 years (1939-60), 155 cfs (112,200 acre-ft per year).

Extremes.--1939-60: Maximum discharge, 2,530 cfs June 7, 1957 (gage height, 6.00 ft), from rating curve extended above 1,500 cfs; minimum not determined.

Remarks.--Diversion above station in Wyoming used for supplemental supply for irrigation of about 2,100 acres, mainly below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	45.2	39.9	23	18	18	22	52.3	476	617	333	129	68.2	154
1952	77.7	40.0	32	30	28	30	92.8	544	806	274	150	75.7	182
1953	50.0	35.5	33	30	27	31	50.7	199	1,029	273	106	41.9	159
1954	33.9	29.4	30	28	30	35	86.5	429	237	140	54.8	45.0	98.8
1955	33.2	29.9	25.5	30.3	33.5	35.1	53.4	426	488	142	83.8	45.8	119
1956	35.6	32.2	34.2	31.0	31.7	46.0	110	693	739	175	58.6	31.8	168
1957	29.5	25	25	25	35	70	110	246	1,251	516	127	56.7	209
1958	44.3	35	35	35	40	40	47.5	713	706	142	57.1	41.4	162
1959	29.6	25.5	28.2	24.2	26.4	31.8	63.3	365	909	245	78.6	50.5	156
1960	62.3	48.8	33.1	26.9	26.9	71.7	176	403	616	147	47.6	38.6	141

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,780	2,380	1,410	1,110	1,000	1,350	3,110	29,260	36,700	20,450	7,940	4,060	111,600
1952	4,780	2,380	1,970	1,840	1,610	1,840	5,520	33,480	47,880	16,850	9,240	4,510	131,900
1953	3,080	2,110	2,030	1,840	1,510	1,910	3,020	12,270	61,240	16,770	6,490	2,490	114,800
1954	2,090	1,750	1,840	1,720	1,670	2,150	5,150	26,390	14,110	8,590	3,370	2,680	71,510
1955	2,040	1,780	1,570	1,860	1,860	2,160	3,180	26,170	29,030	8,740	5,150	2,730	86,270
1956	2,190	1,920	2,100	1,910	1,820	2,830	6,530	42,610	43,970	10,770	3,600	1,890	122,200
1957	1,810	1,490	1,540	1,540	1,940	4,500	6,540	15,130	74,420	31,750	7,820	3,370	151,600
1958	2,720	2,080	2,150	2,150	2,220	2,460	2,830	43,860	41,990	8,720	3,510	2,460	117,200
1959	1,820	1,520	1,740	1,490	1,470	1,950	3,770	22,430	54,090	15,060	4,840	3,000	113,200
1960	3,830	2,900	2,040	1,650	1,550	4,410	10,480	24,760	36,630	9,020	2,930	2,300	102,500

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	162	-	117,600
1951	1213	1,590	May 28, 1951	-	154	111,600	158	-	114,100
1952	1243	1,880	June 7, 1952	-	182	131,900	179	-	130,000
1953	1283	2,460	June 13, 1953	-	159	114,800	156	-	113,200
1954	1343	1,030	May 22, 1954	-	98.8	71,510	98.4	-	71,220
1955	1393	1,260	June 9, 1955	20	119	86,270	120	-	87,090
1956	1443	1,840	May 22, 1956	25	168	122,200	166	-	120,800
1957	1513	2,530	June 7, 1957	24	209	151,600	212	-	155,800
1958	1563	2,180	May 27, 1958	-	162	117,200	159	-	115,300
1959	1633	1,640	June 16, 1959	-	156	113,200	161	-	116,900
1960	1713	1,500	June 4, 1960	20	141	102,500	-	-	-

2190. Blacks Fork near Urie, Wyo.

Location.--Lat 41°21', long 110°20', in sec.24, T.16 N., R.115 W., on left bank 2 miles downstream from Quartz Creek and $2\frac{1}{2}$ miles north of Urie.

Drainage area.--261 sq mi.

Records available.--August 1913 to September 1924, October 1937 to September 1955. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 6,560 ft (by barometer). Aug. 21, 1913, to Sept. 30, 1924, staff gage at former bridge on abandoned channel 800 ft upstream at different datum (datum lowered 0.50 ft Aug. 19, 1915). Oct. 21, 1937, to Apr. 1, 1939, water-stage recorder on abandoned channel 500 ft upstream at different datum.

Average discharge.--29 years (1913-24, 1937-55), 78.8 cfs (57,050 acre-ft per year).

Extremes.--1913-24, 1937-55: Maximum discharge observed, 2,680 cfs June 19, 20, 1917 (gage height, 4.72 ft, site and datum then in use); minimum daily, 0.2 cfs Sept. 2, 3, 1939.

Remarks.--Diversions above station for irrigation of about 55,000 acres (for details on adjudication of diversions, see Remarks for this station in WSP 1243), part of which is above and part below station. Four small reservoirs above station (total capacity, about 1,100 acre-ft) for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	12.5	17.3	25.7	23	30	49.0	58.6	236	142	43.1	39.9	12.4	57.6
1952	39.3	28	26	31	35	39	295	638	453	40.2	19.1	9.02	138
1953	8.67	7.66	13.5	24.8	33.2	57.1	53.9	23.9	397	18.3	9.10	2.83	53.7
1954	5.08	6.28	13.4	22.6	33.5	12.0	11.3	18.2	11.1	5.81	1.38	1.97	11.9
1955	3.39	4.13	5.07	7.64	20.4	35.7	21.4	19.2	58.1	10.4	6.10	1.73	16.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	768	1,030	1,580	1,410	1,670	3,010	3,480	14,500	8,440	2,650	2,450	738	41,730
1952	2,420	1,670	1,600	1,910	2,010	2,400	17,530	39,260	26,970	2,470	1,180	537	99,960
1953	533	456	831	1,520	1,850	3,510	3,210	1,470	23,640	1,130	559	168	38,880
1954	313	492	824	1,390	1,960	738	670	1,120	659	357	85	117	8,620
1955	208	246	312	482	1,130	2,200	1,280	1,180	3,460	641	375	103	11,620

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	82.8	59,910
1951	1213	1,190	May 29, 1951	6.5	57.6	41,730	60.8	44,040
1952	1243	1,250	May 5, 1952	7.4	138	99,960	132	96,090
1953	1283	1,270	June 14, 1953	1.8	53.7	38,880	53.4	38,690
1954	1343	143	May 22, 1954	.6	11.9	8,620	10.7	7,760
1955	1393	422	June 9, 1955	.9	16.0	11,620	-	-

2200. East Fork of Smith Fork near Robertson, Wyo.

Location.--Lat 41°03', long 110°24', in NE $\frac{1}{4}$ sec.5, T.12 N., R.115 W., on left bank 1 mile upstream from Gilbert Creek and 9 miles southeast of Robertson.

Drainage area.--53.0 sq mi.

Records available.--July 1939 to September, 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 8,490 ft (by barometer). Prior to July 12, 1957, at datum 3.96 ft higher.

Average discharge.--21 years (1939-60), 44.4 cfs (32,140 acre-ft per year).

Extremes.--1939-60: Maximum discharge, 1,200 cfs June 13, 1953 (gage height, 7.94 ft, present datum), from rating curve extended above 700 cfs; no flow for part of each day Apr. 17-22, 24, 25, 1950; minimum gage height, 3.26 ft, present datum Apr. 22, 1950.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11.2	10.0	7.58	6.0	7.0	8.5	14.3	120	177	92.5	43.2	20.6	43.5
1952	24.5	19	16	13	11	10	27.2	201	323	124	47.8	25.9	70.2
1953	14.5	9.27	9.0	8.5	8.0	8.5	14.9	31.6	270	82.2	35.3	10.0	41.7
1954	8.19	8.63	7.4	5.6	6.0	7.0	24.3	97.8	59.3	45.0	17.6	15.8	25.4
1955	12.8	9.45	5.52	5.61	6.04	6.25	10.0	95.4	122	41.8	25.3	12.3	29.5
1956	9.68	6.60	7.08	7.04	6.34	7.59	18.8	164	190	52.8	17.4	6.68	41.2
1957	5.21	5.5	5	4	4.5	4.35	5.65	56.5	349	161	39.6	15.8	54.7
1958	13.2	10.6	10	10	11.5	12.6	20	164	182	49.8	22.0	17.7	43.7
1959	8.53	7.05	6.41	4.8	5	5	8.2	97.7	254	67.4	29.4	19.5	42.7
1960	21.7	11.0	3.5	3	4	8.92	26.0	107	162	41.4	12.0	11.6	34.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	691	595	466	369	389	523	851	7,370	10,550	5,690	2,650	1,230	31,360
1952	1,500	1,130	984	799	633	615	1,620	12,370	19,230	7,610	2,940	1,540	50,970
1953	869	552	553	523	444	523	888	1,950	16,060	5,050	2,170	598	30,200
1954	504	513	455	344	333	430	1,450	6,010	3,530	2,770	1,080	940	18,360
1955	787	563	340	357	335	384	596	5,870	7,280	2,570	1,560	729	21,370
1956	595	393	436	433	365	467	1,120	10,100	11,280	3,240	1,070	397	29,900
1957	321	327	307	246	250	269	336	3,470	20,760	9,930	2,440	938	39,590
1958	812	633	615	615	637	774	1,190	10,100	10,830	3,080	1,350	1,060	31,680
1959	524	420	394	298	278	307	486	6,010	15,080	4,150	1,810	1,160	30,920
1960	1,330	655	215	184	230	548	1,550	6,570	8,640	2,540	738	692	24,890

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	42.3	30,650	
1951	1213	521	May 29, 1951	-	43.5	31,360	45.9	35,230	
1952	1243	855	June 8, 1952	-	70.2	50,970	68.0	49,350	
1953	1283	1,200	June 13, 1953	-	41.7	30,200	41.0	29,680	
1954	1343	263	May 21, 1954	-	25.4	18,360	25.7	18,580	
1955	1393	377	June 9, 1955	3.9	29.5	21,370	29.1	21,100	
1956	1443	494	June 2, 1956	5.0	41.2	29,900	40.5	29,430	
1957	1513	734	June 8, 1957	-	54.7	39,590	56.2	40,700	
1958	1563	540	May 28, 1958	-	43.7	31,680	42.8	30,950	
1959	1633	476	June 9, 1959	-	42.7	30,920	43.9	31,780	
1960	1713	364	June 3, 1960	-	34.3	24,890	-	-	

2205. West Fork of Smith Fork near Robertson, Wyo.

Location.--Lat 41°01', long 110°29', in sec.15, T.12 N., R.116 W., on left bank three-quarters of a mile downstream from Archie Creek and 12 miles southwest of Robertson.

Drainage area.--37.2 sq mi.

Records available.--July 1939 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 8,650 ft (by barometer). Prior to Aug. 17, 1949, at site 75 ft upstream at same datum.

Average discharge.--21 years (1939-60), 19.8 cfs (14,330 acre-ft per year).

Extremes.--1939-60: Maximum discharge, 920 cfs May 30, 1950 (gage height, 3.08 ft); minimum observed, 0.2 cfs Aug. 13, 1940, Feb. 25, 1941 (discharge measurement).

Remarks.--No diversion above station.

Revisions.--Some periods for the water year 1943 were revised in WSP 1343, the resulting revised records as summarized herewith supersede those published in WSP 1313.

Month	Mean	Acre-feet
April 1943.....	59	3,500
Water year 1942-43.....	22.9	16,560
Calendar year 1943.....	23.0	16,660

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951†	3.63	4.13	4.08	3.0	3.5	4.5	16.4	130	70.0	18.9	11.4	3.73	22.9
1952	9.54	5.83	5.2	5.0	4.7	4.5	13.2	138	102	16.0	8.56	3.73	26.4
1953	3.09	2.52	2.67	2.50	2.35	1.51	7.00	54.5	146	9.85	3.18	1.44	19.6
1954	2.65	3.46	3.58	3.65	3.66	2.77	17.2	47.0	11.9	5.28	1.75	2.13	8.79
1955	2.35	2.45	1.32	1.91	2.13	2.96	9.84	77.9	41.7	6.12	3.33	1.27	12.8
1956	1.64	2.08	2.98	2.36	2.37	4.62	17.4	153	52.6	7.08	2.73	1.60	21.0
1957	2.42	2.84	3.17	2.60	2.90	2.8	11.3	47.6	190	24.5	6.04	2.57	24.8
1958	2.95	2.51	2.62	2.30	2.5	2.5	7.0	128	40.9	4.06	2.11	1.77	16.8
1959	1.75	2.00	1.7	1.5	1.5	1.7	3.2	66.6	78.8	14.1	2.89	2.15	14.9
1960	4.34	3.04	.6	.6	1.6	6.04	26.4	92.8	47.2	6.03	1.14	1.45	16.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	223	248	251	184	194	277	977	8,000	4,170	1,160	701	222	16,600
1952	587	347	320	307	270	277	786	8,510	6,060	986	526	222	19,200
1953	190	150	164	154	130	93	417	3,350	8,860	606	196	86	14,200
1954	163	206	220	225	203	171	1,020	2,890	706	325	108	127	6,360
1955	145	145	81	118	118	182	586	4,790	2,460	376	204	76	9,300
1956	101	124	183	145	136	284	1,030	9,400	3,130	436	168	95	15,230
1957	149	169	195	160	161	172	675	2,930	11,290	1,510	372	153	17,940
1958	181	150	161	141	139	154	417	7,870	2,430	250	130	105	12,130
1959	107	119	107	92	83	103	188	4,090	4,690	866	178	128	10,750
1960	267	181	37	37	92	371	1,570	5,710	2,910	371	70	86	11,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	23.3	16,900
1951	1213	840	May 27, 1951†	-	22.9	16,600	23.7	17,140
1952	1243	356	May 13, 1952	-	26.4	19,200	25.4	18,450
1953	1283	552	June 10, 1953	1.0	19.6	14,200	19.7	14,280
1954	1343	190	May 9, 1954	.4	8.79	6,360	8.49	6,150
1955	1393	244	May 13, 1955	.4	12.8	9,300	12.9	9,340
1956	1443	410	May 22, 1956	.9	21.0	15,230	21.1	15,340
1957	1513	850	June 6, 1957	1.6	24.8	17,940	24.7	17,920
1958	1563	455	May 25, 1958	-	16.8	12,130	16.5	11,970
1959	1653	234	June 6, 1959	-	14.9	10,750	15.1	10,900
1960	1713	365	May 12, 1960	-	16.0	11,600	-	-

† Corrected.

2215. Smith Fork at Mountainview, Wyo.

Location.--Lat 41°16', long 110°20', in sec.23, T.15 N., R.115 W., on right bank just downstream from highway bridge in southwestern edge of Mountainview.

Drainage area.--192 sq mi.

Records available.--May 1941 to December 1957. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 6,830 ft (by barometer). Prior to Aug. 1, 1941, at site 150 ft downstream at different datum.

Average discharge.--16 years (1941-57), 52.5 cfs (38,010 acre-ft per year).

Extremes.--1941-57: Maximum discharge, 1,100 cfs June 13, 1953; maximum gage height, 4.56 ft June 9, 1957; minimum daily discharge, 2.5 cfs Aug. 30, 1948.

Remarks.--Diversions above station for irrigation of about 17,800 acres (for details on adjudication of diversions, see Remarks for this station in WSP 1243), part of which is above and part below station. One small reservoir (capacity, about 300 acre-ft) for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13.2	17.6	20.8	16.2	19.6	25.1	52.1	205	167	34.5	31.3	8.58	51.1
1952	34.8	26.1	24.2	28.2	26.5	26.2	154	535	344	37.5	30.5	14.0	107
1953	11.6	11.5	14.5	20.6	24.0	38.3	53.5	92.5	376	18.7	12.3	5.93	56.3
1954	7.42	13.2	16.2	20.2	27.4	24.3	25.7	36.3	19.2	11.6	6.64	8.88	18.0
1955	7.17	9.22	11.1	13.7	14.1	18.8	25.2	53.4	48.0	15.0	15.1	9.43	20.0
1956	11.6	13.1	22.4	23.5	20.9	40.5	51.1	232	89.7	14.0	12.7	5.92	44.9
1957	9.38	5.85	11.9	13.8	14.3	14.7	40.6	99.4	500	48.7	16.0	12.7	65.2
1958	21.0	23.9	18.0	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	813	1,050	1,280	994	1,090	1,540	3,100	12,590	9,960	2,120	1,920	511	36,970
1952	2,140	1,560	1,490	1,730	1,520	1,610	9,140	32,880	20,460	2,300	1,880	831	77,540
1953	711	687	889	1,270	1,350	2,350	3,180	5,690	22,590	1,150	756	353	40,760
1954	456	787	994	1,240	1,520	1,490	1,530	2,230	1,140	715	408	528	15,040
1955	441	548	683	843	783	1,160	1,500	3,280	2,860	924	928	561	14,510
1956	714	780	1,370	1,440	1,200	2,490	3,040	14,240	5,340	860	780	352	32,610
1957	577	348	731	851	793	902	2,410	6,110	29,750	3,000	984	754	47,210
1958	1,290	1,420	1,110	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	63.2
1951	1213	840	May 28, 1951	5.5	51.1	36,970	53.9
1952	1243	870	May 5, 1952	10	107	77,540	103
1953	1283	1,100	June 13, 1953	4.8	56.3	40,760	56.2
1954	1343	154	May 22, 1954	2.8	18.0	13,040	17.2
1955	1393	155	June 9, 1955	4.5	20.0	14,510	21.7
1956	1443	652	May 29, 1956	4.1	44.9	32,610	43.2
1957	1513	1,070	June 9, 1957	3.0	65.2	47,210	68.2
1958	1513	-	-	-	-	-	-
1959	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-

2220. Blacks Fork near Lyman, Wyo.

Location.--Lat 41°27', long 110°10', in sec.16, T.17 N., R.113 W., on right bank 500 ft downstream from bridge on old U. S. Highway 30 S, 7 miles downstream from Cottonwood Creek, and 11 miles northeast of Lyman.

Drainage area.--821 sq mi.

Records available.--October 1937 to December 1957. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 6,380 ft (by barometer).

Average discharge.--20 years (1937-57), 134 cfs (97,010 acre-ft per year).

Extremes.--1937-57: Maximum discharge, 2,900 cfs June 15, 1953 (gage height, 6.67 ft); maximum gage height, 8.17 ft about Apr. 8, 1952, from floodmarks (ice jam); no flow Aug. 8, 15-22, 1940.

Revisions.--The momentary maximum discharges for the water years 1947-48 have been revised to 2,850 and 2,050 cfs, respectively, superseding figures published in WSP 1089, 1119, and 1313.

Remarks.--Diversions above station for irrigation of about 84,900 acres (for details on adjudication of diversions, see Remarks for this station in WSP 1243). Seven small reservoirs above station (total capacity, about 1,400 acre-ft) for irrigation and recreation.

Revisions.--The daily discharge for June 12, 1947 is revised herein; resulting revised records as summarized herewith supersede those published in WSP 1089 and 1313.

June 12, 1947.....2,680 cfs

Month	Mean	Acre-feet
June 1947.....	927	55,210
Water year 1946-47.....	219	158,700
Calendar year 1947.....	217	156,800

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	30.0	55.9	42.9	36	50	108	160	516	497	145	145	29.4	152
1952	113	71.2	60	56	70	81.7	632	1,214	984	122	61.6	29.2	291
1953	23.5	25.1	28.4	50.8	68.9	123	131	145	959	52.5	27.3	6.78	136
1954	11.0	25.9	28.5	44.8	65.3	33.2	45.4	40.2	30.4	15.3	2.78	6.33	28.8
1955	5.85	7.80	7.91	9.81	11.0	26.7	55.7	60.5	159	19.3	9.60	16.4	32.4
1956	6.10	18.9	25.6	24.2	28.7	69.8	85.5	460	418	37.4	9.12	2.56	98.8
1957	4.30	7.05	13.8	18.2	17.3	22.0	72.4	156	1,377	239	33.2	16.4	164
1958	22.7	23.5	23.2	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,850	3,320	2,640	2,210	2,780	6,650	9,510	31,720	29,590	8,890	8,900	1,750	109,800
1952	6,970	4,230	3,690	3,440	4,030	5,030	37,620	74,600	58,550	7,530	3,790	1,740	211,300
1953	1,477	1,500	1,750	3,120	3,830	7,540	7,770	8,920	57,050	3,230	1,680	404	98,230
1954	640	1,540	1,740	2,750	3,630	2,040	2,700	2,470	1,810	943	171	377	20,850
1955	360	464	486	603	610	1,640	3,310	3,720	9,480	1,190	590	973	23,430
1956	374	1,130	1,570	1,490	1,650	4,290	5,090	28,260	24,880	2,300	560	152	71,750
1957	265	420	847	1,120	960	1,350	4,310	9,610	81,960	14,670	2,040	976	118,500
1958	1,590	1,400	1,430	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	185	133,800
1951	1213	*2,120	May 29, 1951	15	152	109,800	161	116,900
1952	1243	2,290	May 5, 1952	17	291	211,300	277	201,100
1953	1283	2,900	June 15, 1953	4.8	136	98,230	135	97,500
1954	1343	378	July 27, 1954	1.0	28.8	20,850	25.1	18,200
1955	1393	655	June 16, 1955	1.0	32.4	23,430	34.8	25,190
1956	1443	2,100	May 29, 1956	1.8	98.8	71,750	96.7	70,200
1957	1513	2,670	June 14, 1957	2.5	164	118,500	167	121,200
1958	1513	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-

* Revised.

. 2230. Hams Fork near Elk Creek ranger station, Wyo.

Location.--Lat 42°06'40", long 110°42'40", in SE 1/4 sec.35, T.25 N., R.117 W., on left bank 1 mile downstream from Pole Creek, 2 1/2 miles upstream from Beaver Creek, 9 miles south of Elk Creek ranger station, and 23 miles northwest of Kemmerer.

Drainage area.--128 sq mi.

Records available.--October 1952 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,455 ft (by barometer).

Average discharge.--8 years (1952-60), 88.7 cfs (64,220 acre-ft per year).

Extremes.--1952-60: Maximum discharge, 1,010 cfs May 25, 1956, June 7, 1957; maximum gage height, 7.69 ft June 7, 1957; minimum not determined.

Remarks.--Diversions above station for irrigation of about 600 acres.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	19.0	19.9	16	13	18	21	90.3	202	408	84.5	26.7	14.5	77.7
1954	16.7	14.9	13	12	15	25	115	393	157	54.1	17.7	13.3	71.0
1955	16.4	15.3	12.5	12.6	13.1	13.6	34.1	298	290	59.8	21.5	13.6	66.9
1956	16.4	14.4	14.4	14.6	11.8	20.8	217	631	411	70.2	23.8	17.1	122
1957	18.9	16	14	12	12	15	48.8	462	565	134	31.6	20.6	113
1958	22.0	22.0	25	20	29.1	38.2	100	776	324	57.0	20.1	15.4	122
1959	15.9	16.2	14.5	13.3	14.9	18.9	69.5	228	268	50.1	21.6	20.0	62.6
1960	29.7	15.8	12	10	8	26.6	162	329	219	43.9	17.2	15.4	74.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	1,170	1,180	984	799	1,000	1,290	5,370	12,420	24,300	5,200	1,640	865	56,220
1954	1,030	889	799	738	833	1,540	6,850	24,170	9,330	3,320	1,090	789	51,380
1955	1,010	908	772	778	726	839	2,030	18,310	17,240	3,680	1,320	811	48,420
1956	1,010	859	887	900	676	1,280	12,900	38,790	24,470	4,320	1,470	1,020	88,580
1957	1,160	952	861	738	666	922	2,900	28,380	33,640	8,220	1,940	1,220	81,600
1958	1,350	1,550	1,540	1,230	1,620	2,350	5,950	47,710	19,300	3,500	1,240	918	88,260
1959	976	962	891	817	827	1,160	4,080	14,030	15,960	3,080	1,330	1,190	45,300
1960	1,830	942	738	615	460	1,640	9,630	20,210	13,050	2,700	1,060	916	53,790

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953	1283	664	June 14, 1953	-	77.7	56,220	76.8	55,600
1954	1343	636	May 14, 1954	-	71.0	51,380	70.9	51,350
1955	1393	504	May 7, 1955	10	66.9	48,420	67.0	48,490
1956	1443	1,010	May 25, 1956	9	122	88,580	122	88,800
1957	1513	1,010	June 7, 1957	-	113	81,600	115	83,070
1958	1563	1,000	May 22, 1958	-	122	88,260	120	86,650
1959	1633	444	May 14, 1959	10	62.6	45,300	63.5	45,980
1960	1713	744	May 13, 1960	-	74.1	53,790	-	-

2235. Hams Fork near Frontier, Wyo.

Location.--Lat 41°51', long 110°33', in lot 39, SE $\frac{1}{4}$ sec. 27, T. 22 N., R. 116 W., on right bank 800 ft upstream from highway bridge, $1\frac{1}{2}$ miles upstream from Willow Creek, and $3\frac{1}{2}$ miles northwest of Frontier.

Drainage area.--298 sq mi.

Records available.--May 1945 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,970 ft (by barometer). May 8 to July 23, 1945, staff gage at highway bridge 800 ft downstream at same datum.

Average discharge.--15 years (1945-60), 153 cfs (110,800 acre-ft per year).

Extremes.--1945-60: Maximum discharge, 2,450 cfs May 19, 1950 (gage height, 6.74 ft); minimum daily, 4.0 cfs Sept. 24, 1955, Sept. 22, 1956.

Remarks.--Diversions above station for irrigation of about 7,000 acres (for details on adjudication of diversions see Remarks for this station in WSP 1243). One reservoir (capacity, 1,058 acre-ft) above station for Kemmerer water supply.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	38.6	32.5	36	33	32	71	624	1,003	657	144	79.0	26.8	232
1952	28.9	46.5	35	25	35	38	486	1,109	499	69.8	39.4	17.6	203
1953	25.6	18.0	18.0	17.3	16.0	53.8	218	298	437	80.5	24.9	20.2	102
1954	14.0	23.6	14.9	17.4	18.8	25.8	233	452	156	36.4	14.6	11.1	85.1
1955	13.0	23.6	14.8	16.0	15.3	12.6	79.8	497	386	46.2	28.4	9.68	95.6
1956	14.2	15.9	25.5	27.2	21.3	35.7	497	841	435	58.4	24.3	13.8	167
1957	15.0	20.8	23.9	13.8	14.1	17.5	124	826	736	138	33.7	21.7	166
1958	25.4	24.7	22.4	16	23	40.3	114	1,020	373	36.2	20.2	*18.9	145
1959	16.1	10.0	20.0	12.3	10.9	25.3	212	313	263	39.4	19.7	23.4	80.5
1960	27.1	24.9	21.2	19.6	19.3	55.6	397	355	190	18.3	12.9	11.8	95.8

* Revised daily discharge for the period thus affected are available and will be published in a future water-supply paper.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,370	1,930	2,210	2,030	1,780	4,370	37,160	61,650	39,070	8,870	4,860	1,590	167,900
1952	1,780	2,760	2,150	1,540	2,010	2,340	28,890	68,210	29,710	4,290	2,420	1,050	147,200
1953	1,570	1,070	1,100	1,060	889	3,310	12,980	18,300	26,000	4,950	1,530	1,200	73,960
1954	860	1,400	914	1,070	1,040	1,580	13,860	27,770	9,290	2,240	900	661	61,580
1955	801	1,400	910	986	849	776	4,750	30,580	22,980	2,840	1,750	576	69,200
1956	865	948	1,570	1,670	1,230	2,200	29,560	51,720	25,890	3,590	1,490	820	121,600
1957	920	1,240	1,470	847	781	1,080	7,380	50,800	43,810	8,510	2,070	1,290	120,200
1958	1,560	1,470	1,380	982	1,280	2,480	6,810	62,400	22,190	2,220	1,240	*1,120	*105,100
1959	988	597	1,230	754	605	1,560	12,610	19,250	15,640	2,420	1,210	1,390	58,250
1960	1,670	1,480	1,300	1,210	1,110	3,420	23,630	21,800	11,300	1,130	794	703	69,550

* See footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Nomentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	273	197,300
1951	1213	1,460	May 31, 1951	19	232	167,900	232	168,100
1952	1243	1,940	Apr. 29, 1952	-	203	147,200	199	144,200
1953	1283	695	Apr. 23, 1953	7.0	102	73,960	101	73,390
1954	1343	635	May 13, 1954	8.0	85.1	61,580	85.0	61,520
1955	1393	834	May 8, 1955	4.0	95.6	69,200	95.9	69,470
1956	1443	1,220	Apr. 25, 1956	4.0	167	121,600	168	121,800
1957	1513	1,240	May 20, 1957	5.4	166	120,200	167	121,000
1958	1563, 1633	1,380	May 23, 1958	-	145	105,100	143	*105,500
1959	1633	506	Apr. 27, 1959	-	80.5	58,250	82.7	58,890
1960	1713	1,020	Apr. 7, 1960	5.4	95.8	69,550	-	-

* Revised.

2250. Blacks Fork near Green River, Wyo.

Location.--Lat 41°23', long 109°37', in sec.8, T.16 N., R.108 W., on right bank 40 ft downstream from highway bridge, 450 ft downstream from Dry Creek, 12.5 miles southwest of town of Green River, and 14.3 miles upstream from mouth.

Drainage area.--3,670 sq mi, approximately.

Records available.--August 1947 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 6,017.26 ft above mean sea level, datum of 1929. Prior to Aug. 19, 1955, at site 250 ft upstream at same datum.

Average discharge.--13 years (1947-60), 313 cfs (226,600 acre-ft per year).

Extremes.--1947-60: Maximum discharge, about 5,500 cfs May 7, 1952; maximum gage height, 13.66 ft Feb. 28, 1950, from floodmarks (ice jam); no flow at times in 1948, 1954-57, 1959-60.

Remarks.--Diversions above station for irrigation of about 114,000 acres (for details on adjudication of diversions, see Remarks for this station in WSP 1243). One reservoir (capacity, 1,058 acre-ft) for Kemmerer water supply and 17 smaller reservoirs for irrigation, recreation, and railroad use (total capacity, about 2,300 acre-ft) above station. Records of chemical analyses and water temperatures for the period March 1951 to September 1953 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	68.7	89.2	110	62	105	340	971	1,470	1,309	271	240	59.5	425
1952	160	96.7	80.9	62.8	76.8	112	1,768	3,082	1,665	285	170	43.7	634
1953	38.7	44.9	45.0	77.6	117	352	368	406	1,345	99.5	57.8	2.53	245
1954	4.52	27.0	21.1	30.9	57.7	140	241	405	139	28.8	3.59	10.7	92.6
1955	1.0	8.4	1.0	0	.1	82.3	269	502	487	55.0	41.2	11.8	122
1956	5.60	21.3	60.5	87.6	80.9	481	631	1,260	862	56.3	30.5	.5	299
1957	13.8	22.6	14.9	12.5	145	146	255	987	2,000	434	82.8	19.4	344
1958	35.3	60.0	42.9	20	55	100	418	1,498	795	49.1	4.95	1.20	258
1959	.06	7.98	35.1	12.4	37.5	163	273	367	604	240	24.4	123	157
1960	72.5	61.7	30.5	0	0	609	668	585	371	28.2	.76	0	203

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,230	5,310	6,760	3,810	5,850	20,900	57,760	90,410	77,900	16,640	14,740	5,540	307,800
1952	9,810	5,750	4,970	3,860	4,420	6,920	105,200	89,500	99,070	17,550	10,430	2,800	460,100
1953	2,380	2,670	2,770	4,770	6,490	21,620	21,920	24,980	80,010	6,120	3,550	150	177,400
1954	278	1,610	1,300	4,900	3,200	8,630	14,330	24,900	8,290	1,770	221	636	67,060
1955	61	500	61	0	5.6	5,060	15,990	30,880	28,970	3,380	2,530	701	88,140
1956	342	1,270	3,720	5,390	4,650	29,600	37,570	77,750	51,310	3,460	1,870	30.7	217,000
1957	847	1,340	918	766	8,050	8,950	15,200	60,720	119,100	26,710	5,090	1,150	248,800
1958	2,170	3,570	2,640	1,230	5,050	6,150	24,840	92,100	47,280	3,020	304	71	186,400
1959	3.6	475	2,150	764	2,080	10,050	16,230	22,560	35,920	14,740	1,500	7,340	115,800
1960	4,460	3,670	1,870	0	0	37,430	39,770	36,000	22,080	1,730	47	0	147,100

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	608	439,800	
1951	1213	3,390	June 3, 1951	21	425	307,800	431	312,100	
1952	1243	as 5,500	May 7, 1952	21	634	460,100	616	447,400	
1953	1283	3,060	June 16, 1953	0.7	245	177,400	239	172,800	
1954	1343	779	Sept. 3, 1954	0	92.6	67,060	89.1	64,500	
1955	1443	1,280	July 25, 1955	0	122	88,140	128	92,850	
1956	1443	2,780	May 30, 1956	0	299	217,000	296	214,700	
1957	1513	4,170	June 11, 1957	0	344	248,800	351	254,100	
1958	1553	2,750	May 26, 1958	0.6	258	186,400	250	181,000	
1959	1633	1,580	June 30, 1959	0	157	113,800	167	121,200	
1960	1713	4,670	Mar. 21, 1960	0	203	147,100	-	-	

† Corrected.

a About.

2255. Green River near Linwood, Utah

Location.--Lat 40°58'00", long 109°34'40", in SE $\frac{1}{4}$ sec.29, T.3 N., R.21 E., on right bank a quarter of a mile upstream from Henrys Fork, 2 miles south of Wyoming-Utah State line, and 5 miles southeast of Linwood.

Drainage area.--14,300 sq mi, approximately.

Records available.--October 1928 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 5,844.64 ft above mean sea level (Bureau of Reclamation bench mark). Prior to Oct. 17, 1930, at site three-quarters of a mile upstream at different datum. Oct. 17, 1930, to Oct. 22, 1933, at present site at datum 0.77 ft higher.

Average discharge.--32 years (1928-60), 1,936 cfs (1,402,000 acre-ft per year).

Extremes.--1928-60: Maximum discharge, 18,000 cfs June 12, 1957 (gage height, 11.77 ft); maximum gage height, 13.47 ft Mar. 1, 1950 (backwater from ice); minimum discharge recorded, 196 cfs Nov. 27, 1934 (gage height, -0.10 ft).

Remarks.--Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions for irrigation, and return flow from irrigated areas.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,136	1,277	905	616	958	1,471	3,498	6,450	9,987	5,823	3,660	1,634	3,125
1952	1,555	923	795	734	823	920	4,947	8,802	6,183	2,980	1,708	971	2,777
1953	667	541	461	600	748	1,098	1,550	1,613	7,198	3,228	1,601	684	1,664
1954	522	587	470	426	645	933	1,684	4,924	3,693	4,287	1,294	764	1,694
1955	639	644	297	356	394	597	1,539	2,526	4,584	2,051	1,224	589	1,288
1956	524	526	605	724	590	2,351	3,343	6,001	10,351	3,248	1,635	758	2,553
1957	659	563	423	397	897	1,074	1,357	4,176	10,330	6,985	2,316	1,238	2,522
1958	1,040	806	716	577	868	1,030	2,149	6,082	5,317	1,565	945	656	1,617
1959	549	532	562	417	474	925	1,453	1,692	6,015	2,828	1,509	886	1,487
1960	921	752	525	404	419	2,135	2,325	1,777	3,497	1,210	621	468	1,253

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	69,840	76,010	55,660	37,680	53,200	90,450	208,000	396,600	594,200	358,000	225,000	97,210	2,262,000
1952	94,410	34,940	48,850	45,140	47,330	56,550	294,400	541,200	486,900	183,300	105,000	57,770	2,016,000
1953	41,040	32,210	28,360	36,910	41,550	67,540	92,210	99,150	428,300	198,500	98,470	40,680	1,205,000
1954	32,090	34,940	28,880	26,200	35,840	57,340	100,200	302,800	219,700	263,600	79,550	45,460	1,227,000
1955	39,260	38,320	18,270	21,900	21,900	36,690	91,600	155,300	272,800	126,100	75,290	35,060	932,500
1956	32,220	31,310	37,230	44,500	33,920	44,600	198,900	369,000	615,900	399,700	100,600	45,110	1,853,000
1957	40,530	33,520	25,980	24,420	38,690	65,050	80,750	256,800	614,500	28,300	42,400	73,670	1,826,000
1958	63,930	47,960	44,010	35,500	49,310	63,340	127,900	373,900	316,400	98,220	56,080	39,000	1,515,000
1959	33,760	31,640	34,550	25,670	26,300	56,890	86,440	104,100	557,900	273,900	92,790	52,720	1,077,000
1960	56,600	44,750	32,250	24,810	24,100	131,200	138,300	109,300	207,500	74,380	38,180	27,840	909,200

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	3,456
1951	-	-	-	-	-	-	3,120
1952	1213	16,700	June 3, 1951	480	3,125	2,262,000	2,502,000
1953	1243	13,400	June 11, 1952	430	2,777	2,016,000	2,259,000
1954	1243	13,400	June 19, 1953	360	1,664	1,205,000	1,819,000
1955	1343	11,000	May 26, 1954	310	1,694	1,227,000	1,199,000
1956	1393	6,820	June 17, 1955	220	1,288	932,500	1,227,000
1957	1443	17,000	May 30, 1956	200	2,553	1,853,000	1,295
1958	1513	18,000	June 12, 1957	300	2,522	1,826,000	2,552
1959	1563	12,100	May 29, 1958	390	1,817	1,316,000	2,599
1960	1633	11,000	June 21, 1959	290	1,487	1,077,000	1,740
1961	1713	5,780	June 12, 1960	300	1,253	909,200	1,534

2260. Henrys Fork near Lonetree, Wyo.

Location.--Lat 41°00', long 110°16', in N $\frac{1}{2}$ sec. 21, T.12 N., R.114 W., on right bank half a mile downstream from Ashley National Forest boundary, 1 mile downstream from West Fork, $\frac{1}{2}$ miles downstream from Utah-Wyoming State line, and 7 miles southwest of Lonetree.

Drainage area.--56 sq mi, approximately.

Records available.--October 1942 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 8,340 ft (by barometer). Prior to Aug. 12, 1953, at site half a mile upstream at different datum.

Average discharge.--18 years (1942-60), 38.6 cfs (27,950 acre-ft per year).

Extremes.--1942-60: Maximum discharge, 1,860 cfs June 13, 1953 (gage height, 6.28 ft, from floodmark, present site and datum), from rating curve extended above 190 cfs on basis of slope-area measurement of peak flow; minimum not determined.

Remarks.--One diversion in Utah above station for irrigation of land below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8.38	7.33	6.4	5.8	5.6	5.4	9.60	105	176	81.2	41.5	13.9	39.0
1952	16.8	11.1	9.0	8.6	8.0	9.0	23.5	169	284	96.8	48.9	24.5	59.1
1953	12.6	5.53	3.2	4.0	4.8	5.2	10.8	41.1	283	64.9	27.2	9.83	39.2
1954	7.56	9.0	7.0	6.0	6.4	6.8	14.7	81.0	48.9	33.0	13.4	11.4	20.5
1955	9.02	8.16	5.27	4.84	4.76	5.49	9.58	80.9	125	33.3	22.1	12.5	26.8
1956	8.90	5.05	4.32	4.24	4.19	5.83	13.2	121	131	36.2	12.0	6.37	29.4
1957	5.27	5.28	4.75	3	3.5	4	6.00	36.5	280	123	30.1	15.5	43.0
1958	15.8	15	12	10	10	12	18.5	169	141	32.0	16.3	14.1	38.9
1959	8.09	6.60	7.6	5.6	5.5	7	11.3	65.5	192	44.3	22.3	13.7	32.4
1960	16.6	11.3	7	6	5	8.90	21.6	103	163	31.6	9.86	9.50	32.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	515	436	394	357	311	332	571	6,440	10,550	4,990	2,550	826	28,220
1952	1,030	660	553	529	460	553	1,400	10,390	16,910	5,950	3,010	1,460	42,900
1953	778	329	197	246	267	320	642	2,530	16,820	3,990	1,670	585	28,370
1954	453	536	430	369	355	418	876	4,980	2,910	2,030	827	681	14,860
1955	555	486	324	297	264	338	570	4,980	7,430	2,050	1,360	746	19,400
1956	547	300	266	260	241	358	787	7,430	7,780	2,230	741	379	21,320
1957	324	314	292	184	194	246	355	2,250	16,670	7,560	1,850	922	31,160
1958	972	892	738	615	555	738	1,100	10,390	8,370	1,970	1,000	859	28,180
1959	497	393	470	347	303	430	674	4,020	11,400	2,720	1,370	613	23,440
1960	1,020	670	430	369	288	547	1,290	6,350	9,710	1,940	606	565	23,790

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	39.0	28,210	28,210
1951	1213	-	-	-	-	39.0	40.2	29,120	29,120
1952	1243	829	May 27, 1951	-	59.1	42,900	57.8	41,970	41,970
1953	1283	1,860	June 13, 1953	-	39.2	28,370	39.4	28,490	28,490
1954	1343	252	May 22, 1954	-	20.5	14,860	20.5	14,810	14,810
1955	1393	496	June 4, 1955	4.5	26.8	19,400	26.4	19,150	19,150
1956	1443	370	June 2, 1956	3.5	29.4	21,320	29.1	21,140	21,140
1957	1513	828	June 8, 1957	-	43.0	31,160	45.3	32,830	32,830
1958	1563	592	May 25, 1958	-	38.9	28,180	37.2	26,940	26,940
1959	1633	476	June 7, 1959	-	32.4	23,440	33.4	24,200	24,200
1960	1713	530	June 3, 1960	-	32.8	23,790	-	-	-

2265. Middle Fork Beaver Creek near Lonetree, Wyo.

Location.--Lat 40°45'40", long 110°10'40", in SW $\frac{1}{4}$ sec.31, T.3 N., R.16 E., on left bank 500 ft north of forest boundary, 1 mile southwest of Hole-in-the-Rock ranger station, $3\frac{1}{2}$ miles south of Utah-Wyoming State line, and $7\frac{1}{2}$ miles south of Lonetree.

Drainage area.--28 sq mi, approximately.

Records available.--October 1948 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,600 ft (from topographic map).

Average discharge.--12 years (1948-60), 20.6 cfs (14,910 acre-ft per year).

Extremes.--1948-60: Maximum discharge, 663 cfs June 12, 1953 (gage height, 3.98 ft); minimum recorded, 2.1 cfs Nov. 13, 1958, result of freezeup.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6.65	5.09	4.31	3.74	3.5	4.0	5.50	49.5	69.5	26.5	20.9	10.6	17.5
1952	9.77	6.38	4.97	4.40	4.0	5.32	12.3	92.4	164	50.5	27.4	13.4	32.9
1953	7.22	6.04	4.5	4.0	3.5	4.5	8.21	19.2	131	24.7	16.2	7.54	19.6
1954	7.24	7.06	5.5	5	4	4.5	8.49	36.7	23.2	19.6	11.5	9.21	11.9
1955	7.75	5.64	4.13	3.5	3.5	3.64	4.95	41.4	65.9	15.8	16.9	10.7	15.3
1956	8.21	5.91	4.65	4.2	4.0	4.21	5.68	66.2	49.7	14.2	7.57	5.43	15.0
1957	4.82	3.90	3.50	3.5	3.0	4.50	22.2	214	66.5	24.9	14.4		30.6
1958	9.61	6.09	5.50	5.00	4.50	5.73	91.6	70.8	18.3	14.6	11.6		20.8
1959	7.13	5.35	4.50	3.24	3	3.26	5.50	32.5	103	22.9	16.8	10.8	18.2
1960	12.8	8.34	5.5	4	3.5	4.50	9.39	57.6	81.7	17.4	9.15	8.27	18.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	409	303	265	230	194	246	327	3,040	4,140	1,630	1,290	628	12,700
1952	601	380	305	271	230	327	731	5,680	9,760	3,110	1,690	799	23,880
1953	444	360	277	246	194	277	489	1,180	7,790	1,520	994	449	14,220
1954	445	420	338	307	222	277	505	2,260	1,580	1,210	708	548	8,620
1955	476	336	254	215	194	224	295	2,550	3,920	974	1,040	637	11,120
1956	505	352	286	258	230	259	338	4,070	2,960	875	465	323	10,920
1957	296	232	215	215	167	184	268	1,360	12,710	4,090	1,530	855	22,120
1958	591	362	338	307	250	277	341	5,630	4,210	1,130	900	688	15,020
1959	438	318	277	199	167	200	327	2,000	6,150	1,410	1,030	645	13,160
1960	787	496	337	246	201	277	559	3,540	4,860	1,070	563	492	13,430

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	19.6	14,210
1951	1213	387	May 27, 1951	-	17.5	12,700	18.0	13,010
1952	1243	618	June 6, 1952	-	32.9	23,880	32.6	23,680
1953	1283	663	June 12, 1953	-	19.6	14,220	19.8	14,340
1954	1343	91	May 22, 1954	-	11.9	8,620	11.7	8,480
1955	1393	249	June 7, 1955	-	15.3	11,120	15.5	11,190
1956	1443	219	May 25, 1956	-	15.0	10,920	14.5	10,520
1957	1513	480	June 6, 1957	-	30.6	22,120	31.3	22,670
1958	1563	323	May 25, 1958	-	20.8	15,020	20.4	14,770
1959	1633	276	June 6, 1959	-	18.2	13,160	19.0	13,750
1960	1713	266	June 3, 1960†	-	18.5	13,430	-	-

† Corrected.

2270. East Fork Beaver Creek near Lonetree, Wyo.

Location.--Lat 40°56'40", long 110°09'40", in NE $\frac{1}{4}$ sec.6, T.2 N., R.16 E., on right bank at Forest boundary, 1 mile south of Hole-in-the-Rock ranger station, $\frac{3}{2}$ miles south of Utah-Wyoming State line, and $\frac{7}{2}$ miles south of Lonetree.

Drainage area.--8.2 sq mi, approximately.

Records available.--October 1948 to September 1960.

Gage.--Water-stage recorder. Concrete control since August 1954. Altitude of gage is 8,600 ft (from topographic map). Prior to Oct. 11, 1950, at site 50 ft upstream at different datum.

Average discharge.--12 years (1948-60), 7.34 cfs (5,310 acre-ft per year).

Extremes.--1948-60: Maximum daily discharge, 74 cfs May 31, June 1, 1952; minimum daily, 2.4 cfs Mar. 30, 1950.

Remarks.--Some regulation by Hoop Lake (capacity, 3,920 acre-ft), which receives water from Thompson Creek, a tributary to Burnt Fork.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.17	3.13	3.38	3.60	3.87	3.70	4.71	10.2	8.76	21.8	4.40	3.89	6.25
1952	3.98	3.62	3.28	3.33	3.8	4.0	7.03	27.6	17.1	6.35	5.39	10.3	8.01
1953	3.70	3.64	3.67	3.68	4.15	4.18	4.47	9.97	12.2	35.2	14.6	10.4	9.21
1954	4.19	4.01	3.99	3.73	4.01	4.02	5.55	6.95	16.6	8.50	3.81	4.39	5.81
1955	4.20	4.20	3.94	3.70	4.03	4.10	5.45	11.1	7.54	16.2	4.16	4.25	6.10
1956	4.10	4.02	3.92	3.39	3.46	3.57	5.15	9.87	6.20	23.7	4.40	4.22	6.36
1957	4.10	4.04	4.20	4.26	4.29	3.90	4.62	15.3	17.2	6.91	4.72	4.94	6.55
1958	4.91	5.08	4.08	3.83	4.06	4.13	4.99	12.4	8.10	28.6	8.63	4.07	7.80
1959	3.61	3.65	3.52	3.16	3.12	3.67	5.03	11.8	8.78	15.6	21.8	7.47	7.66
1960	4.56	3.96	3.67	3.35	3.01	4.26	6.40	10.8	7.73	23.7	15.1	3.90	7.58

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	195	186	208	221	215	228	280	629	521	1,341	271	231	4,526
1952	245	216	202	205	219	246	418	1,700	1,020	390	331	613	5,800
1953	228	217	226	226	231	257	266	613	724	2,170	897	618	6,670
1954	257	238	246	229	223	247	330	427	990	523	234	261	4,200
1955	258	250	242	227	224	252	324	685	449	999	256	253	4,420
1956	252	239	241	209	199	220	306	607	369	1,460	271	251	4,620
1957	252	241	258	262	238	240	275	941	1,020	425	290	294	4,740
1958	302	302	251	236	225	254	297	762	482	1,760	531	242	5,640
1959	222	217	217	195	173	226	299	727	522	960	1,340	445	5,540
1960	281	236	226	206	173	262	361	661	460	1,460	931	232	5,510

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	8.50	6,190
1951	1213	a58	July 16, 1951	2.9	6.25	4,526	6.35	4,600
1952	1243	a74	(b)	-	8.01	5,800	8.00	5,810
1953	1283	a71	July 15, 1953	3.5	9.21	6,670	9.31	6,740
1954	1343	a34	June 20, 1954	3.0	5.81	4,200	5.82	4,410
1955	1393	45	July 12, 1955	3.6	6.10	4,420	6.08	4,400
1956	1443	46	July 10, 1956	3.1	6.36	4,620	6.39	4,640
1957	1513	39	June 3, 1957	3.6	6.55	4,740	6.69	4,840
1958	1563	55	July 1, 1958	3.6	7.80	5,640	7.50	5,440
1959	1633	27	Aug. 1, 1959	2.9	7.66	5,540	7.78	5,630
1960	1713	a52	July 3, 10, 1960	-	7.58	5,510	-	-

a Maximum daily.

b May 31, June 1, 1952.

2275. West Fork Beaver Creek near Lonetree, Wyo.

Location.--Lat 40°56'50", long 110°13'00", in SW $\frac{1}{4}$ sec.35, T.3 N., R.15 E., on right bank at forest boundary, an eighth of a mile upstream from Fellow Creek, $\frac{3}{2}$ miles south of Utah-Wyoming State line, and $7\frac{1}{2}$ miles southwest of Lonetree.

Drainage area.--23 sq mi, approximately.

Records available.--October 1948 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,700 ft (from topographic map).

Average discharge.--12 years (1948-60), 15.8 cfs (11,440 acre-ft per year).

Extremes.--1948-60: Maximum discharge, 417 cfs June 13, 1953, from rating curve extended above 250 cfs on basis of logarithmic plotting; maximum gage height, 3.25 ft June 7, 1957; minimum discharge observed, 2.0 cfs Mar. 1, 1954 (discharge measurement).

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.02	3.47	3.27	2.74	2.5	2.5	4.05	27.1	58.6	37.8	21.6	8.51	14.7
1952	8.11	5.44	4.01	3.05	2.9	4.27	10.3	59.9	104	48.9	25.2	11.0	24.0
1953	8.28	6.72	4	3.5	3	4	7.51	18.0	105	28.8	15.0	5.67	17.4
1954	4.51	5.31	3.91	2.5	2	2.42	7.11	27.4	20.4	19.7	8.60	8.52	9.41
1955	4.84	3.93	3.12	2.5	2.5	2.70	3.88	27.5	46.1	16.1	12.0	7.58	11.1
1956	6.09	4.91	3.69	3.5	3.2	3.35	6.28	33.4	40.3	17.3	6.84	3.97	11.1
1957	4.51	3.09	2.5	2.5	2.3	2.34	3.53	17.9	135	70.8	27.5	9.81	23.5
1958	6.98	4.78	4.00	3.50	3.00	3.00	4.53	61.5	55.0	16.7	12.3	11.2	15.6
1959	6.49	4.52	3.56	2.85	2.5	2.76	4.72	22.7	74.6	25.6	14.8	9.18	14.5
1960	8.68	5.37	3.15	2.8	2.5	3.3	6.3	39.5	72.3	20.9	7.93	8.14	15.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	247	206	201	169	139	154	241	1,670	3,480	2,330	1,330	506	10,670
1952	499	323	246	188	167	263	614	3,680	6,200	3,010	1,550	655	17,400
1953	509	400	246	215	167	246	447	1,110	6,240	1,770	921	337	12,610
1954	277	316	241	154	111	149	423	1,690	1,210	1,210	529	507	6,820
1955	297	234	192	154	139	166	231	1,690	2,740	992	739	451	8,020
1956	374	292	227	215	184	206	374	2,060	2,400	1,070	420	236	8,060
1957	285	184	154	154	128	144	198	1,100	8,030	4,350	1,690	584	16,980
1958	429	285	246	215	167	184	270	3,780	3,270	1,030	757	665	11,300
1959	399	269	219	175	139	170	281	1,390	4,440	1,570	909	546	10,510
1960	534	320	194	174	144	205	377	2,430	4,300	1,290	488	484	10,940

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	14.2	10,240	
1951	1213	145	June 17, 1951	-	14.7	10,670	15.3	11,090	
1952	1243	255	June 7, 1952	-	24.0	17,400	24.1	17,480	
1953	1283	417	June 13, 1953	-	17.4	12,610	17.0	12,290	
1954	1343	74	May 22, 1954	-	9.41	6,820	9.26	6,710	
1955	1393	168	June 9, 1955	-	11.1	8,020	11.3	8,200	
1956	1443	100	May 25, 1956	-	11.1	8,060	10.7	7,770	
1957	1513	330	June 7, 1957	-	23.5	16,980	23.9	17,540	
1958	1563	200	May 26, 1958	-	15.6	11,300	15.5	11,220	
1959	1633	135	June 6, 1959	-	14.5	10,510	14.7	10,670	
1960	1713	151	June 2, 1960	-	15.1	10,940	-	-	

2280. Henrys Fork near Burntfork, Wyo.

Location.--Lat 41°03', long 110°03', in sec.4, T.12 N., R.112 W., on left bank at Uinta-Sweetwater County line, 2½ miles upstream from Burnt Fork and 2¼ miles west of Burntfork School.

Drainage area.--242 sq mi.

Records available.--October 1942 to September 1954. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,120 ft (by barometer). Prior to Dec. 22, 1948, at site 400 ft upstream at different datum.

Average discharge.--12 years (1942-54), 66.2 cfs (47,930 acre-ft per year).

Extremes.--1942-54: Maximum discharge, 1,830 cfs June 14, 1953 (gage height, 5.29 ft), from rating curve extended above 860 cfs; minimum daily, 0.4 cfs Sept. 28, 1953.

Remarks.--Diversions above station for irrigation of about 9,000 acres (for details on adjudication of diversions, see Remarks for this station in WSP 1243).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	18.3	22.7	29.7	18.6	23.4	26.6	28.9	*109	*223	68.5	71.1	28.4	*55.8
1952	44.4	36.2	31.1	31.6	31.6	31.1	131	278	461	152	110	43.0	115
1953	30.3	26.1	24.2	27.1	27.0	36.3	55.2	54.8	364	46.8	34.2	7.33	61.2
1954	7.64	20.0	17.4	20.0	20.3	29.0	30.8	42.7	13.8	30.0	15.2	18.6	22.1

* Revised; revised daily discharge for the periods thus affected are available and will be published in a future water-supply paper.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,120	1,350	1,820	1,140	1,300	1,650	1,720	*6,730	13,280	4,210	4,370	1,690	*40,380
1952	2,730	2,160	1,910	1,960	1,810	1,910	7,820	17,100	27,410	9,360	6,750	2,560	83,480
1953	1,860	1,560	1,490	1,670	1,500	2,390	3,280	3,370	21,690	3,000	2,100	436	44,350
1954	470	1,190	1,070	1,230	1,130	1,790	1,830	2,630	820	1,840	932	1,110	16,040

* Revised; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	52.6	38,070
1951	1213	*620	June 1, 1951	12	*55.8	*40,380	*59.2	*42,890
1952	1243	1,400	June 7, 1952	17	115	83,480	112	81,590
1953	1283	1,830	June 14, 1953	.4	61.2	44,350	58.2	42,170
1954	1343	375	July 20, 1954	.5	22.1	16,040	-	-

Note.--Daily discharges for the period May 29 to June 1, 1951, have been revised to 545, 520, 452 and 516 cfs, respectively.

2285. Burnt Fork near Burntfork, Wyo.

Location.--Lat 40°56'50", long 110°04'00", in SW $\frac{1}{4}$ sec.31, T.3 N., R.17 E., in Utah, on right bank half a mile west of Ashley National Forest boundary and 7 miles southwest of Burntfork.

Drainage area.--52.8 sq mi.

Records available.--April 1943 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 8,300 ft (from topographic map).

Average discharge.--17 years (1943-60), 29.3 cfs (21,210 acre-ft per year).

Extremes.--1943-60: Maximum discharge, 599 cfs June 6, 1952 (gage height, 8.13 ft), from rating curve extended above 230 cfs on basis of float-area measurement at gage height 7.65 ft; minimum not determined.

Remarks.--Flow is partly regulated by Island Lake (capacity, 797 acre-ft) and Beaver Meadows Reservoir (capacity, 1,722 acre-ft). Diversion out of basin above station into Hoop Lake (capacity, 3,920 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8.14	5.70	5.5	5.0	5.0	5.5	6.5	45.4	95.0	58.3	50.6	17.1	25.8
1952	12.6	8.4	8.0	7.4	7.0	6.4	11.2	91.3	170	88.0	62.5	23.5	41.4
1953	8.38	8.37	9.5	8.5	7.0	6.79	8.14	28.5	156	50.0	27.1	9.98	27.3
1954	5.08	4.28	5.4	4.6	5.0	5.23	9.33	45.1	51.0	33.0	19.5	16.8	17.1
1955	8.14	7.36	4.84	3.85	3.63	4.28	7.21	37.4	91.3	39.2	28.5	15.7	21.0
1956	7.61	5.28	5.67	5.99	4.91	5.74	10.1	57.50	90.2	32.3	20.2	7.73	21.1
1957	6.19	5	4.5	4	4.5	4.96	5.25	16.5	188	98.8	60.9	23.5	35.2
1958	13.2	9	8	7	6	6	10	81.7	99.1	49.3	20.3	14.8	27.1
1959	5.90	5.89	6	5	5	6	6.50	26.4	112	57.9	30.5	15.8	23.6
1960	12.5	9.73	7.6	5.3	4.5	4.8	9.69	57.5	105	50.5	15.4	12.4	24.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	500	339	338	307	278	338	387	2,790	5,650	3,590	3,110	1,020	18,650
1952	776	500	492	455	403	394	667	5,610	10,100	5,410	3,840	1,400	30,050
1953	515	498	584	523	389	418	484	1,750	9,270	3,070	1,660	594	19,760
1954	313	254	332	283	278	322	555	2,770	3,030	2,030	1,200	998	12,360
1955	500	438	298	237	202	263	429	2,500	5,430	2,410	1,750	934	15,190
1956	468	314	349	369	282	353	599	3,530	5,370	1,980	1,240	460	15,310
1957	381	298	277	246	250	305	313	1,010	11,170	6,080	3,740	1,400	25,470
1958	813	536	492	430	333	369	595	5,020	5,900	3,030	1,250	682	19,650
1959	363	351	369	307	278	369	387	1,620	6,680	3,560	1,870	938	17,090
1960	770	579	468	325	260	298	576	3,540	6,260	3,110	944	736	17,870

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	28.4
1951	1213	201	May 27, 1951	-	25.8	18,650	26.6
1952	1243	599	June 6, 1952	-	41.4	30,050	41.2
1953	1283	442	June 13, 1953	-	27.3	19,760	26.3
1954	1343	136	May 22, 1954	-	17.1	12,360	17.5
1955	1593	198	June 9, 1955	3.5	21.0	15,190	20.6
1956	1443	198	June 5, 1956	4.0	21.1	15,310	20.9
1957	1513	482	June 7, 1957	-	35.2	25,470	36.4
1958	1563	250	June 7, 1958	-	27.1	19,650	26.1
1959	1633	201	June 16, 1959	-	23.6	17,090	24.6
1960	1713	206	June 4, 1960	-	24.6	17,870	-

2295. Henrys Fork at Linwood, Utah

Location.--Lat 41°01'12", long 109°40'52", in center of sec.15, T.12 N., R.109 W., on left bank in Wyoming, 1.4 miles north of Wyoming-Utah State line, 3 miles upstream from State Highway 530 at Linwood, 4½ miles northeast of Manila, and 8 miles upstream from mouth.

Drainage area.--520 sq mi.

Records available.--October 1928 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,120 ft (from topographic map). Prior to Oct. 1, 1957, staff, chain gage, or water-stage recorder at several sites near highway bridge 3 miles downstream at various datums.

Average discharge.--32 years (1928-60), 75.3 cfs (54,510 acre-ft per year).

Extremes.--1928-60: Maximum discharge determined, 6,750 cfs Aug. 3, 1936 (gage height, 7.19 ft, site and datum then in use, from floodmarks), from rating curve extended above 570 cfs on basis of slope-area measurement of peak flow; higher discharge occurred July 15, 1959 (gage height, 9.42 ft, discharge not determined); no flow for several days in 1933-35, 1939-40.

Remarks.--Natural flow of stream affected by transbasin diversions, small storage reservoirs, diversions for irrigation, and return flow from irrigated areas. Records of chemical analyses and water temperatures for the period March 1951 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	37.3	45.0	47.2	34.9	54.0	57.0	51.0	91.8	197	48.7	68.3	30.1	63.4
1952	54.1	49.0	50.8	37.3	49.9	69.1	184	371	571	170	140	60.8	150
1953	45.0	47.6	46.4	54.9	62.9	77.0	76.9	62.4	439	22.7	29.6	4.45	80.2
1954	8.30	34.5	38.6	37.6	32.0	27.3	43.8	13.9	3.91	11.8	.66	7.38	21.5
1955	8.29	16.7	25	25	30	45	63.6	35.0	86.5	1.69	6.75	5.18	28.9
1956	20.0	31.3	33.9	37.7	42.7	76.8	71.4	94.0	100	2.62	.64	.28	42.6
1957	7.57	31.7	33.1	27.5	41.9	24.9	66.9	49.4	47.4	207	100	53.1	92.8
1958	57.8	82.1	70	40	40	45.6	71.6	184	93.0	1.09	.44	.66	57.3
1959	1.59	20.5	49.3	35.0	31.4	58.5	92.5	67.0	218	66.6	6.37	2.44	54.0
1960	33.3	52.6	46.7	38.8	35.6	119	57.1	145	172	1.40	.14	.46	58.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,290	2,680	2,900	2,150	3,000	3,500	3,030	5,640	11,700	3,000	4,200	1,790	45,880
1952	3,330	2,920	3,130	2,290	2,870	4,250	10,960	22,820	33,980	10,440	8,620	3,620	109,200
1953	2,770	2,850	2,850	3,380	3,490	4,730	4,580	3,840	26,140	1,400	1,820	265	58,100
1954	510	2,050	2,370	2,310	1,780	1,680	2,600	856	233	724	41	439	15,590
1955	510	996	1,540	1,540	1,670	2,770	3,780	2,150	5,140	104	415	308	20,920
1956	1,230	1,860	2,080	2,320	2,450	4,720	4,250	5,780	5,950	161	39	17	30,860
1957	466	1,890	2,040	1,690	2,330	1,530	3,980	3,040	28,200	12,730	6,150	3,160	67,210
1958	3,550	4,890	4,300	2,460	2,220	2,800	4,260	11,300	5,530	67	27	39	41,440
1959	98	1,220	3,030	2,150	1,750	3,590	5,500	4,120	12,970	4,100	392	145	39,060
1960	2,050	3,130	2,870	2,390	2,040	7,340	3,400	8,930	10,260	86	8.7	28	42,530

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	73.8	53,400
1951	1213	576	June 2, 1951	4.4	63.4	45,880	65.4	47,390
1952	1243	1,450	June 8, 1952	13	150	109,200	149	108,300
1953	1293	2,480	June 14, 1953	3.8	80.2	58,100	75.4	54,580
1954	1343	884	July 20, 1954	.3	21.5	15,590	18.9	13,710
1955	1393, 1443	576	June 9, 1955	.8	28.9	20,920	51.8	23,050
1956	1443	443	May 27, 1956	.2	42.6	30,860	41.4	30,080
1957	1515	1,240	June 8, 1957	.4	92.8	67,210	104	75,550
1958	1563	708	May 26, 1958	.3	57.3	41,440	45.7	33,050
1959	1633	-	July 15, 1959	.4	54.0	39,060	59.1	42,770
1960	1713	934	Mar. 24, 1960	.1	58.6	42,530	-	-

2310. Sheep Creek upper canal near Manila, Utah

Location.--40°55', long 109°57', in SW $\frac{1}{4}$ sec.18, T.2 N., R.18 E., on left bank 70 ft downstream from bridge on State Highway 165 and 14 miles southwest of Manila.

Records available.--September 1949 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 9,070 ft (by barometer).

Extremes.--1949-60: Maximum discharge, 61 cfs June 5, 1957 (gage height, 2.22 ft); maximum gage height, 2.48 ft Nov. 4, 1957 (backwater from ice); no flow at times in each year.

Remarks.--Canal diverts water from Sheep Creek for irrigation in vicinity of Manila.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.76	0.59	0	0	0	0	0.09	6.95	26.5	9.66	8.35	2.46	4.70
1952	4.05	.22	0	0	0	0	2.09	5.55	29.6	15.9	9.14	2.79	5.78
1953	1.15	.43	0	0	0	0	0	3.39	27.9	9.94	5.79	1.99	4.21
1954	1.35	.22	0	0	0	0	2.07	18.3	10.8	7.00	4.12	2.80	3.92
1955	1.02	.64	.04	0	0	0	.53	14.8	24.5	7.63	11.5	4.43	5.44
1956	2.06	0	0	0	0	0	0	22.8	21.7	11.3	6.74	1.98	5.57
1957	1.41	.28	0	0	0	0	0	6.28	45.8	26.0	18.0	10.6	9.04
1958	4.49	1.79	0	0	0	0	0	29.2	27.6	12.2	6.47	4.11	7.19
1959	2.91	.02	0	0	0	0	0	16.6	35.5	12.8	7.56	5.01	6.72
1960	1.31	0	0	0	0	0	.02	18.6	24.0	12.1	2.64	1.88	5.05

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	108	35	0	0	0	0	5.2	427	1,570	594	514	147	3,400
1952	249	13	0	0	0	0	124	342	1,760	980	562	166	4,200
1953	71	26	0	0	0	0	0	208	1,660	611	356	118	3,050
1954	83	13	0	0	0	0	123	1,120	644	431	253	167	2,830
1955	63	38	2.2	0	0	0	32	912	1,460	469	706	265	3,950
1956	127	0	0	0	0	0	0	1,400	1,290	693	414	118	4,040
1957	87	16	0	0	0	0	0	387	2,730	1,600	1,100	629	6,550
1958	276	107	0	0	0	0	0	1,790	1,640	749	398	245	5,200
1959	179	1.0	0	0	0	0	0	1,020	2,110	788	465	298	4,860
1960	81	0	0	0	0	0	1.0	1,140	1,430	745	162	112	3,670

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	5.12	3,710
1951	1213	43	June 4, 1951	0	4.70	3,400	4.87	3,520
1952	1243	48	June 3, 1952	0	5.78	4,200	5.56	4,030
1953	1283	46	June 2, 1953	0	4.21	3,050	4.21	3,050
1954	1343	31	May 22, 1954	0	3.92	2,830	3.93	2,840
1955	1393	35	June 10, 1955	0	5.44	3,950	5.48	3,970
1956	1443	48	May 28, 1956	0	5.57	4,040	5.54	4,020
1957	1513	61	June 5, 1957	0	9.04	6,550	9.43	6,830
1958	1563	55	May 18, 1958	0	7.19	5,200	6.91	5,000
1959	1633	47	June 29, 1959	0	6.72	4,860	6.58	4,760
1960	1713	39	May 22, 1960	0	5.05	3,670	-	-

2312. Carter Creek canal near Manila, Utah

Location.--Lat 40°53', long 109°54', in sec.28, T.2 N., R.18 E., on right bank half a mile upstream from Sheep Creek and 12 miles southwest of Manila.

Records available.--August 1956 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,850 ft (from topographic map).

Extremes.--1956-60: Maximum discharge, 52 cfs June 6, 1958, from rating curve extended above 32 cfs by logarithmic plotting; maximum gage height, 2.82 ft June 5, 1959; no flow for several months in each year.

Remarks.--Canal diverts water from Carter Creek basin to Sheep Creek and Sheep Creek lower canal for irrigation in vicinity of Manila.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	-	-	-	-	1.59	-
1957	1.37	0.28	0	0	0	0	0	3.89	15.1	14.7	22.2	11.4	5.78
1958	.04	0	0	0	0	0	0	4.47	17.1	17.7	10.3	5.86	4.65
1959	2.39	.07	0	0	0	0	0	4.68	26.5	11.4	5.81	1.09	4.34
1960	0	0	0	0	0	0	.07	3.44	4.16	16.8	8.81	5.39	3.25

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	-	-	-	-	94	-
1957	84	17	0	0	0	0	0	239	901	903	1,360	677	4,180
1958	2.2	0	0	0	0	0	0	275	1,020	1,090	635	349	3,370
1959	147	4.0	0	0	0	0	0	288	1,580	704	357	65	3,140
1960	0	0	0	0	0	0	4.0	211	248	1,030	542	321	2,360

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1956	-	-	-	-	-	-	-	-
1957	1513	41	June 27, 1957	0	5.78	4,180	5.64	4,080
1958	1563	52	June 6, 1958	0	4.65	3,370	4.85	3,520
1959	1633	50	June 5, 1959	0	4.34	3,140	4.13	2,990
1960	1713	39	July 25, 1960	0	3.25	2,360	-	-

2315. Sheep Creek lower canal near Manila, Utah

Location.--Lat 40°54', long 109°54', in SE $\frac{1}{4}$ sec.21, T.2 N., R.18 E., on left bank 1 mile downstream from heading of canal and 11 miles southwest of Manila.

Records available.--September 1949 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,800 ft (by barometer).

Extremes.--1949-60: Maximum discharge, 120 cfs June 8, 1955; maximum gage height, 2.92 ft June 27, 1952; no flow at times in most years.

Remarks.--Canal diverts water from Sheep Creek for irrigation in vicinity of Manila. Since June 1954, water has been diverted from Carter Creek drainage to Sheep Creek for diversion into this canal.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5.65	2.57	0	0	0	0	0.13	41.3	62.4	37.0	30.4	17.6	16.5
1952	2.61	0	0	0	0	0	0	7.69	75.6	44.0	37.3	19.4	15.5
1953	8.43	2.78	0	0	0	0	0	24.9	50.2	33.9	15.0	9.48	12.1
1954	5.48	4.20	3	3	2.5	2.18	3.78	40.2	29.7	24.8	16.2	10.8	12.2
1955	9.38	9.54	1.22	0	0	0	.53	43.8	67.6	34.7	23.4	14.9	17.2
1956	5.34	3.33	0	0	0	0	5.27	54.4	68.3	32.5	14.9	7.23	16.0
1957	4.84	1.08	0	0	0	0	0	23.5	82.7	67.2	48.7	25.5	21.2
1958	10.1	1.74	0	0	0	0	0	56.6	66.9	39.8	25.2	17.4	18.3
1959	8.50	4.65	1.13	0	0	0	.17	36.9	76.4	34.0	29.6	12.8	17.1
1960	9.41	5.8	0	0	0	0	1.6	48.6	58.9	35.1	23.2	15.5	16.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	347	153	0	0	0	0	7.5	2,540	3,720	2,280	1,870	1,050	11,970
1952	161	0	0	0	0	0	0	473	4,500	2,710	2,290	1,150	11,280
1953	518	165	0	0	0	0	0	1,530	2,990	2,080	922	564	8,770
1954	337	250	184	184	139	133	225	2,470	1,770	1,520	996	644	8,850
1955	577	568	75	0	0	0	32	2,690	4,020	2,140	1,440	885	12,430
1956	328	198	0	0	0	0	313	3,340	4,060	2,000	916	430	11,580
1957	298	84	0	0	0	0	0	1,450	4,820	4,130	3,000	1,520	15,380
1958	618	104	0	0	0	0	0	3,480	3,980	2,450	1,550	1,040	13,220
1959	523	277	69	0	0	0	9.9	2,270	4,550	2,090	1,820	759	12,370
1960	579	345	0	0	0	0	95	2,990	3,500	2,160	1,430	924	12,020

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1213	89	May 25, 1951	0	16.5	11,970	14.8	10,730	11,830
1952	1243	110	June 27, 1952	0	15.5	11,280	16.0	11,810	11,810
1953	1283	99	June 19, 1953	0	12.1	8,770	12.2	8,860	8,860
1954	1343	85	May 22, 1954	-	12.2	8,850	12.9	9,300	9,300
1955	1393	120	June 8, 1955	0	17.2	12,430	16.2	11,730	11,730
1956	1443	112	May 24, 1956	0	16.0	11,580	15.7	11,420	11,420
1957	1513	99	(a)	0	21.2	15,380	21.7	15,740	15,740
1958	1563	105	June 6, 1958	0	18.3	13,220	18.5	13,370	13,370
1959	1633	95	June 12, 1959	0	17.1	12,370	17.2	12,420	12,420
1960	1713	105	June 4, 1960	0	16.6	12,020	-	-	-

a June 13, 28, July 4, 1957.

2320. Sheep Creek near Manila, Utah

Location.--Lat 40°53'10", long 109°54'10", in NE $\frac{1}{4}$ sec.28, T.2 N., R.18 E., on left bank 350 ft downstream from confluence of North and South Forks and 12 miles southwest of Manila.

Drainage area.--42 sq mi (revised), approximately.

Records available.--October 1942, April 1943 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,680 ft (from topographic map).

Average discharge.--17 years (1943-60), 12.4 cfs (8,980 acre-ft per year).

Extremes.--1942-60: Maximum discharge, 1,020 cfs May 19, 1948 (gage height, 6.05 ft), from rating curve extended above 250 cfs; no flow Nov. 5-7, 9, 10, 1956.

Remarks.--Transbasin diversions by Sheep Creek canals above station (see elsewhere in this report). Since June 1954, water has been diverted from Carter Creek drainage to Sheep Creek above Sheep Creek lower canal to increase irrigation supply in that canal; flow at this station could also be affected. Some storage in several small mountain lakes.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.30	1.80	3.5	3.0	3.5	3.5	9.03	15.2	6.31	0.94	0.74	0.89	4.06
1952	9.26	7.96	5.6	5.4	5.2	6.4	25.8	153	110	7.35	.92	.41	28.1
1953	.35	3.98	5.96	5.66	5.59	5.98	13.1	24.1	49.9	.58	.55	.42	9.64
1954	1.38	1.60	1.86	2.04	1.54	1.07	10.8	1.75	.78	.83	.57	1.61	2.14
1955	1.08	.24	2.71	3.5	3.55	4.91	9.03	2.91	3.32	.49	.51	.33	2.70
1956	1.59	1.95	4.35	4.27	3.41	3.98	5.83	7.85	1.34	.60	.24	.23	2.97
1957	.44	3.44	4.08	3.93	4.16	4.08	5.71	33.9	120	4.42	1.54	1.55	15.5
1958	2.15	5.99	8.93	7.01	5.81	5.65	7.39	36.3	3.73	.22	.22	.19	7.01
1959	.10	.10	3.15	3.97	4.0	4.0	9.77	16.0	11.4	.30	.45	.68	4.49
1960	.85	1.37	4.55	4.14	4.20	4.46	22.3	15.9	4.41	2.64	.23	.48	5.45

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	18	107	215	184	194	215	538	936	376	58	46	53	2,940
1952	570	473	344	352	299	394	1,540	9,420	6,520	452	56	24	20,420
1953	22	237	367	348	310	368	777	1,480	2,970	36	34	25	6,970
1954	85	95	114	125	85	66	643	107	46	51	35	96	1,550
1955	67	14	167	215	197	302	537	179	198	30	31	20	1,960
1956	98	116	267	263	196	245	347	483	80	37	14	14	2,160
1957	27	204	251	242	231	251	340	2,090	7,140	272	95	92	11,240
1958	132	357	549	431	323	348	440	2,230	222	13	14	12	5,070
1959	6.0	6.0	194	244	222	246	581	985	676	19	28	41	3,250
1960	53	81	280	254	242	275	1,330	975	263	162	14	29	3,960

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	8.50	6,150
1951	1213	87	May 27, 1951	0.2	4.06	2,940	5.51	3,990
1952	1243	438	June 7, 1952	.3	28.1	20,420	27.1	19,660
1953	1283	208	June 13, 1953	.3	9.64	6,970	9.18	6,640
1954	1343	45	May 22, 1954	.3	2.14	1,550	2.08	1,500
1955	1393	50	Apr. 25, 1955	.1	2.70	1,960	3.02	2,190
1956	1443	46	May 29, 1956	0	2.97	2,160	2.98	2,160
1957	1513	359	June 8, 1957	.2	15.5	11,240	16.3	11,790
1958	1563	138	May 26, 1958	.1	7.01	5,070	5.86	4,240
1959	1633	86	May 2, 1959	.1	4.49	3,250	4.78	3,460
1960	1713	182	May 12, 1960	.1	5.45	3,960	-	-

2325. Sheep Creek at mouth, near Manila, Utah

Location.--Lat 40°56'00", long 109°39'20", in NE $\frac{1}{4}$ sec.10 (unsurveyed), T.2 N., R.20 E., on right bank 1 mile upstream from mouth and 6 miles southeast of Manila.

Drainage area.--111 sq mi.

Records available.--October 1946 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 5,870.87 ft above mean sea level (levels by Bureau of Reclamation).

Average discharge.--14 years (1946-60), 22.8 cfs (16,510 acre-ft per year).

Extremes.--1946-60: Maximum discharge, 450 cfs May 20, 1948 (gage height, 3.49 ft), from rating curve extended above 230 cfs; minimum recorded, 2.1 cfs Dec. 27, 1959, result of freezeup.

Remarks.--Diversions above station for irrigation, including transbasin diversions for irrigation in vicinity of Manila, via Sheep Creek canals. Some storage in several small mountain lakes.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	12.6	11.7	13.3	11	11.5	10.9	17.4	27.7	29.4	11.9	13.5	8.4	14.9
1952	18.3	14.0	11.0	5.59	5.0	12.9	50.2	206	133	23.8	15.5	10.9	42.3
1953	8.48	9.61	13.6	13.7	12.7	13.9	24.2	44.5	79.8	9.03	7.92	8.94	20.5
1954	11.2	12.6	12.2	11	11.2	12.3	22.5	12.4	8.94	7.22	7.02	10.1	11.5
1955	10.5	9.17	9.94	10	10	12	17.7	16.5	15.2	8.63	9.77	8.68	11.5
1956	10.5	10.3	9.63	8.87	9.55	12.4	16.7	17.2	9.29	9.46	8.32	8.25	10.9
1957	11.5	15.6	11.8	10.5	13.0	14.6	16.3	70.2	174	27.5	10.7	11.0	32.2
1958	14.0	18.6	20.0	16.3	13.8	13.4	18.9	54.5	15.3	9.59	10.3	7.94	17.8
1959	8.47	9.41	10.1	9.1	8.99	12.0	22.1	37.3	29.4	13.6	9.07	11.5	15.1
1960	11.6	11.0	13.0	11	10	15.1	36.7	37.5	21.0	13.2	12.8	16.2	17.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	776	696	815	676	637	672	1,040	1,700	1,750	732	829	500	10,820
1952	1,130	833	677	344	288	791	2,930	12,680	7,320	1,460	954	647	30,890
1953	521	572	839	845	706	857	1,440	2,740	4,750	555	487	532	14,840
1954	686	750	750	676	621	756	1,340	765	532	444	432	599	8,350
1955	648	546	611	615	555	738	1,060	1,010	906	531	601	516	8,340
1956	646	611	592	545	549	760	992	1,060	553	582	511	491	7,890
1957	707	931	728	645	722	897	968	4,310	10,370	1,690	658	653	23,280
1958	859	1,100	1,230	1,000	768	825	1,120	3,350	911	589	636	472	12,860
1959	521	560	624	559	499	738	1,320	2,290	1,750	854	558	684	10,940
1960	715	653	799	676	575	927	2,190	2,310	1,250	814	787	962	12,680

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	22.4	16,260
1951	1213	86	May 28, 1951	6.2	14.9	10,820	15.4	11,180
1952	1243	385	June 4, 1952	-	42.3	30,690	41.3	29,990
1953	1283	257	June 13, 1953	6.1	20.5	14,840	20.9	15,100
1954	1343	48	Apr. 18, 1954	5.6	11.5	8,350	11.0	7,970
1955	1393	58	Apr. 30, 1955	6.6	11.5	8,340	11.6	8,380
1956	1443	48	May 29, 1956	6.6	10.9	7,890	11.6	8,410
1957	1513	410	June 9, 1957	-	32.2	23,280	33.3	24,100
1958	1563	142	May 28, 1958	6.0	17.8	12,860	15.7	11,380
1959	1633	89	May 3, 1959	6.3	15.1	10,940	15.7	11,400
1960	1713	172	May 13, 1960	-	17.4	12,680	-	-

2330. Carter Creek near Manila, Utah

Location.--Lat 40°50'20", long 109°49'50", in NW $\frac{1}{4}$ sec.7, T.1 N., R.19 E. (unsurveyed), on right bank 2 miles upstream from Beaver Creek, 3 miles southwest of Ute Mountain Look-out Tower, and 12 miles southwest of Manila.

Drainage area.--19 sq mi, approximately.

Records available.--October 1948 to September 1954.

Gage.--Water-stage recorder. Altitude of gage is 8,600 ft (from topographic map).

Average discharge.--6 years (1948-54), 9.32 cfs (6,750 acre-ft per year).

Extremes.--1948-54: Maximum discharge recorded, 153 cfs June 3, 1952 (gage height, 2.98 ft); minimum, 0.2 cfs Sept. 16, 1954.

Remarks.--Transbasin diversion above station to Sheep Creek began in June 1954.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.65	2.54	1.98	1.70	1.5	1.5	2.5	17.5	24.9	11.9	13.5	6.84	7.54
1952	5.42	3.58	3.0	1.60	1.5	1.5	5.85	33.0	69.3	35.7	15.4	7.53	15.3
1953	4.13	3.15	1.96	1.1	1.04	1.20	1.74	7.25	42.9	12.1	6.42	4.01	7.24
1954	2.87	2.34	1.5	1.3	1.0	1.5	5.0	18.4	11.1	1.74	.64	2.35	4.15

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	225	151	122	104	83	92	149	1,070	1,480	733	832	407	5,450
1952	333	213	184	99	88	92	348	2,030	4,130	2,200	946	448	11,110
1953	254	187	120	68	58	74	104	446	2,550	746	395	239	5,240
1954	177	139	92	80	56	92	298	1,130	659	107	39	140	3,010

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	8.90	-	6,440
1951	1213	89	May 28, 1951	-	7.54	5,450	7.86	-	5,680
1952	1243	153	June 3, 1952	-	15.3	11,110	15.1	-	10,940
1953	1283	92	June 13, 1953	-	7.24	5,240	7.03	-	5,090
1954	1343	48	May 22, 1954	0.3	4.15	3,010	-	-	-

2340. Carter Creek at mouth, near Manila, Utah

Location.--Lat 40°53'35", long 109°35'30", in SE $\frac{1}{4}$ sec.19, T.2 N., R.21 E. (unsurveyed), on left bank 600 ft upstream from mouth and 10 miles southeast of Manila.

Drainage area.--110 sq mi, approximately.

Records available.--October 1946 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 5,880 ft (from river-profile map).

Average discharge.--9 years (1946-55), 60.0 cfs (43,440 acre-ft per year).

Extremes.--1946-55: Maximum discharge, 928 cfs June 4, 1952 (gage height, 3.74 ft); minimum not determined.

Remarks.--Transbasin diversion above station to Sheep Creek began in June 1954.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	24.8	15.4	13	12	12	12.6	19.9	85.4	181	72.6	51.6	30.9	44.3
1952	28.2	20.8	18.8	15.9	15	13	95.0	324	375	112	73.9	34.8	93.9
1953	23.6	18.4	16.5	16	14.7	14.9	38.3	88.8	215	57.9	32.5	20.4	46.4
1954	14.8	15.6	15.2	13	12	14	41.8	103	77.7	30.0	15.0	16.9	30.8
1955	14.2	13.4	11	10	10	11	23.0	70.9	87.4	22.7	15.5	12.2	25.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,530	918	799	738	666	774	1,180	5,250	10,770	4,460	3,180	1,840	32,100
1952	1,730	1,240	1,160	978	863	799	5,710	19,910	22,310	6,870	4,550	2,070	68,190
1953	1,460	1,090	1,020	984	817	918	2,280	5,460	12,820	3,560	2,000	1,220	33,630
1954	908	928	932	799	666	861	2,490	6,320	4,620	1,850	920	1,010	22,300
1955	871	799	676	615	555	676	1,370	4,380	5,200	1,400	952	728	18,200

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	65.3	-	47,300
1951	1213	342	May 28, 1951	-	44.3	32,100	45.6	-	32,990
1952	1243	928	June 4, 1952	-	93.9	68,190	93.2	-	67,630
1953	1283	422	June 13, 1953	-	46.4	33,630	45.3	-	32,830
1954	1343	234	May 22, 1954	-	30.8	22,300	30.2	-	21,860
1955	1393	141	June 10, 1955	-	25.1	18,200	-	-	-

2345. Green River near Greendale, Utah

Location.--Lat 40°54'30", long 109°25'20", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.15, T.2 N., R.22 E., on right bank half a mile downstream from Flaming Gorge dam, 2 miles south of Dutch John, 4 miles northeast of Greendale, and 13 miles southeast of Linwood.

Drainage area.--15,100 sq mi, approximately.

Records available.--October 1950 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 5,594.48 ft above mean sea level, datum of 1929. Prior to Sept. 2, 1959, at site $2\frac{1}{4}$ miles upstream at different datum.

Average discharge.--10 years (1950-60), 2,133 cfs (1,544,000 acre-ft per year).

Extremes.--1950-60: Maximum discharge, 19,600 cfs June 12, 1957 (gage height, 10.60 ft, site and datum then in use); minimum, 208 cfs Nov. 19, 1958.

Remarks.--Diversion for irrigation above station. Records of chemical analyses and water temperatures for the period October 1956 to September 1960 and suspended sediment loads for the period October 1956 to September 1958 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,232	1,338	988	726	1,102	1,510	3,560	6,378	10,510	5,943	3,711	1,640	3,226
1952	1,608	954	877	804	908	1,032	5,320	9,610	9,285	3,311	1,961	1,121	3,066
1953	805	621	553	775	868	1,184	1,612	1,745	7,577	3,207	1,707	720	1,779
1954	573	702	513	454	703	1,002	1,695	4,869	3,735	4,311	1,314	762	1,728
1955	693	686	323	391	442	709	1,785	2,695	4,823	2,111	1,297	643	1,384
1956	615	608	739	814	652	2,434	3,408	5,946	10,290	3,340	1,698	806	2,610
1957	746	649	416	453	774	1,069	1,448	4,421	11,420	6,995	2,306	1,580	2,677
1958	1,252	958	743	706	992	1,072	2,256	6,280	5,628	1,408	934	659	1,910
1959	586	576	618	476	571	1,058	1,655	1,845	6,158	2,870	1,513	982	1,576
1960	1,101	851	607	426	500	2,419	2,720	2,058	3,637	1,262	700	586	1,375

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	75.77	79.62	60.76	44.66	61.21	92.87	211.9	392.2	625.4	365.4	228.2	97.61	2,336
1952	98.88	56.79	53.93	49.43	52.24	63.43	316.6	590.9	552.5	203.6	120.6	66.68	2,226
1953	49.52	36.93	34.02	47.64	48.22	72.82	95.92	107.3	450.9	197.2	105.0	42.82	1,288
1954	35.21	41.76	31.53	27.91	39.04	61.63	100.8	299.4	222.2	265.1	80.78	45.31	1,251
1955	42.63	40.85	19.87	24.06	24.58	43.60	106.2	165.7	297.0	129.8	79.78	38.25	1,002
1956	37.79	36.18	45.41	50.03	37.49	149.7	202.8	365.6	612.3	205.3	104.3	47.94	1,895
1957	45.87	38.63	25.59	27.87	42.96	65.70	86.06	271.8	679.6	430.1	141.8	82.12	1,938
1958	77.00	57.01	45.66	43.40	55.08	65.94	134.2	386.1	334.9	86.58	57.44	39.23	1,383
1959	36.03	34.28	37.99	29.26	31.70	65.08	98.48	113.4	366.4	176.5	93.04	58.41	1,141
1960	67.68	50.65	37.31	28.18	28.76	148.7	140.2	126.6	216.4	77.61	43.06	34.86	998.0

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950							
1951	1213	17,200	June 3, 1951	434	3,226	2,336,000	3,217
1952	1243	14,800	June 11, 1952	450	3,066	2,226,000	2,943
1953	1283	13,600	June 19, 1953	365	1,779	1,288,000	1,763
1954	1343	10,900	May 26, 1954	330	1,728	1,251,000	1,720
1955	1393	87,000	June 18, 1955	230	1,584	1,002,000	1,407
1956	1443	16,800	May 30, 1956	250	2,610	1,895,000	2,597
1957	1513	19,600	June 12, 1957	340	2,677	1,938,000	2,773
1958	1563	12,800	May 29, 1958	390	1,910	1,383,000	1,811
1959	1633	11,000	June 21, 1959	275	1,576	1,141,000	1,641
1960	1713	9,100	Mar. 22, 1960	-	1,375	998,000	-

a Maximum daily.

2356. Pot Creek above diversions, near Vernal, Utah

Location.--Lat 40°46', long 109°19', in SE $\frac{1}{4}$ sec.3, T.1 S., R.23 E., on right bank just upstream from Matt-Warner Reservoir, 27 miles northeast of Vernal.

Drainage area.--25 sq mi, approximately.

Records available.--September 1957 to September 1960.

Gage.--Water-stage recorder.

Extremes.--1957-60: Maximum discharge, 78 cfs Apr. 20, 1958 (gage height, 2.64 ft); maximum gage height, 3.91 ft Feb. 28, 1960 (backwater from ice); no flow for most of each year.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	0	0.09	0	0	0	0	12.3	14.5	0.76	0	0	0	2.32
1959	0	0	0	0	0	1.2	12.5	6.32	1.08	0.25	0	0	1.69
1960	0	0	0	0	0	1.1	9.60	6.40	.62	0	0	0	1.48

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	0	5.4	0	0	0	0	734	892	45	0	0	0	1,680
1959	0	0	0	0	0	12	742	389	64	15	0	0	1,220
1960	0	0	0	0	0	69	571	393	37	0	0	0	1,070

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1957	1713	-	-	-	-	-	-
1958	1713	78	Apr. 20, 1958	0	2.32	1,680	2.31
1959	1713	37	Apr. 15, 1959	0	1.69	1,220	1.69
1960	1713	63	Apr. 5, 1960	0	1.48	1,070	-

2358. Pot Creek near Vernal, Utah

Location.--Lat 40°40', long 109°03', in SE $\frac{1}{4}$ sec.1, T.2 S., R.25 E., on left bank 0.2 mile upstream from Utah-Colorado State line, 7 miles upstream from mouth, and 29 miles northeast of Vernal.

Drainage area.--106 sq mi.

Records available.--August 1957 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 6,900 ft (from topographic map).

Extremes.--1957-60: Maximum discharge, 80 cfs Mar. 22, 1958 (gage height, 2.25 ft), from rating curve extended above 30 cfs on basis of logarithmic plotting; no flow for most of each year.

Remarks.--Flow regulated by Matt-Warner and Crouse Reservoirs (combined capacity, about 4,000 acre-ft). Several diversions for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	-	-	-	0	-
1958	0	0.02	0	0	0.45	1.89	0.20	0.12	0.64	0.003	0	0.003	0.28
1959	0	0	0	0	0	.05	.08	0	0	0	0	0	.01
1960	0	0	0	0	0	.58	0	.01	0	0	.28	0	.07

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	0	-	-	-	-	-	-	-	-	-	-	0	-
1958	0	1.0	0	0	25	116	12	7.5	38	0.2	0	.2	200
1959	0	0	0	0	0	2.8	5.0	0	0	0	0	0	7.8
1960	0	0	0	0	0	56	0	.6	0	0	17	0	54

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1957	1713	-	-	-	-	-	-
1958	1713	80	Mar. 22, 1958	0	0.28	200	0.27
1959	1713	11	Mar. 24, 1959	0	.01	7.8	.01
1960	1713	60	Aug. 22, 1960	0	.07	54	-

2360. Yampa River near Toponas, Colo.

Location.--Lat 40°03', long 107°04', in NW¼ sec.20, T.1 N., R.86 W., on left bank at Stillwater campground, three-quarters of a mile downstream from Mandall Creek, three-quarters of a mile upstream from Dome Creek, and 14 miles west of Toponas.

Drainage area.--23 sq mi, approximately.

Records available.--October 1952 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 9,710 ft (from river-profile map).

Average discharge.--8 years (1952-60), 41.3 cfs (29,900 acre-ft per year).

Extremes.--1952-60: Maximum discharge, 436 cfs July 2, 1957 (gage height, 6.39 ft); minimum not determined.

Remarks.--Flow regulated by Stillwater Reservoir (capacity, 6,200 acre-ft). No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	34.0	18.4	17	17	16	16	18.3	33.7	142	101	42.5	40.5	41.5
1954	34.2	18.3	17.3	16	15	16	23	67.7	81.0	51.3	19.3	17.7	31.5
1955	16.7	11.8	10	9	8	8	12.4	52.7	104	100	35.0	25.8	33.0
1956	20.5	16.8	16	15	13	14	13.9	60.2	119	92.9	46.8	46.6	39.6
1957	27.0	18.3	15	13	14	15	19.2	36.2	119	246	88.8	52.2	55.7
1958	51.5	31.7	29	28	24	15	19.8	78.3	156	114	36.1	28.7	51.1
1959	20.2	15.5	14.3	14	13	13	14.2	39.0	115	112	41.1	41.5	37.9
1960	23.2	17.8	15	14	13	18	35	54.7	117	109	41.4	22.5	40.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	2,090	1,100	1,050	1,050	889	984	1,090	2,070	8,480	6,230	2,610	2,400	30,040
1954	2,100	1,090	1,060	984	833	984	1,370	4,170	4,820	3,160	1,190	1,060	22,820
1955	1,030	700	615	553	444	492	740	3,240	6,210	6,150	2,150	1,540	23,860
1956	1,260	998	984	922	748	861	829	3,700	7,100	5,710	2,880	2,770	28,760
1957	1,660	1,090	922	799	778	922	1,140	2,230	7,060	15,140	5,460	3,110	40,310
1958	3,170	1,890	1,780	1,720	1,350	922	1,180	4,810	9,260	7,010	2,220	1,710	37,020
1959	1,240	922	881	861	722	749	847	2,400	6,850	6,910	2,530	2,470	27,430
1960	1,430	1,060	922	861	748	1,110	2,080	3,360	6,960	6,680	2,540	1,340	29,090

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953	1283	308	June 18, 1953	-	41.5	30,040	41.5	30,050
1954	1343	116	May 21, 1954	-	31.5	22,820	28.9	20,920
1955	1393	139	July 6, 1955	-	33.0	23,860	34.2	24,760
1956	1443	174	June 16, 1956	-	39.6	28,760	40.2	29,190
1957	1513	436	July 2, 1957	-	55.7	40,310	60.0	43,480
1958	1563	274	June 3, 1958	-	51.1	37,020	45.9	33,220
1959	1633	188	June 20, 1959	-	37.9	27,430	38.4	27,800
1960	1713	230	June 18, 1960	-	40.1	29,090	-	-

2375. Yampa River near Oak Creek, Colo.

Location.--Lat 40°17', long 106°50', in SE $\frac{1}{4}$ sec.29, T.4 N., R.84 W., on left bank just upstream from Upper Yampa damsite, 1 mile upstream from Morrison Creek and $\frac{6}{8}$ miles east of town of Oak Creek.

Drainage area.--227 sq mi.

Records available.--September 1939 to September 1944, October 1956 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,100 ft (from river-profile map). Prior to Nov. 16, 1939, staff gage.

Average discharge.--9 years (1939-44, 1956-60), 84.2 cfs (60,960 acre-ft per year).

Extremes.--1939-44, 1956-60: Maximum discharge, 952 cfs June 16, 1957 (gage height, 6.49 ft), from rating curve extended above 460 cfs; minimum daily, 10 cfs Sept. 12, 1940

Remarks.--Diversions for irrigation of about 12,000 acres above station. Flow partly regulated by Stillwater Reservoir (capacity, 6,200 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	55.0	47.0	34.8	35.5	37.9	43.7	161	326	444	414	196	125	160
1958	101	89.9	65	56	50	70	157	401	152	72.9	76.7	50.4	112
1959	54.0	63.6	60	55	48	55	166	198	127	90.8	100	58.7	89.9
1960	111	67.8	44.4	46	50	108	259	168	103	78.4	66.6	49.8	95.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	3,260	2,800	2,140	2,180	2,100	2,690	9,570	20,060	26,440	25,470	12,040	7,430	116,200
1958	6,210	5,350	4,000	3,440	2,780	4,300	9,350	24,640	9,070	4,480	4,720	3,000	81,340
1959	3,320	3,790	3,690	3,380	2,670	3,390	9,870	12,160	7,560	5,580	6,160	3,490	65,060
1960	6,800	4,030	2,730	2,830	2,880	6,610	15,390	10,340	6,130	4,820	4,100	2,960	69,620

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1957	1513	952	June 16, 1957	31	160	116,200	171	123,500
1958	1563	604	May 26, 1958	36	112	81,340	106	76,580
1959	1633	405	Apr. 7, 1959	33	89.9	65,060	93.7	67,820
1960	1713	908	Apr. 7, 1960	34	95.9	69,620	-	-

2380. Oak Creek near Oak Creek, Colo.

Location.--Lat 40°14', long 107°01', in NE $\frac{1}{4}$ sec.15, T.3 N., R.86 W., on left bank 4 $\frac{1}{2}$ miles southwest of town of Oak Creek and 16 miles upstream from mouth.

Drainage area.--14 sq mi, approximately.

Records available.--October 1952 to September 1957.

Gage.--Water-stage recorder. Altitude of gage is 7,850 ft (by barometer).

Average discharge.--5 years (1952-57), 8.38 cfs (6,070 acre-ft per year).

Extremes.--1952-57: Maximum discharge, 140 cfs May 9, 1957 (gage height, 4.39 ft); minimum daily determined, 1.3 cfs Sept. 29, 30, 1953.

Remarks.--Diversions for irrigation of about 1,000 acres above station. One diversion imports water from Trout Creek to Oak Creek above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	3.68	3.07	2.0	2.0	1.8	2.5	6.26	19.1	15.0	9.45	5.96	3.24	6.20
1954	6.59	6.70	3.51	2.5	2.1	2.5	7.05	11.3	9.23	3.73	3.15	3.25	5.14
1955	3.07	3.62	3.8	3.6	3.4	4.2	11.9	22.4	9.24	6.44	7.23	3.39	6.88
1956	2.49	2.95	2.46	2.8	2.4	2.85	13.1	33.9	16.4	10.5	7.23	3.18	8.38
1957	3.35	3.93	3.58	4.00	3.68	3.95	6.66	55.5	61.1	20.6	9.94	6.14	15.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	226	182	123	123	100	154	372	1,170	895	581	367	193	4,490
1954	405	398	216	154	117	154	419	694	549	229	194	193	3,720
1955	189	215	234	221	189	258	710	1,370	550	396	445	202	4,980
1956	153	176	152	172	138	176	782	2,080	976	645	444	189	6,080
1957	206	234	220	246	204	243	396	3,410	3,640	1,270	611	365	11,040

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1953	1263	56	May 28, 1953	-	6.20	4,490	6.87	4,970
1954	1343	17	May 18, 1954	1.6	5.14	3,720	4.61	3,340
1955	1393	59	May 7, 1955	1.8	6.68	4,980	6.67	4,820
1956	1443	61	May 24, 1956	1.4	8.38	6,080	8.63	6,260
1957	1513	140	May 9, 1957	2.4	15.3	11,040	-	-

2395. Yampa River at Steamboat Springs, Colo.

Location.--Lat 40°29', long 106°50', in sec.17, T.6 N., R.84 W., on right bank 30 ft downstream from First Street Bridge in Steamboat Springs and a quarter of a mile upstream from Soda Creek.

Drainage area.--604 sq mi.

Records available.--May 1904 to October 1906, October 1909 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 6,695.47 ft above mean sea level, datum of 1929. Prior to May 8, 1905, staff gage at bridge a quarter of a mile upstream at datum 4.16 ft higher. May 8, 1905, to Oct. 31, 1906, chain gage on bridge 30 ft upstream at datum 0.44 ft higher. Mar. 8, 1910, to Sept. 11, 1934, water-stage recorder at present site at datum 0.44 ft higher.

Average discharge.--53 years (1904-6, 1909-60), 473 cfs (342,400 acre-ft per year).

Extremes.--1904-6, 1909-60: Maximum discharge, 6,820 cfs June 14, 1921 (gage height, 7.08 ft, present datum), from rating curve extended above 4,800 cfs; minimum daily, 4 cfs Sept. 8, 1934, Sept. 10-13, 1944.

Remarks.--Natural flow of stream affected by 2 diversions for irrigation to Egeria Creek in Colorado River basin, 1 diversion for irrigation from Trout Creek drainage to Oak Creek drainage, irrigation of about 19,700 acres above station, and storage in Stillwater Reservoir (capacity, 6,200 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	109	95.0	82.7	88.8	90.6	121	632	1,746	2,021	467	197	86.3	478
1952	176	121	112	105	108	115	975	2,139	2,841	353	252	111	616
1953	87.0	107	91.6	90.7	88.9	140	427	1,064	2,167	246	177	49.9	394
1954	90.6	120	76.4	82.3	82.1	102	451	1,082	323	60.4	59.5	69.8	216
1955	137	96.2	87.4	77.0	75.3	79.9	522	1,579	1,065	114	116	44.5	334
1956	70.8	104	115	98.8	93.6	144	831	2,058	1,208	177	151	55.7	426
1957	72.3	101	90.8	88.1	86.4	104	625	1,786	3,697	1,684	358	178	740
1958	175	144	121	110	94.2	152	664	2,691	1,708	163	109	86.1	519
1959	92.7	97.3	99.9	103	90.6	107	520	1,572	1,748	223	172	96.9	394
1960	251	175	98.5	85.2	85.0	287	1,082	1,543	1,546	181	89.9	69.2	457

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6,700	5,650	5,080	5,460	5,030	7,460	37,590	107,400	120,300	28,710	11,520	5,130	346,000
1952	10,810	7,200	6,920	6,430	6,210	7,070	58,010	131,500	169,100	21,720	15,480	6,630	447,100
1953	5,350	6,350	5,630	5,580	4,940	8,590	25,400	65,440	129,000	15,140	10,870	2,970	285,300
1954	5,570	7,120	4,700	5,060	4,560	6,260	25,640	66,530	19,220	3,720	3,860	4,150	156,200
1955	8,410	5,720	5,370	4,740	4,180	4,910	31,030	97,080	63,360	7,040	7,140	2,650	241,600
1956	4,350	6,200	7,050	6,070	5,380	8,870	49,440	126,500	71,740	10,910	9,270	3,310	309,100
1957	4,440	6,000	5,590	5,420	4,800	6,370	37,200	109,800	220,000	103,600	22,000	10,610	535,800
1958	10,620	8,570	7,420	6,780	5,230	9,370	39,510	164,900	101,600	10,040	6,690	5,120	375,800
1959	5,700	5,790	6,140	6,310	5,030	6,570	30,940	84,350	104,000	13,710	10,580	5,880	285,000
1960	15,410	10,400	6,060	5,240	4,890	17,670	64,390	94,890	91,990	11,100	5,530	4,120	331,700

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	387	279,800
1951	1213	3,750	May 29, 1951	58	478	346,000	488	353,500
1952	1243	5,740	June 4, 1952	72	616	447,100	605	439,500
1953	1283	4,620	June 13, 1953	33	394	285,300	394	285,300
1954	1343	1,870	May 19, 1954	25	216	156,200	219	158,300
1955	1393	2,580	May 13, 1955	30	334	241,600	331	239,700
1956	1443	3,750	May 23, 1956	34	426	309,100	424	307,600
1957	1513	5,300	June 7, 1957	55	740	535,800	755	546,400
1958	1563	4,530	May 28, 1958	56	519	375,800	507	366,900
1959	1633	3,080	June 8, 1959	48	394	285,000	413	299,200
1960	1713	3,140	June 4, 1960	45	457	331,700	-	-

2410. Elk River at Clark, Colo.

Location.--Lat 40°43'00", long 106°54'50", in sec.28, T.9 N., R.85 W., on left bank 30 ft upstream from bridge on State Highway 129 in Clark and 1 mile upstream from Cottonwood Gulch.

Drainage area.--206 sq mi.

Records available.--May 1910 to September 1922 (published as "near Clark"), April 1930 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 7,267.75 ft above mean sea level (State Highway bench mark). May 1910 to September 1922, chain gage at site 30 ft upstream at datum 0.15 ft lower. Apr. 23, 1930, to Sept. 27, 1934, water-stage recorder at present site at datum 0.15 ft lower.

Average discharge.--42 years (1910-22, 1930-60), 345 cfs (249,800 acre-ft per year).

Extremes.--1910-22, 1930-60: Maximum daily discharge, 4,470 cfs June 6, 9, 1912; minimum daily determined, 23 cfs Dec. 25, 1952, but a lesser discharge may have occurred during periods of no gage-height record prior to 1939.

Remarks.--Diversions above station for irrigation of about 230 acres above and about 460 acres below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	57.4	52.5	60.7	53.1	40.9	50.6	181	1,166	1,293	644	175	71.5	322
1952	66.4	52.4	52.5	48.1	40.6	41.5	297	1,532	1,840	383	146	70.8	381
1953	48.1	34.1	31.6	35.5	36.9	51.1	151	671	1,428	309	110	48.2	246
1954	43.0	45.7	38.9	40.3	46.4	45.4	297	804	549	168	68.3	68.3	187
1955	76.4	50.9	45.7	39.6	36.5	56.9	332	1,020	1,000	278	96.9	44.0	258
1956	45.7	50.5	51.6	50.3	46.4	74.0	441	1,473	1,314	248	93.0	40.6	327
1957	36.3	44.7	41.0	40.1	39.8	48.1	102	982	2,229	1,314	258	90.9	437
1958	82.0	70.5	67.6	62.5	61.8	58.2	149	1,656	1,413	242	84.6	62.2	335
1959	43.8	43.4	44.4	39.6	37.8	40.9	122	800	1,206	257	98.7	64.7	233
1960	136	97.3	52.5	52.0	51.4	70.0	469	921	1,221	266	73.0	48.5	288

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,530	3,120	3,730	3,260	2,270	3,110	10,790	71,720	76,920	39,600	10,790	4,250	233,100
1952	4,080	3,120	3,230	2,960	2,330	2,550	17,680	94,170	109,500	23,560	8,990	4,210	276,400
1953	2,960	2,030	1,940	2,180	2,050	3,140	8,970	41,280	84,970	18,970	6,750	2,870	178,100
1954	2,650	2,600	2,390	2,480	2,580	2,790	17,680	49,410	32,670	11,540	4,200	4,090	135,100
1955	4,820	3,030	2,810	2,440	2,030	3,500	19,770	62,940	59,770	17,120	5,960	2,620	186,800
1956	2,810	3,000	3,170	3,090	2,670	4,550	26,260	80,560	78,160	15,240	5,720	2,420	237,600
1957	2,230	2,660	2,520	2,460	2,210	2,960	6,060	60,410	132,600	80,770	15,890	5,410	316,200
1958	5,040	4,200	4,160	5,840	3,430	3,590	8,880	101,800	84,080	14,900	5,200	3,700	242,800
1959	2,700	2,580	2,730	2,440	2,100	2,510	7,250	49,180	71,750	15,830	6,070	3,850	169,000
1960	8,330	5,790	3,230	3,200	2,960	4,310	27,920	56,610	72,650	16,350	4,490	2,890	208,700

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1213	2,400	May 28, 1951	30	322	233,100	338	244,800
1952	1243	3,960	June 4, 1952	33	381	276,400	322	233,100
1953	1263	3,010	June 13, 1953	23	246	178,100	376	272,900
1954	1343	1,890	May 21, 1954	25	187	135,100	247	178,800
1955	1393	1,740	June 8, 1955	25	258	186,800	191	138,100
1956	1443	2,790	June 2, 1956	32	258	186,800	256	185,100
1957	1513	3,800	June 13, 1957	32	327	237,600	325	236,100
1958	1563	2,880	May 28, 1958	32	437	316,200	445	322,200
1959	1633	1,890	June 8, 1959	31	335	242,800	328	237,400
1960	1713	2,000	June 3, 1960	38	288	208,700	246	178,500

2430. Trout Creek near Phippsburg, Colo.

Location.--Lat 40°10', long 107°08', in SW $\frac{1}{4}$ sec.2, T.2 N., R.87 W., on right bank 5 ft downstream from U. S. Forest Service road bridge, 11 miles southwest of Phippsburg, 12 miles southwest of Oak Creek, and 28 miles upstream from mouth.

Drainage area.--16 sq mi, approximately.

Records available.--October 1953 to September 1958.

Gage.--Water-stage recorder. Altitude of gage is 9,680 ft (by barometer).

Average discharge.--5 years (1953-58), 27.4 cfs (19,840 acre-ft per year).

Extremes.--1953-58: Maximum discharge, 565 cfs June 30, 1957 (gage height, 6.08 ft), from rating curve extended above 140 cfs; minimum not determined.

Remarks.--Regulation since April 1955 by Sheriff Reservoir (capacity, about 900 acre-ft) 1 mile above station. Rich Ditch diverts water above station from Trout Creek basin to Oak Creek basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	10	10	7	6	6	7	20	73.7	41.7	16.8	12.2	11.3	18.6
1955	12.5	10.8	10	8	7	8	10	59.8	86.7	25.6	17.0	9.75	22.1
1956	9.66	8.93	8.18	7.30	6.5	7	10.1	46.2	133	37.2	18.1	13.5	25.4
1957	9.70	10.1	9	8.5	7.5	7.99	8.31	22.8	157	179	35.7	18.6	39.7
1958	16.0	14.8	13.7	13	12	11	10.0	63.5	152	34.1	21.0	13.3	31.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	615	595	430	369	333	430	1,190	4,530	2,480	1,030	749	674	13,420
1955	766	644	615	492	389	492	595	3,680	5,160	1,570	1,050	580	16,030
1956	594	532	503	449	374	430	599	2,940	7,890	2,280	1,110	801	18,400
1957	596	603	553	523	417	491	494	1,400	9,330	11,000	2,200	1,100	28,710
1958	984	881	841	799	666	676	595	3,900	9,040	2,100	1,290	791	22,560

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1954	1343	226	May 21, 1954	-	18.6	13,420	19.1	13,810	
1955	1393	135	June 13, 1955	-	22.1	16,030	21.6	15,640	
1956	1443	330	May 23, 1956	-	25.4	18,400	25.5	18,520	
1957	1513	565	June 30, 1957	-	39.7	28,710	41.0	29,660	
1958	1563	286	May 28, 1958	-	31.2	22,560	-	-	

2441. Fish Creek near Milner, Colo.

Location.--Lat 40°20'10", long 107°08'20", in NW¼ sec.11, T.4 N., R.87 W., on left bank 200 ft downstream from highway bridge, a quarter of a mile upstream from Coyote Creek, and 12 miles southwest of Milner.

Drainage area.--34.5 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,930 ft (from topographic map). Prior to Apr. 8, 1958, at site 200 ft upstream at different datum. Apr. 8 to Aug. 14, 1958, at site 200 ft upstream at datum 3.14 ft higher.

Average discharge.--5 years (1955-60), 14.4 cfs (10,430 acre-ft per year).

Extremes.--1955-60: Maximum discharge, 255 cfs Mar. 27, 1960 (gage height, 5.63 ft), from rating curve extended above 110 cfs; maximum gage height, 5.75 ft Mar. 25, 1960 (backwater from ice); minimum daily discharge, 0.7 cfs Sept. 9, 1959, Aug. 21, 22, 28, 1960.

Remarks.--Diversions above station for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	2.20	3.14	3.76	4.42	4.18	7.58	33.9	68.1	12.6	2.59	2.05	1.25	12.2
1957	2.32	3.40	2.51	2.71	4.18	6.03	22.7	97.1	104	16.3	7.52	5.56	22.9
1958	6.74	8	7.5	7	6.5	7	19.3	92.5	20.0	3.04	1.55	2.17	15.2
1959	2.88	4.03	4.63	5.40	4.76	5.26	20.9	40.8	11.6	2.41	1.82	1.68	8.87
1960	5.57	6.29	4.29	3.77	4.43	17.2	44.7	47.6	16.7	2.63	1.11	1.26	13.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	135	187	231	272	240	466	2,020	4,190	751	159	126	74	8,850
1957	142	202	154	167	232	371	1,350	5,970	6,180	1,000	462	331	16,560
1958	414	476	461	430	361	430	1,150	5,690	1,190	187	95	129	11,010
1959	177	240	288	332	265	324	1,240	2,510	687	148	112	100	6,420
1960	343	374	264	232	255	1,060	2,660	2,930	992	161	68	75	9,410

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1956	1443	208	May 6, 1956	0.9	12.2	8,850	12.1	8,800		
1957	1513	248	June 2, 1957	1.8	22.9	16,560	24.1	17,410		
1958	1563	204	May 7, 1958	.9	15.2	11,010	14.3	10,370		
1959	1633	103	May 13, 1959	.7	8.87	6,420	9.25	6,700		
1960	1713	255	Mar. 27, 1960	.7	13.0	9,410	-	-		

2443. Grassy Creek near Mount Harris, Colo.

Location.--Lat 40°26'45", long 107°08'38", in SE¼ sec.28, T.6 N., R.87 W., on right bank 60 ft downstream from bridge, 150 ft downstream from small tributary, 2½ miles south of Mount Harris, and 3 miles upstream from mouth.

Drainage area.--25.8 sq mi.

Records available.--October 1958 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 6,580 ft (from topographic map).

Extremes.--1958-60: Maximum discharge, 235 cfs Apr. 6, 1960 (gage height, 5.05 ft); no flow for many days in each year.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	0.03	0.04	0.04	0	0.05	0.19	5.46	0.29	0.05	0.006	0.03	0.08	0.52
1960	.06	.02	0	0	0	12.3	16.8	1.38	.28	0	0	0	2.57

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	2.0	2.6	2.2	0	2.6	12	325	18	3.2	0.4	1.6	5.0	375
1960	4.0	1.4	0	0	0	768	998	85	17	0	0	0	1,860

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1959	1633	105	Apr. 4, 1959	0	0.52	375	0.51	373		
1960	1713	235	Apr. 6, 1960	0	2.57	1,860	-	-		

GREEN RIVER BASIN

2445. Elkhead Creek near Clark, Colo.

Location.--Lat 40°44'00", long 107°10'20", in SE $\frac{1}{4}$ sec.17, T.9 N., R.87 W., on left bank 0.5 mile downstream from South Fork, 13 miles west of Clark, and 17 miles north of Hayden.

Drainage area.--45.4 sq mi.

Records available.--October 1942 to March 1943 (monthly discharge only, published in WSP 1313), July 1943 to September 1944, October 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,800 ft (from topographic map). Prior to October 1958, water-stage recorder at site 40 ft downstream at different datum.

Extremes.--1942-44, 1958-60: Maximum daily discharge, 520 cfs (estimated) May 22, 1944; maximum gage height, 4.93 ft Apr. 11, 1960 (backwater from ice); minimum daily discharge, 0.4 cfs Aug. 21, 31, Sept. 5, 6, 1960.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	2.54	2.87	2.0	1.8	1.6	3.5	30	177	35.8	6.32	2.15	3.26	22.6
1960	7.40	6.32	3.61	3.2	3.0	8.13	137	165	43.5	5.48	1.07	1.01	32.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	156	171	123	111	89	215	1,790	10,870	2,130	389	132	194	16,370
1960	455	376	222	197	173	500	8,150	10,140	2,590	337	66	60	23,270

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1959	1713	a300	May 13, 1959	-	22.6	16,370	23.4	16,970	
1960	1713	492	Apr. 23, 1960	0.4	32.0	23,270	-	-	

a Maximum daily.

2450. Elkhead Creek near Elkhead, Colo.

Location.--Lat 40°40'15", long 107°17'10", in NW $\frac{1}{4}$ sec.8, T.8 N., R.88 W., on right bank 0.2 mile upstream from North Fork Elkhead Creek, $\frac{1}{2}$ miles northwest of Elkhead, and 12 miles north of Hayden.

Drainage area.--64.2 sq mi (revised); at site used prior to Nov. 30, 1920, 63.7 sq mi (revised).

Records available.--January to November 1910 and May to November 1920 (monthly discharge only, in WSP 1313; published as "at Hayes Ranch"), April 1953 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,830 ft (from topographic map). Prior to Nov. 30, 1920, staff gage or water-stage recorder at site 675 ft upstream at different datum.

Average discharge.--7 years (1953-60), 47.1 cfs (34,100 acre-ft per year).

Extremes.--1910, 1920, 1953-60: Maximum daily discharge, 1,660 cfs May 22, 1920; no flow Sept. 1, 1954, Sept. 12-19, 24, 1955.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	-	-	-	-	-	-	50.8	258	113	10.5	4.58	1.46	-
1954	2.55	3.67	3.5	4	4	5	121	108	18.9	3.34	.87	1.94	23.1
1955	3.54	3.90	3.39	3.4	3.2	3.5	112	244	53.8	5.20	3.14	.22	36.9
1956	2.85	4.92	5.5	5.5	5	7.63	197	333	54.3	6.37	1.79	.48	52.1
1957	3.91	4.5	4	3.7	3.5	5	54.6	400	357	50.0	11.3	5.48	75.6
1958	6.57	9.60	9	8	11	13	106	515	70.1	6.83	1.86	2.35	63.9
1959	2.84	3.30	2.9	2.6	2.2	4.5	39.6	254	45.3	5.63	2.36	3.09	31.0
1960	7.72	6.23	4	3.8	3.8	14.4	221	242	51.0	5.67	1.49	1.70	46.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	-	-	-	-	-	-	3,020	15,740	6,740	645	282	87	-
1954	157	218	215	246	222	307	7,180	6,860	1,120	205	54	116	16,700
1955	218	232	208	209	178	215	6,690	15,010	3,200	320	193	13	26,690
1956	175	293	338	338	288	469	11,710	20,460	3,230	392	110	29	37,830
1957	240	268	246	228	194	307	3,250	24,610	21,250	3,080	695	325	54,690
1958	404	571	553	492	611	799	6,510	31,690	4,170	420	114	140	46,270
1959	175	196	179	160	122	277	2,570	15,590	2,710	346	145	184	22,450
1960	474	371	246	234	219	883	13,160	14,890	3,030	349	91	101	34,050

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1953	1283	a970	May 20, 1953	-	-	-	-	-	
1954	1343	562	Apr. 24, 1954	0	23.1	16,700	23.2	16,770	
1955	1393	930	Apr. 26, 1955	0	36.9	26,690	37.1	26,830	
1956	1443	898	May 6, 1956	.1	52.1	37,830	52.0	37,780	
1957	1513	1,100	May 10, 1957	.8	75.6	54,690	76.6	55,470	
1958	1563	1,120	May 12, 1958	.8	63.9	46,270	62.6	45,300	
1959	1633	578	May 7, 1959	.1	31.0	22,450	31.8	23,000	
1960	1713	834	Apr. 21, 1960	.5	46.9	34,050	-	-	

a Maximum during period April to September.

2455. North Fork Elkhead Creek near Elkhead, Colo.

Location.--Lat 40°40'50", long 107°17'10", in NW $\frac{1}{4}$ sec.5, T.8 N., R.88 W., on right bank 70 ft upstream from small tributary, 0.8 mile upstream from mouth, and 13 miles north of Hayden.

Drainage area.--21 sq mi, approximately.

Records available.--January to November 1910 and May to November 1920 (monthly discharge only, published in WSP 1313; published as "at Hayes Ranch"), October 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,990 ft (from topographic map). January to November 1910 and May to September 1920 staff gage and October to November 1920 water-stage recorder, at site 0.6 mile downstream at different datum.

Extremes.--1910, 1920, 1958-60: Maximum daily discharge, 542 cfs May 19, 1920; no flow at times in 1910, 1959-60.

Remarks.--Diversions above station for irrigation of about 100 acres of hay meadows.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	1.00	1.5	1.3	1.2	1.2	1.8	15.3	81.5	13.6	1.15	0.52	1.27	10.2
1960	3.99	3.41	2.4	2.2	2	6.43	78.3	82.6	17.9	1.07	.003	.12	16.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	61	89	80	74	67	113	913	5,010	809	71	32	76	7,400
1960	245	203	148	135	115	395	4,660	5,080	1,070	66	.2	7.1	12,120

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean		Acre-feet	
		Discharge	Date							
1959	1633	230	May 13, 1959	0	10.2	7,400	10.7		7,760	
1960	1713	242	May 12, 1960	0	16.7	12,120	-		-	

2469. Fortification Creek near Craig, Colo.

Location.--Lat 40°45'20", long 107°32'40", in NE $\frac{1}{4}$ sec.12, T.9 N., R.91 W., on left bank at Fortification Rocks, 250 ft upstream from unnamed tributary and 1 $\frac{1}{2}$ miles north of Craig.

Drainage area.--34.3 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,540 ft (from topographic map). Prior to Oct. 21, 1956, and June 15, 1957, to Aug. 20, 1958, at site 1 mile upstream at different datum. Oct. 21, 1956, to June 14, 1957, at site a quarter of a mile upstream at different datum.

Average discharge.--5 years (1955-60), 11.4 cfs (8,250 acre-ft per year).

Extremes.--1955-60: Maximum discharge, 287 cfs May 9, 1957 (gage height, 8.48 ft, site and datum then in use); no flow at times in 1956-60.

Remarks.--Diversions for irrigation of a few hundred acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	1.77	3.36	2.2	2.0	1.6	12.3	34.0	33.9	9.23	0.38	0.34	0.04	8.43
1957	.66	1.27	1.63	1.87	1.74	9.63	33.4	65.4	84.7	18.4	1.81	.92	18.5
1958	3.93	3.70	2.6	2.4	3.5	5.5	33.6	93.1	25.4	.89	.11	.63	14.7
1959	1.03	1.80	2	2	2	2.5	13.3	23.7	9.91	.56	.19	1.13	5.02
1960	4.27	2.91	1.45	1.5	1.7	23.2	33.5	40.1	15.7	.18	0	0	10.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	109	200	135	123	92	756	2,020	2,090	549	+22	21	26	6,120
1957	40	76	100	115	97	592	1,990	4,020	5,040	1,130	111	55	13,370
1958	242	220	160	148	194	338	2,000	5,730	1,510	55	6.5	38	10,640
1959	63	107	123	123	111	154	789	1,460	590	35	12	67	3,630
1960	263	173	89	92	98	1,430	1,990	2,470	935	11	0	0	7,550

+ Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean		Acre-feet	
		Discharge	Date							
1956	1443	78	Mar. 25, 1956	0	8.43	6,120	8.12		5,890	
1957	1513	287	May 9, 1957	0	18.5	13,370	19.0		13,770	
1958	1563	138	May 5, 1958	0	14.7	10,640	14.2		10,310	
1959	1633	66	May 14, 1959	0	5.02	3,630	5.34		3,870	
1960	1713	a250	Mar. 27, 1960	0	10.4	7,550	-		-	

a About.

2486. East Fork of Williams Fork above Willow Creek, Colo.

Location--Lat 40°15'40", long 107°17'35", in NE $\frac{1}{4}$ sec.5, T.3 N., R.88 W., 3 $\frac{1}{2}$ miles south of Willow Creek store, 3 $\frac{3}{4}$ miles upstream from Willow Creek, and 16 miles south of Hayden.

Drainage area--108 sq mi.

Records available--October 1956 to September 1960.

Gage--Water-stage recorder. Altitude of gage is 7,100 ft (from topographic map).

Extremes--1956-60: Maximum discharge, about 1,500 cfs June 25, 1957; maximum gage height, 6.84 ft June 9, 1957; minimum discharge not determined.

Remarks--Diversions for irrigation of about 800 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	20.2	25	22	22	22.4	22.8	68.4	342	889	543	147	72.0	183
1958	53.5	50	45	35	37.3	32.0	60.4	630	439	77.1	39.2	38.6	129
1959	35.6	32.7	29.0	23.5	23.0	21.4	61.9	322	350	91.6	51.7	34.8	90.0
1960	45.4	35.3	26.1	26.6	25.4	37.0	147	322	431	82.4	39.0	30.7	104

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	1,240	1,490	1,350	1,350	1,240	1,400	4,070	21,020	52,880	33,370	9,010	4,280	132,700
1958	3,290	2,980	2,770	2,150	2,070	1,970	3,590	38,730	26,110	4,740	2,410	2,300	93,110
1959	2,190	1,950	1,790	1,440	1,280	1,310	3,690	19,800	20,840	5,630	3,180	2,070	65,170
1960	2,790	2,110	1,600	1,640	1,460	2,280	8,730	19,790	25,660	5,070	2,400	1,820	75,350

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1957	1513	al,500	June 25, 1957	-	183	132,700	190	137,700
1958	1563	al,300	May 29, 1958	28	129	93,110	124	90,000
1959	1633	710	June 8, 1959	19	90.0	65,170	90.8	65,740
1960	1713	936	June 3, 1960	20	104	75,350	-	-

a About.

2490. East Fork of Williams Fork near Pagoda, Colo.

Location.--Lat 40°18'45", long 107°19'15", in SW $\frac{1}{4}$ sec.18, T.4 N., R.88 W., on right bank 20 ft downstream from private road bridge, half a mile upstream from Dowden Gulch, $1\frac{1}{4}$ miles downstream from Willow Creek, and $5\frac{1}{2}$ miles southeast of Pagoda.

Drainage area.--150 sq mi, approximately.

Records available.--October 1953 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,830 ft (from topographic map).

Average discharge.--7 years (1953-60), 115 cfs (83,260 acre-ft per year).

Extremes.--1953-60: Maximum discharge, 1,620 cfs June 26, 1957; maximum gage height, 4.82 ft June 6, 1957; minimum daily discharge, 12 cfs Aug. 28, Sept. 22, 1954.

Remarks.--Diversions for irrigation of about 900 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954	30	40	30	22	18	23.9	96.7	277	102	37.8	23.5	27.8	61.0
1955	38.1	24.8	22.6	22.2	20.9	21.3	94.5	387	298	53.9	35.6	21.1	87.0
1956	22.1	28.7	28.4	27.7	26.1	31.7	123	527	385	74.7	45.3	25.8	112
1957	25.8	28.6	26.5	28.3	28.9	27.5	80.1	414	932	591	140	72.2	205
1958	60.6	53.0	45.7	39.3	40.3	36.1	85.2	712	441	71.3	39.6	35.0	139
1959	31.2	35.5	30.1	25.1	25.4	26.0	87.4	328	354	88.5	42.7	30.7	92.0
1960	48.5	39.0	28.8	28.3	25.7	47.4	175	386	419	80.1	41.0	29.1	112

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954	1,840	2,380	1,840	1,350	1,000	1,470	5,750	17,050	6,080	2,320	1,440	1,650	44,170
1955	2,340	1,480	1,390	1,360	1,160	1,310	5,620	23,820	17,720	3,310	2,190	1,260	62,960
1956	1,360	1,710	1,750	1,700	1,500	1,950	7,320	32,410	22,890	4,590	2,780	1,540	81,500
1957	1,590	1,700	1,630	1,740	1,610	1,690	4,770	25,430	59,000	36,350	8,640	4,290	148,400
1958	3,720	3,150	2,810	2,420	2,240	2,220	5,070	43,790	26,250	4,390	2,440	2,080	100,600
1959	1,920	1,990	1,850	1,540	1,410	1,600	5,200	20,140	21,070	5,440	2,630	1,820	66,610
1960	2,990	2,320	1,770	1,740	1,480	2,910	10,430	23,710	24,920	4,920	2,520	1,730	81,440

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950							
1951							
1952							
1953							
1954	1343	578	May 21, 1954	12	61.0	44,170	59.9
1955	1393	680	May 14, 1955	15	87.0	62,960	86.4
1956	1443	930	June 2, 1956	19	112	81,500	112
1957	1513	1,620	June 26, 1957	22	205	148,400	212
1958	1563	1,360	May 29, 1958	26	139	100,600	134
1959	1633	774	June 7, 1959	20	92.0	66,610	93.8
1960	1713	824	May 12, 1960	20	112	81,440	-

2500. Milk Creek near Thornburg, Colo.

Location.--Lat 40°12', long 107°44', in NE $\frac{1}{4}$ sec.32, T.3 N., R.92 W., on right bank $\frac{2}{3}$ miles northwest of Thornburg and 3 miles upstream from Little Creek.

Drainage area.--65 sq mi, approximately.

Records available.--October 1952 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,450 ft (by barometer).

Average discharge.--8 years (1952-60), 21.9 cfs (15,850 acre-ft per year).

Extremes.--1952-60: Maximum discharge, 491 cfs May 10, 1957; maximum gage height, 5.52 ft June 1, 1957; minimum daily discharge, 0.2 cfs Oct. 5-7, 1956.

Remarks.--Diversions for irrigation of about 2,000 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	1.8	1.93	2.0	1.9	1.8	4.0	18.7	112	62.6	8.96	3.10	0.87	18.4
1954	1.42	2.98	3.29	4.13	4.60	5.50	55.3	67.0	14.6	3.28	.56	.67	13.5
1955	2.85	3.12	3.27	2.99	2.96	8.28	28.5	114	31.7	5.29	1.50	.52	17.2
1956	1.04	2.04	2.89	3.76	3.59	10.7	52.6	121	21.9	4.05	1.06	.40	18.9
1957	1.82	2.00	1.84	1.79	3.38	10.5	34.2	217	219	32.6	4.20	2.3	44.3
1958	5.3	6.5	5.5	4.5	5.68	8	43.3	241	42.9	6.01	1.31	.94	31.2
1959	1.36	2.10	3.11	3.12	3.68	4.44	14.4	60.1	15.9	2.98	.99	1.03	9.49
1960	2.72	2.33	1.56	1.47	1.61	14.4	71.5	127	35.8	4.85	2.09	1.85	22.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	111	115	123	117	100	246	1,110	6,880	3,720	551	191	52	13,320
1954	87	177	202	254	256	358	3,170	4,120	869	202	34	40	9,750
1955	175	185	201	184	185	509	1,700	7,000	1,890	325	92	51	12,460
1956	64	121	178	231	207	659	3,130	7,460	1,300	249	65	24	13,690
1957	50	119	113	110	188	648	2,040	13,360	13,030	2,000	258	137	32,050
1958	326	387	338	277	314	492	2,570	14,790	2,550	370	80	56	22,550
1959	84	125	191	192	203	273	854	3,700	946	183	61	61	6,870
1960	167	138	96	90	92	884	4,250	7,830	2,130	299	129	110	16,220

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953	1283	296	May 29, 1953	0.5	18.4	13,320	18.6	13,430
1954	1343	154	May 10, 1954	.3	13.5	9,750	13.6	9,840
1955	1393	214	May 15, 1955	.4	17.2	12,460	16.9	12,260
1956	1443	218	May 8, 1956	.3	18.9	13,690	18.8	13,610
1957	1513	491	May 10, 1957	.2	44.3	32,050	45.3	32,820
1958	1563	354	May 12, 1958	.4	31.2	22,550	30.3	21,900
1959	1633	141	May 14, 1959	.3	9.49	6,870	9.49	6,870
1960	1713	235	May 13, 1960	1.0	22.3	16,220	-	-

2510. Yampa River near Maybell, Colo.

Location.--Lat 40°30'10", long 108°01'45", in NW $\frac{1}{4}$ sec.2, T.6 N., R.95 W., on left bank 100 ft downstream from bridge on U. S. Highway 40, 2 miles downstream from Lay Creek, and 3 miles east of Maybell.

Drainage area.--3,410 sq mi, approximately.

Records available.--April 1904 to October 1905, June 1910 to November 1912, April 1916 to September 1960. Monthly discharge only for some periods, published in WSP 1313. No winter records prior to 1917.

Gage.--Water-stage recorder. Datum of gage is 5,900.23 ft above mean sea level, datum of 1929. Prior to Apr. 24, 1916, staff or chain gage at Thornburgh Bridge 14 miles downstream at different datum. Apr. 24, 1916, to Nov. 3, 1917, chain gage and Nov. 4, 1917, to Mar. 8, 1937, water-stage recorder, at site 700 ft downstream at datum 0.92 ft higher prior to Oct. 1, 1932, and at present datum thereafter.

Average discharge.--44 years (1916-60), 1,576 cfs (1,141,000 acre-ft per year).

Extremes.--1904-5, 1910-12, 1916-60: Maximum discharge observed, 17,900 cfs May 19, 1917 (gage height, 10.4 ft, from floodmarks, site and datum then in use), from rating curve extended above 12,000 cfs; minimum daily, 2 cfs July 17-19, 1934.

Remarks.--Natural flow of stream affected by transbasin diversions, numerous storage reservoirs, and diversions above station for irrigation of about 65,000 acres above and about 800 acres below station. Records of chemical analyses for the period November 1950 to September 1960, suspended sediment loads for the period December 1950 to May 1958, and water temperatures for the period November 1950 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	250	287	268	235	268	533	1,852	5,356	5,299	1,761	475	214	1,404
1952	334	265	202	228	252	306	4,033	8,394	7,971	1,186	542	243	1,993
1953	190	208	222	237	220	401	1,218	3,602	6,116	842	396	102	1,145
1954	151	264	189	237	272	382	1,728	3,398	1,436	273	122	183	721
1955	378	273	204	202	191	456	2,008	4,881	3,355	503	248	67.2	1,067
1956	133	263	322	277	246	489	3,598	6,518	4,358	539	280	64.3	1,427
1957	126	213	187	206	234	467	2,108	7,156	11,430	5,819	1,052	450	2,460
1958	469	483	405	328	504	675	2,716	8,931	5,539	573	178	165	1,752
1959	216	246	215	220	262	350	1,501	4,306	4,827	783	351	205	1,124
1960	665	532	377	235	221	663	4,035	4,675	4,496	592	155	97.0	1,392

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	15,400	17,100	16,470	14,430	14,890	32,760	110,200	329,300	315,300	108,300	29,190	12,760	1,016,000
1952	20,560	15,800	12,450	13,990	14,500	18,820	240,000	516,100	474,300	72,910	33,300	14,430	1,447,000
1953	11,660	12,380	13,650	14,600	12,200	24,630	72,470	221,500	363,900	51,790	24,370	6,080	829,200
1954	9,310	15,730	11,620	14,580	15,090	23,460	102,800	209,000	85,460	16,810	7,480	10,870	522,200
1955	23,230	16,260	12,550	12,420	10,630	28,030	119,500	300,100	199,700	30,950	15,230	4,000	772,600
1956	8,170	15,620	19,810	17,060	14,160	30,090	214,100	400,800	259,300	33,150	17,210	3,820	1,033,000
1957	7,750	12,650	11,500	12,690	13,010	28,740	125,400	440,000	80,200	200,557	64,710	26,780	1,781,000
1958	28,820	28,730	24,870	20,190	27,970	41,470	161,600	549,100	329,600	35,210	10,820	9,790	1,268,000
1959	13,310	14,620	13,250	13,550	14,540	21,530	89,310	264,800	287,200	48,160	21,600	12,170	814,000
1960	40,880	31,680	23,170	14,460	12,690	40,740	240,100	287,400	267,500	36,420	9,540	5,770	1,010,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	1,301	-	941,500
1951	1213	8,870	May 30, 1951	125	1,404	1,016,000	1,403	1,016,000	
1952	1243	13,800	June 6, 1952	165	1,393	1,447,000	1,378	1,436,000	
1953	1283	10,100	June 15, 1953	66	1,145	829,200	1,144	829,200	
1954	1343	5,480	May 23, 1954	52	721	522,200	743	537,600	
1955	1393	7,000	May 16, 1955	37	1,067	772,600	1,055	764,200	
1956	1443	9,870	May 25, 1956	36	1,427	1,033,000	1,407	1,022,000	
1957	1513	15,700	June 9, 1957	60	2,460	1,781,000	2,530	1,832,000	
1958	1563	12,200	May 30, 1958	89	1,752	1,268,000	1,695	1,227,000	
1959	1633	6,690	June 10, 1959	54	1,124	814,000	1,200	868,600	
1960	1713	8,000	May 15, 1960	45	1,392	1,010,000	-	-	

2512. Middle Fork Little Snake River near Columbine, Colo.

Location.--Lat 40°56'45", long 106°55'15", in SE $\frac{1}{4}$ sec.4, T.11 N., R.85 W., on right bank 600 ft downstream from road bridge, 1 mile upstream from Whiskey Creek, and $\frac{6}{8}$ miles northeast of Columbine.

Drainage area.--26.7 sq mi.

Records available.--May 1957 to September 1958.

Gage.--Water-stage recorder. Altitude of gage is 8,380 ft (from topographic map).

Extremes.--1957-58: Maximum discharge, 677 cfs about May 24, 1958 (gage height, 4.55 ft, from recorded range in stage); minimum not determined.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	95.0	321	66.0	11.2	5.17	-
1958	6.48	4	4	5.5	3	2.5	8.25	304	176	15.1	5.46	3.96	45.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	5,840	19,120	4,060	691	308	-
1958	399	238	246	215	167	154	491	18,720	10,450	929	336	236	32,580

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1957	1513	a558	June 6, 1957	-	-	-	-	-	-	-
1958	1563	677	May 24, 1958 ^b	-	45.0	32,580	-	-	-	-

a Maximum during period May to September.

b About.

2513. Whiskey Creek near Columbine, Colo.

Location.--Lat 40°57'40", long 106°55'05", in SW $\frac{1}{4}$ sec.34, T.12 N., R.85 W., on right bank at downstream side of road bridge, $\frac{1}{2}$ miles upstream from mouth and 8 miles northeast of Columbine.

Drainage area.--13.3 sq mi.

Records available.--May 1957 to September 1958.

Gage.--Water-stage recorder. Datum of gage is 8,315.68 ft above mean sea level (Bureau of Reclamation bench mark).

Extremes.--1957-58: Maximum daily discharge, 410 cfs May 24, 1958; minimum discharge not determined.

Remarks.--No known diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	50	212	39.4	6.54	2.58	-
1958	3.74	4.04	3.5	3	2.5	2.2	11.8	193	108	8.90	2.18	2.12	28.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	3,070	12,640	2,420	402	154	-
1958	230	240	215	184	139	135	699	11,880	6,420	547	134	126	20,950

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1957	1513	a308	June 13, 1957	-	-	-	-	-	-	-
1958	1563	b410	May 24, 1958	-	2.89	20,950	-	-	-	-

a Maximum during period May to September.

b Maximum daily.

2514. King Solomon Creek near Columbine, Colo.

Location.--Lat 40°54'30", long 106°56'05", in NW¼ sec.21, T.11 N., R.85 W., on right bank 230 ft downstream from bridge, 3 miles upstream from mouth, and 4 miles northeast of Columbine.

Drainage area.--15.0 sq mi.

Records available.--May 1957 to September 1958.

Gage.--Water-stage recorder. Altitude of gage is 8,170 ft (from topographic map). May 1 to July 17, 1957, at site 240 ft upstream at datum 3.00 ft higher. July 18, 1957, to Aug. 16, 1958, at site 200 ft upstream at datum 1.00 ft higher.

Extremes.--1957-58: Maximum discharge recorded, 390 cfs May 24, 1958 (gage height, 2.90 ft); minimum not determined.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	68.8	148	37.3	3.90	2.01	-
1958	3.46	3.29	2.2	1.8	1.2	1.1	7.89	125	53.7	5.66	1.70	2.54	17.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	4,230	8,800	2,300	240	119	-
1958	213	196	135	111	67	68	469	7,680	3,200	348	105	151	12,740

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1957	1513	250	June 7, 1957	-	-	-	-	-
1958	1563	390	May 24, 1958	-	17.6	12,740	-	-

a Maximum daily during period May to September.

2518. North Fork Little Snake River near Encampment, Wyo.

Location--Lat 41°03'00", long 106°57'30", in SW¹ sec.33, T.13 N., R.85 W., on right bank 200 ft upstream from Harrison Creek and 14 miles southwest of Encampment.

Drainage area--9.64 sq mi.

Records available--October 1956 to September 1960.

Gage--Water-stage recorder. Altitude of gage is 8,300 ft (from topographic map).

Extremes--1956-60: Maximum discharge, 515 cfs June 7, 1957 (gage height, 3.75 ft, from floodmark); maximum gage height, 4.03 ft about May 13, 1960 (backwater from ice); minimum discharge not determined.

Remarks--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	2.57	2.4	2.2	2	2.2	2.7	5.5	44.8	258	82.8	9.05	3.75	34.7
1958	5.20	5	4.5	3.5	4	4.5	12	200	125	14.5	3.55	3.24	32.3
1959	1.78	2.10	1.8	1.5	1.6	1.8	6.93	74.2	121	16.7	5.23	4.51	20.0
1960	14.8	10.3	5	4	3.5	4.29	21.2	91.8	117	14.4	3.79	2.01	24.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	158	143	135	123	122	166	327	2,760	13,330	5,090	557	223	25,130
1958	320	298	277	215	222	277	714	12,300	7,460	894	218	193	23,390
1959	110	125	111	98	89	111	412	4,560	7,220	1,030	322	268	14,460
1960	912	613	307	246	201	264	1,260	5,640	6,960	886	233	120	17,640

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1957	1513	515	June 7, 1957	-	34.7	25,130	35.3	25,590		
1958	1563	410	May 27, 1958	-	32.3	23,390	31.5	22,840		
1959	1633	276	June 7, 1959	-	20.0	14,460	22.0	15,940		
1960	1713	284	June 3, 1960	-	24.3	17,640	-	-		

2519. North Fork Little Snake River near Slater, Colo.

Location--Lat 41°00'55", long 107°01'20", in NE¹ sec.14, T.12 N., R.86 W., in Wyoming, on right bank at downstream side of road bridge, 1 mile upstream from West Branch of North Fork, 3 miles upstream from mouth, and 19 miles east of Slater.

Drainage area--29.3 sq mi.

Records available--April 1956 to September 1960.

Gage--Water-stage recorder. Altitude of gage is 7,350 ft (from topographic map).

Extremes--1956-60: Maximum discharge, 628 cfs June 7, 1957 (gage height, 3.17 ft), from rating curve extended above 390 cfs; maximum gage height, 3.2 ft (from high-water mark) occurred sometime during period May 24 to June 2, 1956; minimum discharge not determined.

Remarks--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	50.2	265	174	16.6	7.13	4.03	-
1957	3.67	3.2	2.8	3.2	3.8	4.5	†15.4	120	397	114	15.2	7.77	57.4
1958	8.97	9.37	8	7	6.5	7	25.2	300	202	18.6	7.58	5.38	50.7
1959	4.57	4.99	4.0	3.5	3.5	4.0	13.4	152	190	21.8	7.38	5.97	34.6
1960	21.7	16.0	7.5	6.5	5.9	7.5	71.1	198	171	22.5	5.81	3.57	44.7

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	2,990	16,300	10,370	1,020	438	240	-
1957	226	190	172	197	211	277	918	7,390	23,620	6,990	932	462	41,580
1958	552	557	492	430	361	430	1,500	19,440	12,040	1,150	466	320	36,740
1959	281	297	246	215	191	246	798	9,360	11,300	1,340	454	355	25,090
1960	1,330	950	461	400	316	461	4,230	12,180	10,160	1,380	357	212	32,440

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1956	1443	a548	(b)	-	-	-	-	-	-	-
1957	1513	628	June 7, 1957	-	57.4	41,580	58.8	42,600		
1958	1563	570	May 29, 1958	4.0	50.7	36,740	49.7	35,960		
1959	1633	400	June 7, 1959	-	34.6	25,090	37.3	27,010		
1960	1713	385	May 13, 1960	2.7	44.7	32,440	-	-		

a Maximum during period April to September.

b Sometime during period May 24 to June 2, 1956.

2530. Little Snake River near Slater, Colo.

Location.--Lat 41°00', long 107°09', in SW $\frac{1}{4}$ sec.15, T.12 N., R.87 W., on left bank just downstream from highway bridge at Focus Ranch, a quarter of a mile downstream from Willow Creek and 11 miles east of Slater.

Drainage area.--285 sq mi.

Records available.--October 1942 to September 1947, October 1950 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 6,831.00 ft above mean sea level, datum of 1929.

Average discharge.--15 years (1942-47, 1950-60), 216 cfs (156,400 acre-ft per year).

Extremes.--1942-47, 1950-60: Maximum discharge, 3,230 cfs June 7, 1957 (gage height, 8.27 ft); minimum daily, 8.6 cfs Sept. 10, 1944.

Remarks.--Diversions for irrigation of about 2,000 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	29.8	34.2	32.9	30.1	22.5	37.0	205	1,122	810	138	43.9	21.3	211
1952	47.5	24.9	25.6	28.7	28.7	31.2	408	1,684	1,288	120	38.3	18.9	312
1953	17.6	19.9	20.6	22.9	23.9	41.9	124	558	909	86.2	35.0	16.0	156
1954	18.4	27.3	23.5	26.7	32.7	32.4	254	565	193	36.7	17.0	24.0	105
1955	26.9	21.6	23.5	23.6	23.4	26.3	186	878	569	67.5	30.9	15.3	158
1956	21.5	29.9	38.0	31.2	25.3	44.5	444	1,417	706	63.7	26.1	12.2	239
1957	17.9	32.3	25.0	26.0	29.9	37.8	148	1,023	1,909	461	63.5	30.5	317
1958	50.7	49.1	42.9	49.0	55.1	56.0	197	1,624	857	71.8	24.4	25.4	260
1959	20.0	18.4	20	25	27	33.6	118	676	597	73.7	30.6	26.9	139
1960	78.0	52.0	25.7	28.6	24.4	59.9	462	850	624	774.3	19.2	13.8	193

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,830	2,040	2,020	1,850	1,250	2,270	12,210	68,960	48,230	8,470	2,700	1,270	153,100
1952	2,920	1,480	1,570	1,770	1,650	1,920	24,290	103,500	76,630	7,400	2,350	1,120	226,600
1953	1,080	1,180	1,270	1,410	1,320	2,570	7,400	34,280	54,090	5,300	2,150	952	113,000
1954	1,150	1,620	1,440	1,640	1,810	1,990	15,130	34,730	11,480	2,260	1,050	1,430	75,710
1955	1,650	1,290	1,440	1,450	1,300	1,610	11,050	53,960	33,880	4,150	1,900	910	114,600
1956	1,320	1,780	2,340	1,920	1,460	2,730	26,440	87,150	42,040	3,920	1,600	728	173,400
1957	1,100	1,920	1,540	1,600	1,660	2,330	8,830	62,930	113,600	28,340	3,900	1,810	229,600
1958	3,120	2,920	2,640	3,010	3,080	3,450	11,730	99,870	50,990	4,420	1,500	1,510	188,200
1959	1,230	1,090	1,230	1,540	1,500	2,070	7,000	41,590	35,540	4,530	1,880	1,600	100,800
1960	4,800	3,090	1,580	1,760	1,410	3,690	27,500	52,250	37,110	4,570	1,180	819	139,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950									
1951	1213	2,050	May 28, 1951	16	211	153,100	212	153,200	
1952	1243	3,200	June 4, 1952	15	312	226,600	309	224,200	
1953	1263	2,050	June 12, 1953	14	156	113,000	157	113,700	
1954	1343	1,020	May 25, 1954	12	105	75,710	105	75,900	
1955	1393	1,620	May 7, 1955	12	158	114,600	160	115,600	
1956	1443	2,330	May 24, 1956	11	239	173,400	238	172,500	
1957	1513	3,230	June 7, 1957	12	317	229,600	323	233,700	
1958	1563	3,120	May 24, 1958	16	260	188,200	253	183,100	
1959	1633	1,420	May 13, 1959	11	139	100,800	147	106,700	
1960	1713	1,860	May 13, 1960	11	193	139,800	-	-	

2534. Battle Creek near Encampment, Wyo.

Location.--Lat 41°08'00", long 107°03'50", in NE $\frac{1}{4}$ sec.4, T.13 N., R.86 W., on right bank at sheep bridge, 1 mile downstream from Haskins Creek, 8 miles upstream from Haggarty Creek, and 15 miles west of Encampment.

Drainage area.--12.8 sq mi.

Records available.--April 1956 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,375 ft (from topographic map).

Extremes.--1956-60: Maximum discharge, 670 cfs May 29, 1958 (gage height, 4.18 ft), from rating curve extended above 320 cfs; minimum not determined.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	13.8	142	116	13.4	6.07	3.75	-
1957	5.28	3.2	3.0	2.7	3.0	3.5	5	42.0	266	101	13.8	8.20	37.9
1958	8.29	6.47	5	5	4.5	4	5.5	184	169	15.2	5.98	4.74	34.9
1959	2.83	2.56	2.1	2.0	2.0	1.8	6.76	64.7	118	20.5	7.35	6.97	19.8
1960	9.39	8.2	6	5	4	5.8	23.9	97.7	141	17.7	5.49	3.24	27.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	821	8,740	6,920	824	373	223	-
1957	202	190	184	166	167	215	298	2,580	15,840	6,230	849	488	27,410
1958	510	385	307	307	250	246	327	11,280	10,060	932	368	282	25,250
1959	174	152	129	123	111	111	402	3,980	7,040	1,260	452	415	14,350
1960	578	486	369	307	230	358	1,420	6,010	8,410	1,090	337	193	19,790

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1956	1443	a340	(b)	-	-	-	-	-
1957	1513	520	June 7, 1957	-	37.9	27,410	38.7	28,040
1958	1563	670	May 29, 1958	-	34.9	25,250	33.9	24,510
1959	1633	232	June 8, 1959	-	19.8	14,350	21.2	15,330
1960	1713	300	June 3, 1960	-	27.3	19,790	-	-

a Maximum for period April to September.

b May 24 or 25, 1956.

2535. Battle Creek near Slater, Colo.

Location.--Lat 41°00'10", long 107°14'20", in NW $\frac{1}{4}$ sec.14, T.12 N., R.88 W., in Colorado, on left bank 10 ft upstream from bridge on State Highway 129 at Wyoming-Colorado State line, a quarter of a mile upstream from mouth, and 7 miles east of Slater.

Drainage area.--85.3 sq mi.

Records available.--October 1942 to September 1951.

Gage.--Water-stage recorder. Datum of gage is 6,696.10 ft above mean sea level, adjustment of 1912. Prior to Oct. 16, 1944, at datum 1.00 ft higher.

Average discharge.--9 years (1942-51), 83.1 cfs (60,160 acre-ft per year).

Extremes.--1942-51: Maximum discharge, 1,160 cfs May 21, 1948 (gage height, 3.43 ft), from rating curve extended above 370 cfs; maximum gage height, 5.64 ft (present datum) June 1, 1943; minimum daily discharge, 2.6 cfs Sept. 8, 1946.

Remarks.--Diversion above station for irrigation of about 230 acres above station and about 70 acres below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8.67	9.31	10.2	9.47	9.39	11.6	63.4	357	284	57.3	15.0	6.60	70.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	533	554	626	582	521	711	3,770	21,980	16,890	3,520	923	393	51,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1213	844	May 28, 1951	5.4	70.4	51,000	87.5	63,350

2550. Slater Fork near Slater, Colo.

Location.--Lat 40°59', long 107°23', in SW $\frac{1}{4}$ sec.21, T.12 N., R.89 W., on right bank 25 ft downstream from highway bridge, 1 mile upstream from mouth, and 1 $\frac{1}{2}$ miles south of Slater.

Drainage area.--161 sq mi.

Records available.--May to October, December 1910, March to October 1911, and April to May 1912 (published as Slater Creek); July 1931 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 6,600 ft (from river-profile map). May 28, 1910, to May 25, 1912, staff gage at site 1 $\frac{1}{2}$ miles upstream at different datum. July 9, 1931, to May 6, 1932, chain gage at site a quarter of a mile downstream at different datum.

Average discharge.--29 years (1931-60), 71.8 cfs (51,980 acre-ft per year).

Extremes.--1910-12, 1931-60: Maximum discharge observed, 1,700 cfs May 19, 1912 (gage height, 5.00 ft, site and datum then in use); no flow Aug. 2-10, 1934, Aug. 18, 25-27, 1936, Aug. 29 to Sept. 3, 1954.

Remarks.--Diversions for irrigation of about 500 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	15.6	16.3	15.7	15.1	17.3	26.5	76.4	266	157	18.7	13.5	6.73	54.0
1952	17.1	12.1	16.0	19.3	19.4	21.8	174	567	415	29.8	14.4	10.5	110
1953	13.3	13.7	15.5	16.4	18.6	25.2	50.3	230	279	18.3	12.0	4.01	58.0
1954	10.8	13.8	11.6	12.6	12.8	16.9	129	203	58.7	11.5	4.59	9.53	41.4
1955	18.6	17.7	16.2	15.7	15.2	16.6	90.4	282	167	12.1	6.88	5.51	55.5
1956	12.4	17.9	22.8	20.7	17.3	26.9	168	381	147	10.0	5.52	3.36	69.5
1957	10.6	14.7	14.2	14.7	14.9	19.4	53.5	399	568	153	19.1	14.6	107
1958	20.3	20.7	16.8	16.2	22.4	25.2	71.4	571	197	11.4	2.20	9.75	82.5
1959	12.2	11.6	13.8	15.3	15.0	16.9	53.7	218	118	17.3	6.27	11.5	42.6
1960	25.2	19.1	13.0	13.3	13.9	40.5	168	234	160	14.2	1.93	3.20	58.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	962	968	968	930	960	1,630	4,550	16,390	9,360	1,150	829	400	39,100
1952	1,050	722	998	1,190	1,120	1,340	10,360	34,940	24,670	1,630	888	625	79,620
1953	815	816	950	1,010	1,040	1,550	3,000	14,140	16,580	1,130	740	259	42,010
1954	663	821	712	776	712	1,040	7,700	12,480	3,490	706	282	567	29,950
1955	1,140	1,050	998	964	847	1,020	5,380	17,350	9,930	745	423	328	40,180
1956	765	1,070	1,400	1,270	996	1,650	9,980	23,410	8,780	617	339	200	50,480
1957	649	873	873	904	829	1,190	3,180	23,930	33,780	9,390	1,170	867	77,690
1958	1,250	1,230	1,030	998	1,240	1,550	4,250	35,100	11,700	698	135	580	59,760
1959	752	692	847	942	851	1,040	3,200	13,410	7,020	1,060	386	685	30,860
1960	1,550	1,140	797	817	797	2,490	10,010	14,360	9,520	872	119	190	42,660

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	92.5	66,980
1951	1213	445	May 12, 1951	4.8	54.0	39,100	53.8	38,960
1952	1243	1,600	June 4, 1952	5.8	110	79,620	109	79,440
1953	1285	778	May 20, 1953	2.5	58.0	42,010	57.5	41,620
1954	1343	604	May 23, 1954	0	41.4	29,950	42.8	30,940
1955	1393	620	May 2, 1955	.6	55.5	40,180	55.6	40,220
1956	1443	727	May 7, 1956	.1	69.5	50,480	68.4	49,640
1957	1513	1,180	June 13, 1957	4.6	107	77,690	109	78,750
1958	1563	1,050	May 13, 1958	1.3	82.5	59,760	80.9	58,540
1959	1633	454	May 14, 1959	1.9	42.6	30,860	44.3	32,060
1960	1713	532	Apr. 22, 1960	.8	58.8	42,660	-	-

2554. East Fork Savery Creek near Encampment Wyo.

Location.--Lat 41°16'20", long 107°09'30", in E½ sec.15, T.15 N., R.87 W., on right bank 7 miles upstream from Dirtyman Creek and 20 miles west of Encampment.

Drainage area.--7.91 sq mi.

Records available.--April 1956 to September 1958.

Gage.--Water-stage recorder. Altitude of gage is 8,200 ft (from topographic map).

Extremes.--1956-58: Maximum discharge, 169 cfs May 22, 1958 (gage height, 6.48 ft), from rating curve extended above 46 cfs; minimum not determined.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	2.95	20.2	17.4	2.67	1.26	0.83	-
1957	1.06	1.1	1.0	1.0	1.1	1.2	1.2	7.55	42.5	13.1	2.60	1.56	6.22
1958	1.75	1.16	.9	.7	.8	1.0	1.2	32.7	19.4	2.76	1.20	1.11	5.43

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	176	1,240	1,030	164	78	49	-
1957	65	65	61	61	61	68	71	464	2,530	804	160	93	4,500
1958	108	69	55	43	44	61	71	2,010	1,150	170	74	66	3,920

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1956	1443	a95	May 23, 1956	-	-	-	-
1957	1513	88	June 13, 1957	-	6.22	4,500	6.27
1958	1563	169	May 22, 1958	-	5.43	3,920	-

a For period April to September.

2555. Savery Creek at upper station, near Savery, Wyo.

Location.--Lat 41°13'10", long 107°22'10", in NE¼ sec.2, T.14 N., R.89 W., on left bank 0.6 mile downstream from Coal Gulch and 14 miles north of Savery.

Drainage area.--189 sq mi.

Records available.--October 1940 to September 1944 (no winter records for water years 1942-44), October 1952 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,000 ft (from topographic map). Prior to July 8, 1943, at present site at different datum. July 8, 1943, to Sept. 30, 1944, and Oct. 1, 1952, to Nov. 3, 1953, at site 0.3 mile downstream at different datum.

Average discharge.--9 years (1940-41, 1952-60), 38.3 cfs (27,730 acre-ft per year).

Extremes.--1940-42, 1943-44, 1952-60: Maximum discharge, 1,150 cfs Apr. 5 or 6, 1954 (gage height, 8.20 ft, high-water mark in well); minimum daily, 0.6 cfs Aug. 30 to Sept. 1, 1954.

Remarks.--Diversions for irrigation of about 300 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	15.5	17.5	20	23	24	33.8	67.7	134	90.9	15.0	15.1	8.97	38.9
1954	16.7	19.7	17	16	18	25	123	53.8	20.4	5.01	2.79	4.46	26.7
1955	11.0	14.0	14	13	13	21	105	98.1	43.3	5.91	5.44	3.10	28.9
1956	9.14	12.5	17.1	17	15	36.8	121	135	45.2	9.58	8.25	5.74	36.0
1957	11.2	12.6	13	15	18	30	77.4	215	160	35.7	14.3	10.6	51.1
1958	20.3	22.8	22	17	24	37	147	276	56.3	9.49	5.83	8.25	54.0
1959	11.3	15.8	15	16	19	22.8	62.7	60.2	22.5	7.15	5.36	8.41	22.1
1960	12.6	10.7	6.5	6.5	7	32.4	226	89.1	45.5	5.46	2.94	3.46	37.1

Monthly and yearly discharge, in acre-feet, of Savery Creek at upper station, near Savery, Wyo.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	952	1,040	1,230	1,410	1,330	2,080	4,030	8,270	5,410	922	928	534	28,130
1954	1,030	1,170	1,050	984	1,000	1,540	7,300	3,310	1,210	308	172	266	19,340
1955	674	831	861	799	722	1,290	6,250	6,030	2,580	364	334	184	20,920
1956	562	742	1,050	1,050	863	2,260	7,170	8,310	2,690	589	507	341	26,130
1957	688	750	749	922	1,000	1,840	4,600	13,200	9,500	2,200	880	634	37,010
1958	1,250	1,360	1,350	1,050	1,330	2,280	8,770	16,950	3,350	584	358	491	39,120
1959	693	938	922	984	1,000	1,400	3,730	3,700	1,340	440	330	501	15,980
1960	776	638	400	400	403	1,990	13,420	5,480	2,710	338	181	206	26,940

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953	1283	342	May 20, 1953	6.6	38.9	28,130	38.9	28,160
1954	1343	1,150 (a)		.6	26.7	19,340	25.5	18,460
1955	1393	290	Apr. 27, 1955	1.4	28.9	20,920	28.9	20,910
1956	1443	280	May 24, 1956	4.0	36.0	26,130	35.8	26,020
1957	1513	352	May 9, 1957	7.3	51.1	37,010	53.5	38,740
1958	1563	728	Apr. 18, 1958	4.3	54.0	39,120	52.1	37,720
1959	1633	b120	Apr. 7, 1959	2.4	22.1	15,980	21.1	15,240
1960	1713	958	Apr. 6, 1960	1.4	37.1	26,940	-	-

‡ Not previously published.

a Apr. 5 or 6, 1954.

b Maximum daily.

2559. Big Sandstone Creek near Savery, Wyo.

Location.--Lat 41°12'00", long 107°10'30", in NE $\frac{1}{4}$ sec. 9, T.14 N., R.87 W., on right bank 100 ft downstream from Douglas Creek, 2 $\frac{1}{2}$ miles upstream from Mill Creek, 5 miles upstream from Deep Creek, and 19 miles northeast of Savery.

Drainage area.--10.3 sq mi.

Records available.--April 1956 to September 1958.

Gage.--Water-stage recorder. Altitude of gage is 8,250 ft (from topographic map).

Extremes.--1956-58: Maximum discharge, 290 cfs June 7, 1957 (gage height, 2.62 ft), from rating curve extended above 200 cfs; minimum not determined.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	7.03	69.8	55.1	5.61	2.42	1.38	-
1957	1.61	2.00	1.9	1.7	2.0	2.3	3.09	26.4	149	40.9	4.88	2.56	19.8
1958	4.69	3.60	3.5	3	3	2.5	3.0	87.8	80.3	7.38	2.30	1.96	17.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	418	4,290	3,280	345	149	82
1957	99	119	117	105	111	141	184	1,620	8,850	2,510	300	152	14,310
1958	289	214	215	184	167	154	179	5,400	4,780	454	142	117	12,300

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1956	1443	a182	June 2, 1956	-	-	-	-
1957	1513	290	June 7, 1957	-	19.8	14,310	20.3
1958	1563	b270	May 29, 1958	1.1	17.0	12,300	-

a For period April to September.

b About.

2560. Savery Creek near Savery, Wyo.

Location.--Lat 41°06'00", long 107°22'50", in SW $\frac{1}{4}$ sec.14, T.13 N., R.89 W., on left bank at downstream side of highway bridge, $1\frac{1}{4}$ miles downstream from Loco Creek and $6\frac{1}{2}$ miles northeast of Savery.

Drainage area.--330 sq mi.

Records available.--October 1941 to September 1946, October 1947 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,680 ft (from topographic map). Prior to Nov. 17, 1946, at site 300 ft to right (on abandoned channel) at different datum.

Average discharge.--18 years (1941-46, 1947-60), 102 cfs (73,840 acre-ft per year).

Extremes.--1941-46, 1947-60: Maximum discharge, 2,670 cfs May 4, 1952 (gage height, 7.30 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement of peak flow; no flow Sept. 1, 2, 8-10, 1959, Aug. 7, 10-22, Sept. 15, 16, 1960.

Remarks.--Diversions above station for irrigation of 1,400 acres above and 130 acres below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	23.6	28.8	31.7	30.4	31.4	55.6	210	333	143	21.4	8.36	5.78	77.1
1952	27.6	22.1	25.4	27.1	28.0	30.4	564	1,217	439	56.5	24.6	16.4	207
1953	23.8	27.3	29.8	34.5	35.6	56.8	139	354	232	22.1	18.2	4.46	81.5
1954	13.9	27.3	25.1	24.1	29.4	39.6	266	164	51.1	9.26	1.78	3.52	54.5
1955	14.4	17.1	19.6	18.1	17.4	31.9	175	286	108	8.88	4.73	1.00	58.7
1956	7.66	19.7	26.2	26.1	21.3	56.3	276	391	113	12.2	6.45	3.17	80.0
1957	11.6	18.2	20.5	25.3	25.7	35.5	143	662	504	97.3	18.6	12.2	132
1958	28.6	38.6	32.3	30.9	40.3	61.2	241	753	144	16.5	4.47	6.88	117
1959	12.4	15.2	19.4	21.2	28.5	36.9	111	146	78.2	13.1	2.25	9.05	41.1
1960	25.3	17.0	9.19	10.9	11.5	59.2	408	222	137	8.56	1.35	2.08	75.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,450	1,710	1,950	1,870	1,740	3,420	12,470	20,500	8,530	1,320	514	344	55,820
1952	1,700	1,320	1,560	1,670	1,610	1,870	33,530	74,840	26,140	3,470	1,520	976	150,200
1953	1,460	1,620	1,830	2,120	1,980	3,490	8,260	21,740	13,780	1,360	1,120	265	59,020
1954	857	1,630	1,540	1,480	1,630	2,440	15,830	10,090	3,040	570	109	210	39,430
1955	883	1,020	1,200	1,110	968	1,960	10,410	17,610	6,460	546	291	60	42,520
1956	471	1,170	1,610	1,600	1,230	3,460	16,440	24,030	6,750	750	397	189	58,100
1957	713	1,080	1,260	1,560	1,430	2,180	8,510	40,690	30,010	5,980	1,140	724	95,280
1958	1,760	2,300	1,990	1,900	2,240	3,760	14,340	46,300	8,580	1,010	275	410	84,860
1959	761	906	1,190	1,310	1,580	2,270	6,800	9,000	4,660	803	138	539	29,760
1960	1,560	1,010	565	668	662	3,640	24,280	13,680	8,180	526	83	124	54,980

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	127	-	91,800
1951	1213	602	May 6, 1951	2.8	77.1	55,820	76.4	55,280	
1952	1243	2,670	May 4, 1952	11	207	150,200	207	150,500	
1953	1283	1,440	May 20, 1953	3.0	81.5	59,020	80.3	58,140	
1954	1343	1,170	Apr. 6, 1954	.5	54.5	39,430	53.2	38,500	
1955	1393	680	May 7, 1955	.3	58.7	42,520	58.9	42,670	
1956	1443	792	May 5, 1956	1.8	80.0	58,100	79.8	57,900	
1957	1513	1,460	May 6, 1957	5.2	132	95,280	136	98,270	
1958	1563	1,470	May 10, 1958	2.8	117	84,860	113	81,670	
1959	1633	266	May 2, 1959	0	41.1	29,760	41.5	30,040	
1960	1713	1,340	Apr. 11, 1960	0	75.7	54,980	-	-	

2570. Little Snake River near Dixon, Wyo.

Location.--Lat 41°01'50", long 107°32'55", in NW¼ sec.8, T.12 N., R.90 W., on right bank 150 ft upstream from Willow Creek, 650 ft downstream from highway bridge, and 0.8 mile west of Dixon.

Drainage area.--988 sq mi.

Records available.--May 1910 to September 1923, March 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 6,331.22 ft above mean sea level, datum of 1929. May 27, 1910, to Sept. 30, 1923, chain gage on highway bridge 650 ft upstream at datum 2.98 ft higher. Mar. 15, 1938, to Sept. 30, 1957, water-stage recorder at site 625 ft upstream at datum 2.98 ft higher.

Average discharge.--35 years (1910-23, 1938-60), 522 cfs (377,900 acre-ft per year).

Extremes.--1910-23, 1938-60: Maximum discharge observed, 9,600 cfs May 26, 1920 (gage height, 8.6 ft, site and datum then in use), from rating curve extended above 6,000 cfs; minimum daily, 0.2 cfs Sept. 26, 1956.

Remarks.--Diversions for irrigation of about 9,500 acres above station. One diversion above station for irrigation of about 3,000 acres below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	65.6	89.4	96.9	95.1	102	154	640	2,091	1,377	89.7	8.26	6.87	402
1952	95.3	76.2	86.3	84.7	96.6	99.4	1,548	4,440	2,864	141	7.57	6.47	796
1953	43.1	63.0	83.9	95.5	93.2	148	384	1,485	1,832	39.2	22.6	3.01	358
1954	17.9	93.0	74.5	85.8	91.1	111	825	1,065	217	6.05	6.28	9.91	217
1955	23.9	57.4	72.9	63.7	60.4	94.5	607	1,688	872	19.1	2.49	2.0	298
1956	7.3	36.3	93.6	70.8	70.7	156	1,036	2,475	1,042	12.3	4.84	1.97	418
1957	11.1	55.3	67.9	77.8	92.3	140	489	2,289	3,426	817	77.8	41.7	632
1958	105	134	123	104	112	181	704	3,662	1,408	11.2	2.40	5.12	549
1959	28.5	57.9	75	80	85	112	371	1,111	867	54.5	5.74	25.5	240
1960	141	114	50.1	61.6	63.0	278	1,593	1,644	1,103	14.5	2.28	1.25	405

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,030	5,320	5,960	5,850	5,640	9,480	38,060	128,500	81,910	5,520	508	409	291,200
1952	5,860	4,530	5,310	5,210	5,550	6,110	92,090	273,000	170,400	8,650	465	385	577,600
1953	2,650	3,750	5,160	5,870	5,180	9,120	22,840	91,300	109,000	2,410	1,390	173	258,800
1954	1,100	5,530	4,580	5,280	5,060	6,800	49,070	65,510	12,910	372	368	590	157,200
1955	1,470	3,420	4,480	3,920	3,350	5,810	36,090	103,800	51,880	1,170	15.3	119	215,700
1956	448	2,160	5,760	4,350	4,070	9,580	61,630	152,200	62,030	757	298	117	303,400
1957	685	3,290	4,170	4,780	5,130	8,620	29,080	140,700	203,900	50,230	4,780	2,480	457,800
1958	6,450	7,980	7,540	6,420	6,250	11,130	41,890	225,100	83,800	687	148	305	397,700
1959	1,750	3,450	4,610	4,920	4,720	6,880	22,060	68,300	51,600	3,350	353	1,520	173,500
1960	8,670	6,810	3,080	3,790	3,620	17,120	82,900	101,100	65,650	889	140	74	293,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	547	396,200
1951	1213	3,290	May 29, 1951	4.1	402	291,200	403	291,600
1952	1243	7,330	May 5, 1952	1.0	796	577,600	790	573,400
1953	1283	3,910	May 20, 1953	1.4	358	258,800	357	258,500
1954	1343	2,170	May 23, 1954	1.7	217	157,200	215	155,300
1955	1393	3,110	May 8, 1955	-	298	215,700	297	214,700
1956	1443	3,400	May 25, 1956	.2	418	303,400	418	303,200
1957	1513	5,780	June 14, 1957	4.3	632	457,800	652	471,700
1958	1563	5,340	May 26, 1958	1.3	549	397,700	533	385,500
1959	1633	2,420	May 14, 1959	1.3	240	173,500	252	182,300
1960	1713	4,510	Apr. 23, 1960	.7	405	293,800	-	-

a About.

2580. Willow Creek near Dixon, Wyo.

Location.--Lat 40°55'00", long 107°31'10", in SW $\frac{1}{4}$ sec.8, T.11 N., R.90 W., in Colorado, on right bank 6 miles south of Colorado-Wyoming State line, 7 miles south of Dixon, and 8 miles upstream from mouth.

Drainage area.--24 sq mi, approximately.

Records available.--October 1953 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,700 ft (from topographic map).

Average discharge.--7 years (1953-60), 9.15 cfs (6,620 acre-ft per year).

Extremes.--1953-60: Maximum discharge, 195 cfs May 10, 1957 (gage height, 4.97 ft); no flow Sept. 17-19, 1955.

Remarks.--No diversion above station. Regulation by Elk Lake (capacity, 400 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954	3	4	3.0	3	3	4	14.5	20.1	14.2	4.15	4.37	2.25	6.64
1955	2.56	1.95	1.9	1.8	1.7	2.33	12.3	22.7	30.1	4.55	4.23	.65	7.23
1956	1.99	2.36	2.71	2.2	2.2	6.35	19.6	29.8	23.9	6.21	2.11	.47	8.32
1957	1.84	2.61	2.33	2.50	2.58	6.12	24.1	44.8	57.5	32.2	4.11	4.92	15.5
1958	4.85	3.31	2.5	2.2	2.4	3.0	22.8	49.5	36.9	6.39	2.29	2.22	11.6
1959	1.91	2.18	2.80	2.8	3.0	3.5	10.2	12.3	24.3	5.43	2.81	2.76	6.16
1960	3.57	2.11	2.0	2.1	2.3	10.2	19.5	19.0	32.2	7.64	1.11	1.10	8.55

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954	184	238	185	184	167	246	863	1,240	846	255	269	134	4,810
1955	158	116	117	111	94	143	731	1,390	1,790	280	260	39	5,230
1956	122	140	167	135	127	390	1,170	1,830	1,420	382	130	28	6,040
1957	113	156	143	154	143	382	1,430	2,750	3,420	1,980	253	293	11,220
1958	299	197	154	135	139	184	1,360	3,050	2,200	393	141	132	8,380
1959	117	130	172	172	167	215	607	759	1,450	334	173	164	4,460
1960	220	125	123	129	132	625	1,160	1,170	1,920	470	68	66	6,210

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953								
1954	1343	107	July 25, 1954	0.8	6.64	4,810	6.34	4,600
1955	1393	138	Aug. 25, 1955	0	7.23	5,230	7.28	5,270
1956	1443	67	June 5, 1956	.1	8.32	6,040	8.30	6,020
1957	1513	195	May 10, 1957	.5	15.5	11,220	15.8	11,460
1958	1563	171	Apr. 19, 1958	-	11.6	8,380	11.2	8,150
1959	1633	183	June 20, 1959	1.0	6.16	4,460	6.22	4,510
1960	1713	95	Apr. 10, 1960	.7	8.55	6,210	-	-

2600. Little Snake River near Lily, Colo.

Location.--Lat 40°32', long 108°25', in sec.20, T.7 N., R.98 W., on left bank 170 ft downstream from highway bridge, 6 miles north of Lily, and 10 miles upstream from mouth.

Drainage area.--3,730 sq mi, approximately.

Records available.--June to August 1904 (published as "near Maybell"), October 1921 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 5,685 ft (from river-profile map). June 9 to Aug. 14, 1904, chain gage and May 5, 1922, to Nov. 30, 1935, water-stage recorder, at site 300 ft upstream at different datums.

Average discharge.--39 years (1921-60), 574 cfs (415,600 acre-ft per year).

Extremes.--1904, 1921-60: Maximum discharge, 14,200 cfs May 27, 1926 (gage height, 10.5 ft, site and datum then in use), from rating curve extended above 3,600 cfs; no flow at times in many years.

Remarks.--Diversions for irrigation of about 21,000 acres above station. Records of chemical analyses for the period December 1950 to September 1960, suspended sediment loads for the period May 1958 to September 1960, and water temperatures for the period December 1950 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	52.8	102	73.4	60.6	145	239	597	1,970	1,452	164	14.5	3.72	407
1952	243	92.3	80.8	71.1	83.1	88.5	3,259	4,817	2,927	241	123	51	1,004
1953	30.9	51.2	65	75	75	308	431	1,441	1,828	84.4	59.8	2.31	371
1954	8.59	94.4	72.4	75.3	118	216	885	1,112	305	25.4	.22	40.7	246
1955	45.3	62.6	67.8	56.9	58.9	272	587	1,600	961	77.0	58.2	2.44	322
1956	3.13	69.4	146	115	89.31	240	1,172	2,611	1,200	38.4	82.0	.50	566
1957	7.22	62.9	54.2	58.7	80.4	210	591	2,438	3,632	1,100	129	44.7	702
1958	103	150	109	94.2	165	309	777	3,548	1,666	68.7	5.71	16.5	587
1959	28.6	62.2	61.0	58.1	82.7	253	421	1,128	1,002	146	64.3	270	298
1960	174	162	85.3	51.0	68.1	151	1,474	1,534	1,222	52.7	2.82	4.14	414

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,250	6,050	4,510	3,730	8,080	14,720	35,530	121,100	86,380	10,110	893	222	294,600
1952	14,930	5,490	4,970	4,370	4,780	5,440	19,900	296,200	174,200	14,840	7,530	1,850	728,500
1953	1,900	3,040	4,000	4,610	4,170	18,950	25,620	88,630	108,900	5,190	3,680	138	268,700
1954	528	5,620	4,450	4,630	6,570	13,270	52,650	68,360	18,160	1,560	14	2,420	178,300
1955	2,790	3,730	4,170	3,500	3,270	16,740	34,930	98,400	57,180	4,730	3,580	145	233,200
1956	192	4,130	8,980	7,090	5,140	76,250	69,760	160,500	71,400	2,360	5,040	30	410,900
1957	444	3,740	3,330	3,610	4,460	12,900	35,160	149,900	216,100	67,610	7,930	2,660	507,800
1958	6,360	8,900	6,670	5,790	9,180	18,970	46,220	218,200	99,100	4,220	351	982	425,000
1959	1,760	3,700	3,750	3,570	4,590	15,550	25,040	69,350	59,630	8,980	3,950	16,090	216,000
1960	10,690	9,640	5,250	3,130	3,920	9,280	67,720	94,290	72,710	5,240	173	246	300,300

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	594	430,200
1951	1213	3,220	May 30, 1951	0.6	407	294,600	423	306,100
1952	1243	9,040	Apr. 9, 1952	1.8	1,004	728,500	981	712,100
1953	1283	3,950	May 21, 1953	0	371	268,700	373	270,400
1954	1343	2,540	May 23, 1954	0	246	178,300	246	178,300
1955	1393	2,720	May 9, 1955	0	322	233,200	326	235,800
1956	1443	5,730	May 23, 1956	0	566	410,900	558	405,100
1957	1513	6,870	May 10, 1957	0	702	507,800	721	522,300
1958	1563	5,100	May 27, 1958	.8	587	425,000	569	412,200
1959	1633,1713	2,780	Sept. 27, 1959	0	298	216,000	321	232,300
1960	1713	3,240	May 15, 1960	0	414	300,300	-	-

2605. Jones Hole Creek near Jensen, Utah

Location.--Lat 40°33'30", long 109°03'15", in E $\frac{1}{2}$ sec.13, T.3 S., R.25 E., on left bank $\frac{1}{2}$ miles south of Dinosaur National Monument boundary line, 5 miles northeast of Ruple Ranch (Island Park Ranch), and 20 miles northeast of Jensen.

Drainage area.--120 sq mi, approximately.

Records available.--October 1950 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 5,200 ft (from topographic map).

Average discharge.--6 years (1950-56), 36.8 cfs (26,640 acre-ft per year).

Extremes.--1950-56: Maximum discharge, 968 cfs Apr. 26, 1952 (gage height, 5.40 ft), from rating curve extended above 320 cfs on basis of slope-area measurement of peak flow; minimum daily recorded, 32 cfs Feb. 3, 4, Sept. 11-30, 1956.

Remarks.--No diversion above or below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	36.0	37.3	38.0	35.6	34.0	37.5	39.4	38.1	35.8	34.5	34.0	33.7	36.2
1952	33.6	34.7	34.3	32.7	33	34.5	103	67.1	44.3	41.3	40.0	38.0	44.7
1953	35.9	35.0	34.4	33.6	33.9	34.6	34.3	34.5	34.0	33.2	34.1	33.6	34.3
1954	33.4	34.4	34.8	35.6	34.4	38.3	63.1	35.2	34.3	34.9	35.1	35.6	37.4
1955	35.6	35.0	35.0	34.2	34.0	34.0	36.6	34.5	34.8	34.0	35.0	34.1	34.7
1956	34.5	34.8	33.6	33.0	32.9	33.5	33.6	34.0	33.2	33.9	33.5	32.3	33.6
1957													
1958													
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,210	2,220	2,340	2,190	1,890	2,310	2,340	2,340	2,150	2,120	2,090	2,010	26,190
1952	2,070	2,070	2,110	2,010	1,900	2,120	6,150	4,120	2,640	2,540	2,480	2,260	32,450
1953	2,210	2,080	2,110	2,070	1,880	2,130	2,040	2,120	2,030	2,040	2,090	2,000	24,800
1954	2,050	2,050	2,140	2,190	1,910	2,360	3,750	2,160	2,040	2,150	2,160	2,120	27,080
1955	2,190	2,080	2,150	2,100	1,890	2,090	2,180	2,120	2,070	2,090	2,150	2,030	25,140
1956	2,120	2,070	2,060	2,030	1,890	2,060	2,000	2,090	1,970	2,090	2,060	1,920	24,360
1957													
1958													
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951	1243	870	(a)	-	36.2	26,190	35.5	25,670
1952	1243	968	Apr. 26, 1952	-	44.7	32,450	44.9	32,600
1953	1283	82	May 16, 1953	33	34.3	24,800	34.0	24,640
1954	1343	474	Apr. 5, 1954	33	37.4	27,080	37.7	27,260
1955	1393	408	Aug. 6, 1955	33	34.7	25,140	34.5	24,970
1956	1443	62	May 22, 1956	32	33.6	24,360	-	-
1957								
1958								
1959								
1960								

a Occurred during February or March.

2610. Green River near Jensen, Utah

Location.--Lat 40°24'30", long 109°14'00", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.5, T.5 S., R.24 E., on right bank 1 mile downstream from Cub Creek and Chew Ranch, 4 miles southeast of Dinosaur National Monument headquarters, 6 $\frac{1}{2}$ miles northeast of Jensen, and 12 miles upstream from Brush Creek.

Drainage area.--25,400 sq mi, approximately.

Records available.--October 1903 to December 1904, June to August 1905 (gage heights only) March to September 1906, July to October 1914, August to December 1915, October 1946 to September 1960. Prior to October 1946, published as "at Jensen," except October to December 1903, which was published as "near Vernal."

Gage.--Water-stage recorder. Altitude of gage is 4,760 ft (from river-profile map). Prior to Oct. 1, 1946, staff or chain gages at site 15 miles downstream at different datums. Dec. 13, 1946, to Sept. 30, 1948, water-stage recorder at present site at datum 1.50 ft higher.

Average discharge.--15 years (1903-4, 1946-60), 4,564 cfs (3,304,000 acre-ft per year).

Extremes.--1903-4, 1905, 1906, 1914, 1915, 1946-60: Maximum discharge, 36,500 cfs June 16, 1957 (gage height, 13.22 ft); minimum observed, 102 cfs Dec. 6, 1904.

Remarks.--Divisions for irrigation above station. Records of suspended sediment loads for the period May 1948 to September 1960 and water temperatures for the period October 1952 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,648	1,805	1,471	1,130	1,715	2,389	5,782	12,610	17,360	8,160	4,479	2,024	5,073
1952	2,250	1,387	1,204	1,161	1,288	1,477	13,000	23,110	20,150	5,311	2,893	1,570	6,230
1953	1,128	976	894	1,195	1,307	2,049	3,320	6,849	15,740	4,566	2,319	990	3,442
1954	864	1,132	917	852	1,318	1,872	4,280	9,301	5,575	4,997	1,644	1,208	2,840
1955	1,260	1,220	533	598	721	1,658	4,550	9,130	9,080	2,890	1,820	846	2,865
1956	833	932	1,244	1,304	877	4,422	7,632	14,920	16,660	4,105	2,308	1,022	4,689
1957	969	1,047	770	755	1,162	2,296	4,437	13,890	26,440	14,740	3,835	2,051	6,046
1958	1,988	1,714	1,223	1,101	1,834	2,484	5,980	17,940	13,530	2,302	1,222	901	4,360
1959	949	1,015	1,000	768	993	1,711	3,540	7,127	11,700	4,222	2,064	1,463	3,031
1960	1,995	1,722	906	818	900	4,416	7,856	7,994	9,315	2,105	924	645	3,295

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	101.3	107.4	90.45	69.50	95.25	146.9	344.0	787.5	1,033	501.7	275.4	120.4	3,673
1952	138.3	82.56	74.04	71.39	74.10	90.84	773.3	1,421	1,199	326.5	177.9	93.42	4,522
1953	69.38	58.06	54.94	73.45	72.58	126.0	197.5	421.1	936.3	280.8	142.6	58.90	2,492
1954	53.10	67.37	56.35	52.39	73.17	115.1	254.7	571.9	331.8	307.3	101.1	71.91	2,056
1955	77.43	72.42	32.77	36.77	40.07	102.0	271.0	561.5	540.4	177.7	111.7	50.32	2,074
1956	51.22	55.46	76.50	80.18	50.42	271.9	454.1	917.5	991.6	252.4	141.9	60.80	3,404
1957	59.61	62.51	47.34	46.41	64.58	141.2	284.0	853.9	1,573	906.4	235.8	122.0	4,377
1958	122.2	102.0	75.29	67.72	101.9	152.7	355.9	1,103	805.2	141.5	75.14	53.62	3,156
1959	58.35	60.40	61.50	47.23	55.14	105.2	198.7	438.2	696.0	259.6	126.9	87.05	2,194
1960	122.7	102.4	55.70	50.28	51.77	271.5	467.5	491.6	544.3	129.4	56.84	38.35	2,392

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	5,673	4,107,000
1951	1213	26,900	June 3, 1951	760	5,073	3,673,000	5,067	3,669,000
1952	1243	33,400	May 9, 1952	702	6,230	4,522,000	6,075	4,410,000
1953	1283	22,300	June 17, 1953	480	3,442	2,492,000	3,434	2,486,000
1954	1343	15,900	May 25, 1954	620	2,840	2,056,000	2,848	2,062,000
1955	1393	11,900	June 19, 1955	330	2,865	2,074,000	2,866	2,075,000
1956	1443	26,500	June 1, 1956	456	4,689	3,404,000	4,670	3,390,000
1957	1513	36,500	June 16, 1957	433	6,046	4,377,000	6,226	4,507,000
1958	1563	29,050	May 29, 1958	700	4,360	3,156,000	4,195	3,037,000
1959	1633	16,000	June 22, 1959	420	3,031	2,194,000	3,170	2,295,000
1960	1713	14,400	Apr. 13, 1960	545	3,295	2,392,000	-	-

2615. Brush Creek above cave, near Vernal, Utah

Location.--Lat 40°42'15", long 109°35'45", in SE $\frac{1}{4}$ sec.30, T.1 S., R.21 E., on right bank at road bridge a quarter of a mile downstream from Government Creek, 1 mile upstream from cave, and 17 $\frac{1}{2}$ miles northwest of Vernal.

Drainage area.--23 sq mi, approximately.

Records available.--April 1946 to June 1955.

Gage.--Water-stage recorder. Altitude of gage is 8,360 ft (by barometer).

Average discharge.--8 years (1946-54), 9.90 cfs (7,170 acre-ft per year).

Extremes.--1946-55: Maximum discharge, 261 cfs June 3, 1952; maximum gage height, 4.22 ft May 8, 1947; no flow for part of each day Nov. 8, 9, 1954.

Remarks.--Oaks Park Canal (see elsewhere in this report) diverts above station from Brush Creek to Ashley Creek basin. Flow regulated by Oaks Park Reservoir (capacity, 6,250 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.91	0.95	0.8	0.7	0.8	0.9	1.0	33.8	11.0	4.94	3.62	2.68	5.40
1952	2.23	.65	.5	.4	.4	1.0	17.5	79.7	71.8	7.43	4.24	3.66	15.8
1953	2.74	1.54	.8	.6	.6	.7	.93	20.3	13.7	6.87	4.42	1.98	4.63
1954	.60	.43	.4	.4	.4	.4	6.20	20.5	4.84	3.57	2.12	1.49	3.48
1955	.67	.29	.2	.2	.2	.2	1.63	17.4	20.1	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	179	56	49	43	44	55	60	2,080	657	304	223	160	3,910
1952	137	39	31	25	23	61	1,040	4,900	4,270	457	261	218	11,460
1953	168	92	49	37	33	43	56	1,250	816	423	272	118	3,360
1954	37	26	25	25	22	25	369	1,260	288	220	131	89	2,520
1955	41	17	12	12	11	12	97	1,070	1,200	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	12.9	9,310
1951	1213	124	May 25, 1951	-	5.40	3,910	5.29	3,830
1952	1243	261	June 3, 1952	-	15.8	11,460	15.9	11,560
1953	1283	86	May 23, 1953	-	4.63	3,360	4.33	3,130
1954	1343	72	May 9, 1954	-	3.48	2,520	3.45	2,500
1955	1393	a40	May 12, 1955	-	-	-	-	-

a Maximum for period October to June.

2620. Brush Creek near Vernal, Utah

Location.--Lat 40°35', long 109°26', in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.3, T.3 S., R.22 E., on left bank 3 miles upstream from Little Brush Creek and 10 miles northeast of Vernal.

Drainage area.--82 sq mi, approximately.

Records available.--March 1939 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,530 ft (by barometer). Prior to Apr. 25, 1959, at site 0.4 mile downstream at different datum.

Average discharge.--21 years (1939-60), 34.4 cfs (24,900 acre-ft per year).

Extremes.--1939-60: Maximum discharge, 442 cfs June 3, 1952 (gage height, 5.34 ft, site and datum then in use), from rating curve extended above 250 cfs; minimum recorded, 1.6 cfs Mar. 12, 1951.

Remarks.--Two small diversions above station for irrigation. Water from Oaks Park Reservoir on headwaters (capacity, 6,250 acre-ft) is diverted above station to Ashley Creek basin for irrigation (see records for Oaks Park Canal).

Correction.--In WSP 1313, the runoff in acre-feet for the calendar year 1949 is listed in error; it should be 35,440 acre-ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	19.2	16.9	16.3	13.4	13.5	13.5	16.8	98.7	59.4	25.2	17.9	13.9	27.2
1952	15.2	13.3	11.2	9.69	10	13.2	47.3	230	158	32.4	26.6	17.6	48.6
1953	16.6	14.8	14.5	14.3	14.0	14.4	19.6	62.8	93.5	26.9	20.5	13.9	27.2
1954	14.0	14.0	12.5	12.3	12.1	13.6	35.6	82.3	25.6	19.9	14.5	14.6	22.7
1955	13.7	12.9	9.82	11	11	12.5	16.9	58.9	41.4	21.5	15.9	12.5	19.9
1956	12.0	11.0	11.0	11.0	12.0	13.7	21.7	97.7	35.2	17.6	14.8	11.9	22.6
1957	11.8	11.6	11.3	11	11.0	11.1	12.4	73.6	213	47.4	26.7	19.5	58.5
1958	16.7	13.7	11.9	10.8	12.4	13.2	17.8	161	83.7	23.2	16.3	12.6	32.9
1959	11.2	10.9	12.1	11.0	10.4	9.93	15.7	76.4	56.4	18.7	15.7	15.5	21.9
1960	12.8	9.97	9.61	9.46	9.08	10.0	21.5	43.5	40.5	15.7	15.6	10.8	17.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,180	1,000	1,000	825	750	833	1,000	6,070	3,530	1,550	1,100	825	19,660
1952	936	789	686	595	575	813	2,810	14,120	9,400	1,990	1,650	1,050	35,410
1953	1,020	883	893	877	780	863	1,170	3,660	5,570	1,660	1,260	825	19,680
1954	863	833	772	756	674	837	2,130	5,060	1,520	1,220	895	879	16,440
1955	845	768	604	676	611	772	1,010	3,610	2,470	1,320	980	744	14,410
1956	736	657	676	678	688	841	1,290	6,010	2,100	1,080	912	710	16,380
1957	729	690	694	678	608	694	738	4,520	12,700	2,920	1,760	1,160	27,880
1958	1,030	815	754	662	690	811	1,060	9,900	4,980	1,450	1,000	748	23,860
1959	690	647	744	674	580	611	932	4,700	3,360	1,150	964	803	15,860
1960	787	593	591	582	522	617	1,280	2,680	2,410	966	958	640	12,630

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	48.8	-	35,350
1951	1213	330	July 29, 1951	-	27.2	19,660	26.1	19,890	
1952	1243	442	June 3, 1952	12	48.8	35,410	49.3	35,800	
1953	1283	176	May 30, 1953	-	27.2	19,680	26.7	19,350	
1954	1343	155	May 10, 1954	-	22.7	16,440	22.4	16,190	
1955	1393	145	Oct. 8, 1954	-	19.9	14,410	19.7	14,260	
1956	1443	167	May 23, 1956	-	22.6	16,380	22.6	16,420	
1957	1513	261	June 16, 1957	-	38.5	27,880	39.1	28,350	
1958	1563	242	May 31, 1958	-	32.9	23,860	32.3	23,360	
1959	1633	160	Aug. 19, 1959	-	21.9	15,860	21.7	15,740	
1960	1713	370	Aug. 22, 1960	-	17.4	12,630	-	-	

2625. Little Brush Creek below East Park Reservoir, near Vernal, Utah

Location.--Lat 40°45'30", long 109°32'00", in SW $\frac{1}{4}$ sec.2, T.1 S., R.21 E., on right bank 2 miles downstream from East Park Reservoir and 20 miles north of Vernal.

Drainage area.--20 sq mi, approximately.

Records available.--July 1949 to September 1955.

Average discharge.--6 years (1949-55), 13.3 cfs (9,630 acre-ft per year).

Gage.--Water-stage recorder. Altitude of gage is 8,650 ft (from topographic map).

Extremes.--1949-55: Maximum discharge, 409 cfs May 30, 1950 (gage height, 4.43 ft); minimum recorded, 0.1 cfs Nov. 4, 5, 1954, but may have been less during periods of ice effect or no gage-height record.

Remarks.--Flow regulated by East Park Reservoir. No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.21	1.08	0.9	0.8	0.9	1.0	1.17	60.9	39.7	22.4	3.61	1.00	11.5
1952	1.09	.75	.6	.5	.5	1.5	20.0	123	75.4	16.9	13.2	1.56	21.4
1953	.88	.72	.6	.5	.5	.6	1.10	35.2	72.6	18.8	3.67	1.32	11.2
1954	1.10	1.23	1.0	.8	.8	.8	7.87	51.6	14.8	15.6	1.39	.81	8.23
1955	.54	.45	.20	.2	.2	.2	.63	33.4	24.5	19.5	3.54	.81	7.07

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	75	64	55	49	50	61	69	3,750	2,360	1,370	222	60	8,180
1952	67	45	37	31	29	92	1,190	7,580	4,550	1,040	812	93	15,570
1953	54	43	37	31	28	37	65	2,160	4,320	1,030	226	79	8,110
1954	68	73	61	49	44	49	468	3,180	879	960	85	48	5,960
1955	33	27	12	12	11	12	38	2,050	1,460	1,200	218	48	5,120

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	19.9	14,420
1951	1213	213	May 27, 1951	0.7	11.3	8,180	11.3	8,140
1952	1243	273	June 3, 1952	-	21.4	15,570	21.4	15,550
1953	1283	152	June 2, 1953	-	11.2	8,110	11.3	8,180
1954	1343	108	May 9, 1954	-	8.23	5,960	8.05	5,830
1955	1393	70	May 14, 1955	-	7.07	5,120	-	-

2630. Little Brush Creek near Vernal, Utah

Location.--Lat 40°43', long 109°30', in SE $\frac{1}{4}$ sec.24, T.1 S., R.21 E., on right bank half a mile upstream from cave, three-quarters of a mile upstream from Kane Hollow, and 17 $\frac{1}{2}$ miles north of Vernal.

Drainage area.--28 sq mi, approximately.

Records available.--October 1945 to September 1952.

Gage.--Water-stage recorder. Altitude of gage is 8,000 ft (from topographic map).

Average discharge.--7 years (1945-52), 19.9 cfs (14,410 acre-ft per year).

Extremes.--1945-52: Maximum discharge, 608 cfs May 30, 1950 (gage height, 3.71 ft); minimum recorded, 0.1 cfs Sept. 18, 1951.

Remarks.--Flow regulated by East Park Reservoir. No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.25	1.45	1.4	1.0	1.2	1.4	1.60	71.1	42.5	25.6	3.58	0.84	12.8
1952	1.18	.85	.7	.6	.6	2.0	24.4	161	88.7	17.5	12.6	1.09	26.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	77	86	86	61	67	86	95	4,370	2,530	1,570	220	50	9,300
1952	73	51	43	37	35	123	1,450	9,910	5,280	1,080	775	65	18,920

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	26.9	19,480
1951	1213	221	May 27, 1951	0.2	12.8	9,300	12.7	9,220
1952	1243	358	May 8, 1952	-	26.1	18,920	-	-

2635. Brush Creek near Jensen, Utah

Location.--Lat 40°24', long 109°21', in SW $\frac{1}{4}$ sec.4, T.5 S., R.23 E., on right bank 2,000 ft upstream from mouth and 2 $\frac{1}{2}$ miles north of Jensen. ..

Drainage area.--255 sq mi.

Records available.--April 1939 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,730 ft (from river-profile map). Prior to Nov. 24, 1947, staff gages at three sites within 80 ft upstream at different datums. Nov. 24, 1947, to Oct. 20, 1954, water-stage recorder at site 15 ft upstream at different datum.

Average discharge.--21 years (1939-60), 18.6 cfs (13,470 acre-ft per year).

Extremes.--1939-60: Maximum discharge observed, 900 cfs Aug. 17, 1941 (gage height, 5.50 ft, datum then in use), from rating curve extended above 150 cfs; no flow for many days in some years.

Remarks.--Many diversions above station for irrigation.

Revisions.--The monthly mean discharge for December 1945 was revised in WSP 1513; the resulting revised records as summarized herewith supersede those published in WSP 1313:

Month	Mean	Runoff in acre-feet
December 1945.....	14.4	885
Calendar year 1945.....	16.2	11,720
Water year 1945-46.....	8.03	5,810

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.02	9.00	16.1	14	15	10.4	0.51	43.9	12.7	0.26	1.15	1.05	10.5
1952	3.73	9.29	15.4	13.4	14	22.4	98.9	188	92.1	.67	.56	.57	38.2
1953	1.85	7.62	16.5	16.7	16.6	20.0	1.15	16.4	28.7	.4	.48	.61	10.5
1954	.89	10.8	14.5	14.3	10.3	6.40	3.19	21.1	1.03	.18	.18	1.58	7.04
1955	5.61	2.82	11.7	13	14	18.8	5.98	5.52	.46	.30	.61	.27	6.57
1956	.34	5.21	11.6	12.8	12.6	16.0	.50	20.5	.27	.18	.09	.08	6.71
1957	.20	3.81	12.0	12	14.6	12.1	2.51	8.10	136	4.21	1.47	.38	17.1
1958	4.05	12.6	12.5	14.5	17.3	9.31	7.04	65.2	22.5	.24	1.15	.30	13.8
1959	1.40	2.39	7.89	9.40	14.1	3.95	.38	6.67	.62	.18	1.92	4.85	3.92
1960	4.79	3.88	9.4	10.3	9.8	15.7	3.12	2.80	.73	.09	5.84	.24	5.57

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	124	536	992	861	833	642	30	2,700	757	16	70	62	7,620
1952	229	553	946	821	805	1,380	5,880	11,530	5,480	41	34	34	27,730
1953	101	453	1,020	1,030	920	1,230	68	1,010	1,710	25	29	36	7,630
1954	55	641	893	879	575	393	190	1,300	61	9.9	12	92	5,100
1955	345	168	718	799	778	1,150	356	340	27	19	37	16	4,750
1956	21	310	716	789	724	982	30	1,260	16	11	5.8	4.8	4,870
1957	12	227	740	758	811	747	150	497	8,080	259	90	23	12,370
1958	249	750	767	889	962	572	419	4,010	1,340	15	9.1	18	10,000
1959	86	142	485	578	785	243	22	41	37	9.7	118	289	2,840
1960	295	231	575	635	561	965	185	172	43	5.6	359	14	4,040

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	30.5	22,050	
1951	1213	156	May 31, 1951	0	10.5	7,620	10.6	7,700	
1952	1243	383	May 3, 1952	.1	38.2	27,730	38.0	27,580	
1953	1283	96	May 30, 1953	-	10.5	7,630	10.6	7,650	
1954	1343	104	Sept. 26, 1954	.1	7.04	5,100	6.55	4,740	
1955	1393	762	Oct. 8, 1954	0	6.57	4,750	6.32	4,570	
1958	1443	140	May 20, 1956	0	6.71	4,870	6.62	4,800	
1957	1513	240	June 15, 1957	.1	17.1	12,370	18.2	13,160	
1958	1563	158	May 13, 1958	.1	13.8	10,000	12.4	8,950	
1959	1633	190	Sept. 16, 1959	.1	3.92	2,840	4.45	3,220	
1960	1713	603	Aug. 23, 1960	0	5.57	4,040	-	-	

GREEN RIVER BASIN

2640. Ashley Creek below Trout Creek, near Vernal, Utah

Location.--Lat 40°44'00", long 109°40'40", in NE $\frac{1}{4}$ sec.16, T.1 S., R.20 E., on right bank 1,000 ft downstream from Trout Creek, 3 miles upstream from South Fork, and 21 miles northwest of Vernal.

Drainage area.--27 sq mi, approximately.

Records available.--October 1943 to September 1954.

Gage.--Water-stage recorder. Altitude of gage is 9,200 ft (from topographic map).

Average discharge.--11 years (1943-54), 24.1 cfs (17,450 acre-ft per year).

Extremes.--1943-54: Maximum discharge, 630 cfs May 19, 1948 (gage height, 3.67 ft); minimum observed, 1.2 cfs Feb. 24, 1950 (discharge measurement), but may have been less during periods of ice effect or no gage-height record.

Remarks.--Flow slightly regulated by Long Park Reservoir. No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.09	3.13	2.80	2.5	2.3	2.1	2.4	77.4	66.0	20.5	15.4	8.48	17.4
1952	5.57	4.68	4.0	3.35	3.2	3.0	35.5	179	139	29.3	32.4	11.4	37.6
1953	5.48	2.93	2.6	2.5	2.4	2.3	2.75	44.8	105	18.9	6.94	3.58	16.7
1954	2.45	2.6	2.6	2.5	2.4	2.3	12.0	106	29.3	9.95	4.94	3.72	15.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	251	186	172	154	128	129	143	4,760	3,930	1,260	948	505	12,570
1952	343	279	246	206	184	184	2,110	11,030	8,270	1,800	1,990	676	27,320
1953	337	175	160	154	133	141	164	2,760	6,270	1,160	427	201	12,080
1954	151	155	160	154	133	141	716	6,500	1,740	606	304	222	10,980

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	25.2	18,240	
1951	1213	a500	May 27 or 28, 1951	-	17.4	12,570	17.7	12,820	
1952	1243	518	June 3, 1952	-	37.6	27,320	37.4	27,120	
1953	1283	308	May 31, 1953	-	16.7	12,080	16.4	11,880	
1954	1343	315	May 9, 1954	-	15.2	10,980	-	-	

a. About.

2645. South Fork Ashley Creek near Vernal, Utah

Location.--Lat 40°44'00", long 109°42'10", in NE $\frac{1}{4}$ sec.17, T.1 S., R.20 E., on right bank at lower end of Hicks Park, 3 $\frac{1}{4}$ miles upstream from mouth and 21 miles southwest of Vernal.

Drainage area.--20 sq mi, approximately.

Records available.--October 1943 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 9,360 ft (by barometer).

Average discharge.--12 years (1943-55), 19.9 cfs (14,410 acre-ft per year).

Extremes.--1943-55: Maximum discharge, 460 cfs June 18, 1949 (gage height, 3.84 ft); minimum observed, 0.8 cfs Feb. 23, 1950 (discharge measurement), but may have been less during periods of ice effect or no gage-height record.

Remarks.--Flow slightly regulated at headwaters by Twin and Goose Lake Reservoirs (capacity, 500 acre-ft). No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.79	2.81	2.5	2.2	2.0	1.8	2.0	74.6	75.9	19.1	25.5	11.8	18.8
1952	7.24	4.20	3.5	2.65	2.6	2.4	21.2	112	129	27.4	41.1	13.0	30.6
1953	4.28	2.69	2.5	2.4	2.3	2.2	2.65	38.5	104	15.6	7.37	3.57	15.7
1954	2.72	2.5	2.50	2.4	2.3	2.2	8.65	80.9	24.7	15.5	14.5	5.56	13.8
1955	3.78	2.09	1.38	1.1	1.0	1.0	1.33	65.0	44.8	10.1	17.8	7.32	13.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	233	167	154	135	111	111	119	4,590	4,520	1,180	1,570	705	13,600
1952	445	250	215	163	150	148	1,260	6,870	7,700	1,880	2,520	773	22,170
1953	263	160	154	149	128	135	158	2,370	6,200	958	453	212	11,340
1954	167	149	154	148	128	135	515	4,980	1,470	953	894	331	10,020
1955	233	124	85	68	56	61	79	4,000	2,670	622	1,090	436	9,520

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	23.4	16,970	
1951	1213	404	May 27, 1951	-	18.8	13,600	19.3	13,950	
1952	1243	452	June 9, 1952	-	30.6	22,170	30.1	21,840	
1953	1283	402	June 12, 1953	-	15.7	11,340	15.5	11,230	
1954	1343	229	May 22, 1954	-	13.8	10,020	13.8	10,000	
1955	1393	207	May 20, 1955	-	13.2	9,520	-	-	

2650. Oaks Park Canal near Vernal, Utah

Location.--Lat 40°44', long 109°38', in SE $\frac{1}{4}$ sec.12, T.1 S., R.20 E., on left bank 200 ft downstream from point of diversion from Brush Creek and 1,000 ft downstream from Oaks Park Dam.

Records available.--January 1946 to September 1960 (prior to April 1946 monthly discharge only, published in WSP 1313).

Gage.--Water-stage recorder. Altitude of gage is 9,240 ft (by barometer).

Extremes.--1946-60: Maximum daily discharge, 61 cfs July 25, 1951; no flow for most of each year.

Remarks.--Canal diverts water, which has been stored in Oaks Park Reservoir (capacity, 6,250 acre-ft), from Brush Creek for irrigation in Ashley Creek basin.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	747	24	0	0	0	0	0	0	0	2,230	1,120	585	4,710
1952	568	20	0	0	0	0	0	0	27	1,880	506	734	3,740
1953	1,310	405	0	0	0	0	0	0	29	2,520	2,640	502	7,410
1954	7.9	0	0	0	0	0	0	0	972	2,140	893	333	4,150
1955	19	0	0	0	0	0	0	0	162	1,870	224	56	2,330
1956	0	0	0	0	0	0	0	0	5.0	2,320	1,540	559	4,420
1957	0	0	0	0	0	0	0	0	0	960	1,690	728	3,380
1958	797	.4	0	0	0	0	0	0	22	2,000	1,770	536	5,130
1959	348	0	0	0	0	0	0	0	351	1,130	593	567	2,990
1960	253	6.0	0	0	0	0	0	0	91	1,910	692	0	2,950

2665. Ashley Creek near Vernal, Utah

Location.--Lat 40°34'50", long 109°37'20", in SE $\frac{1}{4}$ sec.1, T.3 S., R.20 E., on left bank three-quarters of a mile upstream from head of Utah Power & Light Co.'s canal, $\frac{1}{2}$ miles upstream from Dry Fork, and 10 miles northwest of Vernal.

Drainage area.--101 sq mi.

Records available.--October 1911 to April 1912, August to December 1912, October 1913 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 6,250 ft (from river-profile map).

Prior to June 6, 1914, staff gages at site $\frac{1}{2}$ miles downstream at different datums. June 6, 1914, to Nov. 13, 1917, staff gage or water-stage recorder at site a quarter of a mile downstream at different datums. Nov. 14, 1917, to Sept. 30, 1942, water-stage recorder at present site at datum 4.34 ft lower. Oct. 1, 1942, to Aug. 5, 1960, water-stage recorder at present site at datum 0.66 ft higher.

Average discharge.--47 years (1913-60), 102 cfs (73,840 acre-ft per year).

Extremes.--1911-60: Maximum discharge, 2,050 cfs May 29, 1921, from rating curve extended above 860 cfs; maximum gage height, 3.39 ft June 16, 1929, present datum; minimum discharge recorded, 13 cfs Apr. 26, 1957, Feb. 6-19, Mar. 19, 20, 1960.

Remarks.--Flow is increased by water released from Oaks Park Reservoir (capacity, 6,250 acre-ft) on Brush Creek and diverted to Ashley Creek basin for irrigation. City of Vernal pipeline (capacity, approximately 5 cfs) diverts water from tributary spring about 1,000 ft above station; at times, part of this flow is returned to Ashley Creek half a mile below station.

Correction.--In WSP 1313, the monthly mean discharge for June 1933 is listed in error; it should be 259 cfs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	53.5	34.0	28.8	25.6	20.7	18.7	19.7	259	203	133	105	79.5	82.3
1952	63.2	38.2	30.8	28.9	25.6	23.3	70.0	590	390	169	161	97.8	141
1953	70.5	45.0	34.4	28.7	25.0	22.8	30.7	155	290	133	87.7	38.1	80.2
1954	30.2	28.8	28.0	25.5	20.5	18.3	64.9	305	137	113	63.6	44.0	73.7
1955	39.1	30.3	24.5	20.9	18.6	17.3	21.1	259	176	101	64.0	44.7	68.4
1956	34.4	28.6	25.1	22.0	20.2	19.5	35.1	383	177	119	61.1	34.4	80.4
1957	22.7	25.0	20.4	17.9	16.9	16.0	15.7	111	548	165	127	96.6	98.3
1958	55.7	38.2	30.1	28.0	25.1	22.2	34.7	430	199	122	72.7	40.1	92.1
1959	25.9	24.5	23.1	18.6	16.1	16.3	17.8	173	177	90.8	57.4	41.2	57.5
1960	34.2	25.2	17.5	14.9	13.3	13.4	59.4	219	163	92.4	36.1	20.6	59.3

Monthly and yearly discharge, in acre-feet, of Ashley Creek near Vernal, Utah

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,290	2,020	1,770	1,580	1,150	1,150	1,170	15,950	12,100	8,190	6,480	4,730	59,580
1952	3,890	2,280	1,890	1,780	1,470	1,430	4,160	36,260	23,220	10,380	9,920	5,820	102,500
1953	4,340	2,680	2,110	1,770	1,390	1,400	1,820	9,520	17,240	8,160	5,390	2,270	58,090
1954	1,860	1,710	1,720	1,570	1,140	1,120	3,860	18,760	8,130	6,970	3,910	2,620	53,370
1955	2,410	1,800	1,510	1,290	1,040	1,070	1,250	15,940	10,450	6,190	3,930	2,660	49,540
1956	2,110	1,700	1,550	1,350	1,160	1,200	2,090	23,520	10,540	7,310	3,760	2,040	58,330
1957	1,400	1,490	1,260	1,100	948	984	932	6,340	32,600	10,120	7,790	5,750	71,200
1958	5,420	2,270	1,850	1,720	1,590	1,370	2,070	26,420	11,840	7,460	4,470	2,390	66,690
1959	1,590	1,460	1,420	1,020	895	1,040	1,060	11,010	10,540	5,590	3,530	2,450	41,600
1960	2,100	1,500	1,080	916	768	851	3,530	13,450	9,680	5,680	2,220	1,230	43,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	120	87,060	
1951	1213	1,070	May 23, 1951	16	82.3	59,580	83.6	80,560	
1952	1243	1,330	May 4, 1952	22	141	102,500	143	103,600	
1953	1283	658	June 12, 1953	20	80.2	58,090	74.9	54,250	
1954	1343	720	May 9, 1954	17	73.7	53,370	74.3	53,800	
1955	1393	628	May 12, 1955	17	68.4	49,540	67.9	49,180	
1956	1443	792	May 23, 1956	17	80.4	58,330	78.7	57,120	
1957	1513	1,260	June 7, 1957	13	98.3	71,200	103	74,600	
1958	1563	980	May 24, 1958	22	92.1	66,690	87.9	63,620	
1959	1633	581	May 15, 1959	15	57.5	41,600	57.8	41,820	
1960	1713	796	May 12, 1960	-	59.3	43,000	-	-	

2675. Mosby Canal near Lapoint, Utah

Location.--Lat 40°36'30", long 109°53'00", in sec.27, T.2 S., R.18 E. (unsurveyed), on left bank $4\frac{1}{2}$ miles southeast of Paradise Park Reservoir, 8 miles downstream from diversion from Dry Fork, and 16 miles northwest of Lapoint.

Records available.--July 1954 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 9,500 ft (from topographic map).

Extremes.--1954-60: Maximum daily discharge, 29 cfs June 20, 1957; no flow for most of each year.

Remarks.--Canal diverts from Dry Fork for irrigation in Deep Creek basin.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954	-	-	-	-	-	-	-	-	-	358	365	-	-
1955	189	0	0	0	0	0	0	180	6.5	109	495	254	1,230
1956	168	0	0	0	0	0	0	437	304	445	464	168	1,990
1957	130	104	15	0	0	0	0	46	866	175	2.2	276	1,610
1958	742	48	0	0	0	0	0	488	198	153	851	742	3,220
1959	328	13	0	0	0	0	0	93	45	581	1,270	1,000	3,310
1960	764	0	0	0	0	0	64	169	39	708	498	351	2,590

2680. Dry Fork above sinks, near Dry Fork, Utah

Location.--Lat 40°37'40", long 109°49'10", in sec.20, T.2 S., R.19 E. (unsurveyed), on left bank 9 miles northwest of town of Dry Fork and 14 miles upstream from mouth.

Drainage area.--48 sq mi, approximately.

Records available.--March 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 8,108.51 ft above mean sea level (levels by Utah State Water and Power Board).

Average discharge.--21 years (1939-60), 35.7 cfs (25,850 acre-ft per year).

Extremes.--1939-60: Maximum discharge, 926 cfs June 8, 1957 (gage height, 4.59 ft), from rating curve extended above 370 cfs on basis of logarithmic plotting and shape of former rating curves; no flow for part of each day Apr. 22, May 1-3, 1951.

Remarks.--Mosby Canal (see elsewhere in this report) diverts water above station for irrigation in Deep Creek basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11.3	7.96	6.5	6.0	5.0	4.0	5.30	116	142	32.1	60.9	28.5	35.4
1952	19.8	6.83	5.16	3.90	3.7	4.0	12.6	199	265	60.2	65.0	32.7	56.5
1953	15.3	11.5	8.0	7.0	6.0	5.5	8.57	34.9	144	24.0	15.0	6.74	23.8
1954	4.04	3.48	3.66	3.5	3.4	3.4	11.9	153	45.3	30.2	7.42	10.4	23.6
1955	11.1	9.94	7.0	6.0	5.0	5.0	6.50	107	63.2	17.8	11.1	9.55	21.7
1956	6.13	5.81	5.68	4.77	4.50	4.77	7.83	155	80.4	11.5	1.89	2.44	24.3
1957	2.81	3.24	4.21	4.5	4.0	4.10	4.96	20.4	30.7	78.2	42.7	32.3	41.7
1958	9.70	9.38	8.48	7.0	6.0	5.0	8.67	191	128	27.5	3.62	3.98	34.3
1959	1.95	4.41	4.04	3.5	3.5	3.0	3.25	54.7	87.4	15.6	8.51	7.13	16.4
1960	6.82	13.1	8	7	6	6.5	17.9	86.8	84.8	5.66	2.15	2.15	20.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	694	473	400	369	278	246	196	7,160	8,430	1,980	3,750	1,690	25,700
1952	1,220	407	317	240	213	246	750	12,230	15,770	3,700	4,000	1,950	41,040
1953	940	682	492	430	333	338	510	2,140	8,570	1,470	924	401	17,230
1954	249	207	225	215	189	209	707	9,430	2,700	1,850	456	622	17,060
1955	682	591	430	369	278	307	387	6,550	3,760	1,100	684	568	15,710
1956	377	346	349	293	259	294	466	9,530	4,780	706	116	145	17,660
1957	173	193	259	277	222	252	295	1,250	17,930	4,810	2,620	1,920	30,200
1958	596	558	522	430	333	307	516	11,760	7,630	1,690	223	237	24,800
1959	120	262	249	215	194	184	193	3,360	5,200	961	523	424	11,880
1960	419	780	492	430	345	401	1,070	5,340	5,040	348	132	128	14,920

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	44.8	32,320
1951	1213	817	May 27, 1951	-	35.4	25,700	36.0	26,040
1952	1243	866	June 6, 1952	-	56.5	41,040	56.8	41,210
1953	1283	652	June 12, 1953	-	23.8	17,230	21.8	15,800
1954	1343	385	May 22, 1954	-	23.6	17,060	25.0	18,080
1955	1393	276	May 11, 1955	-	21.7	15,710	20.8	15,080
1956	1443	415	May 25, 1956	0.5	24.3	17,660	23.7	17,210
1957	1513	926	June 8, 1957	-	41.7	30,200	43.2	31,250
1958	1563	780	May 27, 1958	-	34.3	24,800	32.8	23,760
1959	1633	262	June 6, 1959	-	16.4	11,880	17.9	12,940
1960	1713	356	May 13, 1960	1.1	20.6	14,920	-	-

2685. North Fork of Dry Fork near Dry Fork, Utah

Location.--Lat 40°38'20", long 109°48'30", in sec.17, T.2 S., R.19 E. (unsurveyed), on left bank 2 miles upstream from mouth and 9½ miles northwest of town of Dry Fork.

Drainage area.--12 sq mi, approximately.

Records available.--April 1946 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,090 ft (by barometer).

Average discharge.--14 years (1946-60), 5.89 cfs (4,260 acre-ft per year).

Extremes.--1946-60: Maximum discharge, 139 cfs May 26, 1958; maximum gage height, 3.60 ft May 7, 1947; minimum discharge recorded, 0.2 cfs Sept. 6, 1960.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.69	1.10	0.82	0.7	0.5	0.39	0.50	20.1	16.4	7.31	7.24	2.89	5.00
1952	1.19	.73	.62	.48	.5	.6	1.45	39.7	27.1	9.28	8.88	3.03	7.84
1953	1.54	1.08	.73	.4	.3	.2	1.27	9.50	22.1	7.92	3.75	1.97	4.24
1954	1.02	.59	.45	.30	.3	.3	1.39	23.8	9.64	6.55	3.88	1.05	4.15
1955	.81	.48	.22	.1	.1	.1	.23	14.8	6.91	3.36	4.38	3.50	2.94
1956	1.41	.67	.59	.36	.3	.26	1.77	33.1	20.2	5.43	2.45	1.41	5.69
1957	.96	.70	.6	.5	.4	.3	1.35	5.53	49.0	19.6	7.23	5.87	7.57
1958	3.14	2.27	1.91	1.80	1.20	1.00	1.50	45.7	32.1	8.50	3.56	2.40	8.80
1959	1.41	.91	.79	.6	.5	.4	1.54	7.45	8.31	4.35	3.30	2.47	2.60
1960	2.12	1.55	.78	.6	.5	.60	2.93	14.0	10.7	3.75	1.40	.60	3.30

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	104	65	50	43	28	24	30	1,240	976	450	445	172	3,630
1952	73	43	38	30	29	37	86	2,440	1,610	570	546	180	5,680
1953	95	64	45	25	17	12	76	584	1,320	487	231	117	3,070
1954	63	35	28	18	17	18	83	1,470	573	402	239	62	3,010
1955	50	29	13	6.1	5.6	6.1	14	909	411	207	269	208	2,130
1956	87	40	36	22	17	16	106	2,030	1,200	334	151	84	4,120
1957	59	41	37	31	22	18	20	340	2,920	1,200	444	349	5,480
1958	193	135	117	98	67	61	89	2,810	1,910	522	219	143	6,360
1959	87	54	48	37	28	25	32	458	494	267	203	147	1,880
1960	131	92	48	37	29	37	174	859	634	230	86	36	2,390

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean		Acre-feet
		Discharge	Date						
1950	-	-	-	-	-	-	8.34	-	6,030
1951	1213	101	May 27, 1951	-	5.00	3,630	4.91	-	3,560
1952	1243	73	June 3, 1952	-	7.84	5,680	7.91	-	5,730
1953	1283	47	June 12, 1953	-	4.24	3,070	4.13	-	3,000
1954	1343	48	May 22, 1954	-	4.15	3,010	4.10	-	2,970
1955	1393	38	May 11, 1955	-	2.94	2,130	3.04	-	2,200
1956	1443	81	May 21, 1956	-	5.69	4,120	5.65	-	4,100
1957	1513	111	June 4, 1957	-	7.57	5,480	8.00	-	5,750
1958	1563	139	May 26, 1958	-	8.80	6,360	8.44	-	6,110
1959	1633	28	May 15, 1959	-	2.60	1,880	2.71	-	1,960
1960	1713	84	May 12, 1960	-	3.30	2,390	-	-	-

2690. East Fork of Dry Fork near Dry Fork, Utah

Location.--Lat 40°39'00", long 109°45'40", in sec.14, T.2 S., R.19 E. (unsurveyed), on right bank $3\frac{1}{2}$ miles upstream from mouth and 8 miles northwest of town of Dry Fork.

Drainage area.--12 sq mi, approximately.

Records available.--April 1946 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,150 ft (by barometer).

Average discharge.--14 years (1946-60), 7.94 cfs (5,750 acre-ft per year).

Extremes.--1946-60: Maximum discharge, 240 cfs June 18, 1949 (gage height, 4.27 ft), from rating curve extended above 100 cfs on basis of slope-area measurement of peak flow; no flow at times.

Remarks.--No diversion above station.

Correction.--In WSP 1313, the monthly means and acre-feet for 1950 are listed in error; the correct figures are given herewith:

Month	Mean	Acre-feet
October 1949.....	2.29	141
November.....	2.17	129
December.....	.76	47
January 1950.....	.6	37
February.....	.5	28
March.....	.5	31
April.....	3.12	186
May.....	38.0	2,340
June.....	72.7	4,320
July.....	19.0	1,170
August.....	5.01	185
September.....	1.18	70
Water year 1949-50.....	12.0	8,680

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.62	0.09	0	0	0	0	0	20.9	36.8	9.91	4.61	3.41	6.37
1952	2.22	.20	0	0	0	0	.23	46.3	64.0	15.9	9.02	3.31	11.8
1953	.50	.17	0	0	0	0	0	2.63	38.0	6.08	3.34	1.95	4.36
1954	1.80	.87	0	0	0	0	.05	34.4	13.6	10.1	4.05	2.63	5.69
1955	2.71	1.83	.15	0	0	0	.02	22.6	18.0	4.63	5.05	3.96	4.94
1956	1.98	.64	.33	0	0	0	.39	48.7	31.0	6.16	2.54	1.25	7.79
1957	1.04	.59	.02	0	0	0	0	1.81	68.7	22.0	6.62	5.38	8.81
1958	5.28	2.04	1.32	.39	0	0	.03	48.5	45.3	8.02	2.52	1.93	9.33
1959	1.14	.49	.52	0	0	0	0	7.28	13.4	7.01	4.68	2.90	3.12
1960	2.25	1.92	.20	0	0	0	1.6	23.0	20.3	4.41	1.07	1.12	4.67

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	38	5.4	0	0	0	0	0	1,280	2,190	609	283	203	4,610
1952	136	12	0	0	0	0	14	2,840	3,810	979	554	197	8,540
1953	31	9.9	0	0	0	0	0	161	2,260	374	205	116	3,160
1954	111	52	0	0	0	0	3.2	2,120	810	624	249	156	4,130
1955	167	109	8.9	0	0	0	1.0	1,390	1,070	285	310	236	3,580
1956	122	37.9	20.0	0	0	0	23.4	3,000	1,850	379	156	74.4	5,660
1957	64	35	1.4	0	0	0	0	111	4,090	1,350	407	320	6,380
1958	202	122	81	24	0	0	2.0	2,980	2,580	493	155	115	6,750
1959	70	29	32	0	0	0	0	447	799	431	279	173	2,260
1960	138	114	12	0	0	0	97	1,420	1,210	271	66	67	3,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year				
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean		Acre-feet		
		Discharge	Date								
1950	-	-	-	-	-	-	-	11.6	-	8,410	
1951	1213	139	May 28, 1951	0	6.37	4,610	6.52		4,710		
1952	1243	152	June 3, 1952	0	11.8	8,540	11.6		8,430		
1953	1283	126	June 12, 1953	0	4.36	3,160	4.53		3,280		
1954	1343	109	May 22, 1954	0	5.69	4,130	5.86		4,250		
1955	1393	66	May 20, 1955	0	4.94	3,580	4.80		3,470		
1956	1443	147	May 21, 1956	0	7.79	5,660	7.68		5,560		
1957	1513	202	June 10, 1957	0	8.61	6,380	9.23		6,680		
1958	1563	167	May 29, 1958	0	9.33	6,750	8.95		6,480		
1959	1633	36	May 15, 1959	0	3.12	2,260	3.30		2,390		
1960	1713	102	May 13, 1960	0	4.67	3,400	-		-		

2695. East Fork of Dry Fork at mouth, near Dry Fork, Utah

Location.--Lat 40°38', long 109°46', in NW $\frac{1}{4}$ sec.23, T.2 S., R.19 E., on right bank $1\frac{1}{2}$ miles upstream from mouth and $8\frac{1}{2}$ miles northwest of town of Dry Fork.

Drainage area.--18 sq mi, approximately.

Records available.--July 1949 to September 1952.

Gage.--Water-stage recorder. Altitude of gage is 7,700 ft (from topographic map).

Extremes.--1949-52: Maximum discharge, 162 cfs June 1, 1950 (gage height, 3.31 ft), from rating curve extended above 80 cfs by logarithmic plotting; no flow at times in each year.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.16	0.03	0	0	0	0	0	20.4	37.5	8.16	3.04	1.75	5.92
1952	.93	.13	0	0	0	0	0	52.5	65.2	14.1	7.85	3.30	12.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9.9	2.0	0	0	0	0	0	1,250	2,230	502	187	103	4,280
1952	57	7.9	0	0	0	0	0	3,230	3,880	867	483	197	8,720

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	9.87	7,130
1951	1213	147	May 27, 1951	0	5.92	4,280	6.00	4,340
1952	1243	148	June 3, 1952	0	12.0	8,720	-	-

2700. Dry Fork below Springs, near Dry Fork, Utah

Location.--Lat 40°34', long 109°42', in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.8, T.3 S., R.20 E., on right bank $\frac{1}{2}$ miles northwest of town of Dry Fork and 6 miles upstream from mouth.

Drainage area.--102 sq mi.

Records available.--January to December 1904, April 1941 to September 1945, October 1953 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder since April 1941. Datum of gage is 6,706.95 ft above mean sea level (levels by Utah Water and Power Board). May to July 1904 staff gage at different datum.

Average discharge.--11 years (1941-45, 1953-60), 27.5 cfs (19,910 acre-ft per year), unadjusted.

Extremes.--1904, 1941-45, 1953-60: Maximum discharge, 972 cfs May 27, 1958 (gage height, 5.75 ft), from rating curve extended above 650 cfs; no flow for extended periods in each year.

Remarks.--Small diversions for irrigation above station. Mosby Canal (see elsewhere in this report) has diverted water above station for irrigation in Deep Creek basin since about 1952.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	0	0	0	0	0	0	0	144	40.2	6.74	0	0	16.1
1954	0	0	0	0	0	0	0	84.4	51.0	2.18	0	0	11.5
1955													
1956	0	0	0	0	0	0	0	163	103	2.00	0	0	22.4
1957	0	0	0	0	0	0	0	0	361	84.6	7.33	5.59	37.9
1958	0	0	0	0	0	0	0	219	196	14.6	0	0	36.0
1959	0	0	0	0	0	0	0	16.9	49.1	4.77	.003	0	5.88
1960	0	0	0	0	0	0	0	67.9	62.8	0	0	0	10.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	0	0	0	0	0	0	0	8,630	2,390	414	0	0	11,630
1954	0	0	0	0	0	0	0	5,190	3,030	134	0	0	8,350
1955													
1956	0	0	0	0	0	0	0	10,010	6,160	123	0	0	16,290
1957	0	0	0	0	0	0	0	0	21,470	5,200	451	333	27,450
1958	0	0	0	0	0	0	0	13,490	11,680	901	0	0	26,060
1959	0	0	0	0	0	0	0	1,040	2,920	294	.2	0	4,250
1960	0	0	0	0	0	0	0	4,180	3,740	0	0	0	7,920

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953								
1954	1513	492	May 22, 1954	0	16.1	11,630	16.1	11,630
1955	1513	228	May 14, 1955	0	11.5	8,350	11.5	8,350
1956	1513	573	May 25, 1956	0	22.4	16,290	22.4	16,290
1957	1513	882	June 10, 1957	0	37.9	27,450	37.9	27,450
1958	1563	972	May 27, 1958	0	36.0	26,060	36.0	26,060
1959	1633	132	June 8, 1959	0	5.88	4,250	5.88	4,250
1960	1713	345	May 13, 1960	0	10.9	7,920	-	-

2705. Dry Fork at mouth, near Dry Fork, Utah

Location--Lat 40°31'40", long 109°36'20", in SW $\frac{1}{4}$ sec.30, T.3 S., R.21 E., on left bank 900 ft upstream from mouth and 4 miles southeast of town of Dry Fork.

Drainage area--118 sq mi.

Records available--July 1954 to September 1960.

Gage--Water-stage recorder. Altitude of gage is 5,850 ft (from topographic map).

Average discharge--6 years (1954-60), 17.0 cfs (12,310 acre-ft per year).

Extremes--1954-60: Maximum discharge, 1,210 cfs Aug. 25, 1955 (gage height, 5.18 ft), from rating curve extended above 450 cfs on basis of logarithmic plotting and comparison with Ashley Creek at Sign of the Maine; no flow for several days in 1956-60.

Remarks--Several diversions above station for irrigation, including Mosby Canal (see elsewhere in this report) which diverts water for irrigation in Deep Creek basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	1.21	1.00	1.08	1.05	1.00	1.30	1.12	50.6	32.8	0.69 1.76	0.26 2.31	0.57 .90	8.06
1956	1.10	2.09	2.19	1.49	1.30	2.03	.44	137	74.8	.59	.70	.26	18.7
1957	.30	.72	.76	.32	.46	.83	.47	.18	327	61.7	3.01	3.45	33.0
1958	1.77	5.60	3.90	2.50	3.38	3.41	2.03	191	177	4.05	.34	.99	33.1
1959	1.43	1.84	2.09	1.79	1.80	2.20	.64	.02	11.2	3.75	1.17	.80	2.38
1960	.95	1.98	2.07	1.42	1.29	2.79	.86	30.5	38.0	.50	.03	0	6.70

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954	-	-	-	-	-	-	-	-	-	42	16	34	-
1955	74	60	66	65	56	80	67	3,110	1,950	108	142	54	5,830
1956	67	124	135	92	75	125	28	8,420	4,450	36	43	16	13,610
1957	18	43	47	20	26	51	28	11	19,450	3,790	185	205	23,870
1958	109	333	240	154	188	210	121	11,750	10,540	249	21	59	23,950
1959	88	109	129	110	100	135	36	1.2	664	230	72	48	1,720
1960	58	118	128	87	74	172	511	1,880	2,280	31	1.8	0	4,860

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953								
1954	1443	-	-	-	-	-	-	-
1955	1443	1,210	Aug. 25, 1955	0.1	8.06	5,830	8.24	5,960
1956	1443	485	May 26, 1956	0	18.7	13,610	18.4	13,390
1957	1513	823	June 9, 1957	0	35.0	23,870	33.8	24,450
1958	1533	812	May 28, 1958	0	33.1	23,950	32.6	23,600
1959	1633	62	June 8, 1959	0	2.38	1,720	2.35	1,700
1960	1713	245	May 13, 1960	0	6.70	4,860	-	-

2710. Ashley Creek at Sign of the Maine, near Vernal, Utah

Location.--Lat 40°31'00", long 109°35'40", in NE $\frac{1}{4}$ sec.31, T.3 S., R.21 E., on left bank three-quarters of a mile downstream from Dry Fork and $\frac{1}{4}$ miles northwest of Vernal.

Drainage area.--241 sq mi.

Records available.--March 1900 to December 1904 (published as "near Vernal"), June 1939 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,750 ft (from topographic map). Prior to Dec. 31, 1904, staff gages at sites about a quarter of a mile upstream at different datums. June 23, 1939, to Sept. 25, 1956, water-stage recorder at site 100 ft upstream at datum 0.68 ft higher.

Average discharge.--25 years (1900-1904, 1939-60), 123 cfs (89,050 acre-ft per year).

Extremes.--1900-1904, 1939-60: Maximum discharge, 2,650 cfs July 21, 1945 (gage height, 5.40 ft), from rating curve extended above 1,500 cfs; minimum recorded, 12 cfs Mar. 19, 1957, Feb. 11, 1960.

Remarks.--Flow increased by water released from Oaks Park Reservoir (capacity, 6,250 acre-ft) on Brush Creek and diverted to Ashley Creek basin for irrigation (see p. 273). Diversions above station for irrigation and municipal supply.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	52.5	37.4	33.0	29.1	24.9	24.6	22.5	353	376	121	105	73.0	105
1952	59.0	37.7	30.9	29.2	26.6	25.2	68.9	757	643	186	212	103	182
1953	71.9	49.1	37.4	35.6	32.0	31.7	36.0	143	380	136	86.2	39.2	90.0
1954	29.6	33.6	32.9	29.8	24.3	22.2	54.3	378	146	111	60.7	41.7	81.0
1955	41.7	35.6	28.8	26.0	22.7	22.2	26.0	284	187	83.8	64.7	41.5	72.4
1956	39.0	29.3	29.0	26.3	23.6	22.3	36.5	514	242	102	53.1	28.9	96.0
1957	23.9	24.5	22.4	22.6	23.5	19.7	17.7	105	857	215	123	81.0	128
1958	54.4	48.0	38.6	31.8	28.8	25.8	35.4	617	366	134	73.7	45.5	127
1959	33.7	29.1	26.6	20.6	21.6	19.0	18.2	165	179	93.7	59.7	40.4	59.1
1960	36.3	30.3	20.7	17.2	16.1	17.5	60.5	241	195	86.4	31.1	17.7	64.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,230	2,230	2,030	1,790	1,380	1,520	1,340	21,710	22,350	7,470	6,450	4,340	75,840
1952	3,630	2,250	1,900	1,790	1,530	1,550	4,100	46,570	36,240	11,460	13,050	6,130	132,200
1953	4,420	2,920	2,300	2,190	1,780	1,950	2,140	6,820	22,600	8,370	5,300	2,330	65,120
1954	1,820	2,000	2,020	1,830	1,350	1,360	5,230	23,250	8,720	6,810	3,730	2,480	58,600
1955	2,560	2,120	1,770	1,600	1,260	1,360	1,550	17,460	11,140	5,160	3,980	2,470	52,430
1956	2,400	1,740	1,780	1,620	1,350	1,370	2,170	31,630	14,400	6,260	3,260	1,720	69,700
1957	1,470	1,460	1,380	1,390	1,300	1,210	1,060	6,440	51,010	13,250	7,560	5,420	92,950
1958	3,340	2,860	2,370	1,950	1,600	1,590	2,110	37,910	22,990	8,260	4,530	2,710	92,220
1959	2,070	1,730	1,640	1,270	1,200	1,170	1,080	10,150	10,660	5,760	3,670	2,410	42,810
1960	2,230	1,800	1,270	1,060	928	1,060	3,600	14,810	11,630	5,310	1,910	1,060	46,690

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	162
1951	1213	1,710	May 28, 1951	21	105	75,840	105
1952	1243	1,520	June 3, 1952	-	162	132,200	185
1953	1283	1,160	June 13, 1953	28	90.0	65,120	84.7
1954	1343	920	May 22, 1954	20	81.0	58,600	81.8
1955	1593	1,230	Aug. 25, 1955	21	72.4	52,430	71.7
1956	1443	1,230	May 23, 1956	19	96.0	69,700	93.8
1957	1513	1,950	June 7, 1957	16	128	92,950	134
1958	1563	1,690	May 27, 1958	24	127	92,220	123
1959	1633	540	May 16, 1959	16	59.1	42,810	58.9
1960	1713	954	May 13, 1960	14	64.3	46,690	-

2715. Ashley Creek near Jensen, Utah

Location.--Lat 40°22', long 109°25', in NE $\frac{1}{4}$ sec.23, T.5 S., R.22 E., on right bank just downstream from bridge on U. S. Highway 40, 3 miles upstream from mouth and 3 miles west of Jensen.

Drainage area.--386 sq mi.

Records available.--October 1946 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 4,795.36 ft above mean sea level, datum of 1929.

Average discharge.--14 years (1946-60), 54.5 cfs (39,460 acre-ft per year).

Extremes.--1946-60: Maximum discharge, 1,480 cfs June 12, 1949 (gage height, 5.35 ft); no flow for part of Aug. 9, 1956, and several days in August and September 1960.

Remarks.--Flow increased by water released from Oaks Park Reservoir (capacity, 6,250 acre-ft) on Brush Creek and diverted to Ashley Creek basin for irrigation. Union Canal is only diversion between gage and mouth of creek.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	35.1	43.7	51.5	45.1	45.8	32.5	11.8	125	91.6	8.35	11.9	18.6	43.5
1952	58.3	55.8	53.3	48.9	45	67.1	167	515	410	30.4	49.7	39.1	128
1953	36.8	49.9	65	62.4	56.4	59.1	25.8	19.9	76.5	3.40	2.57	2.74	38.2
1954	7.41	23.4	41.4	45.4	40.3	25.5	11.7	42.3	21.9	2.82	1.32	3.48	22.1
1955	15.5	21.1	34.8	36	35	51.5	21.1	15.4	25.7	1.19	2.00	.85	21.6
1956	3.65	12.7	30.7	35.8	33.3	27.6	7.08	105	43.9	3.03	.45	1.38	25.4
1957	2.42	7.19	17.4	24.5	36.6	25.2	11.1	6.91	348	25.2	10.0	15.9	43.7
1958	25.6	66.0	67.1	49.5	52.6	50.6	25.7	222	127	5.81	1.62	1.37	58.0
1959	3.09	11.7	20.6	28.2	30.0	23.4	8.86	4.96	3.54	3.72	1.69	3.83	11.9
1960	11.5	13.4	20.7	26.7	31.8	50.5	10.3	12.5	24.8	1.52	.41	.11	17.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,160	2,600	3,160	2,770	2,540	2,000	705	7,720	5,450	513	732	1,110	31,460
1952	3,590	3,320	3,270	3,000	2,590	4,120	9,940	51,670	24,400	1,870	3,060	2,320	93,150
1953	2,260	2,970	4,000	3,840	3,130	3,640	1,530	1,230	4,550	209	158	163	27,580
1954	456	1,390	2,540	2,770	2,240	1,560	698	2,600	1,300	173	81	206	16,030
1955	951	1,250	2,140	2,210	1,940	3,140	1,260	950	1,530	73	123	51	15,620
1956	224	757	1,890	2,200	1,910	1,700	421	6,430	2,610	186	28	82	18,440
1957	149	428	1,070	1,500	2,030	1,550	663	425	20,730	1,550	615	948	31,660
1958	1,580	3,930	4,130	3,040	2,930	3,110	1,530	13,660	7,580	357	100	82	42,020
1959	180	695	1,270	1,740	1,670	1,440	527	305	211	228	104	228	8,610
1960	709	797	1,270	1,640	1,830	3,100	613	771	1,480	94	25	6.5	12,340

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	104	75,670	
1951	1213	1,130	May 29, 1951	2.8	43.5	31,460	46.6	33,720	
1952	1243	1,350	June 4, 1952	8.0	128	93,150	127	92,200	
1953	1293	890	June 13, 1953	.9	38.2	27,680	31.6	22,840	
1954	1343	221	May 22, 1954	.5	22.1	16,030	22.1	15,970	
1955	1393	900	Oct. 8, 1954	.2	21.6	15,620	19.5	14,150	
1956	1443	761	May 23, 1956	.1	25.4	18,440	23.7	17,210	
1957	1513	1,090	June 11, 1957	1.2	43.7	31,660	54.8	39,650	
1958	1563	1,230	May 28, 1958	.6	58.0	42,020	47.7	34,530	
1959	1633	92	Aug. 12, 1959	.2	11.9	8,610	12.7	9,230	
1960	1713	132	June 8, 1960	0	17.0	12,340	-	-	

2725. Duchesne tunnel near Kamas, Utah
(Transmountain diversion)

Location.--Lat 40°36', long 111°00', in NE $\frac{1}{4}$ sec. 2, T.3 S., R.8 E., on left bank of canal 600 ft downstream from tunnel outlet, about 1,000 ft upstream from confluence with Provo River, 3 miles upstream from Soapstone Creek, and 14 miles east of Kamas.

Drainage area.--40 sq mi, approximately.

Records available.--October 1953 to September 1960.

Gage.--Water-stage recorder with Parshall flume, and Sparling water meter for low flow. Datum of gage is 8,098.5 ft above mean sea level (Bureau of Reclamation design plan).

Extremes.--1953-60: Maximum discharge, 697 cfs June 2, 1960 (gage height, 4.74 ft); minimum daily, 0.6 cfs July 20 to Aug. 14, 1960, when flow was cut off at head of tunnel.

Remarks.--Flow is diverted from Duchesne River in Colorado River basin to Jordan River basin, and normally includes about 1.5 cfs tunnel seepage.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954	224	493	460	430	399	430	1,830	16,180	4,950	1,650	681	555	28,270
1955	422	456	383	400	361	400	503	11,170	13,870	2,070	1,230	795	32,060
1956	621	626	700	700	645	553	2,160	14,910	7,260	2,390	873	456	31,890
1957	448	417	427	428	365	470	650	6,040	10,350	7,730	1,800	669	29,790
1958	700	672	615	615	571	1,190	5,260	5,260	9,490	1,760	734	574	22,740
1959	400	412	410	411	379	430	1,230	7,920	18,910	2,970	593	681	34,750
1960	1,520	1,150	605	529	545	712	2,740	12,080	13,350	1,260	47	61	34,600

2730. Duchesne River at Provo River Trail, near Hanna, Utah

Location.--Lat 40°37'30", long 110°53'20", in SE $\frac{1}{4}$ sec. 27, T.3 N., R.9 W., Uinta meridian, on right bank 400 ft downstream from Provo River Trail, 7 miles upstream from Hades Creek, and 12 miles northwest of Hanna.

Drainage area.--39 sq mi, approximately.

Records available.--July 1929 to September 1933 (published as North Fork Duchesne River), October 1935 to September 1943, October 1944 to September 1954. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 8,135.97 ft above mean sea level (levels by Bureau of Reclamation).

Average discharge.--21 years (1929-33, 1935-43, 1944-53), 57.1 cfs (41,340 acre-ft per year).

Extremes.--1929-33, 1935-54: Maximum discharge, 1,180 cfs June 13, 1953 (gage height, 4.30 ft); no flow during part of 1954.

Remarks.--Since Oct. 20, 1953, practically all flow is diverted through Duchesne tunnel (see elsewhere in this report), a few hundred feet above station, for use in The Great Basin. Capacity of tunnel is about 600 cfs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8.62	10.8	9.26	9.36	9.6	9.6	26.8	221	415	105	34.4	12.7	72.7
1952	14.4	9.59	9	8	8	8	36.1	298	469	89.8	30.4	17.9	83.1
1953	10.3	6.04	6.5	6.5	6.0	6.45	19.4	64.6	402	62.9	23.7	7.65	51.6
1954	3.71	.84	.5	.3	.3	.3	.2	7.32	0	0	.06	.02	1.15

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	530	645	570	576	533	590	1,600	13,570	24,700	6,460	2,110	758	52,640
1952	883	571	553	492	460	492	2,150	18,330	27,940	5,520	1,870	1,060	60,320
1953	634	359	400	400	333	397	1,150	3,970	23,950	3,870	1,460	455	37,380
1954	228	50	31	18	17	18	12	450	0	0	3.8	1.2	829

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	73.1	52,930	
1951	1213	1,020	June 16, 1951	-	72.7	52,640	73.1	52,900	
1952	1243	982	June 9, 1952	-	83.1	60,320	82.2	59,710	
1953	1283	1,160	June 13, 1953	3.4	51.6	37,380	50.1	36,290	
1954	1343	98	May 20, 1954	0	1.15	829	-	-	

2735. Hades Creek near Hanna, Utah

Location.--Lat 40°32'10", long 110°52'00", in SE $\frac{1}{4}$ sec.26, T.2 N., R.9 W., Uinta meridian, on right bank a quarter of a mile upstream from mouth and 11 miles northwest of Hanna.

Drainage area.--7.5 sq mi, approximately.

Records available.--August 1949 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,460 ft (from river-profile map).

Average discharge.--11 years (1949-60), 8.47 cfs (6,130 acre-ft per year).

Extremes.--1949-60: Maximum discharge, 132 cfs June 9, 1952; maximum gage height, 3.07 ft June 20, 1950; no flow for part of each day Oct. 25, 30, Nov. 1, 1956.

Remarks.--Two diversions about 2,000 ft above station to irrigate about 60 acres below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.37	3.65	3.27	3.01	2.5	2.5	3.77	22.5	50.5	23.6	14.2	6.46	11.7
1952	3.29	3.50	3.59	3.5	3.5	3.5	9.50	32.0	70.4	28.2	12.7	5.66	14.9
1953	5.42	4.08	3.17	3.0	2.5	2.5	3.16	4.25	39.6	17.6	7.47	1.87	7.89
1954	.45	2.40	2.22	2.0	1.9	1.9	2.47	18.5	8.29	4.89	2.34	.53	3.99
1955	.46	2.96	2.64	2.5	2.0	2.0	2.14	16.8	27.7	10.5	4.94	1.96	6.39
1956	2.96	2.69	2.82	2.0	2.0	2.10	3.92	26.2	46.1	12.2	4.96	1.10	9.08
1957	.41	.54	.52	.5	.5	.6	1.00	5.98	58.3	28.5	9.82	5.45	9.34
1958	2.80	2.37	2.15	1.70	1.6	1.54	2.75	24.7	38.8	8.74	1.81	.99	7.50
1959	.72	2.29	1.97	1.8	1.6	1.5	3.33	9.49	28.6	12.2	4.70	.52	5.72
1960	1.92	4.17	2.61	1.74	1.5	2.00	4.93	10.6	23.1	7.84	2.18	.19	5.22

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	269	217	201	185	139	154	224	1,380	3,000	1,450	871	385	8,460
1952	202	208	221	215	201	215	565	1,970	4,190	1,750	783	337	10,840
1953	335	243	195	184	139	154	186	261	2,360	1,080	460	111	5,710
1954	27	143	137	123	106	117	147	1,140	493	288	144	32	2,900
1955	29	176	163	154	111	123	127	1,030	1,650	643	304	117	4,630
1956	182	160	174	123	115	129	233	1,610	2,740	749	305	65	6,580
1957	25	32	32	31	28	37	60	368	3,470	1,750	604	324	6,760
1958	172	141	132	104	89	94	164	1,520	2,310	537	111	59	5,430
1959	44	136	121	111	89	92	198	584	1,700	749	289	31	4,140
1960	118	248	160	107	86	123	293	652	1,370	482	134	11	5,780

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	11.8	-	8,500
1951	1213	90	June 16, 1951	-	11.7	8,460	11.6	-	8,420
1952	1243	132	June 9, 1952	-	14.9	10,840	15.1	-	10,980
1953	1283	78	June 13, 1953	0.7	7.89	5,710	7.24	-	5,240
1954	1343	35	May 20, 1954	.2	3.99	2,900	4.08	-	2,980
1955	1393	68	June 8, 1955	.2	6.39	4,630	6.59	-	4,780
1956	1443	72	June 6, 1956	.5	9.08	6,580	8.49	-	6,160
1957	1513	87	June 7, 1957	-	9.34	6,760	9.84	-	7,120
1958	1563	80	May 29, 1958	-	7.50	5,430	7.31	-	5,290
1959	1633	45	June 8, 1959	-	5.72	4,140	6.03	-	4,370
1960	1713	42	June 3, 1960	.1	5.22	3,780	-	-	-

2740. Duchesne River near Hanna, Utah

Location.--Lat 40°32'00", long 110°52'00", in NE $\frac{1}{4}$ sec.35, T.2 N., R.9 W., Uinta meridian, on right bank 100 ft downstream from Hades Creek and 11 miles northwest of Hanna.

Drainage area.--78 sq mi, approximately.

Records available.--August 1921 to September 1923, June 1929 to September 1930 (fragmentary), March 1946 to September 1960. Prior to 1946, published as North Fork Duchesne River near Hanna.

Gage.--Water-stage recorder. Altitude of gage is 7,380 ft (from river-profile map). Prior to Mar. 28, 1946, staff gage at site 150 ft downstream at different datum. Mar. 28, 1946, to Sept. 9, 1953, water-stage recorder at site 150 ft downstream at datum 0.42 ft lower.

Extremes.--1921-23, 1929-30, 1946-60: Maximum discharge observed, 1,500 cfs June 13, 1953 (gage height, 5.65 ft, datum then in use); minimum recorded, 4.6 cfs Nov. 14, 1956.

Remarks.--Divisions for irrigation of about 60 acres above station. Water is also diverted above station through Duchesne tunnel (capacity, about 600 cfs) to Provo River for use in The Great Basin; diversion began Oct. 20, 1953.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	22.4	24.6	23.0	20.4	21	21	74.8	393	609	181	79.5	32.2	125
1952	30.2	20.7	18	16	15	15	95.0	542	742	174	75.6	40.1	149
1953	23.6	18.0	17	16	15	16.2	40.8	115	578	114	53.4	21.4	85.5
1954	13.9	9.58	8.37	7.37	7.18	7.33	27.8	107	38.4	19.9	11.2	8.58	22.4
1955	8.12	8.00	6.76	6.21	5.5	5.5	12.4	156	118	34.5	18.4	11.0	32.7
1956	10.5	8.47	9.15	7.33	7.0	9.52	48.0	262	383	38.4	17.1	9.07	67.3
1957	8.81	7.21	6.65	6.06	6.0	7.90	17.1	76.0	643	95.9	30.9	17.6	76.5
1958	13.7	10.9	9.12	7.63	7.0	6.35	24.0	410	241	33.5	14.4	10.4	66.1
1959	9.17	9.83	7.71	6.01	5.27	6.23	23.6	78.9	124	38.6	25.7	14.5	29.2
1960	15.9	15.2	9.66	7.86	7.34	12.1	37.2	99.3	99.4	38.0	23.3	18.7	32.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,370	1,460	1,410	1,250	1,170	1,290	4,450	24,150	36,240	11,110	4,890	1,920	90,710
1952	1,860	1,230	1,110	984	863	922	5,655	33,320	44,180	10,720	4,650	2,390	107,900
1953	1,450	1,070	1,050	984	833	994	2,430	7,080	34,410	7,010	3,280	1,270	61,860
1954	853	570	515	453	399	451	1,660	6,590	2,280	1,220	692	510	16,190
1955	499	476	416	382	305	336	736	9,580	7,010	2,120	1,130	656	23,650
1956	644	504	563	451	403	585	2,860	16,080	22,820	2,360	1,050	540	48,860
1957	542	429	409	372	333	486	1,020	4,670	38,270	5,890	1,900	1,050	55,370
1958	845	648	561	469	389	391	1,430	25,230	14,350	2,060	885	622	47,880
1959	564	585	474	370	293	383	1,410	4,850	7,400	2,370	1,580	863	21,140
1960	980	902	594	484	422	742	2,210	6,110	5,910	2,340	1,430	1,110	23,230

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	128
1951	1213	1,330	May 27, 1951	-	125	90,710	125
1952	1243	1,390	June 7, 1952	-	149	107,900	148
1953	1283	1,500	June 13, 1953	-	85.5	61,860	85.2
1954	1343	386	May 12, 1954	6.4	22.4	16,190	21.6
1955	1393	598	May 22, 1955	-	32.7	23,650	33.1
1956	1443	1,080	June 1, 1956	-	67.3	48,860	66.8
1957	1513	1,440	June 7, 1957	-	76.5	55,370	77.4
1958	1563	1,250	May 27, 1958	-	66.1	47,880	65.6
1959	1633	202	June 6, 1959	-	29.2	21,140	30.4
1960	1713	189	May 13, 1960	-	32.0	23,230	-

2750. West Fork Duchesne River below Dry Hollow, near Hanna, Utah

Location.--Lat 40°27', long 110°59', in SE $\frac{1}{4}$ sec.25, T.1 N., R.10 W., Uinta meridian, on left bank 200 ft downstream from Dry Hollow, 5 miles upstream from Wolf Creek, and 12 miles northwest of Hanna.

Drainage area.--47 sq mi, approximately.

Records available.--August 1949 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,630 ft (by barometer).

Average discharge.--11 years (1949-60), 37.1 cfs (26,860 acre-ft per year).

Extremes.--1949-60: Maximum discharge, 732 cfs June 6, 1957, from rating curve extended above 410 cfs by logarithmic plotting; maximum gage height, 4.32 ft May 27, 1958; minimum discharge recorded, 2.6 cfs sometime between Dec. 20, 1956, and Mar. 7, 1957, from recorded range in stage.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13.7	13.9	12.9	11.6	10.0	10.0	26.1	151	136	36.0	19.2	12.7	37.9
1952	13.0	10.8	10.5	10	11	10	42.5	289	296	67.5	31.5	19.9	67.7
1953	14.2	10.8	10	9	8	8.74	17.4	62.1	193	38.2	18.2	13.5	33.5
1954	12.2	11.3	9.66	9.16	10	10.6	32.8	113	35.6	17.5	11.3	10.8	23.8
1955	9.29	8.19	8.45	7.63	7	7.5	12.3	160	98.3	28.1	15.3	9.05	31.1
1956	7.62	6.08	8.28	7	7	8.42	30.4	191	111	25.0	14.5	11.5	35.9
1957	10.2	9.38	7.97	7.24	7.38	8.25	14.9	95.3	246	54.2	21.9	14.1	41.4
1958	12.0	10.1	9.03	8.48	7.00	6.68	21.2	238	143	28.2	15.8	12.0	42.9
1959	9.82	9.19	7.65	6.40	6.68	7.20	21.9	80.8	61.9	13.2	10.7	10.1	20.5
1960	10.3	7.33	5.60	5.46	5.86	8.16	26.1	109	54.4	14.8	8.23	8.42	22.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	843	827	791	712	555	615	1,550	9,290	8,110	2,220	1,180	756	27,450
1952	801	641	647	615	633	615	2,530	17,780	17,630	4,150	1,940	1,190	49,170
1953	873	641	615	553	444	538	1,030	3,820	11,500	2,350	1,120	801	24,280
1954	748	672	594	563	555	655	1,950	6,960	2,120	1,080	698	641	17,240
1955	571	487	520	469	389	461	734	9,830	5,850	1,730	940	538	22,520
1956	469	461	509	430	403	518	1,810	11,760	6,590	1,530	891	684	26,080
1957	627	558	490	445	410	507	888	5,860	14,670	3,330	1,350	840	29,980
1958	736	600	555	522	389	411	1,260	14,660	8,520	1,730	974	714	31,070
1959	604	547	470	394	371	443	1,300	4,970	3,680	814	659	600	14,650
1960	636	436	345	336	337	502	1,560	6,700	3,240	911	506	501	16,010

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	52.0	-	37,660
1951	1213	631	May 27, 1951	-	37.9	27,450	37.4	-	27,080
1952	1243	699	June 4, 1952	-	67.7	49,170	67.8	-	49,210
1953	1283	539	June 10, 1953	-	33.5	24,280	33.4	-	24,170
1954	1343	250	May 13, 1954	-	23.8	17,240	23.2	-	16,800
1955	1393	344	May 22, 1955	-	31.1	22,520	30.9	-	22,400
1956	1443	389	May 19, 1956	6.1	35.9	26,080	36.2	-	26,290
1957	1513	732	June 6, 1957	-	41.4	29,980	41.7	-	30,190
1958	1563	721	May 27, 1958	-	42.9	31,070	42.5	-	30,800
1959	1633	169	May 15, 1959	-	20.5	14,650	20.2	-	14,650
1960	1713	307	May 12, 1960	-	22.0	16,010	-	-	-

2755. West Fork Duchesne River near Hanna, Utah

Location.--Lat 40°27', long 110°53', in SE $\frac{1}{4}$ sec. 27, T.1 N., R.9 W., Uinta meridian, on left bank 1,000 ft upstream from Wolf Creek and 7 $\frac{1}{2}$ miles northwest of Hanna.

Drainage area.--61 sq mi, approximately.

Records available.--May to October 1904 (gage heights only, fragmentary), August 1921 to March 1922, October 1922 to September 1923, October 1945 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,200 ft (from river-profile map). Prior to Oct. 1, 1923, staff gages at approximately same site at different datums.

Average discharge.--16 years (1922-23, 1945-60), 47.8 cfs (34,610 acre-ft per year).

Extremes.--1904, 1921-23, 1945-60: Maximum discharge recorded, 666 cfs June 6, 1957; maximum gage height, 4.40 ft June 4, 1952; minimum discharge recorded, 4.4 cfs Apr. 13, 1953.

Remarks.--No diversion above station.

Correction.--In WSP 1313, the monthly mean and acre-feet for November 1945 and water year 1946 were listed in error; the correct figures are given herewith:

Month	Mean	Acre-feet
November 1945.....	18.5	1,100
Water year 1946.....	43.3	31,560

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	20.5	20.0	18.2	16.4	14.0	14.3	37.4	174	149	46.0	25.7	18.5	46.5
1952	17.4	14.6	15.6	14	15	14	59.1	566	355	81.3	41.3	29.6	85.7
1953	23.5	19.1	17.5	17.2	17.6	18.3	27.1	75.2	201	50.4	27.9	19.1	42.6
1954	19.0	17.9	15.1	13.9	15	16.0	40.2	115	44.8	20.8	14.7	29.1	47.8
1955	13.3	12.0	12.0	11	10	11	22.7	174	105	35.2	23.7	17	37.5
1956	16.2	15.0	15.3	13.7	14.0	16.6	42.5	213	117	37.1	23.0	14.3	45.0
1957	13.8	13.3	12.0	11.2	12.5	13.5	21.6	108	275	65.6	32.7	21.9	50.0
1958	23.1	20.1	18.8	17.5	14.5	13.6	34.4	260	167	39.6	23.2	20.8	54.6
1959	19.4	16.8	15.2	13.5	13.9	12.2	26.7	91.5	71.0	22.0	15.1	13.9	27.7
1960	15.3	14.2	10.8	10.7	11.7	16.0	37.1	121	60.0	20.2	12.0	12.5	28.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,260	1,190	1,120	1,010	778	877	2,230	10,730	8,850	2,830	1,580	1,090	53,540
1952	1,070	869	958	861	863	861	3,520	22,490	19,960	5,000	2,540	1,780	60,450
1953	1,450	1,140	1,070	1,060	980	1,120	1,610	4,620	11,990	3,100	1,710	1,130	30,980
1954	1,170	1,070	928	855	833	982	2,390	7,140	2,660	1,280	902	873	21,080
1955	817	717	736	676	555	676	1,350	10,730	6,260	2,170	1,460	1,010	27,160
1956	996	893	942	845	805	1,020	2,530	13,110	6,980	2,280	1,410	851	32,660
1957	849	789	740	686	696	829	1,290	6,810	16,370	4,040	2,010	1,300	36,210
1958	1,420	1,200	1,150	1,080	805	837	2,050	16,000	9,930	2,430	1,430	1,240	39,570
1959	1,190	1,000	932	829	770	752	1,590	5,630	4,220	1,400	928	827	20,070
1960	942	843	664	659	672	986	2,210	7,460	3,570	1,240	739	744	20,730

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	65.9	47,710	
1951	1213	619	May 27, 1951	-	46.3	33,540	45.4	32,870	
1952	1243	652	June 4, 1952	-	35.7	60,450	84.7	61,520	
1953	1283	488	June 10, 1953	11	42.8	30,980	42.1	30,490	
1954	1343	235	May 13, 1954	-	29.1	21,080	27.9	20,180	
1955	1393	369	May 21, 1955	-	37.5	27,160	38.3	27,720	
1956	1443	446	May 19, 1956	10	45.0	32,660	44.4	32,210	
1957	1513	666	June 6, 1957	-	50.0	36,210	51.9	37,600	
1958	1563	551	May 29, 1958	-	54.6	39,570	53.8	38,920	
1959	1633	196	May 15, 1959	-	27.7	20,070	26.8	19,400	
1960	1713	304	May 12, 1960	-	26.6	20,730	-	-	

2760. Wolf Creek above Rhodes Canyon, near Hanna, Utah

Location.--Lat 40°28', long 110°55', in NW¼ sec.21, T.1 N., R.9 W., Uinta meridian, on left bank 1½ miles upstream from Rhodes Canyon, 2½ miles upstream from mouth, and 9 miles northwest of Hanna.

Drainage area.--9 sq mi, approximately.

Records available.--October 1945 to September 1960.

Gage.--Water-stage recorder and masonry control. Altitude of gage is 7,720 ft (by barometer).

Average discharge.--15 years (1945-60), 7.60 cfs (5,500 acre-ft per year).

Extremes.--1945-60: Maximum discharge, 82 cfs June 8, 1952 (gage height, 2.64 ft); minimum recorded, 1.5 cfs Mar. 16, 1958, caused by temporary obstruction upstream.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7.66	6.45	5.76	5.16	4.66	4.22	4.41	17.1	22.7	13.5	9.45	7.13	9.04
1952	5.74	4.78	3.96	3.46	3.47	3.5	8.50	31.1	47.2	22.7	15.1	12.0	13.5
1953	8.46	6.77	6.09	5.58	4.96	4.55	4.21	6.43	23.9	11.3	8.47	6.08	8.07
1954	5.23	4.61	4.38	3.97	4.06	3.83	3.61	13.2	6.38	4.64	3.75	3.52	5.11
1955	3.12	2.98	2.83	2.68	2.61	2.60	2.80	12.7	11.9	6.09	5.08	4.16	4.98
1956	3.93	3.36	2.85	2.75	2.80	2.68	3.30	20.1	16.1	8.03	6.59	5.41	6.51
1957	4.36	3.75	3.27	3.07	2.82	2.96	3.13	6.28	31.4	15.6	8.96	7.41	7.75
1958	5.24	5.13	4.57	4.09	4.00	3.81	3.80	22.5	27.3	11.8	8.28	7.05	9.06
1959	5.65	5.24	4.38	3.84	3.50	3.49	3.27	9.99	12.6	6.11	5.35	4.24	5.65
1960	3.99	3.76	3.15	2.80	3.09	3.06	3.38	13.3	9.01	4.83	4.10	3.24	4.81

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	471	384	354	318	259	259	263	1,050	1,350	829	581	424	6,540
1952	353	284	244	213	200	215	506	1,910	2,610	1,400	928	714	9,780
1953	520	403	375	343	276	279	250	395	1,420	694	521	362	5,840
1954	322	275	269	244	226	235	215	812	380	285	230	209	3,700
1955	192	178	174	165	145	160	167	784	707	374	312	248	3,610
1956	242	200	175	169	161	185	196	1,230	960	494	405	322	4,720
1957	268	223	201	189	157	182	186	366	1,670	958	551	441	5,610
1958	383	305	281	251	222	234	226	1,380	1,620	724	509	420	6,560
1959	348	312	270	236	194	214	195	614	749	376	329	252	4,090
1960	246	224	193	172	178	188	201	815	536	297	252	193	3,500

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet		Mean		Acre-feet	
		Discharge	Date								
1950	-	-	-	-	-	-	-	10.2	-	7,380	-
1951	1213	61	May 29, 1951	4.1	9.04	6,540	-	8.58	-	6,210	-
1952	1243	82	June 8, 1952	-	13.5	9,780	-	14.0	-	10,190	-
1953	1283	60	July 30, 1953	4.0	8.07	5,840	-	7.47	-	5,410	-
1954	1343	60	May 16, 1954	3.1	5.11	3,700	-	4.67	-	3,380	-
1955	1393	44	May 21, 1955	2.6	4.98	3,610	-	5.08	-	3,680	-
1956	1443	38	May 25, 1956	2.6	6.51	4,720	-	6.63	-	4,790	-
1957	1513	60	June 6, 1957	-	7.75	5,610	-	8.14	-	5,690	-
1958	1563	67	May 26, 1958	-	9.06	6,560	-	9.0	-	6,520	-
1959	1633	25	June 2, 1959	3.1	5.65	4,090	-	5.28	-	3,820	-
1960	1713	35	May 12, 1960	2.8	4.81	3,500	-	-	-	-	-

2770. Duchesne River at Hanna, Utah

Location.--Lat 40°25', long 110°47', in SE $\frac{1}{4}$ sec.4, T.1 S., R.8 W., Uinta meridian, at downstream side of left abutment of road bridge, 1 mile downstream from Sand Creek and 1 mile northwest of Hanna.

Drainage area.--230 sq mi, approximately.

Records available.--August 1953 to September 1960.

Gage.--Water-stage recorder.

Average discharge.--7 years (1953-60), 153 cfs (110,770 acre-ft per year).

Extremes.--1953-60: Maximum discharge, 2,260 cfs June 7, 1957 (gage height, 5.16 ft); minimum, 52 cfs Mar. 12, 15, 1956.

Remarks.--Several diversions above station for irrigation, including a transmountain diversion through Duchesne tunnel (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	171	102	-
1954	93.6	94.5	88.2	84.2	82.9	82.9	129	314	148	102	80.1	76.7	115
1955	79.0	78.3	78.5	76.7	71.8	70.6	90.0	419	319	139	96.5	81.1	134
1956	83.6	82.3	85.9	76.4	76.4	86.2	153	587	670	157	106	81.6	187
1957	79.7	84.5	84.9	74.4	72.6	72.7	81.0	244	1,071	288	126	106	198
1958	96.8	103	96.2	86.8	83.6	78.8	122	775	602	163	99.7	89.9	200
1959	82.3	87.6	85.4	76.9	76.5	76.0	93.8	234	316	129	94.6	80.9	119
1960	82.8	79.8	71.8	73.7	71.0	79.7	117	308	250	117	80.1	79.1	117

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	10,520	6,090	-
1954	5,750	5,620	5,420	5,180	4,600	5,100	7,660	19,320	8,810	6,290	4,920	4,560	83,230
1955	4,860	4,660	4,850	4,720	3,980	4,340	5,360	25,740	18,980	8,570	5,930	4,820	96,800
1956	5,140	4,900	5,280	4,700	4,400	5,300	9,110	36,080	39,900	9,640	6,520	4,850	135,820
1957	4,900	5,050	5,220	4,570	4,050	4,470	4,820	14,970	63,710	17,690	7,720	6,280	143,400
1958	5,950	6,110	5,910	5,340	4,640	4,850	7,270	47,670	35,810	10,000	6,130	5,350	145,000
1959	5,060	5,210	5,250	4,730	4,250	4,670	5,580	14,360	18,780	7,920	5,820	4,820	86,450
1960	5,090	4,750	4,420	4,530	4,090	4,900	6,990	18,820	14,860	7,170	4,930	4,710	85,260

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953	1343	-	-	-	-	-	-	-
1954	1343	616	May 12, 1954	70	115	83,230	112	80,790
1955	1393	1,020	May 22, 1955	65	134	96,800	135	97,760
1956	1443	1,710	June 2, 1956	70	187	135,820	187	135,800
1957	1513	2,260	June 7, 1957	-	198	143,400	202	146,200
1958	1563	2,160	May 28, 1958	75	200	145,000	197	142,600
1959	1633	491	June 6, 1959	69	119	86,450	118	85,190
1960	1713	580	May 13, 1960	65	117	85,260	-	-

2775. Duchesne River near Tabiona, Utah

Location.--Lat 40°18', long 110°37', in NW $\frac{1}{4}$ sec.19, T.2 S., R.6 W., Uinta meridian, on right bank half a mile upstream from bridge on State Highway 35, 7 miles upstream from Rock Creek, and $7\frac{1}{2}$ miles southeast of Tabiona.

Drainage area.--352 sq mi.

Records available.--October 1918 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Prior to Oct. 8, 1930, tape gage, Oct. 8, 1930, to Oct. 15, 1934, staff gage, and Oct. 16, 1934, to Nov. 6, 1953, water-stage recorder, all at site half a mile downstream at various datums.

Average discharge.--42 years (1918-60), 204 cfs (147,700 acre-ft per year).

Extremes.--1918-60: Maximum discharge observed, 2,500 cfs June 13, 1921, from rating curve extended above 1,100 cfs; minimum recorded, 27 cfs Oct. 17, 1934.

Remarks.--Several diversions above station for irrigation, including a transmountain diversion through Duchesne tunnel (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	116	145	134	114	111	107	183	617	948	298	178	107	255
1952	126	128	118	104	106	102	301	1,165	1,286	364	209	166	348
1953	112	123	131	124	115	111	135	188	827	216	168	79.7	194
1954	100	127	111	99.9	97.6	94.5	124	241	77.7	85.2	61.3	68.1	107
1955	95.7	100	95.4	91.4	84.5	88.8	104	353	243	111	88.2	71.1	127
1956	75.9	112	115	99.7	94.0	104	158	518	576	124	90.3	71.3	178
1957	81.5	100	103	87.4	85	89.9	84.5	221	996	236	159	116	194
1958	113	138	120	113	109	100	132	678	502	135	88.8	82.8	193
1959	77.0	105	114	103	85.6	86.1	98.1	159	225	122	81.7	67.7	109
1960	107	111	95.7	83.0	80.4	96.4	109	208	163	104	77.3	78.1	109

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7,110	8,610	8,260	7,010	6,170	6,580	10,910	37,910	56,390	18,300	10,920	6,370	184,500
1952	7,740	7,630	7,240	6,400	6,090	6,270	17,930	71,610	76,510	22,350	12,850	9,880	252,500
1953	6,880	7,340	8,070	7,610	6,400	6,840	8,050	11,570	49,180	13,250	10,360	4,740	140,300
1954	6,150	7,570	6,820	6,140	5,420	5,810	7,370	14,850	4,620	5,120	3,770	4,050	77,690
1955	5,880	5,960	5,870	5,620	4,690	5,460	6,180	21,690	14,450	6,800	5,420	4,230	92,250
1956	4,670	6,690	7,060	6,130	5,410	6,410	9,430	31,860	34,250	7,640	5,550	4,240	129,300
1957	5,010	5,970	6,320	5,380	4,720	5,530	5,020	13,580	59,270	14,490	8,560	6,890	140,700
1958	6,960	8,240	7,580	6,930	6,040	6,160	7,830	41,600	29,860	8,350	5,460	4,930	139,700
1959	4,740	6,250	7,030	6,320	4,760	5,300	5,840	8,570	13,360	7,500	5,020	4,030	78,720
1960	6,590	6,600	5,880	5,100	4,630	5,930	6,470	12,780	9,700	6,390	4,750	4,650	79,470

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	280	202,400
1951	1213	1,890	May 29, 1951	81	255	184,500	253	183,200
1952	1243	2,060	June 6, 1952	77	348	252,500	347	252,200
1953	1283	1,800	June 14, 1953	-	194	140,300	191	138,500
1954	1343	542	May 12, 1954	43	107	77,690	103	74,860
1955	1393	961	May 23, 1955	61	127	92,250	128	92,960
1956	1443	1,450	June 2, 1956	66	178	129,300	177	128,200
1957	1513	2,080	June 7, 1957	70	194	140,700	202	146,000
1958	1563	1,850	May 28, 1958	-	193	139,700	187	135,200
1959	1633	357	June 7, 1959	54	109	78,720	110	79,770
1960	1713	1,410	Sept. 2, 1960	60	109	79,470	-	-

2780. South Fork Rock Creek near Hanna, Utah

Location--Lat 40°33'10", long 110°42'10", in SE $\frac{1}{4}$ sec.20, T.2 N., R.7 W., Uinta meridian, on right bank 1 mile upstream from mouth and 11 miles northeast of Hanna.

Drainage area--14 sq mi, approximately.

Records available--August 1953 to September 1960.

Gage--Water-stage recorder. Altitude of gage is 7,860 ft (from river-profile map).

Average discharge--7 years (1953-60), 11.2 cfs (8,110 acre-ft per year).

Extremes--1953-60: Maximum discharge, 139 cfs May 29, 1958 (gage height, 2.42 ft); maximum gage height, 2.91 ft Nov. 20, 1959 (backwater from ice); minimum discharge not determined.

Remarks--Pipeline that provides water for small hydroelectric plant and irrigation for Dude Ranch (capacity, approximately 1.5 cfs) diverts water from creek a short distance above station at times in summer months.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	11.8	4.81	-
1954	4.63	4.56	3.85	3.5	3.3	3.3	6.52	29.2	18.5	10.4	5.29	4.18	8.14
1955	3.67	3.54	3.0	3.0	3.0	2.5	2.83	25.0	42.6	15.9	8.89	5.71	9.97
1956	4.38	3.42	3.35	3.0	2.5	2.95	8.22	50.3	72.9	20.7	8.26	4.38	15.4
1957	4.62	4.09	3.82	3.0	2.5	2.5	2.61	11.9	60.6	33.9	11.9	6.97	12.4
1958	5.83	4.59	4.0	3.5	3.5	3.0	5.25	52.5	62.2	15.7	6.86	5.14	14.4
1959	4.21	4.08	3.08	2.5	2.0	2.0	4.96	15.5	40.6	16.1	7.15	5.12	8.95
1960	6.75	5.24	3.16	2.8	2.9	2.77	7.19	24.3	36.4	11.0	5.32	3.93	9.25

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	724	286	-
1954	284	272	236	215	163	203	388	1,800	1,100	639	325	249	5,890
1955	226	199	184	184	167	154	169	1,540	2,530	979	547	340	7,220
1956	270	203	206	184	144	181	489	3,090	4,340	1,280	508	261	11,160
1957	284	243	235	184	139	154	155	731	3,610	2,090	750	415	8,970
1958	359	273	246	215	184	185	312	3,230	3,700	968	422	306	10,410
1959	259	243	189	154	111	123	295	954	2,420	992	439	305	6,480
1960	415	312	194	154	144	171	428	1,490	2,170	676	327	234	6,720

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-
1953	1343	-	-	-	-	-	-
1954	1343	51	May 22, 1954	-	8.14	5,890	7.89
1955	1393	75	June 8, 1955	-	9.97	7,220	10.1
1956	1443	127	June 1, 1956	-	15.4	11,160	15.5
1957	1513	118	June 6, 1957	-	12.4	8,970	12.5
1958	1563	139	May 29, 1958	-	14.4	10,410	14.1
1959	1633	59	June 7, 1959	-	8.95	6,480	9.27
1960	1713	59	June 3, 1960	-	9.25	6,720	-

GREEN RIVER BASIN

2785. Rock Creek near Hanna, Utah

Location.--Lat 40°33'00", long 110°39'40", in NE $\frac{1}{4}$ sec.27, T.2 N., R.7 W., Uinta meridian, on right bank $1\frac{1}{2}$ miles downstream from South Fork and $11\frac{1}{2}$ miles northeast of Hanna.

Drainage area.--120 sq mi, approximately.

Records available.--July 1949 to September 1960.

Average discharge.--11 years (1949-60), 147 cfs (106,400 acre-ft per year).

Gage.--Water-stage recorder. Altitude of gage is 7,620 ft (from river-profile map).

Extremes.--1949-60: Maximum discharge, 2,540 cfs June 13, 1953 (gage height, 8.60 ft); minimum recorded, 4.7 cfs Apr. 12, 1953.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	46.1	41.7	34.6	29	29	27	51.5	420	837	303	160	67.7	171
1952	61.2	41.9	37.2	32	32	29	76.0	590	1,152	351	177	96.9	223
1953	53.1	32.8	30.3	30.7	26.2	27.6	45.3	111	842	208	103	50.4	130
1954	39.9	33.9	25	25	25	25	62.2	497	211	108	56.8	45.0	96.8
1955	35.3	29.3	25.7	25	24	23	27.7	385	522	129	95.5	58.5	115
1956	42.9	34.6	36.8	30.5	26.1	27.8	67.2	586	784	150	67.5	40.2	158
1957	34.4	27.1	27.0	24.0	21.3	25.6	28.6	144	1,115	391	111	62.5	167
1958	52.8	45.3	34.6	30.5	30	27.4	48.0	584	649	118	59.4	50.3	144
1959	38.3	29.8	24.2	20.1	20	22	40.3	206	659	158	69.7	53.5	112
1960	76.8	53.3	28.1	28.0	25	32.7	74.2	364	539	108	50.2	48.7	119

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,830	2,480	2,130	1,780	1,610	1,660	3,070	25,820	49,790	18,650	9,850	4,030	123,700
1952	3,760	2,500	2,280	1,970	1,840	1,780	4,520	36,300	68,550	21,600	10,900	5,770	161,800
1953	3,260	1,950	1,860	1,890	1,460	1,700	2,700	6,850	50,120	12,800	6,350	3,000	95,940
1954	2,450	2,020	1,540	1,540	1,390	1,540	3,700	50,550	12,530	6,650	3,490	2,690	70,080
1955	2,170	1,740	1,580	1,540	1,330	1,410	1,650	23,680	31,040	7,930	5,870	3,480	83,420
1956	2,640	2,060	2,260	1,880	1,500	1,710	4,000	36,020	46,660	9,200	4,150	2,390	114,500
1957	2,120	1,610	1,660	1,470	1,180	1,580	1,710	8,840	66,370	24,060	6,850	3,720	121,200
1958	3,240	2,700	2,130	1,870	1,670	1,680	2,860	35,900	38,600	7,270	3,650	3,000	104,600
1959	2,360	1,770	1,490	1,240	1,110	1,350	2,400	12,670	39,190	9,700	4,280	3,180	80,740
1960	4,720	3,170	1,730	1,600	1,440	2,010	4,420	22,400	32,040	6,540	3,080	2,900	86,050

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	183	132,500
1951	1213	1,970	June 16, 1951	-	171	123,700	172	142,800
1952	1243	2,240	June 9, 1952	-	223	161,800	221	160,300
1953	1283	2,540	June 13, 1953	22	130	93,940	128	92,880
1954	1343	1,230	May 19, 1954	-	96.8	70,080	96.1	69,560
1955	1393	1,800	June 8, 1955	-	115	83,420	117	84,890
1956	1443	2,030	June 1, 1956	22	158	114,500	156	112,900
1957	1513	2,200	June 7, 1957	-	167	121,200	171	123,800
1958	1563	1,850	May 27, 1958	-	144	104,600	141	102,100
1959	1633	1,410	June 8, 1959	-	112	80,740	117	84,740
1960	1713	1,450	June 2, 1960	-	119	86,050	-	-

2790. Rock Creek near Mountain Home, Utah

Location.--Lat 40°29'30", long 110°34'40", in SW¹ sec.9, T.1 N., R.6 W., Uinta meridian, on right bank at Lower Stillwater damsite "B", a third of a mile upstream from Corral Creek, 7 miles downstream from South Fork, and 12 miles northwest of Mountain Home.

Drainage area.--149 sq mi.

Records available.--October 1937 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,250 ft (from river-profile map). Prior to Apr. 12, 1939, staff gage at site 300 ft upstream at different datum.

Average discharge.--23 years (1937-60), 168 cfs (121,600 acre-ft per year).

Extremes.--1937-60: Maximum discharge, 2,390 cfs June 14, 1953 (gage height, 6.02 ft); minimum recorded, 7 cfs Mar. 13, 1940, Mar. 20, 1942 (probably caused by ice jams above station).

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	65.1	59.1	53.5	47.9	47.2	45.3	68.2	426	924	344	181	85.1	196
1952	83.5	62.6	58.9	50	50	43.4	105	685	1,266	413	210	112	261
1953	69.5	55.5	52.3	50.0	43.7	44.1	60.7	131	887	235	129	70.0	152
1954	58.7	53.1	45.2	42.6	41.5	42.4	79.9	533	230	126	79.4	65.6	117
1955	54.0	46.9	39.7	40.5	38	37	44.9	393	545	149	113	73.4	131
1956	57.1	53.4	57.5	49.3	42.8	45.7	86.5	630	820	163	80.9	53.9	178
1957	49.6	43.1	42.3	37.2	33.5	39.9	44.0	147	1,195	447	140	88.2	192
1958	82.3	67.7	52.9	46.1	45.3	42.0	66.6	595	685	144	80.8	68.3	165
1959	52.5	46.9	39.6	34.2	35	38.2	57.5	213	711	180	93.2	72.1	131
1960	90.6	65.8	43.8	41.3	39.9	46.1	85.5	382	559	119	60.1	57.7	132

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,000	3,520	3,290	2,950	2,620	2,780	4,080	26,220	54,990	21,140	11,120	5,070	141,800
1952	5,130	3,730	3,620	3,070	2,890	2,670	6,260	42,120	75,330	25,390	12,950	6,650	189,800
1953	4,270	3,300	3,220	3,070	2,430	2,710	3,610	8,050	52,900	14,450	7,940	4,170	110,000
1954	3,610	3,160	2,780	2,620	2,310	2,610	4,750	32,750	13,680	7,750	4,880	3,900	84,800
1955	3,320	2,790	2,440	2,490	2,110	2,280	2,670	24,190	32,430	9,140	6,950	4,370	95,180
1956	3,510	3,180	3,530	3,030	2,460	2,810	5,150	38,710	48,780	10,010	4,970	3,210	129,400
1957	3,050	2,570	2,600	2,280	1,880	2,450	2,620	9,060	71,130	27,480	8,620	5,250	139,000
1958	5,080	4,030	3,250	2,850	2,520	2,580	3,960	36,610	40,750	8,830	4,970	4,060	119,400
1959	3,230	2,790	2,440	2,100	1,940	2,350	3,420	13,110	42,340	11,050	5,750	4,290	94,790
1960	5,570	3,920	2,670	2,540	2,290	2,840	5,090	23,510	33,240	7,300	3,700	3,430	96,100

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	207	149,600	
1951	1213	1,810	June 17, 1951	39	196	141,800	198	143,400	
1952	1243	2,350	June 10, 1952	-	261	189,800	259	189,100	
1953	1283	2,390	June 14, 1953	37	152	110,000	150	108,800	
1954	1343	1,230	May 20, 1954	37	117	84,800	116	83,600	
1955	1393	1,460	June 9, 1955	32	131	95,180	134	96,850	
1956	1443	1,990	June 2, 1956	35	178	129,400	175	127,400	
1957	1513	2,360	June 8, 1957	-	192	139,000	198	143,100	
1958	1563	1,710	May 28, 1958	39	165	119,400	160	115,600	
1959	1633	1,400	June 8, 1959	-	131	94,790	136	98,490	
1960	1713	1,380	June 3, 1960	36	132	96,100	-	-	

2795. Duchesne River at Duchesne, Utah

Location.--Lat 40°09'50", long 110°23'40", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.1, T.4 S., R.5 W., Uinta meridian, on left bank at Duchesne, a quarter of a mile upstream from Strawberry River.

Drainage area.--660 sq mi, approximately.

Records available.--October 1917 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 5,500 ft (by barometer). Prior to Oct. 18, 1934, staff gage at site 2,200 ft upstream at different datum. Oct. 18, 1934, to Sept. 11, 1952, water-stage recorder at site 1,000 ft upstream at datum 4.6 ft higher.

Average discharge.--43 years (1917-60), 361 cfs (261,400 acre-ft per year).

Extremes.--1917-60: Maximum discharge observed, 4,420 cfs June 10, 1922 (gage height, 8.65 ft, site and datum then in use); minimum observed, 15 cfs July 11, 1961.

Remarks.--Several diversions above station for irrigation, including a transmountain diversion to The Great Basin through Duchesne tunnel (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	160	204	210	182	179	162	195	946	1,719	569	328	142	417
1952	197	196	176	147	150	144	389	1,625	2,417	774	433	246	574
1953	168	206	234	222	180	168	153	220	1,592	376	236	114	322
1954	132	196	177	171	161	145	173	644	228	150	89.7	99.3	198
1955	154	153	139	150	140	150	154	644	696	196	183	123	240
1956	107	171	192	168	156	166	220	1,013	1,300	228	137	93.9	329
1957	98.1	165	158	148	148	143	128	317	2,038	612	217	146	359
1958	153	227	202	173	167	158	200	1,222	1,078	184	111	106	332
1959	95.7	164	178	146	139	134	123	267	799	237	140	106	210
1960	181	184	148	131	125	174	176	463	600	178	102	110	214

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9,840	12,150	12,910	11,170	9,930	9,980	11,610	58,180	102,300	34,990	20,140	8,470	301,700
1952	12,120	11,650	10,800	9,020	8,650	8,850	23,130	99,270	143,800	47,590	28,640	14,680	416,100
1953	10,350	12,250	14,420	13,670	10,010	10,330	9,090	13,500	94,750	23,120	14,500	6,790	232,800
1954	8,090	11,650	10,900	10,540	8,920	8,920	10,280	39,610	13,550	9,200	5,520	5,910	143,100
1955	9,460	9,080	8,560	9,190	7,780	9,240	9,150	39,570	41,400	12,040	11,280	7,340	174,100
1956	6,560	10,150	11,790	10,340	8,950	10,180	13,120	62,290	77,330	14,040	8,440	5,590	238,800
1957	6,030	9,830	9,710	9,090	8,210	8,770	7,640	19,490	121,300	37,640	13,350	8,710	259,800
1958	9,400	13,500	12,450	10,630	9,290	9,710	11,870	75,140	64,140	11,310	6,820	6,300	240,500
1959	5,880	9,760	10,970	8,960	7,740	8,240	7,330	16,410	47,550	14,580	6,630	6,320	152,400
1960	11,110	10,950	9,100	8,080	7,190	10,690	10,440	28,480	35,720	10,940	6,290	6,540	155,500

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	458	331,800
1951	1213	3,130	May 28, 1951	91	417	301,700	416	301,300
1952	1243	4,240	June 7, 1952	104	574	416,100	578	419,200
1953	1283	4,020	June 14, 1953	89	322	232,800	313	226,400
1954	1343	1,270	May 20, 1954	64	198	143,100	193	139,600
1955	1393	2,080	June 9, 1955	105	240	174,100	242	175,500
1956	1443	3,140	June 2, 1956	80	329	238,800	326	235,800
1957	1513	3,620	June 8, 1957	80	359	259,800	372	269,500
1958	1563	3,540	May 28, 1958	82	332	240,500	320	231,800
1959	1633	2,090	July 14, 1959	76	210	152,400	217	156,900
1960	1713	1,430	June 4, 1960	84	214	155,500	-	-

Transmountain diversions from Strawberry River basin to Daniels Creek, Utah

Water for irrigation is diverted from Strawberry River and tributaries of Strawberry River, a tributary of Duchesne River in Colorado River basin, to Daniels Creek, a tributary of Provo River in The Great Basin. The diversions have been made for many years, but records are available only since October 1949. The tables herewith show the record of diversions above Strawberry Reservoir. Additional water is diverted from Strawberry River basin to The Great Basin by Strawberry tunnel (see p.

2800. Strawberry River and Willow Creek ditches near Heber, Utah

Location.--Lat 40°20', long 111°14', in SE $\frac{1}{4}$ sec.34, T.5 S., R.6 E., 15 miles southeast of Heber.

Records available.--October 1949 to September 1960.

Gage.--Water-stage recorder. Concrete control since 1957. Altitude of gage is 8,000 ft (from topographic map).

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	135	0	0	0	0	0	0	20	1,200	638	335	169	2,500
1952	154	1.8	0	0	0	0	0	23	705	1,040	415	143	2,480
1953	0	0	0	0	0	0	0	267	698	658	256	114	1,990
1954	86	0	0	0	0	0	0	422	406	234	136	9.3	1,290
1955	0	0	0	0	0	0	0	407	1,170	539	325	170	2,610
1956	13	0	0	0	0	0	0	172	1,140	594	274	158	2,350
1957	84	0	0	0	0	0	0	0	1,030	753	344	173	2,380
1958	134	0	0	0	0	0	0	133	1,430	583	234	160	2,670
1959	104	38	0	0	0	0	.2	1,100	840	286	160	133	2,660
1960	31	0	0	0	0	0	14	1,560	815	233	107	77	2,840

2815. Hobble Creek ditch near Heber, Utah

Location.--Lat 40°18', long 111°15', in NW $\frac{1}{4}$ sec.15, T.6 S., R.6 E., Salt Lake meridian, at Daniels Pass, 18 miles southeast of Heber.

Records available.--October 1949 to September 1960. Prior to October 1952, published as Upper and Lower Hobble Creek ditches near Heber.

Gage.--Water-stage recorder and 36-inch Parshall flume. Altitude of gage is 8,000 ft (from topographic map).

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	745	570	19	0	0	1,330
1952	0	0	0	0	0	0	0	0	474	68	8	1	551
1953	0	0	0	0	0	0	0	498	704	38	14	6	1,260
1954	3	0	0	0	0	0	0	901	90	0	1	0	995
1955	0	0	0	0	0	0	0	798	329	23	3	6	1,160
1956	8	2	1	0	0	0	0	909	328	11	1	2	1,260
1957	0	0	0	0	0	0	0	19	650	47	1	0	717
1958	0	0	0	0	0	0	0	379	226	1	0	0	606
1959	0	1	0	0	0	0	14	391	99	3	1	0	509
1960	7	3	0	0	0	0	12	587	87	0	0	0	696

2820. Strawberry tunnel at West Portal, near Thistle, Utah
(Transmountain diversion)

Location--Lat 40°09'40", long 111°14'40", in SW $\frac{1}{4}$ sec.34, T.7 S., R.6 E., on left bank 40 ft downstream from west portal of tunnel and 18 miles northeast of Thistle.

Records available--June 1915 to September 1960. Monthly discharge only prior to October 1945, published in WSP 1314.

Gage--Water-stage recorder and rectangular weir. Altitude of gage is 7,470 ft (by barometer).

Extremes--1922-25, 1932-60: Maximum daily discharge, 595 cfs July 9, 1923; minimum daily observed, 4 cfs many times when no water was being diverted from Strawberry Reservoir.

Remarks--Records show water diverted from Strawberry Reservoir (in Colorado River basin, capacity, 270,000 acre-ft) plus tunnel seepage, for use on lands of Strawberry project (in The Great Basin). First diversion through tunnel was made in June 1915. This record also published in WSP 1734.

Cooperation--Records furnished by Strawberry Water Users Association.

Monthly and yearly mean diversions, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7.9	4.5	4.0	4.0	4.5	5	9.93	23.7	272	355	252	181	94.2
1952	32.7	5	4	4	4	4	5	6	85.8	239	178	189	65.1
1953	125	37.2	5	5	5	5	27.1	68.2	326	328	236	168	112
1954	40.2	6	6	6	6	6	33.1	204	333	285	293	80.0	109
1955	29.2	5	5	5	5	5.52	6	38.7	322	383	232	129	98.7
1956	49.4	5	5	5	5	5.52	9.03	83.6	354	297	282	141	102
1957	15.8	5	5	5	5	5.52	6	6	89.4	358	272	179	80.1
1958	47.7	5	5	5	5	5.52	6	13.7	294	328	291	94.6	92.3
1959	35.6	5	5	5	5	5.52	8.87	198	362	233	184	86.0	95.0
1960	24.3	5	5	5	5	5.52	19.1	169	401	317	258	74.1	108

Monthly and yearly diversions, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	488	268	246	246	250	307	591	1,460	16,190	21,850	15,520	10,760	68,170
1952	2,010	298	246	246	230	246	298	369	4,980	14,630	10,960	11,270	45,780
1953	7,700	2,220	307	307	278	307	1,610	4,200	19,400	20,170	14,500	9,970	80,970
1954	2,470	357	369	369	333	369	1,970	12,560	19,810	17,550	17,980	4,760	78,910
1955	2,470	298	307	307	278	339	357	2,380	19,190	23,550	14,270	7,700	71,450
1956	1,800	298	307	307	288	339	537	5,140	21,030	18,280	17,330	8,400	74,060
1957	970	298	307	307	278	339	357	369	5,320	22,040	16,740	10,630	57,960
1958	2,930	298	307	307	278	339	357	845	17,470	20,160	17,920	5,630	66,840
1959	2,190	298	307	307	278	339	528	12,180	21,560	14,350	11,290	5,120	68,750
1960	1,490	298	307	307	288	339	1,130	10,410	23,890	19,500	15,890	4,410	78,260

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Maximum day		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	92.0	66,630	
1951	1213	505	July 2-10, 1951	-	94.2	68,170	95.3	69,720	
1952	1243	344	July 11, 1952	-	63.1	45,780	75.6	53,460	
1953	1283	469	July 2, 1953	-	112	80,970	102	73,940	
1954	1343	498	June 26-28, 1954	-	109	78,910	109	78,790	
1955	1393	493	(a)	-	98.7	71,450	97.8	70,780	
1956	1443	484	June 26, 27, 1956	-	102	74,060	101	73,230	
1957	1513	467	(b)	-	80.1	57,960	82.8	59,920	
1958	1563	474	June 21-24, 1958	-	92.3	66,840	91.3	66,100	
1959	1633	482	June 25, 1959	-	95.0	68,750	94.0	68,050	
1960	1713	481	June 24, 1960	-	108	78,260	-	-	

a June 13, 14, July 8-10, 1955.

b June 30, July 9, 1957.

2825. Strawberry Reservoir near Soldier Springs, Utah

Location.--Lat 40°10'10", long 111°10'45", in sec.36, T.3 S., R.12 W., Uinta meridian, at east portal of Strawberry tunnel, 7 miles southwest of Soldier Springs and 22 miles east of Springville.

Drainage area.--170 sq mi, approximately (includes that portion of drainage areas of Indian and Trail Hollow Creeks above diversion dams).

Records available.--January 1913 to September 1960. Prior to October 1945, published only in WSP 1313.

Gage.--Staff gage. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

Extremes.--1913-60: Maximum contents observed, 278,400 acre-ft June 30, 1952 (elevation, 7,559.0 ft); maximum elevation observed, 7,560.2 ft June 1, 1922; minimum contents observed, 13,500 acre-ft Oct. 1, 1931 (elevation, 7,520.20 ft), from capacity table then in use.

Remarks.--Reservoir is formed by a rock-faced, earthfill dam with concrete-core wall, in sec.3, T.4 S., R.11 W., Uinta meridian, and Indian Creek dike, a rock-faced earth fill 37 ft in height with concrete-core wall, completed Sept. 20, 1913. Storage began July 14, 1912. Capacity at spillway crest, 257,600 acre-ft (elevation, 7,556.5 ft), gross contents. Prior to October 1952 when spillway crest was lowered, the capacity at spillway crest was 283,000 acre-ft (elevation, 7,558.0 ft), gross contents. Capacity at spillway crest with stop logs installed is 278,400 acre-ft (elevation, 7,559.0 ft), gross contents. Dead storage below intake to tunnel, 13,000 acre-ft (elevation, 7,512.0 ft). Dead storage prior to Jan. 1, 1934, when outlet was lowered, approximately 28,000 acre-ft. Figures given herein represent usable contents. Water diverted to reservoir from headwaters of Currant Creek through Currant Creek feeder canal since 1936. Transmountain diversions from reservoir through Strawberry tunnel to Spanish Fork drainage (see p. 296), and from tributaries above reservoir through Hobbie Creek ditch and Strawberry River and Willow Creek ditches to Provo River drainage (see p. 419). Cooperation.--Record furnished by Strawberry Water Users Association.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	126,350	128,240	132,060	135,900	138,540	141,510	156,690	182,760	177,000	158,070	142,500	132,700
1952	132,700	134,620	139,860	145,850	148,530	153,280	167,100	250,260	278,400	270,840	260,880	250,260
1953	240,600	239,000	241,000	244,200	246,620	249,850	255,140	265,850	256,370	237,400	221,700	210,960
1954	209,060	209,440	211,340	214,770	216,310	220,160	230,680	225,600	207,540	188,220	168,500	165,350
1955	164,300	165,700	167,450	170,260	173,100	175,940	182,760	198,900	183,840	160,480	147,190	139,200
1956	137,550	138,870	143,170	147,860	149,880	152,600	169,900	189,310	173,450	156,350	137,550	129,500
1957	129,820	129,820	132,700	135,560	137,870	141,840	147,190	178,230	191,500	175,320	156,000	144,840
1958	145,180	147,520	150,560	152,940	156,350	159,800	165,400	170,420	192,990	173,100	155,320	149,200
1959	147,190	147,860	149,540	151,580	156,690	157,720	163,600	158,690	157,220	121,980	108,500	103,130
1960	102,070	101,830	102,660	104,310	107,600	109,580	117,000	115,290	93,200	71,300	56,000	51,590

2850. Strawberry River near Soldier Springs, Utah

Location.--Lat 40°08'10", long 111°01'40", in NW 1/4 sec.16, T.4 S., R.10 W., Uinta meridian, on left bank half a mile downstream from Stinking Springs, 2 1/4 miles upstream from Willow Creek, and 3 miles south of Soldier Springs.

Drainage area.--212 sq mi (includes approximately 170 sq mi tributary to Strawberry Reservoir, which includes area above diversion dams on Indian and Trail Hollow Creeks).

Records available.--October 1942 to September 1956

Gage.--Water-stage recorder. Datum of gage is 7,369.3 ft above mean sea level (levels by Bureau of Reclamation). Prior to Aug. 16, 1948, at datum 0.2 ft lower.

Average discharge.--14 years (1942-56), 31.2 cfs (22,590 acre-ft per year).

Extremes.--1942-56: Maximum discharge, 1,020 cfs May 4, 1952 (gage height, 3.84 ft), from rating curve extended above 550 cfs by logarithmic plotting; minimum recorded, 7.2 cfs Feb. 27, 1956

Remarks.--Water is diverted from Strawberry Reservoir, 7 miles upstream, through Strawberry tunnel to The Great Basin for irrigation on lands of Strawberry Valley project. Water is seldom released from reservoir into Strawberry River.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	22.8	21.3	19.4	17.1	16.1	14.8	62.1	59.0	48.0	35.2	30.6	26.1	31.1
1952	21.6	19.2	18.0	16.0	14.7	13.8	67.0	373	132	83.7	69.3	69.6	75.2
1953	54.6	33.4	26.8	24.3	23.1	23.1	48.2	35.0	35.5	32.5	29.5	25.5	32.5
1954	22.2	19.4	17.0	15.0	15.0	18.4	45.7	26.3	30.9	27.5	22.7	18.4	23.2
1955	15.7	15.4	12.0	11.0	10.7	10.1	39.0	34.9	27.9	22.5	19.9	16.0	19.6
1956	13.4	13.4	13.7	13.8	12.0	12.7	52.0	48.0	37.4	33.1	27.1	20.9	24.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,400	1,270	1,190	1,050	893	910	3,690	3,630	2,850	2,170	1,880	1,550	22,480
1952	1,330	1,140	1,110	982	843	849	3,990	22,940	7,860	5,150	4,260	4,140	54,590
1953	3,360	1,990	1,650	1,490	1,280	1,420	2,750	2,150	2,110	2,000	1,820	1,520	23,540
1954	1,360	1,150	1,050	920	835	1,130	2,720	1,610	1,840	1,690	1,400	1,090	16,800
1955	964	918	740	676	595	620	2,320	2,140	1,660	1,380	1,230	954	14,200
1956	823	795	841	847	688	781	3,090	2,950	2,230	2,030	1,660	1,250	17,980

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	36.6
1951	1213	-	Apr. 15, 1951	14	51.1	22,480	30.7
1952	1243	2,020	May 4, 1952	13	75.2	54,590	79.9
1953	1283	3,020	Apr. 23, 1953	22	32.5	23,540	27.8
1954	1343	246	Apr. 17, 1954	14	23.2	16,800	21.9
1955	1393	368	Apr. 25, 1955	9.6	19.6	14,200	19.4
1956	1443	243	Apr. 19, 1956	11	24.8	17,980	-

2865. Red Creek near Fruitland, Utah

Location--Lat 40°12', long 110°47', in SE $\frac{1}{4}$ sec.21, T.3 S., R.8 W., Uinta meridian, on right bank 250 ft upstream from bridge on U. S. Highway 40, $1\frac{1}{2}$ miles upstream from Cur-rant Creek, and 4 miles southeast of Fruitland.

Drainage area--89 sq mi, approximately.

Records available--November 1917 to September 1922, September 1955 to September 1960.

Gage--Water-stage recorder. Prior to Sept. 1, 1955, staff gage at different datum.

Average discharge--9 years (1918-22, 1955-60), 11.8 cfs (8,540 acre-ft per year).

Extremes--1917-22, 1955-60: Maximum discharge not determined; maximum gage height, 8.95 ft, from floodmarks, datum then in use, between July 31 and Aug. 3, 1919, but may have been higher at other times; no flow at times in most years.

Remarks--Diversions above station for irrigation. Flow regulated by Red Creek Reservoir beginning July 1960 (capacity, 6,500 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	-	-	-	-	-	-	-	-	-	-	-	5.50	-
1956	1.50	4.78	10.2	8.8	7.9	16.3	19.4	22.1	3.60	2.08	0.62	.50	8.15
1957	4.00	3.91	7.7	9	9.15	8.74	6.98	11.2	22.9	1.70	2.96	4.26	7.67
1958	2.21	8.61	8	8	9.76	12.1	17.0	44.7	3.79	1.0	.26	1.80	9.79
1959	.24	2.36	4.30	5.5	5.0	7.15	1.99	1.25	1.14	.71	.32	.21	2.50
1960	.55	3.03	6	5.82	5.5	8.78	6.30	4.86	.25	0	0	.12	3.43

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	-	-	-	-	-	-	-	-	-	-	-	327	-
1956	92	284	625	541	456	1,000	1,150	1,360	214	128	38	30	5,920
1957	246	233	472	553	508	538	416	688	1,360	104	182	254	5,550
1958	136	512	492	492	542	744	1,010	2,750	226	61	16	107	7,090
1959	14	141	264	338	278	438	119	77	68	43	20	13	1,810
1960	34	180	369	358	316	540	375	299	15	0	0	6.9	2,490

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953								
1954								
1955	1633	-	-	-	-	-	-	-
1956	1633	285	July 12, 1956	0.1	8.15	5,920	8.08	5,870
1957	1633	160	Aug. 5, 1957	.2	7.67	5,550	7.94	5,740
1958	1633	87	May 7, 1958	0	9.79	7,090	8.79	6,370
1959	1633	33	Aug. 19, 1959	0	2.50	1,810	2.73	1,980
1960	1713	111	Sept. 5, 1960	0	3.43	2,490	-	-

2870. Currant Creek below Red Ledge Hollow, near Fruitland, Utah

Location.--Lat 40°19'30", long 111°02'40", in NW $\frac{1}{4}$ sec.8, T.2 S., R.10 W., Uinta meridian, on right bank 600 ft downstream from Red Ledge Hollow and 13 $\frac{1}{2}$ miles northwest of Fruitland.

Drainage area.--48 sq mi, approximately.

Records available.--October 1945 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,540 ft (by barometer).

Average discharge.--15 years (1945-60), 25.2 cfs (18,240 acre-ft per year).

Extremes.--1945-60: Maximum discharge, 688 cfs May 2, 1952 (gage height, 3.93 ft); minimum, 0.7 cfs Sept. 8, 1959.

Remarks.--Currant Creek feeder canal, constructed by Bureau of Reclamation in 1936, diverts water from headwaters to Strawberry Reservoir, from which it is diverted through Strawberry tunnel to The Great Basin for irrigation in Strawberry Valley project.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8.84	10.6	10.7	9.0	9.0	11.6	54.6	110	48.6	14.2	7.68	5.59	25.1
1952	7.83	7.93	8	7	8	8	129	369	135	24.2	15.0	12.9	61.2
1953	10.2	9.35	8.5	8.0	7.5	9.18	26.5	61.1	57.8	14.2	9.59	5.54	19.0
1954	6.49	8.39	7.87	8.0	8.0	8.0	47.7	47.3	16.0	6.01	3.64	4.70	14.3
1955	4.69	6.55	5.96	8.0	5.5	6.52	23.3	107	35.2	9.04	5.78	5.5	18.5
1956	5.51	8.66	12.5	9.81	9.0	13.4	57.4	121	37.2	9.20	4.43	3.54	24.4
1957	5.25	6.41	5.58	5	5	6.55	21.6	100	90.9	16.2	7.28	5.06	23.0
1958	7.71	8.71	8.42	7.74	7.0	6.73	27.9	184	49.2	9.66	4.26	4.42	27.4
1959	4.82	7.07	6.74	6	6	6.1	24.2	37.5	14.7	5.11	2.98	3.57	10.4
1960	4.90	6.77	3.77	5	5	10.8	36.6	54.6	16.4	4.54	1.82	3.99	12.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	543	629	660	553	500	712	3,250	6,780	2,890	875	472	333	18,200
1952	481	472	492	430	460	492	7,680	22,690	8,050	1,490	922	768	44,230
1953	630	556	523	492	417	564	1,580	3,750	3,440	875	589	329	13,740
1954	399	499	484	492	444	492	2,840	2,910	952	370	224	280	10,390
1955	300	390	367	369	305	401	1,390	6,550	2,100	556	355	327	13,410
1956	339	527	770	603	518	823	3,420	7,450	2,210	566	273	210	17,710
1957	323	381	343	307	278	403	1,290	6,150	5,410	999	448	301	16,630
1958	474	518	518	476	389	414	1,660	11,330	2,950	594	262	263	19,830
1959	296	421	415	369	333	375	1,440	2,300	875	314	183	212	7,530
1960	301	403	232	307	288	666	2,180	3,360	973	279	112	238	9,340

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	42.8	30,960
1951	1213	242	May 20, 1951	-	25.1	18,200	24.9	17,810
1952	1243	688	May 2, 1952	-	61.2	44,230	61.6	44,690
1953	1283	150	May 28, 1953	4.5	19.0	13,740	16.5	13,420
1954	1343	108	Apr. 24, 1954	2.8	14.3	10,390	13.9	10,060
1955	1393	286	May 6, 1955	-	18.5	13,410	19.3	13,990
1956	1443	261	May 6, 1956	2.2	24.4	17,710	23.6	17,120
1957	1513	254	June 1, 1957	-	23.0	16,630	23.6	17,100
1958	1563	342	May 11, 1958	3.2	27.4	19,830	26.9	19,450
1959	1633	72	May 12, 1959	1.0	10.4	7,530	10.1	7,340
1960	1713	158	May 10, 1960	1.1	12.9	9,340	-	-

2875. Water Hollow near Fruitland, Utah

Location.--Lat 40°14', long 110°59', between secs.2 and 11, T.3 S., R.10 W., Uinta meridian, on left bank $1\frac{1}{2}$ miles upstream from mouth and $7\frac{1}{2}$ miles northwest of Fruitland.

Drainage area.--15 sq mi, approximately.

Records available.--April 1946 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,080 ft (by barometer).

Average discharge.--14 years (1946-60), 5.98 cfs (4,330 acre-ft per year).

Extremes.--1946-60: Maximum discharge, 133 cfs July 18, 1954 (gage height, 3.24 ft), from rating curve extended above 56 cfs on basis of slope-area measurement of peak flow; minimum recorded, 0.6 cfs Dec. 29, 1958.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6.30	5.86	5.50	5.0	5.0	5.0	5.49	11.6	12.4	8.64	7.56	6.25	7.06
1952	5.75	4.62	4.5	4.0	4.5	4.5	13.5	48.9	37.9	22.6	17.7	13.5	15.2
1953	11.1	8.72	7.0	6.0	5.61	5.65	5.51	6.61	9.04	7.01	6.26	5.29	6.99
1954	5.15	4.68	4.0	4.0	4.01	3.85	4.66	6.46	5.45	4.79	3.56	3.05	4.47
1955	2.79	2.96	2.77	2.79	2.20	2.7	3.45	5.94	5.00	3.66	3.15	2.50	3.33
1956	2.51	2.58	2.83	2.44	2.2	2.43	3.57	8.92	8.82	6.20	5.08	3.91	4.30
1957	3.97	3.5	3.19	3.0	3.0	3.5	3.91	5.59	11.4	7.32	5.82	4.80	4.92
1958	4.91	4.79	4.13	3.08	3.00	2.97	5.40	16.2	12.4	7.58	5.83	4.57	6.25
1959	4.35	4.05	3.47	3.02	3.0	3.12	3.43	3.43	3.45	2.66	2.26	2.28	3.21
1960	2.37	2.34	2.29	2.47	2.40	3.03	3.12	3.82	3.12	2.68	1.70	2.14	2.62

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	387	348	338	307	278	307	327	711	738	531	465	372	5,110
1952	353	275	277	246	259	277	803	3,000	2,250	1,390	1,090	805	11,020
1953	681	519	430	369	312	348	328	406	558	431	385	315	5,060
1954	317	279	246	246	223	236	276	397	324	295	219	181	3,240
1955	171	176	170	172	122	166	205	365	297	225	194	149	2,410
1956	155	154	174	150	127	150	212	548	525	381	313	232	3,120
1957	244	208	196	184	167	215	232	344	680	450	358	285	3,560
1958	302	285	254	189	167	182	321	995	736	466	358	272	4,550
1959	267	241	214	186	167	192	204	211	205	164	139	156	2,330
1960	146	139	141	152	138	186	185	235	186	165	104	127	1,900

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	8.28	5,990
1951	1213	65	Aug. 4, 1951	-	7.06	5,110	6.83	4,940
1952	1243	104	Aug. 28, 1952	-	15.2	11,020	16.2	11,750
1953	1283	100	Aug. 14, 1953	-	6.99	5,060	5.90	4,270
1954	1343	133	July 18, 1954	-	4.47	3,240	4.03	2,910
1955	1393	8.3	(a)	-	3.33	2,410	3.28	2,380
1956	1443	16	May 30, 1956	-	4.30	3,120	4.54	3,290
1957	1513	32	Aug. 5 1957	-	4.92	3,560	5.19	3,760
1958	1563	28	May 23, 1958	-	6.25	4,530	6.09	4,410
1959	1633	9.9	Apr. 9, 1959	-	3.21	2,330	2.80	2,030
1960	1713	5.8	Sept. 3, 1960	-	2.62	1,900	-	-

a May 16, Sept. 25, 1955.

2880. Currant Creek near Fruitland, Utah

Location.--Lat 40°12', long 110°54', in SE $\frac{1}{4}$ sec.21, T.3 S., R.9 W., Uinta meridian, on right bank 10 ft downstream from bridge on U. S. Highway 40, 300 ft downstream from Deep Creek and $3\frac{1}{2}$ miles southwest of Fruitland.

Drainage area.--142 sq mi.

Records available.--October 1934 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 6,670 ft (by barometer). Prior to Sept. 11, 1938, staff gage and Sept. 11, 1938, to Aug. 19, 1948, water-stage recorder, at site 200 ft upstream at different datum. Aug. 20, 1948, to Aug. 30, 1951, water-stage recorder at site 200 ft downstream at datum 1.59 ft lower. Aug. 31, 1951, to Aug. 5, 1952, water-stage recorder at site 300 ft downstream at different datum.

Average discharge.--26 years (1934-60), 47.4 cfs (34,320 acre-ft per year).

Extremes.--1934-60: Maximum discharge, 1,260 cfs May 4, 1952 (gage height, 2.72 ft, site and datum then in use); minimum recorded, 4 cfs Mar. 12, 1941.

Remarks.--Currant Creek feeder canal, constructed by Bureau of Reclamation in 1936, diverts water from headwaters of Currant Creek to Strawberry Reservoir, from which it is diverted through Strawberry tunnel to The Great Basin for irrigation in Strawberry Valley project.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	34.4	36.0	34.1	35.3	39.6	37.0	71.1	151	78.3	36.6	30.4	24.9	50.8
1952	29.3	28.9	30.4	29.4	31.9	31.1	179	600	253	98.5	75.6	57.3	121
1953	50.0	45.7	42.5	42.7	40.6	44.5	59.4	90.9	85.3	37.9	32.4	24.3	49.7
1954	28.8	31.6	28.8	28.9	30.3	33.9	73.7	71.8	35.5	23.5	18.9	19.7	35.4
1955	21.8	26.1	24.3	25.8	25.4	30.2	47.9	128	56.2	24.5	20.4	16.2	37.4
1956	18.3	22.1	29.0	25.8	24.6	33.0	84.8	156	62.8	27.4	19.4	17.8	43.5
1957	21.0	22.8	23.5	23.7	25.4	28.8	42.6	130	129	36.6	26.7	22.5	44.4
1958	27.7	28.2	30.1	26.8	29.1	27.9	60.0	231	87.3	32.7	21.8	20.3	52.1
1959	23.5	25.4	22.3	23.3	25.3	25.6	42.4	51.6	25.2	14.5	11.6	15.1	25.3
1960	18.7	18.8	14.6	17.1	17.7	26.6	49.9	64.7	27.4	14.2	7.86	11.9	24.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,120	2,140	2,100	2,170	2,200	2,280	4,230	9,260	4,660	2,250	1,870	1,480	36,760
1952	1,800	1,720	1,870	1,800	1,830	1,910	10,640	36,870	15,050	6,050	4,530	3,410	87,480
1953	3,080	2,720	2,610	2,630	2,260	2,740	3,530	5,590	5,070	2,330	1,990	1,450	36,000
1954	1,770	1,880	1,770	1,780	1,680	2,080	4,380	4,420	2,110	1,450	1,160	1,170	25,660
1955	1,340	1,550	1,490	1,590	1,410	1,860	2,850	7,890	3,340	1,510	1,250	964	27,040
1956	1,130	1,310	1,780	1,590	1,420	2,030	5,040	9,570	3,740	1,680	1,190	1,060	31,540
1957	1,290	1,360	1,440	1,460	1,410	1,770	2,530	7,990	7,680	2,250	1,640	1,340	32,160
1958	1,700	1,680	1,850	1,650	1,620	1,720	3,570	14,210	5,190	2,010	1,340	1,210	37,750
1959	1,440	1,390	1,370	1,430	1,400	1,570	2,520	3,170	1,500	892	712	897	18,290
1960	1,150	1,120	900	1,050	1,020	1,640	2,970	3,980	1,630	871	483	706	17,520

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	73.7	53,330
1951	1213	304	May 21, 1951	24	50.8	36,760	49.4	35,790	49.4	35,790
1952	1243	1,260	May 4, 1952	22	121	87,480	125	90,500	125	90,500
1953	1283	242	Aug. 9, 1953	23	49.7	36,000	45.6	33,000	45.6	33,000
1954	1343	128	Apr. 25, 1954	16	35.4	25,660	34.0	24,610	34.0	24,610
1955	1393	250	May 7, 1955	13	37.4	27,040	37.1	26,880	37.1	26,880
1956	1443	267	May 8, 1956	13	43.5	31,540	43.4	31,410	43.4	31,410
1957	1513	264	June 3, 1957	15	44.4	32,160	45.9	33,300	45.9	33,300
1958	1563	354	May 12, 1958	15	52.1	37,750	50.7	36,720	50.7	36,720
1959	1633	87	May 13, 1959	9.5	25.3	18,290	23.9	17,260	23.9	17,260
1960	1713	164	May 11, 1960	5.5	24.1	17,520	-	-	-	-

2885. Strawberry River at Duchesne, Utah

Location.--Lat 40°09'40", long 110°24'40", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.2, T.4 S., R.5 W., Uinta meridian, on right bank three-quarters of a mile west of Duchesne and $1\frac{1}{2}$ miles upstream from mouth.

Drainage area.--1,040 sq mi, approximately (includes approximately 170 sq mi tributary to Strawberry Reservoir).

Records available.--June 1908 to November 1910 (no winter records), March 1914 to September 1960. Published as "at Theodore" 1908-10.

Gage.--Water-stage recorder. Altitude of gage is 5,510 ft (by barometer). Prior to Oct. 26, 1948, chain or staff gages near present site at various datums. Oct. 26, 1948, to Aug. 12, 1952, water-stage recorder at site 60 ft upstream at datum 1.99 ft higher. Aug. 13, 1952 to Aug. 2, 1960, at datum 0.70 ft higher.

Average discharge.--46 years (1914-60), 154 cfs (111,500 acre-ft per year).

Extremes.--1908-10, 1914-60: Maximum discharge, 3,490 cfs May 7, 1952 (gage height, 5.34 ft, datum then in use); minimum observed, 1 cfs for several days in July 1931.

Remarks.--Several diversions above station for irrigation, including transmountain diversions to The Great Basin through Strawberry tunnel, Hobbie Creek ditch, and Strawberry River and Willow Creek ditches (see elsewhere in this report).

Correction.--In WSP 1313, the runoff for 1932 is listed in error; it should be 93,300 acre-ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	90.8	97.7	91.0	84.0	91.7	91.6	172	415	246	111	124	63.4	140
1952	84.0	81.6	78.5	80	85	97.6	565	2,155	827	305	264	200	403
1953	163	132	110	100	95	114	140	181	199	94.8	97.7	61.1	124
1954	77.4	86.1	79.7	75	84.9	93.2	146	150	77.1	61.9	55.2	82.9	69.2
1955	72.6	72.8	63.0	58	55	62.6	138	313	131	65.0	104	56.7	99.7
1956	52.0	59.6	77.0	76.4	91.4	124	198	425	179	81.1	56.7	39.2	122
1957	62.5	71.5	84.4	85.0	84.6	90.0	104	429	454	140	105	77.1	149
1958	82.7	102	104	87.9	100	103	182	740	256	89.5	60.0	77.5	166
1959	61.2	65.4	61.9	52.6	60.9	74.0	81.1	78.4	41.5	29.3	31.9	31.2	55.7
1960	52.9	51.0	44.2	44.2	45	62.6	89.6	136	49.9	19.8	12.1	21.3	52.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5,580	5,810	5,600	5,170	5,090	5,640	10,230	25,550	14,640	6,810	7,630	3,770	101,500
1952	5,160	4,860	4,850	4,920	4,890	6,000	33,640	32,500	49,180	16,730	16,210	11,900	292,800
1953	10,010	7,860	6,760	6,150	5,280	7,030	8,360	11,120	11,860	5,830	6,010	3,640	89,910
1954	4,760	5,120	4,900	4,610	4,710	5,730	8,820	9,220	4,590	3,810	3,390	4,930	64,590
1955	4,460	4,330	3,880	3,570	3,050	3,850	8,230	19,260	7,800	4,000	6,390	3,370	72,190
1956	3,200	3,550	4,740	4,700	5,260	7,610	11,780	26,150	10,670	4,990	3,490	2,330	88,470
1957	3,840	4,250	5,190	5,230	4,700	5,540	6,220	26,360	27,020	8,640	6,440	4,650	108,100
1958	5,090	6,050	6,370	5,400	5,570	6,300	10,830	45,470	15,210	5,500	3,690	4,610	120,100
1959	3,760	3,890	3,810	3,230	3,380	4,560	4,820	4,920	2,470	1,600	1,960	1,860	40,350
1960	3,250	3,040	2,720	2,720	2,590	3,850	5,330	8,360	2,970	1,220	745	1,270	38,060

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	181	130,800	
1951	1213	840	July 21, 1951	-	140	101,500	137	99,580	
1952	1243	3,490	May 7, 1952	-	403	292,800	417	302,600	
1953	1283	626	July 31, 1953	58	124	89,910	111	80,060	
1954	1343	1,000	Sept. 26, 1954	30	89.2	64,590	86.3	62,480	
1955	1393	534	May 12, 1955	40	99.7	72,190	98.1	71,010	
1956	1443	607	May 10, 1956	31	122	88,470	124	90,260	
1957	1513	754	June 4, 1957	48	149	108,100	155	112,300	
1958	1563	997	May 23, 1958	46	166	120,100	158	114,000	
1959	1633	1,070	Aug. 20, 1959	13	55.7	40,350	52.4	37,900	
1960	1713	260	May 14, 1960	6.6	52.4	38,060	-	-	

2895. Lake Fork above Moon Lake, near Mountain Home, Utah

Location.--Lat 40°36'00", long 110°31'00", in NW $\frac{1}{4}$ sec.1, T.2 N., R.6 W., Uinta meridian, on right bank 2,000 ft upstream from head of Moon Lake at maximum stage, 2 miles upstream from Brown Duck Creek, and 16 miles northeast of Mountain Home.

Drainage area.--78 sq mi, approximately.

Records available.--April 1933 to September 1934 (published as West Fork of Lake Fork above Moon Lake, near Mountain Home), July 1942 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 8,180 ft (by barometer). April 1933 to September 1934, at site $2\frac{1}{2}$ miles upstream at different datum. July 13, 1942, to July 26, 1949, at datum 1 ft higher.

Average discharge.--13 years (1942-55), 107 cfs (77,460 acre-ft per year).

Extremes.--1933-34, 1942-55: Maximum discharge, 2,700 cfs June 26, 1944 (gage height, 4.27 ft, datum then in use), from rating curve extended above 700 cfs; minimum daily recorded, 13 cfs Apr. 14, 1933.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	37.6	32.4	27.4	25.5	24	23	36	226	526	195	103	52.1	109
1952	46.9	34.1	29.9	25	25	22	50.5	358	727	269	139	77.3	150
1953	46.8	27.4	22.2	20.1	17	16.9	23.8	57.5	529	164	89.1	40.4	87.8
1954	34.1	32.6	28.7	26	25	26	49.3	309	153	92.0	49.5	43.2	72.8
1955	35.8	28.6	24.5	23	20	20	24.7	221	315	90.2	67.8	43.8	76.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,310	1,930	1,690	1,570	1,330	1,410	2,140	13,920	31,300	12,000	6,310	3,100	79,010
1952	2,880	2,030	1,840	1,540	1,440	1,350	3,000	22,000	43,240	16,540	8,540	4,600	109,000
1953	2,880	1,630	1,360	1,240	944	1,040	1,420	3,530	31,500	10,110	5,480	2,400	63,530
1954	2,100	1,940	1,760	1,600	1,390	1,600	2,940	19,020	9,100	5,650	3,050	2,570	52,720
1955	2,200	1,700	1,510	1,410	1,110	1,230	1,470	13,580	18,770	5,540	4,170	2,610	55,300

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	120	87,070
1951	1213	1,550	June 16, 1951	-	109	79,010	110	79,380
1952	1243	1,600	June 6, 1952	-	150	109,000	149	108,100
1953	1283	2,360	June 13, 1953	-	87.8	63,530	87.6	63,460
1954	1343	892	May 19, 1954	-	72.8	52,720	72.3	52,330
1955	1393	1,290	June 8, 1955	-	76.4	55,300	-	-

2900. Brown Duck Creek near Mountain Home, Utah

Location.--Lat 40°34'130", long 110°31'00", in NE $\frac{1}{4}$ sec.13, T.2 N., R.6 W., Uinta meridian, on right bank a quarter of a mile upstream from mouth, $1\frac{1}{2}$ miles northwest of Moon Lake Dam, and 12 miles northwest of Mountain Home.

Drainage area.--15 sq mi, approximately.

Records available.--April 1933 to September 1934, October 1942 to September 1955.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 8,200 ft (by barometer). Prior to October 1942, at different datum.

Average discharge.--14 years (1933-34, 1942-55), 9.43 cfs (6,830 acre-ft per year).

Extremes.--1933-34, 1942-55: Maximum discharge recorded, 148 cfs June 4, 1952 (gage height, 2.75 ft), from rating curve extended above 80 cfs; minimum recorded, 0.9 cfs Oct. 29, 1942.

Remarks.--Flow regulated by Brown Duck Lake (usable contents, 3,720 acre-ft). Since July 1946, about 0.7 cfs diverted above station for power purposes.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.94	2.49	2.5	2.5	2.0	2.0	3.0	26.4	31.3	29.3	28.4	6.68	11.7
1952	3.63	3.5	3.0	2.5	2.5	2.0	8.0	52.0	49.2	21.9	38.5	11.9	16.7
1953	4.79	4.25	3.40	3.0	2.5	2.5	3.85	8.20	26.3	18.9	7.24	3.50	7.39
1954	2.85	2.5	2.5	2.0	2.0	2.0	4.94	21.9	14.0	32.2	8.59	3.80	8.34
1955	1.88	1.6	1.5	1.4	1.2	1.3	1.53	14.9	14.5	25.0	11.3	2.73	6.63

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	181	148	154	154	111	123	179	1,620	1,860	1,800	1,750	397	8,480
1952	223	208	184	154	144	123	476	3,200	2,930	1,350	2,370	708	12,070
1953	295	253	209	184	139	154	228	504	1,570	1,160	445	208	5,350
1954	175	149	154	123	111	123	294	1,340	834	1,980	528	226	6,040
1955	116	95	92	86	67	80	91	915	860	1,540	697	163	4,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	11.2	8,110
1951	1213	140	May 27, 1951	-	11.7	8,480	11.9	8,610
1952	1243	148	June 4, 1952	-	16.7	12,070	16.8	12,210
1953	1283	-	-	-	7.39	5,350	7.00	5,070
1954	1343	43	July 10, 1954	-	8.34	6,040	8.10	5,860
1955	1393	46	Aug. 6, 1955	-	6.63	4,800	-	-

GREEN RIVER BASIN

2905. Moon Lake Reservoir near Mountain Home, Utah

Location.--Lat 40°33'40", long 110°29'30", in NE $\frac{1}{4}$ sec.19, T.2 N., R.5 W., Uinta meridian, at dam on Lake Fork, $1\frac{1}{2}$ miles downstream from Brown Duck Creek, 11 miles upstream from Yellowstone Creek, and $12\frac{1}{2}$ miles northwest of Mountain Home.

Drainage area.--108 sq mi.

Records available.--December 1937 to September 1960.

Gage.--Mercury-indicating gage. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

Extremes.--1937-60: Maximum contents observed, 37,560 acre-ft July 10, 11, 1950 (elevation, 8,139.30 ft); minimum observed, 226 acre-ft Sept. 30, 1946.

Remarks.--Reservoir formed by earthfill, rock-faced dam with concrete core. Storage began Dec. 9, 1937. Capacity, 35,760 acre-ft between elevations 8,072.00 (crest of original outlet of lake, about 2,000 ft upstream from dam) and 8,137.00 ft (top of spillway gates). Elevation of spillway crest is 8,121.00 ft and elevation of sill of outlet works is 8,064.16 ft. Dead storage between sill of outlet and crest of original outlet of lake, 2,050 acre-ft. Dead storage below sill of outlet, 11,690 acre-ft. Total dead storage, 13,740 acre-ft. Figures given herein represent usable contents. Water is used for irrigation on lands under Moon Lake Water Users Association and Uintah Indian irrigation projects.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	11,520	13,710	15,740	17,380	18,930	20,470	15,650	14,270	36,500	27,180	21,690	12,600
1952	12,660	15,100	17,300	19,200	20,900	22,500	26,550	25,170	35,760	30,680	25,580	18,900
1953	12,170	14,220	15,710	17,610	19,300	21,080	22,350	11,660	35,760	21,630	7,710	3,420
1954	4,490	6,700	8,560	10,330	11,870	13,440	13,910	19,150	10,340	4,200	557	2,500
1955	3,910	5,810	7,710	9,340	10,520	11,840	13,490	13,960	23,400	8,940	4,260	2,030
1956	2,330	4,090	6,210	8,120	9,640	11,290	12,030	22,480	35,380	18,220	4,780	1,670
1957	1,830	3,430	5,140	6,770	8,450	9,580	9,420	1,480	35,760	32,900	21,600	17,610
1958	17,250	19,880	21,710	23,550	26,010	28,030	29,180	31,890	35,760	18,680	7,430	4,530
1959	3,600	4,200	6,290	7,780	9,090	10,570	8,490	2,500	18,930	7,780	2,140	2,580
1960	4,040	5,940	7,780	9,440	11,010	12,460	14,270	16,210	22,180	6,650	1,300	3,080

a No record of elevation; contents interpolated.

2910. Lake Fork below Moon Lake, near Mountain Home, Utah

Location.--Lat 40°33'30", long 110°29'20", in E¹/₂ sec.19, T.2 N., R.5 W., Uinta meridian, on right bank 2,000 ft downstream from Moon Lake Dam, 2 miles downstream from Brown Duck Creek, and 12 miles northwest of Mountain Home.

Drainage area.--110 sq mi, approximately.

Records available.--September 1921 to September 1934 (fragmentary), April 1942 to September 1960. Published as West Fork of Lake Fork near Mountain Home 1921-34.

Gage.--Water-stage recorder. Altitude of gage is 7,970 ft (by barometer). Prior to April 1942, at damsite 2,000 ft upstream at different datum.

Average discharge.--18 years (1942-60), 123 cfs (89,050 acre-ft per year).

Extremes.--1921-34, 1942-60: Maximum discharge recorded, 2,180 cfs June 19, 1949, from rating curve extended above 860 cfs; maximum gage height, 5.46 ft June 26, 1944; no flow at times when reservoir gates were closed.

Remarks.--Flow regulated by Moon Lake Reservoir (see elsewhere in this report). No diversion above station.

Correction.--In WSP 1313, the runoff in acre-feet for water year 1949 is listed in error; it should be 97,640 acre-ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	33.5	0	0	0	0	0	121	293	208	371	220	190	121
1952	44.9	0	0	0	0	0	5.63	536	662	382	280	224	178
1953	177	6.37	0	0	0	0	17.5	244	181	413	321	122	125
1954	18.4	0	0	0	0	0	47.9	265	310	221	116	19.0	83.7
1955	16.5	0	0	0	0	0	1.40	276	208	352	173	99.5	94.8
1956	39.0	3.43	0	0	0	0	41.1	247	355	437	311	113	129
1957	28.0	0	0	0	0	0	22.4	207	201	349	289	146	105
1958	60.0	0	0	0	0	0	14.1	447	402	392	260	114	142
1959	51.9	12.0	0	0	0	0	72.1	232	202	333	184	55.8	96.1
1960	42.8	11.7	0	0	0	0	26.9	239	268	366	137	15.7	92.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,060	0	0	0	0	0	7,180	18,010	12,390	22,810	13,530	11,300	87,280
1952	2,760	0	0	0	0	0	335	32,980	39,380	23,180	17,210	13,330	129,200
1953	10,860	379	0	0	0	0	1,040	15,020	10,790	25,390	19,710	7,260	90,450
1954	1,130	0	0	0	0	0	2,850	16,290	18,450	13,590	7,140	1,130	60,580
1955	1,010	0	0	0	0	0	83	16,960	12,370	21,630	10,630	5,920	68,600
1956	2,400	204	0	0	0	0	2,450	15,170	21,100	26,880	19,120	6,700	94,020
1957	1,720	0	0	0	0	0	1,340	12,750	11,990	21,440	17,760	8,660	75,660
1958	3,690	0	0	0	0	0	839	27,460	23,920	24,150	16,000	6,790	102,800
1959	3,190	712	0	0	0	0	4,290	14,250	12,040	20,480	11,290	3,320	69,570
1960	2,630	696	0	0	0	0	1,600	14,670	15,930	22,480	8,430	932	67,370

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	141	-	102,100
1951	1213	642	June 30, 1951	0	121	87,280	122	-	87,980
1952	1243	1,520	June 10, 1952	0	178	129,200	190	-	137,700
1953	1283	701	July 2, 1953	0	125	90,450	111	-	80,340
1954	1343	392	June 12, 1954	0	83.7	60,580	83.5	-	60,460
1955	1393	436	July 4, 1955	0	94.8	68,600	96.9	-	70,200
1956	1443	917	June 12, 1956	0	129	94,020	128	-	93,140
1957	1513	853	July 2, 1957	0	105	75,660	107	-	77,630
1958	1563	1,250	June 16, 1958	0	142	102,800	142	-	103,100
1959	1633	420	July 20, 1959	0	96.1	69,570	95.3	-	69,000
1960	1713	470	June 29, 1960	0	92.8	67,370	-	-	-

2915. Yellowstone Creek below Swift Creek, near Altonah, Utah

Location.--Lat 40°35'50", long, 110°20'50", in SE $\frac{1}{4}$ sec.4, T.2 N., R.4 W., Uinta meridian, on left bank a quarter of a mile downstream from Swift Creek and 13 $\frac{1}{2}$ miles north of Altonah.

Drainage area.--99 sq mi, approximately.

Records available.--August 1949 to September 1955.

*Gage.--Water-stage recorder. Altitude of gage is 7,990 ft (from river-profile map).

Average discharge.--6 years (1949-55), 120 cfs (86,880 acre-ft per year).

Extremes.--1949-55: Maximum discharge, 1,400 cfs June 6, 1952; maximum gage height, 5.38 ft June 13, 1953; minimum discharge recorded, 27 cfs Apr. 28, 1955, but may have been less during other periods of ice effect.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	81.9	51.6	46.5	44.6	45	46	44.0	178	390	178	162	89.4	112
1952	75.5	60.1	52.1	50	50	45	81.0	359	713	340	215	155	183
1953	91.6	60.2	50.3	45	40.0	40	46.5	64	408	162	124	95.3	102
1954	53.5	48.5	39.6	33.1	31.4	30.7	49.1	279	158	121	110	73.3	86.1
1955	60.7	48.2	41.1	35	30	30	36.1	224	305	118	140	95.7	97.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,810	3,070	2,860	2,750	2,500	2,830	2,620	10,970	23,220	10,960	9,970	5,320	80,880
1952	4,650	3,570	3,200	3,070	2,880	2,770	4,820	22,070	42,420	20,900	13,210	9,220	132,800
1953	5,640	3,580	3,090	2,770	2,220	2,460	2,770	3,940	24,250	9,990	4,640	5,670	74,020
1954	3,290	2,890	2,450	2,040	1,750	1,890	2,920	17,160	9,380	7,430	6,780	4,360	62,340
1955	3,730	2,870	2,520	2,150	1,670	1,840	2,150	13,790	18,180	7,240	8,600	5,700	70,440

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	133	96,150
1951	1213	1,130	June 16, 1951	-	112	80,880	114	82,560
1952	1243	1,400	June 6, 1952	-	183	132,800	184	133,700
1953	1283	1,310	June 13, 1953	-	102	74,020	97.1	70,340
1954	1343	630	May 22, 1954	-	86.1	62,340	86.8	62,830
1955	1393	939	June 8, 1955	-	97.3	70,440	-	-

2925. Yellowstone Creek near Altonah, Utah

Location.--Lat 40°31'00", long 110°20'30", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.4, T.1 N., R.4 W., Uinta meridian, 1 $\frac{1}{4}$ miles downstream from powerplant of Moon Lake Electric Association, Inc., 2 miles downstream from Hell Canyon, 5 miles upstream from mouth, and 8 $\frac{1}{4}$ miles northwest of Altonah.

Drainage area.--131 sq mi.

Records available.--October 1944 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,430 ft (from river-profile map).

Average discharge.--16 years, (1944-60), 131 cfs (94,840 acre-ft per year).

Extremes.--1944-60: Maximum discharge, 1,880 cfs June 19, 1949 (gage height, 4.55 ft); minimum observed, 26 cfs Feb. 24, 1960 (discharge measurement), result of freezeup.

Remarks.--Some diurnal fluctuation caused by powerplant 1 $\frac{1}{4}$ miles upstream.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	71.6	59.6	56.9	52.0	51.2	52.3	50.1	212	457	197	186	99.9	129
1952	85.6	70.0	65	55	55	50	93.9	443	751	372	250	177	206
1953	107	78.6	67.6	60	52.4	50.6	55.7	72.2	431	173	136	101	115
1954	71.2	64.5	56.7	49.7	45.2	45.5	65.0	306	161	124	126	86.7	101
1955	70.3	59.2	51.6	45	40	40	49.9	234	337	122	142	99.1	108
1956	72.5	60.0	54.5	50.9	45	45.6	64.2	351	499	149	101	77.3	131
1957	63.8	58.6	54.5	50.0	45.0	44.2	45.9	84.5	616	312	175	154	142
1958	102	84.6	65.4	51.6	50.0	48.0	58.3	381	480	148	104	118	141
1959	91.6	58.2	49.2	45	45	42.1	50.1	111	374	141	139	91.9	103
1960	84.9	65.7	50.9	45.4	44.7	48.2	64.0	222	294	116	84.4	77.0	99.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,400	3,550	3,500	3,200	2,840	3,220	2,980	13,040	27,170	12,140	11,410	5,940	93,390
1952	5,270	4,170	4,000	3,580	3,160	3,070	5,590	27,270	44,680	22,780	15,360	10,530	149,300
1953	6,610	4,680	4,160	3,690	2,910	3,120	3,510	4,440	25,630	10,640	8,350	6,020	85,560
1954	4,380	3,840	3,490	3,060	2,510	2,800	3,870	18,950	9,580	7,610	7,750	5,160	73,000
1955	4,320	3,520	3,190	2,770	2,220	2,460	2,970	14,390	20,040	7,520	8,740	5,900	78,040
1956	4,460	3,570	3,350	3,130	2,590	2,820	3,820	21,590	29,670	9,140	6,200	4,600	94,940
1957	3,920	3,490	3,350	3,070	2,500	2,720	2,750	5,220	36,650	19,210	10,780	9,160	102,800
1958	6,260	5,050	4,020	3,170	2,780	2,950	3,470	23,410	28,590	9,100	6,380	7,020	102,200
1959	5,630	3,460	3,050	2,770	2,500	2,590	2,980	6,830	22,250	8,560	5,470	7,740	74,740
1960	5,220	3,910	3,130	2,800	2,570	2,970	3,810	13,660	17,490	7,150	5,190	4,580	72,480

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	148	-	107,400
1951	1213	1,110	June 16, 1951	-	129	93,390	132	-	95,380
1952	1243	1,440	June 6, 1952	-	206	149,300	208	-	151,300
1953	1283	1,360	June 13, 1953	-	115	83,560	110	-	79,820
1954	1343	652	May 22, 1954	-	101	73,000	99.9	-	72,320
1955	1393	799	June 8, 1955	-	108	78,040	108	-	78,390
1956	1443	1,170	June 1, 1956	-	131	94,940	130	-	94,310
1957	1513	1,240	June 6, 1957	-	142	102,800	148	-	107,400
1958	1563	1,140	June 7, 1958	-	141	102,200	137	-	98,990
1959	1633	658	June 8, 1959	-	105	74,740	105	-	74,880
1960	1713	664	June 2, 1960	-	99.8	72,480	-	-	-

2940. Lake Fork near Upalco, Utah

Location.--Lat 40°15'30", long 110°13'10", in NE¹/₄NE¹/₄ sec.4, T.3 S., R.3 W., Uinta meridian, on right bank a quarter of a mile upstream from bridge on State Highway 86, 1½ miles south of Upalco, 9 miles northwest of Myton, and 10 miles upstream from mouth.

Drainage area.--418 sq mi.

Records available.--October 1942 to September 1955. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 5,480 ft (from topographic map).

Average discharge.--13 years (1942-55), 58.7 cfs (42,500 acre-ft per year).

Extremes.--1942-55: Maximum discharge, 4,520 cfs June 26, 1944 (gage height, 6.05 ft), from rating curve extended above 1,400 cfs; no flow for several days in July and August 1955.

Remarks.--Many diversions above and below station for irrigation. Flow partly regulated by Moon Lake reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.28	35.3	69.2	60	64.1	40.8	0.86	27.1	44.1	4.67	6.82	0.98	29.3
1952	10.4	50.2	80	80	80	80	113	381	889	122	31.9	3.5	159
1953	6.86	35.2	95	95	80	68.5	1.77	2.57	61.2	5.17	1.75	.38	37.6
1954	.45	23.3	62.6	58.6	52.1	13.5	1.85	4.10	1.35	.22	.28	1.17	18.1
1955	3.55	8.75	30.3	55	55	75.0	34.6	4.07	7.91	.03	3.56	.4	23.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	17	2,100	4,260	3,690	3,560	2,510	51	1,670	2,620	287	420	58	21,240
1952	638	2,990	4,920	4,920	4,600	4,920	6,730	23,430	52,910	7,520	1,960	209	115,750
1953	422	2,090	5,840	5,840	4,440	4,210	106	158	3,640	318	108	23	27,200
1954	28	1,390	3,850	3,610	2,890	850	51	252	81	13	17	69	13,080
1955	218	521	1,380	3,380	3,050	4,610	2,060	250	471	2.0	219	24	16,660

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	52.8	38,200
1951	1213	605	June 21, 1951	0.2	29.3	21,240	32.3	23,410
1952	1243	2,260	June 10, 1952	.4	159	115,750	159	115,600
1953	1283	1,100	June 14, 1953	.1	37.6	27,200	33.3	24,110
1954	1343	-	-	.1	18.1	13,080	14.4	10,410
1955	1393	420	Aug. 17, 1955	0	23.0	16,660	-	-

2950. Duchesne River at Myton, Utah

Location.--Lat 40°12'00", long 110°03'40", in SW¹/₄SW¹/₄ sec.24, T.3 S., R.2 W., Uinta meridian, on left bank at Myton, 3 miles downstream from Lake Fork.

Drainage area.--2,750 sq mi, approximately.

Records available.--October 1899 to December 1902, April to December 1903, March to December 1904, March to July and September to November 1905, April to July 1906, April to December 1907, March to December 1908, April to December 1909, March to November 1910, July 1911 to September 1960. Published as "at Price road bridge" 1899-1902.

Gage.--Water-stage recorder. Datum of gage is 5,061.40 ft above mean sea level, datum of 1929. Prior to Oct. 14, 1933, staff or chain gages at several sites within half a mile of present site at various datums.

Average discharge.--52 years (1899-1902, 1911-60), 563 cfs (407,600 acre-ft per year).

Extremes.--1899-1960: Maximum discharge observed, 12,800 cfs June 10, 1922 (gage height, 7.94 ft, site and datum then in use), from rating curve extended above 8,000 cfs; minimum, less than 1 cfs July 16, 1931, and for several days in August and September 1934.

Remarks.--Flow regulated by several reservoirs. Large diversions above station for irrigation, including transmountain diversions to The Great Basin through Duchesne and Strawberry tunnels, Hobbie Creek ditch, and Strawberry River and Willow Creek ditches (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	170	330	390	290	341	284	191	1,102	1,922	452	265	56	462
1952	207	349	348	280	290	300	1,293	4,185	4,154	955	492	328	1,098
1953	187	314	430	440	390	368	166	182	1,707	176	127	24.2	376
1954	71.9	255	334	320	340	282	185	513	54.7	23.5	19.9	64.3	205
1955	165	209	229	252	250	368	279	671	508	30.5	84.1	28.0	256
1956	26.0	152	355	335	295	314	249	1,089	1,271	49.9	20.9	13.1	347
1957	42.6	219	257	280	271	244	116	521	2,262	485	128	105	409
1958	142	416	344	329	381	327	341	1,769	1,274	40.0	11.5	26.8	450
1959	22.8	170	278	271	300	212	55.2	593	540	62.5	43.0	29.0	169
1960	114	161	262	252	250	332	105	257	316	15.0	5.15	7.49	173

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	10,440	19,610	24,000	17,850	18,930	17,470	11,350	67,780	114,400	27,780	16,290	3,350	349,200
1952	12,720	20,790	21,380	17,220	16,680	18,450	76,950	257,300	247,200	58,740	30,250	19,530	797,200
1953	11,510	18,670	26,440	27,050	21,660	23,850	9,890	11,210	101,600	10,840	7,600	1,440	272,000
1954	4,420	15,170	20,550	19,680	18,870	17,360	11,020	31,570	3,250	1,440	1,160	5,820	148,300
1955	10,130	12,410	14,100	15,520	13,980	22,620	16,580	41,270	30,220	1,880	5,170	1,670	185,400
1956	1,600	9,060	21,810	20,600	16,990	19,280	14,840	66,950	75,610	3,070	1,290	780	251,900
1957	2,620	13,040	15,790	17,220	15,070	14,980	6,870	32,010	134,600	29,790	7,900	6,250	296,100
1958	8,720	24,760	21,150	20,220	21,170	20,120	20,300	108,800	75,840	2,460	708	1,720	326,000
1959	1,400	10,130	17,110	16,640	16,690	13,030	3,280	3,650	32,110	3,840	2,640	1,720	122,200
1960	7,020	9,600	16,100	15,470	14,380	20,440	6,220	15,780	18,800	922	317	445	125,500

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	601	434,900	
1951	1213	3,700	May 29, 1951	22	482	349,200	484	350,100	
1952	1243	6,530	June 8, 1952	33	1,098	797,200	1,101	798,900	
1953	1283	4,530	June 14, 1953	18	376	272,000	353	255,500	
1954	1343	1,130	May 20, 1954	8.7	205	148,300	200	144,800	
1955	1393	1,860	May 23, 1955	12	256	185,400	250	161,300	
1956	1443	3,230	June 2, 1956	7.6	347	251,900	346	250,900	
1957	1513	4,150	June 8, 1957	14	409	296,100	441	319,300	
1958	1563	4,630	May 30, 1958	7.4	450	326,000	414	300,000	
1959	1633	1,520	Aug. 20, 1959	6.2	169	122,200	175	126,300	
1960	1713	1,060	June 4, 1960	2.5	173	125,500	-	-	

2955. Uinta River below Gilbert Creek, near Neola, Utah

Location.--Lat 40°47'10", long 110°14'20", in W $\frac{1}{2}$ sec.33, T.5 N., R.3 W., Uinta meridian, on left bank 27 miles northwest of Neola.
Drainage area.--33 sq mi, approximately.
Records available.--August 1950 to September 1955.
Gage.--Water-stage recorder. Altitude of gage is 9,950 ft (from topographic map).
Average discharge.--5 years (1950-55), 39.8 cfs (28,810 acre-ft per year).
Extremes.--1950-55: Maximum discharge recorded, 971 cfs June 13, 1953 (gage height, 4.88 ft), from rating curve extended above 260 cfs on basis of slope-area measurements at gage heights 4.03 and 4.88 ft; minimum not determined.
Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	-	19.2	-
1951	10.0	8.00	7.0	6.0	6.0	6.0	6.50	95.5	150	73.6	67.7	23.5	38.5
1952	17.2	11.4	10	9	8	7.4	22.9	142	263	153	83.6	37.6	63.8
1953	17.9	10.4	10	9	8	8	10.1	30.1	220	75.3	44.1	17.4	38.2
1954	10.9	8.87	6.29	5.5	5.5	5	17.0	139	52.2	43.3	23.4	22.6	28.5
1955	16.3	10.4	9	8	8	7	8.0	74.5	117	39.4	37.6	22.5	29.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	-	1,140	-
1951	615	476	430	369	333	369	387	5,870	8,900	4,540	4,160	1,400	27,850
1952	1,060	678	615	553	460	454	1,360	8,720	15,680	9,390	5,140	2,240	46,350
1953	1,040	617	615	553	444	492	603	1,850	13,070	4,630	2,710	1,040	27,660
1954	668	528	387	358	305	307	1,010	8,530	3,110	2,680	1,440	1,350	20,630
1955	1,000	621	553	492	444	430	478	4,580	6,960	2,420	2,330	1,340	21,650

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	1213	-	-	-	-	-	-	-	-	-
1951	1213	561	May 27, 1951	-	38.5	27,850	39.6	28,680	-	-
1952	1243	-	-	-	63.8	46,350	63.7	46,270	-	-
1953	1283	971	June 13, 1953	-	38.2	27,660	37.3	26,980	-	-
1954	1393	a340	May 22, 1954	-	28.5	20,630	29.3	21,220	-	-
1955	1393	481	June 7, 1955	-	29.9	21,650	-	-	-	-

a Maximum daily.

2960. Uinta River above Clover Creek, near Neola, Utah

Location.--Lat 40°37'50", long 110°09'30", in NW $\frac{1}{4}$ sec.30, T.3 N., R.2 W., Uinta meridian, on left bank 2 miles upstream from Clover Creek and 15 miles northwest of Neola.
Drainage area.--132 sq mi.
Records available.--October 1945 to September 1955.
Gage.--Water-stage recorder. Altitude of gage is 7,750 ft (from river-profile map).
Prior to June 27, 1952, at different datum.
Average discharge.--10 years (1945-55), 142 cfs (102,800 acre-ft per year).
Extremes.--1945-55: Maximum discharge, 2,300 cfs June 18, 1949 (gage height, 5.10 ft, datum then in use); minimum recorded, 22 cfs Jan. 2, 1951.
Remarks.--Flow partly regulated by several small mountain lakes and reservoirs including Fox Lake, Crescent Lake, Atwood Lake, and Chain Lake (total capacity, about 3,600 acre-ft). No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	68.1	52.4	44.8	33.2	35	35.5	35	230	384	212	241	113	124
1952	83.4	62.1	47.1	41	40	36.1	73.7	487	808	368	291	195	211
1953	119	73.7	54.2	44.9	40.4	36.5	36.1	82.3	496	199	171	104	121
1954	67	53.6	43.4	33.9	36	32.5	62.6	316	179	194	119	112	105
1955	84.1	55.2	46.1	42.2	35	32.8	37.4	245	325	158	180	103	112

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,190	3,120	2,750	2,040	1,940	2,060	2,080	14,130	22,830	13,020	14,800	6,710	89,670
1952	5,130	3,700	2,900	2,520	2,300	2,340	4,390	29,950	48,080	22,630	17,890	11,600	153,400
1953	7,240	4,580	3,330	2,760	2,240	2,240	2,150	5,060	29,500	12,230	10,530	6,170	156,600
1954	4,120	3,200	2,670	2,090	2,000	2,000	3,720	19,430	10,660	11,940	7,320	6,690	87,830
1955	5,170	3,290	2,830	2,000	1,940	2,020	2,230	15,090	19,330	9,740	11,060	6,100	81,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	153	110,800
1951	1213	1,530	May 27, 1951	-	124	89,670	126	91,340	-	-
1952	1243	2,060	June 6, 1952	-	211	153,400	216	156,600	-	-
1953	1283	2,070	June 12, 1953	29	121	87,830	114	82,670	-	-
1954	1343	928	May 22, 1954	29	105	75,840	107	77,140	-	-
1955	1393	1,080	June 8, 1955	-	112	81,400	-	-	-	-

2965. Clover Creek near Neola, Utah

Location.--Lat 40°37'30", long 110°07'50", in SE $\frac{1}{4}$ sec.29, T. 3 N., R.2 W., Uinta meridian, on right bank three-quarters of a mile upstream from mouth and 14 miles northwest of Neola.

Drainage area.--9.5 sq mi, approximately.

Records available.--August 1950 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 7,900 ft (from topographic map).

Average discharge.-- 5 years (1950-55), 1.92 cfs (1,390 acre-ft per year).

Extremes.--1950-55: Maximum discharge, 120 cfs May 27, 1951 (gage height, 2.68 ft), from rating curve extended above 58 cfs; no flow at times.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	-	0	-
1951	0	0	0	0	0	0	0	11.4	7.30	0.51	1.71	.34	1.78
1952	0	0	0	0	0	0	.07	33.3	19.8	4.69	1.35	.12	4.97
1953	0	0	0	0	0	0	0	1.56	6.40	.08	.03	0	.67
1954	0	0	0	0	0	0	.30	11.3	.52	.02	0	0	1.02
1955	0	0	0	0	0	0	0	10.3	2.95	.13	.11	0	1.14

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	-	0	-
1951	0	0	0	0	0	0	0	698	434	31	105	20	1,290
1952	0	0	0	0	0	0	4.4	2,040	1,180	288	83	6.9	3,600
1953	0	0	0	0	0	0	0	96	381	5.0	1.8	0	484
1954	0	0	0	0	0	0	18	697	19	1.4	0	0	735
1955	0	0	0	0	0	0	0	633	175	7.7	6.9	0	823

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	1213	-	-	-	-	-	-	-
1951	1213	120	May 27, 1951	0	1.78	1,290	1.78	1,290
1952	1243	75	May 29, 1952	0	4.97	3,600	4.97	3,600
1953	1283	21	June 12, 1953	0	.67	484	.67	484
1954	1343	45	May 9, 1954	0	1.02	735	1.02	735
1955	1393	39	May 11, 1955	0	1.14	823	-	-

2970. Uinta River near Neola, Utah

Location.--Lat 40°32'10", long 110°04'00", in SW $\frac{1}{4}$ sec.25, T.2 N., R.2 W., Uinta meridian, on left bank 300 ft downstream from bridge, three-quarters of a mile upstream from Pole Creek, and 7 miles north of Neola.

Drainage area.--181 sq mi.

Records available.--July 1921 to September 1927 (no winter records 1922-25, 1927), September 1929 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,910 ft (from river-profile map). Prior to Aug. 4, 1951, water-stage recorder, staff or chain gages at several sites within 2,000 ft of present site at various datums. Aug. 4, 1951, to Aug. 11, 1952, water-stage recorder at present site at datum 1.14 ft higher.

Average discharge.--32 years (1925-26, 1929-60), 170 cfs (123,100 acre-ft per year).

Extremes.--1925-26, 1929-60: Maximum discharge, 3,320 cfs June 26, 1944 (gage height, 5.20 ft, site and datum then in use), from rating curve extended above 1,600 cfs; maximum gage height, 5.57 ft June 18, 1949, site and datum then in use; minimum discharge recorded, 24 cfs Mar. 31, Apr. 1, 1954.

Remarks.--Summer flow slightly regulated by storage in several small mountain lakes and reservoirs. Water diverted from Pole Creek and Uinta River and used at Uinta Power & Light Co. powerplant enters river about 1,000 ft above station. Uinta power canal diverts from river 6 miles above station. Enlargement of canal completed in August 1944. Flow through canal increased Oct. 12, 13, 1944, and held nearly constant thereafter. Power canal and Pole Creek diversion feed to common forebay. Water not used through powerplant wastes through spillway of forebay at penstock intake and enters river a short distance above station. Prior to Nov. 18, 1948, spill entered river half a mile below station. Considerable spill occurs at times when 1 of 2 power units is not operating.

Correction.--In WSP 1313, the runoff for December 1949 and January 1950 are listed in error; they should be 4,810 and 3,930 acre-ft, respectively.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	97.3	81.0	66.5	52.6	54.8	53.4	56.8	270	466	242	209	143	158
1952	106	79.9	69.0	58.1	56	56.9	119	575	871	422	368	243	252
1953	143	98.7	80.0	66.6	58.5	59.3	57.8	104	538	224	202	113	146
1954	84.9	75.8	60.8	53.0	57.9	51.7	94.1	386	223	217	134	132	131
1955	106	82.7	63.1	58.2	52.8	57.6	62.3	264	380	177	180	112	133
1956	77.6	60.2	54.9	56.4	55.4	58.6	74.7	465	484	211	152	95.7	154
1957	70.8	64.2	53.9	44.3	44.2	61.3	58.4	103	800	350	205	204	171
1958	161	110	79.9	60.6	63.1	65.3	84.8	628	568	179	165	157	194
1959	103	86.0	70.3	52.7	52.5	51.9	64.0	163	448	202	222	151	139
1960	129	91.6	70.4	58.1	56.7	63.7	96.6	286	375	194	125	104	138

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5,980	4,820	4,090	3,240	3,030	3,280	3,380	16,630	27,720	14,880	19,030	8,490	114,600
1952	6,540	4,760	4,240	3,570	3,220	3,500	7,070	35,370	51,800	25,950	22,600	14,490	183,100
1953	8,820	5,870	4,920	4,100	3,250	3,650	3,440	6,380	51,990	13,800	12,410	6,750	105,400
1954	5,220	4,510	3,740	3,260	3,220	3,180	5,600	23,700	13,260	13,580	8,210	7,880	95,140
1955	6,540	4,920	3,880	3,580	2,920	3,540	3,710	16,260	22,620	10,870	11,100	6,640	96,580
1956	4,770	3,580	3,380	3,470	3,190	3,600	4,440	28,620	28,770	12,990	9,330	5,690	111,800
1957	4,350	3,820	3,310	2,730	2,450	3,770	3,480	6,310	47,580	21,510	12,610	12,150	124,100
1958	9,920	6,550	4,920	3,730	3,500	4,010	5,050	38,630	33,800	11,000	10,140	9,330	140,600
1959	6,510	5,120	4,320	3,240	2,910	3,190	3,810	10,030	26,680	12,420	13,640	8,990	100,700
1960	7,910	5,450	4,330	3,570	3,260	3,920	5,750	17,580	22,300	11,960	7,690	6,170	99,890

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	186
1951	1213	1,470	May 27, 1951	-	158	114,600	159
1952	1243	2,110	June 7, 1952	-	252	183,100	258
1953	1263	2,200	June 13, 1953	46	146	105,400	137
1954	1343	856	May 22, 1954	46	131	95,140	134
1955	1393	886	June 9, 1955	-	133	96,580	128
1956	1443	1,270	June 2, 1956	46	154	111,800	154
1957	1513	2,020	June 8, 1957	-	171	124,100	185
1958	1563	1,940	May 28, 1958	-	194	140,600	186
1959	1633	1,100	June 7, 1959	-	139	100,700	142
1960	1713	1,070	May 13, 1960	-	138	99,890	-

2980. Farm Creek near Whiterocks, Utah

Location.--Lat 40°34'10", long 109°57'40", in SE $\frac{1}{4}$ sec.14, T.2 N., R.1 W., Uinta meridian, on right bank 0.7 mile upstream from Hominy Creek and 7 miles northwest of Whiterocks.

Drainage area.--22 sq mi, approximately.

Records available.--July 1949 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 7,040 ft (by barometer).

Average discharge.--11 years (1949-60), 5.80 cfs (4,200 acre-ft per year).

Extremes.--1949-60: Maximum discharge, 204 cfs May 25, 1951, from rating curve extended above 85 cfs; maximum gage height, 3.78 ft June 4, 1957; minimum discharge, 1.3 cfs Sept. 17, 1960, caused by temporary storage behind beaver dam upstream.

Remarks.--Small diversion above station for irrigation below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.32	4.43	4.31	4.20	3.91	3.76	3.81	20.6	11.9	4.59	3.32	3.21	6.05
1952	3.39	3.19	3.15	3.05	3.00	3.39	6.60	57.1	18.6	5.93	4.57	4.18	9.73
1953	4.01	3.49	3.45	3.57	3.24	3.05	3.24	6.54	8.18	3.82	3.40	3.03	4.09
1954	3.20	3.23	3.15	2.84	2.92	3.28	4.10	17.2	5.71	3.59	3.05	2.77	4.61
1955	2.97	2.94	2.98	2.91	2.7	2.84	3.44	14.8	6.25	3.48	3.12	2.99	4.30
1956	2.93	2.92	2.79	2.73	2.64	2.69	3.08	18.6	6.31	3.16	2.66	2.56	4.44
1957	2.91	2.79	2.66	2.60	2.66	2.79	3.04	4.40	30.4	5.65	3.79	3.60	5.58
1958	3.31	3.39	3.09	2.79	2.86	2.73	3.66	52.4	13.9	4.85	3.36	3.23	6.38
1959	3.36	3.30	3.15	2.81	2.76	2.78	3.10	5.23	3.96	2.98	3.07	2.87	3.28
1960	3.14	2.68	2.63	2.7	2.78	3.01	3.47	9.75	5.09	3.21	2.46	2.45	3.62

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	265	264	265	258	217	231	227	1,270	708	282	204	191	4,380
1952	208	190	193	188	173	209	393	3,510	1,110	364	281	249	7,070
1953	247	207	212	219	180	188	193	402	487	235	209	180	2,960
1954	197	192	194	174	162	202	244	1,060	340	221	188	165	3,340
1955	182	175	183	179	150	174	204	911	372	214	192	178	3,110
1956	180	174	171	168	152	165	183	1,150	375	195	164	152	3,230
1957	179	166	163	160	148	172	181	271	1,810	347	233	214	4,040
1958	204	202	190	172	159	168	229	3,220	826	298	207	192	6,070
1959	206	196	194	173	151	171	184	322	235	183	189	171	2,380
1960	193	159	162	166	160	185	206	600	303	197	151	146	2,630

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	9.90	7,170	
1951	1213	204	May 25, 1951	3.1	6.05	4,380	5.77	4,180	
1952	1243	125	May 14, 1952	-	9.73	7,070	9.83	7,140	
1953	1283	29	May 28, 1953	3.0	4.09	2,960	3.97	2,880	
1954	1343	71	May 9, 1954	2.6	4.61	3,340	4.55	3,300	
1955	1393	39	May 11, 1955	2.2	4.30	3,110	4.28	3,100	
1956	1443	53	May 17, 1956	2.4	4.44	3,230	4.42	3,210	
1957	1513	200	June 4, 1957	2.5	5.58	4,040	5.70	4,130	
1958	1563	183	May 26, 1958	2.6	6.38	6,070	8.38	6,070	
1959	1633	23	May 15, 1959	2.7	3.28	2,380	3.17	2,290	
1960	1713	(a)	May 10, 1960	-	3.62	2,630	-	-	

a Maximum discharge not determined.

2985. Whiterocks River above Paradise Creek, near Whiterocks, Utah

Location.--Lat 40°38'10", long 109°58'00", in SW $\frac{1}{4}$ sec.23, T.3 N., R.1 W., Uinta meridian, on right bank $2\frac{1}{2}$ miles upstream from Paradise Creek and 12 miles northwest of Whiterocks.
Drainage area.--90 sq mi, approximately.
Records available.--October 1945 to September 1955.
Gage.--Water-stage recorder. Altitude of gage is 7,800 ft (from river-profile map). Prior to Oct. 1, 1950, at datum 1.0 ft lower.
Average discharge.--10 years (1945-55), 98.3 cfs (71,170 acre-ft per year).
Extremes.--1945-55: Maximum discharge, 1,780 cfs June 18, 1949 (gage height, 3.42 ft, present datum), from rating curve extended above 820 cfs; minimum not determined.
Correction.--In WSP 1313, the runoff for May 1946 is listed in error; it should be 10,520 acre-ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	40.1	32.5	27	25	24	21.6	24.0	239	293	134	196	86.3	95.7
1952	58.3	38.7	31.5	29.3	27	27	58.4	436	549	221	196	106	148
1953	53.3	35.4	28.9	25.9	21.1	21	28.4	71.9	335	125	90.3	48.3	73.5
1954	38.6	32.4	22.6	19.7	20	20	49.0	283	116	104	63.0	65.6	69.9
1955	53.0	36.5	29.1	27.4	22	22	26.0	212	196	101	110	68.1	75.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,470	1,940	1,660	1,540	1,330	1,330	1,430	14,700	17,430	8,240	12,060	5,140	69,270
1952	3,580	2,300	1,940	1,800	1,550	1,660	3,470	26,820	32,670	13,610	12,030	6,320	107,800
1953	3,280	2,110	1,780	1,470	1,170	1,290	1,690	4,420	19,910	7,670	5,550	2,880	53,220
1954	2,370	1,930	1,390	1,210	1,110	1,230	2,910	17,370	6,910	6,370	3,870	3,910	50,580
1955	3,260	2,170	1,790	1,690	1,220	1,350	1,550	13,030	11,670	6,200	6,760	4,050	54,740

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	108	78,230	
1951	1213	1,600	May 27, 1951	-	95.7	69,270	98.1	71,020	
1952	1243	1,700	June 6, 1952	-	148	107,800	148	107,100	
1953	1283	1,240	June 12, 1953	-	-	53,220	71.5	51,740	
1954	1343	667	May 22, 1954	-	69.9	50,580	72.0	52,110	
1955	1393	588	May 13, 1955	-	75.6	54,740	-	-	

2990. Paradise Creek near Whiterocks, Utah

Location.--Lat 40°37'00", long 109°56'20", in NE $\frac{1}{4}$ sec.36, T.3 N., R.1 W., Uinta meridian, on right bank 1,000 ft upstream from mouth and 10 miles north of Whiterocks.
Drainage area.--10 sq mi, approximately.
Records available.--April 1946 to September 1955.
Gage.--Water-stage recorder. Altitude of gage is 7,500 ft (from river-profile map).
Average discharge.--9 years (1946-55), 7.03 cfs (5,090 acre-ft per year).
Extremes.--1946-55: Maximum discharge, 112 cfs May 16, 1948; maximum gage height, 2.56 ft May 8, 1947; no flow Aug. 17-20, 1946, Mar. 1 to Apr. 30, 1951, Apr. 1-24, 1954, Apr. 1 to May 5, 1955.
Remarks.--Flow regulated by Paradise Park Reservoir (capacity, 3,100 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.21	0.80	0.6	0.4	0.2	0	0	19.6	8.82	17.8	4.15	3.05	4.77
1952	1.66	.38	.3	.2	.1	.19	2.83	36.7	37.8	15.8	7.89	8.21	9.35
1953	6.84	.63	.6	.5	.4	.3	.40	18.8	13.6	20.2	14.6	5.35	6.93
1954	1.15	.43	.4	.3	.2	.1	.72	18.9	13.2	6.68	8.37	5.38	4.68
1955	3.67	.49	.4	.3	.2	.1	0	13.0	4.46	9.01	3.21	8.22	3.62

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	75	48	37	25	11	0	0	1,200	525	1,090	255	181	3,450
1952	102	23	18	12	5.8	12	169	2,260	2,250	972	485	498	6,800
1953	420	37	37	31	22	18	24	1,160	808	1,240	900	318	5,020
1954	70	25	25	18	11	6.1	43	1,160	782	411	515	320	3,390
1955	226	29	25	18	11	6.1	0	797	265	554	197	489	2,620

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	10.3	7,420	
1951	1213	87	May 25, 1951	0	4.77	3,450	4.75	3,430	
1952	1243	103	June 3, 1952	0	9.35	6,800	9.84	7,150	
1953	1283	89	May 28, 1953	0	6.93	5,020	6.41	4,640	
1954	1343	50	May 9, 1954	0	4.68	3,390	4.88	3,550	
1955	1393	38	May 13, 1955	0	3.62	2,620	-	-	

2995. Whiterocks River near Whiterocks, Utah

Location.--Lat 40°34'00", long 109°55'40", in SW $\frac{1}{4}$ sec.18, T.2 N., R.1 E., Uinta meridian, on left bank three-quarters of a mile upstream from heading of United States Whiterocks Canal and $6\frac{1}{2}$ miles north of Whiterocks.

Drainage area.--115 sq mi.

Records available.--September 1899 to December 1903, April to December 1907, March 1908 to November 1910, October 1913 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as Whiterocks River in Canyon 1899 and as Whiterocks Creek near Whiterocks 1918-25. November 1917 to June 1921 United States Whiterocks Canal diverted above station (records equivalent if flow of Whiterocks Canal is included).

Gage.--Water-stage recorder. Altitude of gage is 6,980 ft (from river-profile map). Prior to Oct. 16, 1930, staff or chain gages at several sites within 1 mile of present site at various datums. Oct. 16, 1930, to Nov. 7, 1949, water-stage recorder at site 100 ft downstream at different datum.

Average discharge.--53 years (1899-1903, 1908-10, 1913-60), 124 cfs (89,770 acre-ft per year).

Extremes.--1918-25, 1930-60: Maximum discharge, 2,750 cfs June 20, 21, 1922 (gage height, 5.40 ft, site and datum then in use), from rating curve extended above 1,700 cfs; minimum recorded, 10 cfs Dec. 5, 1933.

Remarks.--Flow slightly regulated by small mountain lakes. One small diversion for irrigation above station.

Correction.--In WSP 1313, the mean discharge for March 1909 is listed in error; it should be 55.6 cfs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	48.6	38.9	32.1	30	28.9	25.6	26.8	251	312	141	189	80.2	101
1952	59.3	40.4	34.2	31.0	29.2	28.9	71.4	493	604	250	221	124	166
1953	68.4	39.8	34.8	29	28.2	29.3	35.7	94.4	390	144	104	53.6	87.6
1954	45.0	36.5	27.4	25.3	26.1	26.5	60.8	311	135	112	77.2	71.1	80.0
1955	58.7	41.7	34.2	31.9	26.4	25.8	31.3	224	207	110	123	80.6	83.3
1956	56.3	38.7	33.2	30.7	27.8	27.8	41.0	381	248	110	65.6	45.8	92.5
1957	39.1	33.5	28.7	22.4	22.8	26.1	23.1	74.8	534	218	180	128	111
1958	95.5	74.6	53.5	37.2	30.0	31.0	52.7	490	367	146	77.6	66.8	127
1959	42.9	36.2	27.8	22.8	22.1	23.4	30.5	143	245	151	154	113	84.6
1960	80.6	41.0	28.3	24.9	23.7	26.5	50.4	193	217	135	70.3	58.8	79.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,990	2,310	1,970	1,840	1,610	1,580	1,600	15,440	18,590	8,680	11,610	4,770	72,990
1952	3,640	2,400	2,100	1,910	1,680	1,780	4,250	30,310	35,960	15,400	13,590	7,370	120,400
1953	4,200	2,370	2,140	1,780	1,570	1,800	2,120	5,800	23,200	8,830	6,370	3,190	63,370
1954	2,760	2,170	1,690	1,560	1,450	1,630	3,620	19,110	8,030	6,880	4,750	4,230	57,880
1955	3,610	2,480	2,100	1,960	1,470	1,590	1,860	13,780	12,330	6,790	7,570	4,790	60,330
1956	3,460	2,300	2,040	1,890	1,600	1,710	2,440	23,410	14,770	6,780	4,040	2,730	67,170
1957	2,400	2,000	1,770	1,580	1,270	1,600	1,370	4,600	31,750	13,400	11,060	7,600	80,200
1958	5,870	4,440	3,290	2,290	1,670	1,910	3,140	30,110	21,850	9,000	4,770	3,970	92,310
1959	2,640	2,160	1,710	1,400	1,230	1,440	1,810	8,810	14,560	9,310	9,440	6,720	61,230
1960	4,960	2,440	1,740	1,530	1,360	1,630	3,000	11,880	12,900	8,280	4,320	3,500	57,540

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				Acre-feet
1950	-	-	-	-	-	-	125
1951	1213	1,660	May 27, 1951	-	101	72,990	102
1952	1243	1,770	June 5, 1952	27	166	120,400	167
1953	1283	1,190	June 12, 1953	-	87.6	63,370	84.7
1954	1343	742	May 22, 1954	-	80	57,880	82.1
1955	1393	440	May 13, 1955	-	83.3	60,330	82.8
1956	1443	972	May 25, 1956	23	92.5	67,170	90.3
1957	1513	1,560	June 8, 1957	-	111	80,200	121
1958	1563	1,740	May 27, 1958	-	127	92,310	118
1959	1633	493	June 7, 1959	-	84.6	61,230	88.2
1960	1713	656	May 12, 1960	-	79.3	57,540	-

3000. Deep Creek near Lapoint, Utah

Location.--Lat 40°20'00", long 109°50'50", in SE $\frac{1}{4}$ sec.2, T.2 S., R.1 E., Uinta meridian, on right bank three-quarters of a mile upstream from mouth and 5 miles southwest of Lapoint.

Drainage area.--75 sq mi, approximately.

Records available.--July 1942 to September 1945, July 1949 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 5,150 ft (from topographic map). July 11, 1942, to Sept. 30, 1945, staff gages at site about 3 miles upstream at different datums.

Average discharge.--9 years (1942-45, 1949-55), 7.09 cfs (5,130 acre-ft per year).

Extremes.--1942-45, 1949-55: Maximum discharge, about 400 cfs Oct. 4, 1954 (gage height, 12.00 ft, from floodmarks), from graph based on records for Uinta River at Fort Duchesne; no flow Apr. 17, 1950.

Remarks.--Many diversions above station for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.54	2.2	2.5	10.8	6.12	6.06	1.46	1.99	4.97	1.61	2.57	2.27	3.75
1952	2.61	4.92	12.6	13	12	11.8	28.0	13.9	9.74	2.92	14.5	5.44	10.9
1953	3.55	2.5	14.1	14	8.58	2.88	1.85	2.09	2.94	1.95	2.03	1.66	4.84
1954	3.20	5.80	4.46	6.95	1.74	2.57	1.88	2.14	4.88	3.06	2.20	4.12	3.59
1955	5.97	4.06	3.56	7	7	10.1	1.97	2.49	1.71	1.68	3.75	4.29	4.46

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	156	131	154	666	340	373	87	122	296	99	158	135	2,720
1952	160	293	778	799	690	724	1,660	854	579	179	890	324	7,930
1953	218	149	869	861	477	177	110	129	175	120	125	99	3,510
1954	197	345	275	428	97	158	112	132	291	188	135	245	2,600
1955	367	242	219	430	389	619	117	153	102	103	230	255	3,230

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	6.08	4,410
1951	1213	22	May 23, 1951	-	3.75	2,720	4.84	3,510
1952	1243	83	Apr. 5, 1952	0.9	10.9	7,930	10.9	7,942
1953	1283	26	June 5, 1953	1.1	4.84	3,510	4.26	3,090
1954	1343	31	Sept. 27, 1954	.8	3.59	2,600	3.61	2,610
1955	1393	a400	Oct. 4, 1954	.8	4.46	3,230	-	-

a About.

3010. Dry Gulch near Neola, Utah

Location.--Lat 40°27'50", long 110°09'40", in SW $\frac{1}{4}$ sec.19, T.1 N., R.2 W., Uinta meridian, on right bank 1 1/3 miles above Highline Canal crossing, 7 miles west northwest of Neola, and 8 miles northeast of Altonah.

Drainage area.--67 sq mi, approximately.

Records available.--October 1950 to September 1958.

Gage.--Water-stage recorder. Altitude of gage is 6,800 ft (from topographic map).

Average discharge.--8 years (1950-58), 3.11 cfs (2,250 acre-ft per year).

Extremes.--1950-58: Maximum discharge, 381 cfs Apr. 29, 1952 (gage height, 4.63 ft), from rating curve extended above 120 cfs by logarithmic plotting; no flow during parts of each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0.08	6.18	5.99	0.11	0.03	0	1.04
1952	0	0	0	0	0	0	42.2	66.4	28.9	0.05	0	0	11.5
1953	0	0	0	0	0	0	.10	.11	2.29	0	0	0	.21
1954	0	0	0	0	0	.04	.42	5.66	.01	0	0	0	.52
1955	0	0	0	0	0	0	.24	9.06	.44	0	0	0	.82
1956	0	0	0	0	0	0	1.18	16.3	7.22	0	0	0	2.07
1957	0	0	0	0	0	0	0	1.33	29.4	.15	0	0	2.54
1958	0	0	0	0	0	.39	7.31	51.1	14.9	0	0	0	6.20
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	5.0	380	357	6.7	2.0	0	751
1952	0	0	0	0	0	0	2,510	4,080	1,720	2.8	0	0	8,310
1953	0	0	0	0	0	0	6.0	6.7	136	0	0	0	149
1954	0	0	0	0	0	2.6	25	348	.6	0	0	0	376
1955	0	0	0	0	0	0	14	557	26	0	0	0	597
1956	0	0	0	0	0	0	70	1,000	430	0	0	0	1,500
1957	0	0	0	0	0	0	0	82	1,750	9.5	0	0	1,840
1958	0	0	0	0	0	24	435	3,140	885	0	0	0	4,480
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951	1213	66	May 30, 1951	0	1.04	751	1.04	751
1952	1243	381	Apr. 29, 1952	0	11.5	8,310	11.5	8,310
1953	1283	24	June 14, 1953	0	.21	149	.21	149
1954	1343	26	May 23, 1954	0	.52	376	.52	376
1955	1393	23	May 15, 1955	0	.82	597	.82	597
1956	1443	58	May 26, 1956	0	2.07	1,500	2.07	1,500
1957	1513	124	June 9, 1957	0	2.54	1,840	2.54	1,840
1958	1563	177	May 29, 1958	0	6.20	4,480	-	-
1959								
1960								

3020. Duchesne River near Randlett, Utah

Location.--Lat 40°13'00", long 109°47'00", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.17, T.3 S., R.2 E., Uinta meridian, on left bank a quarter of a mile downstream from Uinta River, $\frac{1}{4}$ miles southeast of Randlett, and $6\frac{1}{2}$ miles southeast of Fort Duchesne.

Drainage area.--3,920 sq mi, approximately.

Records available.--October 1942 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,750 ft (from river-profile map). Prior to Aug. 23, 1944, at site 500 ft downstream at different datum.

Average discharge.--18 years (1942-60), 594 cfs (430,000 acre-ft per year).

Extremes.--1942-60: Maximum discharge, 8,790 cfs June 7, 1952 (gage height, 7.87 ft); minimum, 8.4 cfs Aug. 22, 1960.

Remarks.--Flow regulated by several reservoirs. Large diversions above station for irrigation, including transmountain diversions to The Great Basin through Duchesne and Strawberry tunnels, Hobbie Creek ditch, and Strawberry River and Willow Creek ditches (see elsewhere in this report). Records of chemical analyses and water temperatures for the periods December 1950 to October 1951 and November 1956 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	252	451	530	425	470	371	241	1,288	2,085	509	427	162	601
1952	406	544	529	450	460	508	1,865	4,938	5,082	1,137	796	504	1,434
1953	337	434	600	640	600	559	212	245	1,801	216	190	77.0	490
1954	146	342	421	441	446	328	225	592	85.1	30.3	19.1	105	264
1955	272	307	289	400	380	550	377	739	566	28.6	133	63.5	342
1956	99.9	248	476	444	391	405	281	1,198	1,520	69.9	39.8	21.2	432
1957	70.3	290	302	340	368	355	196	638	5,095	563	298	255	561
1958	310	683	480	469	561	573	485	2,300	1,725	71.4	18.3	46.4	643
1959	77.0	244	347	366	425	269	89.6	68.9	575	102	69.5	64.8	223
1960	176	225	353	367	400	443	142	297	380	20.7	13.8	18.9	236

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	15,510	26,820	32,610	26,150	26,100	22,810	14,310	79,170	124,100	31,320	26,280	9,640	434,800
1952	24,930	32,370	32,530	27,670	26,460	31,220	111,000	303,600	302,400	69,910	48,970	29,980	1,041,000
1953	20,740	25,840	36,890	39,350	33,320	34,340	12,610	15,090	107,200	13,250	11,690	4,580	354,900
1954	8,960	20,350	25,910	27,130	24,760	20,170	13,580	36,430	5,070	1,860	1,180	6,240	191,400
1955	16,750	18,260	17,780	24,580	21,100	33,820	22,420	45,480	33,690	1,760	8,190	3,780	247,600
1956	6,140	14,750	29,240	27,330	22,460	24,780	16,740	73,650	90,440	4,300	2,450	1,260	313,500
1957	4,320	17,280	18,600	20,910	20,430	21,840	11,650	39,210	184,200	34,630	18,290	15,150	406,500
1958	19,070	40,650	29,510	28,820	31,180	35,230	28,870	141,400	102,600	4,390	1,130	2,760	465,600
1959	4,730	14,500	21,360	22,470	23,580	16,550	5,330	4,240	34,220	6,250	4,270	3,860	161,400
1960	10,840	13,390	21,700	22,590	23,010	27,250	8,450	18,260	22,610	1,270	847	1,120	171,300

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	794	574,500
1951	1213	4,880	May 29, 1951	113	601	434,800	621	449,700
1952	1243	8,790	June 7, 1952	128	1,434	1,041,000	1,425	1,035,000
1953	1283	4,910	June 14, 1953	66	490	354,900	451	326,600
1954	1343	1,610	May 22, 1954	10	264	191,400	261	189,000
1955	1393	1,910	May 23, 1955	12	342	247,600	338	244,900
1956	1443	3,860	June 2, 1956	13	432	313,500	418	303,600
1957	1513	6,240	June 8, 1957	21	561	406,500	629	455,500
1958	1563	6,480	May 30, 1958	13	643	465,600	576	417,000
1959	1633	1,780	Aug. 20, 1959	19	223	161,400	230	166,700
1960	1713	1,010	June 4, 1960	9.4	236	171,300	-	-

3024. White River below Trapper's Lake, Colo.

Location.--Lat 39°59'50", long 107°13'50", in sec.2, T.1 S., R.88 W., on right bank 200 ft below Trapper's Lake, 1 mile upstream from Skinny Fish Creek, and 21 miles east of Buford.

Drainage area.--21.4 sq mi.

Records available.--October 1956 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 9,600 ft (from topographic map).

Extremes.--1956-60: Maximum discharge, 481 cfs July 4, 1957 (gage height, 8.03 ft); minimum daily determined, 7.0 cfs Mar. 27, 1960.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	9.91	10.5	9.5	10	9.5	9.96	10.8	16.4	109	241	43.4	22.9	42.2
1958	20.1	16.2	16	14	13	12	13	53.6	148	28.4	17.1	16.1	30.6
1959	13.6	13.1	13	12	10	10	14.6	35.1	140	35.2	22.2	11.7	27.5
1960	13.0	13.6	13.0	12	10	8.70	10.1	29.4	122	22.4	12.6	15.0	23.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	609	625	584	615	528	612	641	1,010	6,500	14,800	2,670	1,360	30,550
1958	1,230	962	984	861	722	738	774	5,300	8,830	1,750	1,050	958	22,160
1959	837	776	799	738	555	615	869	2,160	8,310	2,160	1,360	695	19,880
1960	801	811	799	740	575	535	599	1,800	7,280	1,380	775	891	16,990

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1957	1513	481	July 4, 1957	9.0	42.2	30,550	44.1	31,910		
1958	1563	291	June 9, 1958	-	30.6	22,160	29.5	21,400		
1959	1633	228	June 15, 1959	9.4	27.5	19,880	27.5	19,870		
1960	1713	198	June 19, 1960	7.0	23.4	16,990	-	-		

3028. White River near Buford, Colo.

Location.--Lat 40°02', long 107°31', in SW $\frac{1}{4}$ sec.20, T.1 N., R.90 W., on right bank a third of a mile upstream from highway bridge, three-quarters of a mile downstream from Ute Creek, and 6 $\frac{1}{2}$ miles northeast of Buford.

Drainage area.--223 sq mi (revised).

Records available.--July 1903 to December 1906, October 1956 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as North Fork White River near Buford prior to 1956. Records for May 1910 to December 1915 and July 1919 to December 1920 at site 6 $\frac{1}{2}$ miles downstream not equivalent owing to inflow between the sites.

Gage.--Water-stage recorder. Prior to October 1956, staff gage at highway bridge a third of a mile downstream at different datum.

Average discharge.--7 years (1903-6, 1956-60), 329 cfs (238,200 acre-ft per year).

Extremes.--1903-6, 1956-60: Maximum daily discharge, 1,950 cfs June 8, 1905; minimum daily determined, 100 cfs Jan. 18, 1957, Jan. 18, 19, 1960.

Remarks.--Diversions above station for irrigation of a few hay meadows.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	162	155	143	131	121	131	166	476	1,380	1,173	465	311	402
1958	270	248	219	187	178	160	211	930	939	335	246	217	346
1959	188	180	164	142	139	127	199	511	686	310	232	188	256
1960	199	154	127	124	129	141	310	509	724	251	185	172	252

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	9,950	9,200	8,810	8,050	6,700	8,060	9,890	29,300	82,140	72,110	28,580	18,490	291,300
1958	16,600	14,740	13,450	11,480	9,910	9,820	12,580	57,180	55,870	20,590	15,120	12,900	250,200
1959	11,570	10,700	10,110	8,720	7,730	7,830	11,820	31,440	40,830	19,080	14,250	11,190	185,300
1960	12,220	9,150	7,800	7,590	7,420	8,660	18,450	31,300	43,080	15,460	11,350	10,250	182,700

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1957	1513	1,950	June 29, 1957	100	402	291,300	426	308,100		
1958	1563	1,610	May 29, 1958	150	346	250,200	329	237,800		
1959	1633	1,070	June 8, 1959	110	256	185,300	251	182,000		
1960	1713	1,090	June 5, 1960	100	252	182,700	-	-		

3030. White River at Buford, Colo.

Location.--Lat 39°59', long 107°37', in NW¼ sec. 9, T.1 S., R.91 W., on right bank 600 ft east of Buford and 1½ miles upstream from South Fork White River.

Drainage area.--254 sq mi (revised).

Records available.--May 1910 to December 1915, July 1919 to December 1920, October 1951 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as North Fork White River near Buford prior to 1951. Records for July 1903 to December 1906 at site 6½ miles upstream not equivalent owing to inflow between the sites.

Gage.--Water-stage recorder. Altitude of gage is 7,010 ft (from topographic map). May 24, 1910, to May 27, 1914, staff gage at site 1½ miles upstream at different datum. May 28, 1914, to Dec. 7, 1915, and July 1, 1919, to Oct. 9, 1920, staff gage at present site at different datum.

Average discharge.--15 years (1910-15, 1919-20, 1951-60), 324 cfs (234,600 acre-ft per year).

Extremes.--1910-15, 1919-20, 1951-60: Maximum daily discharge, 3,150 cfs May 30, 1912; maximum gage height, 6.56 ft June 4, 1957; minimum daily discharge, 90 cfs Feb. 21, 1955.

Remarks.--Diversions above station for irrigation of about 900 acres above and 300 acres below station.

Correction.--In WSP 1313, the mean for water year 1912 is listed in error; it should be 467 cfs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952	193	175	154	142	138	138	286	923	1,336	480	345	234	379
1953	157	158	175	188	171	157	213	566	958	301	225	188	288
1954	162	182	167	181	158	176	293	507	292	187	158	163	221
1955	161	142	128	124	122	133	214	682	604	226	197	157	241
1956	157	162	158	145	131	148	314	842	756	292	226	164	292
1957	161	172	157	152	146	145	203	650	1,588	1,131	431	306	438
1958	267	242	229	199	187	172	246	1,116	977	305	218	194	364
1959	175	169	187	163	166	152	242	638	754	299	238	204	282
1960	221	173	142	139	145	156	368	603	721	263	207	182	277

Monthly and yearly discharge, in acre feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952	11,860	10,420	9,480	8,760	7,940	8,470	17,050	56,740	79,500	29,490	21,210	13,900	74,800
1953	9,880	9,400	10,730	11,530	9,490	9,660	12,700	34,790	57,020	18,520	13,850	11,200	208,600
1954	11,220	10,940	10,240	11,130	8,760	10,820	17,450	31,200	17,380	11,520	9,710	9,690	169,000
1955	9,880	8,450	7,880	7,640	6,760	8,160	12,750	41,930	35,950	13,880	12,090	9,320	174,700
1956	9,670	9,630	9,720	8,910	7,550	9,120	18,680	51,770	44,960	17,960	13,870	9,780	211,600
1957	9,870	10,260	9,670	9,320	8,110	8,890	12,080	39,950	94,490	69,510	26,470	18,200	316,800
1958	16,430	14,390	14,110	12,210	10,390	10,610	14,660	68,630	58,160	18,750	13,420	11,570	263,300
1959	10,650	10,070	11,490	10,000	9,220	9,350	14,420	39,220	44,840	18,390	14,630	12,140	204,400
1960	13,610	10,320	8,710	8,550	8,360	9,600	21,890	37,050	42,900	16,190	12,740	10,850	200,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950									
1951									
1952	1213	1,980	June 10, 1952	110	379	274,800	376	272,900	
1953	1283	1,770	June 15, 1953	120	286	208,600	292	211,100	
1954	1343	730	May 22, 1954	130	221	160,000	213	153,900	
1955	1393	1,050	May 14, 1955	90	241	174,700	245	177,500	
1956	1443	1,290	June 2, 1956	110	292	211,600	293	212,400	
1957	1513	a2,350	(b)	120	438	316,800	459	332,000	
1958	1563	1,700	May 29, 1958	160	364	263,300	346	250,600	
1959	1633	1,120	May 13, 1959	130	282	204,400	283	204,800	
1960	1713	1,110	May 13, 1960	110	277	200,800	-	-	

a About.

b June 29 or 30, 1957.

GREEN RIVER BASIN

3040. South Fork White River at Buford, Colo.

Location.--Lat 39°58', long 107°38', in NW $\frac{1}{4}$ sec.17, T.1 S., R.91 W., on left bank 300 ft downstream from highway bridge, three-quarters of a mile upstream from mouth, and 1 mile south of Buford.

Drainage area.--170 sq mi, approximately.

Records available.--July 1919 to December 1920, October 1951 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 6,970 ft (from topographic map). Prior to Nov. 30, 1920, staff gage at site 300 ft upstream at different datum.

Average discharge.--10 years (1919-20, 1951-60), 265 cfs (191,900 acre-ft per year).

Extremes.--1919-20, 1951-60: Maximum discharge, about 3,000 cfs June 30, 1957; maximum gage height, 7.07 ft June 30, 1957; minimum daily discharge determined, 60 cfs Feb. 21, 1955.

Remarks.--Divisions above station for irrigation of about 1,100 acres above station and a few acres below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952	132	100	102	102	107	100	212	809	1,801	407	240	184	357
1953	129	105	125	126	106	119	147	379	1,335	251	185	125	260
1954	117	112	103	117	114	98.9	162	646	332	137	114	112	180
1955	120	99.5	91.5	85.6	80.9	86.6	115	643	823	174	129	96.9	212
1956	96.0	98.1	102	94.7	89.5	96.1	155	825	814	164	122	90.0	229
1957	92.6	93.5	92.4	91.3	90.4	92.1	125	328	1,440	1,119	267	178	335
1958	152	149	127	120	115	106	128	904	1,092	212	148	137	283
1959	132	122	115	113	106	98.2	149	522	1,033	235	170	132	244
1960	143	117	94.8	99.0	103	108	195	577	960	183	130	117	235

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952	8,140	5,960	6,250	6,250	6,140	6,170	12,620	49,750	107,200	25,030	14,730	10,920	259,200
1953	7,910	6,270	7,700	7,750	5,890	7,310	8,740	23,330	79,430	15,460	11,350	7,430	188,600
1954	7,200	6,660	6,340	7,210	6,310	6,080	9,660	39,730	19,190	8,400	6,990	6,650	130,400
1955	7,410	5,920	5,630	5,270	4,490	5,330	6,840	39,550	48,950	10,700	7,940	5,760	153,800
1956	5,900	5,840	6,290	5,820	5,150	5,910	9,210	50,700	48,460	10,060	7,470	5,360	166,200
1957	5,690	5,550	5,680	5,610	5,020	5,660	7,430	20,160	85,690	68,800	16,400	10,570	242,300
1958	9,320	8,840	7,800	7,410	6,370	6,530	7,600	55,600	64,950	13,070	9,090	8,140	204,700
1959	8,140	7,230	7,090	6,930	5,870	6,040	8,860	32,090	61,480	14,470	10,450	7,870	176,500
1960	8,760	6,960	5,830	6,090	5,930	6,620	11,600	35,480	57,090	11,220	8,000	6,950	170,500

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952	1243	2,670	June 11, 1952	70	357	259,200	359	260,700
1953	1283	2,760	June 14, 1953	80	260	188,600	258	186,900
1954	1343	1,460	May 22, 1954	84	180	130,400	178	129,200
1955	1393	2,210	June 9, 1955	60	212	153,800	211	152,900
1956	1443	2,060	June 3, 1956	70	229	166,200	227	165,100
1957	1513	2,000	June 30, 1957	75	335	242,300	347	251,500
1958	1563	2,080	June 8, 1958	95	283	204,700	278	201,200
1959	1633	1,850	June 9, 1959	85	244	176,500	243	175,600
1960	1713	1,770	June 4, 1960	80	235	170,500	-	-

a About.

3041. Big Beaver Creek near Buford, Colo.

Location.--Lat 39°58', long 107°39', in NW $\frac{1}{4}$ sec.18, T.1 S., R.91 W., on right bank 165 ft upstream from bridge on County Highway 132, 500 ft upstream from mouth, and 2 miles southwest of Buford.

Drainage area.--34.6 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Water-stage recorder. Prior to Sept. 7, 1957, at site 35 ft upstream at same datum.

Average discharge.--5 years (1955-60), 17.6 cfs (12,740 acre-ft per year).

Extremes.--1955-60: Maximum discharge, 395 cfs June 3, 1957 (gage height, 4.46 ft); no flow Sept. 12-20, 26-30, Oct. 1, 2, 1956.

Remarks.--Small diversions above station for irrigation of hay meadows. One diversion above station for irrigation below along the White River.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	1.84	3.05	3.54	3.36	3.31	7.27	33.8	92.2	6.75	1.09	0.85	0.20	13.2
1957	1.25	3.55	3.55	3.58	3.61	3.96	16.8	115	177	16.9	5.73	4.05	29.6
1958	6.18	7.67	6.34	5.04	5.44	6.57	31.2	186	26.4	1.21	1.43	1.98	24.0
1959	3.68	4.22	3.72	3.81	4.19	3.90	14.1	53.2	5.02	.87	.70	1.04	6.09
1960	3.98	3.46	2.6	2.6	2.8	7.97	41.8	77.6	11.8	.69	.52	.55	13.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	113	181	218	207	191	447	2,010	5,670	401	67	52	12	9,570
1957	77	211	219	220	201	243	999	7,080	10,540	1,040	352	241	21,420
1958	380	456	390	310	302	404	1,850	11,410	1,570	75	88	118	17,350
1959	226	251	228	234	233	240	836	3,270	180	53	43	62	5,860
1960	245	206	160	160	161	490	2,490	4,770	701	42	32	33	9,490

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1956	1443	234	May 6, 1956	0	13.2	9,570	13.2	9,560
1957	1513	395	June 3, 1957	0	29.6	21,420	30.6	22,140
1958	1563	278	May 20, 1958	.6	24.0	17,350	23.3	16,830
1959	1633	132	May 13, 1959	.2	8.09	5,860	7.96	5,760
1960	1713	186	May 12, 1960	.1	13.1	9,490	-	-

3043. Coal Creek near Meeker, Colo.

Location.--Lat 40°05'30", long 107°46'05", in NE $\frac{1}{4}$ sec.1, T.1 N., R.93 W., on right bank 200 ft downstream from unnamed tributary, 300 ft upstream from headgate of ditch, 1.3 miles below Ninemile Draw, and 8 miles northeast of Meeker.

Drainage area.--25 sq mi, approximately.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,820 ft (from topographic map).

Extremes.--1957-60: Maximum discharge, 102 cfs May 11, 1958 (gage height, 4.37 ft); minimum daily, 0.4 cfs Sept. 9, 10, Nov. 20-23, 1959.

Remarks.--Slight regulation by two small storage reservoirs above station. Diversions for irrigation of a few acres of hay meadows above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	3.29	3.17	3.2	2.8	2.6	2.86	11.0	61.5	14.4	4.44	2.25	1.70	9.51
1959	2.26	2.83	2.5	2	2	1.97	5.48	13.6	9.38	1.36	1.04	.86	3.78
1960	1.33	1.24	1.2	1.2	1	3.61	12.0	21.2	11.5	2.00	1.55	1.19	4.92

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	202	188	197	172	144	176	657	3,780	857	273	138	101	6,880
1959	139	168	154	123	111	121	326	858	558	84	64	51	2,740
1960	82	74	74	74	58	222	714	1,310	682	123	95	71	3,580

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1958	1563	102	May 11, 1958	1.2	9.51	6,880	9.34	6,760
1959	1633	23	May 30, 1959	.4	3.78	2,740	3.46	2,510
1960	1713	38	May 13, 1960	.4	4.92	3,580	-	-

3045. White River near Meeker, Colo.

Location--Lat 40°02'00", long 107°51'35", in NE $\frac{1}{4}$ sec.30, T.1 N., R.93 W., on left bank 1 mile upstream from Curtis Creek and 2 $\frac{1}{2}$ miles east of Meeker.

Drainage area--762 sq mi.

Records available--June 1901 to December 1906, October 1909 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as "at Meeker" 1901-13.

Gage--Water-stage recorder. Altitude of gage is 6,320 ft (from topographic map). Prior to Oct. 31, 1906, and May 7 to Aug. 13, 1910, staff gage and Aug. 14, 1910, to Oct. 19, 1913, water-stage recorder, at site 2 $\frac{1}{2}$ miles downstream at different datum. Oct. 20, 1913, to Sept. 30, 1933, water-stage recorder at present site at datum 1.00 ft higher.

Average discharge--56 years (1901-6, 1909-60), 634 cfs (459,000 acre-ft per year).

Extremes--1901-6, 1909-60: Maximum discharge observed, 6,370 cfs June 16, 1921 (gage height, 5.60 ft, present datum), from rating curve extended above 4,700 cfs; minimum daily, 112 cfs July 17, 1934.

Remarks--Diversions above station for irrigation of about 12,000 acres above station and about 3,000 acres below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	364	341	328	298	283	306	400	1,459	1,956	780	433	335	608
1952	396	361	316	298	305	300	630	2,088	3,366	832	635	507	835
1953	452	419	424	383	330	349	462	1,156	2,546	542	401	289	629
1954	350	350	311	343	310	301	541	1,167	496	258	236	320	416
1955	354	321	300	279	267	281	402	1,409	1,280	305	269	234	476
1956	320	325	319	294	285	317	544	1,704	1,479	395	298	231	543
1957	309	320	304	305	291	305	419	1,317	3,640	2,524	747	581	923
1958	536	483	405	342	346	356	554	2,447	2,148	562	353	377	744
1959	413	382	358	337	331	366	495	1,109	1,646	470	407	321	553
1960	426	351	295	284	301	372	668	1,202	1,520	432	250	305	533

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	22,410	20,300	20,180	18,310	15,740	18,790	23,800	89,750	116,400	47,980	26,620	19,910	440,200
1952	24,320	21,480	19,410	18,310	17,520	18,440	37,460	128,400	200,300	51,170	39,030	30,180	606,000
1953	27,770	24,920	26,090	23,550	18,340	21,430	27,510	71,060	139,600	33,310	24,650	17,210	455,400
1954	21,520	20,850	19,140	21,080	17,190	18,510	32,210	71,740	29,510	15,840	14,540	19,030	301,100
1955	21,770	19,100	18,420	17,160	14,820	17,260	23,930	66,640	76,160	18,770	16,550	13,910	344,500
1956	19,700	19,320	19,640	18,050	16,380	19,520	32,350	104,800	88,000	24,290	18,340	13,760	394,100
1957	18,970	19,070	18,670	18,760	16,170	18,750	24,930	80,950	216,600	55,200	45,910	34,550	668,500
1958	32,980	28,710	24,910	21,040	19,220	21,880	32,980	150,500	127,800	34,570	21,690	22,410	536,700
1959	25,370	22,750	22,020	20,740	18,370	22,630	29,430	68,210	97,940	28,910	25,000	19,080	400,400
1960	26,180	20,870	18,110	17,470	17,330	22,850	39,740	73,900	90,470	26,560	15,380	18,140	387,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	585	423,800
1951	1213	3,160	May 29, 1951	220	608	440,200	611	442,500
1952	1243	5,200	June 11, 1952	230	835	606,000	853	619,600
1953	1283	4,360	June 15, 1953	279	629	455,400	605	438,200
1954	1343	2,110	May 22, 1954	194	416	301,100	413	298,900
1955	1393	2,470	June 9, 1955	200	476	344,500	475	343,900
1956	1443	3,120	June 3, 1956	200	543	394,100	540	392,200
1957	1513	5,220	June 30, 1957	250	923	668,500	965	698,400
1958	1563	4,340	May 30, 1958	290	744	538,700	721	522,200
1959	1633	2,860	June 9, 1959	220	553	400,400	546	395,500
1960	1713	2,650	June 5, 1960	220	533	387,000	-	-

3055. Piceance Creek at Rio Blanco, Colo.

Location--Lat 39°43'50", long 107°56'40", in sec.4, T.4 S., R.94 W., on right bank 20 ft downstream from road bridge, a quarter of a mile upstream from State Highway 13, and 1 mile southeast of Rio Blanco.

Drainage area--9 sq mi, approximately.

Records available--October 1952 to September 1957.

Gage--Water-stage recorder. Altitude of gage is 7,200 ft (from topographic map).

Average discharge--5 years (1952-57), 1.40 cfs (1,010 acre-ft per year).

Extremes--1952-57: Maximum discharge, 23 cfs May 9, 1957; maximum gage height, 4.36 ft May 2, 1957; minimum daily discharge, 0.1 cfs at times in most years.

Remarks--Small diversions above station for irrigation of hay meadows above and below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	0.6	0.8	0.98	1.04	1.20	1.90	3.24	7.78	1.95	0.77	0.56	0.48	1.78
1954	.63	.98	.67	.81	.80	1.16	4.61	1.38	.46	.23	.19	.27	1.01
1955	.43	.48	.46	.63	.60	.78	2.12	2.61	.68	.20	.12	.10	.77
1956	.17	.50	.55	.56	.50	.65	3.71	3.30	.44	.14	.16	.13	.90
1957	.25	.37	.47	.50	.56	.69	4.27	12.0	6.04	1.74	1.93	1.72	2.55

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	37	48	60	64	67	117	193	478	116	47	34	29	1,290
1954	39	59	41	50	44	71	274	85	28	14	11	16	732
1955	26	29	28	39	33	48	126	160	40	12	7.1	6.0	554
1956	11	50	34	35	29	40	221	203	26	8.5	9.7	7.5	655
1957	15	22	29	31	31	42	254	736	360	107	119	102	1,850

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1953	1263	18	May 16, 1953	0.3	1.78	1,290	1.77	1,280
1954	1343	7.5	Apr. 9, 1954	.1	1.01	732	.93	876
1955	1393	6.4	Apr. 16, 1955	.1	.77	554	.75	546
1956	1443	11	Apr. 26, 1956	.1	.90	655	.89	646
1957	1513	23	May 9, 1957	.2	2.55	1,850	-	-

3065. White River near Watson, Utah

Location.--Lat 39°59', long 109°11', in sec.2, T.10 S., R.24 E., Salt Lake meridian, on right bank 350 ft downstream from bridge on State Highway 45, 1 mile downstream from Evacuation Creek, and 7 miles north of Watson.

Drainage area.--4,020 sq mi, approximately.

Records available.--April 1904 to October 1906 (no winter records), May to November 1918, April 1923 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as "near Dragon, Utah" 1906 and as "near Rangely, Colo." 1904-5, 1918.

Gage.--Water-stage recorder. Datum of gage is 4,946.78 ft above mean sea level, datum of 1929. Apr. 15, 1904, to Oct. 31, 1905, and May 19 to Nov. 23, 1918, staff gage at site 25 miles upstream (half a mile northwest of Rangely, Colo.) at different datum. April 1 to Oct. 31, 1906, staff or chain gages at site 350 ft upstream at different datum. Apr. 1, 1923, to Oct. 3, 1938, water-stage recorder at site 350 ft upstream at datum 4.48 ft higher; Oct. 4, 1938, to Apr. 17, 1939, at site 1,450 ft upstream at different datum; Apr. 18, 1939, to Sept. 6, 1956, at site 100 ft upstream at datum 3.00 ft higher; Sept. 7, 1956, to Oct. 26, 1959, at site 250 ft upstream at datum 3.00 ft higher.

Average discharge.--37 years (1923-60), 721 cfs (522,000 acre-ft per year).

Extremes.--1904-6, 1918, 1923-60: Maximum daily discharge, 8,160 cfs July 15, 1929; minimum, 52 cfs July 19, 20, 1934; minimum daily, 53 cfs July 19, 1934.

Remarks.--Diversions for irrigation of about 30,000 acres above station. Records of chemical analyses and water temperatures are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	402	394	366	295	423	436	439	1,286	1,889	831	629	357	646
1952	408	382	341	327	336	336	1,295	2,419	3,528	818	751	558	956
1953	420	367	427	402	419	577	499	1,141	2,258	533	559	288	657
1954	344	406	347	369	460	398	580	1,191	536	297	217	580	470
1955	431	336	292	259	338	758	522	1,415	1,271	252	334	208	536
1956	331	362	346	328	338	709	558	1,604	1,427	357	345	217	577
1957	314	345	295	349	399	497	493	1,242	3,661	2,746	1,090	613	1,006
1958	534	558	461	389	637	573	759	2,411	2,210	546	355	428	821
1959	445	412	358	382	375	363	510	1,039	1,619	486	479	405	574
1960	459	381	330	272	338	571	680	1,124	1,592	348	227	317	552

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	24,730	23,460	22,530	18,140	23,520	26,840	26,130	79,040	12,400	51,130	38,650	21,240	467,800
1952	25,110	22,750	20,990	20,120	19,300	20,650	77,080	148,700	210,000	50,320	46,150	33,210	694,400
1953	25,800	21,840	26,280	24,690	23,250	35,480	29,670	70,190	134,400	32,800	34,390	17,110	475,900
1954	21,140	24,140	21,350	22,670	25,570	24,460	34,500	68,780	31,900	18,260	13,330	34,520	340,600
1955	26,490	20,010	17,970	15,950	18,760	46,620	31,070	87,010	75,640	15,520	20,550	12,370	388,000
1956	20,360	21,520	21,260	20,140	19,430	43,580	33,200	98,650	84,930	21,950	21,230	12,900	419,200
1957	19,300	20,550	18,130	21,480	22,180	30,560	29,360	76,340	217,900	168,800	67,010	36,460	728,100
1958	32,830	33,180	28,350	23,930	35,390	35,260	45,170	148,200	131,500	33,580	21,840	25,460	594,700
1959	27,390	24,540	22,040	23,490	20,820	23,550	30,370	63,890	96,360	29,880	29,430	24,090	415,800
1960	28,240	22,700	20,260	18,720	19,460	35,110	40,460	69,080	94,730	21,400	13,950	18,870	401,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	603	436,900
1951	1213	5,820	Aug. 29, 1951	160	646	467,800	644	485,900
1952	1243	5,200	June 12, 1952	245	956	694,400	963	699,400
1953	1283	4,600	Aug. 1, 1953	180	657	475,900	647	468,600
1954	1343	-	(a)	146	470	340,600	468	338,500
1955	1393	7,650	Mar. 12, 1955	138	536	388,000	534	386,600
1956	1443	4,040	Mar. 5, 1956	150	577	419,200	580	414,000
1957	1513	5,350	Aug. 5, 1957	163	1,006	728,100	1,056	764,400
1958	1563	b4,000	May 31, 1958	290	821	594,700	793	574,300
1959	1633	2,670	June 10, 1959	85	574	415,800	571	413,100
1960	1713	2,600	June 8, 1960	182	552	401,000	-	-

a Sept. 4, 23 or 26, 1954.

b About.

3070. Green River near Ouray, Utah

Location--Lat 40°04'20", long 109°43'40", in NE $\frac{1}{4}$ sec.11, T.5 S., R.2 E., Uinta meridian, on right bank 2 $\frac{1}{2}$ miles upstream from Willow Creek and 3 miles southwest of Ouray.

Drainage area--35,500 sq mi, approximately.

Records available--October 1947 to September 1955, October 1956 to September 1960.

Gage--Water-stage recorder. Altitude of gage is 4,640 ft (from river-profile map).

Average discharge--12 years (1947-55, 1956-60), 5,774 cfs (4,180,000 acre-ft per year).

Extremes--1947-55, 1956-60: Maximum discharge, 43,600 cfs June 11, 1952 (gage height, 14.99 ft); minimum daily, 700 cfs Dec. 15, 1949.

Remarks--Diversions for irrigation above station. Records of chemical analyses for the periods December 1950 to September 1952 and November 1956 to September 1960; suspended sediment loads for the periods December 1950 to September 1955 and October 1956 to September 1960; and water temperatures for the periods December 1950 to September 1952, October 1953 to September 1955, and October 1956 to September 1960, are published in reports of Geological Survey.

Correction--In WSP 1313, the acre-feet for November 1947 is listed in error; it should be 163,100 acre-ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,349	2,767	2,586	1,780	2,954	3,475	6,620	15,260	21,830	10,010	5,824	2,684	6,517
1952	3,361	2,651	2,135	2,039	2,295	2,448	16,110	30,700	29,210	7,750	4,761	2,787	8,850
1953	1,909	1,955	1,951	2,257	2,470	3,504	3,929	8,143	19,310	5,751	3,249	1,367	4,695
1954	1,341	1,983	1,706	1,705	2,500	2,797	4,888	11,270	6,262	5,656	1,990	1,967	3,680
1955	2,061	1,956	1,227	1,272	1,498	3,305	5,368	11,490	11,360	3,488	2,456	1,134	3,692
1956													
1957	1,216	1,609	1,300	1,350	1,838	3,748	5,324	16,050	32,180	19,270	5,604	3,001	7,725
1958	2,949	3,465	2,277	1,979	3,206	3,995	7,099	22,080	18,730	3,075	1,607	1,401	5,993
1959	1,382	1,662	1,794	1,626	2,107	2,602	3,942	8,262	13,660	5,134	2,741	1,701	3,884
1960	2,762	2,444	1,678	1,416	1,497	5,612	9,678	9,358	12,250	2,689	1,157	1,047	4,292

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	144.4	164.6	159.0	108.2	164.0	213.7	393.9	958.4	1,299	615.5	358.1	159.7	4,718
1952	206.7	157.7	131.3	125.3	132.0	150.5	956.8	1,888	1,738	476.5	294.0	165.8	6,425
1953	117.4	115.2	119.9	138.6	137.2	215.4	235.8	500.7	1,185	353.6	199.8	62.51	3,399
1954	82.47	118.0	104.9	104.9	138.9	172.0	290.7	692.7	372.6	347.8	122.4	117.1	2,665
1955	126.7	116.4	75.47	78.19	83.21	203.2	319.4	706.5	675.7	214.5	151.0	67.48	2,818
1956													
1957	74.78	95.74	79.93	83.01	102.1	230.5	316.8	986.7	1,915	1,185	344.6	178.6	5,593
1958	181.3	206.2	140.0	121.7	178.0	245.7	422.4	1,357	1,115	189.0	98.80	83.35	4,338
1959	84.97	96.90	110.3	99.97	117.0	160.0	234.6	508.0	812.6	315.7	168.6	101.2	2,812
1960	169.6	145.4	103.2	87.07	86.08	345.0	575.9	575.4	729.1	165.3	71.17	62.28	3,116

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	7,523	5,447,000	
1951	1213	30,600	May 31, 1951	1,100	6,517	4,718,000	6,556	4,748,000	
1952	1243	43,600	June 11, 1952	1,300	8,850	6,425,000	6,653	6,281,000	
1953	1283	28,400	June 16, 1953	950	4,695	3,399,000	4,630	3,552,000	
1954	1343	19,700	May 26, 1954	800	3,680	2,665,000	3,699	2,678,000	
1955	1393	14,700	May 27, 1955	858	3,692	2,818,000	-	-	
1956									
1957	1513	43,300	June 14, 1957	-	7,725	5,593,000	8,107	5,870,000	
1958	1563	37,600	May 30, 1958	1,240	5,993	4,338,000	5,670	4,105,000	
1959	1633	18,500	June 23, 1959	900	3,884	2,812,000	4,055	2,936,000	
1960	1713	16,900	June 10, 1960	956	4,292	3,116,000	-	-	

GREEN RIVER BASIN

3075. Willow Creek above diversions, near Ouray, Utah

Location.--Lat 39°34', long 109°35', in NW $\frac{1}{4}$ sec.32, T.14 S., R.21 E., on right bank half a mile upstream from Reid ranch and 48 miles south of Ouray.

Drainage area.--310 sq mi, approximately.

Records available.--August 1950 to September 1955, September 1957 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,980 ft (by barometer). Prior to Nov. 7, 1952, at site 500 ft downstream at different datum.

Average discharge.--8 years (1950-55, 1957-60), 18.7 cfs (13,540 acre-ft per year).

Extremes.--1950-55, 1957-60: Maximum discharge, 399 cfs July 31, 1953 (gage height, 8.02 ft), from rating curve extended above 110 cfs on basis of slope-area measurement of peak flow; minimum, 0.3 cfs Aug. 21, 22, 23, 1960.

Remarks.--One small diversion for irrigation of hay land above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	15.2	15.5	-
1951	16.1	19.2	17.3	15.9	20.2	28.1	24.8	20.4	13.7	7.69	10.0	9.24	16.9
1952	14.1	12.6	12.0	10.8	11	12.8	63.1	139	53.6	31.6	19.3	19.2	33.4
1953	17.8	18.2	12.0	10	12.5	25.9	30.0	21.8	14.6	14.9	13.2	8.66	16.6
1954	14.9	16.8	17	16	18.8	30.0	49.2	26.1	14.6	12.6	8.80	12.2	19.7
1955	13.9	14.6	10	9.0	9.21	36.2	35.2	26.9	14.8	6.63	12.0	5.32	16.2
1956													
1957													
1958	10.1	10.5	12.3	13.0	29.5	28.5	48.2	68.5	27.4	10.7	12.1	12.0	23.5
1959	12.7	12.1	10.7	11.8	12.1	20.5	20.8	14.5	6.61	4.26	8.61	5.19	11.7
1960	8.17	8.83	8.93	9.91	11.6	26.3	29.8	17.3	6.46	3.35	1.68	3.53	11.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	932	924	-
1951	990	1,140	1,060	980	1,120	1,730	1,480	1,250	813	473	618	550	12,200
1952	865	748	736	664	633	785	3,750	8,570	3,190	1,950	1,190	1,140	24,220
1953	1,090	1,080	738	615	696	1,590	1,790	1,340	866	914	810	515	12,040
1954	914	1,000	1,050	984	1,040	1,840	2,930	1,600	869	777	541	725	14,270
1955	853	867	615	553	512	2,220	2,100	1,660	879	408	738	316	11,720
1956													
1957													
1958	621	624	756	801	1,640	1,750	2,870	4,210	1,630	656	743	713	17,010
1959	780	717	659	728	674	1,250	1,240	892	393	262	529	309	8,430
1960	503	525	549	609	665	1,620	1,780	1,070	385	206	103	210	8,220

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	1213	a38	Sept. 20, 1950	-	-	-	-	-
1951	1213	131	July 16, 1951	4.5	16.9	12,200	15.7	11,360
1952	1243	386	July 30, 1952	-	33.4	24,220	34.2	24,780
1953	1283	399	July 31, 1953	8.0	16.6	12,040	16.7	12,100
1954	1343	282	July 16, 1954	6.4	19.7	14,270	18.9	13,640
1955	1393	181	Mar. 11, 1955	-	16.2	11,720	-	-
1956								
1957								
1958	1563	398	Mar. 22, 1958	4.5	23.5	17,010	23.7	17,170
1959	1633	322	Aug. 1, 1959	2.4	11.7	8,430	10.9	7,850
1960	1713	b100	Mar. 20, 1960	.3	11.3	8,220	-	-

a Maximum for August to September.

b About.

3080. Willow Creek near Ouray, Utah

Location.--Lat 39°56'30", long 109°39'00", in sec.22, T.10 S., R.20 E., on left bank 8 miles upstream from mouth and 10 miles south of Ouray.

Drainage area.--890 sq mi (revised), approximately.

Records available.--July 1947 to September 1955, water-year 1960 (annual maximum).

Gage.--Crest-stage gage. Altitude of gage is 4,830 ft (by barometer). July 1947 to September 1955 water-stage recorder at same site and datum.

Average discharge.--8 years (1947-55), 27.0 cfs (19,550 acre-ft per year).

Extremes.--1947-55, 1959-60: Maximum discharge, 2,320 cfs Aug. 27, 1952 (gage height, 9.68 ft), from rating curve extended above 240 cfs on basis of slope-area measurement at gage height 4.27 ft and logarithmic plotting;

1947-55: No flow at times.

Remarks.--Divisions for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	21.5	30.5	27.7	16.9	23.2	42.5	35.7	7.53	3.14	0.26	2.22	1.60	17.7
1952	10.1	13.0	13.0	11.8	12	16.9	92.4	222	77.5	33.5	49.8	28.9	48.6
1953	27.3	26.6	21	20	23.5	37.5	42.5	12.3	3.03	2.90	6.67	2.13	18.7
1954	13.3	16.9	20.2	20	24.1	37.2	48.0	9.05	3.37	4.45	1.85	11.2	17.4
1955	11.7	15.1	11	10	10.4	44.9	44.0	14.1	.51	.09	14.1	1.04	14.8

GREEN RIVER BASIN

329

Monthly and yearly discharge, in acre-feet, of Willow Creek near Ouray, Utah

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,320	1,820	1,700	1,040	1,290	2,610	2,120	463	187	16	137	95	12,800
1952	823	775	797	726	690	1,040	5,500	13,660	4,610	1,060	2,060	1,720	35,260
1953	1,680	1,580	1,290	1,230	1,310	2,300	2,530	759	180	178	410	127	13,570
1954	618	1,000	1,240	1,230	1,340	2,290	2,860	556	201	273	113	664	12,580
1955	721	899	676	615	579	2,760	2,620	866	31	5.8	864	62	10,700

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	35.6	-	25,780
1951	1213	64	Mar. 26, 1951	0.1	17.7	12,800	14.0	-	10,150
1952	1243	2,320	Aug. 27, 1952	3.2	48.6	35,260	51.8	-	37,620
1953	1263	206	July 31, 1953	-1	18.7	13,570	16.7	-	12,080
1954	1343	446	Sept. 26, 1954	-	17.4	12,580	16.3	-	11,820
1955	1393	1,420	Aug. 7, 1955	0	14.8	10,700	-	-	-
1960	-	#690	July 30, 1960	-	-	-	-	-	-

* Not previously published.

3085. Minnie Maud Creek near Myton, Utah

Location.--Lat 39°48', long 110°34', in SW $\frac{1}{4}$ sec.3, T.12 S., R.12 E., on left bank 40 miles southwest of Myton.

Drainage area.--30 sq mi, approximately.

Records available.--August 1950 to September 1955, September 1957 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 7,190 ft (by barometer).

Average discharge.--8 years (1950-55, 1957-60), 4.33 cfs (3,130 acre-ft per year).

Extremes.--1950-55, 1957-60: Maximum discharge, 314 cfs May 5, 1952 (gage height, 6.07 ft),

from rating curve extended above 120 cfs on basis of logarithmic plotting; maximum gage height, 8.70 ft Mar. 24, 1955 (backwater from ice); no flow at times.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	2.95	2.18	-
1951	1.95	1.65	1.25	0.98	0.91	2.45	4.39	6.43	4.10	1.51	1.51	.47	2.31
1952	.54	.85	.53	.27	.3	3	37.7	101	27.3	8.34	4.73	3.19	15.4
1953	2.11	.53	.1	.1	1.0	3.02	3.01	2.03	1.37	1.17	1.17	.1	1.26
1954	.44	.67	.57	.1	.82	3.08	5.15	3.55	1.94	.06	.51	.69	1.55
1955	.70	.55	.26	0	0	.92	5.87	9.15	2.24	1.04	.99	.41	1.86
1956	-	-	-	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	1.34	1.25	1.20	.95	.80	1.18	12.7	72.8	14.4	3.87	1.70	1.38	9.56
1959	1.10	1.00	.93	.8	.7	.75	2.63	2.88	1.18	.54	.51	.50	1.13
1960	.47	.35	.2	.1	.1	2.66	4.41	6.76	2.12	.86	.35	.69	1.60

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	181	130	-
1951	120	98	77	60	51	151	261	395	244	93	93	28	1,670
1952	33	51	20	16	17	18	2,240	6,190	1,620	513	291	190	11,200
1953	130	32	6.1	6.1	5.6	61	180	185	121	84	72	31	914
1954	27	40	35	6.1	46	189	308	219	115	65	31	41	1,120
1955	43	33	17	0	0	57	349	563	133	64	61	24	1,340
1956	-	-	-	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	82	75	74	57	44	72	758	4,470	858	238	105	82	6,920
1959	68	60	57	49	39	46	157	177	70	33	31	30	817
1960	29	21	12	6.1	5.8	164	262	416	126	53	22	41	1,160

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	1213	-	-	-	-	-	-	-	-
1951	1213	-	-	-	0.2	2.31	1,670	2.04	1,480
1952	1243	314	May 5, 1952	-	15.4	11,200	15.5	-	11,260
1953	1283	53	July 31, 1953	-	1.26	914	1.17	-	848
1954	1343	10	June 27, 1954	-	1.55	1,120	1.54	-	1,110
1955	1393	22	Apr. 25, 1955	0	1.66	1,340	-	-	-
1956	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	-
1958	1563	146	May 11, 1958	.3	9.56	6,920	9.40	-	6,870
1959	1633	87.2	Aug. 20, 1959	-	1.13	817	.96	-	694
1960	1713	a103	Aug. 22, 1960	-	1.60	1,160	-	-	-

a Maximum recorded.

3090. Minnie Maud Creek at Nutter Ranch, near Myton, Utah

Location.--Lat 39°48'45", long 110°15'00", in SE $\frac{1}{4}$ sec.32, T.11 S., R.15 E., on left bank three-quarters of a mile upstream from Gate Canyon, 18 miles north of Sunnyside, 22 miles upstream from mouth, and 29 miles south of Myton.

Drainage area.--231 sq mi.

Records available.--July 1947 to September 1955, water-year 1960 (annual maximum).

Gage.--Crest-stage gage. Altitude of gage is 5,760 ft (by barometer). July 1947 to

September 1955 water-stage recorder at same site and datum.

Average discharge.--8 years (1947-55), 20.4 cfs (14,770 acre-ft per year).

Extremes.--1947-55, 1959-60: Maximum discharge, 1,370 cfs Aug. 25, 1955.

1947-55: No flow at times.

Remarks.--Some diversions above station for irrigation above and below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	15.5	14.4	11.2	9	10.6	12.5	4.96	10.0	4.66	0.62	4.05	3.73	8.43
1952	2.81	6.98	5.66	4.68	5.0	7.10	113	352	91.7	28.6	26.2	22.5	55.8
1953	18.7	11.5	8	8	7	12.5	19.5	2.30	1.09	2.59	5.15	.67	8.09
1954	5.24	9.37	7.07	4.7	8.47	9.94	14.5	1.75	1.57	.20	.77	8.85	5.98
1955	10.5	7.22	4.27	4.0	4.0	8.57	19.1	14.3	2.34	.30	5.72	1.62	6.84

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	956	855	686	553	589	767	295	615	277	38	249	222	6,100
1952	173	416	348	288	288	436	6,740	21,640	5,480	1,760	1,610	1,340	40,500
1953	1,150	684	492	492	389	772	1,160	141	65	159	317	40	5,860
1954	322	557	435	289	470	611	861	108	93	12	48	527	4,330
1955	645	430	263	246	222	527	1,130	882	139	19	352	96	4,950

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	30.2	21,880
1951	1213	143	May 21, 1951	0	8.43	6,100	6.28	4,540
1952	1243	596	May 6, 1952	0	55.8	40,500	57.7	41,890
1953	1283	483	July 31, 1953	0	8.09	5,860	6.70	4,850
1954	1343	321	Sept. 28, 1954	0	5.98	4,330	6.02	4,360
1955	1393	1,370	Aug. 25, 1955	0	6.84	4,950	-	-
1960	-	†370	Sept. 7, 1960	-	-	-	-	-

† Not previously published.

3095. Fairview ditch near Fairview, Utah
(Transmountain diversion)

Location.--Lat 39°39', long 111°19', in SE $\frac{1}{4}$ sec.26, T.13 S., R.5 E., 1.8 miles south of State Highway No. 31 and 6 $\frac{1}{2}$ miles northeast of Fairview.

Records available.--September 1949 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 9,000 ft (from topographic map).

Extremes.--1949-60: Maximum daily discharge, 17 cfs June 28, 29, 1957; no flow for part of each year.

Remarks.--Ditch diverts water from tributaries of San Rafael and Price Rivers for irrigation in San Pich River valley in Sevier Lake basin.

Correction.--Erroneously published as Fairview ditch near Ephraim, Utah, in WSP 1313.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	0	121	704	776	216	1,820
1952	0	0	0	0	0	0	0	0	250	716	760	338	2,060
1953	0	0	0	0	0	0	0	0	158	744	633	165	1,700
1954	0	0	0	0	0	0	0	49	559	390	1	1	1,000
1955	0	0	0	0	0	0	0	0	236	722	319	1	1,280
1956	0	0	0	0	0	0	0	0	564	755	217	0	1,540
1957	0	0	0	0	0	0	0	0	480	853	766	311	2,410
1958	0	0	0	0	0	0	0	33	581	648	388	0	1,650
1959	0	0	0	0	0	0	0	0	457	208	0	0	665
1960	0	0	0	0	0	0	0	0	311	402	7	0	720

3098. Gooseberry Creek near Fairview, Utah

Location.--Lat 39°40'30", long 111°18'00", in NW $\frac{1}{4}$ sec.19, T.13 S., R.6 E., on left bank half a mile upstream from small tributary, 1 $\frac{1}{2}$ miles southeast of Mammoth ranger station, and 8 miles northeast of Fairview.

Drainage area.--7.9 sq mi, approximately.

Records available.--October 1959 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,600 ft (by barometer).

Extremes.--1959-60: Maximum discharge, 155 cfs May 13, 1960 (gage height, 2.92 ft); minimum not determined, probably occurred during period of no gage-height record.

Remarks.--Transmountain diversion above station by Fairview ditch (see p.) for irrigation in Sevier River basin, part of which is water diverted into Gooseberry Creek from Boulder Creek. A small reservoir on Gooseberry Creek, about 2 $\frac{1}{2}$ miles above station (capacity, about 1,900 acre-ft), is used to regulate these diversions.

Monthly and yearly mean discharge, in cubic feet per second, of Gooseberry Creek near Fairview, Utah

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	2.51	2.20	0.91	0.8	0.8	1.91	5.65	48.3	16.0	7.01	3.06	1.74	7.62

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	155	131	56	49	46	117	336	2,970	951	431	188	104	5,530

3100. Gooseberry Creek near Scofield, Utah

Location.--Lat 39°43', long 111°18', in SW $\frac{1}{4}$ sec.6, T.13 S., R.6 E., on right bank 300 ft downstream from old Mammoth Dam, $5\frac{1}{2}$ miles upstream from mouth, and 7 miles west of Scofield.

Drainage area.--16.4 sq mi.

Records available.--October 1930 to September 1931, May 1940 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,430 ft (by barometer). October 1930 to September 1931 at different datum and May 1940 to September 1954 at datum 0.50 ft higher.

Average discharge.--21 years (1930-31, 1940-60), 18.9 cfs (13,680 acre-ft per year).

Extremes.--1930-31, 1940-60: Maximum discharge, 414 cfs May 30, 1952; maximum gage height, 2.98 ft June 6, 1957; minimum discharge recorded, 1.1 cfs Sept. 6, 1959.

Remarks.--Transmountain diversion above station by Fairview ditch (see p. 330) for irrigation in Sevier River basin, part of which is water diverted into Gooseberry Creek from Boulder Creek. A small reservoir on Gooseberry Creek, 5 miles above station (capacity, about 1,900 acre-ft), is used to regulate these diversions. Flow also affected by small reservoir 1 mile above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.62	6.25	3.30	2.45	2.45	3.28	24.8	98.3	42.0	13.5	9.12	4.63	17.9
1952	5.45	4.43	3.58	3.0	3.0	3.66	20.6	239	156	26.1	14.1	8.04	40.7
1953	5.34	5.04	3.35	2.6	2.54	3.42	10.3	69.4	68.7	15.3	9.65	5.76	16.8
1954	4.50	4.97	4.26	4.0	4.5	4.76	28.7	55.5	15.5	8.16	4.00	4.31	11.7
1955	3.85	3.71	2.72	2.5	2.5	3.34	8.95	76.2	30.4	9.92	7.58	3.81	13.0
1956	2.46	2.16	2.1	2.0	1.9	3.27	27.5	94.4	25.6	10.0	5.48	2.67	15.0
1957	3.61	2.98	2.20	2.2	2.66	3.76	9.01	77.6	164	23.8	10.2	5.73	25.6
1958	6.11	5.66	3.50	3.00	3.18	4.27	16.2	153	58.5	13.3	8.26	3.88	23.4
1959	3.26	3.44	2.89	2.74	2.5	2.91	8.55	55.3	23.1	9.41	3.92	2.87	10.1
1960	3.23	2.90	1.81	1.4	1.4	3.40	11.0	78.8	26.1	9.99	3.54	2.75	12.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	223	372	203	151	136	202	1,480	6,040	2,500	829	561	276	12,970
1952	335	264	220	184	173	225	1,220	14,680	9,270	1,600	869	478	29,320
1953	328	300	206	160	141	210	615	4,270	4,090	940	593	343	12,200
1954	277	296	262	246	250	293	1,710	3,230	925	502	246	257	8,490
1955	235	221	167	154	139	205	533	4,680	1,810	610	454	227	9,440
1956	152	129	129	123	109	201	1,640	5,810	1,530	616	337	159	10,940
1957	222	178	135	135	148	231	536	4,770	9,730	1,460	629	341	18,520
1958	376	337	215	184	177	263	960	9,400	3,480	817	508	231	16,950
1959	201	205	178	169	139	179	509	3,400	1,370	576	241	171	7,340
1960	199	173	111	86	81	209	655	4,840	1,550	614	218	164	8,900

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	16.5	11,920
1951	1213	189	May 20, 1951	-	17.9	12,970	18.0	12,990
1952	1243	414	May 30, 1952	-	40.7	29,320	40.7	29,530
1953	1283	218	May 27, 1953	-	16.8	12,200	16.8	12,200
1954	1343	89	May 7, 1954	2.3	11.7	8,490	11.4	8,280
1955	1393	161	May 12, 1955	-	13.0	9,440	12.7	9,220
1956	1443	165	May 9, 1956	-	15.0	10,940	15.2	11,060
1957	1513	369	June 6, 1957	-	25.6	18,520	26.1	18,910
1958	1563	345	May 23, 1958	2.0	23.4	16,950	22.9	16,600
1959	1633	122	May 14, 1959	1.7	10.1	7,340	10.0	7,240
1960	1713	203	May 13, 1960	-	12.3	8,900	-	-

3105. Price River above Scofield Reservoir, near Scofield, Utah

Location.--Lat 39°46'30", long 111°10'45", in SE $\frac{1}{4}$ sec.18, T.12 S., R.7 E., on left bank at mouth of canyon, 800 ft upstream from bridge, half a mile upstream from Pondtown Creek, and 4 miles north of Scofield.

Drainage area.--62 sq mi, approximately.

Records available.--June to October 1931, April to September 1932, October 1938 to September 1960. Published as Fish Creek above reservoir, near Scofield prior to October 1938.

Gage.--Water-stage recorder. Altitude of gage is 7,630 ft (from topographic map). June 1931 to September 1932 at site 300 ft downstream at different datum. Oct. 1, 1938, to Oct. 8, 1958, at datum 0.34 ft higher.

Average discharge.--22 years (1938-60), 46.0 cfs (33,300 acre-ft per year).

Extremes.--1931-32, 1938-60: Maximum discharge, 1,070 cfs May 14, 1952 (gage height, 3.62 ft, datum then in use); minimum recorded, 2.3 cfs Nov. 13, 1959.

Remarks.--Small transmountain diversions in headwaters for irrigation in Sevier Lake basin and one diversion above station for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	10.0	11.2	7.8	5.8	5.70	7.9	83.6	259	98.0	29.6	19.3	10.1	45.9
1952	12.4	10.5	9.2	8	8	8.3	75.9	681	360	60.5	32.2	18.1	107
1953	14.7	17.3	15.0	13	11.4	15.3	39.0	182	158	35.4	19.3	11.0	44.5
1954	10.7	10.6	9.6	9	10	10.5	74.4	125	34.5	16.6	8.03	8.97	27.4
1955	8.65	9.40	8.4	8.0	8.0	10.4	32.0	219	78.0	23.3	15.0	8.38	36.0
1956	8.51	8.30	8.0	7.6	7.4	9.39	74.6	247	60.7	20.0	11.6	7.02	39.3
1957	8.43	8.15	6.50	6.0	7.29	10.6	31.0	217	354	53.9	23.5	14.4	61.7
1958	15.8	12.2	7.00	6.00	6.64	8.19	41.7	417	132	27.7	14.1	11.1	58.9
1959	9.01	8.35	7.71	7.48	7.25	8.35	21.6	112	41.3	12.9	6.67	7.24	20.9
1960	7.20	7.54	6.32	6	6	12.5	47.4	188	56.8	18.7	7.52	5.12	30.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	618	665	482	359	316	484	4,980	15,920	5,830	1,820	1,190	601	33,260
1952	762	627	563	492	460	508	4,520	41,850	21,420	3,720	1,980	1,080	77,980
1953	906	1,030	922	799	631	942	2,320	11,220	9,390	2,180	1,220	657	32,220
1954	659	631	593	553	556	647	4,450	7,670	2,050	1,020	494	534	19,940
1955	532	560	516	492	444	639	1,910	13,470	4,640	1,430	920	498	26,050
1956	523	494	492	467	426	577	4,440	15,180	3,610	1,230	710	418	28,570
1957	518	485	400	369	405	651	1,850	13,320	21,090	3,310	1,440	859	44,700
1958	970	724	430	369	369	504	2,480	25,860	7,870	1,700	869	862	42,610
1959	554	497	474	460	402	514	1,290	6,870	2,460	793	410	431	15,160
1960	443	449	389	369	345	768	2,820	11,540	3,580	1,150	463	305	22,420

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	44.2	32,010
1951	1213	433	May 20, 1951	-	45.9	33,260	46.2	33,450
1952	1243	1,070	May 14, 1952	-	107	77,980	109	78,880
1953	1283	492	May 28, 1953	-	44.5	32,220	43.2	31,240
1954	1343	213	May 8, 1954	5.3	27.4	19,840	27.0	19,560
1955	1393	448	May 12, 1955	-	36.0	26,050	35.8	25,950
1956	1443	448	May 6, 1956	-	39.3	28,570	39.2	28,460
1957	1513	818	June 4, 1957	-	61.7	44,700	62.7	45,420
1958	1563	868	May 23, 1958	-	58.9	42,610	58.0	42,010
1959	1633	221	May 14, 1959	-	20.9	15,160	20.6	14,910
1960	1713	479	May 13, 1960	3.2	30.9	22,420	-	-

3110. Scofield Reservoir near Scofield, Utah

Location.--Lat 39°47', long 111°08', in sec.10, T.12 S., R.7 E., on right bank 200 ft from face of dam on Price River and 5 miles northeast of Scofield.

Drainage area.--163 sq mi.

Records available.--October 1941, April 1942 to September 1960. Fragmentary records 1926-41 in files of Office of State Engineer.

Gage.--Staff gage. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to Nov. 8, 1945, at site 800 ft upstream (200 ft upstream from old dam) at datum 4.51 ft higher.

Extremes.--1941-60: Maximum contents, 76,450 acre-ft May 31, June 1, 1952 (elevation, 7,621.3 ft); minimum observed, 280 acre-ft Oct. 3, 1945 (elevation, 7,586.25 ft).

Remarks.--Reservoir is formed by earth- and rock-fill, rock-faced dam 800 ft downstream from old dam in use prior to Nov. 8, 1945. Storage began in May 1926. Usable capacity of reservoir formed by new dam is 65,780 acre-ft between elevations 7,586.0 (bottom of outlet works) and 7,617.5 ft (crest of spillway). Dead storage, 8,000 acre-ft below elevation 7,586.0 ft. Figures given herein represent usable contents. Water used for irrigation in vicinity of Price.

Contents, in acre-feet, on last day of month, of Scofield Reservoir near Scofield, Utah

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	25,250	26,520	27,370	29,350	30,880	32,230	37,120	53,760	51,390	59,030	34,300	26,520
1952	25,460	26,300	27,590	30,210	31,550	35,830	43,460	76,450	66,630	57,510	52,180	47,250
1953	43,710	43,920	43,870	46,060	48,280	50,870	54,030	58,320	57,510	46,740	39,520	31,100
1954	29,110	29,990	30,450	32,010	32,690	34,760	37,120	33,600	23,580	16,340	9,310	7,250
1955	6,640	7,090	7,710	8,990	10,150	11,530	14,810	26,090	22,340	12,960	9,150	3,680
1956	2,160	2,910	4,360	5,900	6,940	8,660	14,250	29,110	23,580	13,510	6,640	2,040
1957	1,330	1,450	2,410	3,680	4,630	6,050	9,510	26,520	52,970	44,710	41,720	37,850
1958	35,700	36,640	37,590	38,790	40,000	41,720	40,000	71,200	64,940	50,610	39,280	34,760
1959	32,010	32,230	32,010	32,910	34,530	35,930	34,300	34,530	27,800	18,700	13,520	8,180
1960	6,640	6,050	5,470	5,760	6,640	8,020	10,850	19,300	14,060	5,760	2,160	1,680

3115. Price River near Scofield, Utah

Location.--Lat 39°47'15", long 111°07'10", in SE $\frac{1}{4}$ sec.10, T.12 S., R.7 E., on left bank 800 ft downstream from Scofield Reservoir Dam, 5 miles northeast of Scofield, and 9 miles upstream from White River.

Drainage area.--163 sq mi.

Records available.--November 1917 to October 1918, April to November 1919, April to December 1920, July to September 1921, June to September 1925, April 1926 to September 1931, October 1938 to September 1960. Prior to October 1938, published as Fish Creek near Scofield.

Gage.--Water-stage recorder and concrete control. Datum of gage is 7,570.13 ft above mean sea level (levels by Bureau of Reclamation). Nov. 17, 1917, to Sept. 30, 1921, and Oct. 25, 1938, to Nov. 1, 1945, water-stage recorder and June 15 to Sept. 30, 1925, and Apr. 27, 1926, to Sept. 30, 1931, staff gage, near present site at various datums.

Average discharge.--27 years (1926-31, 1938-60), 62.2 cfs (45,030 acre-ft per year).

Extremes.--1917-21, 1925-31, 1938-60: Maximum daily discharge, 1,060 cfs May 31, June 1, 1952; practically no flow in each winter when reservoir gates were closed.

Remarks.--Flow completely regulated by Scofield Reservoir (see p. 332). Small diversions for irrigation above Scofield Reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	27.3	1.03	0.2	0.2	0.2	1.30	25.8	56.4	162	228	100	132	61.5
1952	29.6	10.8	.29	.2	.33	.7	1.11	43.9	655	230	125	105	133
1953	70.5	11.4	2.03	.4	.4	.5	13.4	146	219	212	135	139	79.6
1954	44.8	5.80	8.98	.65	8.12	.3	66.5	205	202	125	114	51.9	69.8
1955	23.1	8.14	.42	.2	.2	.2	.10	72.8	154	161	84.7	96.0	50.3
1956	32.5	7.02	4.59	.2	.1	.14	8.17	55.0	160	175	109	76.4	52.5
1957	24.9	7.00	.11	.10	.10	.12	9.99	3.42	66.3	199	62.6	65.2	36.9
1958	55.1	7.90	5.70	4.52	6.29	7.08	101	81.5	268	235	182	87.0	87.1
1959	44.3	12.3	11.3	2.45	.47	.22	85.7	120	147	164	81.6	90.7	63.6
1960	33.2	16.8	14.5	13.1	4.21	4.05	27.2	87.1	143	139	48.9	11.2	45.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,680	61	12	12	11	18	1,540	3,470	9,630	14,030	6,150	7,880	44,490
1952	1,820	645	18	12	19	43	66	27,020	38,950	14,140	7,680	6,250	96,660
1953	4,340	680	125	25	22	31	796	9,000	13,020	13,040	8,310	8,270	57,660
1954	2,760	345	552	40	451	18	3,960	12,580	12,040	7,690	6,990	3,090	50,520
1955	1,420	484	26	12	11	12	6.1	4,480	9,170	9,890	5,210	5,710	36,430
1956	2,000	418	282	12	5.8	8.7	486	3,380	9,520	10,740	6,690	4,550	38,090
1957	1,530	417	6.5	6.1	5.6	7.1	595	210	3,950	12,250	3,850	3,880	26,710
1958	3,390	470	350	278	349	435	6,000	5,010	15,970	14,480	11,180	5,180	63,090
1959	2,730	734	694	151	26	13	5,100	7,370	8,730	10,110	5,020	5,400	46,080
1960	2,040	1,000	891	805	242	249	1,620	5,350	8,520	8,540	3,010	664	32,930

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Maximum day		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	55.3	-	40,040
1951	1213	284	July 15, 16, 1951	-	61.5	44,490	62.5	-	45,220
1952	1243	1,060	(a)	-	133	96,660	137	-	99,520
1953	1283	270	July 2-4, 7, 1953	-	79.6	57,660	77.6	-	56,170
1954	1343	263	May 26, 1954	-	69.8	50,520	67.4	-	48,790
1955	1393	224	July 13, 1955	-	50.3	36,430	51.4	-	37,200
1956	1443	225	July 22, 1956	-	52.5	38,090	51.4	-	37,350
1957	1513	263	July 5, 6, 1957	-	36.9	26,710	40.0	-	28,960
1958	1563	392	June 3, 1958	1.4	87.1	63,090	87.1	-	63,040
1959	1633	217	July 24, 1959	.1	63.6	46,080	63.3	-	45,850
1960	1713	195	(b)	-	45.4	32,930	-	-	-

a May 31, June 1, 1952.

b June 30, July 1, 1960.

3125. White River near Soldier Summit, Utah

Location.--Lat 39°55'20", long 111°03'25", in NE $\frac{1}{4}$ sec.30, T.10 S., R.8 E., on left bank 600 ft downstream from North Fork and 1 mile southeast of Soldier Summit.

Drainage area.--52 sq mi (revised), approximately.

Records available.--April to October 1938, March 1939 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 7,340 ft (from topographic map).

Average discharge.--21 years (1939-60), 19.6 cfs (14,190 acre-ft per year).

Extremes.--1938-60: Maximum discharge, 1,120 cfs May 5, 1952 (gage height, 4.53 ft); no flow at times in July, August, and September 1939.

Remarks.--Two small diversions from North Fork for irrigation.

Correction.--Drainage area published in error in WSP 1313.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.11	3.79	3.98	3.45	3.45	5.45	55.7	94.0	31.0	9.45	5.08	3.24	18.5
1952	3.28	3.10	3.10	2.5	2.5	3.16	148	495	85.5	23.5	12.4	7.58	66.1
1953	4.95	5.03	4.5	4.1	3.99	6.44	29.1	67.0	30.9	10.7	6.45	4.01	14.8
1954	3.81	2.75	2.39	2.2	2.64	4.52	32.4	29.0	10.2	5.15	2.42	3.03	8.38
1955	3.18	2.64	2.28	2.1	2.1	2.84	32.1	90.5	22.6	9.14	7.12	3.21	15.1
1956	3.83	3.92	3.81	3.6	3.5	10.6	77.7	132	26.8	9.26	4.62	3.30	22.1
1957	3.21	3.06	2.85	2.8	3.63	6.27	32.5	164	74.2	18.3	9.26	8.15	27.5
1958	8.75	5.94	4.0	3.5	3.91	4.85	41.7	179	31.9	10.3	5.44	4.50	25.5
1959	4.03	3.12	3.02	2.5	2.59	3.55	13.1	13.0	4.95	1.18	.55	1.06	4.39
1960	1.71	1.70	.95	1.55	2.17	4.55	24.5	42.8	10.5	3.27	1.95	2.94	8.23

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	191	226	245	212	191	335	3,320	5,780	1,840	581	312	193	13,430
1952	202	184	190	154	144	194	8,810	30,410	5,090	1,430	763	451	48,020
1953	304	299	277	252	221	396	1,730	4,120	1,840	658	397	238	10,730
1954	234	163	147	135	147	278	1,930	1,780	605	317	149	180	6,060
1955	196	157	140	129	117	175	1,910	5,560	1,340	562	438	191	10,920
1956	236	233	234	221	201	651	4,620	6,960	1,590	570	284	196	16,000
1957	197	182	175	172	202	385	1,930	10,070	4,420	1,120	569	485	19,910
1958	558	353	246	215	217	299	2,480	11,010	1,900	632	335	268	18,490
1959	248	186	185	154	144	218	780	799	294	72	34	63	3,180
1960	105	101	58	95	125	280	1,460	2,630	626	201	120	175	5,980

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	22.6	16,380	
1951	1213	130	May 12, 1951	-	18.5	13,430	18.4	13,340	
1952	1243	1,120	May 5, 1952	-	66.1	48,020	66.6	48,330	
1953	1283	95	Apr. 27, 28, 1953	1.3	14.8	10,730	14.4	10,400	
1954	1343	115	July 17, 1954	-	8.38	6,060	8.31	6,010	
1955	1393	171	Aug. 18, 1955	-	15.1	10,920	15.4	11,120	
1956	1443	198	May 7, 1956	2.8	22.1	16,000	21.8	15,850	
1957	1513	270	May 9, 1957	2.0	27.5	19,910	28.3	20,490	
1958	1563	318	May 11, 1958	-	25.5	18,490	24.8	17,980	
1959	1633	34	Apr. 6, 1959	.3	4.39	3,180	3.90	2,820	
1960	1713	77	May 10, 1960	.3	8.23	5,980	-	-	

3130. Price River near Heiner, Utah

Location.--Lat 39°43'05", long 110°51'55", in SW $\frac{1}{4}$ sec.1, T.13 S., R.9 E., on left bank two-thirds of a mile north of Heiner and three-quarters of a mile downstream from Willow Creek.

Drainage area.--455 sq mi.

Records available.--June 1934 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,000 ft (from topographic map). Prior to Apr. 25, 1957, at datum 1.1 ft higher.

Average discharge.--26 years (1934-60), 112 cfs (81,080 acre-ft per year).

Extremes.--1934-60: Maximum discharge, 9,340 cfs Sept. 13, 1940 (gage height, 7.98 ft, datum then in use), from rating curve extended above 750 cfs on basis of slope-area measurements at gage heights 6.16 and 7.98 ft; minimum, less than 1 cfs at times Sept. 1-10, 1934.

Remarks.--Several small diversions from tributaries above station for irrigation and municipal supply. Flow affected by Scofield Reservoir (see p. 332).

Correction.--In WSP 1313, some figures in calendar year 1944 and water year 1945 are published in error; they should be as follows:

Month	Mean	Acre-feet
December 1944.....	10.1	623
Calendar year 1944.....	-	99,130
Water year 1944-45.....	93.1	67,400

The date of the momentary maximum for the 1935 water year should be Aug. 26, 1935.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	45.6	17.6	14.4	11.5	17.1	41.3	113	209	232	245	118	134	100
1952	45.5	21.3	13.2	14.9	17	20.0	523	1,538	913	297	183	131	310
1953	92.2	29.4	19.6	18.4	20	32.1	68.9	230	258	244	161	144	110
1954	57.8	13.5	15.2	8.65	28.3	35.6	118	237	217	132	115	70.6	87.8
1955	45.9	16.8	6.63	5.45	6.12	13.8	87.9	216	182	179	108	106	81.5
1956	39.8	12.9	14.6	8.38	8.91	345	106	214	190	181	122	79.9	84.7
1957	30.6	10.2	4.52	5.90	6.79	12.8	71.5	289	229	230	121	78.4	91.4
1958	69.5	23.2	16.6	17.2	23.5	31.6	313	621	416	270	185	97.0	174
1959	51.8	19.5	16.6	9.25	8.68	16.8	108	158	147	140	89.3	92.2	70.0
1960	36.8	18.9	16.9	14.9	9.33	21.6	79.1	154	149	135	45.3	10.8	57.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,800	1,050	885	706	952	2,540	6,750	12,850	13,800	15,040	7,260	7,980	72,610
1952	2,790	1,270	811	914	978	1,230	31,140	94,550	54,310	18,250	11,230	7,790	225,300
1953	5,670	1,750	1,200	1,130	1,110	1,980	4,100	14,170	15,360	14,990	9,880	8,560	79,900
1954	3,550	805	954	532	1,570	2,190	7,010	14,580	12,890	8,090	7,070	4,200	63,420
1955	2,820	998	407	335	340	849	5,230	13,270	10,860	10,990	6,630	6,290	59,020
1956	2,450	768	900	515	513	2,120	6,330	13,180	11,340	11,120	7,500	4,750	61,490
1957	1,880	606	278	363	377	790	4,260	17,780	13,610	14,120	7,430	4,660	66,150
1958	4,270	1,380	1,020	1,060	1,290	1,940	18,610	38,210	24,720	16,610	11,370	5,770	126,200
1959	3,190	1,160	1,020	568	482	1,030	6,400	8,490	8,770	8,590	5,490	5,490	50,680
1960	2,260	1,130	1,040	918	537	1,330	4,710	9,460	8,860	8,310	2,780	645	41,990

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	113	82,050
1951	1213	528	Aug. 4, 1951	8	100	72,610	100	72,750
1952	1243	2,620	Apr. 28, 1952	-	310	225,300	315	229,000
1953	1283	2,460	Aug. 28, 1953	-	110	79,900	106	76,570
1954	1343	1,070	Sept. 26, 1954	-	87.6	63,420	86.1	62,360
1955	1393	1,340	Oct. 7, 1954	4.0	81.5	59,020	81.4	58,910
1956	1443	622	July 2, 1956	3.5	84.7	61,490	82.8	60,130
1957	1513	2,320	Aug. 7, 1957	3.0	91.4	66,150	96.8	70,060
1958	1563	1,010	May 11, 1958	10	174	126,200	173	125,000
1959	1633	751	Aug. 25, 1959	7.9	70.0	50,680	68.7	49,740
1960	1713	315	July 7, 1960	5.0	57.8	41,990	-	-

3140. Price River near Wellington, Utah

Location.--Lat 39°30'40", long 110°40'50" in NW¼ sec.22, T.15 S., R.11 E., on left bank 0.3 mile upstream from Miller Creek and 3.5 miles southeast of Wellington.

Drainage area.--850 sq mi, approximately.

Records available.--October 1949 to September 1958.

Gage.--Water-stage recorder. Altitude of gage is 5,300 ft (by barometer).

Average discharge.--9 years (1949-58), 75.4 cfs (54,590 acre-ft per year).

Extremes.--1949-58: Maximum discharge, 4,190 cfs Aug. 28, 1953 (gage height, 10.22 ft), from rating curve extended above 1,800 cfs on basis of slope-area measurements at gage heights 8.87 and 10.22 ft; minimum, 2.4 cfs Nov. 19, 1956.

Remarks.--Many diversions for irrigation above and below station. Flow affected by storage in Scofield Reservoir (see p. 332).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	23.4	24.1	20.6	18.7	23.0	51.7	25.4	38.1	48.2	43.5	86.7	22.6	35.7
1952	24.4	32.7	22.7	27.4	35	48.6	609	1,618	780	100	89.3	58.7	288
1953	42.3	33.2	41.6	40	43.7	44.1	49.7	45.8	51.6	79.5	81.9	39.3	49.5
1954	38.1	24.7	24.3	21.2	45.8	48.9	35.7	44.1	34.3	34.9	32.6	68.4	37.7
1955	47.4	19.5	12.3	9.32	11.0	43.1	81.5	32.2	26.6	26.0	42.7	13.1	30.5
1956	16.9	19.5	23.8	15.7	15.9	44.9	16.3	25.0	19.3	33.5	13.7	10.4	21.3
1957	15.2	13.5	10	10	19.1	26.6	18.8	116	92.2	47.5	219	34.5	52.2
1958	31.8	63.1	28.7	28	40.9	29.7	297	509	171	42.0	32.0	46.0	110
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,440	1,430	1,270	1,150	1,280	3,180	1,510	2,340	2,870	2,680	5,330	1,350	25,830
1952	1,500	1,940	1,390	1,680	2,010	2,990	36,230	99,310	46,440	6,150	5,490	3,490	208,800
1953	2,600	1,970	2,560	2,480	2,450	2,710	2,960	2,820	3,070	4,890	5,040	2,340	35,850
1954	2,340	1,470	1,490	1,500	2,540	3,010	2,130	2,710	2,040	2,150	2,010	4,070	27,260
1955	2,920	1,160	756	573	613	2,650	4,850	1,980	1,580	1,600	2,630	779	22,090
1956	1,040	1,160	1,470	964	914	2,760	970	1,540	1,150	2,060	840	617	15,480
1957	932	801	615	615	1,060	1,640	1,120	7,120	5,490	2,920	13,440	2,050	37,800
1958	1,950	3,750	1,770	1,720	2,270	1,820	17,670	31,300	10,160	2,580	1,970	2,740	79,700
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	51.1	37,030
1951	1213	3,250	Aug. 4, 1951	-	35.7	25,830	36.6	26,520
1952	1243	2,370	May 5, 1952	13	288	208,800	291	211,100
1953	1293	4,190	Aug. 28, 1953	-	49.5	35,850	47.0	34,020
1954	1343	2,200	Sept. 4, 1954	13	37.7	27,260	37.0	26,800
1955	1393	1,740	July 25, 1955	-	30.5	22,090	28.9	20,920
1956	1443	1,020	July 13, 1956	8.1	21.3	15,480	19.5	14,160
1957	1513	3,430	Aug. 30, 1957	8.8	52.2	37,800	59.3	42,920
1958	1563	1,650	Nov. 3, 1957	18	110	79,700	-	-
1959								
1960								

3145. Price River at Woodside, Utah

Location.--Lat 39°15'50", long 110°20'45", in SE $\frac{1}{4}$ sec.9, T.18 S., R.14 E., on left bank at downstream side of bridge on U. S. Highway 50 at Woodside, 20 miles upstream from mouth.

Drainage area.--1,500 sq mi, approximately.

Records available.--September 1909 to December 1910, January to August 1911 (gage heights only), November 1945 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,600 ft (by barometer). September 1909 to August 1911 reference point at site about 100 ft upstream at different datum. Nov. 27, 1945, to Oct. 16, 1954, water-stage recorder at site 15 ft downstream at datum 1.85 ft higher.

Average discharge.--14 years (1946-60), 97.5 cfs (70,590 acre-ft per year).

Extremes.--1909-11, 1945-60: Maximum discharge observed, 8,150 cfs Sept. 1, 1909 (gage height, 1.8 ft below reference point, site and datum then in use), from rating curve based on many float measurements; no flow for several days in July, August, and September of 1910 and 1960.

Remarks.--Diversion above station for irrigation of about 18,000 acres, most of which is above station. Flow affected by storage in Scofield Reservoir since 1926 (see p. 332). Records of chemical analyses for the period December 1946 to September 1949 and February 1951 to September 1960 and water temperatures for the period February 1951 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	48.9	51.3	48.2	33.5	52.0	81.7	51.0	84.2	100	70.0	314	54.7	83.0
1952	90.6	52.4	30.1	31.1	48.1	152	646	1,762	888	145	151	89.9	341
1953	75.6	71.0	59.2	56	63.2	85.3	69.8	75.5	85.2	101	176	55.0	81.3
1954	87.4	63.3	36.7	40.6	78.5	76.8	59.9	62.2	52.9	64.0	50.3	200	72.4
1955	134	48.6	24.2	20.0	23.0	174	101	53.0	33.9	25.5	78.5	15.8	61.4
1956	22.1	28.0	44.0	34.3	38.8	56.8	38.7	39.8	25.6	48.1	22.1	8.33	33.9
1957	19.4	18.6	14.0	16.7	41.0	43.6	36.3	197	172	104	478	82.6	105
1958	97.6	337	51.0	50.0	81.9	90.9	356	643	221	70.8	78.8	109	182
1959	46.3	44.3	45.8	40.2	45.4	45.4	29.1	26.4	21.9	9.95	106	71.5	44.6
1960	33.1	32.8	26.2	26.1	30	104	37.4	20.4	14.8	4.21	17.6	40.6	32.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,010	3,050	2,960	2,060	2,690	5,020	3,040	5,170	5,970	4,310	19,330	3,250	60,060
1952	5,570	3,120	1,850	1,910	2,770	9,350	38,420	106,400	52,860	8,940	9,260	5,350	247,800
1953	4,650	4,230	3,840	3,440	3,510	5,240	4,150	4,640	5,070	6,210	10,800	3,270	58,850
1954	5,370	3,770	2,260	2,500	4,360	4,720	3,570	3,830	3,150	3,930	3,090	11,890	52,440
1955	8,210	2,690	1,490	1,230	1,280	10,680	6,030	3,260	2,020	1,570	4,820	943	44,420
1956	1,360	1,670	2,700	2,110	2,230	3,490	2,300	2,450	1,520	2,960	1,360	496	24,650
1957	1,190	1,110	861	1,030	2,280	2,660	2,160	12,140	10,220	6,400	29,370	4,920	74,360
1958	6,000	20,050	3,140	3,070	4,550	5,590	21,200	39,550	13,170	4,350	4,840	6,500	132,000
1959	2,850	2,640	2,980	2,470	2,520	2,790	1,730	1,620	1,300	612	6,500	4,250	32,260
1960	2,040	1,950	1,610	1,610	1,730	6,380	2,220	1,260	881	259	1,080	2,420	23,440

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	91.0	85,850
1951	1213	7,720	Aug. 4, 1951	19	83.0	60,060	85.1	81,580
1952	1243	3,460	Aug. 27, 1952	16	341	247,800	344	249,800
1953	1283	4,650	Aug. 28, 1953	35	81.3	58,850	79.8	57,730
1954	1343	5,420	Sept. 4, 1954	16	72.4	52,440	74.1	53,630
1955	1393	5,020	Oct. 8, 1954	8.7	61.4	44,420	51.9	37,560
1956	1443	487	July 30, 1956	6.4	33.9	24,650	30.4	22,080
1957	1513	6,430	Aug. 7, 1957	-	105	74,360	139	100,400
1958	1563	6,810	Nov. 3, 1957	34	182	132,000	154	111,300
1959	1633	2,170	Aug. 20, 1959	4.4	44.8	32,260	40.6	29,390
1960	1713	1,530	Sept. 2, 1960	0	32.3	23,440	-	-

3150. Green River at Green River, Utah

Location.--Lat 38°59'10", long 110°09'00", in NW 1/4 sec. 15, T. 21 S., R. 16 E., on right bank 100 ft upstream from old highway bridge, 1 mile southeast of town of Green River, 22 miles upstream from San Rafael River, and 117 miles upstream from mouth.

Drainage area.--40,600 sq mi, approximately.

Records available.--October 1894 to October 1899, October 1904 to September 1960. Published as "at Blake" 1894-99, as "near Elgin" 1911, and as "at Little Valley, near Green River" 1910-23.

Gage.--Water-stage recorder. Datum of gage is 4,040.18 ft above mean sea level, datum of 1929. Prior to Nov. 6, 1914, staff, wire-weight, or chain gages at several sites within 7 miles of present site at various datums. Nov. 6, 1914, to June 20, 1924, water-stage recorder at site 7 miles downstream at different datum. June 21 to Sept. 18, 1924, chain gage and Sept. 19, 1924, to May 7, 1947, water-stage recorder, at site 100 ft downstream at present datum.

Average discharge.--61 years (1894-99, 1904-60), 6,540 cfs (4,735,000 acre-ft per year).

Extremes.--1894-99, 1904-60: Maximum discharge, 68,100 cfs June 27, 1917 (gage height, 14.53 ft, site and datum then in use); minimum, 255 cfs Nov. 26, 1931; minimum gage height, 4.08 ft Aug. 1, Dec. 5, 1934.

Remarks.--Diversions for irrigation above station. Records of chemical analyses and suspended sediment loads are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,492	2,792	2,779	1,845	3,011	5,326	6,247	14,350	22,000	10,200	6,158	2,986	6,522
1952	3,423	2,755	2,144	2,187	2,440	2,601	16,600	33,940	30,400	8,365	5,125	3,096	9,419
1953	2,096	2,059	2,096	2,272	2,542	3,525	3,712	7,382	19,610	6,120	3,442	1,468	6,689
1954	1,403	2,107	1,743	1,745	2,487	2,752	4,537	10,400	6,318	5,623	1,946	2,253	3,617
1955	2,254	2,015	1,295	1,296	1,556	3,862	5,226	11,020	11,000	3,620	2,616	1,188	3,921
1956	1,255	1,450	2,065	2,514	1,756	5,110	7,731	16,180	20,290	4,777	2,750	1,217	5,588
1957	1,243	1,666	1,292	1,354	1,801	3,846	4,878	14,840	31,440	18,930	6,283	3,391	7,597
1958	3,006	3,834	2,422	2,076	3,306	4,005	7,263	21,320	19,730	3,643	1,792	1,609	6,169
1959	1,481	1,714	1,858	1,579	2,044	2,379	3,678	7,812	12,820	5,627	2,920	1,743	3,806
1960	2,698	2,552	1,728	1,547	1,769	5,210	8,968	8,962	11,470	2,768	1,121	987	4,158

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	153.2	166.1	170.9	113.3	167.2	204.5	371.7	882.1	1,309	627.2	378.7	177.7	4,722
1952	210.5	165.9	151.8	134.5	140.4	159.9	987.6	2,087	1,809	514.4	315.1	184.2	6,838
1953	128.9	122.5	128.9	139.7	141.2	216.8	220.9	453.9	1,167	376.3	211.6	87.53	3,395
1954	86.28	125.4	107.1	107.3	138.1	169.2	270.0	639.8	375.8	345.8	119.7	134.1	2,618
1955	138.6	119.9	79.66	79.72	86.40	237.5	311.0	677.6	654.5	222.6	160.9	70.66	2,639
1956	77.20	86.27	127.0	154.6	99.84	314.2	460.0	994.9	1,207	293.7	189.1	72.42	4,056
1957	76.46	99.13	79.42	83.27	100.0	236.5	290.3	912.7	1,871	1,164	586.3	201.8	5,501
1958	184.8	228.1	148.9	127.7	183.6	246.2	432.2	1,311	1,174	224.0	110.2	95.76	4,466
1959	91.08	102.0	114.2	97.09	113.5	146.3	218.9	460.4	762.7	346.0	179.5	103.7	2,755
1960	178.2	151.9	106.3	95.11	101.7	320.3	533.7	551.0	682.5	170.2	68.94	58.73	3,019

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	7,564	5,476,000
1951	1213	30,600	June 2, 1951	1,290	6,522	4,722,000	6,544	4,738,000
1952	1243	45,500	May 11, 1952	1,090	9,419	6,838,000	9,245	6,712,000
1953	1283	28,500	June 18, 1953	1,000	4,689	3,395,000	4,604	3,334,000
1954	1343	18,600	May 27, 1954	850	3,617	2,618,000	3,643	2,638,000
1955	1393	14,400	May 19, 1955	914	3,921	2,839,000	3,856	2,791,000
1956	1443	29,800	June 3, 1956	914	5,588	4,056,000	5,539	4,021,000
1957	1513	42,900	June 18, 1957	988	7,597	5,501,000	8,021	5,808,000
1958	1563	38,000	June 1, 1958	1,380	6,169	4,466,000	5,818	4,212,000
1959	1633	17,100	July 3, 1959	910	3,606	2,755,000	3,984	2,884,000
1960	1713	15,400	June 11, 1960	828	4,158	3,019,000	-	-

† Corrected.

3155. Saleratus Wash at Green River, Utah

Location.--Lat 38°59'10", long 110°09'35", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.16, T.21 S., R.16 E., on right bank half a mile southeast of town of Green River and three-quarters of a mile upstream from mouth.

Drainage area.--200 sq mi, approximately.

Records available.--October 1948 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,065 ft (from river-profile map).

Prior to July 28, 1955, at present site at different datum. July 28, 1955, to Feb. 5, 1960, at site 1,300 ft upstream at different datum.

Average discharge.--12 years (1948-60), 2.76 cfs (2,000 acre-ft per year).

Extremes.--1948-60: Maximum discharge, 4,850 cfs July 8, 1950 (gage height, 8.67 ft, datum then in use), from rating curve extended above 650 cfs on basis of slope-area measurements at gage heights 6.10 and 8.67 ft; no flow for most of each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.37	0.15	0.14	0.11	0.13	0.07	0.15	1.15	2.03	6.11	32.0	1.52	3.72
1952	21.8	1.24	.13	4.60	3.14	.30	.14	.37	.68	.38	8.50	2.12	3.64
1953	.35	.05	.08	.07	.15	.05	0	.31	.43	2.93	10.5	.42	1.30
1954	7.06	3.86	.1	.1	.004	.07	.14	.39	.41	.38	.36	19.1	2.65
1955	6.43	.1	0	0	0	3.42	.05	2.67	4.07	5.54	1.66	.007	2.02
1956	0	.007	0	0	0	0	0	.62	0	.43	.006	0	.11
1957	.11	0	0	0	0	0	0	1.42	12.0	5.37	38.1	0	4.79
1958	28.2	37.3	0	0	.05	0	0	.10	0	0	5.54	1.43	6.06
1959	0	1.06	0	0	0	0	0	0	0	.35	9.14	12.3	1.90
1960	4.58	0	0	0	.01	0	0	0	0	0	0	4.50	.76

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	23	8.9	8.7	6.7	7.1	4.6	9.1	70.6	121	3751	970	91	2,700
1952	1,340	74	7.9	283	181	18	8.5	23	40	24	523	126	2,650
1953	22	3.0	4.8	4.2	8.3	2.9	0	19	26	180	643	25	938
1954	434	230	6.1	6.1	.2	4.4	8.3	24	24	23	22	1,140	1,920
1955	396	6.0	0	0	0	210	3.2	164	242	341	102	0.4	1,460
1956	0	.4	0	0	0	0	0	50	0	26	.4	0	77
1957	6.9	0	0	0	0	0	0	87	712	3302	340	0	3,480
1958	1,730	2,220	0	0	3	0	0	6.0	0	0	341	85	4,380
1959	0	63	0	0	0	0	0	0	0	22	562	730	1,360
1960	282	0	0	0	.4	0	0	0	0	0	0	268	549

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	2.37	1,710
1951	1243	1,630	Aug. 4, 1951	0	3.72	2,700	5.63	4,080
1952	1243	1,810	Aug. 9, 1952	0	3.64	2,650	1.73	1,260
1953	1283	1,340	Aug. 1, 1953	0	1.30	958	2.18	1,580
1954	1343	2,340	Sept. 13, 1954	0	2.65	1,920	2.28	1,650
1955	1513	700	July 25, 1955	0	2.02	1,460	1.47	1,060
1956	1513	372	May 24, 1956	0	.11	77	.12	83
1957	1513	2,250	Aug. 30, 1957	0	4.79	3,460	10.3	7,420
1958	1563	2,700	Nov. 2, 1957	0	6.06	4,360	.69	498
1959	1633	1,510	Aug. 19, 1959	0	1.90	1,360	2.20	1,600
1960	1713	1,170	Oct. 28, 1959	0	.76	549	-	-

3160. Browns Wash near Green River, Utah

Location.--Lat 38°59'10", long 110°07'45", in NW¼SW¼ sec.14, T.21 S., R.16 E., on right bank a quarter of a mile upstream from The Denver & Rio Grande Western Railroad Co. bridge, 1¼ miles upstream from mouth, and 1½ miles east of Green River.

Drainage area.--75 sq mi, approximately.

Records available.--February 1949 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,085 ft (from river-profile map). Prior to Feb. 4, 1960, at site a quarter of a mile downstream at different datums.

Average discharge.--11 years (1949-60), 1.01 cfs (731 acre-ft per year).

Extremes.--1949-60: Maximum discharge, 5,620 cfs Aug. 19, 1959 (gage height unknown), from slope-area measurement of peak flow; no flow for most of time.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	0.18	0.18	0.05	16.1	0	1.40
1952	5.31	0	0	1.27	4.43	0	0	0	0	0.90	4.44	0.99	1.44
1953	0	0	0	0.01	0.03	0	0	0.007	0	2.36	4.46	0	.24
1954	2.62	1.12	0	0	0	0.07	0	0	0	0.30	0	3.07	.60
1955	7.62	0	0	0	0	2.16	0	0	0	0	.31	0.05	.86
1956	0	0	0	0	0	0	0	0	0	.09	.75	0	.07
1957	.12	0	0	0	0	0	0	.17	.31	.48	19.9	.37	1.81
1958	6.19	17.7	0	.03	.01	.04	0	0	0	0	.98	1.02	2.16
1959	0	0	0	0	0	0	0	0	.06	0	15.7	.7	1.40
1960	2.10	0	0	0	0	0	0	0	0	0	0	.01	.18

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	11	11	3.0	990	0	1,020
1952	326	0	0	78	255	0	0	0	0	56	273	59	1,050
1953	0	0	0	.6	1.6	0	.4	0	0	145	28	0	176
1954	161	66	0	0	0	4.4	0	0	0	18	0	183	432
1955	469	0	0	0	0	133	0	0	0	0	19	1.8	623
1956	0	0	0	0	0	0	0	0	0	5.8	46	0	52
1957	7.5	0	0	0	0	0	0	10	18	30	1,220	22	1,310
1958	381	1,050	1.8	.8	2.2	2.4	0	0	0	0	60	61	1,560
1959	0	0	0	0	0	0	0	0	3.6	0	968	42	1,010
1960	129	0	0	0	0	0	0	0	0	0	0	.6	130

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	0.04	27
1951	1213	2,120	Aug. 29, 1951	0	1.40	1,020	1.85	1,340
1952	1243	2,710	Aug. 26, 1952	0	1.44	1,050	.99	721
1953	1283	816	July 31, 1953	0	.24	176	.56	403
1954	1343	2,880	Sept. 13, 1954	0	.60	432	.93	674
1955	1393	5,100	Oct. 7, 1954	0	.86	623	.21	154
1956	1443	531	Aug. 1, 1956	0	.07	52	.08	59
1957	1513	a5,500	Aug. 21, 1957	0	1.81	1,310	3.78	2,730
1958	1563	352	Nov. 4, 1957	0	2.16	1,560	.17	126
1959	1633	5,620	Aug. 19, 1959	0	1.40	1,010	1.58	1,140
1960	1713	(b)	Oct. 28, 1959	0	.18	130	-	-

a About.

b Not determined.

3175. Candland ditch near Mount Pleasant, Utah
(Transmountain diversion)

Location.--Lat 39°33', long 111°19', in NW¼ sec.1, T.15 S., R.5 E., 150 ft west of Skyline Drive, 8 miles east of Mount Pleasant, and 9.4 miles south of junction of Skyline Drive with Fairview-Huntington road.

Records available.--October 1949 to September 1958.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 9,900 ft (from topographic map).

Extremes.--1949-58: Maximum daily discharge, 7.3 cfs June 6, 1958; no flow for many days in each year.

Remarks.--Candland ditch diverts water from tributary of San Rafael River to San Pitch River in Sevier Lake basin for irrigation.

Monthly and yearly diversion, in acre-feet, of Candland ditch near Mount Pleasant, Utah

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.2	0	0	0	0	0	0	6	145	62	10	1	224
1952	0	0	0	0	0	0	12	256	238	61	11	8	583
1953	6	1	0	0	0	0	0	31	39	42	15	0	134
1954	0	0	0	0	0	0	0	20	116	28	0	0	164
1955	0	0	0	0	0	0	0	3	52	24	2	0	81
1956	0	0	0	0	0	0	0	38	80	36	1	0	155
1957	0	0	0	0	0	0	0	0	54	73	22	2	151
1958	0	0	0	0	0	0	0	32	206	52	9	2	301
1959													
1960													

3180. Huntington Creek near Huntington, Utah

Location.--Lat 39°22'20", long 111°03'45", in SE $\frac{1}{4}$ sec.6, T.17 S., R.8 E., on left bank at upstream side of farm road bridge, 1 mile upstream from Fish Creek, and 7 miles north-west of Huntington.

Drainage area.--188 sq mi.

Records available.--May 1909 to September 1917, October 1918 to November 1920 (fragmentary), April 1921 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,200 ft (from topographic map). Prior to Apr. 30, 1913, staff gage 5 ft downstream at different datum. May 1, 1913, to Sept. 10, 1917, water-stage recorder at site 95 ft upstream, datum same as that of preceding gage. Sept. 11, 1917, to May 28, 1934, water-stage recorder at approximately present site and datum.

Average discharge.--45 years (1910-17, 1921-29, 1930-60), 97.5 cfs (70,590 acre-ft per year).

Extremes.--1909-60: Maximum discharge, 2,500 cfs Aug. 2 or 3, 1930 (gage height, 7.5 ft, from floodmark), from rating curve extended above 600 cfs; minimum recorded, 2 cfs Nov. 5, 1926.

Remarks.--Small diversions above station for irrigation, including transmountain diversions to tributaries of San Pitch River (Sevier Lake basin). Slight regulation by small reservoirs above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	34.4	31.3	29.6	27.0	23.9	29.6	82.7	266	260	172	91.2	64.4	93.1
1952	38.2	27.8	25.4	25.6	32.4	35.0	124	850	776	251	169	131	207
1953	67.9	43.0	40	37	39.2	46.5	79.4	185	318	187	102	73.0	102
1954	41.9	33.2	29.3	28.2	35.3	37.0	91.7	150	122	75.9	46.5	33.2	60.5
1955	29.3	23.7	21.2	19.1	21.4	24.3	38.3	168	156	138	67.1	28.3	61.6
1956	26.6	21.5	24.5	26.2	24.7	29.9	87.7	230	160	158	58.7	27.4	73.1
1957	25.8	19.8	19.0	19.0	22.5	23.7	37.6	226	597	206	116	92.4	116
1958	77.5	37.3	32.8	30.0	31.9	34.4	95.2	611	412	183	150	47.8	146
1959	38.7	25.8	26.4	25.3	26.7	28.9	53.0	107	93.5	93.4	63.9	26.2	50.9
1960	26.0	21.3	20.0	19.1	21.2	25.5	57.6	156	130	132	64.1	24.2	58.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,120	1,860	1,820	1,660	1,330	1,820	4,920	16,360	15,500	10,550	5,610	3,830	67,380
1952	2,350	1,650	1,560	1,570	1,870	2,150	7,370	52,260	46,200	15,430	10,390	7,810	150,600
1953	4,170	2,560	2,460	2,280	2,180	2,860	4,720	11,350	18,940	11,510	6,280	4,340	73,650
1954	2,570	1,980	1,800	1,730	1,960	2,270	5,460	9,230	7,270	4,670	2,960	1,980	43,780
1955	1,800	1,410	1,300	1,170	1,190	1,490	2,280	10,350	9,290	8,500	4,120	1,680	44,580
1956	1,630	1,290	1,510	1,610	1,420	1,840	5,220	14,130	9,500	9,710	3,610	1,630	54,000
1957	1,590	1,160	1,170	1,170	1,250	1,460	2,240	13,920	34,930	12,680	7,130	5,500	84,200
1958	4,760	2,220	2,020	1,840	1,770	2,120	5,670	37,560	24,520	11,240	9,230	2,840	105,800
1959	2,380	1,540	1,620	1,560	1,480	1,780	3,150	6,560	5,740	5,740	3,930	1,560	36,870
1960	1,600	1,270	1,230	1,170	1,220	1,570	3,430	9,610	7,750	8,100	3,340	1,440	42,330

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	85.7
1951	1213	800	Aug. 23, 1951	-	93.1	67,380	92.7
1952	1243	1,580	June 4, 1952	-	207	150,600	212
1953	1293	1,650	July 10, 1953	-	102	73,650	97.8
1954	1343	257	July 13, 1954	22	60.5	43,780	57.9
1955	1393	338	May 11, 1955	-	61.6	44,580	61.5
1956	1443	1,940	July 30, 1956	14	73.1	54,000	72.4
1957	1513	1,170	June 6, 1957	-	116	84,200	123
1958	1563	1,180	May 23, 1958	22	146	105,800	141
1959	1633	227	Aug. 1, 1959	15	50.9	36,870	48.9
1960	1713	442	May 12, 1960	15	58.3	42,330	-

Transmountain diversions from Cottonwood Creek basin to San Pitch River basin, Utah

Water for irrigation is diverted by nine tunnels or ditches from tributaries of Cottonwood Creek in San Rafael River basin to San Pitch River basin, a part of Sevier Lake basin. The diversions have been made for many years, but records are available since September or October 1949 only. Records collected since 1950 for each tunnel or ditch, as measured at or near the divide between Colorado River basin and The Great Basin, are given in the tables herewith. There are other transmountain diversions from Colorado River basin to San Pitch River basin, records for which are given elsewhere in this report.

3190. Ephraim tunnel near Ephraim, Utah

Location.--Lat 39°19', long 111°26', in NW $\frac{1}{4}$ sec.24, T.17 S., R.4 E., at east tunnel portal, 9 miles east of Ephraim.

Records available.--September 1949 to September 1960.

Gage.--Water-stage recorder and masonry control. Altitude of gage is 9,500 ft (from topographic map).

Extremes.--1949-60: Maximum daily discharge, 104 cfs June 2, 1960; no flow at times in some years.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	15	18	12	6	6	12	24	1,030	1,810	155	55	37	3,180
1952	28	18	12	6	6	12	24	894	1,800	935	142	45	3,920
1953	37	21	12	6	6	12	24	97	2,990	421	65	31	3,720
1954	12	12	6	6	6	12	18	1,890	427	58	12	24	2,480
1955	21	18	12	12	11	12	24	1,050	1,600	168	0	23	2,950
1956	18	18	12	12	12	12	29	2,210	1,040	153	0	9	3,530
1957	18	18	12	12	11	12	29	176	1,010	990	127	45	2,460
1958	37	30	18	18	17	18	18	1,520	2,220	220	28	31	4,180
1959	40	30	25	19	17	18	18	921	1,140	108	10	12	2,360
1960	12	12	12	12	12	12	18	1,640	1,490	68	1	6	3,300

3200. Horseshoe tunnel near Ephraim, Utah

Location.--Lat 39°22', long 111°27', in SW $\frac{1}{4}$ sec.2, T.17 S., R.4 E., 500 ft west of Skyline Drive and 8 miles east of Ephraim.

Records available.--September 1949 to September 1958.

Gage.--Water-stage recorder. Altitude of gage is 10,200 ft (from topographic map).

Extremes.--1949-58: Maximum daily discharge, 23 cfs June 28, 1957; no flow for most of each year.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	123	518	60	2.0	0	703
1952	0	0	0	0	0	0	0	123	575	284	20	0	1,000
1953	0	0	0	0	0	0	0	0	390	143	6	0	539
1954	0	0	0	0	0	0	0	220	123	17	0	2	362
1955	0	0	0	0	0	0	0	19	337	43	9.9	0	409
1956	0	0	0	0	0	0	0	201	276	15	0	0	492
1957	0	0	0	0	0	0	0	0	429	266	4	0	639
1958	0	0	0	0	0	0	0	140	482	27	0	1	650

3205. Larsen tunnel near Ephraim, Utah

Location.--Lat 39°21', long 111°27', in SE $\frac{1}{4}$ sec.10, T.17 S., R.4 E., just downstream from tunnel outlet, a quarter of a mile west of Skyline Drive and 7 $\frac{1}{2}$ miles east of Ephraim.

Records available.--September 1949 to September 1958.

Gage.--Water-stage recorder and rock masonry control. Altitude of gage is 9,700 ft (from topographic map).

Extremes.--1949-58: Maximum daily discharge, 25 cfs June 6, 9, 10, 12, 1952; no flow for most of each year.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	90	738	78	4.0	0	910
1952	0	0	0	0	0	0	0	615	1,210	410	44	2	2,280
1953	0	0	0	0	0	0	0	1	736	184	2	0	923
1954	0	0	0	0	0	0	0	460	221	23	0	1	705
1955	0	0	0	0	0	0	0	88	634	57	7	0	786
1956	0	0	0	0	0	0	0	308	596	7	1	1	913
1957	0	0	0	0	0	0	0	0	436	534	23	0	993
1958	0	0	0	0	0	0	0	264	898	81	1	0	1,240

Transmountain diversions from Cottonwood Creek basin to
San Pitch River basin, Utah --Continued

3210. Coal Fork ditch near Mount Pleasant, Utah

Location.--Lat 39°30', long 111°19', in SW $\frac{1}{4}$ sec.24, T.15 S., R.5 E., 25 ft west of Skyline Drive and 8 $\frac{1}{2}$ miles southeast of Mount Pleasant

Records available.--September 1949 to September 1958.

Gage.--Water-stage recorder and 2-foot Cippoletti weir. Altitude of gage is 9,700 ft (from topographic map).

Extremes.--1949-58: Maximum daily discharge, 8.0 cfs June 28, 1957; no flow for most of each year.

Revisions.--Some periods for the water year 1950 have been revised. Resulting revised records as summarized herewith supersede those published in WSP 1313.

Month	Acre-feet
June 1950.....	98
July.....	14
August.....	7
Water year 1949-50.....	183

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.0	0	0	0	0	0	0	13	*116	34	8	6	*180
1952	1.4	0	0	0	0	0	23	282	*241	*88	*20	*6	*662
1953	0	0	0	0	0	0	3	43	*124	*30	3.0	0	*203
1954	0	0	0	0	0	0	0	*86	61	18	6	0	*171
1955	0	0	0	0	0	0	0	10	*126	*27	*11	6	*180
1956	3.4	0	0	0	0	0	0	69	100	23	8	3	207
1957	0	0	0	0	0	0	0	0	240	160	24	2	426
1958	0	0	0	0	0	0	0	34	108	14	1.6	1	159

* Revised. Only monthly figures revised; revised daily figures not available.

3215. Twin Creek tunnel near Mount Pleasant, Utah

Location.--Lat 39°28', long 111°20', in SE $\frac{1}{4}$ sec.35, T.15 S., R.5 E., just downstream from tunnel outlet, 400 ft west of Skyline Drive and 9 miles southeast of Mount Pleasant.

Records available.--October 1949 to September 1958.

Gage.--Water-stage recorder and 1-foot Parshall flume. Altitude of gage is 10,000 ft (from topographic map).

Extremes.--1949-58: Maximum daily discharge, 9.5 cfs July 3, 1957; no flow for most months in each year.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	26	153	23	3	0	205
1952	0	0	0	0	0	0	0	18	277	165	2	0	463
1953	0	0	0	0	0	0	0	0	83	19	1	0	103
1954	0	0	0	0	0	0	0	97	45	2.2	0	0	144
1955	3	0	0	0	0	0	0	9	188	15	8	0	220
1956	0	0	0	0	0	0	0	26	92	3.2	0	0	121
1957	0	0	0	0	0	0	0	0	161	211	5	0	377
1958	0	0	0	0	0	0	0	6	207	12	0	1	226

3220. Black Canyon ditch near Spring City, Utah

Location.--Lat 39°27', long 111°20', in SE $\frac{1}{4}$ sec.10, T.16 S., R.5 E., 200 ft west of Skyline Drive and 9 miles east of Spring City.

Records available.--October 1949 to September 1958.

Gage.--Water-stage recorder and 1-foot Parshall flume. Altitude of gage is 10,200 ft (from topographic map).

Extremes.--1949-58: Maximum daily discharge, 11 cfs July 1, 2, 3, 1957; no flow for most of each year.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1	0	0	0	0	0	0	22	215	22	0	0	260
1952	0	0	0	0	0	0	0	26	337	135	2	0	500
1953	0	0	0	0	0	0	0	1	135	44	0	0	180
1954	0	0	0	0	0	0	0	155	57	5	0	0	218
1955	0	0	0	0	0	0	0	8	201	17	5	0	232
1956	0	0	0	0	0	0	0	75	170	6	3	0	254
1957	0	0	0	0	0	0	0	0	201	222	5	0	428
1958	0	0	0	0	0	0	0	7	263	11	0	0	281

3240. Seely Creek near Orangeville, Utah

Location.--Lat 39°17', long 111°16', in NE $\frac{1}{4}$ sec.5, T.18 S., R.6 E., on left bank 300 ft downstream from Lowry Creek and 13 miles west of Orangeville.

Drainage area.--150 sq mi, approximately.

Records available.--September 1953 to September 1957.

Gage.--Water-stage recorder. Altitude of gage is 6,800 ft (from topographic map).

Extremes.--1953-57: Maximum discharge, 2,110 cfs Aug. 26, 1957 (gage height, 4.62 ft); minimum, 11 cfs Mar. 14, 1957 (gage height, 0.62 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	27.1	23.6	20.9	20.8	22.6	22.5	81.9	261	95.0	52.9	32.5	29.3	57.8
1955	20.7	17.5	16.1	16.0	16.6	17.5	28.8	184	217	74.4	52.4	28.3	57.6
1956	21.8	18.6	21.0	20.2	18.6	25.4	49.1	299	213	67.0	36.9	26.0	68.2
1957	20.9	17.4	17.0	16.9	16.6	16.8	26.6	138	939	298	63.6	41.3	134

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	1,660	1,400	1,280	1,280	1,260	1,360	4,870	16,070	5,650	3,250	2,000	1,740	41,840
1955	1,280	1,040	990	984	920	1,080	1,710	11,300	12,900	4,580	3,220	1,680	41,680
1956	1,340	1,110	1,290	1,240	1,070	1,560	2,920	18,380	12,670	4,120	2,270	1,550	49,520
1957	1,290	1,040	1,040	1,040	920	1,040	1,580	8,510	55,890	18,310	3,910	2,460	97,030

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1953	1513	-	-	-	-	-	-	-
1954	1513	441	Sept. 12, 1954	19	57.8	41,840	56.4	40,810
1955	1513	697	July 21, 1955	14	57.6	41,680	58.2	42,110
1956	1513	619	May 21, 1956	16	68.2	49,520	67.7	49,150
1957	1513	2,110	Aug. 26, 1957	15	134	97,030	-	-

3245. Cottonwood Creek near Orangeville, Utah

Location.--Lat 39°16'00", long 111°07'45", in SW¹ sec.10, T.18 S., R.7 E., on left bank 2 miles upstream from Grimes Wash and 5 miles northwest of Orangeville.

Drainage area.--205 sq mi, approximately.

Records available.--May 1909 to July 1921, October 1921 to September 1927, May 1932 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 6,050 ft (from topographic map). Prior to Aug. 11, 1921, staff gages and Aug. 11, 1921, to June 4, 1957, water-stage recorder, at several sites in vicinity of present gage at different datums. June 5, 1957, to Oct. 9, 1958, water-stage recorder at datum 0.49 ft higher.

Average discharge.--45 years (1909-20, 1921-27, 1932-60), 101 cfs (73,120 acre-ft per year).

Extremes.--1909-27, 1932-60: Maximum discharge, 2,870 cfs Aug. 9, 1941 (gage height, 6.38 ft, site and datum then in use), from rating curve extended above 780 cfs; minimum observed, 4 cfs Jan. 24, 1933 (discharge measurement).

Remarks.--Small diversions above station for irrigation. Ephraim and Spring City tunnels constructed by Bureau of Reclamation in 1936 and 1938, respectively, and several small canals divert from headwaters of Cottonwood Creek to The Great Basin for irrigation in San Pitch River basin (see p. 342, 344).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	24.3	24.8	23.2	23.0	21.1	23.9	35.5	244	340	101	63.3	32.2	79.9
1952	28.4	22.2	21.7	21.2	28.2	28.5	111	776	1,070	263	93.3	62.5	210
1953	39.9	29.0	30	28.0	29.6	30.8	43.0	115	468	119	66.4	35.3	85.8
1954	31.2	26.7	23.4	22.9	27.1	28.0	72.2	231	95.1	56.4	33.3	33.3	57.1
1955	23.9	21.7	19.1	17.1	18.0	19.3	26.9	181	224	79.2	56.5	28.7	59.7
1956	23.7	19.7	21.5	20.4	20.5	27.0	47.4	286	206	71.4	37.2	23.9	67.2
1957	21.4	18.9	18.1	17.9	17.5	17.8	27.6	137	902	325	88.2	45.0	136
1958	40.7	39.7	29.1	27	37.9	29.9	64.3	535	590	106	52.0	40.1	133
1959	28.4	22.5	20.8	18.4	19.3	21.3	34.3	97.8	150	48.9	28.6	21.4	42.7
1960	22.0	18.2	13.1	11.7	14.0	24.8	56.3	225	227	59.9	30.0	29.8	61.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,490	1,480	1,430	1,410	1,170	1,470	2,110	15,010	20,220	6,210	3,890	1,910	57,800
1952	1,740	1,320	1,330	1,300	1,620	1,760	6,590	47,690	63,680	16,180	5,740	3,720	152,700
1953	2,450	1,730	1,840	1,720	1,640	1,890	2,560	6,940	27,840	7,320	4,080	2,100	62,110
1954	1,920	1,590	1,440	1,410	1,500	1,720	4,290	14,190	5,660	3,470	2,120	2,020	41,330
1955	1,470	1,290	1,180	1,050	998	1,180	1,600	11,120	13,310	4,870	3,470	1,710	43,250
1956	1,460	1,170	1,320	1,260	1,180	1,660	2,820	17,560	12,230	4,390	2,280	1,420	48,750
1957	1,320	1,130	1,110	1,100	974	1,090	1,640	8,450	53,700	19,970	5,420	2,680	98,600
1958	2,500	2,360	1,790	1,660	2,100	1,840	3,830	32,890	35,130	6,490	3,200	2,390	96,180
1959	1,740	1,340	1,280	1,130	1,070	1,310	2,040	6,010	8,940	3,010	1,760	1,280	30,910
1960	1,350	1,080	805	722	803	1,530	3,350	13,810	13,530	3,690	1,840	1,770	44,280

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	70.1	-	50,710
1951	1213	1,420	Aug. 25, 1951	-	79.9	57,800	79.9	-	57,780
1952	1243	2,170	July 27, 1952	-	210	152,700	213	-	154,300
1953	1283	1,040	Aug. 1, 1953	-	85.8	62,110	84.3	-	61,040
1954	1343	765	July 25, 1954	-	57.1	41,330	55.7	-	40,320
1955	1393	535	June 8, 1955	-	59.7	43,250	59.8	-	43,260
1956	1443	596	July 30, 1956	-	67.2	48,750	66.6	-	48,360
1957	1513	(a)	June 7, 1957	-	136	98,600	140	-	101,700
1958	1563	1,260	June 5, 1958	20	133	96,180	130	-	93,890
1959	1633	500	June 7, 1959	12	42.7	30,910	41.1	-	29,780
1960	1713	666	June 3, 1960	-	61.0	44,280	-	-	-

a Unknown; occurred during period of no gage-height record.

3250. Cottonwood Creek near Castle Dale, Utah

Location.--Lat 39°10', long 110°56', in sec.8, T.19 S., R.9 E., on right bank half a mile upstream from Rock Canyon and 6 miles east of Castle Dale.

Drainage area.--261 sq mi.

Records available.--July 1947 to September 1958.

Gage.--Water-stage recorder. Altitude of gage is 5,400 ft (from river-profile map).

Average discharge.--11 years (1947-58), 54.8 cfs (39,670 acre-ft per year).

Extremes.--1947-58: Maximum discharge, 1,660 cfs about June 3, 1952 (gage height, 8.00 ft, from floodmarks), from rating curve extended above 820 cfs by logarithmic plotting; no flow for part of Aug. 31, 1954, and for several days during August and September 1956.
Revisions.--The momentary maximum discharges for the water years 1947-49 published in WSP 1313 have been revised to 1,150, 468, and 704 cfs, respectively.

Remarks.--Many diversions above station for irrigation and several transmountain diversions from headwaters to The Great Basin for irrigation in San Pitch River basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8.98	11.8	10.1	9.0	9.36	7.19	5.82	124	184	16.1	41.0	7.38	36.3
1952	14.1	15.5	15.7	16.5	22.2	22.7	76.9	559	881	140	38.2	23.7	152
1953	14.3	13.3	23	21	24.4	12.7	9.83	15.7	350	21.1	29.7	7.83	44.9
1954	13.5	9.14	9.66	10.3	17.6	10.3	13.0	87.0	9.90	5.20	2.23	17.9	17.2
1955	7.86	10.1	19.0	20.1	21.0	21.7	7.23	38.6	66.3	4.53	9.43	1.22	18.9
1956	5.57	8.44	12.3	23.9	21.6	9.22	8.67	154	75.7	4.57	.45	.38	27.1
1957	4.23	6.95	8.0	8.0	10.7	7.55	5.71	45.6	796	157	45.7	14.9	92.0
1958	23.8	35.4	21.1	20.0	27.5	22.1	73.8	466	439	6.81	5.18	18.7	96.7
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	552	700	619	553	520	442	346	7,640	10,960	992	2,520	439	26,280
1952	870	920	968	1,020	1,280	1,400	4,570	34,370	52,430	8,590	2,350	1,410	110,200
1953	881	789	1,410	1,290	1,360	780	585	965	20,830	1,300	1,830	466	32,490
1954	850	544	594	633	980	631	777	5,350	589	320	137	1,070	12,460
1955	484	602	1,170	1,230	1,170	1,330	430	2,370	3,940	278	580	72	13,660
1956	343	502	756	1,470	1,240	567	516	9,480	4,500	281	27.6	22.4	19,700
1957	260	414	492	492	595	464	340	2,800	47,390	9,680	2,810	884	66,620
1958	1,460	2,110	1,300	1,230	1,530	1,360	4,390	28,680	26,100	419	319	1,110	70,010
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	24.9	-	18,050
1951	1213	872	Aug. 4, 1951	2.4	36.3	26,280	37.5	-	27,170
1952	1243	1,660	(a)	6.2	152	110,200	152	-	110,500
1953	1283	880	June 14, 1953	.6	44.9	32,490	43.3	-	31,370
1954	1343	564	Sept. 2, 1954	.1	17.2	12,460	17.6	-	12,740
1955	1393	636	Aug. 13, 1955	.2	18.9	13,660	18.0	-	13,000
1956	1443	528	May 22, 1956	0	27.1	19,700	26.5	-	19,270
1957	1513	1,340	Aug. 5, 1957	1.7	92.0	66,620	97.1	-	70,320
1958	1563	1,390	June 7, 1958	1.0	96.7	70,010	-	-	-
1959									
1960									

a About June 3, 1952.

3265. Ferron Creek (upper station) near Ferron, Utah

Location.--Lat 39°05'55", long 111°11'05", in NW $\frac{1}{4}$ sec. 7, T.20 S., R.7 E., on right bank 300 ft upstream from Upper South and Upper North Canal diversions and 3 miles west of Ferron.

Drainage area.--157 sq mi, approximately.

Records available.--May 1911 to September 1923, October 1947 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Records for station at site half a mile downstream published as Ferron Creek near Ferron April 1909 to October 1911, not equivalent owing to diversions just below present site.

Gage.--Water-stage recorder. Altitude of gage is 6,090 ft (from topographic map). May 6, 1911, to Sept. 30, 1923, staff gages at site $1\frac{1}{2}$ miles upstream at different datums.

Average discharge.--25 years (1911-23, 1947-60), 70.9 cfs (51,330 acre-ft per year).

Extremes.--1911-23, 1947-60: Maximum discharge observed, 4,180 cfs Aug. 27, 1952 (gage height, 9.71 ft), from rating curve extended above 400 cfs on basis of slope-area measurements at gage heights 8.70 and 9.71 ft; minimum observed, 1 cfs Mar. 22, 23, 1912, Mar. 11, Nov. 18, 1959.

Remarks.--Slight regulation by small reservoir above station (capacity unknown). Small diversions above station for irrigation, including two transmountain diversions to tributaries of San Pitch River (Sevier Lake basin), see page 342, 348. Greater part of flow diverted by Upper North and Upper South Canals, 300 ft below station.

Correction.--In WSP 1313, the monthly mean discharge for May 1915 is listed in error; it should be 153 cfs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	12.0	15.0	11.3	9.0	9.5	12.8	33.3	182	250	98.5	46.3	29.9	59.3
1952	15.0	9.35	8.84	8.13	10.2	14.1	104	486	609	184	74.0	51.0	131
1953	25.3	15.1	13.3	12.2	12.5	14.5	25.0	90.6	283	105	41.3	30.8	55.8
1954	15.9	11.6	10.6	10.4	12.2	12.4	66.8	164	67.5	57.7	21.1	16.2	39.1
1955	10.0	8.24	8.50	8.0	8.25	7.92	18.6	125	140	72.8	50.9	14.9	39.6
1956	9.94	6.53	7.61	6.64	7.21	14.4	35.6	202	160	84.8	22.9	12.2	47.7
1957	11.4	8.02	7.0	7	7.99	9.16	22.8	115	591	208	65.1	43.8	91.3
1958	34.1	20.6	14.4	12.0	12.2	14.7	61.5	443	407	102	48.1	21.1	99.7
1959	12.5	10.1	7.48	5.95	7.79	8.93	31.7	89.8	92.2	50.6	19.8	11.4	29.1
1960	7.59	6.62	4.40	3.53	4.91	14.7	43.8	167	178	75.7	19.4	15.2	45.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	737	895	696	553	528	788	1,980	11,200	14,880	6,060	2,840	1,780	42,940
1952	922	556	543	500	587	867	6,200	29,910	36,260	11,330	4,550	3,030	95,260
1953	1,560	897	817	750	694	892	1,490	5,570	16,860	6,470	2,540	1,830	40,370
1954	976	689	654	641	677	762	3,980	10,070	4,020	3,550	1,300	964	28,280
1955	616	490	523	492	458	487	1,110	7,670	8,320	4,480	3,130	887	28,660
1956	611	389	468	408	415	887	2,120	12,440	9,520	5,210	1,410	728	34,610
1957	700	477	430	430	444	563	1,360	7,100	35,170	12,800	4,000	2,600	68,070
1958	2,100	1,220	887	738	680	904	3,660	27,270	24,190	6,290	2,960	1,250	72,150
1959	767	601	460	366	433	549	1,890	5,520	5,490	3,110	1,220	680	21,090
1960	466	394	270	217	282	906	2,610	10,250	10,590	4,660	1,190	902	32,740

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	48.8	-	35,270
1951	1213	1,520	Aug. 3, 1951	5	59.3	42,940	58.6	42,400	
1952	1243	4,180	Aug. 27, 1952	-	131	95,260	13.3	96,510	
1953	1283	3,180	July 31, 1953	8.6	55.8	40,370	54.4	39,420	
1954	1343	1,020	Aug. 13, 1954	6.7	39.1	28,280	38.1	27,590	
1955	1393	1,160	Aug. 5, 1955	4.7	39.6	28,660	39.4	28,500	
1956	1443	884	July 29, 1956	2.9	47.7	34,610	47.9	34,740	
1957	1513	1,000	June 7, 1957	5.6	91.3	66,070	94.9	68,670	
1958	1563	1,040	May 27, 1958	-	99.7	72,150	96.4	69,770	
1959	1633	214	Aug. 4, 1959	3.9	29.1	21,090	28.2	20,390	
1960	1713	946	July 30, 1960	2.1	45.1	32,740	-	-	

3275. Ferron Creek near Castle Dale, Utah

Location.--Lat 39°06'20", long 111°01'25", in SE $\frac{1}{4}$ sec.4, T.20 S., R.8 E., on left bank 6 miles east of Ferron and 7 miles south of Castle Dale.

Drainage area.--210 sq mi, approximately.

Records available.--June 1911 to September 1914, December 1947 to September 1958.

Gage.--Water-stage recorder. Altitude of gage is 5,550 ft (from topographic map). June 9, 1911, to Sept. 30, 1914, staff gage at site $\frac{1}{2}$ miles downstream at different datum.

Average discharge.--13 years (1911-14, 1948-58), 35.6 cfs (25,770 acre-ft per year).

Extremes.--1947-58: Maximum discharge, 1,630 cfs Aug. 3, 1951 (gage height, 6.52 ft), from rating curve extended above 650 cfs on basis of slope-area measurements at gage heights 3.90 and 6.52 ft; no flow for several days in September and October 1955.

Remarks.--Flow slightly regulated by small reservoir in mountains (capacity unknown). Many diversions for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5.56	8.56	7.51	6	6.5	6.64	3.40	65.6	93.2	7.19	28.6	7.12	22.2
1952	11.3	12.0	11.9	10.1	13.2	14.1	77.4	322	497	61.6	27.8	20.3	69.7
1953	14.6	13.7	11	11	11.4	12.0	6.18	6.03	114	28.2	19.2	5.16	21.1
1954	13.6	12.7	11.6	11.4	11.0	10.4	16.2	23.0	4.90	3.28	1.68	5.86	10.5
1955	3.19	5.23	7.90	7.0	7.11	10.5	7.95	5.37	13.5	.24	8.06	.03	6.33
1956	.55	3.18	5.11	4.74	5.65	7.32	2.26	47.0	29.3	5.24	1.97	1.28	9.49
1957	1.91	4.97	7.5	7.5	11.8	6.92	7.28	45.5	356	78.9	21.4	8.20	46.2
1958	16.6	14.9	16.5	14	14.5	15.6	67.4	268	241	8.23	5.80	7.45	57.6
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	342	509	462	369	359	408	202	5,260	5,550	442	1,760	424	16,090
1952	695	716	732	619	760	865	4,600	19,780	29,800	3,800	1,710	1,210	65,090
1953	900	817	676	676	635	735	4,877	371	6,790	1,730	1,180	307	15,300
1954	837	758	714	700	609	640	967	1,420	291	202	104	349	7,590
1955	196	311	486	430	395	646	473	330	802	15	496	1.6	4,580
1956	34	189	314	292	325	450	134	2,890	1,740	322	121	76	6,890
1957	118	296	461	461	653	425	433	2,800	21,170	4,850	1,310	488	33,460
1958	1,020	869	1,020	861	807	958	4,010	16,490	14,340	506	356	443	41,700
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	34.6	10,600
1951	1213	1,630	Aug. 3, 1951	0.5	22.2	16,090	23.4	16,920
1952	1243	1,440	June 3, 1952	4.7	89.7	65,090	90.0	65,340
1953	1283	1,070	July 31, 1953	.2	21.1	15,300	21.0	15,220
1954	1343	614	Sept. 12, 1954	.7	10.5	7,590	8.66	6,280
1955	1393	402	Aug. 5, 1955	0	6.33	4,580	5.70	4,130
1956	1443	290	July 29, 1956	0	9.49	6,890	9.95	7,220
1957	1513	680	June 8, 1957	1.0	46.2	33,460	49.1	35,520
1958	1563	1,450	(a)	3.0	57.6	41,700	-	-
1959								
1960								

a About Oct. 20, 1957.

3280. San Rafael River near Castle Dale, Utah

Location.--Lat 39°08'40", long 110°54'15", in NW $\frac{1}{4}$ sec.27, T.19 S., R.9 E., on left bank 1 mile downstream from Ferron Creek and 8 miles southeast of Castle Dale.

Drainage area.--927 sq mi.

Records available.--October 1947 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,320 ft (from river-profile map). Prior to July 11, 1956, at site 600 ft upstream at different datum.

Average discharge.--13 years (1947-60), 123 cfs (89,050 acre-ft per year).

Extremes.--1947-60: Maximum discharge, 4,510 cfs June 3, 1952 (gage height, 7.56 ft, site and datum then in use); minimum recorded, 1.3 cfs Sept. 4, 6, 1956.

Remarks.--Diversion for irrigation above station, including transmountain diversions to Sevier Lake basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	22.2	37.8	48.2	35	36.8	31.3	23.6	252	387	55.1	143	31.2	92.1
1952	61.4	50.7	41.3	40.5	79.8	168	353	1,600	2,116	303	101	70.6	415
1953	57.5	61.1	62.4	84.2	94.9	83.4	48.7	51.2	538	89.3	111	30.8	109
1954	53.0	60.8	44.1	49.7	84.9	52.3	52.7	140	31.3	14.4	8.79	29.9	51.6
1955	21.4	29.1	34.5	30.0	31.4	108	39.7	68.1	95.5	12.8	54.8	5.61	44.3
1956	11.6	17.3	32.6	44.4	43.7	39.3	22.1	225	126	18.7	7.12	2.87	49.5
1957	9.67	16.0	15.0	22.1	58.8	30.0	24.5	138	1,450	316	148	58.1	189
1958	120	189	64.0	61.9	128	96.1	243	1,127	929	38.2	28.3	41.5	255
1959	25.0	40.1	55.1	41.5	65.4	41.4	28.1	24.6	45.6	5.96	8.23	10.8	32.4
1960	12.2	23.0	21.9	22.0	28.6	104	53.1	147	165	7.56	1.94	10.3	49.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,360	2,250	2,960	2,150	2,040	1,920	1,410	15,510	23,020	3,390	8,800	1,850	66,660
1952	3,770	3,010	2,540	2,490	4,590	10,330	20,980	98,400	125,900	18,660	6,200	4,200	301,100
1953	3,540	3,630	3,840	5,180	5,270	5,130	2,900	3,150	32,020	5,490	6,850	1,830	78,810
1954	3,260	3,620	2,710	3,050	4,710	3,220	3,140	8,590	1,860	884	541	1,780	37,360
1955	1,320	1,730	2,120	1,840	1,740	6,620	2,360	4,190	5,680	786	3,370	334	32,090
1956	711	1,030	2,010	2,730	2,510	2,410	1,320	13,840	7,520	1,150	438	171	35,840
1957	594	950	924	1,360	3,260	1,840	1,460	8,460	86,280	19,420	9,080	3,460	137,100
1958	7,350	11,270	3,940	3,810	7,080	5,910	14,490	69,280	55,290	2,350	1,740	2,470	185,000
1959	1,540	2,390	3,390	2,550	3,630	2,550	1,670	1,510	2,710	367	506	644	23,460
1960	752	1,370	1,340	1,350	1,650	6,370	3,160	9,020	9,800	456	119	615	36,010

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	69.2	-	50,100
1951	1213	2,020	Aug. 4, 1951	16	92.1	66,660	95.9	-	69,410
1952	1243	4,510	June 3, 1952	25	415	301,100	417	-	302,800
1953	1283	1,440	June 14, 1953	18	109	78,810	107	-	77,390
1954	1343	509	Sept. 12, 1954	1.4	51.6	37,360	45.5	-	32,940
1955	1393	2,200	Aug. 13, 1955	2.1	44.3	32,090	42.3	-	30,670
1956	1513	783	May 26, 1956	1.6	49.5	35,840	47.6	-	34,560
1957	1513	2,990	June 10, 1957	6.0	189	137,100	217	-	157,200
1958	1563	4,010	Nov. 3, 1957	5.2	255	185,000	234	-	169,700
1959	1633	216	Aug. 20, 1959	-	32.4	23,460	27.1	-	19,600
1960	1713	575	June 3, 1960	-	49.6	36,010	-	-	-

3285. San Rafael River near Green River, Utah

Location.--Lat 38°52'20", long 110°22'20", in SW¼ sec.27, T.22 S., R.14 E., on left bank 15 ft upstream from bridge on State Highway 24, 15 miles southwest of Green River, and 35 miles upstream from mouth.

Drainage area.--1,690 sq mi, approximately.

Records available.--May 1909 to September 1918, September 1919 to July 1920 (gage heights only), October 1945 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,200 ft (by barometer). May 5, 1909, to Sept. 10, 1918, staff gage and Sept. 10, 1919, to July 10, 1920, tape-weight gage, at approximately present site at different datum. Nov. 29, 1945, to Sept. 9, 1947, water-stage recorder, at site 400 ft downstream at different datum, Sept. 10, 1947, to Apr. 16, 1950, at site 50 ft downstream at different datum, Apr. 17, 1950, to June 21, 1954, at present site at datum 5 ft higher, June 22, 1954, to Sept. 30, 1955, at present site at datum 4 ft higher, and Oct. 1, 1955, to Feb. 14, 1958, at present site at datum 3 ft higher.

Average discharge.--24 years (1909-18, 1945-60), 184 cfs (133,200 acre-ft per year).

Extremes.--1909-20, 1945-60: Maximum discharge, 12,000 cfs Sept. 2, 1909 (gage height, 12.7 ft, site and datum then in use), from rating curve extended above 3,100 cfs by logarithmic plotting; no flow at times.

Remarks.--Diversions above station for irrigation of about 42,000 acres. Several small transmountain diversions from tributaries for irrigation in Sevier Lake basin. Records of chemical analyses for the period October 1950 to September 1960, suspended sediment loads for the period October 1950 to September 1958, and water temperatures for the period October 1950 to September 1960 are published in reports of Geological Survey.

Revisions.--Some periods for the water year 1950 were revised in WSP 1213; the resulting revised records as summarized herewith supersede those published in WSP 1313.

Month	Mean	Acre-feet	Momentary maximum	
			Discharge	Date
May 1950.....	141	8,680	-	-
June.....	176	10,490	-	-
July.....	139	8,520	-	-
Water-year 1949-50.	76.2	55,150	2,230	July 8, 1950

Corrections.--The maximum discharge observed for some water years and the means and acre-feet for some periods are listed in error in WSP 359, 439, and 1313; they should be as shown in the following table:

Month	Mean	Acre-feet	Momentary maximum	
			Discharge	Date
Water year 1908-9....	-	-	12,000	Sept. 2, 1909
Water year 1909-10....	345	250,100	3,120	Sept. 17, 1910
Water year 1910-11....	217	157,200	2,960	Oct. 17, 1910
Water year 1911-12....	260	188,600	3,660	June 5, 1912
August 1913.....	45.6	2,800	-	-
Water-year 1912-13....	264	191,100	3,800	Sept. 9, 1913
Calendar year 1913....	233	168,600	-	-
November 1915.....	120	7,140	-	-
Water year 1915-16....	251	182,000	3,750	Aug. 6, 1916
Calendar year 1915....	133	96,360	-	-
Water-year 1916-17....	438	317,400	11,500	Oct. 8, 1916

Monthly and annual discharge, in acre-feet, of San Rafael River near Green River, Utah

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	17.2	36.7	45.5	40	51.3	36.6	20.3	237	388	44.2	193	19.8	94.3
1952	91.8	62.4	47.4	46.0	88.3	223	405	1,506	2,150	317	192	81.7	434
1953	56.2	59.2	66.8	92.5	119	92.9	57.0	36.0	522	82.1	140	25.7	112
1954	58.2	69.0	49.8	58.6	96.4	57.8	49.0	125	22.0	19.2	10.7	63.5	56.4
1955	36.9	28.6	37.8	34.0	36.3	105	42.5	57.4	98.1	4.98	48.4	.74	43.9
1956	2.55	17.1	35.4	48.7	48.8	44.0	21.8	188	132	14.7	11.4	.11	47.1
1957	.95	12.7	16.2	26.5	65.7	41.1	23.3	142	1,588	388	208	70.1	214
1958	163	358	79.7	72.9	136	95.0	222	1,068	959	34.2	69.7	70.7	277
1959	22.3	41.3	60.5	42.7	69.8	47.7	27.4	16.7	36.5	1.84	11.7	20.5	33.0
1960	11.2	29.6	23.9	22.9	33.5	124	51.7	123	188	2.35	.38	20.0	52.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,060	2,180	2,800	2,460	2,850	2,250	1,210	14,600	23,080	2,720	11,890	1,180	68,280
1952	5,640	3,720	2,920	2,830	5,080	13,710	24,120	92,590	128,000	19,520	11,810	4,860	314,800
1953	3,460	3,520	4,110	5,680	6,620	5,710	3,390	2,220	31,050	5,050	8,590	1,530	80,930
1954	3,580	4,110	3,060	3,610	5,350	3,560	2,920	7,710	1,310	1,180	658	3,780	40,850
1955	2,270	1,700	2,320	2,090	2,020	6,440	2,530	3,530	5,540	306	2,980	44	31,770
1956	156	1,020	2,240	3,000	2,800	2,710	1,300	11,550	7,850	901	701	67	34,230
1957	53	755	994	1,630	3,650	2,520	1,390	8,710	94,500	23,850	12,820	4,170	155,000
1958	10,020	21,290	4,900	4,480	7,530	5,840	13,240	65,650	57,070	2,100	4,280	4,210	200,600
1959	1,370	2,460	3,720	2,630	3,880	2,930	1,630	1,020	2,170	113	722	1,220	23,860
1960	687	1,760	1,470	1,410	1,930	7,620	3,070	7,590	11,180	145	24	1,190	38,080

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	75.1	54,370
1951	1213	3,740	Aug. 4, 1951	9.0	94.3	68,280	103	74,520
1952	1243	4,480	June 4, 1952	19	434	314,800	432	313,600
1953	1283	1,220	June 14, 1953	.4	112	80,930	111	80,590
1954	1343	2,500	Sept. 13, 1954	.4	56.4	40,830	50.2	36,370
1955	1393	600	Aug. 14, 1955	.2	43.9	31,770	39.9	28,900
1956	1443	634	May 26, 1956	0	47.1	34,230	44.9	32,620
1957	1513	2,970	June 11, 1957	0	214	155,000	262	189,400
1958	1563	9,660	Nov. 4, 1957	3.0	277	200,600	238	172,000
1959	1633	687	Sept. 17, 1959	-	33.0	23,860	28.0	20,230
1960	1713	1,320	Sept. 7, 1960	0	52.5	38,080	-	-

3295. Fremont River near Fremont, Utah

Location.--Lat 38°29', long 111°35', in NE $\frac{1}{4}$ sec.9, T.27 S., R.3 E., on left bank 800 ft downstream from road bridge, $1\frac{1}{4}$ miles downstream from East Fork, and $2\frac{1}{2}$ miles northeast of Fremont.

Drainage area.--205 sq mi.

Records available.--July 1949 to September 1958.

Gage.--Water-stage recorder. Altitude of gage is 7,480 ft (by barometer).

Average discharge.--9 years (1949-58), 41.2 cfs (29,830 acre-ft per year).

Extremes.--1949-58: Maximum discharge, 262 cfs July 29, 1953 (gage height, 2.75 ft); minimum Observed, 0.4 cfs Jan. 16, 1957 (discharge measurement).

Remarks.--Flow regulated by Fish Lake and Johnson and Forsythe Reservoirs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	22.3	9.32	8.68	8.27	8.19	9.39	21.5	83.7	93.8	92.8	53.7	34.1	36.5
1952	20.6	7.8	8.3	8.5	10	16.3	33.3	146	151	134	99.1	62.1	58.2
1953	77.6	8.59	8.81	9.71	9.23	16.9	25.9	95.1	100	97.4	96.5	36.8	48.9
1954	32.2	8.06	8.22	8.19	9.0	14.0	38.1	85.7	83.3	66.1	52.1	24.7	36.0
1955	28.5	6.67	7.97	7.13	7.0	8.35	11.8	86.2	92.3	90.1	36.1	24.0	34.0
1956	23.8	1.33	.8	.7	.7	.80	.9	84.9	96.1	56.4	33.9	23.9	27.1
1957	25.9	2.14	.6	.4	.70	1.05	1.18	16.8	140	108	101	72.0	39.4
1958	73.9	4.13	.7	.8	1.61	1.81	2.41	113	141	131	87.5	43.6	50.6
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,370	555	534	508	455	577	1,280	5,150	5,590	5,090	3,300	2,030	26,430
1952	1,270	467	513	522	575	1,000	1,980	9,980	8,990	8,210	6,090	3,700	42,280
1953	4,770	511	541	597	513	1,040	1,540	5,850	5,960	5,990	5,930	2,190	35,430
1954	1,990	479	505	503	500	959	2,270	5,270	4,960	4,070	3,200	1,470	26,070
1955	1,750	397	464	438	389	514	702	5,300	5,490	5,540	2,220	1,430	24,650
1956	1,460	79	49	43	40	49	54	5,220	5,720	3,470	2,080	1,420	19,680
1957	1,590	128	37	25	39	64	70	1,040	8,340	6,660	6,210	4,290	28,490
1958	4,540	246	43	49	89	111	143	6,970	8,410	8,040	5,580	2,600	36,620
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	38.0	27,530
1951	1213	127	May 30, 1951	6.0	36.5	26,430	36.2	26,220
1952	1243	185	June 4, 1952	-	58.2	42,280	63.2	45,850
1953	1283	262	July 29, 1953	5.6	48.9	35,430	45.0	32,570
1954	1343	117	May 4, 1954	-	36.0	26,070	35.5	25,730
1955	1393	109	June 28, 1955	-	34.0	24,650	32.6	23,610
1956	1443	131	Aug. 2, 1956	-	27.1	19,680	27.3	19,850
1957	1513	155	June 26, 1957	-	39.4	28,490	43.6	31,570
1958	1563	196	June 1, 1958	-	50.6	36,620	-	-
1959								
1960								

3300. Fremont River near Bicknell, Utah

Location.--Lat 38°18', long 111°31', in NE¼ sec.7, T.29 S., R.4 E., on left bank at upstream side of highway bridge, 2,100 ft downstream from Torrey Canal and Mill ditch headings, 1 mile downstream from Government Creek, and 3 miles southeast of Bicknell.

Drainage area.--776 sq mi.

Records available.--May 1909 to December 1912 (published as "near Thurber"), October 1937 to September 1958 (1944-46, fragmentary).

Gages.--Three water-stage recorders, except staff gage on Fremont River Apr. 29 to Sept. 30, 1958. Altitude of gages is 6,900 ft (by barometer). May 1909 to December 1912, staff gage at site 500 ft above canal headings at different datum. October 1937 to June 28, 1949, staff gages at same sites and datums as recorders. Apr. 29 to Sept. 30, 1958, staff gage on Fremont River at site 600 ft downstream from water-stage recorder at datum 1.67 ft lower.

Average discharge.--21 years (1909-12, 1937-43, 1946-58), 90.3 cfs (65,370 acre-ft per year).

Extremes.--1909-12, 1937-58: Maximum discharge, 1,200 cfs about Apr. 5, 1942 (gage height, 5.8 ft), site and datum then in use (from floodmarks), from rating curve extended above 700 cfs; minimum observed, 18 cfs June 2, 4, 13-15, 17, 18, 1912.

Remarks.--Records include flow of Torrey Canal and Mill ditch and represent flow of Fremont River above these diversions. Discharge computed by combining flow in canals with that in river below canals. Diversions for irrigation of about 10,600 acres above station. Flow regulated by Fish Lake and Johnson and Forsythe Reservoirs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	79.2	89.0	97.3	95.9	100	89.9	80.4	74.1	69.0	72.4	82.1	78.4	83.9
1952	83.8	85.3	88.3	97.0	104	111	98.0	92.0	69.7	60.5	76.9	88.8	87.9
1953	86.2	96.5	104	112	109	102	85.0	76.1	67.8	72.7	72.2	74.0	88.0
1954	84.2	91.1	93.2	101	99.5	87.5	79.7	73.5	67.2	68.1	64.9	69.1	81.5
1955	77.8	78.7	83.6	89.1	93.0	112	83.5	72.2	64.3	58.9	67.4	71.4	79.2
1956	74.6	72.3	82.5	87.4	82.4	80.0	68.8	65.0	61.1	61.1	65.9	65.8	72.2
1957	70.2	74.2	78.3	79.8	88.6	78.7	71.6	64.2	65.8	58.6	71.2	71.1	72.6
1958	80.0	90.4	89.3	85.8	113	110	270	112	60.3	62.7	70.4	80.1	102
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,870	5,290	5,980	5,900	5,550	5,530	4,790	4,550	4,110	4,450	5,050	4,670	60,740
1952	5,150	5,080	5,430	5,960	5,970	6,830	5,830	5,650	4,150	3,720	4,730	5,290	63,790
1953	5,300	5,740	6,400	6,880	6,040	6,260	5,060	4,680	4,040	4,470	4,440	4,400	63,710
1954	5,180	5,420	5,730	6,220	5,530	5,380	4,740	4,520	4,000	4,190	3,990	4,110	59,010
1955	4,780	4,680	5,140	5,480	5,160	6,870	4,950	4,440	3,830	3,620	4,150	4,250	57,350
1956	4,590	4,300	5,080	5,370	4,740	4,920	4,090	3,990	3,630	3,750	4,050	3,920	52,430
1957	4,320	4,410	4,810	4,910	4,920	4,840	4,260	3,950	3,910	3,600	4,380	4,230	52,540
1958	4,920	5,380	5,490	5,280	6,290	6,790	16,060	6,900	3,590	3,850	4,330	4,760	73,650
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	84.8	61,360
1951	1213	191	Jan. 6, 1951	61	83.9	60,740	83.2	60,280
1952	1243	266	Feb. 13, 1952	43	87.9	63,790	90.3	65,570
1953	1283	207	Nov. 26, 1952	61	88.0	63,710	86.5	62,600
1954	1343	195	Feb. 19, 1954	61	81.5	59,010	79.1	57,280
1955	1393	156	Mar. 11, 1955	51	79.2	57,350	78.3	56,720
1956	1443	167	Feb. 17, 1956	55	72.2	52,430	71.7	52,000
1957	1513	171	July 11, 1957	52	72.6	52,540	75.7	54,790
1958	1563	a732	Apr. 22, 1958	50	102	73,650	-	-
1959								
1960								

a Maximum daily.

3305. Muddy Creek near Emery, Utah

Location.--Lat 38°59'40", long 111°14'40", in NE $\frac{1}{4}$ sec.16, T.21 S., R.6 E., on left bank 100 ft upstream from Emery Canal and 5 miles north of Emery.

Drainage area.--105 sq mi, approximately.

Records available.--April to July 1909, July 1910 to July 1914, June 1949 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,400 ft (from topographic map). Apr. 29 to July 31, 1909, reference point and July 23, 1910, to July 16, 1914, staff gages, at sites about 1 mile upstream at different datums. June 29, 1949, to May 1, 1957, water-stage recorder at site 100 ft upstream at datum 2.89 ft higher prior to Mar. 20, 1953, and at datum 1.89 ft higher thereafter.

Average discharge.--14 years (1910-13, 1949-60), 40.1 cfs (29,030 acre-ft per year).

Extremes.--1909, 1910-14, 1949-60: Maximum discharge, 3,340 cfs May 10, 1952 (gage height, 11.14 ft, present datum), from rating curve extended above 400 cfs on basis of slope-area measurement of peak flow; no flow Apr. 13-16, 1911.

Remarks.--One small diversion for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	12.4	13.9	12	9.90	9.18	11.7	33.1	90.2	108	59.6	35.9	19.4	34.7
1952	15.7	10.8	9.97	9.00	8.52	11.5	85.6	306	302	115	68.3	31.8	81.3
1953	23.0	17.2	14.6	14.3	13.3	14.5	14.1	43.4	106	69.3	42.6	21.7	32.9
1954	14.6	10.2	9.61	9.05	9.45	9.41	22.0	53.0	40.9	28.2	16.5	15.9	20.0
1955	9.56	7.80	6.97	6.00	6.25	5.85	9.63	49.5	66.0	35.7	23.2	12.9	20.0
1956	10.4	9.56	9.52	8.52	8.72	11.7	18.4	71.3	76.5	44.4	22.6	14.7	25.6
1957	12.5	6.74	6.11	6.74	7.52	7.73	13.0	72.6	224	66.7	66.7	28.9	49.2
1958	26.5	21.7	15.6	14	16.1	13.5	106	267	209	75.8	44.5	28.2	70.1
1959	16.6	9.62	8.03	6.68	9.21	10.7	17.4	30.5	41.9	27.5	15.3	11.7	17.1
1960	9.66	6.61	6	5.47	5.61	12.9	30.8	80.2	85.0	47.0	19.8	17.2	27.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	762	827	738	609	510	719	1,970	5,550	6,410	3,670	2,210	1,160	25,140
1952	968	641	613	553	490	705	5,090	18,840	17,960	7,090	4,200	1,890	59,040
1953	1,410	1,030	900	879	736	894	858	2,670	6,310	4,260	2,620	1,290	23,840
1954	900	607	591	556	525	578	1,310	3,260	2,440	1,750	1,010	947	14,450
1955	588	464	428	369	347	360	573	3,040	3,930	2,190	1,430	765	14,480
1956	641	569	585	524	502	718	1,090	4,380	4,550	2,730	1,390	877	18,560
1957	769	401	376	415	418	475	776	4,460	13,340	8,390	4,100	1,720	35,640
1958	1,630	1,290	962	861	895	829	6,340	16,410	12,440	4,660	2,740	1,680	50,740
1959	1,020	572	494	411	512	661	1,030	1,880	2,490	1,690	942	696	12,400
1960	594	393	369	336	323	793	1,830	4,930	5,060	2,890	1,220	1,020	19,760

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	27.7
1951	1243	1,120	Aug. 3, 1951	3.0	34.7	25,140	34.6
1952	1243	3,340	May 10, 1952	6.0	81.3	59,040	82.9
1953	1283	1,560	Aug. 28, 1953	5.3	32.9	23,840	31.2
1954	1343	2,120	July 18, 1954	-	20.0	14,450	19.1
1955	1393	2,290	Aug. 17, 1955	3.2	20.0	14,480	20.4
1956	1443	270	July 30, 1956	3.5	25.6	18,560	25.2
1957	1513	403	June 6, 1957	-	49.2	35,640	52.5
1958	1563	660	Apr. 18, 1958	12	70.1	50,740	67.6
1959	1633	72	Apr. 2, 1959	4.0	17.1	12,400	16.1
1960	1713	282	July 29, 1960	3.0	27.2	19,760	-

3315. Ivie Creek above diversions, near Emery, Utah

Location--Lat 38°45'30", long 111°25'15", in NW¹/₄ NW¹/₄ sec.1, T.24 S., R.4 E., on right bank 1¹/₄ miles downstream from Clear Creek and 14 miles southwest of Emery.

Drainage area--50 sq mi, approximately.

Records available--August 1950 to September 1960.

Gage--Water-stage recorder and concrete control. Altitude of gage is 7,100 ft (by barometer). Prior to Oct. 31, 1951, at site 200 ft downstream at different datum.

Average discharge--10 years (1950-60), 3.96 cfs (2,870 acre-ft per year).

Extremes--1950-60: Maximum discharge, about 700 cfs Aug. 16, 1955 (gage height, 4.00 ft), from rating curve extended above 70 cfs by logarithmic plotting; no flow at times.

Remarks--Flow partly regulated by Sheep Valley Reservoir (capacity, 492 acre-ft). Small diversion for irrigation of 200 acres of meadow above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	-	2.93	-
1951	2.40	2.92	2.47	1.98	2.58	3.27	1.97	2.23	2.65	3.62	7.23	2.57	3.00
1952	2.37	1.75	1.60	1.75	1.89	3.31	16.8	39.6	13.6	5.49	7.62	3.16	8.28
1953	4.12	4.80	3.5	3.0	3.5	4.5	5.50	4.63	6.44	5.88	4.95	1.32	4.35
1954	2.15	2.15	1.85	2.34	4.0	4.18	4.71	3.58	3.36	3.33	2.72	1.72	3.00
1955	1.73	2.33	2.14	1.8	1.97	2.73	3.90	3.14	4.77	2.51	2.75	1.82	2.63
1956	1.49	1.49	1.78	1.81	1.82	2.39	3.11	3.08	2.74	3.77	1.58	.73	2.15
1957	1.38	1.30	1.05	1.10	1.58	2.60	3.51	9.03	18.9	4.31	3.87	3.64	4.35
1958	3.30	2.02	2.36	2.10	2.60	3.02	6.24	28.5	6.97	7.18	5.89	2.24	6.08
1959	2.01	1.92	2.17	1.90	2.39	2.46	2.91	3.10	2.82	3.22	3.04	.97	2.41
1960	1.67	3.08	2.01	1.6	1.8	3.22	4.46	7.22	2.42	4.48	4.59	3.58	3.35

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	-	174	-
1951	148	174	152	122	143	201	117	137	158	223	444	153	2,170
1952	146	104	99	107	109	204	1,000	2,440	809	338	468	186	6,010
1953	253	286	215	184	194	277	327	284	383	362	304	79	3,150
1954	132	128	113	144	222	257	280	220	200	205	187	102	2,170
1955	106	138	131	111	109	168	232	193	284	155	169	108	1,900
1956	91	89	109	111	105	147	185	189	163	232	97	43	1,560
1957	85	77	65	67	88	160	209	555	1,120	265	236	216	3,140
1958	203	120	145	129	145	185	371	1,750	415	442	362	133	4,400
1959	124	114	133	117	133	152	173	190	168	198	187	58	1,750
1960	103	183	124	98	104	198	265	444	144	275	282	213	2,430

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	1213	-	-	-	-	-	-	-
1951	1213	418	July 31, 1951	0	3.00	2,170	2.83	2,050
1952	1243	155	Aug. 27, 1952	-	8.28	6,010	8.84	6,420
1953	1263	172	July 29, 1953	1.0	4.35	3,150	3.82	2,770
1954	1343	73	Sept. 11, 1954	.7	3.00	2,170	3.00	2,170
1955	1393	a700	Aug. 16, 1955	-	2.63	1,900	2.51	1,820
1956	1443	146	Aug. 14, 1956	.4	2.15	1,560	2.07	1,500
1957	1513	139	Aug. 5, 1957	-	4.35	3,140	4.68	3,390
1958	1563	96	Sept. 5, 1958	1.2	6.08	4,400	5.95	4,300
1959	1633	11	Aug. 4, 1959	.6	2.41	1,750	2.47	1,790
1960	1713	526	Sept. 6, 1960	1.1	3.35	2,430	-	-

a About.

3325. Muddy Creek below Ivie Creek, near Emery, Utah

Location.--Lat 38°46', long 111°08', on township line between T.23 and 24 S., and center of R.7 E. (unsurveyed), on right bank 12½ miles southeast of Emery.

Drainage area.--440 sq mi, approximately.

Records available.--August 1950 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,320 ft (by barometer). Prior to Dec. 2, 1954, at site 600 ft downstream at same datum.

Average discharge.--10 years (1950-60), 15.9 cfs (11,510 acre-ft per year).

Extremes.--1950-60: Maximum discharge, 2,890 cfs Aug. 3, 1951 (gage height, 9.63 ft), from rating curve extended above 480 cfs on basis of slope-area measurement of peak flow; no flow at times.

Remarks.--Many diversions for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	-	1.87	-
1951	1.14	3.70	5.52	3.94	4.18	6.26	2.97	17.1	6.89	5.82	45.4	10.9	9.56
1952	7.91	3.35	3.48	3.89	7.45	32.0	106	294	202	25.1	24.8	15.6	60.5
1953	11.0	12.5	12.6	12	13.2	24.5	9.55	5.32	8.60	16.1	13.3	1.75	11.7
1954	5.87	8.06	7.65	7.0	6.91	9.95	4.49	1.43	1.10	2.07	2.35	20.1	6.39
1955	5.19	1.20	3.23	3.0	3.12	8.15	3.93	.74	.02	5.78	30.7	.18	5.50
1956	.17	.85	.92	.90	1.28	2.61	1.22	1.66	.67	2.45	.85	.32	1.16
1957	.99	1.15	1.39	2.30	17.8	2.83	6.38	35.6	125	23.8	9.00	4.50	19.1
1958	5.15	9.82	5.66	5.00	12.1	17.5	98.4	203	80.2	2.45	1.44	17.4	38.2
1959	3.47	5.66	8.26	7.68	11.1	8.82	5.37	.90	.05	.27	1.99	.7	4.28
1960	.55	4.84	.2	.1	.77	8.45	5.01	3.73	1.0	0	0	10.3	2.90

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	-	111	-
1951	70	220	339	242	232	385	177	1,050	410	358	2,790	649	6,920
1952	487	199	214	239	428	1,970	6,330	18,080	2,010	1,550	1,520	928	43,960
1953	676	742	778	738	732	1,510	568	327	512	989	819	104	8,500
1954	361	479	470	430	384	612	267	88	66	127	145	1,200	4,630
1955	319	71	199	184	174	501	234	46	1.2	356	1,890	11	3,990
1956	11	50	56	55	74	161	73	102	40	150	52	19	843
1957	61	69	85	141	986	174	380	2,190	7,440	1,460	553	268	13,800
1958	316	584	348	307	671	1,080	5,860	12,460	4,770	151	89	1,040	27,680
1959	213	337	508	472	617	542	201	56	3.2	16	122	10	3,100
1960	34	288	12	6.1	44	519	298	229	60	0	0	614	2,100

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	1343	-	-	-	-	-	-	-
1951	1343	2,890	Aug. 3, 1951	0	9.56	6,920	9.93	7,190
1952	1343	1,860	Aug. 8, 1952	-	60.5	43,960	62.3	45,250
1953	1343	1,010	July 30, 1953	3	11.7	8,500	10.5	7,610
1954	1343	1,180	July 17, 1954	0	6.39	4,630	5.39	3,910
1955	1393	1,780	July 25, 1955	0	5.50	3,990	4.85	3,510
1956	1513	-	July 12, 1956	0	1.16	843	1.30	941
1957	1513	652	June 10, 1957	-	19.1	13,800	20.5	14,840
1958	1563	1,440	Sept. 3, 1958	0	38.2	27,680	38.0	27,490
1959	1633	162	July 31, 1959	0	4.28	3,100	3.28	2,370
1960	1713	895	Sept. 6, 1960	0	2.90	2,100	-	-

3335. Dirty Devil River near Hite, Utah

Location.--Lat 37°54'40" long 110°23'30" (unsurveyed), on right bank 2.6 miles upstream from mouth and 7.7 miles northeast of Hite.

Drainage area.--4,360 sq mi, approximately.

Records available.--June 1948 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 3,470 ft (from river-profile map). Prior to Nov. 5, 1957, at datum 0.9 ft lower.

Average discharge.--12 years (1948-60), 107 cfs (77,460 acre-ft per year).

Extremes.--1948-60: Maximum discharge, in excess of 25,000 cfs Nov. 4, 1957 (gage height, 28.1 ft, from floodmarks, datum then in use); no flow at times in 1954-55, 1959-60.

Remarks.--Many diversions for irrigation above station. Records of chemical analyses for the period July 8, 1948, to June 1954, and water temperatures May 1949 to June 1954 (near Hite) are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1948	-	-	-	-	-	-	-	-	-	22.8	221	20.2	-
1949	82.1	108	103	35.2	141	320	296	81.3	188	104	47.8	79.5	132
1950	185	129	113	158	212	125	42.7	12.5	1.20	277	15.1	50.1	110
1951	44.5	88.2	98.1	143	164	79.9	35.6	51.6	9.57	24.5	439	33.0	101
1952	134	96.3	78.7	55.8	156	157	167	278	273	58.8	247	220	158
1953	72.2	113	125	158	150	122	55.7	14.8	.18	17.3	220	27.6	89.7
1954	98.5	106	81.7	131	131	125	34.3	15.5	.12	29.3	4.62	102	71.1
1955	102	72.6	73.2	76.8	98.3	223	64.5	8.19	.12	32.6	109	8.87	72.6
1956	25.6	68.2	95.0	104	97.2	77.9	25.4	9.50	.47	77.6	28.6	4.04	51.1
1949	44.1	65.5	69.6	103	115	71.4	45.6	127	160	152	538	81.6	133
1958	665	1059	104	56.0	191	155	302	280	119	3.13	11.0	70.1	250
1959	51.3	84.5	95.2	105	131	85.2	26.9	4.65	.68	1.09	67.5	41.9	57.5
1960	31.8	122	88.8	138	158	145	41.5	12.8	.71	.05	.16	14.2	62.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1948	-	-	-	-	-	-	-	-	-	1,400	13,590	1,200	-
1949	5,050	6,410	6,310	2,160	7,850	19,710	17,630	5,000	11,220	6,370	2,940	4,730	95,380
1950	11,370	7,680	6,930	9,730	11,760	7,710	2,540	768	72	17,030	931	2,980	79,500
1951	2,740	5,250	6,030	8,820	9,120	4,910	2,120	3,170	570	1,500	27,010	1,970	73,210
1952	8,240	5,730	4,840	3,430	7,820	9,640	9,940	17,110	16,270	3,620	15,180	13,110	114,900
1953	4,440	6,750	7,720	9,710	8,350	7,510	3,310	909	11	1,060	13,520	1,640	64,930
1954	6,060	6,310	5,050	8,030	7,250	7,660	2,040	952	6.9	1,800	284	6,090	51,510
1955	6,250	4,320	4,500	4,720	5,460	13,700	3,840	504	7.3	2,010	6,730	528	52,570
1956	1,580	4,060	5,840	6,370	5,590	4,790	1,510	584	28	4,770	1,760	240	37,120
1957	2,710	3,960	4,280	6,350	6,260	4,390	3,900	7,810	9,500	9,370	33,080	4,850	93,460
1958	40,930	63,020	6,420	3,440	10,600	9,520	17,980	17,210	7,050	192	677	4,170	181,200
1959	3,150	5,030	5,860	6,450	7,280	5,240	1,600	286	40	67	4,150	2,490	41,640
1960	1,950	7,240	5,460	8,510	9,090	8,890	2,470	788	42	3.0	10	844	45,300

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1948	1513	a8,680	Aug. 5, 1948	-	-	-	-	-	-	-
1949	1513	3,120	July 5, 1949	1.3	132	95,380	143	103,600	-	-
1950	1513	11,260	July 9, 1950	.2	110	79,500	93.3	67,540	-	-
1950	1513									
1951	1513	12,820	Aug. 4, 1951	.1	101	73,210	108	78,000	-	-
1952	1513	8,870	Sept. 22, 1952	.1	158	114,900	158	115,000	-	-
1953	1513	6,390	Aug. 22, 1953	.1	89.7	64,930	87.6	63,420	-	-
1954	1513	2,690	Sept. 14, 1954	0	71.1	51,510	67.9	49,180	-	-
1955	1513	3,420	Oct. 8, 1954	0	72.6	52,570	67.6	48,980	-	-
1956	1513	6,360	July 1, 1956	.1	51.1	37,120	50.4	36,590	-	-
1957	1513	11,360	Aug. 31, 1957	7.6	133	96,460	271	195,900	-	-
1958	1633	(b)	Nov. 4, 1957	.1	250	181,200	117	84,880	-	-
1959	1633	3,990	Aug. 13, 1959	0	57.5	41,640	58.4	42,250	-	-
1960	1713	975	Nov. 3, 1959	0	62.4	45,300	-	-	-	-

a Maximum for period June to September.

b In excess of 25,000 cfs.

3340. North Wash near Hite, Utah

Location.--Lat 37°52'05", long 110°24'40", in T.34 S., R.14 E., on right bank 1 mile upstream from mouth and 5 miles north of Hite.

Drainage area.--140 sq mi, approximately.

Records available.--May 1950 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 3,500 ft (from river-profile map).

Average discharge.--10 years (1950-60), 1.02 cfs (738 acre-ft per year).

Extremes.--1950-60: Maximum discharge, 8,900 cfs Aug. 7, 1952 (gage height, 9.24 ft, from Floodmark), from rating curve extended above 210 cfs on basis of slope-area measurements at gage heights 3.19, 3.98, and 9.24 ft; no flow for most of time.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	0	0	0	5.25	-
1951	0	0	0	0.19	0.42	0.06	0.12	0.14	0	0	3.41	.07	0.37
1952	1.91	.55	.82	2.02	.1	.35	.41	3.44	1.21	1.03	10.7	.26	1.92
1953	0	.51	.59	.49	.95	.20	.09	.01	0	.99	4.82	0	.72
1954	.22	.71	.09	.15	.1	1.48	.05	.41	0	1.67	.02	1.51	.54
1955	1.28	.04	.24	.24	1.70	1.53	0	0	0	.74	.34	0	.50
1956	0	.01	.04	.09	.09	.05	.08	.02	0	.62	.32	0	.11
1957	.88	0	.54	1.34	.39	.12	1.23	1.70	3.94	2.58	5.00	.003	1.49
1958	10.0	22.0	.62	.73	.88	.45	1.39	4.75	.19	.49	2.09	.47	3.68
1959	0	0	.33	.39	.28	.09	.06	0	0	1.32	0	1.20	.31
1960	0	3.28	.79	.77	.65	.14	.35	.13	0	0	0	.28	.53

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	0	0	0	193	-
1951	0	0	0	12	24	40	6.9	8.7	0	0	210	4.4	270
1952	117	33	51	124	5.8	22	25	211	72	63	658	15	1,400
1953	0	30	36	30	53	12	5.2	25.8	0	61	296	0	524
1954	13	42	5.4	9.1	5.6	91	3.0	25	0	103	1.0	90	388
1955	79	2.2	14	15	94	94	0	0	0	45	21	0	364
1956	0	.8	2.6	5.6	5.2	3.4	4.6	1.4	0	38	20	0	.82
1957	54	0	33	83	22	7.1	75	105	234	159	307	.2	1,080
1958	618	1,310	38	45	49	28	83	292	12	30	128	28	2,660
1959	0	0	20	24	15	5.8	3.6	0	0	81	0	71	220
1960	0	195	48	47	37	8.5	21	7.7	0	0	0	17	581

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	1243	11,080	Sept. 19, 1950	0	-	-	-	-
1951	1243	942	Aug. 21, 1951	0	0.37	270	0.65	471
1952	1243	8,900	Aug. 7, 1952	0	1.92	1,400	1.74	1,260
1953	1283	865	Aug. 14, 1953	0	.72	524	.72	518
1954	1343	273	July 25, 1954	0	.54	388	.58	423
1955	1393	1,050	Oct. 8, 1954	0	.50	364	.38	272
1956	1443	198	July 1, 1956	0	.11	82	.23	165
1957	1513	592	June 10, 1957	0	1.49	1,080	4.08	2,960
1958	1563	1,790	Nov. 2, 1957	0	3.68	2,660	.99	715
1959	1633	529	July 29, 1959	0	.31	220	.62	443
1960	1713	630	Nov. 2, 1959	0	.53	381	-	-

a Maximum for period May to September.

3345. White Canyon near Hite, Utah

Location.--Lat 37°47'55", long 110°22'35" (unsurveyed), on right bank 300 ft downstream from Ford on State highway 95 and 4 miles east of Hite, Garfield County.

Drainage area.--276 sq mi.

Records available.--May 1950 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 3,700 ft (from river-profile map).

Average discharge.--10 years (1950-60), 4.72 cfs (3,420 acre-ft per year).

Extremes.--1950-60: Maximum discharge, 7,390 cfs July 31, 1953 (gage height, 7.54 ft), from rating curve extended above 550 cfs on basis of slope-area measurements at gage heights 2.99 and 7.54 ft; no flow for most of time.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	0	0	0	9.59	-
1951	0	0	0	0	0	0	0	0	0	0.39	9.15	0	0.81
1952	0	3.56	13.0	10.9	0	2.26	6.87	.24	.06	6.70	2.87	3.84	4.22
1953	.01	.02	.10	0	1.33	.97	3.27	0	0	72.5	60.3	0	11.7
1954	6.76	3.87	.03	0	.04	1.81	.13	3.53	2.88	1.31	0	13.6	2.83
1955	76.7	2.78	.09	0	2.38	.17	0	0	0	3.53	12.6	0	8.32
1956	0	.20	2.99	.65	0	0	0	0	0	.58	6.21	0	.90
1957	0	0	.02	.03	3.03	.42	14.9	14.7	9.97	8.10	36.8	.42	7.42
1958	16.4	27.6	.10	0	11.8	5.06	16.6	1.56	0	0	1.00	4.58	6.97
1959	.25	0	0	0	.08	0	.77	0	0	0	4.81	.82	.57
1960	.86	6.65	11.9	.48	.10	1.87	0	0	.02	2.40	14.9	1.32	3.41

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	0	0	0	570	-
1951	0	0	0	0	0	0	0	0	0	24	562	0	586
1952	0	212	799	669	0	139	409	15	3.6	412	177	228	3,060
1953	.6	1.2	6	0	74	60	195	0	0	4,460	3,710	0	8,510
1954	416	230	1.8	0	2.4	111	7.5	217	172	81	0	808	2,050
1955	4,720	165	5.4	0	132	10	0	0	0	217	775	0	6,020
1956	0	12	184	40	0	0	0	0	0	36	382	0	654
1957	0	0	1.4	2	168	28	889	905	593	498	2,260	25	5,370
1958	1,010	1,640	6.3	0	658	311	990	98	0	0	61	273	5,050
1959	16	0	0	0	4.6	0	46	0	0	0	296	49	412
1960	53	396	732	30	5.8	115	0	0	1.0	148	914	78	2,470

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	1393	a990	Sept. 19, 1950	0	-	-	-	-
1951	1393	1,890	Aug. 2, 1951	0	0.81	586	2.21	1,600
1952	1393	860	Jan. 18, 1952	0	4.22	3,060	2.84	2,060
1953	1393	7,390	July 31, 1953	0	11.7	8,510	12.6	9,150
1954	1393	804	Sept. 26, 1954	0	2.83	2,050	8.68	6,290
1955	1393	6,350	Oct. 8, 1954	0	8.32	6,020	1.84	1,330
1956	1443	527	Aug. 16, 1956	0	0.90	654	.63	459
1957	1513	5,570	Aug. 30, 1957	0	7.42	5,370	11.1	8,020
1958	1563	939	Nov. 3, 1957	0	6.97	5,050	3.32	2,400
1959	1633	800	Aug. 3, 1959	0	.57	412	2.18	1,580
1960	1713	2,480	Aug. 23, 1960	0	3.41	2,470	-	-

a Maximum for period May to September.

3355. North Creek near Escalante, Utah

Location--Lat 37°46', long 111°41', in NE $\frac{1}{4}$ sec.16, T.35 S., R.2 E., on right bank 0.1 mile upstream from mouth and 4 miles west of Escalante.

Drainage area--90 sq mi (revised), approximately.

Records available--July 1950 to September 1955.

Gage--Water-stage recorder. Altitude of gage is 6,100 ft (by barometer). Prior to Oct. 17, 1953, at site 0.4 mile upstream at different datum.

Average discharge--5 years (1950-55), 7.64 cfs (5,530 acre-ft per year).

Extremes--1950-55: Maximum discharge, 3,610 cfs Aug. 21, 1952 (gage height, 4.26 ft, site and datum then in use), from rating curve extended above 99 cfs on basis of float measurements at gage heights 1.83 and 4.10 ft and slope-area measurement at gage height 4.26 ft; no flow for part of each day Aug. 6, 1951, Nov. 25-27, 1952, and Dec. 1, 1953.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	4.99	4.97	-
1951	4.01	5.15	5.68	2.56	1.56	4.56	9.53	8.48	7.17	5.06	4.93	4.47	5.28
1952	5.25	3.22	1.45	5.02	4.5	7.24	10.6	50.1	38.8	19.3	16.1	9.25	14.1
1953	8.02	3.33	.96	2.17	6.20	7.79	7.08	8.94	10.1	7.20	8.08	7.07	6.41
1954	3.74	2.83	1.55	3.15	6.13	5.95	9.18	11.2	8.15	6.45	3.45	4.08	5.48
1955	9.65	6.19	3.83	2.0	2.85	5.51	8.86	17.2	14.9	4.64	3.53	3.93	6.93
1956													
1957													
1958													
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	307	296	-
1951	247	306	349	158	87	281	567	521	427	311	303	266	3,820
1952	323	192	89	186	259	445	629	3,080	2,310	1,190	991	550	10,240
1953	493	198	59	133	345	479	420	550	602	443	497	420	4,640
1954	230	169	95	194	341	368	546	688	485	397	212	243	3,970
1955	593	368	236	123	158	339	527	1,060	885	285	217	234	5,020
1956													
1957													
1958													
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	1243	-	-	-	-	-	-
1951	1243	26	Aug. 2, 1951	0.3	5.28	3,820	4.87
1952	1243	3,610	Aug. 21, 1952	-	14.1	10,240	14.3
1953	1283	132	Aug. 22, 1953	.1	6.41	4,640	6.05
1954	1393	100	July 18, 1954	.5	5.48	3,970	6.45
1955	1393	2,060	Oct. 7, 1954	.7	6.93	5,020	-
1956							
1957							
1958							
1959							
1960							

3360. Birch Creek near Escalante, Utah

Location.--Lat 37°45'45", long 111°44'15", in sec.13, T.35 S., R.1 E., on left bank 3.2 miles west on dirt road from State Highway U-54 and 7 miles west of Escalante.

Drainage area.--36 sq mi, approximately.

Records available.--July 1950 to September 1951, water years 1950-51 (annual maximum).

Gage.--Crest-stage gage. Altitude of gage is 6,400 ft (from topographic map). July 1950 to September 1951 water-stage recorder at site about 1 mile downstream at different datum.

Extremes.--1950-51, 1950-51: Maximum discharge, 1,100 cfs Sept. 15, 1950 (gage height, 16.12 ft), from slope-area measurement of peak flow; no flow at times.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	0.70	0.72	-
1951	0.88	0.32	0	0.10	0.27	0.19	0.89	0.89	1.06	0.57	1.28	.02	0.54

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	43	43	-
1951	54	19	0	6.3	15	12	53	55	63	35	79	1.2	392

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	1213	856	July 17, 1950	-	-	-	-	-
1951	1213	249	July 31, 1951	0	0.54	392	-	-
1959	-	1,100	Sept. 15, 1959	-	-	-	-	-
1960	-	-	July 30, 1960	-	-	-	-	-

a Maximum for period July to September.

3365. Birch Creek at mouth, near Escalante, Utah

Location.--Lat 37°46', long 111°41', in E $\frac{1}{2}$ sec.16, T.35 S., R.2 E., on left bank just upstream from bridge on State Highway 23, a quarter of a mile upstream from mouth, three quarters of a mile downstream from Upper Valley Creek, and 5 miles west of Escalante.

Drainage area.--100 sq mi, approximately.

Records available.--October 1951 to July 1955.

Gage.--Water-stage recorder. Altitude of gage is 6,090 ft (by barometer).

Extremes.--1951-55: Maximum discharge, 1,010 cfs July 12, 1954 (gage height, 5.06 ft), from rating curve extended above 190 cfs on basis of slope-area measurement of peak flow; minimum daily, 0.1 cfs July 13, 14, 1955.

Remarks.--Several diversions for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1952	1.0	1.0	1.3	1.65	3.5	5.23	5.46	14.4	10.6	7.65	5.11	4.30	5.11
1953	3.33	4.08	1.60	2.70	4.25	3.67	1.71	1.65	1.20	5.59	3.39	.84	2.83
1954	1.55	1.91	1.45	1.91	2.97	2.20	.45	1.10	1.62	2.96	.83	3.40	1.85
1955	2.77	1.34	1.0	.6	.70	2.76	1.54	2.44	2.50	1.01	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1952	61	60	80	101	201	321	325	887	630	470	314	256	3,710
1953	205	243	98	166	236	228	102	101	71	344	208	50	2,050
1954	95	114	89	117	165	135	27	68	96	182	51	202	1,340
1955	170	80	61	37	39	170	92	150	149	62	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1952	1393	691	Aug. 21, 1952	-	5.11	3,710	5.58	4,050
1953	1393	797	July 29, 1953	-	2.83	2,050	2.49	1,800
1954	1393	1,010	July 12, 1954	-	1.85	1,340	1.87	1,350
1955	1393	8613	Oct. 7, 1954	-	-	-	-	-

a Maximum for period October to July.

3370. Pine Creek near Escalante, Utah

Location.--Lat 37°51'45", long 111°38'15", in SW¹/₄ sec.12, T.34 S., R.2 E., Salt Lake meridian, on left bank a quarter of a mile upstream from unnamed right bank tributary and 7 miles north of Escalante.

Drainage area.--78 sq mi, approximately.

Records available.--July 1950 to September 1955, July 1957 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,400 ft (from topographic map).

Average discharge.--8 years (1950-55, 1957-60), 3.35 cfs (2,430 acre-ft per year).

Extremes.--1950-55, 1957-60: Maximum discharge, 325 cfs Sept. 16, 1952, from rating curve extended above 96 cfs on basis of slope-area measurement at gage height 4.16 ft; maximum gage height, 4.52 ft May 19, 1958; no flow at times in most years.

Remarks.--One small diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	6.65	3.96	-
1951	2.71	2.54	2.0	1.5	1.95	2.21	3.00	3.16	3.00	0.68	2.92	1.39	2.26
1952	1.88	1.51	1.66	2.45	2.42	2.54	7.11	30.9	6.19	6.19	10.3	5.56	6.59
1953	3.35	2.76	1.0	2.12	2.81	3.31	3.05	2.49	2.04	.75	1.02	.52	2.10
1954	1.15	1.21	.97	1.06	.39	.28	6.65	2.31	1.25	.11	0	.05	1.28
1955	.16	.26	.14	.07	.06	.94	.25	4.79	1.68	0	.63	0	.77
1956	-	-	-	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	-	-	3.85	2.83	-
1958	2.14	2.45	1.5	.8	1.04	1.04	8.06	50.9	8.80	12.4	6.47	7.64	8.69
1959	3.95	4.12	2.59	2.19	2.43	3.21	6.15	4.74	1.95	.27	1.52	1.28	2.87
1960	1.79	1.98	1.48	1.0	1.56	2.10	4.19	7.93	2.06	.35	.99	1.19	2.21

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	409	235	-
1951	166	151	123	92	108	136	179	194	179	42	180	83	1,630
1952	115	90	102	150	139	156	423	1,900	369	380	631	331	4,790
1953	206	164	61	131	156	203	181	153	121	46	63	31	1,520
1954	70	72	60	65	22	17	396	142	74	6.7	0	1.6	926
1955	10	15	8.7	4.4	3.2	58	15	295	112	0	38	0	559
1956	-	-	-	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	-	-	237	168	-
1958	132	146	92	49	58	64	480	3,130	523	762	398	455	6,290
1959	243	245	159	135	135	198	366	291	116	17	94	76	2,080
1960	110	118	91	61	79	129	250	488	124	22	61	71	1,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	1213	a19	Sept. 24, 1950	-	-	-	-	-	-
1951	1213	285	Aug. 3, 1951	-	2.26	1,630	2.07	1,500	
1952	1243	325	Sept. 16, 1952	0.1	6.59	4,790	6.76	4,910	
1953	1283	153	Aug. 1, 1953	0.2	2.10	1,520	1.78	1,290	
1954	1343	108	Apr. 18, 1954	0	1.28	926	1.05	758	
1955	1393	102	Aug. 16, 1955	0	.77	559	-	-	
1956	-	-	-	-	-	-	-	-	
1957	1513	b46	Aug. 31, 1957	-	-	-	-	-	
1958	1633	288	May 19, 1958	.3	8.69	6,290	9.07	6,570	
1959	1633	53	Aug. 19, 1959	.1	2.87	2,080	2.41	1,750	
1960	1713	74	May 10, 1960	.2	2.21	1,600	-	-	

a Maximum for period July to September.

b Maximum for period July to September.

3375. Escalante River near Escalante, Utah

Location.--Lat 37°46', long 111°34', in NE $\frac{1}{4}$ sec.9, T.35 S., R.3 E., on left bank 150 ft downstream from Pine Creek and 2 miles northeast of Escalante.

Drainage area.--310 sq mi (revised), approximately.

Records available.--August 1909 to April 1913, October 1942 to September 1955. Published as Escalante Creek near Escalante 1909-13.

Gage.--Water-stage recorder. Altitude of gage is 5,700 ft (from topographic map). Prior to Apr. 30, 1913, staff gage at approximately same site at different datum.

Average discharge.--16 years (1909-12, 1942-55), 17.7 cfs (12,810 acre-ft per year).

Extremes.--1909-13, 1942-55: Maximum discharge, 3,450 cfs in August 1953, day unknown (gage height, 9.9 ft, from outside high-water mark), from rating curve extended above 540 cfs on basis of slope-area measurements at gage heights 5.50 and 7.34 ft (from inside gage) and 7.59 ft (from outside high-water mark) and logarithmic plotting; minimum, 0.1 cfs Aug. 20, 1946, July 15, 1950.

Remarks.--Diversions above station for irrigation of about 2,300 acres of crop and pasture land.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.23	3.97	4.42	4.55	4.75	4.11	2.68	2.70	2.02	4.14	15.1	2.24	4.51
1952	2.09	3.17	4.32	7.78	13.7	14.0	20.6	37.7	13.5	7.97	14.6	7.44	12.2
1953	4.06	6.18	9.50	10.7	11.6	9.20	3.40	1.99	1.12	6.53	6.27	2.27	6.06
1954	3.51	2.78	4.25	6.96	3.66	2.26	4.62	.88	1.26	4.01	1.22	1.63	3.09
1955	15.2	1.62	2.18	2.26	3.38	2.92	1.79	2.18	.72	.79	5.15	.73	3.26

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	198	236	272	280	264	253	159	166	120	254	929	133	3,260
1952	129	189	266	478	787	861	1,230	2,320	802	490	898	443	8,890
1953	250	368	584	660	643	566	202	122	67	401	385	135	4,580
1954	216	165	261	428	204	139	275	54	75	247	75	97	2,240
1955	934	96	134	139	187	180	106	134	43	49	316	43	2,360

Yearly discharge, in cubic feet per second

Water year ending Sept. 30									Calendar year	
Year	WSP	Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	8.40	6,080		
1951	1213	1,560	July 31, 1951	1.0	4.51	3,260	4.54	3,140		
1952	1243	1,980	Aug. 21, 1952	-	12.2	8,890	13.1	9,510		
1953	1283	3,450	August 1953a/	.8	6.06	4,380	5.28	3,820		
1954	1343	544	July 12, 1954	-	3.09	2,240	3.81	2,760		
1955	1393	2,980	Aug. 13, 1955	.5	3.26	2,360	-	-		

a Day unknown.

3380. East Fork Boulder Creek near Boulder, Utah

Location.--Lat 38°02'30", long 111°27'00", in N½ sec.10, T.32 S., R.4 E., on left bank 11 miles northwest of Boulder.

Drainage area.--21.4 sq mi.

Records available.--July 1950 to September 1955, July 1957 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 9,315 ft (from Garkane Power Association project map). Prior to Sept. 24, 1958, at site three-quarters of a mile downstream at different datum.

Average discharge.--8 years (1950-55, 1957-60), 23.4 cfs (16,940 acre-ft per year).

Extremes.--1950-55, 1957-60: Maximum discharge, 264 cfs May 27, 1951 (gage height, 4.01 ft, site and datum then in use), from rating curve extended above 82 cfs by logarithmic plotting; minimum, 8.2 cfs Nov. 5, 1951.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	22.6	23.0	-
1951	22.1	22.0	21.5	20.1	19.1	20.4	23.1	38.1	21.9	19.0	19.3	18.6	22.1
1952	19.4	20.3	19.4	18.8	18.7	19.6	23.9	75.4	54.8	28.7	26.7	24.8	29.3
1953	24.9	25.6	25.0	33.9	26.3	20	20.7	28.3	24.8	19.6	18.7	17.9	23.8
1954	18.6	18.4	15.6	16.7	16.1	16.9	25.0	33.8	18.6	18.7	18.3	17.9	19.6
1955	18.1	17.9	16.8	17.1	16.2	16.1	19.0	33.8	24.5	16.5	18.4	15.8	19.2
1956	-	-	-	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	-	21.0	22.5	22.2	-
1958	21.6	21.7	20.8	20.0	19.8	19.1	22.2	73.8	66.5	34.1	30.0	29.5	31.6
1959	26.1	25.1	24.0	22.7	22.0	22.0	24.1	33.1	20.6	19.5	18.5	16.1	22.8
1960	16.2	17.5	16.0	17.3	19.8	18.9	19.1	36.6	19.8	16.8	16.0	15.4	19.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	1,390	1,370	-
1951	1,360	1,310	1,320	1,240	1,060	1,260	1,370	2,340	1,310	1,170	1,190	1,100	16,030
1952	1,190	1,210	1,190	1,160	1,070	1,210	1,420	4,640	3,260	1,770	1,640	1,470	21,230
1953	1,530	1,520	1,540	2,090	1,460	1,230	1,230	1,740	1,470	1,200	1,150	1,070	17,230
1954	1,140	1,090	962	1,030	893	1,040	1,490	2,080	1,100	1,150	1,130	1,070	14,180
1955	1,110	1,070	1,030	1,050	900	990	1,130	2,080	1,460	1,020	1,130	940	13,910
1956	-	-	-	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	-	1,290	1,380	1,320	-
1958	1,330	1,290	1,280	1,230	1,100	1,170	1,320	4,540	3,960	2,100	1,850	1,750	22,920
1959	1,600	1,500	1,480	1,400	1,220	1,350	1,440	2,030	1,220	1,200	1,140	958	16,540
1960	996	1,040	982	1,070	1,140	1,160	1,130	2,250	1,180	1,040	984	916	13,890

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	1283	-	-	-	-	-	-	-	-
1951	1283	264	May 27, 1951	17	22.1	16,030	21.7	15,680	-
1952	1283	174	May 12, 1952	-	29.3	21,230	30.6	22,230	-
1953	1283	102	May 23, 1953	17	23.8	17,230	21.9	15,830	-
1954	1343	104	May 6, 1954	-	19.6	14,180	19.6	14,190	-
1955	1393	130	May 24, 1955	15	19.2	13,910	-	-	-
1956	-	-	-	-	-	-	-	-	-
1957	1513	46	Aug. 31, 1957	-	-	-	-	-	-
1958	1563	220	May 26, 1958	-	31.6	22,920	32.6	23,600	-
1959	1633	78	May 12, 1959	15	22.8	16,540	20.7	14,970	-
1960	1713	*96	May 18, 1960	14	19.1	13,890	-	-	-

* Revised.

3385. East Fork Deer Creek near Boulder, Utah

Location (revised).--Lat 38°00'05", long 111°23'20", in sec.29, T.32 S., R.5 E. (unsurveyed), on right bank on State Highway U-54, 8 miles north of Boulder.

Drainage area.--1.9 sq mi (revised), approximately.

Records available.--July 1950 to September 1955, water years 1959-60 (annual maximum).

Gage.--Crest-stage gage. Altitude of gage is 8,600 ft (from topographic map). July 1950 to September 1955 water-stage recorder at same site at different datum.

Extremes.--1950-55, 1958-60: Maximum discharge, 350 cfs (revised) Aug. 6, 1955 (2.76 ft, datum then in use).

1950-55: No flow for part of Feb. 10, 1953, result of freezeup.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	1.53	1.51	-
1951	1.65	1.05	1.34	1.6	1.4	1.25	2.08	1.62	1.23	0.92	1.09	.83	1.34
1952	1.11	1.20	1.05	1.00	1.10	1.29	3.62	4.70	3.18	3.36	3.40	2.65	2.30
1953	2.54	2.00	1.0	1.19	1.06	1.54	1.88	1.56	1.07	1.25	1.19	.89	1.43
1954	.74	.41	.39	.35	.4	.6	1.56	.90	1.04	1.00	.87	.94	.77
1955	.77	.62	.51	.51	.44	2.38	1.53	.86	.93	.88	1.09	1.0	.96

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	94	90	-
1951	101	62	82	98	78	77	124	99	73	56	67	50	967
1952	68	71	64	61	63	80	216	289	188	206	209	157	1,670
1953	156	119	61	73	59	95	112	96	64	77	73	53	1,040
1954	45	25	24	21	22	37	93	56	62	61	54	56	556
1955	47	37	32	32	25	147	91	53	56	54	67	60	701

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	1213	-	-	-	-	-	-
1951	1213	*10	Aug. 4, 1951	-	1.34	967	1.28
1952	1243	*16	Aug. 27, 1952	-	2.30	1,670	2.49
1953	1283	4.3	Aug. 27, 1953	0.6	1.43	1,040	1.10
1954	1343	4.1	Apr. 13, 1954	-	.77	556	.80
1955	1393	*350	Aug. 6, 1955	-	.96	701	-
1959	-	a2	Aug. 19, 1959	-	-	-	-
1960	-	a21	(b)	-	-	-	-

* Revised.

a About.

b Occurred sometime during May 1960.

3390. Boulder Creek near Boulder, Utah

Location.--Lat 37°48', long 111°23', in S $\frac{1}{2}$ sec.32, T.34 S., R.5 E., on right bank 6 miles south of Boulder and 12 miles northeast of Escalante.

Drainage area.--175 sq mi (revised), approximately.

Records available.--July 1950 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 5,200 ft (by barometer).

Average discharge.--5 years (1950-55), 23.0 cfs (16,650 acre-ft per year).

Extremes.--1950-55: Maximum discharge, 4,650 cfs July 25, 1955 (gage height, 10.24 ft), from rating curve extended above 150 cfs on basis of slope-area measurement at gage height 3.70 ft and logarithmic plotting; minimum, 6.1 cfs June 26, 1953.

Remarks.--Diversion for irrigation of about 1,900 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	7.96	9.60	-
1951	10.5	22.8	30.3	41.1	33.9	27.4	12.4	33.2	8.37	8.08	22.9	9.59	21.7
1952	13.5	18.9	28.1	27.4	37.2	38.2	46.0	79.2	47.6	11.5	15.1	24.2	32.0
1953	13.8	28.3	49.2	43.7	41.7	35.5	12.1	14.2	8.00	10.8	12.6	9.79	23.2
1954	13.3	34.2	28.1	29.6	34.0	25.8	18.5	21.1	9.55	11.6	8.69	13.0	20.5
1955	13.6	15.5	21.8	22.6	20.5	36.8	16.4	17.4	10.5	15.0	13.2	7.87	17.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	490	577	-
1951	648	1,350	1,860	2,520	1,880	1,680	740	2,040	498	497	1,410	570	15,690
1952	829	1,130	1,600	1,680	2,140	2,350	2,740	4,870	2,830	710	928	1,440	23,240
1953	851	1,680	3,020	2,690	2,310	2,180	718	872	476	666	775	582	16,820
1954	816	2,040	1,730	1,820	1,890	1,590	1,100	1,290	568	711	534	771	14,860
1955	839	924	1,340	1,390	1,140	2,260	978	1,070	627	920	811	468	12,770

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	1213	a112	Sept. 10, 1950	-	-	-	-
1951	1213	486	Aug. 3, 1951	6.8	21.7	15,690	21.3
1952	1243	542	Aug. 28, 1952	8.4	32.0	23,240	34.8
1953	1283	438	Aug. 27, 1953	6.6	23.2	16,820	21.9
1954	1343	527	Sept. 25, 1954	8.0	20.5	14,860	18.5
1955	1393	4,650	July 25, 1955	7.2	17.6	12,770	-

a Maximum for period July to September.

3395. Escalante River at mouth, near Escalante, Utah

Location.--Lat 37°19', long 110°54' (unsurveyed), on left bank 2.2 miles downstream from Davis Gulch, 5.1 miles upstream from mouth, and about 50 miles southeast of Escalante.
Drainage area.--1,770 sq mi (revised), approximately.
Records available.--April 1950 to September 1955.
Gage.--Water-stage recorder. Altitude of gage is 3,380 ft (from river-profile map).
Average discharge.--5 years (1950-55), 85.2 cfs (61,680 acre-ft per year).
Extremes.--1950-55: Maximum discharge, 14,600 cfs Aug. 4, 1951 (gage height, 11.43 ft); minimum, 4.4 cfs Aug. 20, 1950, July 11, 1951.
Remarks.--Diversion for irrigation of about 4,500 acres above station. Records of chemical analyses and water temperatures for the period March 1951 to September 1953 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	58.1	22.4	81.5	58.6	39.1	-
1951	40.9	72.6	77.7	89.2	89.7	85.6	47.4	74.6	26.1	17.1	34.5	52.0	83.4
1952	69.4	76.7	94.9	89.1	104	130	133	158	104	48.2	84.8	115	101
1953	58.5	87.7	101	94.9	103	97.8	50.8	44.4	36.4	115	181	35.4	83.9
1954	54.1	87.1	73.7	114	94.1	83.8	60.0	77.0	19.7	48.6	21.9	89.4	68.5
1955	190	58.0	84.7	84.3	87.5	96.0	53.0	36.4	20.6	87.0	233	31.9	89.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	3,570	1,330	5,010	2,370	2,320	-
1951	2,520	4,320	4,780	5,490	4,980	4,040	2,820	4,590	1,550	1,050	2,120	3,090	60,350
1952	4,270	4,560	5,840	5,480	5,970	7,970	7,940	9,720	6,180	2,970	5,210	6,870	72,980
1953	3,600	5,220	6,200	5,830	5,730	6,010	3,020	2,730	2,170	7,050	11,100	2,110	60,770
1954	3,320	5,190	4,530	7,020	5,230	5,150	3,570	4,730	1,170	2,990	1,340	5,320	49,560
1955	11,690	3,450	5,210	5,180	4,860	5,900	3,150	2,240	1,230	5,350	14,330	1,900	64,490

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	1393	al, 320	July 18, 1950	-	-	-	-	-	-
1951	1393	14,600	Aug. 4, 1951	7.3	83.4	60,350	87.6	63,400	
1952	1393	2,820	Sept. 22, 1952	16	101	72,980	101	73,330	
1953	1393	10,700	July 18, 1953	14	83.9	60,770	81.2	58,790	
1954	1393	1,580	Sept. 13, 1954	12	68.5	49,560	78.6	56,870	
1955	1393	8,960	Oct. 7, 1954	8.0	89.1	64,490	-	-	

a Maximum for period April to September.

SAN JUAN RIVER BASIN

3399. East Fork San Juan River above Sand Creek, near Pagosa Springs, Colo.

Location.--Lat 37°23'25", long 106°50'25", in NE¹ sec. 4, T.36 N., R.1 E., on right bank 0.3 mile upstream from Sand Creek, 4 miles upstream from West Fork San Juan River, and 13 miles northeast of Pagosa Springs.
Drainage area.--64.1 sq mi.
Records available.--October 1956 to September 1960. Prior to October 1959, published as San Juan River above Sand Creek, near Pagosa Springs.
Gage.--Water-stage recorder. Altitude of gage is 8,900 ft (from topographic map).
Extremes.--1956-60: Maximum discharge, 1,210 cfs June 6, 1957 (gage height, 6.32 ft); minimum daily determined, 3.4 cfs Dec. 26, 1958.
 Maximum flood known occurred Oct. 5, 1911.
Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	8.39	9.87	8.0	7.5	11	20	80.3	212	788	395	143	56.0	145
1958	35.5	38.7	20	13	13.8	20.2	117	472	353	55.7	33.9	37.3	101
1959	17.4	9.95	4.68	5	7	10.9	45.9	144	161	23.9	42.1	17.6	40.9
1960	65.0	51.2	16.4	14.5	14.8	41.3	219	281	394	76.3	22.9	15.9	100

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	516	587	492	461	611	1,230	4,780	13,050	46,900	24,310	8,770	3,330	105,000
1958	2,180	2,300	1,250	799	766	1,240	6,950	29,040	21,030	3,430	2,090	2,220	73,280
1959	1,070	592	288	307	389	670	2,730	8,830	9,580	1,470	2,590	1,060	29,580
1960	4,000	3,050	1,010	893	843	2,550	13,050	17,250	22,880	4,690	1,410	948	72,580

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1957	1513, 1713	1,210	June 6, 1957	-	145	105,000	151	109,200	
1958	1563	762	May 27, 1958	-	101	73,280	96.0	69,520	
1959	1633	352	June 7, 1959	3.4	40.9	29,580	49.3	35,690	
1960	1713	601	June 4, 1960	10	100	72,580	-	-	

3400. East Fork San Juan River near Pagosa Springs, Colo.
(Formerly published as San Juan River near Pagosa Springs)

Location.--Lat 37°22'00", long 106°53'40", in SE $\frac{1}{4}$ sec.12, T.36 N., R.1 W., on right bank a quarter of a mile upstream from private highway bridge, half a mile upstream from West Fork, and 9.5 miles northeast of Pagosa Springs.

Drainage area.--86.9 sq mi.

Records available.--May 1935 to September 1960. Prior to October 1959, published as San Juan River near Pagosa Springs.

Gage.--Water-stage recorder. Datum of gage is 7,597.63 ft above mean sea level, datum of 1929. Prior to Sept. 8, 1938, at site a quarter of a mile downstream at different datum.

Average discharge.--25 years (1935-60), 122 cfs (88,320 acre-ft per year).

Extremes.--1935-60: Maximum discharge, 2,070 cfs May 12, 1941 (gage height, 4.84 ft), from rating curve extended above 1,800 cfs; minimum daily 5.5 cfs Dec. 20, 1939.
Maximum flood known occurred Oct. 5, 1911.

Remarks.--Diversion above station for irrigation of a few hundred acres of hay meadows below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	19.5	10.0	10.1	6.85	10.2	18.6	56.2	227	249	44.7	36.6	19.5	59.2
1952	15.4	12.0	12.4	11.7	10.8	17.7	232	758	1,023	240	83.8	42.2	205
1953	21.6	15.1	17.6	13.4	16.0	40.6	132	277	385	72.1	34.0	15.0	86.7
1954	15.8	21.2	14.4	12.3	18.1	18.2	170	300	145	56.7	46.1	27.6	70.7
1955	27.6	11.8	11.9	13.2	13.1	20.8	72.1	246	260	68.7	89.6	30.9	72.4
1956	15.5	13.2	15.7	15.2	17.9	55.2	129	451	349	46.6	29.0	11.5	95.8
1957	12.0	16.4	10.9	11.1	16.0	27.3	106	311	893	466	180	63.9	176
1958	46.8	53.6	28.2	20	20.2	27.9	181	631	410	70.9	45.1	48.2	132
1959	22.4	16.2	12.0	9.69	9.50	15.3	65.6	191	187	30.7	49.7	21.6	52.7
1960	83.9	61.1	21.5	18.5	20.3	61.5	339	408	485	93.6	30.5	23.2	137

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,200	597	622	421	565	1,140	3,350	13,980	14,810	2,750	2,250	1,160	42,840
1952	944	714	762	718	619	1,080	13,800	48,590	30,870	14,740	5,160	2,510	148,500
1953	1,330	899	1,080	825	887	2,500	7,880	17,080	22,920	4,430	2,080	895	62,800
1954	974	1,260	883	754	1,010	1,120	10,140	18,440	8,650	3,490	2,840	1,640	51,200
1955	1,700	699	731	813	728	1,280	4,290	15,110	15,480	4,230	5,510	1,840	52,410
1956	954	785	968	932	1,030	3,390	7,660	27,720	20,770	2,860	1,790	685	69,540
1957	740	974	670	680	889	1,680	6,280	19,110	53,160	28,640	11,060	3,800	127,700
1958	2,880	3,190	1,740	1,230	1,120	1,720	10,750	38,810	24,410	4,360	2,770	2,870	95,850
1959	1,580	964	738	596	528	942	3,910	11,760	11,140	1,890	3,060	1,280	38,190
1960	5,160	3,640	1,320	1,130	1,170	3,780	20,170	25,080	28,830	5,750	1,880	1,380	99,290

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	79.7	57,670	
1951	1213	709	May 27, 1951	6.0	59.2	42,840	59.2	42,850	
1952	1243	1,850	June 10, 1952	9.0	205	148,500	206	149,400	
1953	1293	1,050	May 28, 1953	11	86.7	62,800	86.5	62,600	
1954	1343	550	July 22, 1954	10	70.7	51,200	70.7	51,210	
1955	1393	557	June 9, 1955	7.5	72.4	52,410	71.8	51,990	
1956	1443	1,170	June 1, 1956	6.0	95.8	69,540	95.4	69,220	
1957	1513	1,550	June 6, 1957	6.0	176	127,700	184	133,100	
1958	1563	1,030	May 26, 1958	-	132	95,850	126	91,120	
1959	1635	388	June 7, 1959	7.5	52.7	38,190	62.5	45,230	
1960	1713	865	June 4, 1960	15	137	99,290	-	-	

3405. West Fork San Juan River above Borns Lake, near Pagosa Springs, Colo.

Location.--Lat 37°29'00", long 106°55'50", in sec.36, T.38 N., R.1 W., on right bank half a mile downstream from Beaver Creek, 1½ miles upstream from Borns Lake, and 16 miles northeast of Pagosa Springs.

Drainage area.--41.2 sq mi.

Records available.--April 1937 to September 1953.

Gage.--Water-stage recorder. Altitude of gage is 8,400 ft (from topographic map).

Average discharge.--16 years (1937-53), 83.2 cfs (60,230 acre-ft per year).

Extremes.--1937-53: Maximum discharge, 1,290 cfs June 18, 1949 (gage height, 5.24 ft), from rating curve extended above 750 cfs; minimum daily, 6.0 cfs Jan. 30, 31, Feb. 1, 1951.
Maximum flood known occurred Oct. 5, 1911.

Remarks.--No regulation or diversion.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	23.7	14.3	14.1	9.68	10.1	14.8	41.4	195	154	28.0	47.1	25.9	48.4
1952	15.6	14.5	13.9	14.1	13.8	13.4	76.8	302	668	163	84.0	49.2	119
1953	20.0	14.8	14.0	13.8	13.6	22.3	75.0	176	254	60.3	29.4	15.4	59.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,460	853	869	595	563	908	2,470	11,980	9,190	1,720	2,900	1,540	35,050
1952	962	863	857	867	791	821	4,570	18,560	39,750	10,030	5,160	2,930	86,160
1953	1,230	879	859	851	758	1,370	4,460	10,840	15,100	3,710	1,810	914	42,780

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	64.1	46,400
1951	1213	605	May 27, 1951	6.0	48.4	35,050	47.7	34,550
1952	1243	1,210	June 10, 1952	11	119	86,160	119	86,450
1953	1283	555	May 27, 1953	12	59.1	42,780	-	-

3410. Treasure Pass ditch at Wolf Creek Pass, Colo.
(Transmountain diversion)

Location.--Lat 37°28'50", long 106°48'10", in sec.31, T.38 N., R.2 E., at Wolf Creek Pass.

Records available.--October 1928 to September 1960. Diversion prior to 1948, published in WSP 1313 (yearly diversion only for water year 1941).

Gage.--Water-stage recorder and 2-foot Parshall flume. Altitude of gage is 10,900 ft (from topographic map).

Remarks.--Diversion is from tributaries of Wolf Creek between headgates in sec.31, T.38 N., R.2 E., and sec.6, T.37 N., R.2 E., and Wolf Creek Pass, in San Juan River basin, to tributary of South Fork Rio Grande in sec.31, T.38 N., R.2 E., in Rio Grande basin.

Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	0	147	13	0	0	160
1952	0	0	0	0	0	0	0	0	85	113	0	0	198
1953	0	0	0	0	0	0	0	0	96	0	0	0	96
1954	0	0	0	0	0	0	0	0	7	53	0	0	60
1955	0	0	0	0	0	0	0	0	0	75	15	0	90
1956	0	0	0	0	0	0	0	0	128	0	0	0	128
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	112	0	0	0	112
1960	0	0	0	0	0	0	0	0	162	26	0	0	188

3415. West Fork San Juan River near Pagosa Springs, Colo.

Location.--Lat 37°22'40", long 106°54'00", in SE $\frac{1}{4}$ sec.1, T.36 N., R.1 W., on left bank 30 ft upstream from bridge on U. S. Highway 160, 0.9 mile upstream from mouth, and 10 miles northeast of Pagosa Springs.

Drainage area.--87.9 sq mi.

Records available.--April 1935 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 7,614.40 ft above mean sea level, datum of 1929. Prior to Aug. 25, 1954, at two sites within 30 ft, a quarter of a mile downstream at datum 8.83 ft lower.

Average discharge.--25 years (1935-60), 156 cfs (112,900 acre-ft per year).

Extremes.--1935-60: Maximum discharge, 2,330 cfs June 15, 1952; maximum gage height, 6.45 ft June 18, 1949 (site and datum then in use); minimum daily discharge, 5.8 cfs Sept. 21, 1956.

Maximum flood known occurred Oct. 5, 1911.

Remarks.--Diversions above station for irrigation of about 700 acres above and 100 acres below station. Treasure Pass ditch above station exports water to Rio Grande basin (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	37.2	18.2	23.6	18.8	17.2	29.8	69.1	354	285	46.9	65.9	34.1	82.0
1952	23.8	20.0	22.7	21.6	20.7	22.9	231	719	1,304	283	106	62.0	236
1953	35.5	24.7	32.4	33.2	31.7	55.2	110	284	485	85.3	43.1	13.7	103
1954	25.4	34.5	21.1	18.9	28.6	30.4	198	399	168	61.1	78.4	52.8	93.4
1955	62.6	24.9	21.5	21.2	21.5	33.9	83.6	340	428	73.4	63.8	32.7	102
1956	19.6	16.9	18.0	17.0	20.0	54.5	130	497	406	49.5	32.7	15.0	107
1957	16.9	20.2	17.0	13.2	17.8	29.7	128	262	1,144	657	232	95.0	222
1958	63.8	68.3	44.1	42.8	29.6	31.9	197	716	724	87.7	47.9	61.5	177
1959	33.7	28.0	22.2	19.2	19.7	26.0	82.3	273	302	41.2	80.4	36.9	80.5
1960	108	84.3	31.1	27.2	26.0	73.4	307	444	774	143	40.6	27.3	173

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,280	1,090	1,450	1,150	954	1,830	4,110	20,520	16,980	2,880	4,050	2,030	59,320
1952	1,460	1,190	1,400	1,330	1,190	1,410	13,750	44,220	77,620	17,400	6,550	3,690	171,200
1953	2,180	1,470	1,990	2,050	1,760	3,390	6,520	17,440	28,840	5,240	2,650	813	74,340
1954	1,560	2,050	1,300	1,160	1,590	1,870	11,770	24,560	10,010	3,760	4,820	3,140	67,590
1955	3,650	1,480	1,320	1,300	1,190	2,090	4,970	20,900	25,440	4,510	5,150	1,940	74,140
1956	1,210	1,010	1,110	1,050	1,150	3,350	7,760	30,580	24,170	3,050	2,010	894	77,340
1957	1,040	1,200	1,050	811	988	1,830	7,640	17,350	68,100	40,420	14,290	5,650	160,400
1958	3,920	4,070	2,710	2,630	1,640	1,960	11,750	44,020	43,080	5,400	2,940	3,660	127,800
1959	2,070	1,670	1,360	1,180	1,090	1,600	4,900	16,800	17,960	2,530	4,940	2,200	58,300
1960	6,650	5,020	1,910	1,670	1,500	4,510	18,260	27,320	46,050	8,810	2,500	1,630	125,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	112	81,310
1951	1213	1,020	May 27, 1951	8.2	82.0	59,320	80.9	58,550
1952	1243	2,330	June 15, 1952	13	236	171,200	238	172,800
1953	1283	1,000	May 28, 1953	6.0	103	74,340	102	73,610
1954	1343	787	May 21, 1954	7	93.4	67,590	95.8	69,330
1955	1393	1,110	June 8, 1955	12	102	74,140	97.8	70,820
1956	1443	993	June 1, 1956	5.8	107	77,340	106	77,300
1957	1513	2,100	July 26, 1957	7.0	222	160,400	232	167,800
1958	1563	1,660	June 6, 1958	26	177	127,800	169	122,200
1959	1633	682	June 6, 1959	16	80.5	58,300	92.2	66,780
1960	1713	1,210	June 17, 1960	20	173	125,800	-	-

3425. San Juan River at Pagosa Springs, Colo.

Location.--Lat 37°15'50", long 107°00'40", in S $\frac{1}{4}$ sec.13, T.35 N., R.2 W., on right bank at former bridge site in Pagosa Springs, 0.2 mile upstream from McCabe Creek, 0.6 mile downstream from bridge on U. S. Highway 160, and 2 miles upstream from Mill Creek.

Drainage area.--298 sq mi.

Records available.--October 1910 to December 1914, May 1935 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 7,052.04 ft above mean sea level, datum of 1929. Jan. 29 to Mar. 6, 1911, staff gage at site half a mile upstream at different datum. Mar. 7 to Oct. 4, 1911, staff gage at present site at different datum. Nov. 23, 1911, to Nov. 14, 1914, staff gage at site 300 ft downstream at different datum.

Average discharge.--29 years (1910-14, 1935-60), 385 cfs (278,700 acre-ft per year).

Extremes.--1910-14, 1935-60: Maximum discharge, about 25,000 cfs Oct. 5, 1911 (gage height, 17.8 ft, from floodmarks), from velocity-area study; minimum daily, 9.7 cfs Oct. 5, 6, 1956.

Maximum stage known, that of Oct. 5, 1911. Flood of June 29, 1927, reached a stage of 13.5 ft (discharge, about 16,000 cfs), from information by local residents.

Remarks.--Diversion for irrigation of several thousand acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	59.1	35.1	39.5	34.1	39.6	70.9	186	814	649	86.5	99.6	59.4	182
1952	42.7	41.5	50.2	54.0	52.0	67.7	930	1,849	2,831	638	214	109	572
1953	64.2	46.3	55.7	49.4	55.9	134	410	813	1,143	162	90.4	22.2	254
1954	40.3	68.3	42.2	34.5	59.6	77.9	519	956	363	113	135	82.5	208
1955	106	45.9	38.1	41.0	41.6	68.7	212	787	805	136	184	67.5	212
1956	37.5	33.6	44.2	46.1	45.0	181	403	1,183	850	84.9	50.9	18.8	248
1957	23.3	39.6	33.1	34.4	51.1	113	436	1,014	3,066	1,480	638	226	597
1958	148	190	107	73.6	84.8	123	719	1,856	1,303	147	83.5	123	414
1959	66.9	57.4	47.6	41.0	53.3	77.6	193	558	552	62.8	142	54.2	159
1960	262	190	64.2	53.6	54.9	322	1,082	1,096	1,488	235	65.1	44.0	412

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,640	2,090	2,430	2,100	2,200	4,360	11,060	50,060	38,620	5,320	6,120	3,530	131,500
1952	2,630	2,470	3,090	3,320	2,990	4,160	55,330	113,700	168,500	39,250	13,140	6,500	415,100
1953	3,950	2,760	3,430	3,030	3,100	8,220	24,370	50,010	68,000	9,990	5,560	1,320	183,700
1954	2,480	4,070	2,590	2,120	3,310	4,790	30,860	58,800	21,600	6,920	8,280	4,910	150,700
1955	6,540	2,730	2,340	2,520	2,310	4,220	12,590	48,400	47,880	8,390	11,320	4,020	153,300
1956	2,300	2,000	2,720	2,830	2,590	11,130	23,990	72,720	50,560	5,220	3,130	1,120	180,300
1957	1,430	2,360	2,040	2,110	2,840	6,930	25,940	62,340	182,400	91,030	39,220	13,450	432,100
1958	9,120	11,280	6,580	4,520	4,710	7,540	42,760	114,100	77,560	9,010	5,140	7,310	299,600
1959	4,110	3,420	2,930	2,520	2,960	4,770	11,490	34,310	32,850	3,860	8,760	3,230	115,200
1960	16,120	11,290	3,950	3,290	3,160	19,790	64,370	67,380	88,540	14,420	4,000	2,620	298,900

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	248	179,300
1951	1213	2,260	May 28, 1951	13	182	131,500	182	131,500
1952	1243	4,960	June 10, 1952	24	572	415,100	574	417,000
1953	1283	2,480	May 28, 1953	11	254	183,700	252	182,700
1954	1343	1,630	May 21, 1954	12	208	150,700	212	153,200
1955	1393	2,030	June 8, 1955	21	212	153,300	206	148,700
1956	1443	2,440	June 2, 1956	10	248	180,300	247	179,100
1957	1513	4,910	July 26, 1957	9.7	597	432,100	626	453,200
1958	1563	2,930	May 27, 1958	44	414	299,600	391	283,100
1959	1633	1,200	June 6, 1959	29	159	115,200	188	136,100
1960	1713	2,420	June 4, 1960	27	412	298,900	-	-

3430. Rio Blanco near Pagosa Springs, Colo.

Location.--Lat 37°12'46", long 106°47'38", in center of sec.1, T.34 N., R.1 E., on right bank 40 ft downstream from highway bridge, 0.4 mile upstream from Leche Creek, 1½ miles downstream from Fish Creek, and 12.5 miles southeast of Pagosa Springs.

Drainage area.--58.0 sq mi.

Records available.--May 1935 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,950 ft (from topographic map).

Average discharge.--25 years (1935-60), 86.9 cfs (62,910 acre-ft per year).

Extremes.--1935-60: Maximum discharge, about 1,600 cfs July 26 or 27, 1957; maximum gage height, 4.12 ft June 18, 1949; minimum daily discharge, 3.0 cfs Oct. 10, 1956. Maximum flood known occurred Oct. 5, 1911.

Remarks.--Divisions for irrigation of about 350 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11.4	10.8	13.0	10.6	9.59	22.0	55.3	208	136	21.5	30.6	18.2	45.8
1952	9.85	11.9	14.2	16.5	15.0	15.9	167	592	585	159	63.5	26.8	123
1953	14.1	12.4	14.6	14.4	15.8	45.1	98.2	177	262	59.1	15.8	6.21	61.3
1954	16.1	23.8	13.7	11.3	20.0	22.5	147	202	90.4	40.3	46.7	27.9	55.2
1955	21.6	11.6	11.9	11.9	13.0	20.3	62.3	169	171	44.5	64.4	22.2	52.1
1956	11.6	10.4	13.7	13.8	15.2	59.4	102	266	205	23.5	19.4	5.46	62.2
1957	6.02	14.8	10.2	9.13	13.6	22.7	115	245	835	426	181	58.1	162.
1958	50.2	52.3	33.2	25	20	21.8	153	513	340	53.6	35.2	56.7	113
1959	19.7	16.8	16.5	13.3	14.8	21.6	79.5	179	115	18.5	32.7	11.0	45.0
1960	79.8	42.3	14.3	15.2	14.9	74.4	233	263	300	55.9	21.4	13.4	93.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	700	642	799	654	533	1,350	3,290	12,620	8,110	1,320	1,880	1,080	33,180
1952	605	709	875	1,010	863	980	9,930	24,130	34,720	9,790	3,910	1,600	89,120
1953	867	737	899	885	934	2,770	5,840	10,850	15,610	3,630	974	370	44,370
1954	990	1,420	841	694	1,110	1,390	8,730	12,430	5,380	2,480	2,870	1,660	40,000
1955	1,330	688	734	734	724	1,250	3,710	10,370	10,190	2,740	3,960	1,320	37,750
1956	713	621	845	851	873	3,650	6,050	16,340	12,220	1,450	1,190	325	45,130
1957	370	883	629	561	758	1,400	6,830	15,060	49,700	26,170	11,110	3,460	116,900
1958	3,090	3,110	2,040	1,540	1,110	1,340	9,080	31,530	20,210	3,300	2,160	3,370	81,880
1959	1,210	998	1,020	815	821	1,330	4,730	11,000	6,820	1,140	2,010	654	32,550
1960	4,910	2,520	879	932	855	4,570	13,860	16,160	17,850	3,440	1,320	797	68,090

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	54.8	39,700
1951	1213	590	May 27, 1951	6.0	45.8	33,180	45.9	33,230
1952	1243	932	June 6, 1952	6.8	123	89,120	123	89,440
1953	1283	584	July 19, 1953	5.2	61.3	44,370	62.3	45,110
1954	1343	492	July 22, 1954	5.4	55.2	40,000	54.6	39,500
1955	1393	756	Aug. 8, 1955	7.5	52.1	37,750	51.3	37,180
1956	1443	514	June 2, 1956	3.2	62.2	45,130	61.8	44,830
1957	1513	al. 600	(b)	3.0	125	116,900	170	123,300
1958	1563	1,350	Sept. 13, 1958	18	113	81,880	106	76,870
1959	1633	430	May 14, 1959	6.8	45.0	32,550	52.0	37,630
1960	1713	588	June 3, 1960	8.8	93.8	68,090	-	-

a About.

b July 26 or 27, 1957.

3435. Rito Blanco near Pagosa Springs, Colo.

Location.--Lat 37°11'40", long 106°54'20", in SW $\frac{1}{4}$ sec.12, T.34 N., R.1 W., on left bank 130 ft downstream from county highway bridge, 470 ft (revised) upstream from Sheep Cabin Creek, and 7 $\frac{1}{2}$ miles southeast of Pagosa Springs.

Drainage area.--23.3 sq mi.

Records available.--May 1935 to September 1952.

Gage.--Water-stage recorder. Altitude of gage is 7,330 ft (from topographic map). Prior to Nov. 21, 1939, and June 21, 1941, to Sept. 30, 1951, at site 130 ft upstream at datum 4.73 ft higher; Nov. 21, 1939, to June 20, 1941, at site 30 ft upstream at datum 2.73 ft higher.

Average discharge.--17 years (1935-52), 18.4 cfs (13,320 acre-ft per year).

Extremes.--1935-52: Maximum discharge, 475 cfs May 13, 1941 (gage height, 3.21 ft, site and datum then in use), from rating curve extended above 350 cfs; no flow at times in many years.

Maximum flood known occurred Oct. 5, 1911.

Remarks.--Diversions above station for irrigation of about 150 acres above station and about 600 acres in adjoining drainage basins.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.02	0.07	0.20	0.13	0.88	4.42	10.9	41.4	6.50	0.30	0.61	0.003	5.50
1952	.09	.55	1.26	1.51	1.46	1.90	64.3	134	113	4.15	.24	.25	26.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.2	4.0	12	8.1	49	272	651	2,540	387	19	37	0.2	3,980
1952	5.4	33	78	93	84	117	3,830	8,250	6,700	255	15	15	19,480

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	6.68	4,840
1951	1213	105	May 28, 1951	0	5.50	3,980	5.64	4,080
1952	1243	370	May 5, 1952	0	26.8	19,480	-	

3440. Navaajo River at Banded Peak Ranch, near Chromo, Colo.

Location.--Lat 37°05'07", long 106°41'20", in NW $\frac{1}{4}$ sec.24, T.33 N., R.2 E., on left bank at downstream side of private bridge on Banded Peak Ranch, half a mile downstream from Aspen Creek, 4 miles downstream from East Fork, and 9 miles northeast of Chromo.

Drainage area.--69.8 sq mi.

Records available.--October 1936 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 7,940.6 ft above mean sea level (river-profile survey). Prior to Oct. 1, 1949, at datum 3.00 ft higher.

Average discharge.--24 years (1936-60), 106 cfs (76,740 acre-ft per year).

Extremes.--1936-60: Maximum discharge, 1,340 cfs May 13, 1941 (gage height, 7.02 ft, present datum); minimum daily, 8.4 cfs Sept. 29, 1960.
Maximum flood known occurred Oct. 5, 1911.

Remarks.--Diversions for irrigation of about 430 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	24.6	20.9	21.3	19.4	20.8	28.0	63.2	207	198	43.1	44.8	25.4	59.8
1952	22.8	20.8	24.5	27.6	30.7	32.4	191	489	630	213	90.4	34.5	150
1953	30.9	22.7	24.5	23.5	25.6	46.2	122	193	294	71.7	35.3	20.6	75.8
1954	23.1	24.9	20.4	21.2	26.2	28.1	142	235	139	60.7	47.9	32.8	67.0
1955	26.6	20.1	18.2	19.9	20.4	27.5	67.1	221	251	59.0	61.9	31.5	68.9
1956	21.4	17.8	23.1	21.5	19.7	61.3	117	266	218	43.9	38.0	21.7	72.5
1957	22.4	19.6	20.3	19.0	22.1	29.4	93.1	234	765	430	170	69.3	158
1958	53.4	53.6	42.8	39.1	36.1	40.4	119	560	479	82.6	52.8	66.5	136
1959	36.9	30.8	30.4	24.6	23.6	30.0	78.0	186	188	43.5	47.1	28.2	62.6
1960	58.5	43.0	20.6	17.4	16.5	48.0	256	277	390	95.6	38.5	25.7	107

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,510	1,240	1,310	1,190	1,150	1,720	3,760	12,700	11,800	2,650	2,760	1,510	43,300
1952	1,400	1,240	1,510	1,700	1,760	1,990	11,350	30,080	37,480	13,090	5,560	2,050	109,200
1953	1,900	1,350	1,510	1,450	1,420	2,840	7,240	11,870	17,480	4,410	2,170	1,230	54,870
1954	1,420	1,480	1,250	1,300	1,460	1,730	8,450	14,460	8,290	3,730	2,940	1,950	46,460
1955	1,640	1,200	1,120	1,230	1,130	1,690	3,990	13,610	14,930	3,630	3,810	1,880	49,860
1956	1,320	1,060	1,420	1,320	1,130	3,770	6,950	16,350	12,990	2,700	2,340	1,290	52,640
1957	1,360	1,160	1,250	1,170	1,230	1,810	5,540	14,390	45,550	26,450	10,480	4,120	114,500
1958	3,280	3,190	2,630	2,400	2,000	2,490	7,110	34,410	28,500	5,080	3,250	3,960	98,300
1959	2,390	1,830	1,870	1,520	1,510	1,840	4,640	11,420	11,210	2,670	2,900	1,890	45,280
1960	3,600	2,560	1,270	1,070	948	2,950	15,240	17,040	23,200	5,860	2,370	1,530	77,660

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	67.0
1951	1213	a640	May 27, 1951	14	59.8	43,300	59.9
1952	1243	964	June 8, 1952	15	150	109,200	151
1953	1283	588	June 17, 1953	13	75.8	54,870	74.9
1954	1343	355	May 21, 1954	15	67.0	48,460	68.7
1955	1393	637	June 8, 1955	15	68.9	49,860	68.6
1956	1443	547	June 2, 1956	10	72.5	52,640	72.5
1957	1513	1,180	July 26, 1957	15	158	114,500	166
1958	1563	980	May 27, 1958	30	136	98,300	132
1959	1633	442	June 6, 1959	20	62.6	45,280	64.4
1960	1713	710	June 17, 1960	8.4	107	77,660	-

a Maximum recorded.

3443. Navajo River above Chromo, Colo.

Location.--Lat 37°01'55", long 106°43'56", in NE $\frac{1}{4}$ sec.9, T.32 N., R.2 E., on right bank 5 ft downstream from private road bridge, 6 miles east of Chromo, and 7 miles upstream from Little Navajo River.

Drainage area.--96.4 sq mi.

Records available.--October 1956 to September 1960. Published as "near Chromo" 1956-58.

Gage.--Water-stage recorder. Altitude of gage is 7,700 ft (from topographic map).

Extremes.--1956-60: Maximum discharge, 1,340 cfs June 7, 1957 (gage height, 5.95 ft); maximum gage height, 6.13 ft during period Feb. 1-8, 1957 (ice jam); minimum daily discharge, 14 cfs Jan. 3, 1960.
Maximum flood known occurred Oct. 5, 1911.

Remarks.--Diversions above station for irrigation of about 750 acres above station and about 250 acres below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	22.2	22.9	21.7	25.8	26.3	34.5	130	275	862	509	201	80.5	184
1958	59.4	60.3	49.7	46.2	42.3	44.1	226	645	484	85.2	59.5	70.2	156
1959	40.5	36.3	35.9	28.9	27.2	27.3	84.2	201	202	42.6	55.7	28.8	68.5
1960	67.2	52.2	25.9	21.8	21.7	72.4	319	318	409	90.4	37.9	28.8	122

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	1,370	1,360	1,350	1,460	1,460	2,120	7,720	16,930	51,260	31,240	12,370	4,790	133,500
1958	3,650	3,590	3,060	2,840	2,350	2,710	13,440	39,670	28,830	5,240	3,660	4,180	113,200
1959	2,490	2,160	2,210	1,780	1,510	2,290	5,010	12,370	12,040	2,620	3,420	1,710	49,610
1960	4,130	3,110	1,590	1,340	1,250	4,450	18,980	19,410	24,340	5,560	2,330	1,710	88,200

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1957	1513	1,340	June 7, 1957	16	184	133,500	193	139,700	
1958	1563	1,070	Sept. 13, 1958	36	156	113,200	152	109,800	
1959	1633	474	June 7, 1959	16	68.5	49,610	71.3	51,580	
1960	1713	720	June 17, 1960	14	122	88,200	-	-	

3455. Little Navajo River at Chromo, Colo.

Location.--Lat 37°02'10", long 106°50'40", in SE $\frac{1}{4}$ sec.4, T.32 N., R.1 E., on left bank 400 ft upstream from bridge on U. S. Highway 84 at Chromo and a quarter of a mile upstream from mouth.

Drainage area.--21.9 sq mi.

Records available.--May 1935 to September 1952.

Gage.--Water-stage recorder. Datum of gage is 7,293.52 ft above mean sea level, datum of 1929. Prior to Nov. 22, 1939, at site 600 ft downstream at different datum. Nov. 22, 1939, to Oct. 31, 1947, at site 200 ft downstream at datum 5.00 ft lower.

Average discharge.--17 years (1935-52), 13.4 cfs (9,700 acre-ft per year).

Extremes.--1935-52: Maximum discharge, 399 cfs May 14, 1941 (gage height, 4.32 ft, site and datum then in use), from rating curve extended above 250 cfs; no flow at times in 1938-39, 1946-47, 1950-51.

Maximum flood known occurred Oct. 5, 1911.

Remarks.--Diversions above station for irrigation of about 600 acres above station and about 50 acres below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.11	1.35	1.34	1.09	1.54	5.17	9.80	18.8	0.66	0.02	0.11	0.10	3.36
1952	.21	1.07	1.31	1.20	1.81	7.37	78.4	105	45.3	2.82	1.58	.78	20.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6.5	80	83	67	85	318	583	1,160	39	1.2	6.5	6.0	2,430
1952	13	63	81	74	104	453	4,670	6,460	2,700	174	97	47	14,940

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	4.51	3,260	
1951	1213	77	May 26, 1951	0	3.36	2,430	3.34	2,420	
1952	1243	256	May 4, 1952	.1	20.6	14,940	-	-	

3460. Navajo River at Edith, Colo.

Location.--Lat 37°00'10", long 106°54'25", in NW $\frac{1}{4}$ sec.24, T.32 N., R.1 W., on right bank at Colorado-New Mexico State line, 340 ft downstream from highway bridge, a quarter of a mile east of Edith, and 1 mile upstream from Coyote Creek.

Drainage area.--172 sq mi (revised).

Records available.--September 1912 to September 1960. Monthly or yearly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 7,033.00 ft above mean sea level, Bureau of Reclamation bench mark). Prior to Jan. 1, 1929, staff gage at site 290 ft upstream at different datum. June 2, 1935, to June 27, 1941, water-stage recorder at sites 250 and 290 ft upstream at datum 2.0 ft higher.

Average discharge.--48 years (1912-60), 162 cfs (117,300 acre-ft per year).

Extremes.--1935-60: Maximum discharge, 2,840 cfs Apr. 23, 1942 (gage height, 6.55 ft), from rating curve extended above 1,100 cfs; minimum daily, 8 cfs Sept. 25, 1953. Maximum flood known occurred Oct. 5, 1911.

Remarks.--Diversions for irrigation of about 1,700 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	33.5	27.8	26.4	23.7	24.6	41.1	85.5	272	219	40.4	44.6	24.5	72.1
1952	26.4	30.1	29.5	29.9	34.3	47.7	447	697	860	246	103	40.2	216
1953	34.8	28.6	35.8	35.3	38.8	66.9	149	228	329	83.9	36.0	15.7	90.1
1954	29.4	32.5	26.4	27.7	43.0	51.5	206	301	155	70.0	55.9	35.9	86.3
1955	31.4	25.9	24.9	28.1	28.4	35.7	99.1	244	258	64.1	66.3	25.7	77.8
1956	25.8	26.1	33.2	26.5	24.2	102	170	308	234	42.2	37.3	18.6	87.4
1957	22.3	24.7	24.3	29.7	34.3	75.1	232	455	949	53.4	224	82.0	224
1958	70.6	79.6	54.7	51.0	53.1	86.1	420	779	527	90.9	67.2	75.1	197
1959	46.4	39.3	43.7	44.9	45.1	47.5	97.7	199	167	43.2	62.8	28.1	72.1
1960	80.3	61.7	36.1	30.3	30.3	171	427	352	426	94.5	35.7	26.9	147

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,060	1,650	1,620	1,460	1,360	2,520	5,090	16,710	13,030	2,480	2,740	1,460	52,180
1952	1,620	1,790	1,810	1,840	1,980	2,930	26,580	42,840	51,180	15,140	6,350	2,390	156,400
1953	2,140	1,700	2,190	2,170	2,150	4,110	8,870	14,000	19,570	5,160	2,220	932	65,210
1954	1,810	1,940	1,620	1,700	2,390	3,160	12,280	18,520	9,200	4,310	3,440	2,140	62,510
1955	1,930	1,540	1,530	1,730	1,580	2,200	5,890	14,980	15,380	3,940	4,080	1,530	56,310
1956	1,590	1,560	2,040	1,630	1,390	6,270	10,110	18,910	13,930	2,590	2,290	1,100	63,410
1957	1,370	1,470	1,490	1,830	1,900	4,620	13,780	27,960	56,480	32,810	13,790	4,880	162,400
1958	4,340	4,740	3,360	3,130	2,950	5,300	24,980	47,920	31,360	5,590	4,130	4,470	142,300
1959	2,850	2,340	2,690	2,760	2,500	2,920	5,820	12,160	9,940	2,650	3,860	1,670	52,160
1960	4,940	3,670	2,220	1,860	1,740	10,500	25,430	21,620	25,320	5,810	2,190	1,600	106,900

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Nomenary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	89.5
1951	1213	690	May 28, 1951	15	72.1	52,180	71.9
1952	1243	1,340	June 16, 1952	16	216	156,400	217
1953	1283	638	June 3, 1953	8.0	90.1	65,210	89.2
1954	1343	425	May 21, 1954	15	86.3	62,510	85.8
1955	1393	506	June 9, 1955	15	77.8	56,310	78.0
1956	1443	626	June 2, 1956	14	87.4	63,410	86.2
1957	1513	1,320	June 8, 1957	14	224	162,400	235
1958	1563	1,160	Apr. 19, 1958	31	197	142,300	190
1959	1633	350	June 7, 1959	16	72.1	52,160	76.1
1960	1713	954	Mar. 26, 1960	16	147	106,900	-

3470. Piedra Pass ditch at Piedra Pass, Colo.
(Known also as Harley Fuchs ditches 1 and 2)
(Transmountain diversion)

Location.--Lat 37°34'20", long 107°00'00", in sec.4, T.38 N., R.1 W., at Piedra Pass.

Records available.--October 1939 to September 1960. Diversion prior to 1948, published in WSP 1313 (yearly diversion only for water year 1941).

Gage.--Water-stage recorder and 2-foot Parshall flume.

Remarks.--Diversion is from tributaries of Piedra River between headgates in NW¼ sec.4, T.38 N., R.1 W., and SW¼ sec.33, T.39 N., R.1 W., and Piedra Pass, in San Juan River basin, to South River in sec.4, T.38 N., R.1 W., in Rio Grande basin.

Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	0	34	33	0	0	67
1952	0	0	0	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	13	29	0	0	42
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	50	34	0	0	84
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	155	89	0	0	244
1959	0	0	0	0	0	0	0	0	94	19	0	0	113
1960	0	0	0	0	0	0	0	0	0	0	0	0	0

3475. Piedra River at Bridge ranger station, near Pagosa Springs, Colo.

Location.--Lat 37°25'40", long 107°11'30", in sec.22, T.37 N., R.3 W., on left bank 350 ft upstream from county bridge, 1,000 ft downstream from Bridge ranger station, 1 mile downstream from Middle Fork, and 15 miles northwest of Pagosa Springs.

Drainage area.--82.3 sq mi.

Records available.--October 1936 to September 1941, July 1946 to September 1954. Prior to April 1937 monthly discharge only, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 7,640.35 ft above mean sea level (Bureau of Reclamation bench mark). Prior to July 10, 1946, at site 350 ft downstream at datum 4.27 ft lower.

Average discharge.--13 years (1936-41, 1946-54), 108 cfs (78,190 acre-ft per year).

Extremes.--1936-41, 1946-54: Maximum discharge, 1,800 cfs June 18, 1949 (gage height, 7.52 ft), from rating curve extended above 1,100 cfs; minimum not determined, occurred during period of no gage-height record.
Maximum flood known occurred Oct. 5, 1911.

Remarks.--Transmountain diversion above station by Piedra Pass ditch (see preceding station). Diversions above station for irrigation of about 1,800 acres, part of which is above station and part below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	22.9	15.8	14.4	11.1	14.4	19.6	46.3	211	188	21.2	54.5	35.1	54.7
1952	17.9	13.9	13.7	15.1	14.5	16.6	204	413	833	201	83.1	43.5	155
1953	27.2	19.1	18.6	19.3	17.5	35.7	90.0	202	273	48.1	28.5	12.1	65.9
1954	20.6	28.2	20.9	20.7	26.6	25.0	115	289	114	41.5	51.9	48.1	67.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,410	942	885	683	801	1,210	2,760	12,990	11,180	1,300	3,350	2,090	39,600
1952	1,100	829	841	926	835	1,020	12,140	25,380	49,590	12,340	5,110	2,590	112,700
1953	1,670	1,130	1,140	1,190	970	2,190	5,360	12,400	16,240	2,960	1,750	720	47,720
1954	1,270	1,680	1,290	1,280	1,480	1,540	6,840	17,750	6,800	2,550	3,190	2,860	48,530

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	68.3	49,440	
1951	1213	*835	May 27, 1951	8.8	54.7	39,600	54.1	39,130	
1952	1243	1,520	June 10, 1952	8.0	155	112,700	157	113,900	
1953	1283	845	May 28, 1953	8.5	65.9	47,720	66.3	48,020	
1954	1343	560	May 21, 1954	9.4	67.0	48,530	-	-	

* Revised.

3480. Squaw Pass ditch at Squaw Pass, Colo.
(Transmountain diversion)

Location.--Lat 37°36'00", long 107°13'00", in sec.21, T.39 N., R.3 W., at Squaw Pass.

Records available.--October 1937 to September 1960. Diversion prior to 1948, published in WSP 1313 (yearly diversion only for water year 1941).

Gage.--Water-stage recorder and 2-foot Parshall flume. Altitude of gage is 11,200 ft (from topographic map).

Remarks.--Diversion is from Williams Creek (tributary of Piedra River) in sec.13, T.39 N., R.3 W., in San Juan River basin, to Squaw Creek in sec.10, T.39 N., R.3 W., in Rio Grande basin.

Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	0	109	50	0	0	159
1952	0	0	0	0	0	0	0	0	21	198	21	0	240
1953	0	0	0	0	0	0	0	0	161	31	0	0	192
1954	0	0	0	0	0	0	0	0	154	57	0	0	211
1955	0	0	0	0	0	0	0	0	37	34	0	0	71
1956	0	0	0	0	0	0	0	0	177	0	0	0	177
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	153	19	0	172
1959	0	0	0	0	0	0	0	0	241	82	0	0	323
1960	0	0	0	0	0	0	0	0	7.9	285	8.3	0	301

3495. Piedra River near Piedra, Colo.

Location.--Lat 37°14'00", long 107°20'30", in sec.8, T.34 N., R.4 W., on left bank a quarter of a mile upstream from bridge on U. S. Highway 160, three-quarters of a mile upstream from Yellow Jacket Creek, and 1½ miles north of Piedra.

Drainage area.--371 sq mi.

Records available.--October 1911 to September 1912, October 1938 to September 1960.

Monthly discharge only for some periods, published in WSP 1313. Published as "at Piedra" 1912.

Gage.--Water-stage recorder. Altitude of gage is 6,530 ft (from topographic map).

Nov. 26, 1911, to July 22, 1912, staff gages at sites a quarter to half a mile downstream at different datums. Jan. 11, 1939, to Mar. 19, 1940, and May 10 to Sept. 27, 1941, chain gage at site 50 ft upstream at same datum. Mar. 20, 1940, to May 9, 1941, water-stage recorder at site 1½ miles upstream at datum about 55 ft higher.

Average discharge.--23 years (1911-12, 1938-60), 329 cfs (238,200 acre-ft per year).

Extremes.--1938-60: Maximum discharge, 6,870 cfs July 26, 1957 (gage height, 8.60 ft), from rating curve extended above 2,800 cfs; minimum daily, 17 cfs Nov. 11, 1950.

Maximum flood known occurred Oct. 5, 1911. Another major flood occurred June 29, 1927.

Remarks.--Diversions for irrigation of about 2,220 acres above station. Also two small ditches divert water above station for irrigation below. Piedra Pass and Squaw Pass ditches export small amount of water above station to Rio Grande basin (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	66.2	38.3	39.7	33.2	41.1	73.3	179	640	450	50.1	112	76.6	149
1952	45.0	43.4	52.1	51.7	50.7	59.5	966	1,762	2,082	455	206	117	490
1953	68.5	52.5	56.2	52.6	55.1	133	411	559	622	129	86.9	29.0	188
1954	59.1	83.7	51.6	42.3	57.9	77.3	495	840	518	117	125	115	199
1955	191	70.2	45.5	38.9	39.4	86.6	262	810	687	101	217	76.7	220
1956	43.0	36.9	42.8	47.4	45.0	175	454	832	429	51.5	45.3	25.0	186
1957	27.1	36.8	35.6	40.2	46.1	73.0	489	834	2,015	1,051	568	253	457
1958	180	263	129	88.0	86.4	116	824	1,910	1,127	142	77.6	111	422
1959	72.9	66.3	55.9	43.0	37.8	55.6	160	429	379	49.4	79.2	55.9	124
1960	149	152	91.0	61.3	52.4	265	998	967	1,086	215	56.1	51.7	345

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,070	2,280	2,440	2,040	2,280	4,510	10,670	39,320	25,600	3,080	6,870	4,560	107,700
1952	2,770	2,580	3,200	3,180	2,910	3,860	57,510	108,300	23,900	27,980	12,640	6,960	355,600
1953	4,200	3,120	3,450	3,240	3,060	8,160	24,460	34,370	36,990	7,940	5,350	1,720	136,100
1954	3,630	4,980	3,170	2,600	3,220	4,750	29,460	51,640	18,900	7,210	7,580	6,870	144,000
1955	11,750	4,180	2,790	2,390	2,190	5,330	15,620	49,780	40,910	6,200	13,350	4,560	159,000
1956	2,640	2,200	2,630	2,910	2,590	10,790	26,990	51,140	25,560	3,170	2,780	1,490	134,900
1957	1,670	2,310	2,190	2,470	2,560	4,490	29,110	51,300	119,900	64,620	34,940	15,080	330,600
1958	11,080	15,630	7,960	5,410	4,800	7,130	49,050	117,500	67,040	8,750	4,770	6,610	305,700
1959	4,480	4,070	3,440	2,650	2,100	3,420	9,500	26,290	22,540	3,040	4,670	3,330	89,750
1960	9,130	9,010	5,600	3,770	3,010	16,300	59,410	59,470	64,620	13,240	3,450	3,080	250,100

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	199	144,300
1951	1213	1,780	May 28, 1951	17	149	107,700	148	107,500
1952	1243	4,440	June 3, 1952	25	490	355,600	493	357,800
1953	1283	1,720	May 28, 1953	24	188	136,100	189	137,100
1954	1343	1,180	May 21, 1954	28	199	144,000	209	151,000
1955	1393	1,640	June 9, 1955	30	220	159,000	204	147,800
1956	1443	1,340	May 21, 1956	20	186	134,900	184	133,600
1957	1513	6,870	July 26, 1957	18	457	330,600	496	359,100
1958	1563	2,660	May 28, 1958	44	422	305,700	391	283,000
1959	1633	984	May 17, 1959	29	124	89,750	140	101,500
1960	1713	1,710	Apr. 12, 1960	40	345	250,100	-	-

3505. San Juan River at Rosa, N. Mex.

Location.--Lat 37°00'20", long 107°24'10", in SW¼ sec.21, T.32 N., R.5 W., on right bank 75 ft upstream from highway bridge, a quarter of a mile downstream from Piedra River, 0.9 mile upstream from Colorado-New Mexico State line, and 1 mile north of Rosa.

Drainage area.--1,990 sq mi, approximately.

Records available.--July to November 1895, May 1896 to December 1897, April to December 1898, May to September 1899, September 1910 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Prior to October 1920, published as two stations, Piedra and San Juan Rivers at Arboles, Colo., sum of which is equivalent.

Gage.--Water-stage recorder. Altitude of gage is 5,980 ft (from river-profile map). Prior to Oct. 1, 1920, at sites on Piedra and San Juan Rivers at Arboles, Colo. (see WSP 1313 for descriptions). Oct. 1, 1920, to Apr. 12, 1922, chain gage at site 75 ft downstream at different datum. Apr. 13, 1922, to Sept. 18, 1930, water-stage recorder at site 550 ft upstream at datum 0.7 ft higher. Sept. 19, 1930, to Aug. 31, 1938, water-stage recorder at sites 330 and 430 ft upstream at datum 1.0 ft higher. Sept. 1, 1938, to Dec. 19, 1949, water-stage recorder at present site at datum 1.0 ft higher.

Average discharge.--51 years (1896-97, 1910-60), 1,227 cfs (888,300 acre-ft per year).

Extremes.--1920-60: Maximum discharge, about 25,000 cfs June 29, 1927 (gage height, 13.5 ft, from estimated graph, site and datum then in use), from rating curve extended above 8,000 cfs by logarithmic plotting; minimum daily, 39 cfs Oct. 8, 1956. Maximum flood known occurred Oct. 5, 1911. A major flood occurred Sept. 5 or 6, 1909.

Remarks.--Divisions for irrigation of about 14,000 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	185	118	119	105	156	275	549	1,863	1,427	177	280	166	455
1952	142	135	205	234	224	588	4,562	5,308	8,444	1,602	691	334	1,701
1953	188	160	200	206	212	526	1,204	1,855	2,292	460	244	69.2	635
1954	187	274	145	125	235	395	1,446	2,272	939	390	451	308	599
1955	413	188	118	138	158	315	721	1,979	1,862	390	677	220	600
1956	131	113	149	167	164	†756	1,265	2,748	1,776	190	158	54.7	640
1957	74.9	109	99.2	148	326	585	1,834	3,010	6,680	3,790	1,764	670	1,595
1958	573	700	353	226	563	1,047	4,113	5,907	3,747	451	286	415	1,532
1959	240	207	141	96.1	180	240	575	1,361	1,329	173	367	147	421
1960	749	582	265	199	258	2,004	3,233	2,650	3,403	669	170	127	1,204

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11,390	7,000	7,310	6,460	8,650	16,930	32,640	114,600	84,940	10,880	17,210	9,860	327,900
1952	8,740	8,040	12,630	14,360	12,890	36,160	271,400	326,400	583,400	98,530	42,460	19,850	1,234,000
1953	11,560	9,530	12,310	12,690	11,750	32,330	71,620	114,100	136,400	28,300	14,990	4,120	459,700
1954	11,470	16,310	8,920	7,720	13,080	24,310	86,050	139,700	55,850	23,950	27,700	18,350	433,400
1955	25,380	11,200	7,270	8,460	8,770	19,340	42,880	121,700	110,800	24,000	41,650	13,090	434,500
1956	8,070	6,750	9,180	10,290	9,430	†46,470	75,290	169,000	105,700	11,690	9,740	3,250	†464,900
1957	4,610	6,510	6,100	9,080	18,110	35,950	109,100	185,100	397,500	233,000	108,400	39,870	1,153,000
1958	35,230	41,660	21,680	13,890	31,250	64,400	244,700	363,200	223,000	27,750	17,610	24,670	1,109,000
1959	14,760	12,310	8,700	5,910	10,000	14,460	34,220	83,670	79,080	10,610	22,580	8,760	305,100
1960	46,080	33,430	16,270	12,260	13,720	123,200	192,400	175,200	202,500	41,130	10,440	7,550	874,200

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	637	460,900
1951	1213	5,250	May 28, 1951	67	453	327,900	458	331,600
1952	1243	11,000	June 4, 1952	69	1,701	1,234,000	1,707	1,239,000
1953	1283	5,400	May 29, 1953	45	635	459,700	639	463,000
1954	1343	3,450	May 22, 1954	51	599	433,400	609	440,600
1955	1393	4,420	June 9, 1955	75	600	434,500	573	414,700
1956	1443	4,900	June 2, 1956	41	640	†464,900	631	458,100
1957	1513	16,550	July 26, 1957	39	1,593	1,153,000	1,706	1,235,000
1958	1563	12,400	Apr. 20, 1958	167	1,532	1,109,000	1,445	1,046,000
1959	1633	2,700	May 15, 1959	60	421	305,100	504	414,700
1960	1713	8,650	Mar. 27, 1960	89	1,204	874,200	-	-

† Corrected.

3510. Fuchs ditch at Weminuche Pass, Colo.
(Transmountain diversion)

Location.--Lat 37°40'50", long 107°19'30", in sec.33, T.40 N., R.4 W., at Weminuche Pass.

Records available.--October 1936 to September 1960. Diversion prior to 1948, published in WSP 1313.

Gage.--Water-stage recorder and 3-foot Parshall flume since June 28, 1937. Altitude of gage is 10,600 ft (from topographic map).

Remarks.--Diversion is from North Fork Los Pinos River in sec.4, T.39 N., R.4 W., in San Juan River basin, to Weminuche Creek in sec.33, T.40 N., R.4 W., in Rio Grande basin.

Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	0	175	0	0	0	175
1952	0	0	0	0	0	0	0	0	85	314	131	6	536
1953	0	0	0	0	0	0	0	0	261	90	30	0	381
1954	0	0	0	0	0	0	0	353	415	197	52	96	1,110
1955	76	0	0	0	0	0	0	19	335	101	101	64	696
1956	28	0	0	0	0	0	0	201	445	201	66	0	941
1957	0	0	0	0	0	0	0	0	184	546	339	196	1,260
1958	0	0	0	0	0	0	0	0	321	118	67	16	522
1959	0	0	0	0	0	0	0	75	203	0	0	0	278
1960	0	0	0	0	0	0	0	45	624	155	31	0	855

3515. Raber-Lohr ditch at Weminuche Pass, Colo.
(Transmountain diversion)

Location.--Lat 37°40'50", long 107°19'30", in sec.33, T.40 N., R.4 W., at Weminuche Pass.

Records available.--October 1936 to September 1960. Diversion prior to 1948, published in WSP 1313.

Gage.--Water-stage recorder and 4-foot Parshall flume since May 1959. Altitude of gage is 10,600 ft (from topographic map). June 28, 1937, to Sept. 30, 1948, water-stage recorder and 3-foot Parshall flume. Oct. 1, 1948, to Apr. 30, 1959, water-stage recorder and 4-foot rectangular flume.

Remarks.--Diversion is from left bank of Rincon la Vaca Creek (tributary of Los Pinos River) in sec.5, T.39 N., R.4 W., in San Juan River basin, to Weminuche Creek in sec.33, T.40 N., R.4 W., in Rio Grande basin.

Cooperation.--Records furnished by State engineer of Colorado.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	0	735	0	0	0	735
1952	0	0	0	0	0	0	0	0	220	885	621	0	1,730
1953	0	0	0	0	0	0	0	0	598	363	243	134	1,340
1954	0	0	0	0	0	0	0	658	1,120	771	600	496	3,650
1955	241	0	0	0	0	0	0	60	1,170	682	784	554	3,490
1956	170	0	0	0	0	0	0	317	1,160	640	340	0	2,630
1957	0	0	0	0	0	0	0	0	102	1,020	922	632	2,680
1958	0	0	0	0	0	0	0	0	734	695	346	40	1,820
1959	0	0	0	0	0	0	0	230	843	0	0	0	1,070
1960	0	0	0	0	0	0	0	50	966	619	244	168	2,050

3525. Los Pinos River below Snowslide Canyon, near Weminuche Pass, Colo.
(Locally known as Pine River)

Location.--Lat 37°38'20", long 107°20'00", in sec.5, T.39 N., R.4 W., on right bank 100 ft downstream from Snowslide Canyon, 3½ miles south of Weminuche Pass, and 7 miles southwest of Rio Grande Reservoir Dam.

Drainage area.--25.3 sq mi.

Records available.--October 1937 to September 1941, October 1944 to September 1954.
Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 10,120 ft (from topographic map).

Average discharge.--14 years (1937-41, 1944-54), 34.5 cfs (24,980 acre-ft per year).

Extremes.--1937-41, 1944-54: Maximum discharge, 650 cfs May 29, 1938, from rating curve extended above 300 cfs; maximum gage height, 4.38 ft June 18, 1949; minimum discharge not determined, occurred during period of no gage-height record.

Remarks.--Transmountain diversions above station by Raber-Loehr and Fuchs ditches (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7.34	4.18	3.75	3.5	4.0	7.5	18	65	52.4	15.4	14.0	10.8	17.2
1952	7.12	4.77	5.0	6.0	6.0	6.5	70	150	246	45.9	23.0	15.8	48.7
1953	13.7	8.45	7.15	7.07	6.5	10.1	22.0	63.8	72.8	15.4	11.0	6.29	20.4
1954	7	8	6	5	5	5	5	95.3	48.0	22.9	17.7	15.6	23.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	451	249	230	215	222	461	1,070	4,000	3,120	948	860	643	12,470
1952	438	284	307	369	345	400	4,170	9,220	14,640	2,820	1,420	940	35,350
1953	842	503	440	435	361	623	1,310	3,920	4,330	948	679	374	14,760
1954	430	476	369	307	278	307	2,380	5,860	2,860	1,410	1,090	928	16,700

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	18.1	13,140	
1951	123	134	June 7, 1951	-	17.2	12,470	17.4	12,570	
1952	1243	494	June 10, 1952	-	48.7	35,350	49.7	36,110	
1953	1283	213	May 31, 1953	-	20.4	14,760	19.7	14,260	
1954	1343	-	-	-	23.1	16,700	-	-	

3530. Vallecito Reservoir near Bayfield, Colo.

Location.--Lat 37°23'00", long 107°34'30", in SW¼SW¼ sec.18, T.36 N., R.6 W., in gatehouse above outlet gates at Vallecito Dam on Los Pinos (Pine) River, 350 ft left of spillway, a quarter of a mile upstream from Little Red Creek, and 11 miles northeast of Bayfield.

Records available.--April 1941 to September 1960.

Gage.--Float gage. Datum of gage is 7,580 ft above mean sea level (Bureau of Reclamation bench mark); gage readings have been reduced to elevations above mean sea level.

Extremes.--1941-60: Maximum contents observed, 128,200 acre-ft July 27, 1957 (elevation, 7,665.72 ft); minimum observed, 1,520 acre-ft Oct. 24, 25, 1944 (elevation, 7,584.10 ft). No usable storage prior to April 1941.

Remarks.--Reservoir is formed by an earth- and rock-fill dam; dam completed in March 1941. Capacity of reservoir, 126,280 acre-ft between elevations 7,580 (sill of outlet gate) and 7,665 ft (top of spillway gates). Dead storage, 3,395 acre-ft. Figures given herein represent usable contents. Reservoir is used to store water for irrigation in Los Pinos (Pine) River basin.

Cooperation.--Records furnished by Bureau of Reclamation.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	22,270	21,830	22,830	23,860	24,920	27,010	33,200	52,960	62,360	40,310	30,400	22,720
1952	17,380	19,270	21,940	24,690	26,630	26,630	22,160	57,670	109,800	95,340	75,180	62,160
1953	54,510	52,200	53,150	53,950	54,510	56,280	67,670	84,680	97,570	76,540	54,120	34,820
1954	26,510	29,600	31,780	33,060	34,080	36,340	55,290	86,820	85,150	75,860	61,330	52,580
1955	55,490	53,730	55,090	56,280	56,870	58,270	64,880	90,920	110,000	87,300	79,070	59,690
1956	43,680	39,170	40,470	41,970	43,160	47,920	60,300	91,650	99,330	72,490	47,020	27,380
1957	15,970	16,900	17,670	19,070	20,210	22,490	37,900	51,250	112,100	118,700	106,400	89,230
1958	75,160	66,590	59,280	61,740	63,620	66,160	73,160	88,020	112,100	90,440	62,980	49,570
1959	40,610	42,890	44,370	45,070	46,150	46,840	51,060	61,950	84,460	41,970	30,810	16,810
1960	23,520	32,200	35,420	37,900	39,500	44,200	50,690	63,730	110,000	92,630	62,780	41,470

3535. Los Pinos River near Bayfield, Colo.
(Locally known as Pine River)

Location.--Lat 37°23'00", long 107°34'30", in SW $\frac{1}{4}$ sec.18, T.36 N., R.6 W., on left side of outlet flume from Vallecito Reservoir, a quarter of a mile upstream from Little Red Creek, 2 miles upstream from Red Creek, and 11 miles north of Bayfield.

Drainage area.--270 sq mi, approximately.

Records available.--October 1927 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder and concrete weir. Datum of gage is 7,582.54 ft above mean sea level (Bureau of Reclamation bench mark). Oct. 26, 1927, to Aug. 17, 1956, at sites $2\frac{1}{4}$ miles downstream with datum of gage at 7,415.58 ft above mean sea level, adjustment of 1912, prior to July 8, 1934, and at 7,415.08 ft above mean sea level July 9, 1934, to Aug. 17, 1956. Since Aug. 18, 1956, supplementary water-stage recorder at former site $2\frac{1}{4}$ miles downstream for use when upper spillway at Vallecito Reservoir is operating.

Average discharge.--33 years (1927-60), 354 cfs (256,300 acre-ft per year).

Extremes.--1927-60: Maximum discharge, 13,800 cfs July 27, 1957 (gage height, 12.2 ft, from floodmarks at supplementary gage), from rating curve extended above 2,500 cfs on basis of slope-area measurement of peak flow (result of automatic spillway gates releasing from Vallecito Reservoir); minimum daily, 3.2 cfs Feb. 11, 1951 (result of storage in Vallecito Reservoir); minimum daily prior to construction of Vallecito Reservoir, 38 cfs Dec. 21, 22, 1937.
Maximum flood known prior to construction of Vallecito Reservoir occurred Oct. 5, 1911.

Remarks.--Flow regulated by storage in Vallecito Reservoir (see preceding page). Trans-mountain diversions above station by Raber-Lohr and Fuchs ditches (see elsewhere in this report).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	147	59.5	33.5	27.7	26.9	28.2	32.8	321	563	537	370	252	201
1952	155	31.0	28.5	28.5	28.5	64.9	564	1,109	1,499	903	551	363	444
1953	217	113	48.2	46.0	46.6	48.9	77.2	343	611	526	462	364	243
1954	206	54.2	35.0	35.0	34.8	35.3	76.7	447	589	543	468	389	244
1955	243	121	43.5	45.0	54.0	45.0	102	366	641	595	473	433	265
1956	326	123	40.9	41.4	43.0	43.1	87.7	508	612	581	501	380	275
1957	236	29.1	28.7	30.0	30.9	34.4	61.5	430	1,607	1,525	867	610	460
1958	444	345	263	54.5	55.2	58.1	304	1,691	1,106	619	573	415	497
1959	250	43.0	37.5	39.9	40.0	41.5	71.8	422	616	494	359	324	229
1960	104	34.9	36.0	36.2	37.7	49.6	501	445	823	597	596	444	309

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9,030	3,540	2,060	1,700	1,500	1,730	1,950	19,710	33,500	33,030	22,750	14,990	145,500
1952	9,530	1,840	1,750	1,760	1,640	3,990	33,580	68,190	89,170	55,540	33,890	21,620	322,500
1953	13,370	6,740	2,960	2,830	2,590	3,000	4,600	21,090	36,360	32,340	28,390	21,650	175,900
1954	12,640	3,230	2,150	2,150	1,930	2,170	4,560	27,460	35,040	33,410	28,800	23,130	176,700
1955	14,960	7,180	2,680	2,770	2,500	2,770	6,040	23,730	38,160	36,570	29,050	25,750	192,200
1956	20,020	7,330	2,510	2,550	2,470	2,650	5,220	31,240	36,440	35,710	30,780	22,630	199,600
1957	14,520	1,730	1,770	1,840	1,720	2,120	3,660	26,460	95,610	93,740	53,300	36,320	332,800
1958	27,300	20,550	16,200	3,550	3,070	3,570	18,110	104,000	65,800	38,070	35,210	24,710	359,900
1959	15,370	2,560	2,310	2,450	2,220	2,550	4,270	25,920	36,680	30,360	22,050	19,260	166,000
1960	6,360	2,080	2,210	2,230	2,170	3,050	29,830	27,390	48,990	36,720	36,750	26,430	224,200

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	262	189,500
1951	1213	588	(a)	21	201	145,500	199	144,000
1952	1243	2,010	June 16-18, 1952	28	444	322,500	458	332,400
1953	1283	645	June 12, 1953	46	243	175,900	236	170,900
1954	1343	596	June 16-28, 1954	34	244	176,700	253	183,500
1955	1393	675	(b)	43	265	192,200	272	197,200
1956	1443	631	June 9, 1956	40	275	199,600	259	187,700
1957	1513	13,600	July 27, 1957	27	460	332,800	523	378,800
1958	1563	2,140	(c)	47	497	359,900	437	316,100
1959	1633	1,970	Apr. 3, 1959	31	229	166,000	216	156,400
1960	1713	1,670	Mar. 28, 1960	33	309	224,200	-	-

a June 19, 21, 22, 1951.

b June 29 to July 1, 1955.

c May 30 to June 1, 1958.

3540. Los Pinos River at Ignacio, Colo.
(Locally known as Pine River)

Location.--Lat 37°07'45", long 107°37'50". in S $\frac{1}{2}$ sec.5, T.33 N., R.7 W., on downstream wingwall of left abutment of highway bridge, three-quarters of a mile upstream from Ignacio, 2 miles upstream from Rock Creek, and 6 miles south of Bayfield.

Drainage area.--448 sq mi.

Records available.--April 1899 to May 1900, April to September 1901, April to June 1902, April to October 1903, September 1910 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 6,468.85 ft above mean sea level, datum of 1929, supplementary adjustment of 1940. Prior to Mar. 5, 1912, staff or chain gages on bridge at same site at different datums. Mar. 5, 1912, to Apr. 5, 1924, chain gage and Apr. 6, 1924, to Feb. 22, 1930, water-stage recorder, at same site at datum 0.18 ft higher.

Average discharge.--30 years (1910-40), 374 cfs (prior to completion of Vallecito Dam); 20 years (1940-60), 219 cfs (158,500 acre-ft per year).

Extremes.--1924-60: Maximum discharge, 7,000 cfs June 29, 1927 (gage height, 7.3 ft), from rating curve extended above 3,000 cfs by logarithmic plotting; minimum daily, 1.3 cfs Sept. 8, 1933.
Maximum flood known occurred Oct. 5, 1911. A major flood occurred Sept. 5 or 6, 1909.

Remarks.--Flow regulated by Vallecito Reservoir since April 1941 (see p. 384). Diversions for irrigation of about 25,000 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	28.1	36.3	49.6	37.9	35.9	47.6	17.5	33.8	34.6	42.1	51.5	25.9	36.8
1952	28.3	32.9	52.7	57.7	42.9	175	1,070	1,134	1,020	412	180	83.6	357
1953	48.5	36.8	63.5	67.7	60.6	80.5	61.1	52.2	55.6	84.3	82.1	46.2	61.7
1954	59.2	38.0	47.7	46.8	65.8	63.2	56.7	52.7	50.4	97.9	82.2	66.8	60.7
1955	98.6	47.9	48.6	50.3	52.5	78.3	56.0	130	64.6	113	129	84.3	79.8
1956	51.5	59.0	66.1	61.7	61.7	93.2	67.3	55.2	56.8	61.4	62.6	42.7	61.6
1957	30.8	43.5	37.6	47.1	72.2	107	203	603	1,244	1,244	770	361	399
1958	311	381	303	87.7	141	210	710	1,547	605	109	109	123	388
1959	62.7	65.1	56.6	47.7	51.6	47.7	37.1	34.6	68.0	33.9	54.0	38.0	49.7
1960	47.4	16.2	44.8	37.3	38.8	246	614	174	312	85.9	91.0	79.8	148

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,730	2,160	3,050	2,330	1,990	2,930	1,040	2,080	2,080	2,590	3,170	1,540	26,670
1952	1,740	1,960	3,240	3,550	2,470	10,770	63,650	69,720	60,700	25,330	11,090	4,990	259,200
1953	2,980	2,190	3,910	4,170	3,360	4,950	3,640	3,210	3,310	5,180	5,050	2,750	44,700
1954	3,640	2,260	2,930	2,880	3,650	3,890	3,370	3,240	3,000	6,020	5,050	3,980	43,900
1955	6,060	2,850	2,990	3,090	2,920	4,820	3,330	8,000	3,850	6,970	7,920	5,020	57,800
1956	3,170	3,510	4,060	3,800	3,550	5,730	4,010	3,390	3,370	3,770	3,850	2,540	44,750
1957	1,890	2,590	2,310	2,900	4,010	6,600	12,100	37,050	74,000	76,470	47,350	21,480	288,800
1958	19,110	22,680	18,610	5,390	7,810	12,910	42,220	95,090	36,000	6,720	6,680	7,340	280,600
1959	3,860	3,870	3,480	2,940	2,860	2,930	2,210	2,130	4,050	2,090	3,320	2,260	36,000
1960	2,910	964	2,760	2,290	2,230	15,100	36,550	10,720	18,550	5,280	5,590	4,750	107,700

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	70.9	-	51,360
1951	1213	282	Aug. 3, 1951	11	36.8	26,670	36.8	-	26,670
1952	1243	2,040	May 6, 1952	15	357	259,200	360	-	261,300
1953	1283	816	July 17, 1953	11	61.7	44,700	61.4	-	44,450
1954	1343	484	July 23, 1954	22	60.7	43,900	64.9	-	46,980
1955	1393	484	May 11, 1955	15	79.8	57,800	78.2	-	56,660
1956	1443	248	Aug. 16, 1956	29	61.6	44,750	56.2	-	40,800
1957	1513	6,950	July 27, 1957	19	399	288,800	473	-	342,400
1958	1563	2,240	Apr. 28, 1958	51	388	280,600	320	-	231,400
1959	1633	300	Aug. 25, 1959	11	49.7	36,000	43.4	-	31,420
1960	1713	1,220	Apr. 11, 1960	10	148	107,700	-	-	-

3545. Los Pinos River at La Boca, Colo.
(Locally known as Pine River)

Location.--Lat 37°00'40", long 107°35'55", in S $\frac{1}{2}$ sec.15, T.32 N., R.7 W., on downstream end of right abutment of The Denver and Rio Grande Western Railroad Co. bridge at south-east edge of La Boca, 0.1 mile upstream from Spring Creek and 13 miles upstream from mouth.

Drainage area.--510 sq mi, approximately.

Records available.--October 1950 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 6,143.58 ft above mean sea level, datum of 1929.

Average discharge.--10 years (1950-60), 200 cfs (144,800 acre-ft per year).

Extremes.--1951-60: Maximum discharge, 6,400 cfs July 27, 1957 (gage height, 8.95 ft); minimum daily, 14 cfs Apr. 23, 24, 26, 1951.
Maximum flood known occurred Oct. 5, 1911.

Remarks.--Flow regulated by Vallecito Reservoir (see p. 384). Diversions for irrigation of about 33,000 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	*50	*46	*52	45.1	45.4	51.4	22.8	44.3	78.9	83.2	100	58.3	*56.6
1952	62.7	41.1	54.4	66.3	45.9	260	1,061	1,165	1,078	467	239	127	389
1953	73.1	61.3	66.6	73.9	70.6	90.1	62.1	89.9	95.4	136	143	86.8	85.9
1954	102	46.7	48.5	46.5	71.1	71.5	62.0	79.2	98.0	176	136	123	88.5
1955	138	64.7	56.7	56.6	57.0	88.7	61.3	157	107	184	202	151	111
1956	92.8	75.2	73.5	68.5	74.9	110	80.8	102	122	129	137	89.4	96.4
1957	77.2	55.3	40.8	54.0	96.8	135	211	666	1,351	1,381	878	385	447
1958	371	408	323	86.4	203	258	748	1,719	738	173	194	187	452
1959	106	73.3	61.4	55.5	65.0	54.2	52.0	72.6	117	61.6	115	75.0	77.4
1960	88.0	30.1	53.4	50.2	53.8	402	672	215	352	141	145	137	195

* Not previously published; estimated on basis of weather records and records for station at Ignacio.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	*3,070	*2,740	*3,200	2,700	2,520	3,160	1,360	2,730	4,700	5,120	6,160	3,470	41,000
1952	3,850	2,450	3,350	4,080	2,640	15,980	63,120	71,600	64,170	28,740	14,720	7,550	282,200
1953	4,500	3,650	4,100	4,540	3,920	5,540	3,690	4,240	5,670	8,380	8,770	5,170	62,170
1954	6,250	2,780	2,980	2,860	3,950	4,400	3,690	4,870	5,830	10,790	8,340	7,320	64,060
1955	8,480	3,850	3,480	3,480	3,160	5,450	3,650	9,680	6,370	11,340	12,450	9,000	80,400
1956	5,710	4,470	4,520	4,210	4,310	6,780	4,810	6,260	7,270	7,940	8,420	5,320	70,000
1957	4,740	3,290	2,510	3,320	5,380	8,280	12,560	40,950	80,400	84,920	54,020	22,910	323,300
1958	22,840	24,300	19,870	5,310	11,290	15,840	44,540	105,700	43,920	10,610	11,940	11,150	327,300
1959	6,540	4,360	3,770	3,410	3,610	3,330	3,090	4,460	6,970	5,020	6,980	4,460	56,000
1960	5,410	1,910	3,280	3,080	3,090	24,690	40,010	13,230	20,960	8,700	8,890	8,150	141,400

* Not previously published; estimated on basis of weather records and records for station at Ignacio.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951	1213	a326	Aug. 3, 1951	b14	*56.6	32,000	57.5	41,600
1952	1243	2,280	Apr. 28, 1952	28	389	282,200	392	284,800
1953	1283	989	July 31, 1953	27	85.9	62,170	85.6	61,930
1954	1343	1,090	July 23, 1954	32	88.5	64,060	93.7	67,860
1955	1393	1,580	Aug. 5, 1955	22	111	80,400	110	79,300
1956	1443	455	Aug. 24, 1956	49	96.4	70,000	90.7	65,860
1957	1513	6,400	July 27, 1957	30	447	323,300	525	379,800
1958	1563	2,390	Apr. 28, 1958	75	452	327,300	380	275,000
1959	1633	462	Aug. 25, 1959	25	77.4	56,000	71.8	51,930
1960	1713	1,490	Mar. 20, 1960	17	195	141,400	-	-

* Not previously published.

a Maximum for period January to September.

b Minimum daily for period January to September.

3550. Spring Creek at La Boca, Colo.

Location.--Lat 37°00'50", long 107°35'40", in S $\frac{1}{2}$ sec.15, T.32 N., R.7 W., on right bank in an excavated channel, a quarter of a mile upstream from mouth and a quarter of a mile east of La Boca.

Drainage area.--58 sq mi, approximately.

Records available.--October 1950 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,160 ft (from topographic map).

Average discharge.--10 years, 28.0 cfs (20,270 acre-ft per year).

Extremes.--1951-60: Maximum discharge, 362 cfs July 19, 1957 (gage height, 3.97 ft), from rating curve extended above 100 cfs by logarithmic plotting; maximum gage height, 5.98 ft Mar. 9, 1960 (ice jam); minimum daily discharge determined, 1 cfs Feb. 25, 26, 1951, several days during period of ice effect 1959-60.

Remarks.--Part of flow is return waste from irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	*12	*7	*4	2.85	4.54	3.13	7.01	19.3	31.9	42.8	43.7	26.5	*17.2
1952	25.0	6.91	6.35	6.2	4.1	25.5	23.7	20.4	62.8	66.1	57.4	61.2	30.5
1953	32.6	26.9	4.0	3.5	5.1	5.66	14.2	35.7	42.8	65.7	66.5	52.4	29.7
1954	49.9	18.2	4.29	3.73	5.79	9.12	5.79	40.6	58.6	85.8	54.4	64.1	33.6
1955	36.3	24.8	3.90	3.76	3.96	6.05	12.0	32.2	54.5	68.0	72.5	50.6	30.9
1956	46.0	29.6	6.37	6.31	6.03	4.31	9.57	38.8	49.5	63.3	51.7	37.5	29.2
1957	26.7	6.15	5	5.90	43.5	8.84	7.19	28.0	32.7	80.9	34.2	39.7	26.5
1958	52.9	19.9	4.81	2.65	28.7	15.0	26.9	36.8	51.6	45.5	56.4	50.3	32.6
1959	38.1	6.61	3.00	4.00	7.04	4.02	6.46	22.0	41.1	36.8	50.5	32.1	21.1
1960	29.3	11.6	1.7	3.1	2.6	25.1	9.84	38.9	58.1	51.6	58.3	54.6	28.8

* Not previously published; discharge estimated on basis of weather records and records for nearby stations.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	*738	*417	*246	176	252	192	417	1,190	1,900	2,630	2,690	1,580	*12,430
1952	1,540	411	390	379	238	1,570	1,410	1,250	3,750	4,060	3,530	3,640	22,150
1953	2,000	1,600	246	212	286	348	846	2,200	2,540	4,040	4,090	3,120	21,530
1954	3,070	1,080	284	229	321	561	345	2,500	3,430	5,280	3,340	3,820	24,300
1955	2,240	1,480	240	231	220	372	716	1,980	3,240	4,180	4,450	3,010	22,360
1956	2,830	1,760	392	388	347	265	569	2,390	2,950	3,890	3,180	2,230	21,190
1957	1,640	366	307	363	2,420	543	428	1,720	1,950	4,970	2,100	2,360	19,170
1958	3,250	1,180	296	163	1,590	921	1,600	2,280	3,070	2,800	3,470	2,990	23,600
1959	2,340	394	184	246	391	247	384	1,350	2,440	2,260	3,110	1,910	15,300
1960	1,800	688	107	190	147	1,540	585	2,390	3,460	3,180	3,560	3,250	20,920

* Not previously published; discharge estimated on basis of weather records and records for nearby stations.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950							
1951	1213	a123	Aug. 5, 1951	b1	*17.2	12,430	18.5
1952	1243	175	Mar. 26, 1952	2	30.5	22,150	32.6
1953	1283	186	July 29, 1953	2	29.7	21,530	30.5
1954	1343	238	Sept. 26, 1954	2	33.6	24,300	32.9
1955	1393	240	Aug. 5, 1955	1.7	30.9	22,360	32.3
1956	1443	124	July 3, 1956	2.6	29.2	21,190	25.5
1957	1513	362	July 19, 1957	2.6	26.5	19,170	29.8
1958	1563	244	Feb. 6, 1958	2	32.6	23,600	30.1
1959	1633	318	Aug. 7, 1959	-	21.1	15,300	20.6
1960	1713	229	Mar. 18, 1960	1	28.8	20,920	-

* Not previously published.

a Maximum for period January to September.

b Minimum daily for period January to September.

3552. Martinez ditch near Archuleta, N. Mex.

Location.--Lat 36°48'20", long 107°37'15", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.13, T.30 N., R.8 W., 1 mile downstream from diversion on left bank of San Juan River and 5 miles northeast of Archuleta.

Records available.--October 1955 to June 1957.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 5,730 ft (from river-profile map).

Extremes.--1955-57: Maximum daily discharge, 12 cfs Apr. 27, 28, May 3, 4, 9, 14, 1956; no flow at times.

Remarks.--Water is used for irrigation below station, no takeouts above station. Ditch is in borrow area for Navajo Dam and will be abandoned.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	61	36	7.3	0	0	0	162	513	269	381	204	385	2,020
1957	310	11	0	0	0	0	50	228	245	-	-	-	-

3555. San Juan River near Archuleta, N. Mex.

Location.--Lat 36°48'30", long 107°42'00", in SW $\frac{1}{4}$ sec.17, T.30 N., R.8 W., on right bank half a mile upstream from Gobernador Canyon, 1 mile north of Archuleta, and 6.8 miles downstream from Navajo Dam.

Drainage area.--3,260 sq mi, approximately; at site prior to Dec. 29, 1959, 3,240 sq mi.

Records available.--December 1954 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,655 ft (from river-profile survey). Prior to Dec. 29, 1959, at site 4.6 miles upstream at datum 50 ft higher.

Extremes.--1954-60: Maximum discharge, 18,900 cfs July 27, 1957 (gage height, 11.00 ft, site and datum then in use); minimum daily, 110 cfs Dec. 23-26, 1956.

Remarks.--Some regulation by Vallecito Reservoir (see p. 384) on Los Pinos River. Also, some effect by involuntary storage above Navajo Dam, under construction 1958-60. Divisions above station for irrigation of about 47,000 acres. Records of chemical analyses, suspended sediment loads, and water temperatures for the period December 1954 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	-	-	203	197	230	446	760	2,144	2,007	687	1,083	472	-
1956	317	278	247	261	256	777	1,323	2,823	1,964	403	374	188	769
1957	195	191	143	216	543	742	2,018	3,612	8,064	5,311	2,669	1,125	2,073
1958	1,095	1,135	712	355	924	1,247	4,688	7,476	4,541	689	569	674	2,009
1959	413	284	220	178	261	293	621	1,416	1,408	285	560	260	517
1960	969	648	317	234	272	2,850	4,034	3,140	3,895	895	404	379	1,502

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	-	-	12,510	12,120	12,750	27,430	45,200	131,800	119,400	42,260	66,600	28,090	-
1956	19,480	16,530	15,180	16,070	14,750	47,810	78,730	173,600	116,900	24,790	22,980	11,180	558,000
1957	11,980	11,350	8,790	13,290	30,180	45,620	120,100	221,000	479,800	28,600	164,100	66,910	1,501,000
1958	67,330	67,530	43,780	21,860	51,320	76,670	279,000	459,700	270,200	42,380	35,000	40,080	455,000
1959	25,370	16,920	13,540	10,970	14,500	17,990	36,960	87,050	83,790	17,510	34,420	15,490	†374,500
1960	59,570	38,550	19,500	14,380	15,650	175,200	240,000	193,100	231,800	55,010	24,860	22,540	1,090,000

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953								
1954								
1955	1393	6,680	Aug. 27, 1955	130	-	-	742	536,800
1956	1443	4,820	June 2, 1956	143	769	558,000	742	538,900
1957	1513	18,900	July 27, 1957	110	2,073	1,501,000	2,275	1,647,000
1958	1563	12,500	Apr. 20, 1958	290	2,009	1,455,000	1,840	1,332,000
1959	1633	2,800	May 15, 1959	120	517	† 374,500	603	436,300
1960	1713	7,320	Mar. 27, 1960	130	1,502	1,090,000	-	-

† Corrected.

3560. Citizens ditch near Turley, N. Mex.

Location.--Lat 36°46'35", long 107°44'05", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.35, T.30 N., R.9 W., on right bank 2.3 miles downstream from head and 3.0 miles northeast of Turley.

Records available.--April to September 1938, February 1951 to June 1958.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 5,650 ft (from river-profile map).

Extremes.--1951-58: Maximum daily discharge, 170 cfs July 23, 1954; no flow at times.

Remarks.--Diversion for irrigation of about 300 acres above station. Part or all of flow may be wasted back to San Juan River at one or more points below station.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1938	-	-	-	-	-	-	-	7,210	7,430	7,800	8,070	5,850	-
1951	-	-	-	-	-	1,570	7,610	7,720	8,180	9,330	8,880	7,990	-
1952	7,840	5,020	938	0	3,050	4,140	5,770	7,980	8,220	9,420	9,390	8,660	70,450
1953	8,480	6,280	0	0	2,410	3,790	6,810	8,260	9,010	9,800	9,150	8,180	72,170
1954	7,690	5,850	1,430	426	1,500	6,030	7,650	9,560	9,890	10,150	9,650	9,240	79,070
1955	7,990	6,120	2,390	0	2,790	3,750	7,010	8,570	8,250	9,540	9,150	8,650	74,210
1956	6,560	3,030	953	173	1,380	4,070	6,430	8,870	8,680	8,950	9,270	7,650	66,020
1957	6,850	4,510	1,110	596	3,890	3,010	7,250	8,460	8,140	8,520	6,330	7,940	69,480
1958	8,480	7,050	1,660	471	2,480	1,830	1,980	8,090	7,980	-	-	-	-

3565. San Juan River near Blanco, N. Mex.

Location.--Lat 36°43'50", long 107°48'50", in NE $\frac{1}{4}$ sec.18, T.29 N., R.9 W., on left bank half a mile upstream from highway bridge, 1 mile upstream from Canyon Largo, and $\frac{1}{2}$ miles east of Blanco.

Drainage area.--3,560 sq mi, approximately.

Records available.--June 1907 to November 1908, January to December 1909, January to October 1910 (gage heights only), October 1927 to January 1955. Monthly discharge only for some periods, published in WSP 1313. Published as "at Turley" 1907-8.

Gage.--Water-stage recorder. Altitude of gage is 5,540 ft (from river-profile map). Prior to Nov. 30, 1908, staff gage at site 4 miles upstream at different datum. Dec. 9, 1908, to Sept. 27, 1909, chain gage, Sept. 28, 1909, to Oct. 31, 1910, staff gage, and June 15 to August 13, 1927, water-stage recorder, at site half a mile downstream at different datums. Aug. 14, 1927, to Dec. 20, 1950, water-stage recorder at present site at datum 1.0 ft higher.

Average discharge.--29 years (1907-9, 1927-54), 1,446 cfs (1,047,000 acre-ft per year).

Extremes.--1927-55: Maximum discharge, 25,000 cfs Aug. 11, 1929 (gage height, 9.70 ft, present datum); minimum daily, 17 cfs Aug. 18, 24, 25, 1939.

Maximum stage known, 21 ft, present datum, Oct. 5 or 6, 1911. Flood of Sept. 6, 1909, reached a stage of about 11 ft, site and datum then in use (discharge probably exceeded that of 1929). Flood of June 29, 1927, was of about the same magnitude as those of 1909 and 1929.

Remarks.--Diversion above station for irrigation of about 52,000 acres, of which 4,500 is below station. Records of chemical analyses for the period October 1945 to December 1954 and suspended sediment loads and water temperatures for the period March 1949 to December 1954 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	226	119	136	126	174	296	465	1,803	1,479	180	337	157	458
1952	144	139	302	447	295	940	5,503	6,341	7,241	2,003	897	433	2,053
1953	252	212	276	282	281	609	1,213	1,838	2,368	596	381	121	704
1954	298	295	196	177	358	477	1,458	2,293	1,027	710	644	574	710
1955	569	252	165	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13,910	7,060	8,370	7,740	9,600	18,200	27,690	110,900	88,030	9,810	20,700	9,350	331,400
1952	8,880	8,260	18,560	27,460	16,960	57,790	527,400	589,900	430,800	223,200	55,150	25,740	1,490,000
1953	15,480	12,600	16,950	17,360	15,620	37,440	72,180	113,000	142,000	36,650	23,450	7,190	509,900
1954	18,320	17,560	12,050	10,860	19,860	29,310	86,750	141,000	61,110	43,670	39,570	34,180	514,200
1955	35,000	15,020	10,170	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	709	513,100
1951	1213	5,100	May 28, 1951	32	458	331,400	467	337,800
1952	1243	11,900	June 4, 1952	79	2,053	1,490,000	2,066	1,499,000
1953	1283	5,310	May 29, 1953	70	704	509,900	708	512,800
1954	1343	7,040	July 23, 1954	79	710	514,200	727	526,500
1955	1393							

3570. San Juan River at Bloomfield, N. Mex.

Location.--Lat 36°42'00", long 107°59'10", in NW $\frac{1}{4}$ sec. 27, T. 29 N., R. 11 W., on downstream end of bridge pier on State Highway 44, three quarters of a mile south of Bloomfield, 3 miles upstream from Kutz Canyon, and 10 miles downstream from Canyon Largo.

Drainage area.--5,410 sq mi, approximately.

Records available.--January 1910 to September 1911, August 1927 to December 1931, October 1955 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 5,405 ft (from river-profile map). Prior to Apr. 3, 1910, staff gage and Apr. 3, 1910, to Oct. 3, 1911, water-stage recorder, at same site at different datum. July 27, 1927, to Dec. 19, 1931, water-stage recorder at same site at different datum.

Average discharge.--10 years (1910-11, 1927-31, 1955-60), 1,557 cfs (1,126,000 acre-ft per year).

Extremes.--1910-11, 1927-31, 1955-60: Maximum discharge determined, 20,500 cfs July 27, 1957; maximum gage height, 11.50 ft Aug. 11, 1929, site and datum then in use (discharge not determined); minimum daily discharge determined, 50 cfs Sept. 15, 1956. Maximum flood known reached a stage of 12 ft, datum then in use, Oct. 6, 1911 (discharge estimated as 80,000 cfs). Another major flood occurred Sept. 6, 1909.

Remarks.--Diversions above station for irrigation of about 52,000 acres, 2,000 of which is below station. Records of suspended sediment loads and water temperatures for the period November 1955 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	#260	250	235	247	258	857	1,332	2,831	2,005	348	411	99.8	#762
1957	158	174	149	237	642	853	2,000	3,630	8,000	5,510	3,140	1,180	2,143
1958	1,310	1,240	783	375	1,110	1,500	5,001	7,685	4,617	605	515	621	2,112
1959	409	295	196	144	240	301	609	1,364	1,447	176	544	170	492
1960	1,028	638	356	272	281	3,691	4,095	3,178	3,961	903	306	280	1,582

* Not previously published; estimated on basis of records for station near Archuleta and seasonal adjustment for diversions between Archuleta and Bloomfield.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	#16,000	14,850	14,440	15,160	14,830	52,710	79,290	174,000	119,300	21,380	25,280	5,940	#553,200
1957	9,730	10,370	9,170	14,570	35,890	52,460	119,100	223,100	476,100	338,600	192,900	70,080	1,552,000
1958	80,650	73,710	46,890	23,070	61,660	92,220	297,800	472,600	274,700	37,170	31,650	36,970	1,529,000
1959	25,180	17,540	12,080	8,870	13,320	18,520	36,260	83,860	86,110	10,840	33,470	10,140	356,200
1960	63,230	37,940	21,860	16,720	16,140	226,900	243,600	195,400	235,700	55,530	18,800	16,680	1,148,000

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1956	1443	9,820	Aug. 1, 1956	50	#762	#553,200	740	537,200	
1957	1513	20,500	July 27, 1957	94	2,143	1,552,000	2,381	1,724,000	
1958	1563	12,900	Apr. 19, 1958	242	2,112	1,529,000	1,909	1,382,000	
1959	1633	4,950	Aug. 6, 1959	61	492	356,200	586	424,400	
1960	1713	8,900	Oct. 2, 1959	196	1,582	1,148,000	-	-	

* Not previously published.

3575. Animas River at Howardsville, Colo.

Location--Lat 37°50'00", long 107°36'00", in sec.12, T.41 N., R.7 W., on right bank 1,000 ft downstream from bridge on State Highway 110, 0.4 mile southwest of Howardsville, and half a mile downstream from Cunningham Creek.

Drainage area--55.9 sq mi.

Records available--October 1935 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage--Water-stage recorder. Datum of gage is 9,616.98 ft above mean sea level, adjustment of 1912. Prior to Aug. 18, 1939, at datum 1.00 ft higher.

Average discharge--25 years (1935-60), 107 cfs (77,460 acre-ft per year).

Extremes--1935-60: Maximum discharge, 1,980 cfs June 18, 1949, from rating curve extended above 950 cfs; maximum gage height, 5.24 ft Feb. 18, 1958 (backwater from snowslide); minimum daily discharge, 9 cfs Jan. 10, 1957.
Maximum flood known occurred Oct. 5, 1911.

Remarks--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	25.9	16.3	15.6	13.7	13.4	13.4	26.9	184	399	133	58.0	29.3	77.5
1952	22.6	17.3	15.6	15.1	14.0	12.5	53.1	286	771	353	122	57.8	145
1953	31.6	21.0	17.4	15.7	14.4	14.6	34.1	147	434	112	56.7	24.3	76.9
1954	19.0	19.1	15.7	12.2	12.3	11.7	70.5	213	227	137	47.2	39.8	69.0
1955	50.8	23.0	18.4	15.3	14.1	14.4	29.7	155	367	110	57.2	28.3	75.7
1956	18.1	14.9	14.2	14.6	13.9	17.0	51.7	304	377	88.0	35.2	20.8	80.7
1957	15.5	11.9	11.7	10.4	9.96	10.8	35.2	131	712	575	183	86.2	150
1958	36.9	36.3	27.0	20.5	15.2	15.7	33.6	414	539	154	68.2	56.9	118
1959	34.7	23.5	21.1	19.2	18.5	18.5	30.6	191	409	77.4	56.4	30.7	77.6
1960	52.9	38.3	23.3	20.8	18.2	17.5	78.0	215	535	171	46.8	30.2	104

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,590	972	958	843	744	823	1,600	11,380	23,720	8,170	3,560	1,750	56,110
1952	1,390	1,030	960	928	805	768	3,160	17,570	45,890	21,710	7,490	3,440	105,100
1953	1,950	1,250	1,070	968	799	899	2,030	9,060	25,830	6,910	3,490	1,450	55,710
1954	1,170	1,140	968	752	684	718	4,200	13,110	13,510	8,410	2,900	2,370	49,930
1955	3,120	1,370	1,130	940	781	883	1,770	9,530	21,850	6,790	3,520	1,680	53,360
1956	1,110	889	875	899	801	1,050	3,080	18,670	22,420	5,410	2,170	1,240	58,610
1957	954	710	722	638	553	663	2,100	8,030	42,340	35,360	11,220	5,130	108,400
1958	2,270	2,160	1,660	1,260	847	964	2,000	25,450	32,060	9,480	4,200	3,390	85,740
1959	2,140	1,400	1,300	1,180	1,030	1,140	1,820	11,770	24,350	4,760	3,470	1,830	56,190
1960	3,250	2,280	1,430	1,280	1,050	1,080	4,640	13,240	31,850	10,500	2,880	1,800	75,280

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	74.7	54,070	
1951	1213	862	June 16, 1951	11	77.5	56,110	77.3	55,920	
1952	1243	1,520	June 10, 1952	12	145	105,100	146	106,000	
1953	1283	1,630	June 12, 1953	12	76.9	55,710	75.6	54,710	
1954	1343	524	May 19, 1954	10	69.0	49,930	72.2	52,270	
1955	1393	1,050	June 8, 1955	12	73.7	53,360	69.9	50,620	
1956	1443	909	May 31, 1956	11	80.7	58,610	80.0	58,130	
1957	1513	1,690	June 27, 1957	9.0	150	108,400	155	112,100	
1958	1563	1,130	June 6, 1958	10	118	85,740	117	84,490	
1959	1633	840	June 6, 1959	16	77.6	56,190	80.5	56,310	
1960	1713	1,190	June 17, 1960	14	104	75,260	-	-	

3591. Lime Creek near Silverton, Colo.

Location.--Lat 37°40'00", long 107°45'10", in sec.33, T.40 N., R.8 W., 3 miles downstream from Coal Creek, 4 miles upstream from mouth, and 11 miles southwest of Silverton.

Drainage area.--33.9 sq mi.

Records available.--October 1956 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 9,050 ft (from topographic map).

Extremes.--1956-60: Maximum discharge, 1,400 cfs June 5, 1957 (gage height, 7.50 ft); Maximum gage height, 8.04 ft Apr. 17, 1958 (ice jam); no flow for part of each day Oct. 26-28, 1956, caused by temporary pumpage for highway construction.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	1.05	3.92	0.5	0.4	0.6	2	18.8	97.2	464	178	70.9	29.8	72.3
1958	16.4	15.9	4	2	1	1	58.5	425	244	20.9	4.92	13.2	67.6
1959	6.67	6	5	1.5	.8	.5	12.1	176	92.4	7.66	8.07	4.74	26.8
1960	28.6	24.6	9	7	5	5.40	83.6	215	219	24.8	6.49	4.95	52.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	65	233	31	25	33	123	1,120	5,970	27,620	10,950	4,360	1,770	52,300
1958	1,010	946	246	123	56	61	3,480	26,120	14,500	1,280	303	785	48,910
1959	410	357	184	92	44	31	723	10,800	5,500	471	496	282	19,390
1960	1,760	1,470	553	430	288	332	4,970	13,220	13,050	1,520	399	295	38,290

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1957	1513	1,400	June 5, 1957	-	72.3	52,300	74.8	54,170
1958	1563	1,010	May 27, 1958	-	67.6	48,910	65.8	47,660
1959	1633	514	May 14, 1959	-	26.8	19,390	30.7	22,220
1960	1713	704	May 12, 1960	2.6	52.7	38,290	-	-

3595. Animas River above Tacoma, Colo.

Location.--Lat 37°34'10", long 107°46'40", in sec.8, T.38 N., R.8 W., on left bank 0.8 mile upstream from Tank Creek, 2.4 miles downstream from Cascade Creek, and 3.3 miles north of Tacoma.

Drainage area.--348 sq mi.

Records available.--October 1945 to September 1956. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,520 ft (from topographic map).

Average discharge.--11 years (1945-56), 522 cfs (377,900 acre-ft per year).

Extremes.--1945-56: Maximum discharge, 9,500 cfs June 18, 1949 (gage height, 8.86 ft), from rating curve extended above 5,700 cfs; minimum daily, 55 cfs Feb. 20, Dec. 5, 1955. Maximum flood known occurred Oct. 5, 1911.

Remarks.--Most of flow of Little Cascade Creek and Cascade Creek above Lime Creek is diverted around station for power development.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	148	102		93.1	86.0	103	228	1,071	1,607	528	319	173	381
1952	139	111	94.8	96.3	101	96.9	582	2,086	3,902	1,398	498	301	783
1953	186	125	112	114	105	135	332	884	1,931	476	284	154	403
1954	154	164	96.2	84.8	86.4	87.7	498	1,270	1,030	643	270	287	390
1955	366	133	94.7	79.0	67.1	87.9	268	1,075	1,764	437	348	176	409
1956	97.3	73.5	70.8	72.3	74.1	168	373	1,554	1,522	348	206	104	389
1957													
1958													
1959													
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9,070	6,050	6,150	5,720	4,780	6,320	13,600	65,860	95,640	32,460	19,630	10,280	275,600
1952	8,570	6,600	5,830	5,920	5,790	5,960	34,630	128,300	232,200	85,970	30,630	17,950	568,300
1953	11,440	7,460	6,910	7,040	5,810	8,310	19,750	54,350	114,900	29,500	17,440	9,180	291,900
1954	9,500	9,780	5,910	5,220	4,800	5,390	29,630	77,820	61,150	39,530	16,620	17,060	282,400
1955	22,500	7,940	5,820	4,860	3,730	5,400	15,960	66,090	104,900	26,870	21,390	10,450	295,900
1956	5,990	4,370	4,350	4,440	4,260	10,340	22,210	95,580	90,570	21,470	12,640	6,160	282,400
1957													
1958													
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	398	288,400
1951	1213	4,760	May 27, 1951	60	381	275,600	380	275,300
1952	1243	8,200	June 10, 1952	70	783	568,300	789	573,100
1953	1288	6,500	June 12, 1953	82	403	291,900	402	291,300
1954	1343	2,800	May 21, 1954	70	390	282,400	405	293,500
1955	1393	5,280	June 8, 1955	55	409	295,900	379	274,400
1956	1443	4,380	May 31, 1956	55	389	282,400	-	-
1957								
1958								
1959								
1960								

3610. Hermosa Creek near Hermosa, Colo.

Location.--Lat 37°25'30", long 107°50'20", in NW¼ sec.3, T.36 N., R.9 W., on right bank 20 ft downstream from private bridge, 1 mile northwest of Hermosa, and 2 miles upstream from mouth.

Drainage area.--172 sq mi.

Records available.--November and December 1911 (gage heights and discharge measurements only), January 1912 to September 1914, October 1919 to September 1928, October 1939 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 6,705.88 ft above mean sea level, datum of 1929. Prior to September 1914, staff gage and April 1920 to September 1928 water-stage recorder (staff or chain gages for short periods), within half a mile at different datums.

Average discharge.--32 years (1912-14, 1919-28, 1939-60), 145 cfs (105,000 acre-ft per year).

Extremes.--1912-14, 1919-28, 1939-60: Maximum discharge, 2,980 cfs May 12, 1941 (gage height, 6.02 ft); maximum gage height, 8.50 ft Sept. 12, 1927, from floodmarks, site and datum then in use; minimum daily discharge, 4.0 cfs Dec. 9, 1956.

Remarks.--Diversions for irrigation of a few acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	18.4	14.9	15.2	13.3	13.7	22.6	54.5	212	136	30.0	27.8	16.0	48.1
1952	13.9	15.6	15.6	14.3	14.7	20.2	433	913	734	105	46.8	35.8	197
1953	21.8	17.3	14.8	16.9	16.3	28.6	144	233	218	44.1	31.1	16.3	66.9
1954	20.6	25.2	18.0	13.6	18.1	19.8	187	276	78.0	51.0	30.1	33.9	64.5
1955	45.6	20.7	17.9	17.2	14.7	29.2	126	397	217	41.7	59.1	25.0	84.7
1956	16.0	15.8	15.5	15.6	19.3	75.9	151	362	146	29.2	19.8	13.0	73.5
1957	11.7	8.83	5.85	8.44	11.8	24.2	195	444	985	271	198	97.0	187
1958	58.7	101	77.4	50.2	47.5	56.6	339	1,100	400	57.4	35.3	32.8	197
1959	24.9	23.4	18.5	17.1	14.2	19.3	58.5	164	83.5	20.3	27.3	16.9	40.8
1960	26.7	31.6	22.5	15.2	16.4	113	428	487	348	50.7	27.8	20.4	132

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,130	888	934	815	762	1,390	3,240	13,050	8,110	1,840	1,710	950	34,820
1952	856	928	962	881	843	1,240	25,790	56,120	43,700	6,450	2,880	2,130	142,800
1953	1,340	1,030	912	1,040	906	1,760	8,560	14,330	12,980	2,710	1,910	972	48,450
1954	1,270	1,500	1,110	835	1,000	1,220	11,110	17,000	4,640	3,140	1,850	2,020	46,700
1955	2,800	1,230	1,100	1,060	815	1,800	7,490	24,390	12,920	2,560	3,630	1,490	61,280
1956	984	942	956	962	1,110	4,670	9,000	22,270	8,690	1,800	1,220	776	53,380
1957	722	526	360	519	653	1,490	11,590	27,280	58,600	16,680	11,530	5,770	135,700
1958	3,610	6,020	4,760	3,090	2,640	3,480	20,170	67,550	23,820	3,530	2,170	1,950	142,800
1959	1,530	1,390	1,140	1,050	789	1,180	3,480	10,060	4,970	1,250	1,680	1,000	29,530
1960	1,640	1,880	1,380	934	946	6,920	25,470	29,950	20,710	3,120	1,710	1,210	95,870

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	72.1	52,230
1951	1213	588	May 27, 1951	9.0	48.1	34,820	47.8	34,610
1952	1243	2,440	June 4, 1952	7.5	197	142,800	197	143,300
1953	1283	730	May 28, 1953	12	66.9	48,450	67.7	49,050
1954	1343	444	May 21, 1954	11	64.5	46,700	66.2	47,940
1955	1393	706	May 8, 1955	11	84.7	61,280	81.5	59,040
1956	1443	524	May 21, 1956	10	73.5	53,380	71.8	52,110
1957	1513	2,210	June 5, 1957	4.0	187	135,700	205	148,500
1958	1563	1,790	May 22, 1958	26	197	142,800	183	132,500
1959	1633	320	May 15, 1959	12	40.8	29,530	41.9	30,360
1960	1713	1,100	May 13, 1960	10	132	95,870	-	-

3612. Falls Creek near Durango, Colo.

Location--Lat 37°22'00", long 107°51'30", in SW $\frac{1}{4}$ sec.21, T.36 N., R.9 W., on right bank 1.2 miles upstream from mouth and 6.5 miles north of Durango.

Drainage area--7.18 sq mi.

Records available--October 1959 to September 1960.

Gage--Water-stage recorder and concrete control. Altitude of gage is 7,080 ft (from topographic map).

Extremes--1959-60: Maximum discharge, 23 cfs May 13, 1960 (gage height, 3.95 ft); minimum daily, 0.2 cfs for many days in October 1959 and January 1960.

Remarks--Small diversions above station for irrigation of meadows.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	0.26	0.42	0.30	0.29	0.30	3.25	13.5	10.2	3.30	1.08	0.59	0.39	2.82

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	16	25	18	18	17	200	804	626	196	66	36	23	2,040

3614. Junction Creek near Durango, Colo.

Location--Lat 37°20'05", long 107°54'05", in sec.36, T.36 N., R.10 W., on left bank $4\frac{1}{2}$ miles upstream from mouth and $4\frac{1}{2}$ miles northwest of Durango.

Drainage area--26.3 sq mi.

Records available--October 1959 to September 1960.

Gage--Water-stage recorder. Datum of gage is 7,045.65 ft above mean sea level (Bureau of Reclamation bench mark).

Extremes--1959-60: Maximum discharge, about 230 cfs May 13, 1960; maximum gage height, 3.94 ft May 11, 1960; minimum discharge not determined.

Remarks--No regulation or diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	5.02	4.85	2	1.6	1.82	19.4	85.3	83.1	50.5	7.16	3.42	1.82	22.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	308	289	123	98	105	1,190	5,080	5,110	3,000	441	210	108	16,060

3615. Animas River at Durango, Colo

Location.--Lat 37°16'45", long 107°52'25", in sec.20, T.35 N., R.9 W., on left bank at Western Colorado Power Co.'s plant at Durango, three-quarters of a mile upstream from Lightner Creek.

Drainage area.--692 sq mi.

Records available.--June to December 1895, April 1896 to December 1898, April 1899 to December 1900, March to May 1901, April to November 1902, March to April 1903 (gage heights only, erroneously stated as discredited in WSP 1563), May to October 1903, July 1904 to December 1905, January to December 1910 (gage heights only), January to September 1911, January 1912 to September 1960. Monthly or yearly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 6,501.57 ft above mean sea level, datum of 1929. Prior to Dec. 31, 1905, staff gages at several sites three-quarters of a mile downstream at various datums. Jan. 1, 1910, to Aug. 12, 1911, staff gage at present site at different datum. Jan. 1, 1912, to Mar. 2, 1921, staff gage or water-stage recorder at present site and datum.

Average discharge.--55 years (1896-1900, 1904-5, 1910-60), 867 cfs (627,700 acre-ft per year).

Extremes.--1895-1905, 1910-60: Maximum discharge, 25,000 cfs Oct. 5, 1911 (gage height, 11 ft, present site and datum), from rating curve extended above 13,000 cfs; minimum daily, 94 cfs Mar. 2, 1913.

Maximum flood known, that of Oct. 5, 1911.

Remarks.--Diversion for irrigation of about 4,000 acres above station. Natural regulation by many lakes and regulation for power above station.

Corrections.--In WSP 1313, the figures of monthly mean discharge and runoff for May 1920 and corresponding yearly figures, and the figures of monthly mean discharge for the month of June for the water years 1911-25 are listed in error; they should be as listed below.

Month	Mean	Acre-feet
May 1920.....	4,790	295,000
Water year 1919-20.....	1,364	991,300
Calendar year 1920.....	1,376	999,700

Month	Mean	Month	Mean
June 1911.....	3,880	June 1919.....	2,510
June 1912.....	3,562	June 1920.....	5,420
June 1913.....	2,060	June 1921.....	5,610
June 1914.....	4,530	June 1922.....	4,783
June 1915.....	3,420	June 1923.....	3,596
June 1916.....	4,290	June 1924.....	2,412
June 1917.....	5,650	June 1925.....	2,093
June 1918.....	2,800		

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	222	188	178	157	141	157	290	1,183	1,698	548	389	216	448
1952	199	177	162	187	207	197	1,322	3,287	5,010	1,703	617	390	1,120
1953	272	205	179	188	192	246	567	1,146	2,322	595	377	211	541
1954	203	246	166	144	148	157	708	1,538	1,192	780	369	365	503
1955	496	253	222	198	181	221	451	1,451	2,017	564	467	258	566
1956	206	188	184	190	188	296	569	1,859	1,757	402	257	161	522
1957	162	189	153	178	205	216	622	1,464	5,143	2,998	1,252	642	1,103
1958	356	469	345	295	264	287	1,093	4,240	3,508	760	357	386	1,033
1959	298	262	232	206	204	216	384	1,135	1,580	354	382	208	456
1960	341	300	203	184	200	376	1,395	1,908	2,832	850	309	265	760

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13,660	11,170	10,920	9,670	7,830	9,640	17,280	72,760	101,000	33,720	23,910	12,870	324,400
1952	12,200	10,530	9,980	11,500	11,930	12,090	78,680	202,100	298,100	104,700	37,930	23,220	813,000
1953	16,740	12,170	11,010	11,580	10,640	15,140	33,750	70,450	138,100	36,610	23,170	12,530	391,900
1954	12,460	14,650	10,190	8,860	8,250	9,640	42,160	94,450	70,950	47,980	22,720	21,690	364,000
1955	30,470	15,060	13,640	12,160	10,050	13,610	26,820	89,190	120,000	34,660	29,710	15,350	409,700
1956	12,700	11,180	11,310	11,650	10,840	18,210	33,850	114,300	104,500	24,720	18,800	9,580	378,600
1957	9,990	11,250	9,380	10,930	11,360	13,260	37,040	90,000	306,000	184,400	77,010	38,210	798,800
1958	21,920	27,910	21,230	18,160	14,690	17,660	65,050	260,700	208,700	46,750	21,960	23,000	747,700
1959	18,310	15,570	14,280	12,660	11,350	13,310	22,880	69,770	94,040	21,790	23,460	12,380	329,800
1960	20,980	17,830	12,480	11,310	11,500	23,090	83,020	117,300	168,500	51,060	18,980	15,740	551,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	551	399,200
1951	1213	4,320	May 28, 1951	112	448	324,400	444	321,400
1952	1243	8,450	June 11, 1952	146	1,120	813,000	1,130	820,200
1953	1283	5,430	June 13, 1953	156	541	391,900	538	389,300
1954	1343	3,090	May 21, 1954	120	503	364,000	533	385,900
1955	1393	4,790	June 9, 1955	155	566	409,700	533	385,700
1956	1443	4,070	June 1, 1956	134	522	378,600	515	374,100
1957	1513	9,360	June 6, 1957	115	1,103	798,800	1,159	839,300
1958	1563	7,960	May 28, 1958	234	1,033	747,700	1,001	724,800
1959	1633	3,140	June 7, 1959	164	456	329,800	460	332,900
1960	1713	4,630	June 4, 1960	146	760	551,800	-	-

3629. Florida River near Hermosa, Colo.

Location--Lat 37°22'40", long 107°39'40", in NW¼ sec.20, T.36 N., R.7 W., on left bank 2 miles upstream from True Creek and 10 miles southeast of Hermosa.

Drainage area--69.4 sq mi.

Records available--October 1955 to September 1960.

Gage--Water-stage recorder. Altitude of gage is 7,940 ft (by barometer).

Average discharge--5 years (1955-60), 92.2 cfs (66,750 acre-ft per year).

Extremes--1955-60: Maximum discharge, 1,880 cfs July 26, 1957 (gage height, 8.67 ft); minimum daily, 4.0 cfs Jan. 11, 31, 1957.

Remarks--Diversions above station for irrigation of 150 acres.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	11.0	7.54	8.32	8.47	8.45	21.1	54.1	320	159	22.8	14.1	8.97	53.7
1957	7.01	8.72	5.69	4.68	6.18	9.24	58.6	129	770	406	196	72.5	140
1958	32.1	43.6	23.5	17.5	16.0	19.3	130	590	510	53.8	30.4	43.1	126
1959	22.4	17.4	11.9	11.5	10.3	11.6	34.2	198	166	24.7	39.2	17.0	47.2
1960	47.6	36.7	14.4	13.8	12.8	24.5	178	333	384	54.3	18.7	14.1	94.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	673	448	512	521	486	1,300	3,220	19,670	9,470	1,400	865	415	38,980
1957	431	519	350	288	343	568	3,490	7,950	45,820	24,930	12,080	4,320	101,100
1958	1,970	2,600	1,450	1,080	889	1,190	7,720	36,280	30,360	3,310	1,870	2,550	91,260
1959	1,370	1,040	734	710	573	716	2,040	12,150	9,880	1,520	2,410	1,010	34,150
1960	2,930	2,180	885	849	734	1,510	10,570	20,470	22,930	3,340	1,150	841	68,290

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1956	1443	575	May 18, 1956	6.0	53.7	38,980	53.2	38,650
1957	1513	1,880	July 26, 1957	4.0	140	101,100	146	105,800
1958	1563	1,320	June 6, 1958	12	126	91,260	122	89,380
1959	1633	494	May 29, 1959	8.5	47.2	34,150	51.1	37,000
1960	1713	810	June 3, 1960	10	94.1	68,290	-	-

3630. Florida River near Durango, Colo.

Location.--Lat 37°19'40", long 107°44'40", in sec. 4, T.35 N., R.8 W., on left bank just downstream from Red Creek, 9 miles northeast of Durango.

Drainage area.--96 sq mi, approximately.

Records available.--May to July 1899, April to June 1901, April to October 1902, April to October 1903, September 1910 to October 1911, January to December 1912, June 1917 to September 1924, October 1926 to September 1960 (discontinued). Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 7,301.88 ft above mean sea level, datum of 1929. Prior to Mar. 26, 1928, staff gage or water-stage recorder at several sites within 4½ miles downstream at various datums. Mar. 26, 1928, to Sept. 30, 1934, water-stage recorder at site a quarter of a mile downstream at different datum.

Average discharge.--42 years (1910-11, 1917-24, 1926-60), 110 cfs (79,640 acre-ft per year).

Extremes.--1899, 1901-3, 1910-12, 1917-24, 1926-60: Maximum discharge not determined, occurred Oct. 5, 1911; maximum determined, 3,200 cfs June 28, 1927 (gage height, 4.50 ft, from high-water mark, site and datum then in use), from rating curve extended above 900 cfs; no flow Sept. 13-18, Sept. 22 to Oct. 16, 1956. Maximum flood known occurred Oct. 5, 1911.

Remarks.--Diversions for irrigation of about 160 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	18.7	6.50	4.71	4.0	4.1	8.85	18.8	169	198	20.7	29.1	13.9	41.5
1952	8.50	7.19	5.84	5.14	5.4	9.91	185	433	749	158	45.4	27.5	136
1953	15.8	10.4	6.39	5.48	5.89	12.6	58.1	185	245	43.2	25.7	3.98	51.5
1954	7.28	18.7	8.33	6.99	6.87	9.19	90.3	261	129	97.6	43.1	43.6	60.5
1955	56.9	12.4	7.51	5.34	4.83	7.12	37.0	201	239	33.5	77.9	17.1	58.5
1956	4.73	3.47	5.92	7.48	7.55	25.0	57.8	311	150	12.0	5.69	.23	49.4
1957	1.15	4.15	1.88	1.56	2.00	10.1	81.9	187	746	416	178	69.0	142
1958	29.4	58.5	27	17	16	24.5	210	607	500	46.9	22.3	35.6	133
1959	18.7	14.7	7	5	4	7.00	28.4	194	161	14.0	27.2	7.82	40.9
1960	46.9	40.2	12	11	10	45.5	225	329	362	53.8	11.4	6.58	96.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,150	387	290	246	228	544	1,120	10,400	11,810	1,270	1,790	825	30,060
1952	523	458	359	316	311	609	11,020	26,620	44,580	9,740	2,790	1,640	98,940
1953	973	818	393	337	327	773	3,460	11,370	14,560	2,660	1,580	237	37,290
1954	448	1,110	512	430	392	565	5,370	16,030	7,700	6,000	2,650	2,590	43,790
1955	3,500	739	462	328	268	438	2,200	12,370	14,210	2,060	4,790	1,020	42,380
1956	291	207	364	460	434	1,540	3,440	19,140	8,910	737	350	13	35,890
1957	70	247	115	96	111	618	4,870	11,470	44,370	25,610	10,940	4,100	102,600
1958	1,800	3,480	1,660	1,050	889	1,500	12,500	37,320	29,750	2,880	1,370	2,120	96,320
1959	1,150	877	430	307	222	430	1,690	11,910	9,590	862	1,670	465	29,600
1960	2,880	2,390	738	676	575	2,790	13,400	20,240	21,570	3,310	699	391	69,660

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	56.4	40,850
1951	1213	887	May 27, 1951	3.2	41.5	30,060	40.8	29,540
1952	1243	1,380	June 9, 1952	-	136	98,940	137	99,610
1953	1283	782	June 12, 1953	1.9	51.5	37,290	51.6	37,370
1954	1343	838	July 23, 1954	1.9	60.5	43,790	64.1	46,420
1955	1393	873	June 7, 1955	2.1	58.5	42,380	53.2	38,550
1956	1443	588	May 18, 1956	0	49.4	35,890	48.8	35,460
1957	1513	2,750	July 26, 1957	0	142	102,600	151	109,100
1958	1563	1,390	June 6, 1958	-	133	96,320	127	91,840
1959	1633	505	May 29, 1959	-	40.9	29,600	45.8	33,150
1960	1713	748	June 3, 1960	2.0	96.0	69,660	-	-

3631. Salt Creek near Oxford, Colo.

Location.--Lat 37°08'30", long 107°45'00", in SW $\frac{1}{4}$ sec.32, T.34 N., R.8 W., on right bank 600 ft upstream from highway, 2 $\frac{1}{2}$ miles upstream from mouth, 3 miles southwest of Oxford, and 1 $\frac{1}{2}$ miles southeast of Durango.

Drainage area.--16.2 sq mi.

Records available.--October 1956 to September 1959.

Gage.--Water-stage recorder. Altitude of gage is 6,480 ft (from topographic map).

Extremes.--1956-59: Maximum discharge, 713 cfs Aug. 6, 1957 (gage height, 5.18 ft), from rating curve extended above 60 cfs on basis of computation of peak flow through culverts and over roadway; no flow Jan. 5, 1959.

Remarks.--Water imported from Los Pinos River. Most of flow is return flow from irrigated areas.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	22.5	2.79	0.73	2.27	16.4	8.88	0.60	2.47	10.5	27.7	29.9	20.2	12.1
1958	30.1	18.0	4.46	.90	15.0	17.2	1.85	5.23	18.9	17.0	21.6	17.4	13.8
1959	19.0	1.41	.35	.15	.85	.55	1.34	10.8	16.3	8.89	14.8	10.5	7.12

Note.--Records for 1960 have been withheld pending further study.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	1,380	166	45	139	911	546	36	152	626	1,700	1,840	1,200	8,740
1958	1,850	1,070	274	56	833	1,050	110	322	1,010	1,050	1,350	1,030	9,980
1959	1,170	84	21	9.1	47	34	80	662	972	547	913	622	5,160

Note.--Records for 1960 have been withheld pending further study.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1957	1513	713	Aug. 6, 1957	0.2	12.1	8,740	14.3	10,340
1958	1563	317	May 22, 1958	.3	13.8	9,980	11.1	8,070
1959	1633	235	Aug. 6, 1959	0	7.12	5,160	-	-

Note.--Records for 1960 have been withheld pending further study.

3632. Florida River at Bondad, Colo.

Location.--Lat 37°03'20", long 107°52'10", in S $\frac{1}{2}$ sec.31, T.33 N., R.9 W., on left bank 0.6 mile upstream from mouth, 0.7 mile southeast of Bondad, and 15 miles south of Durango.

Drainage area.--221 sq mi.

Records available.--October 1956 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,000 ft (from topographic map). Prior to Sept. 11, 1958, at site 300 ft upstream at datum 2.39 ft higher.

Extremes.--1956-60: Maximum discharge not determined, occurred July 26, 1957; minimum daily 4.6 cfs July 24, 1959.

Remarks.--Diversions for irrigation of about 14,000 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	25	8.48	6.47	12.2	48.5	36.5	88.0	209	626	320	309	65.3	146
1958	51.8	86.7	34.3	25.5	69.2	88.1	232	507	328	18.8	26.7	29.8	125
1959	28.2	14.4	12.3	12.5	11.2	11.2	18.6	44.7	40.9	8.35	21.9	12.2	19.7
1960	27.2	48.2	16.6	15.3	15.4	149	235	201	225	25.5	21.5	23.1	83.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	1,540	505	398	750	2,690	2,250	5,240	12,680	37,230	19,650	18,990	3,890	106,100
1958	3,180	5,160	2,110	1,570	3,840	5,410	13,800	31,190	19,530	1,150	1,640	1,780	90,360
1959	1,730	855	754	772	825	687	1,110	2,750	2,430	513	1,350	723	14,300
1960	1,670	2,870	1,020	940	885	9,160	13,980	12,390	13,380	1,570	1,320	1,370	60,560

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1957	1513	-	July 26, 1957	4.7	146	106,100	157	114,000
1958	1563	1,713	1,450	June 7, 1958	10	90,360	115	83,250
1959	1633	317	Aug. 25, 1959	4.6	19.7	14,300	22.8	16,520
1960	1713	668	Mar. 19, 1960	10	83.4	60,560	-	-

3635. Animas River near Cedar Hill, N. Mex.

Location.--Lat 37°02'15", long 107°52'25", in sec.7, T.32 N., R.9 W., on right bank three-quarters of a mile downstream from Florida River, 2.5 miles upstream from Colorado-New Mexico State line, and 8.5 miles north of Cedar Hill.

Drainage area.--1,090 sq mi, approximately.

Records available.--October 1933 to September 1960. Monthly discharge only for October and November 1933, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 5,960 ft (from topographic map). Prior to Sept. 14, 1937, at datum between 1.52 and 1.36 ft higher. Sept. 15, 1937, to Sept. 30, 1946, at datum 1.36 ft higher.

Average discharge.--27 years (1933-60), 917 cfs (663,900 acre-ft per year).

Extremes.--1933-60: Maximum discharge, 13,100 cfs June 19, 1949 (gage height, 11.45 ft); minimum daily, 90 cfs Jan. 21, 1935.
Maximum flood known occurred Oct. 5 or 6, 1911.

Remarks.--Diversion for irrigation of about 20,000 acres above station. During water years 1944-49, Twin Rocks Canal diverted above station for irrigation below.

Corrections.--In WSP 1313, monthly runoffs for December 1940 and October 1946 are listed in error; they should be 16,950 and 20,610 acre-ft, respectively.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	275	215	211	194	175	171	311	1,378	2,006	601	387	246	515
1952	215	197	223	293	267	408	1,877	4,008	5,766	1,897	711	452	1,357
1953	299	242	183	202	210	275	734	1,352	2,542	659	400	224	611
1954	250	284	212	169	184	197	842	1,783	1,259	979	457	424	590
1955	603	266	216	194	185	250	531	1,697	2,215	650	588	277	641
1956	195	201	221	216	216	404	728	2,201	1,908	430	247	155	594
1957	169	173	159	186	254	286	836	1,839	6,145	3,710	1,681	794	1,353
1958	473	678	467	343	453	553	1,728	5,133	4,209	861	437	449	1,318
1959	330	265	224	185	215	205	560	1,233	1,727	374	417	196	478
1960	430	418	251	199	217	766	1,794	2,237	3,329	923	342	287	931

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	16,930	12,800	12,960	11,940	9,720	10,540	18,500	84,710	119,400	36,950	23,820	14,660	372,900
1952	13,210	11,740	13,750	17,990	15,350	24,910	11,700	246,500	345,100	116,600	43,690	26,870	985,400
1953	18,400	14,390	11,250	12,420	11,650	16,940	43,700	85,720	151,500	40,540	24,620	13,350	442,300
1954	15,400	16,890	13,040	10,380	10,250	12,120	50,130	109,600	75,490	60,200	28,120	25,200	426,800
1955	37,080	15,840	13,260	11,910	10,260	15,350	31,580	104,300	131,800	39,960	36,150	16,490	464,000
1956	11,990	11,960	13,620	13,270	12,410	24,820	43,340	135,300	113,500	28,470	15,170	9,220	431,100
1957	10,370	10,280	9,760	11,420	14,100	16,340	49,740	113,100	565,700	28,100	103,300	47,260	979,500
1958	29,100	40,370	28,740	21,100	25,290	34,370	02,700	515,600	500,500	52,960	26,900	26,730	954,400
1959	20,300	15,780	13,800	11,380	11,960	12,620	21,450	75,810	102,800	22,990	25,610	11,680	346,200
1960	26,430	24,850	15,410	12,210	12,500	47,210	106,700	137,500	198,100	56,730	21,000	17,050	675,700

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean		Acre-feet
		Discharge	Date						
1950	-	-	-	-	-	-	627	510	454,200
1951	1213	4,690	May 28, 1951	136	515	372,900	627	510	368,900
1952	1243	9,740	June 11, 1952	150	1,357	985,400	1,365	990,800	990,800
1953	1283	5,610	June 13, 1953	130	611	442,300	613	443,600	443,600
1954	1343	5,050	May 11, 1954	150	590	426,800	618	447,700	447,700
1955	1393	5,090	June 9, 1955	130	641	464,000	601	435,400	435,400
1956	1443	4,560	June 1, 1956	134	594	431,100	584	423,900	423,900
1957	1513	10,800	June 6, 1957	136	1,353	979,500	1,447	1,047,000	1,047,000
1958	1563	9,400	May 28, 1958	285	1,318	954,400	1,251	906,000	906,000
1959	1633	3,560	June 7, 1959	150	478	346,200	501	363,000	363,000
1960	1713	5,610	June 4, 1960	150	931	675,700	-	-	-

3645. Animas River at Farmington, N. Mex.

Location.--Lat 36°43'20", long 108°12'00" in SE $\frac{1}{4}$ sec.16, T.29 N., R.13 W., on left bank at bridge on former State Highway 17, 0.6 mile southeast of Farmington and 1.3 miles upstream from mouth.

Drainage area.--1,360 sq mi, approximately.

Records available.--June 1904 to October 1905 (published as "near Farmington"), September 1912 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 5,278 ft (from bridge-profile plans). Prior to Nov. 1, 1905, chain gage at old bridge a quarter of a mile upstream at different datum. Sept. 17, 1912, to Oct. 4, 1938, water-stage recorder at site 0.6 mile downstream at lower datums (datum lowered 2.0 ft Aug. 15, 1927, and raised 0.2 ft Dec. 16, 1929).

Average discharge.--49 years (1904-5, 1912-60), 968 cfs (700,800 acre-ft per year).

Extremes.--1904-5, 1912-60: Maximum discharge, about 25,000 cfs June 29, 1927 (gage height, 8.5 ft, site and datum then in use), from rating curve extended above 10,000 cfs by logarithmic plotting; minimum daily, 2.4 cfs Sept. 5, 1956.
Maximum flood known occurred Oct. 8, 1911, when a stage of about 16.5 ft was reached (present site and datum). Flood of Sept. 6, 1909, reached a stage of 11.1 ft, 1904-5 site and datum (discharge, about 19,000 cfs).

Remarks.--Diversion for irrigation of about 30,000 acres above station. Records of chemical analyses for the period June 1940 to September 1960 and suspended sediment loads and water temperatures for the period December 1950 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	255	180	212	199	199	182	148	1,096	1,736	351	203	118	407
1952	178	214	239	307	293	421	1,810	3,710	5,690	1,760	540	326	1,288
1953	215	235	229	241	239	312	678	1,099	2,258	419	229	49.1	516
1954	195	322	246	212	215	222	742	1,354	1,015	866	300	313	520
1955	664	267	240	233	214	271	472	1,418	2,031	424	496	92.8	570
1956	129	182	227	226	227	398	659	1,967	1,751	189	70.5	10.6	503
1957	87.0	186	176	208	304	300	848	1,749	6,077	3,609	1,716	794	1,339
1958	467	743	511	363	488	598	1,746	4,966	4,043	623	225	342	1,261
1959	284	279	237	201	202	202	259	910	1,476	157	325	69.1	383
1960	426	434	257	210	238	784	1,682	2,009	3,067	724	135	130	839

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	15,700	10,740	13,010	12,260	11,040	11,200	8,810	67,880	103,300	21,590	12,510	7,020	294,600
1952	10,950	12,750	14,700	18,860	16,830	25,910	107,700	228,100	339,600	108,200	33,230	19,380	935,200
1953	13,200	13,970	14,110	14,820	13,270	19,190	40,360	67,590	134,300	25,760	14,080	2,920	373,600
1954	12,020	19,140	15,130	13,020	11,850	13,680	44,160	95,540	60,410	54,450	18,450	18,640	376,500
1955	40,850	15,870	14,740	14,320	11,900	16,690	28,060	87,190	120,900	26,040	30,470	5,520	412,600
1956	7,950	10,850	13,980	13,920	13,070	24,480	39,130	120,900	104,200	11,640	4,340	633	365,100
1957	5,350	11,090	10,800	12,760	16,890	18,430	50,430	107,600	161,600	221,900	105,500	47,280	969,600
1958	28,740	44,220	31,420	22,320	27,090	36,790	103,900	505,400	240,600	38,310	13,830	20,370	913,000
1959	17,480	16,620	14,580	12,360	11,230	12,450	15,390	55,940	87,840	9,660	19,980	4,110	277,600
1960	26,160	25,640	15,770	12,910	13,680	48,200	100,100	123,500	182,500	44,510	8,310	7,760	609,200

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	532	365,400	-
1951	1213	4,560	May 28, 1951	19	407	294,600	405	293,500	-
1952	1243	9,890	June 11, 1952	121	1,288	935,200	1,292	938,100	-
1953	1283	5,580	June 13, 1953	28	516	373,600	523	378,600	-
1954	1343	7,940	July 23, 1954	40	520	376,500	555	401,700	-
1955	1393	4,660	June 9, 1955	6.4	570	412,600	516	373,900	-
1956	1443	4,270	June 1, 1956	2.4	503	365,100	495	359,600	-
1957	1513	10,400	July 27, 1957	-	1,339	969,600	1,446	1,046,000	-
1958	1563	9,000	May 28, 1958	112	1,261	913,000	1,184	857,300	-
1959	1633	2,560	Aug. 9, 1959	6.2	393	277,600	410	296,700	-
1960	1713	5,140	June 4, 1960	10	839	609,200	-	-	-

3650. San Juan River at Farmington, N. Mex.

Location.--Lat 36°43'25", long 108°13'30", in SE $\frac{1}{4}$ sec.17, T.29 N., R.13 W., on left bank 360 ft downstream from highway bridge, 4,000 ft downstream from Animas River, and 1 mile west of Farmington.

Drainage area.--7,240 sq mi, approximately.

Records available.--June to December 1904, January 1905 to September 1906 (gage heights and discharge measurements only; discharge records for January to December 1905, published in WSP 175, have been found to be unreliable and should not be used), September 1912 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 5,230.37 ft above mean sea level, datum of 1929. June 19, 1904, to May 10, 1906, wire-weight gage at site $\frac{1}{2}$ miles downstream at different datum. May 11 to Sept. 22, 1906, chain gage and Sept. 19, 1912, to July 2, 1918, staff gage, at site half mile upstream at different datums. Nov. 1, 1921, to Nov. 18, 1933, water-stage recorder at site 360 ft upstream at datum 1.04 ft higher prior to October 1932 and 0.53 ft higher thereafter.

Average discharge.--48 years (1912-60), 2,594 cfs (1,878,000 acre-ft per year).

Extremes.--1912-60: Maximum discharge, about 68,000 cfs June 29, 1927 (gage height, 10.2 ft site and datum then in use), from rating curve extended above 37,000 cfs; minimum daily, 27 cfs Aug. 22, 1939.

Maximum flood known occurred Oct. 6, 1911. Flood of Sept. 6, 1909, reached a stage of about 12.3 ft, site and datum then in use.

Remarks.--Diversions above station for irrigation of about 86,000 acres, 4,000 of which is irrigated by Farmers Mutual ditch which diverts from Animas River and bypasses this station; ditch flow not included in record. At times this ditch may be supplied partly or entirely by diversion from San Juan River below this station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	465	315	422	419	444	545	702	2,787	3,282	477	608	316	899
1952	433	480	570	831	629	1,464	7,170	9,738	12,950	3,471	1,312	727	3,307
1953	480	466	540	546	505	860	1,772	2,705	4,399	861	600	227	1,163
1954	577	655	419	432	610	664	2,119	3,847	1,948	1,698	933	928	1,239
1955	1,253	560	429	478	507	775	1,142	3,260	3,753	891	1,642	441	1,265
1956	390	410	498	591	523	1,239	1,886	4,340	3,417	484	496	170	1,205
1957	266	398	362	523	968	1,080	2,745	4,989	13,470	8,639	4,938	1,944	3,368
1958	1,897	1,878	1,299	793	1,548	2,075	6,504	12,080	8,261	1,130	710	963	3,263
1959	670	508	411	375	484	453	772	2,187	2,770	312	886	261	843
1960	1,390	1,096	681	573	634	4,287	5,458	5,062	6,792	1,414	393	451	2,350

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	28,590	18,730	25,920	25,760	24,680	33,520	41,750	171,300	195,300	29,310	37,360	18,800	651,000
1952	26,650	28,560	35,070	51,070	36,170	90,040	426,600	598,800	770,700	213,400	80,580	43,250	2,401,000
1953	29,540	27,730	33,200	33,560	28,050	52,890	105,400	168,300	261,800	52,920	36,870	13,480	841,700
1954	35,490	38,950	25,750	28,550	33,850	40,810	126,100	236,500	115,900	104,400	57,350	55,240	896,900
1955	77,070	33,350	26,350	29,410	28,140	47,630	67,930	200,500	223,300	54,790	101,000	26,260	915,700
1956	23,990	24,410	30,610	36,340	30,060	76,210	112,200	266,900	203,300	29,780	30,490	10,130	874,400
1957	17,610	23,690	22,240	32,150	53,790	66,420	163,300	306,700	801,600	531,200	303,600	115,600	2,438,000
1958	116,600	111,800	79,680	48,780	85,980	127,600	387,000	743,000	491,600	69,480	43,630	57,310	2,363,000
1959	41,180	30,200	25,290	23,040	26,860	27,870	45,920	134,500	164,800	19,180	54,500	16,720	610,100
1960	85,480	65,220	41,860	35,230	36,450	263,600	324,800	311,200	404,200	86,960	24,180	26,860	1,706,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	1,258	910,700
1951	1213	8,900	May 28, 1951	108	899	651,000	923	668,100
1952	1243	21,000	June 11, 1952	275	3,307	2,401,000	3,308	2,401,000
1953	1283	9,150	May 29, 1953	204	1,163	841,700	1,170	651,500
1954	1343	8,360	July 23, 1954	187	1,239	896,900	1,289	853,500
1955	1393	7,730	June 9, 1955	200	1,265	915,700	1,185	858,000
1956	1443	7,910	June 3, 1956	115	1,205	874,400	1,183	859,000
1957	1513	30,000	July 27, 1957	147	3,368	2,438,000	3,706	2,683,000
1958	1563	17,100	June 7, 1958	348	3,263	2,363,000	2,971	2,151,000
1959	1633	4,390	May 18, 1959	97	843	610,100	975	706,000
1960	1713	9,750	June 8, 1960	249	2,350	1,706,000	-	-

3655. La Plata River at Hesperus, Colo.

Location.--Lat 37°17'20", long 108°02'05", in sec.14, T.35 N., R.11 W., on right bank a short distance upstream from U. S. Highway 160, an eighth of a mile northwest of Hesperus.

Drainage area.--37 sq mi, approximately.

Records available.--June to August 1904, May 1905 to September 1906, August to November 1910, June 1917 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Records for Nov. 1 to Dec. 31, 1910, published in WSP 289, have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Datum of gage is 8,104.71 ft above mean sea level, datum of 1929. Prior to May 1, 1920, staff gage and May 1, 1920, to May 24, 1927, water-stage recorder, at several sites about 600 ft downstream at different datums. May 25, 1927, to Sept. 30, 1938, water-stage recorder at site 60 ft downstream and Oct. 1, 1938, to Sept. 30, 1941, at present site at datum 1.00 ft higher.

Average discharge.--44 years (1905-6, 1917-60), 46.5 cfs (33,660 acre-ft per year).

Extremes.--1904-6, 1910, 1917-60: Maximum discharge, 1,880 cfs Sept. 22, 1941 (gage height, 4.30 ft, present datum), from rating curve extended above 620 cfs on basis of slope-area measurement of peak flow; minimum not determined. Maximum flood known occurred Oct. 5, 1911.

Remarks.--One diversion above station for irrigation of about 2,000 acres along Cherry Creek below station.

Corrections.--In WSP 1313, the date of momentary maximum discharge for 1905 was listed in error; it should be June 15, 1905. Also the monthly mean discharge and runoff for May and June 1923 and corresponding yearly figures are listed in error; they should be as listed below.

Month	Mean	Acre-feet
May 1923.....	305	18,750
June.....	252	15,000
Water year 1922-23.....	67.4	48,820
Calendar year 1923.....	70.1	50,780

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8.21	5.61	5.33	4.25	4.72	7.32	29.4	114	75.8	20.4	13.9	8.21	24.2
1952	6.48	6.30	5.87	6.12	6.86	7.60	146	333	290	48.2	17.4	9.17	73.5
1953	8.76	6.19	7.85	7.79	7.14	10.4	79.4	101	93.2	19.9	19.3	7.88	30.8
1954	5.65	11.5	9.55	7.36	7.99	10.1	60.7	96.5	29.4	34.2	17.0	17.7	25.7
1955	23.0	8.15	5.94	6.65	5.47	8.24	41.2	99.1	56.2	18.9	49.2	12.3	28.0
1956	4.56	4.37	5.56	5.77	6.59	38.6	63.2	118	56.6	13.9	9.45	3.73	27.6
1957	3.27	4.17	3.40	3.94	4.37	6.30	55.3	141	408	154	75.4	29.2	74.1
1958	12.5	17.1	14.5	10.8	10.0	11.1	114	335	150	18.6	19.7	19.9	61.3
1959	10.0	8.52	7.2	5.4	5.2	6.45	29.7	77.4	37.0	10.3	14.1	7.00	18.3
1960	10.2	14.9	10.7	9.5	6.5	29.7	169	172	130	18.0	9.55	5.06	48.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	505	334	328	261	262	450	1,690	7,000	4,510	1,250	857	489	17,940
1952	399	375	361	376	395	467	8,660	20,500	17,280	2,960	1,070	545	53,390
1953	539	368	482	479	397	637	4,720	6,230	5,550	1,220	1,190	469	22,280
1954	348	686	587	453	444	623	3,610	5,930	1,750	2,100	1,040	1,050	18,620
1955	1,410	485	365	409	304	507	2,450	6,100	3,340	1,160	5,030	733	20,290
1956	280	260	342	355	379	2,380	3,760	7,260	3,370	857	581	222	20,050
1957	201	248	209	242	243	387	3,290	8,700	24,310	9,440	4,640	1,740	53,650
1958	770	1,020	890	662	553	682	6,760	20,580	8,940	1,150	1,210	1,180	44,400
1959	616	507	443	332	289	396	1,770	4,760	2,200	634	864	417	13,230
1960	625	887	657	584	374	1,820	10,080	10,550	7,720	1,110	588	301	35,300

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	27.1	-	19,620
1951	1213	520	May 27, 1951	3.2	24.8	17,940	24.7	-	17,900
1952	1243	950	June 3, 1952	4.0	73.5	53,390	73.9	-	53,640
1953	1283	286	May 28, 1953	-	30.8	22,280	31.1	-	22,510
1954	1343	283	July 23, 1954	4.1	25.7	18,620	26.6	-	19,260
1955	1393	207	June 7, 1955	4.0	28.0	20,290	26.1	-	18,920
1956	1443	207	May 7, 1956	1.9	27.6	20,050	27.3	-	19,820
1957	1513	1,140	July 26, 1957	2.4	74.1	53,650	76.9	-	55,670
1958	1563	652	May 27, 1958	9	61.3	44,400	59.8	-	43,280
1959	1633	152	May 15, 1959	-	18.3	13,230	19.1	-	13,830
1960	1713	429	May 13, 1960	-	48.6	35,300	-	-	-

3665. La Plata River at Colorado-New Mexico State line

Location.--Lat 37°00'00", long 108°11'20", in sec.10, T.32 N., R.13 W., on right bank at Colorado-New Mexico State line, 3 miles north of Pendleton, N. Mex.

Drainage area.--331 sq mi.

Records available.--January 1920 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 5,975.15 ft above mean sea level, datum of 1929. Prior to Apr. 30, 1920, staff gage at site 2 miles upstream at different datum. May 1 to June 18, 1920, staff gage and June 19, 1920, to Sept. 30, 1924, water-stage recorder, at present site at datum 1.26 ft higher. Oct. 1, 1924, to Mar. 16, 1934, water-stage recorder at present site at datum 0.26 ft higher.

Average discharge.--40 years (1920-60), 35.2 cfs (25,480 acre-ft per year).

Extremes.--1920-60: Maximum discharge, 4,750 cfs Aug. 24, 1927 (gage height, 11.36 ft, present datum), from rating curve extended above 750 cfs on basis of slope-area measurement of peak flow; no flow at times in many years.

Remarks.--Diversions above station for irrigation of about 15,000 acres, mostly above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.76	3.76	3.44	5.38	5.26	1.45	13.3	44.2	43.5	3.12	2.26	1.74	11.0
1952	3.16	3.72	2.65	4.54	8.39	14.5	251	243	185	24.5	6.79	3.56	62.4
1953	4.03	3.88	14.1	12.8	9.44	8.20	33.5	57.0	31.9	8.41	3.48	1.65	15.7
1954	2.87	4.34	5.19	6.13	6.34	1.54	15.0	51.3	6.36	8.37	1.61	1.84	9.29
1955	5.71	3.29	2.52	3.21	3.38	9.55	15.7	54.9	28.3	11.6	16.2	1.49	12.9
1956	1.25	2.07	2.30	1.64	4.14	20.0	32.7	56.1	16.4	1.20	.40	0	11.5
1957	.68	1.04	2.52	3.39	4.48	7.71	31.6	159	306	99.4	65.1	11.0	57.8
1958	9.65	17.4	14.2	15.3	53.5	57.1	291	264	65.8	1.99	3.30	5.03	66.3
1959	5.22	8.11	9.22	9.64	11.7	6.03	14.4	35.8	14.9	1.08	11.6	1.80	10.8
1960	2.70	4.12	4.43	5.5	5.5	87.4	156	70.4	43.8	2.09	.99	.91	32.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	293	224	211	331	292	89	790	2,720	2,590	192	139	103	7,970
1952	194	222	163	279	485	891	14,960	14,950	11,010	1,510	418	212	45,290
1953	248	231	864	786	524	504	1,990	3,500	1,900	517	214	98	11,380
1954	176	258	319	377	352	94	896	3,160	379	515	99	109	6,730
1955	228	196	155	197	188	588	922	3,380	1,690	715	999	69	9,350
1956	77	123	141	101	238	1,230	1,940	3,450	977	74	24	0	8,380
1957	42	62	155	208	249	474	1,880	9,760	18,240	6,110	4,000	653	41,830
1958	593	1,040	875	943	2,970	3,510	17,290	16,240	3,910	122	203	299	48,000
1959	321	483	567	593	647	371	855	2,200	884	66	714	107	7,810
1960	168	245	273	338	316	5,370	9,310	4,330	2,610	129	61	54	23,200

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	17.2
1951	1213	211	Sept. 30, 1951	0	11.0	7,970	10.8
1952	1243	830	June 3, 1952	.1	62.4	45,290	63.4
1953	1283	1,480	July 29, 1953	.2	15.7	11,380	14.9
1954	1343	350	July 8, 1954	0	9.29	6,730	9.05
1955	1393	3,200	July 27, 1955	0	12.9	9,350	12.6
1956	1443	160	July 19, 1956	0	11.5	8,380	11.4
1957	1513	856	July 26, 1957	0	57.8	41,830	60.9
1958	1563	732	Apr. 22, 1958	0	66.3	48,000	64.7
1959	1633	1,430	Aug. 5, 1959	0	10.8	7,810	9.84
1960	1713	413	Mar. 27, 1960	0	32.0	23,200	-

3675. La Plata River near Farmington, N. Mex.

Location.--Lat 36°44'30", long 108°14'45", in SW $\frac{1}{4}$ sec. 7, T.29 N., R.13 W., on right bank at downstream end of old bridge abutment, 40 ft upstream from former highway bridge, 1,300 ft upstream from bridge on U. S. Highway 550, 1,800 ft upstream from mouth and $2\frac{1}{2}$ miles northwest of Farmington.

Drainage area.--583 sq mi.

Records available.--March 1938 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,215 ft (from river-profile map).

Average discharge.--22 years (1938-60), 28.2 cfs (20,420 acre-ft per year).

Extremes.--1938-60: Maximum gage height, 6.03 ft Sept. 10, 1939 (discharge not determined); no flow for long periods.

Major floods occurred Sept. 5 or 6, 1909, and Oct. 5 or 6, 1911.

Remarks.--Diversions for irrigation of about 24,000 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.0	1.5	2.1	15.2	8.9	2.9	0	0.3	0.8	0.5	3.6	2.7	3.3
1952	5.9	.7	2.8	12.5	16.7	13.3	261	197	181	2.1	1.5	2.9	57.7
1953	.1	3.3	6.8	18.9	6.8	2.7	.7	.3	.6	16.6	2.2	.1	5.0
1954	.9	2.0	1.8	1.7	1.5	.9	.03	0	3.0	22.4	3.2	2.6	3.4
1955	1.3	0	1.4	5.6	17.2	12.9	0	.03	.03	5.6	26.9	0	5.9
1956	0	0	0	.7	1.7	.5	0	0	0	1.5	1.3	0	.5
1957	0	0	0	.03	1.0	.3	1.3	0	252	47.2	64.5	8.9	38.5
1958	39.6	30.5	17.9	17.5	75.1	302	189	15.9	0	4.48	.57	0	65.5
1959	2.2	2.8	4.5	6.5	2.9	.2	.9	5	1.1	.3	13.1	.6	3.0
1960	9.8	8.2	.5	3.4	18.5	111	115	13.0	5.1	.2	0	0	23.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	60	89	131	936	494	180	0	18	46	32	224	163	2,370
1952	363	44	175	766	960	817	15,500	12,100	10,790	131	95	171	41,910
1953	6.0	194	420	1,160	375	169	44	20	36	1,020	133	4.0	3,580
1954	58	119	113	105	81	58	2	0	180	1,380	196	153	2,440
1955	79	0	87	343	956	793	0	2.0	2.0	345	1,650	0	4,260
1956	0	0	0	46	97	34	0	0	0	95	79	0	351
1957	0	0	0	2.0	56	18	77	5,350	14,990	2,900	3,960	352	27,880
1958	2,440	1,810	1,100	1,070	4,060	4,610	17,980	11,640	948	0	276	34	45,970
1959	135	167	280	401	163	9.9	52	30	63	18	803	34	2,160
1960	605	486	34	210	1,070	6,850	6,870	797	305	12	0	0	17,240

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	7.2	5,250
1951	1213	(a)	Sept. 30, 1951	0	3.3	2,370	3.7	2,680
1952	1243	-	June 5, 1952	0	57.7	41,910	57.8	41,950
1953	1283	-	July 10, 1953	0	5.0	3,580	4.5	3,250
1954	1343	-	July 22, 1954	0	3.4	2,440	3.2	2,320
1955	1393	-	Aug. 13, 1955	0	5.9	4,260	5.7	4,090
1956	1443	-	July 23, 1956	0	.5	351	.5	351
1957	1513	-	Aug. 30, 1957	0	38.5	27,880	45.9	33,240
1958	1563	-	Apr. 19, 1958	0	63.5	45,970	56.9	41,200
1959	1633	-	Aug. 5, 1959	0	3.0	2,160	3.7	2,700
1960	1713	-	-	0	23.7	17,240	-	-

a Momentary maximum discharge for water year 1951 published in WSP 1213 has been found unreliable on basis of restudy of original data. This maximum is not published herein and should not be used.

3680. San Juan River at Shiprock, N. Mex.

Location.--Lat 36°47'35", long 108°43'55", in SW $\frac{1}{4}$ sec.22, T.30 N., R.18 W., on left bank 3 miles west of Shiprock and 6 miles downstream from Chaco River.

Drainage area.--12,900 sq mi, approximately.

Records available.--January to October 1911, February 1927 to September 1960. Monthly or yearly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 4,848.68 ft above mean sea level (river-profile survey). Prior to Apr. 6, 1922, chain gage and Apr. 7, 1922, to Oct. 25, 1933, water-stage recorder, at site 3 miles upstream at different datum. Oct. 26, 1933, to Sept. 30, 1936, water-stage recorder at present site at datum 3.31 ft higher and Oct. 1, 1936, to Sept. 30, 1952, at datum 1.77 ft higher. Supplementary water-stage recorders all at gage datum, 400 ft downstream since Oct. 26, 1938 (at datum 1.00 ft higher prior to July 24, 1939), and 400 ft upstream since Dec. 19, 1942 (at datum 1.77 ft higher prior to Dec. 30, 1953). Records compiled from any 1 or all 3 gages.

Average discharge.--34 years (1926-60), 2,403 cfs (1,740,000 acre-ft per year).

Extremes.--1927-60: Maximum discharge, about 80,000 cfs Aug. 11, 1929 (gage height, 5.7 ft, site and datum then in use); minimum daily, 8 cfs Aug. 25, 26, 1939. Maximum flood known occurred Oct. 6, 1911, and reached a stage of 22 ft, site and datum then in use.

Remarks.--Diversions for irrigation of about 118,000 acres above station. Records of chemical analyses for the period July 1957 to September 1960 and suspended sediment loads and water temperatures for the period December 1950 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	494	439	475	437	489	559	602	2,727	3,369	441	662	376	923
1952	468	475	548	1,029	686	1,444	7,311	10,110	13,280	3,659	1,325	778	3,419
1953	507	549	563	602	587	923	1,796	2,663	4,591	917	644	149	1,206
1954	641	758	521	492	624	691	2,002	3,690	1,922	1,997	1,014	1,243	1,303
1955	1,255	594	491	501	584	835	1,148	3,169	3,713	1,033	2,013	466	1,321
1956	406	490	550	588	549	1,246	1,821	4,140	3,462	442	473	44.4	1,185
1957	247	479	386	553	968	1,113	2,717	5,153	13,700	8,069	5,171	2,012	3,454
1958	1,881	1,989	1,384	817	1,632	2,118	6,670	12,030	8,343	1,081	694	961	3,301
1959	738	648	558	478	550	534	689	2,085	2,722	199	975	156	861
1960	1,512	1,271	693	554	645	4,443	5,511	4,910	6,622	1,375	251	294	2,338

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	30,360	26,110	29,220	26,890	27,140	34,350	35,830	167,700	200,500	27,140	40,710	22,350	668,300
1952	28,610	28,280	33,710	63,260	39,450	88,790	435,100	621,600	90,100	225,000	81,440	46,320	2,482,000
1953	31,180	32,640	34,640	37,010	32,620	56,760	106,900	163,700	273,200	56,360	39,570	8,550	873,400
1954	39,400	45,090	32,020	30,280	34,670	42,470	119,100	226,900	114,400	122,800	62,360	73,950	943,400
1955	77,190	35,340	30,220	30,810	32,420	51,330	68,330	194,900	220,900	63,510	23,800	27,700	956,400
1956	24,960	29,150	33,800	36,170	31,600	76,610	108,400	254,500	206,000	27,180	29,070	2,640	860,100
1957	15,160	28,520	23,710	34,010	53,760	68,430	161,700	316,800	515,400	545,300	318,000	19,700	2,500,000
1958	115,700	118,300	85,100	50,210	90,650	103,200	396,900	740,000	496,400	66,450	42,690	57,190	2,363,000
1959	45,380	38,540	34,310	29,370	30,540	32,610	40,990	128,200	162,000	12,240	59,330	9,300	623,600
1960	92,980	75,610	42,600	34,030	37,110	273,200	327,900	301,900	394,100	84,550	15,440	17,510	1,697,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1213	9,300	May 29, 1951	31	923	668,300	1,268	917,900
1952	1243	20,900	June 12, 1952	308	3,419	2,482,000	3,429	2,490,000
1953	1283	9,900	June 14, 1953	102	1,208	873,400	1,251	891,500
1954	1343	12,700	July 23, 1954	128	1,303	943,400	1,339	969,700
1955	1393	8,640	June 10, 1955	158	1,321	956,400	1,245	901,600
1956	1443	8,420	June 4, 1956	15	1,185	860,100	1,157	839,600
1957	1513	30,900	July 28, 1957	39	3,454	2,500,000	3,802	2,752,000
1958	1563	19,500	May 29, 1958	265	3,301	2,363,000	3,024	2,162,000
1959	1633	4,340	Aug. 7, 1959	12	861	623,600	990	716,600
1960	1713	9,750	June 5, 1960	72	2,338	1,697,000	-	-

3685. West Mancos River near Mancos, Colo.

Location.--Lat 37°22'30", long 108°15'20", in sec.14, T.36 N., R.13 W., on right bank $\frac{1}{2}$ miles upstream from confluence with East Mancos River and $3\frac{1}{2}$ miles northeast of Mancos.

Drainage area.--42.1 sq mi.

Records available.--September 1910 to September 1911 (no winter records), October to December 1911 (gage heights only), April 1938 to September 1953. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,450 ft (from nearby Bureau of Reclamation level line). September 1910 to December 1911, staff gage at site half a mile upstream at different datum. Apr. 26, 1938, to Sept. 30, 1944, water-stage recorder at present site at datum 0.66 ft lower.

Average discharge.--15 years (1938-53), 38.1 cfs (27,580 acre-ft per year).

Extremes.--1938-53: Maximum discharge, 1,080 cfs May 13, 1941 (gage height, 3.89 ft), from rating curve extended above 260 cfs; minimum daily recorded, 0.1 cfs Apr. 11-13, 1951.

Remarks.--Diversions above station for irrigation of about 2,500 acres below since March 1949. Regulation for irrigation by Jackson Gulch Reservoir (capacity, 10,000 acre-ft) since March 1949.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9.88	#2.11	#3.5	#3	#4	#3	2.64	18.9	74.8	42.0	25.1	13.2	#16.9
1952	9.27	3.85	4.0	4.5	5.5	7.0	38.6	154	235	52.6	40.6	29.0	48.5
1953	24.8	7.67	3.6	2.9	3.0	3.38	5.11	19.7	75.3	43.1	35.9	19.9	20.4

* Not previously published; estimated on basis of records for nearby stations.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	608	#126	#215	#184	#222	#184	157	1,160	4,450	2,560	1,550	783	#12,220
1952	570	229	246	277	316	430	2,290	9,450	13,970	3,240	2,500	1,730	35,250
1953	1,520	457	221	178	167	208	304	1,210	4,480	2,650	2,210	1,180	14,780

* Not previously published; estimated on basis of records for nearby stations.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	\$23.5	\$17,000
1951	1213	119	June 19, 1951	0.1	\$16.9	\$12,220	\$17.0	\$12,320
1952	1243	575	June 6, 1952	1.3	48.5	35,250	50.1	36,400
1953	1283	115	June 16, 1953	1.4	20.4	14,780	-	-

* Not previously published.

3690. East Mancos River near Mancos, Colo.

Location.--Lat 37°22'10", long 108°13'35", in NE $\frac{1}{4}$ sec.24, T.36 N., R.13 W., on right bank 800 ft upstream from Middle Mancos River and 4 miles northeast of Mancos.

Drainage area.--11.1 sq mi.

Records available.--April 1937 to September 1951. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,450 ft (from topographic map). Prior to Apr. 27, 1938, staff gage at site 650 ft downstream at different datum.

Average discharge.--14 years (1937-51); 10.7 cfs (7,750 acre-ft per year).

Extremes.--1937-51: Maximum discharge, 642 cfs May 8, 1941 (gage height, 2.67 ft), from rating curve extended above 130 cfs; no flow Aug. 17-27, 1939, Sept. 25, 26, Oct. 3, 1945.

Remarks.--Three small diversions above station for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.78	*0.59	*0.5	*0.4	*0.5	*0.8	5.05	25.5	5.90	2.01	2.60	0.83	*3.82

* Not previously published; estimated on basis of records for nearby stations.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	48	*35	*31	*25	*28	*49	300	1,570	351	123	160	49	*2,770

* Not previously published; estimated on basis of records for nearby stations.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	*5.66	*4,110
1951	1213	102	May 28, 1951	0.1	*3.82	*2,770	-	-

* Not previously published.

3695. Middle Mancos River near Mancos, Colo.

Location.--Lat 37°22'15", long 108°13'35", in SE $\frac{1}{4}$ sec.13, T.36 N., R.13 W., on left bank 1,300 ft upstream from mouth and 4 miles northeast of Mancos.

Drainage area.--13.7 sq mi.

Records available.--January 1937 to September 1951. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 7,450 ft (from topographic map). Prior to Apr. 27, 1938, staff gage 1,100 ft downstream at different datum. Apr. 27, 1938, to Oct. 24, 1941, water-stage recorder 800 ft downstream at different datum.

Average discharge.--14 years (1937-51), 7.52 cfs (5,440 acre-ft per year).

Extremes.--1937-51: Maximum discharge, 297 cfs May 15, 1944, from rating curve extended above 80 cfs; maximum gage height, 2.85 ft June 18, 1949; no flow at times in many years.

Remarks.--Three small diversions above station for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.33	0.20	*0.2	*0.2	*0.3	*0.4	0.92	14.6	4.50	0.45	0.19	0.21	*1.89

* Not previously published; estimated on basis of records for nearby stations.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	20	*12	*12	*12	*17	*25	55	996	268	28	12	12	*1,370

* Not previously published; estimated on basis of records for nearby stations.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	*3.55	*2,570
1951	1213	37	May 26, 1951	0	*1.89	*1,370	-	-

* Not previously published.

3710. Mancos River near Towaoc, Colo.

Location.--Lat 37°02', long 108°43', in NW $\frac{1}{4}$ sec.18, T.32 N., R.17 W., on left bank 750 ft upstream from bridge on U. S. Highway 666, 6 miles upstream from Aztec Creek, and 12 miles south of Towaoc.

Drainage area.--550 sq mi, approximately.

Records available.--October 1920 to September 1943, February 1951 to September 1960.

Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder at present site Oct. 13, 1941, to Sept. 30, 1943, and since Mar. 11, 1954. Datum of gage is 5,055.98 ft above mean sea level, datum of 1929.

Prior to Mar. 15, 1940, staff gage or water-stage recorder 2 $\frac{1}{2}$ miles downstream at different datum. Mar. 15, 1940, to Oct. 12, 1941, and Feb. 16, 1951, to Mar. 10, 1954, water-stage recorder at site 600 ft downstream at datum 4.95 ft lower.

Average discharge.--32 years (1920-43, 1951-60), 56.4 cfs (40,830 acre-ft per year).

Extremes.--1920-43, 1951-60: Maximum discharge, 5,300 cfs Oct. 14, 1941 (gage height, 7.30 ft, present site and datum) from rating curve extended above 200 cfs on basis of slope-area measurement of peak flow; no flow at times in most years.

Remarks.--Diversion for irrigation of about 10,000 acres above station. One diversion above station for irrigation of about 100 acres below.

Corrections.--In WSP 1313, the monthly mean discharge and runoff for August 1924 and corresponding yearly figures are listed in error; they should be as listed below.

Month	Mean	Acre-feet
August 1924.....	6.61	406
Water year 1923-24.....	50.5	36,690
Calendar year 1924.....	43.3	31,430

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	6.64	3.53	2.67	0	0	7.68	6.80	-
1952	12.2	9.52	12.4	16.5	14.9	45.9	268	335	236	36.5	12.1	6.12	83.6
1953	9.11	13.7	14.9	16.6	16.3	20.1	38.0	15.7	3.98	24.7	20.4	1.95	16.3
1954	33.0	19.3	12.8	11.8	11.3	12.9	11.0	6.65	.36	7.56	6.02	32.3	13.8
1955	20.2	11.6	11.2	14.9	10.3	40.1	17.6	14.8	.87	17.0	71.5	3.65	19.7
1956	.98	6.93	15.1	20.4	19.7	38.2	22.0	4.82	2.28	4.62	2.45	0	11.5
1957	.28	1.30	7	11.9	37.9	20.7	62.7	235	395	120	117	22.5	95.8
1958	25.9	33.8	10.1	3.33	67.6	57.5	298	310	54.1	1.00	.45	12.6	72.6
1959	1.15	2.76	10	7	9.89	6.23	.30	0	0	0	14.0	.12	4.28
1960	5.45	5.96	.39	.31	8.45	90.2	95.1	40.7	35.9	0	0	.13	23.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	408	210	164	0	0	472	405	-
1952	750	567	763	1,020	857	2,820	15,920	20,620	14,030	2,250	742	364	60,700
1953	560	815	915	1,020	904	1,240	2,260	968	237	1,520	1,260	116	11,820
1954	2,030	1,150	787	726	1,629	794	655	409	22	465	370	1,920	9,960
1955	1,240	690	690	916	573	2,460	1,050	908	52	1,040	4,400	217	14,240
1956	60	412	931	1,260	1,130	2,350	1,310	296	135	284	151	0	8,320
1957	18	77	430	734	2,110	1,270	3,730	14,330	23,520	7,390	7,210	1,340	62,160
1958	1,590	2,010	623	205	3,750	3,540	17,710	19,060	3,220	62	28	752	52,550
1959	71	164	615	430	549	383	18	0	0	0	860	7.3	3,100
1960	335	354	24	19	486	5,550	5,660	2,500	2,140	0	0	7.7	17,080

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	-
1951	1213	al,160	Sept. 29, 1951	-	-	-	-
1952	1243	b867	May 5, 1952	1.3	83.6	60,700	83.9
1953	1283	4,300	July 30, 1953	0	16.3	11,820	18.6
1954	1343	942	Oct. 23, 1953	0	13.8	9,960	11.9
1955	1393	1,640	Aug. 14, 1955	0	19.7	14,240	18.0
1956	1443	1,210	July 31, 1956	0	11.5	8,320	10.2
1957	1513	2,780	Aug. 6, 1957	0	85.8	62,160	91.0
1958	1563	1,670	Sept. 13, 1958	0	72.6	52,550	67.9
1959	1633	1,020	Aug. 7, 1959	0	4.28	3,100	4.09
1960	1713	289	Nov. 3, 1959	0	23.5	17,080	-

a Maximum for period February to September.

b Maximum observed.

3715. McElmo Creek near Cortez, Colo.

Location.--Lat 37°19', long 108°40', in NE $\frac{1}{4}$ sec.1, T.35 N., R.17 W., on left bank half a mile downstream from Alkali Canyon and 5 miles southwest of Cortez.

Drainage area.--233 sq mi.

Records available.--May 1926 to September 1929, April 1940 to September 1945, October 1950 to September 1954. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 5,700 ft (by barometer). Prior to Sept. 30, 1929, at site 3 miles downstream at different datum. Mar. 29, 1940, to Nov. 2, 1941, at site 150 ft upstream at datum 4.20 ft higher. Nov. 3, 1941, to Sept. 30, 1945, at present site at datum 4.00 ft higher.

Average discharge.--12 years (1926-29, 1940-45, 1950-54), 52.4 cfs (37,940 acre-ft per year).

Extremes.--1926-29, 1940-45, 1950-54: Maximum discharge, 5,560 cfs Sept. 9, 1927 (gage height, 6.45 ft, site and datum then in use), from rating curve extended above 240 cfs on basis of slope-area measurement at gage height 5.72 ft; minimum not determined.

Remarks.--Diversions for irrigation of about 200 acres above station. Flow is mainly return water from irrigated lands of Montezuma irrigation district (water imported from Dolores River basin).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	12	18	22.2	22.4	19.5	16.7	12.0	40.9	34.3	7.05	12.0	12.4	19.1
1952	20.1	23.0	26.4	25.6	24.7	55.0	52.0	37.4	65.0	66.9	41.6	30.7	39.1
1953	29.5	28.7	22.8	23.7	22.5	24.7	27.7	43.5	41.5	27.7	44.0	18.7	29.5
1954	41.8	33.2	20.4	20.2	21.6	20.1	30.7	76.3	32.4	10.7	16.0	43.0	30.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	738	1,070	1,360	1,380	1,080	1,030	715	2,520	2,040	433	739	739	13,840
1952	1,230	1,370	1,620	1,580	1,420	3,380	3,100	2,300	3,870	4,120	2,560	1,830	28,380
1953	1,810	1,710	1,400	1,460	1,250	1,520	1,650	2,670	2,470	1,700	2,710	996	21,350
1954	2,570	1,980	1,250	1,240	1,200	1,230	1,830	4,690	1,930	661	984	2,560	22,120

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951	1213	653	Sept. 30, 1951	3.4	19.1	13,840	20.6	14,900
1952	1243	770	Dec. 30, 1951	5.0	39.1	28,380	40.0	29,080
1953	1343	694	July 31, 1953	10	29.5	21,350	30.7	22,230
1954	1343	1,280	Aug. 20, 1954	5.0	30.6	22,120		

3720. McElmo Creek near Colorado-Utah State line

Location.--Lat 37°19', long 109°01', in sec.2, T.35 N., R.20 W., on right bank $1\frac{1}{2}$ miles upstream from Colorado-Utah State line, 2 miles upstream from Yellowjacket Creek, and 2 miles west of former town of McElmo.

Drainage area.--350 sq mi, approximately.

Records available.--March 1951 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,925 ft (by barometer).

Average discharge.--9 years (1951-60), 38.3 cfs (27,730 acre-ft per year).

Extremes.--1951-60: Maximum discharge, 1,700 cfs Aug. 29, 1951, July 27, 1957 (gage height, 7.05 ft), from rating curve extended above 320 cfs on basis of slope-area measurements at gage heights 4.78 and 7.05 ft; minimum daily, 0.1 cfs for several days in 1951, 1956.

Remarks.--Diversions for irrigation of about 1,000 acres above station. One diversion above station for irrigation of about 60 acres below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	15.7	4.57	33.2	23.5	1.19	26.0	19.5	-
1952	18.7	22.5	35.6	33.7	28.8	55.2	51.5	25.3	42.8	44.9	25.0	26.8	34.2
1953	23.4	27.6	32.2	30.1	28.0	29.6	31.4	40.7	23.8	10.8	44.5	8.64	27.6
1954	45.7	43.5	25.2	25.0	29.1	23.4	24.1	60.5	17.1	4.43	3.56	43.6	28.7
1955	26.8	27.0	28.7	25.3	39.4	75.5	34.5	55.5	21.8	22.6	73.3	6.73	36.5
1956	9.05	24.0	32.3	35.2	31.6	27.6	36.8	70.0	48.6	5.01	13.6	.43	27.8
1957	1.84	14.0	15.1	29.5	46.5	39.1	67.9	105	73.9	132	146	79.1	62.6
1958	122	85.7	48.8	31.9	100	98.9	65.4	71.7	68.1	38.4	25.4	58.0	67.4
1959	32.9	48.4	31.8	25.5	36.7	25.9	8.63	12.2	18.9	1.32	24.8	11.1	23.1
1960	34.9	29.2	17.8	16.3	23.6	106	49.7	66.0	57.9	31.6	4.78	1.10	36.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	965	272	2,040	1,400	73	1,600	1,160	-
1952	1,150	1,340	2,190	2,070	1,650	3,400	3,050	1,550	2,540	2,760	1,540	1,800	24,860
1953	1,440	1,640	1,980	1,850	1,560	1,820	1,870	2,510	1,420	664	2,740	514	20,010
1954	2,810	2,590	1,550	1,540	1,820	1,440	1,430	3,720	1,020	273	219	2,590	20,800
1955	1,650	1,600	1,760	1,550	2,190	4,650	2,050	3,410	1,300	1,390	4,510	401	26,460
1956	556	1,430	1,990	2,160	1,820	1,700	2,190	4,300	2,890	308	837	25	20,210
1957	113	832	925	1,820	2,580	2,410	4,040	6,450	4,400	8,110	8,950	4,710	45,340
1958	7,470	5,100	3,000	1,960	5,580	5,960	3,890	4,410	4,050	2,360	1,560	3,450	48,790
1959	2,030	2,880	1,950	1,570	2,040	1,590	514	751	1,120	81	1,520	658	16,700
1960	2,150	1,740	1,100	1,000	1,350	6,520	2,960	4,060	3,440	1,940	294	68	26,620

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1213	1,700	Aug. 29, 1951	-	-	-	-	-
1952	1243	660	Dec. 31, 1951	1.6	34.2	24,860	34.8	25,240
1953	1283	959	Aug. 1, 1953	1.4	27.6	20,010	30.2	21,900
1954	1343	1,050	Sept. 25, 1954	.6	28.7	20,800	26.1	18,860
1955	1393	620	Aug. 7, 1955	1.9	36.5	26,460	35.1	25,430
1956	1443	490	Aug. 1, 1956	.1	27.8	20,210	24.9	18,100
1957	1513	1,700	July 27, 1957	.1	62.6	45,340	81.5	59,040
1958	1563	1,030	Sept. 13, 1958	11	67.4	48,790	55.4	40,080
1959	1633	705	Aug. 24, 1959	.2	23.1	16,700	21.5	14,830
1960	1713	740	Mar. 9, 1960	.6	36.7	26,620	-	-

3790. Comb Wash near Bluff, Utah

Location.--Lat 37°16', long 109°40', in SW $\frac{1}{4}$ sec.36, T.40 S., R.20 E., on right bank
2.5 miles upstream from mouth and 7 miles west of Bluff.

Drainage area.--280 sq mi, approximately.

Records available.--January 1959 to September 1960.

Gage.--Water-stage recorder with highway ford as a control. Altitude of gage is 4,300 ft
(from topographic map).

Extremes.--1959-60: Maximum discharge, 2,840 cfs Aug. 4, 1959 (gage height, 3.32 ft),
from rating curve extended above 100 cfs on basis of float measurement and slope-area
measurement at gage heights 2.55 and 3.32 ft; no flow for most of period.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	0	0	0	0	0	0.63	0	31.7	0	-
1960	0.08	0.48	1.55	0	0	2.20	.14	.50	0	0	1.25	10.3	1.36

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	0	0	0	0	0	37	0	1,950	0	-
1960	4.8	29	95	0	0	135	8.5	31	0	0	77	610	990

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1959	1713	2,840	Aug. 4, 1959	-	-	-	2.92	2,120
1960	1713	1,170	Sept. 1, 1960	0	1.36	990	-	-

3795. San Juan River near Bluff, Utah

Location.--Lat 37°09', long 109°52', in SW $\frac{1}{4}$ sec.7, T.42 S., R.19 E., on left bank 1,600 ft downstream from Gypsum Creek, 1,800 ft upstream from bridge, 20 miles southwest of Bluff, and 114 miles upstream from mouth.

Drainage area.--23,000 sq mi, approximately.

Records available.--October 1914 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 4,050 ft (from river-profile map). Prior to Mar. 16, 1927, chain gages at sites about 1,700 ft downstream at different datums.

Average discharge.--46 years (1914-60), 2,782 cfs (2,014,000 acre-ft per year).

Extremes.--1914-17, 1927-60: Maximum discharge, 70,000 cfs Sept. 10, 1927 (gage height, 32.0 ft), from rating curve extended above 31,000 cfs; no flow July 3-13, 1934, Aug. 24-27, 29, 1939.

Flood of Oct. 6, 1911, which is greatest known at Shiprock, N. Mex., probably exceeded that of Sept. 10, 1927, at this station, but stage was not accurately determined.

Remarks.--Diversion for irrigation of about 190,000 acres above station. No diversion between station and mouth of river. Records of chemical analyses, suspended sediment loads, and water temperatures are published in reports of Geological Survey.

Correction.--In WSP 1313, the runoff for August 1945 is listed in error; it should be 95,820 acre-ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	488	416	528	483	528	548	573	2,301	3,167	490	803	754	923
1952	573	682	581	1,431	702	1,413	7,804	10,040	12,933	3,873	1,354	948	3,502
1953	611	684	706	687	643	904	1,802	2,541	4,494	1,248	1,154	200	1,306
1954	876	923	560	525	646	780	1,895	3,543	2,015	1,947	1,071	1,500	1,360
1955	1,550	659	563	500	609	1,020	1,050	3,030	3,500	1,050	2,320	463	1,370
1956	400	520	576	658	591	1,212	1,792	3,918	3,418	510	578	645	1,187
1957	205	596	408	611	1,157	1,150	2,875	5,317	13,220	9,212	5,913	2,592	3,587
1958	2,443	2,375	1,427	860	2,135	2,591	6,943	12,080	8,525	1,201	690	1,031	3,523
1959	766	725	586	495	560	526	649	1,798	2,613	300	1,042	182	854
1960	1,494	1,376	754	597	754	4,227	5,649	4,630	6,425	1,491	299	285	2,329

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	29.98	24.73	32.46	29.72	29.30	33.67	34.11	141.5	188.5	30.10	49.38	44.86	668.3
1952	35.21	38.80	35.71	87.96	40.38	86.86	452.5	617.6	769.2	238.1	83.27	56.41	2,542
1953	37.56	40.68	43.40	42.21	35.56	55.60	107.2	156.2	267.4	76.71	70.95	1.19	934.7
1954	53.86	54.93	34.46	32.31	35.88	47.99	112.8	217.9	119.9	119.7	65.87	89.27	984.9
1955	95.42	39.24	34.64	30.72	33.84	62.96	62.48	186.3	208.1	64.77	142.5	27.56	988.5
1956	24.57	30.91	35.43	40.48	34.01	74.50	106.6	240.8	203.4	31.36	35.57	3.84	861.6
1957	12.63	29.50	25.12	37.56	64.24	70.70	171.1	327.0	785.6	566.4	363.6	142.3	2,597
1958	150.2	141.3	87.76	52.90	118.6	159.3	415.1	742.6	507.3	75.83	42.40	61.56	2,551
1959	47.10	43.13	36.03	30.42	31.09	32.33	39.62	110.9	155.3	18.42	64.08	10.85	818.1
1960	91.86	81.99	46.36	36.70	43.36	259.9	336.2	284.7	382.3	91.69	18.41	16.98	1,690

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	1,180	854,200
1951	1213	15,900	Sept. 30, 1951	70	923	668,300	1,354	890,900
1952	1243	20,400	June 5, 1952	190	3,502	2,542,000	3,618	2,554,000
1953	1283	9,270	July 30, 1953	124	1,306	934,700	1,336	956,300
1954	1343	13,600	Sept. 23, 1954	143	1,360	984,900	1,400	1,011,000
1955	1393	13,000	Oct. 9, 1954	-	1,370	988,500	1,257	910,100
1956	1443	7,330	June 4, 1956	19	1,187	861,600	1,154	837,900
1957	1513	30,200	July 29, 1957	41	3,587	2,597,000	4,018	2,909,000
1958	1563	17,200	June 9, 1958	270	3,523	2,551,000	3,174	2,298,000
1959	1633	5,370	Aug. 8, 1959	21	854	618,100	984	712,000
1960	1713	9,150	June 6, 1960	101	2,329	1,690,000	-	-

3800. Colorado River at Lees Ferry, Ariz.

Location.--Lat 36°51'55", long 111°35'15", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.13, T.40 N., R.7 E., on left bank at head of Marble Gorge at Lees Ferry, just upstream from Paria River, 16 miles downstream from site of Glen Canyon Dam, 28 miles downstream from Utah-Arizona State line, 61.5 miles upstream from Little Colorado River, and 79 miles downstream from San Juan River.

Drainage area.--107,900 sq mi, approximately.

Records available.--January 1895 to September 1960. Calendar year estimates and monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 3,106.16 ft above mean sea level, datum of 1929. Prior to Jan. 19, 1923, staff gages or reference points within 400 ft of present gage at different datums.

Average discharge.--49 years (1911-60), 17,980 cfs (13,017,000 acre-ft per year).

Extremes.--1921-60: Maximum discharge, 220,000 cfs June 18, 1921 (gage height, 26.5 ft, from floodmarks), from rating curve extended above 120,000 cfs on basis of discharge computed for station near Grand Canyon; minimum, 750 cfs Dec. 27, 1924 (gage height, 4.2 ft).

Maximum discharge known, about 300,000 cfs July 7, 1884 (gage height, 31.5 ft, present site and datum, from floodmark at mouth of Paria River), from rating curve extended above 120,000 cfs on basis of discharge computed for flood of June 18, 1921, for station near Grand Canyon.

Remarks.--Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Records of chemical analyses, suspended sediment loads, and water temperatures are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5,555	5,879	6,751	5,127	6,492	6,792	8,925	26,760	48,510	22,060	12,800	6,902	13,560
1952	6,702	7,479	5,423	7,742	6,593	7,152	38,090	82,630	87,260	25,580	13,350	9,107	24,740
1953	5,993	6,495	6,155	6,404	6,578	7,443	8,889	17,040	50,280	15,450	10,750	4,335	12,140
1954	5,215	6,956	5,544	5,180	6,135	6,398	9,151	20,760	13,310	10,530	5,221	6,534	8,427
1955	8,331	5,862	4,529	3,969	4,380	9,429	10,360	25,530	26,660	9,280	8,288	3,860	10,070
1956	3,475	4,632	5,309	6,065	4,876	8,306	15,090	35,620	43,590	9,054	5,786	2,791	12,040
1957	3,034	5,045	4,015	4,627	5,823	8,108	13,910	41,780	94,860	65,300	26,090	13,820	23,930
1958	12,160	14,250	8,401	6,157	9,649	11,320	26,450	64,920	61,810	10,210	4,655	5,368	19,640
1959	5,050	6,002	5,956	5,116	5,677	5,592	7,054	16,660	30,850	12,720	6,912	4,133	9,311
1960	8,165	8,393	5,721	4,960	5,537	12,120	27,050	25,440	37,630	10,520	3,581	3,245	12,650

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	341.6	349.8	415.1	315.3	360.6	417.6	531.1	1,645.2	886	1,357	786.9	410.7	9,817
1952	412.1	445.0	333.4	476.0	379.3	439.7	2,267	5,081.5	1,192	1,573	821.2	541.9	17,960
1953	368.5	386.5	378.4	393.7	365.3	457.7	528.9	1,047.2	992	950.0	661.2	258.0	8,787
1954	320.7	413.9	340.9	318.5	341.8	392.8	546.3	1,277.7	792.0	647.4	321.0	388.8	6,101
1955	512.3	348.8	278.5	244.0	243.3	579.8	617.5	1,570.1	1,586	570.6	509.6	229.7	7,290
1956	213.6	275.6	326.5	372.9	280.5	510.7	898.1	2,190.2	2,594	556.7	355.8	166.1	8,740
1957	186.5	300.2	246.9	284.5	323.4	498.5	827.6	2,569.5	645	4,015	1,604	822.4	17,320
1958	747.9	847.9	516.5	397.0	535.9	696.1	1,574	3,992.3	3,678	628.1	286.2	319.4	14,220
1959	310.5	357.2	366.2	314.6	315.3	343.9	419.7	1,025.1	1,836	782.2	425.0	245.9	6,742
1960	502.1	499.4	351.8	305.0	318.5	745.0	1,610	1,564.2	2,239	646.7	207.9	193.1	9,182

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary		maximum Date	Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge							
1950	-	-	-	-	-	-	-	14,920	10,800,000
1951	1213	67,300	June 1, 1951	3,060	13,560	9,817,000	13,680	9,901,000	
1952	1243	123,000	June 12, 1952	2,930	24,740	17,960,000	24,660	17,900,000	
1953	1283	69,600	June 17, 1953	3,200	12,140	8,787,000	12,060	8,729,000	
1954	1343	34,300	May 26, 1954	2,950	8,427	6,101,000	8,515	6,165,000	
1955	1393	35,600	June 13, 1955	2,520	10,070	7,290,000	9,623	6,966,000	
1956	1443	69,600	June 6, 1956	2,480	12,040	8,740,000	11,930	8,658,000	
1957	1513	126,000	June 12, 1957	2,610	23,930	17,320,000	25,830	18,700,000	
1958	1563	106,000	June 1, 1958	3,480	19,640	14,220,000	16,150	13,140,000	
1959	1633	38,900	June 19, 1959	2,920	9,311	6,742,000	9,752	7,061,000	
1960	1713	46,700	June 8, 1960	2,240	12,650	9,182,000	-	-	

PARIA RIVER BASIN

10-1840. Tropic and East Fork Canal near Tropic, Utah
(Transmountain diversion)

Location.--Lat 37°40', long 112°09', in SW $\frac{1}{4}$ sec.17, T.36 S., R.3 W., on right bank 4 miles northwest of Tropic.

Gage.--Water-stage recorder. Altitude of gage is 7,600 ft (from topographic map).

Records available.--October 1949 to September 1960.

Extremes.--1949-60: Maximum daily discharge, 29 cfs May 12, 1952; no flow for several months in each year.

Remarks.--One diversion above station for irrigation. Canal, which began operating in 1892, diverts from East Fork Sevier River in NE $\frac{1}{4}$ sec.28, T.36 S., R.4 W. Water is used in Paria River basin in vicinity of Tropic.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	68	0	0	0	0	0	0	691	837	427	289	84	2,400
1952	42	0	0	0	0	0	0	976	1,060	1,170	999	738	4,980
1953	301	0	0	0	0	0	0	287	549	455	178	107	1,880
1954	1.0	0	0	0	0	0	0	726	720	490	104	136	2,180
1955	104	0	0	0	0	0	0	518	392	347	256	437	2,050
1956	62	0	0	0	0	0	0	296	360	.2	3.8	212	934
1957	.6	0	0	0	0	0	0	488	737	818	395	52	2,490
1958	260	.8	0	0	0	0	4.0	667	1,380	1,250	1,050	295	4,890
1959	19	0	0	0	0	0	180	665	674	488	21	424	2,470
1960	155	0	0	0	0	0	.6	336	452	117	0	0	1,060

3810. Henrieville Creek near Henrieville, Utah

Location.--Lat 37°34'15", long 111°58'15", in SE $\frac{1}{4}$ sec.23, T.37 S., R.2 W., 1.8 miles northeast of Henrieville.

Drainage area.--29 sq mi, approximately.

Records available.--August 1950 to July 1955.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 6,100 ft (by barometer).

Extremes.--1950-55: Maximum discharge, 3,360 cfs July 31, 1953 (gage height, 6.22 ft), from rating curve extended above 16 cfs on basis of slope-area measurement at gage height 2.50 ft and logarithmic plotting; no flow for part of each day Nov. 22, Dec. 22, 1952.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	-	3.20	-
1951	3.59	4.18	4.08	5.26	5.64	4.77	5.34	5.71	2.95	3.03	5.39	4.03	4.49
1952	4.31	5.05	6.18	4.87	11.8	10.1	11.3	4.24	4.23	3.36	6.44	6.49	6.49
1953	3.41	3.95	2.65	2.73	4.06	4.75	3.57	3.72	2.29	10.8	7.06	2.40	4.29
1954	3.99	6.11	4.89	4.34	4.88	8.06	7.97	4.61	3.45	3.30	3.60	10.0	5.42
1955	4.54	3.19	3.76	3.0	3.68	6.75	4.49	4.84	3.65	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	-	190	-
1951	221	249	251	323	313	294	318	351	175	186	331	240	3,250
1952	265	300	380	300	678	619	672	261	252	207	396	386	4,720
1953	209	235	163	168	225	292	213	229	136	662	434	143	3,110
1954	246	363	301	267	271	496	474	283	205	203	222	595	3,930
1955	279	190	231	184	204	415	267	297	217	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	1213	-	-	-	-	-	-	-
1951	1213	526	Aug. 3, 1951	2.0	4.49	3,250	4.80	3,480
1952	1243	855	Sept. 21, 1952	2.3	6.49	4,720	6.03	4,360
1953	1343	3,360	July 31, 1953	.4	4.29	3,110	4.71	3,410
1954	1343	241	Sept. 12, 1954	-	5.42	3,930	5.13	3,720
1955	1393	-	-	-	-	-	-	-

3815. Paria River near Cannonville, Utah

Location.--Lat 37°30', long 112°02', in T.38 S., R.2 W., on left bank 3 miles upstream from Sheep Creek and 6 miles south of Cannonville.

Drainage area.--220 sq mi, approximately.

Records available.--December 1950 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 5,440 ft (by barometer).

Extremes.--1950-55: Maximum discharge 5,160 cfs Aug. 16, 1955 (gage height, 9.76 ft), from rating curve extended above 100 cfs on basis of slope-area measurements at gage heights 7.20 and 7.76 ft and logarithmic plotting; no flow for many days in each year.

Remarks.--Diversions for irrigation of about 2,700 acres above station. Flow may be slightly affected by transmountain diversion, from East Fork Sevier River via Tropic and East Fork Canal, which is used for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	6.85	12.8	10.8	3.34	4.80	0.19	0.61	11.9	2.19	-
1952	2.75	9.02	9.16	10.1	17.9	29.3	21.1	2.89	3.73	2.52	10.0	9.21	10.6
1953	4.09	8.15	18.0	13.2	10.5	8.25	3.00	.44	.04	38.9	37.0	.70	12.0
1954	3.70	9.89	6.80	7.71	11.2	15.8	5.56	2.83	.50	1.96	.29	14.8	6.71
1955	13.8	5.36	5.09	3.5	4.57	17.8	3.42	.20	.01	12.4	46.4	.06	9.50

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	421	713	662	199	295	11	37	734	130	-
1952	169	537	563	621	1,030	1,800	1,260	178	222	155	616	548	7,700
1953	251	485	1,110	812	586	508	179	27	2.6	2,390	2,280	42	8,670
1954	227	589	418	474	622	972	331	174	30	121	18	881	4,860
1955	850	319	313	215	254	1,090	203	12	.6	763	2,850	3.4	6,870

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1951	1243	2,040	Aug. 3, 1951	-	-	-	6.18	4,470
1952	1243	1,400	Sept. 21, 1952	0.1	10.6	7,700	11.4	8,280
1953	1283	4,390	July 30, 1953	0	12.0	8,670	11.1	8,060
1954	1343	1,600	Sept. 11, 1954	0	6.71	4,880	7.05	5,100
1955	1393	5,160	Aug. 16, 1955	0	9.50	6,870	-	-

3820. Paria River at Lees Ferry, Ariz.

Location.--36°52'20", long 111°35'40", in NE¼ sec.13, T.40 N., R.7 E., on left bank half a mile upstream from mouth and 1 mile northwest of Lees Ferry.

Drainage area.--1,570 sq mi, approximately.

Records available.--October 1923 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 3,123.40 ft above mean sea level, datum of 1929. Prior to Oct. 5, 1925, staff gage at site 2,000 ft upstream at different datum. Oct. 13, 1925, to Sept. 11, 1929, staff gage at present site and datum.

Average discharge.--37 years (1923-60), 30.6 cfs (22,150 acre-ft per year); median of yearly mean discharges, 27 cfs (19,500 acre-ft per year).

Extremes.--1923-60: Maximum discharge, 19,000 cfs Sept. 12, 1958 (gage height, 15.3 ft), from rating curve extended above 1,500 cfs on basis of peak discharge computed as difference of flow of Colorado River above and below Paria River; maximum gage height, 16.3 ft Oct. 5, 1925 (from floodmark); no flow for periods in several winters prior to 1928.

Remarks.--Diversions above station for irrigation of about 3,300 acres. Suspended sediment loads for the period October 1947 to September 1960 and water temperatures for the period October 1956 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6.10	16.6	20.8	21.0	19.4	16.3	12.8	16.7	3.93	4.81	79.5	11.6	19.2
1952	7.84	14.8	42.4	34.2	29.1	48.5	46.1	7.50	8.32	16.9	32.5	23.1	28.0
1953	9.27	11.0	22.4	25.5	18.4	16.2	8.76	5.64	4.19	55.4	109	7.90	24.7
1954	9.31	22.3	15.1	25.9	22.7	27.9	10.8	7.44	8.85	32.5	5.84	72.2	21.7
1955	56.7	13.0	22.1	18.6	29.6	36.9	7.56	4.49	5.22	13.6	78.3	4.63	24.4
1956	5.99	16.1	24.3	23.6	17.3	10.6	6.89	5.68	4.06	18.8	25.6	4.66	13.7
1957	10.8	12.6	10.7	29.4	39.0	14.5	11.5	16.1	6.92	55.7	60.2	7.34	22.9
1958	91.6	123	18.9	13.1	50.4	68.7	37.9	17.7	4.67	11.6	51.9	163	54.2
1959	11.3	15.7	14.6	16.6	19.1	13.6	5.41	4.69	5.84	7.61	105	11.1	19.1
1960	9.68	18.1	18.7	16.1	30.4	56.0	7.74	6.37	13.9	3.76	4.69	9.37	14.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	375	989	1,280	1,290	1,080	1,000	762	1,020	234	296	4,890	690	13,910
1952	462	878	2,610	2,100	1,670	3,010	2,740	461	495	1,040	2,000	1,370	18,860
1953	570	652	1,370	1,570	1,020	994	521	347	249	3,410	6,710	470	17,880
1954	572	1,330	930	1,590	1,260	1,720	644	457	527	2,000	359	4,300	15,690
1955	3,490	772	1,360	1,140	1,660	2,270	450	276	311	834	4,820	287	17,670
1956	368	959	1,500	1,450	993	651	410	349	242	1,160	1,580	277	9,940
1957	664	749	660	1,810	2,170	890	692	993	412	3,430	3,700	437	16,600
1958	5,630	7,350	1,160	807	2,800	4,230	2,260	1,090	278	715	3,190	9,720	39,230
1959	696	935	913	1,020	1,060	834	322	288	229	468	6,430	663	13,860
1960	595	1,080	1,150	989	1,750	2,210	461	392	826	232	289	557	10,530

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	17.7	12,800
1951	1213	4,480	Aug. 4, 1951	2.9	19.2	13,910	21.0	15,250
1952	1243	1,830	Sept. 22, 1952	3.2	26.0	18,860	24.1	17,480
1953	1283	6,400	Aug. 27, 1953	3.0	24.7	17,880	25.0	18,120
1954	1343	3,980	Sept. 12, 1954	2.5	21.7	15,690	25.5	18,480
1955	1393	3,010	Aug. 17, 1955	2.9	24.4	17,670	20.5	14,880
1956	1443	1,420	Aug. 17, 1956	3.6	13.7	9,940	12.6	9,180
1957	1513	3,310	Aug. 22, 1957	3.4	22.9	16,600	39.6	28,660
1958	1563	19,000	Sept. 12, 1958	2.0	54.2	39,230	38.2	27,630
1959	1633	5,370	Aug. 19, 1959	2.8	19.1	13,860	19.5	14,140
1960	1713	370	June 7, 1960	2.6	14.5	10,530	-	-

Transmountain diversions from Colorado River basin above Compact point,
near Lees Ferry, Ariz.

The division between the Upper Basin and the Lower Basin of the Colorado River, as defined in the Colorado River Compact of 1922, is a point on Colorado River 1 mile downstream from Paria River. This point is termed "Lee Ferry" in the Compact. The tables here-with were prepared for the Upper Basin as so defined.

There are no transmountain diversions from the Upper Basin in Arizona and New Mexico. There is one diversion in Wyoming, that by Continental Divide ditch near Little Prospect Mountain; no records of diversion by the ditch are available, but a description of the ditch is given elsewhere in this report. There are 38 diversions in Colorado and Utah; the record for each diversion is given individually in proper downstream order elsewhere in this report. The water diverted from the upper Colorado River basin is used in The Great Basin, Arkansas River basin, Platte River basin, and Rio Grande basin.

In Colorado, records are available for all of the transmountain diversions from the Upper Basin for the period October 1950 to September 1960.

In Utah, records are available for all of the transmountain diversions for most of the period. Seven diversion records are for the entire period 1951-60 and ten are for the period 1951-58.

The table below shows the transmountain diversions by the following 38 ditches and tunnels:

Colorado
Grand River ditch
Eureka ditch
Alva B. Adams tunnel
Berthoud Pass ditch
Moffat water tunnel
Hoosier Pass tunnel
Boreas Pass ditch
Fremont Pass ditch
Columbine ditch
Ewing ditch
Wurtz ditch
Twin Lakes tunnel
Busk-Ivanhoe tunnel
Larkspur ditch
Tarbell ditch
Tabor ditch
Treasure Pass ditch
Piedra Pass ditch
Squaw Pass ditch
Fuchs ditch
Raber-Loehr ditch

Utah
Duchesne tunnel
Strawberry River and Willow
Creek ditches
Hobble Creek ditch
Strawberry tunnel
Fairview ditch
Candland ditch
Ephraim tunnel
Horseshoe tunnel
Larsen tunnel
Coal Fork ditch
Twin Creek tunnel
Black Canyon ditch
Cedar Creek tunnel
Spring City tunnel
Reeder ditch
John August ditch
Madsen ditch

Monthly and yearly transmountain diversions, in acre-feet, from upper Colorado River basin

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,880	975	1,720	1,580	1,050	2,130	13,410	34,150	77,970	73,470	31,050	16,880	256,200
1952	6,320	6,650	5,460	10,040	7,790	1,570	2,010	17,170	69,220	54,760	40,870	18,780	242,600
1953	13,210	11,040	22,410	21,640	16,270	8,780	5,610	21,120	106,500	78,640	50,170	31,930	387,300
1954	19,980	20,730	23,790	18,820	18,560	28,260	31,990	90,500	87,130	66,610	56,170	33,500	493,000
1955	31,100	28,140	26,580	28,730	26,560	26,150	19,830	52,710	90,830	72,290	49,740	28,720	481,400
1956	23,180	18,890	20,960	19,390	26,120	28,770	26,100	77,450	107,900	51,230	36,300	28,240	464,500
1957	23,620	24,060	23,540	27,970	28,810	29,380	24,050	18,940	52,870	86,800	48,410	29,760	418,200
1958	26,940	21,100	19,400	26,330	15,060	27,900	19,330	24,470	67,520	51,200	48,990	38,200	386,400
1959	34,740	32,150	33,950	29,050	21,940	24,260	24,860	54,730	123,300	65,480	50,730	30,600	523,600
1960	30,670	27,980	29,400	31,810	23,830	21,020	17,850	62,660	116,300	65,350	50,920	34,610	512,400

Note.--Diversion by Continental Divide ditch in Wyoming is not known and is not included in the above table. There is but one transmountain diversion into the upper Colorado River basin, that by the Tropic and East Fork Canal near Tropic, Utah, from The Great Basin (see P.416).

3830. Colorado River at Compact point, near Lees Ferry, Ariz.

Location.--Lat 36°51'00", long 111°36'20", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.23, T.40 N., R.7 E., 1 mile downstream from Paria River, 1.3 miles downstream from gage on Colorado River at Lees Ferry, and 29 miles downstream from Utah-Arizona State line.

Drainage area.--109,500 sq mi, approximately.

Records available.--October 1913 to September 1960 (monthly discharge only). Prior to October 1950, published is WSP 1313.

Determination of discharge.--There is no gage. Monthly and yearly discharge computed as the sum of flow at stations on Colorado River and Paria River at Lees Ferry.

Average discharge.--47 years (1913-60), 17,880 cfs (12,945,000 acre-ft per year).

Remarks.--This point on the Colorado River is the dividing point between the Upper Basin and Lower Basin, as defined in the Colorado River Compact of 1922.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5,561	5,896	6,771	5,148	6,512	6,808	8,938	26,770	48,510	22,070	12,880	6,913	13,580
1952	6,709	7,494	5,465	7,776	8,823	7,201	38,140	82,640	87,260	25,600	13,390	9,130	24,770
1953	6,002	6,506	6,177	6,429	6,597	7,459	8,897	17,040	50,280	15,510	10,860	4,343	12,160
1954	5,224	6,978	5,559	5,206	6,178	6,416	9,192	20,770	13,320	10,560	5,227	6,606	8,449
1955	8,388	5,875	4,551	3,988	4,410	9,468	10,390	25,530	26,670	9,294	8,367	3,865	10,090
1956	3,481	4,648	5,333	6,089	4,893	8,317	15,100	35,630	43,590	9,073	5,812	2,796	12,050
1957	3,044	5,058	4,026	4,657	5,862	8,122	13,920	41,800	94,870	65,360	26,150	13,380	23,950
1958	12,280	14,370	8,420	6,470	9,699	11,390	26,490	64,930	61,810	10,230	4,706	5,531	19,690
1959	5,061	6,018	5,971	5,132	5,696	5,606	7,059	16,670	30,860	12,739	7,017	4,140	9,330
1960	8,175	8,411	5,740	4,976	5,567	12,150	27,060	25,450	37,640	10,520	3,386	3,255	12,660

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	341.9	350.8	416.4	316.6	361.6	418.6	531.8	1,646.2	887	1,357	791.8	411.4	9,831
1952	412.5	445.9	336.0	478.1	380.9	442.7	269	5,081.5	193	1,574	823.2	543.3	17,980
1953	369.1	387.1	379.8	395.3	366.4	458.7	529.4	1,046.2	992	953.4	667.9	258.4	8,805
1954	321.3	415.2	341.8	320.1	343.1	394.5	546.9	1,277	792.5	649.4	321.4	393.1	6,116
1955	515.8	349.6	279.9	245.1	245.0	582.1	618.0	1,570.1	585	571.4	514.4	230.0	7,307
1956	214.0	276.6	328.0	374.4	281.5	511.4	898.5	2,190.2	594	557.9	357.4	166.4	8,750
1957	187.2	300.9	247.6	286.3	325.6	449.4	828.3	2,570.5	645	4,018	1,608	822.8	17,340
1958	753.5	855.2	517.7	397.8	538.7	700.3	1,576	3,993.5	678	628.8	289.4	329.1	14,260
1959	311.2	358.1	367.1	315.6	316.3	344.7	420.0	1,025.1	856	782.6	431.4	246.6	6,156
1960	502.7	500.5	353.0	306.0	320.2	747.2	1,610	1,564.2	240	646.9	208.2	193.7	9,192

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	14,930	10,810,000
1951	1243	-	-	-	13,580	9,831,000	13,700	9,916,000
1952	1243	-	-	-	24,770	17,980,000	24,690	17,920,000
1953	1283	-	-	-	12,160	8,805,000	12,080	8,748,000
1954	1343	-	-	-	8,449	6,116,000	8,541	6,183,000
1955	1393	-	-	-	10,090	7,307,000	9,644	6,981,000
1956	1443	-	-	-	12,050	8,750,000	11,940	8,687,000
1957	1513	-	-	-	23,950	17,340,000	25,870	18,730,000
1958	1663	-	-	-	19,690	14,260,000	18,190	13,170,000
1959	1653	-	-	-	9,330	6,756,000	9,772	7,074,000
1960	1713	-	-	-	12,660	9,192,000	-	-

3840. Little Colorado River above Lyman Reservoir, near St. Johns, Ariz.

Location.--Lat 34°20', long 109°22', in NE 1/4 sec. 27, T. 11 N., R. 28 E., on right bank 1 mile downstream from Coyote Creek, 4 1/2 miles upstream from Lyman Dam, and 13 miles south of St. Johns.

Drainage area.--747 sq mi.

Records available.--April 1940 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 5,988.8 ft above mean sea level, datum of 1929. Prior to July 25, 1940, water-stage recorder at site 600 ft upstream at datum 1.70 ft higher. Aug. 2 to Oct. 27, 1940, staff gage at site within 1 mile upstream at different datum.

Average discharge.--20 years (1940-60), 19.3 cfs (13,970 acre-ft per year); median of yearly mean discharges, 14 cfs (10,100 acre-ft per year).

Extremes.--1940-60: Maximum discharge, 16,000 cfs July 25, 1940 (gage height, 17.1 ft, present datum, from floodmarks), by slope-area measurement of peak flow and reservoir inflow studies; no flow for many days in most years.

Remarks.--Flow regulated by many small reservoirs, combined capacity, about 15,500 acre-ft. Diversions for irrigation of about 6,700 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.25	0.89	1.57	2.89	5.87	4.53	1.75	5.69	1.39	7.54	20.0	2.23	4.57
1952	.45	1.96	4.06	19.4	6.78	6.85	273	66.5	19.2	14.2	20.9	4.82	36.2
1953	3.80	3.43	5.12	5.91	5.53	7.91	9.41	6.52	6.35	10.0	10.5	1.64	6.36
1954	.95	1.51	4.49	6.73	5.29	4.29	6.22	11.4	.63	24.8	10.3	7.40	7.04
1955	2.31	2.13	3.51	3.15	5.20	2.48	1.29	.73	.43	5.32	143	10.8	15.2
1956	2.38	1.45	3.00	3.31	6.92	15.5	15.3	6.94	3.99	1.49	2.97	.15	5.28
1957	.07	.32	.83	2.08	2.84	4.27	3.64	6.25	8.03	13.2	73.8	13.8	10.9
1958	4.05	10.3	11.0	8.92	13.7	26.0	255	81.4	15.0	5.59	12.3	11.4	37.7
1959	5.50	8.56	12.2	12.7	10.6	7.13	4.32	1.12	.01	15.5	29.0	.90	8.91
1960	1.52	4.09	5.14	6.54	8.49	109	85.3	17.7	11.2	3.56	1.63	.02	21.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	16	53	97	178	326	278	104	350	82	464	1,230	133	3,310
1952	28	117	250	1,190	390	421	16,240	4,090	1,140	874	1,280	287	26,310
1953	233	204	315	363	307	486	560	401	378	616	645	97	4,600
1954	58	90	276	414	294	264	370	699	37	1,520	631	441	5,090
1955	142	127	216	193	289	153	77	45	26	327	8,800	641	11,040
1956	147	86	184	203	398	956	910	426	237	91	183	8.9	3,830
1957	4.6	19	51	128	158	263	217	384	478	809	4,540	820	7,870
1958	249	611	677	549	760	1,600	15,100	5,000	894	344	758	679	27,220
1959	358	498	750	781	588	439	257	69	.6	952	1,720	54	6,450
1960	93	243	316	525	489	6,670	5,070	1,090	666	219	100	1.0	15,490

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	4.95
1951	1213	3,200	Aug. 2, 1951	0	4.57	3,310	4.89
1952	1243	1,570	Aug. 28, 1952	0	36.2	26,310	36.7
1953	1283	229	Aug. 10, 1953	.2	6.36	4,600	5.91
1954	1343	1,390	Aug. 5, 1954	0	7.04	5,090	7.12
1955	1393	2,990	Aug. 18, 1955	0	15.2	11,040	15.1
1956	1443	206	Aug. 18, 1956	0	5.28	3,830	4.81
1957	1513	2,850	Aug. 27, 1957	0	10.9	7,870	12.9
1958	1563	1,120	Apr. 23, 1958	1.0	37.7	27,220	37.7
1959	1633	1,340	Aug. 8, 1959	0	8.91	6,450	7.62
1960	1713	323	Mar. 30, 1960	0	21.3	15,490	-

LITTLE COLORADO RIVER BASIN

3845. Lyman Reservoir near St. Johns, Ariz.

Location--Lat 34°22', long 109°23', in SW¼ sec. 9, T.11 N., R.28 E., in control tower of Lyman Dam on Little Colorado River, 9 1/3 miles south of St. Johns.

Drainage area--790 Sq. mi.

Records available--May 1940 to September 1960.

Gage--Water-stage recorder. Datum of gage is 5,923.7 ft above mean sea level, datum of 1929.

Extremes--1940-60: Maximum contents, 26,600 acre-ft May 12, 13, 1958 (gage height, 53.98 ft); no storage at times in recent years.

Remarks--Reservoir is formed by an earth- and rock-fill dam, rubble faced; dam completed and storage began in 1920; original dam washed out Apr. 14, 1915. Figures given herein represent contents above gage height 20.0 ft (bottom of Lyman Canal). Contents between gage heights 14.0 (12.0 ft above sill of outlet gates) and 20.0 ft, 790 acre-ft, not available for release to Lyman Canal but can be released to river channel. Capacity, 30,600 acre-ft between gage heights 20.0 and 56.8 ft (average elevation of spillway crest). Water is used for irrigation in vicinity of St. Johns.

Contents, in acre-feet, at 12 p.m. on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	4,200	4,030	3,960	4,010	4,260	4,400	4,200	3,650	1,610	0	0	0
1952	0	0	0	880	1,090	1,440	17,100	17,500	15,400	13,900	11,800	9,680
1953	8,760	8,760	8,920	9,100	9,220	9,480	8,960	6,930	4,750	3,440	1,390	0
1954	0	0	179	632	791	878	1,110	677	0	1,570	876	1,350
1955	1,400	1,410	1,500	1,690	1,900	1,860	1,670	1,430	104	0	8,660	8,520
1956	8,200	8,000	7,950	8,030	8,320	8,860	9,260	7,860	5,830	3,740	1,970	111
1957	0	0	0	0	98	371	174	0	0	0	5,880	6,280
1958	6,350	6,800	7,370	7,950	8,540	9,680	24,200	25,700	23,400	20,400	18,300	17,200
1959	17,200	17,300	17,700	18,400	18,700	18,700	17,800	15,300	12,900	12,100	11,900	9,550
1960	9,550	9,590	9,830	10,300	10,600	16,700	20,300	18,200	16,000	12,300	8,930	6,650

Note--New capacity table put into use Oct. 1, 1951.

3850. Lyman Canal below Lyman Reservoir, near St. Johns, Ariz.

Location--Lat 34°22', long 109°23', in SW¼ sec. 9, T.11 N., R.28 E., 45 ft downstream

from outlet tunnel in Lyman Dam and 9 1/3 miles south of St. Johns.

Records available--June 1950 to June 1954, April 1955 to September 1960.

Gage--Water-stage recorder. Datum of gage is 5,943.4 ft above mean sea level, datum of 1929.

Extremes--1950-60: Maximum daily discharge, 74 cfs July 3-5, Aug. 8, 9, 1952; no flow for several months in each year.

Remarks--Canal diverts water from Lyman Reservoir for irrigation of about 1,500 acres in vicinity of St. Johns. No diversion between intake and station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.10	0	0	0	0	0	0	5.84	22.0	17.3	13.8	2.41	5.15
1952	0	0	0	0	0	0	0	34.6	33.4	43.2	43.6	31.9	15.6
1953	10.4	0	0	0	0	0	7.27	21.4	27.1	20.4	29.3	13.4	10.9
1954	0	0	0	0	0	0	0	10.4	5.50	0	0	-	-
1955	-	-	-	-	-	-	0	0	12.9	.53	0	0	-
1956	0	0	0	0	0	0	0	13.1	27.2	24.9	21.8	19.8	8.91
1957	.45	0	0	0	0	0	2.28	.81	0	0	0	0	.29
1958	0	0	0	0	0	0	1.12	35.6	27.4	36.2	31.3	21.1	12.8
1959	0	0	0	0	0	0	11.4	28.6	25.4	27.9	31.5	25.2	12.6
1960	0	0	0	0	0	0	9.11	35.9	31.4	42.8	39.2	27.3	15.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6.3	0	0	0	0	0	0	359	1,310	1,060	846	144	3,730
1952	0	0	0	0	0	0	0	2,130	1,990	2,650	2,680	1,900	11,350
1953	642	0	0	0	0	0	0	432	1,320	1,610	1,260	800	7,860
1954	0	0	0	0	0	0	0	641	327	-	-	-	-
1955	-	-	-	-	-	-	0	0	765	33	0	0	-
1956	0	0	0	0	0	0	0	803	1,620	1,530	1,340	1,180	6,470
1957	28	0	0	0	0	0	136	50	0	0	0	0	214
1958	0	0	0	0	0	0	66	2,190	1,630	2,230	1,930	1,260	9,310
1959	0	0	0	0	0	0	690	1,760	1,510	1,720	1,940	1,500	9,110
1960	0	0	0	0	0	0	542	2,210	1,870	2,630	2,410	1,630	11,290

Yearly discharge in cubic feet per second, of Lyman Canal below Lyman Reservoir, near St. Johns, Ariz.

Year	WSP	Water year ending Sept. 30					Calendar year	
		Maximum day		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1213	29	June 5, 1951	0	5.15	3,730	5.14	3,720
1952	1243	74	(a)	0	15.6	11,350	16.5	11,990
1953	1283	41	(b)	0	10.9	7,860	9.97	7,220
1954	1343	c24	May 19-21, 1954	0	-	-	-	-
1955	1393	d23	June 6, 1955	0	-	-	-	-
1956	1443	35	May 29, 1956	0	8.91	6,470	8.95	6,500
1957	1513	11	Apr. 25, 26, 1957	0	2.29	214	.26	186
1958	1563	45	Sept. 12-15, 1958	0	12.8	9,310	12.8	9,310
1959	1633	54	Sept. 3, 1959	0	12.6	9,110	12.6	9,110
1960	1713	56	(e)	0	15.5	11,290	-	-

a July 3-5, Aug. 8, 9, 1952.

b Oct. 7-9, 1952, May 7-9, 29-31, 1953.

c Maximum for period October to June.

d Maximum for period April to September.

e July 29, Sept. 4-6, 1960.

3855. Little Colorado River below Lyman Reservoir, near St. Johns, Ariz.

Location.--Lat 34°22', long 109°23', in SW 1/4 sec. 9, T.11 N., R.28 E., 65 ft downstream from outlet tunnel in Lyman Dam and 9 1/3 miles south of St. Johns.

Drainage area.--790 sq mi.

Records available.--April 1941 to June 1954, April 1955 to September 1960.

Gage.--Water-stage recorder and concrete control for determination of quantity of water released to river channel. Datum of gage is 5,925.85 ft above mean sea level, datum of 1929. Water-stage recorder on Lyman Reservoir for determination of flow in spillway channel three-eighths of a mile north in SW 1/4 sec. 4, T.11 N., R.28 E.

Average discharge.--17 years (1941-53, 1955-60), 2.55 cfs (1,850 acre-ft per year).

Extremes.--1941-60: Maximum discharge observed, 603 cfs May 8, 1941 (including 546 cfs of spilled water); no flow at times in most years.

Remarks.--Record of daily discharge shows all water spilled and released from Lyman Reservoir to the river channel, but does not include flow diverted to Lyman Canal (see preceding station). See monthly table (following page) for combined flow of river and canal. Since 1929 spill has occurred only during periods Apr. 8 to about May 6, 1932, and Apr. 30 to May 13, 1941. Flow completely regulated by many reservoirs (combined capacity, 46,900 acre-ft), the largest of which is Lyman Reservoir (capacity, 31,400 acre-ft). Diversions above station for irrigation of about 8,200 acres, including 1,500 acres served by Lyman Canal. Flow past this station supplemented by spring inflow downstream used to irrigate an additional 2,000 acres in vicinity of St. Johns.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.84	0.20	0.13	0.10	0.10	0.10	0.17	1.22	2.58	1.93	6.32	1.81	1.30
1952	.12	0	0	0	0	0	1.29	12.9	8.52	7.01	7.05	4.19	3.44
1953	.95	.88	.29	.10	.10	.10	2.23	4.92	4.35	3.32	7.51	2.08	2.25
1954	.03	0	0	0	.04	0	.15	2.17	1.69	-	-	-	-
1955	-	-	-	-	-	-	.20	.47	.48	2.12	1.34	2.68	-
1956	.85	.40	.45	.52	.37	.22	.44	5.01	2.74	2.98	3.07	1.03	1.52
1957	.20	.08	.09	.03	.10	.10	1.4	62.8	4.13	3.58	3.91	1.97	1.73
1958	1.13	.45	.40	.40	.40	.53	1.60	10.2	9.55	6.78	5.17	4.99	3.49
1959	.25	.26	.27	.30	.25	.07	.96	1.94	2.57	1.55	1.85	3.40	1.14
1960	.16	.11	.10	.10	.10	.10	2.59	6.06	6.57	8.75	3.61	2.69	2.59

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	51	12	8.1	6.1	5.6	6.1	9.9	75	154	119	398	108	943
1952	7.1	0	0	0	0	0	77	790	507	431	433	250	2,500
1953	58	53	18	6.1	5.6	6.1	133	302	259	204	462	124	1,630
1954	2.0	0	0	0	2.4	0	9.1	133	100	-	-	-	-
1955	-	-	-	-	-	-	12	29	29	130	83	159	-
1956	52	24	28	32	21	13	26	308	163	183	189	61	1,100
1957	12	4.6	5.6	1.6	5.8	6.3	8.3	386	246	220	240	117	1,250
1958	69	27	25	25	22	33	95	628	568	417	318	297	2,520
1959	15	15	17	19	14	4.6	57	119	155	95	112	202	823
1960	10	6.5	6.1	6.1	5.8	6.1	154	373	391	538	222	160	1,880

† Corrected.

LITTLE COLORADO RIVER BASIN

Yearly discharge, in cubic feet per second, of Little Colorado River below Lyman Reservoir, near St. Johns, Ariz.

Year	WSP	Water year ending Sept. 30					Calendar year	
		Maximum day		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	2.28	1,650
1951	1213	15	Aug. 7-10, 1951	0	1.30	943	1.21	879
1952	1243	20	May 20, 1952	0	3.44	2,500	3.61	2,620
1953	1283	9.0	Aug. 4-6, 1953	.1	2.25	1,630	2.08	1,500
1954	1343	a3.7	May 5, 6, 1954	0	-	-	-	-
1955	1393	b6.4	July 12, 1955	0	-	-	-	-
1956	1443	6.0	May 24, 1956	.2	1.52	1,100	1.40	1,020
1957	1513	12	June 7, 1957	0	1.75	1,250	1.87	1,350
1958	1563	11	May 7-18, 1958	.2	3.49	2,520	3.38	2,450
1959	1833	5.4	Sept. 14, 1959	0	1.14	923	1.10	798
1960	1713	10	July 3-5, 1960	.1	2.59	1,880	-	-

† Corrected.

a Maximum for period October to June.

b Maximum for period April to September.

Combined monthly discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.94	0.20	0.13	0.10	0.10	0.10	0.17	7.06	24.6	19.2	20.1	4.22	6.45
1952	.12	0	0	0	0	0	1.29	47.4	41.9	50.2	50.7	36.0	19.1
1953	11.4	0.88	.29	.10	.10	.10	9.50	26.4	31.4	23.7	36.8	15.5	13.1
1954	.03	0	0	0	.04	0	.15	12.6	7.18	-	-	-	-
1955	-	-	-	-	-	-	.20	.47	13.3	2.65	1.34	2.68	-
1956	.85	.40	.45	.52	.37	.22	.44	18.1	29.9	27.9	24.9	20.8	10.4
1957	.64	.08	.09	.03	.10	.10	2.42	7.09	4.13	3.58	3.91	1.97	2.03
1958	1.13	.45	.40	.40	.40	.53	2.72	45.8	37.0	43.0	36.5	26.1	16.3
1959	.25	.26	.27	.30	.25	.07	12.4	30.5	28.0	29.4	33.3	28.6	13.7
1960	.16	.11	.10	.10	.10	.10	11.7	41.9	37.9	51.6	42.8	30.0	18.1

Combined monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	58	12	8.1	6.1	5.6	6.1	9.9	434	1,460	1,180	1,230	251	4,660
1952	7.1	0	0	0	0	0	77	2,920	2,490	3,080	3,120	2,140	13,830
1953	701	53	18	6.1	5.6	6.1	565	1,620	1,870	1,460	2,260	923	9,490
1954	2.0	0	0	0	2.4	0	9.1	774	427	-	-	-	-
1955	-	-	-	-	-	-	12	794	29	163	83	159	-
1956	52	24	28	32	21	13	26	1,110	1,780	1,710	1,530	1,240	7,570
1957	39	4.6	5.6	1.6	5.8	6.3	144	436	246	220	240	117	1,470
1958	69	27	25	25	22	33	161	2,820	2,200	2,640	2,250	1,560	11,830
1959	15	15	17	19	14	4.6	737	1,880	1,660	1,820	2,050	1,700	9,930
1960	10	6.5	6.1	6.1	5.8	6.1	696	2,580	2,260	3,170	2,630	1,790	13,170

3860.5 Largo Creek near Mangas, N. Mex.

Location.--Lat 34°08'30", long 108°30'05", in SW $\frac{1}{4}$ sec.10, T.2 S., R.16 W., on right bank at El Caso Ranch, half a mile upstream from Sawmill Canyon, 10 $\frac{1}{2}$ miles southwest of Mangas, and 14 miles south of Quemado.

Drainage area.--63 sq mi, approximately.

Records available.--September 1959 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 7,600 ft (from topographic map).

Extremes.--1959-60: Maximum discharge, 181 cfs Mar. 8 (gage height, 2.30 ft); minimum daily, 0.03 cfs Sept. 14-20, 1960.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	-	-	0.090	-
1960	0.14	0.13	0.23	0.20	0.24	23.8	0.68	0.53	0.45	0.22	0.119	.051	2.27

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	-	-	5.3	-
1960	8.7	7.5	14	12	14	1,470	40	33	27	13	7.3	3.1	1,650

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1959	1713	-	-	-	-	-	-	-
1960	1713	181	Mar. 8, 1960	0.03	2.27	1,650	-	-

3865. Little Colorado River above Zuni River, near Hunt, Ariz.

Location.--Lat 34°38', long 109°40', in SW¼NW¼ sec.2, T.14 N., R.25 E., on right bank 500 ft upstream from Zuni River and 3 miles northwest of Hunt.

Drainage area.--3,680 sq mi, approximately (about 2,100 sq mi is noncontributing, except during years of high runoff).

Records available.--March 1940 to September 1960 (monthly discharge only, July 1954 to March 1955).

Gage.--Water-stage recorder. Datum of gage is 5,399.0 ft above mean sea level, datum of 1929.

Average discharge.--20 years (1940-60), 6.08 cfs (4,400 acre-ft per year); median of yearly mean discharges, 3.6 cfs (2,600 acre-ft per year).

Extremes.--1940-60: Maximum discharge, 1,100 cfs Aug. 13, 1945 (gage height, 4.13 ft); no flow at times in most years.

Remarks.--Divisions for irrigation of about 11,100 acres above station. Considerable regulation by many reservoirs (combined capacity, about 50,000 acre-ft), the largest of which is Lyman Reservoir (see p. 422).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.03	0	0.02	0.14	0.30	0.14	0.09	0.06	0.02	0	0.72	0	0.13
1952	.09	0	.06	.13	0	.42	.02	.13	.32	.05	.27	.12	.12
1953	0	.13	1.71	1.82	1.65	2.81	1.15	.32	.02	.52	.006	0	.84
1954	0	.10	.19	.70	.69	.05	0	0	0	20.0	13.0	2.05	3.11
1955	.25	.18	.10	.85	2.86	1.22	.17	0	0	.02338	9.17	29.9	
1956	.28	.53	5.48	7.61	13.9	1.84	.25	.09	0	.18	.01	0	2.48
1957	0	0	.20	.08	0	0	.04	0	0	.03	42.8	48.2	7.60
1958	.71	4.74	5.24	6.25	6.29	4.69	.10	.10	.27	.98	12.9	6.49	4.06
1959	4.73	2.30	3.24	5.74	3.42	.11	.09	.04	.03	.14	16.9	.56	3.13
1960	1.42	4.81	5.72	10.6	8.47	3.94	.16	0	.01	.02	.003	0	2.91

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.0	0	1.4	8.5	17	8.7	5.6	3.8	1.0	0	44	0	92
1952	5.6	0	3.8	7.9	0	0	25	1.2	7.9	20	3.2	16	91
1953	0	7.7	105	112	92	173	68	20	1.4	32	.4	0	612
1954	0	5.8	12	43	38	2.8	0	0	0	1,230	800	122	2,250
1955	15	11	6.3	52	159	75	9.9	0	0	1.4	20,760	545	21,630
1956	17	31	337	468	801	113	15	5.6	0	11	.8	0	1,800
1957	0	0	12	4.8	0	0	0	2.6	0	1.6	2,620	2,870	5,510
1958	44	282	323	383	349	288	6.0	6.0	16	60	794	386	2,940
1959	291	137	199	353	190	6.9	5.2	2.4	1.8	8.3	1,040	34	2,270
1960	87	286	352	650	487	242	9.3	0	.8	1.0	.2	0	2,120

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	1.05	63	
1951	1213	70	Aug. 28, 1951	0	0.13	92	.14	98	
1952	1243	67	July 27, 1952	0	.12	91	.27	194	
1953	1283	62	July 27, 1953	0	.84	612	.71	517	
1954	1343	136	July 26, 1954	0	3.11	2,250	3.13	2,270	
1955	1393	831	Aug. 24, 1955	0	29.9	21,630	30.4	22,000	
1956	1443	37	Feb. 19, 1956	0	2.48	1,800	1.96	1,430	
1957	1513	476	Sept. 1, 1957	0	7.60	5,510	8.48	6,150	
1958	1563	1,020	Aug. 21, 1958	0	4.06	2,940	4.03	2,920	
1959	1633	130	Aug. 11, 1959	0	3.13	2,270	3.27	2,370	
1960	1713	38	Oct. 30, 1959	0	2.91	2,120	-	-	

3880. Little Colorado River near Hunt, Ariz.

Location.--Lat 34°39', long 109°42', in NE¼NW¼ sec.4, T.14 N., R.25 E., near left bank on upstream side of pier of bridge on U. S. Highway 260, 2 miles downstream from Zuni River and 5 miles northwest of Hunt.

Drainage area.--6,280 sq mi, approximately (about 2,100 sq mi is noncontributing, except during years of high runoff).

Records available.--May 1929 to October 1933, March 1940 to September 1960 (monthly discharge only, July 1954 to March 1955).

Gage.--Water-stage recorder. Datum of gage is 5,371.59 ft above mean sea level, datum of 1929. Prior to Aug. 31, 1931, at site of former bridge 40 ft downstream at datum 0.16 ft lower and Sept. 1, 1931, to October 1933 at datum 2.16 ft lower.

Average discharge.--24 years (1929-33, 1940-60), 17.4 cfs (12,600 acre-ft per year); median of yearly mean discharges, 10 cfs (7,200 acre-ft per year).

Extremes.--1929-33, 1940-60: Maximum discharge, 8,000 cfs July 28, 1929; maximum gage height, 17.3 ft Aug. 8, 1955; no flow at times in most years.

Remarks.--Diversions for irrigation above station of about 14,600 acres. Considerable regulation by many reservoirs (combined capacity, about 59,000 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.12	0.10	0.12	0.25	0.49	0.34	0.27	0.17	0.05	0.99	20.1	0.27	1.97
1952	1.43	.05	.04	1.39	.13	.52	3.17	.16	2.84	3.64	1.17	8.03	1.87
1953	.05	1.50	4.50	1.80	1.65	3.06	.70	.26	.09	1.45	.46	0	1.30
1954	0	.09	.15	.58	.60	.41	.02	.01	0	30.3	14.8	2.69	4.19
1955	.09	0	0	.76	2.41	.59	.31	0	2.20	.45	524	11.7	46.0
1956	.19	.29	3.71	7.69	15.5	1.89	.44	.21	.01	1.38	1.65	0	2.70
1957	0	0	.17	.15	0	.03	.003	.06	.67	.05	58.7	64.8	10.4
1958	2.15	6.76	6.60	7.11	5.81	5.15	.21	.14	.68	5.29	40.0	19.0	8.29
1959	5.47	2.37	3.34	6.92	4.08	.25	.32	.05	.01	2.32	30.7	1.19	4.80
1960	14.0	6.08	6.35	22.2	7.48	8.38	1.85	.05	0	0	0	0	5.56

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7.3	6.0	7.1	15	27	21	16	10	2.8	61	1,230	16	1,420
1952	88	2.8	2.4	85	7.7	32	189	10	169	224	72	478	1,360
1953	3.2	89	276	110	92	198	42	16	5.2	89	29	0	939
1954	0	5.6	8.9	24	33	25	1.0	.4	0	1,860	910	160	3,030
1955	5.4	0	0	47	134	36	18	0	131	27	32,190	696	33,280
1956	12	17	228	473	890	116	26	13	.6	85	101	0	1,960
1957	0	0	11	9.5	0	1.8	.2	4.0	40	3.2	3,610	3,860	7,540
1958	132	402	406	437	323	317	13	8.5	40	325	2,460	1,130	5,990
1959	336	141	205	425	227	15	19	2.8	.8	142	1,890	71	3,470
1960	863	362	390	1,360	430	515	110	2.8	0	0	0	0	4,030

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	1.23	892
1951	1213	531	Aug. 28, 1951	0	1.97	1,420	2.07	1,490
1952	1243	395	Sept. 22, 1952	0	1.87	1,360	2.25	1,630
1953	1293	42	July 18, 1953	0	1.30	939	.81	586
1954	1343	214	July 26, 1954	0	4.19	3,030	4.18	3,020
1955	1393	2,550	Aug. 8, 1955	0	46.0	33,280	46.3	33,540
1956	1443	145	July 22, 1956	0	2.70	1,960	2.36	1,720
1957	1513	882	Sept. 1, 1957	0	10.4	7,540	11.7	8,470
1958	1563	1,400	Aug. 21, 1958	0	8.29	5,990	7.93	5,740
1959	1633	235	Aug. 4, 1959	0	4.80	3,470	6.09	4,410
1960	1713	453	Oct. 30, 1959	0	5.56	4,030	-	-

3895. Daggs Reservoir and Mexican Lake near Shumway, Ariz.

Location.--Lat 34°22', long 110°00', in sec.10, T.11 N., R.22 E., on Silver Creek, 5 miles southeast of Shumway and 8 miles north of Show Low.

Drainage area.--170 sq mi, approximately, of which 53 sq mi is probably noncontributing.

Records available.--March 1942 to September 1954.

Gage.--On Daggs Reservoir: Series of reference points about 1,000 ft upstream from Daggs Dam. Elevations, referred to mean sea level, datum of 1929, are determined by hand level.

On Mexican Lake: Series of staff gages near channel leading from Daggs Reservoir.

Elevations are referred to mean sea level, datum of 1929.

Extremes.--1942-54: Maximum combined contents greater than 5,140 acre-ft about Mar. 8, 1949 (elevation of Daggs Reservoir, greater than 5,967.2 ft, spilling to Mexican Lake; elevation of Mexican Lake greater than 5,966.6 ft, spilling to Silver Creek); combined usable contents negligible in late summer or fall of most years.

Remarks.--Daggs Reservoir on Silver Creek is formed by an earthfill dam 55 ft high, completed in 1911. The reservoir is connected by an open channel cut through a basalt ridge to Mexican Lake, a natural depression lying to the north. The channel is about 200 ft long and about 2 ft wide at the most narrow point. Flow in either direction occurs in the channel when the elevation of water surface of reservoir or lake is about elevation 5,961 ft, bottom of channel, except for some periods when a temporary earth dam is in place in the channel. However, complete control of flow between reservoir and lake, and of storage in either, is not possible at any stage because of excessive leakage through the porous basalt.

Water may be released from Daggs Reservoir through an outlet gate in the dam into Silver Creek. There is no controlled release from Mexican Lake; water either spills through a natural side channel to Silver Creek or returns to Daggs Reservoir by the connecting channel or by leakage.

Capacity of Daggs Reservoir, 2,680 acre-ft between elevations 5,929.5 (bottom of outlet gate) and 5,961 ft (bottom of connecting channel to Mexican Lake); capacity, 3,550 acre-ft between elevations 5,929.5 and 5,965.5 ft (bottom of spillway channel from Mexican Lake to Silver Creek); capacity, 4,070 acre-ft between elevations 5,929.5 and 5,968 ft (top of ridge between reservoir and Mexican Lake). Capacity of Mexican Lake, 580 acre-ft between elevations 5,949 (bottom of lake) and 5,961 ft; capacity, 1,080 acre-ft between elevations 5,949 and 5,965.5 ft (bottom of spillway channel from Mexican Lake to Silver Creek). No dead storage in Daggs Reservoir. Dead storage in Mexican Lake nominally 580 acre-ft, but is actually much less because of leakage to Silver Creek. Figures given herein represent total contents. Capacity tables based on surveys made in 1945. Water from the storage system is used for irrigation in vicinity of Shumway and Snowflake.

Contents, in acre-feet, on dates shown

Date	Daggs Reservoir	Mexican Lake	Date	Daggs Reservoir	Mexican Lake	Date	Daggs Reservoir	Mexican Lake	Date	Daggs Reservoir	Mexican Lake
1950			Oct. 27	488	0	Nov. 22	1,110	340	Sept. 29	210	286
Nov. 29	96	15	Nov. 22	974	0	Dec. 17	2,030	340	Oct. 29	320	232
Dec. 20	336	20							Nov. 18	660	209
			1952						Dec. 16	1,960	220
1951			Jan. 17	4,030	600	Jan. 21	2,600	316			
Jan. 24	963	16	Jan. 23	3,650	al,120	Feb. 19	2,980	286	1954		
Feb. 14	1,350	-	Mar. 26	3,340	994	Mar. 19	3,800	548	Feb. 18	2,120	138
Mar. 13	1,780	-	Apr. 27	3,610	al,110	Apr. 23	3,240	824	Mar. 18	2,500	93
Apr. 24	2,280	0	May 21	3,590	1,080	May 13	2,850	730	Apr. 12	(a)	(a)
May 16	1,720	0	June 27	2,800	780	June 28	1,640	524	Apr. 21	3,800	al,140
June 19	996	0	July 23	2,280	700	July 15	1,210	460	May 24	2,830	802
July 18	290	0	Aug. 22	1,630	532	July 31	1,170	428	June 16	2,060	650
Aug. 16	99	0	Sept. 23	1,590	436	Aug. 26	880	380	July 28	1,080	420
Sept. 20	295	0	Oct. 23	1,380	372	Sept. 18	384	304	Aug. 24	600	322
									Sept. 14	315	328

a Reservoir system full and Mexican Lake spilling to Silver Creek.

3900. Silver Creek near Shumway, Ariz.

Location.--Lat 34°22'30", long 110°00'30", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.4, T.11 N., R.22 E., on right bank 1,000 ft downstream from overflow channel from Mexican Lake, 1 mile downstream from dam forming Daggs Reservoir, $\frac{4}{5}$ miles southeast of Shumway, and $\frac{8}{10}$ miles north of Show Low.

Drainage area.--172 sq mi, of which 53 sq mi are considered noncontributing.

Records available.--March 1942 to June 1955 (monthly discharge only, prior to October 1944).

Gage.--Water-stage recorder. Datum of gage is 5,913.48 ft above mean sea level, datum of 1929. Prior to May 12, 1945, staff gage at site three-quarters of a mile upstream at different datum.

Average discharge.--12 years (1942-54), 11.7 cfs (8,470 acre-ft per year).

Extremes.--1942-55: Maximum discharge, 2,770 cfs Jan. 18, 1952 (gage height, 7.80 ft), from rating curve extended above 160 cfs on basis of slope-area measurement of peak flow; minimum daily, 0.2 cfs for many days in 1945-46.

Remarks.--Flow regulated by Daggs Reservoir and Mexican Lake (combined capacity, 4,630 acre-ft below elevation 5,965.5 ft, bottom of spillway channel from Mexican Lake to Silver Creek). No diversion for irrigation above Daggs Reservoir.

LITTLE COLORADO RIVER BASIN

Monthly and yearly mean discharge, in cubic feet per second, of Silver Creek near Shumway, Ariz.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11.4	8.74	1.22	0.95	0.95	0.84	3.45	20.8	21.2	17.8	12.9	9.51	9.21
1952	1.80	.64	.93	56.4	2.39	44.4	22.4	10.6	21.3	18.6	20.7	20.3	18.5
1953	1.02	6.48	1.33	1.27	1.18	2.90	20.0	17.7	20.8	15.7	15.7	18.6	10.3
1954	6.37	.94	.73	1.07	1.18	1.07	13.8	24.1	26.0	18.1	20.7	11.2	10.5
1955	5.34	1.34	1.58	1.06	1.00	1.00	9.07	24.3	19.0	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	701	520	75	59	53	52	205	1,280	1,260	1,100	795	566	6,670
1952	99	50	57	3,460	138	2,730	1,330	650	1,270	1,140	1,270	1,210	13,400
1953	62	407	82	.78	64	178	1,190	1,090	1,240	964	965	1,100	7,420
1954	392	56	45	66	66	66	821	1,480	1,550	1,110	1,270	668	7,590
1955	328	80	97	65	56	61	540	1,500	1,130	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	11.5	8,300	-
1951	1213	25	May 9-14, 1951	0.7	9.21	6,670	7.70	5,580	-
1952	1243	836	Jan. 18, 1952	.8	18.5	13,400	18.9	13,750	-
1953	1283	23	(a)	.8	10.3	7,420	10.2	7,360	-
1954	1343	27	July 24, 1954	.6	10.5	7,590	10.5	7,600	-
1955	1393	b25	May 6-20, 1955	.9	-	-	-	-	-

a June 27 to July 9, 1953.

b Maximum for period October to June.

3905. Show Low Creek near Lakeside, Ariz.

Location.--Lat 34°10'50", long 109°59'10", in NW $\frac{1}{4}$ sec.14, T.9 N., R.22 E., 1 mile upstream from pumping plant on Lake Show Low $\frac{1}{4}$ miles northwest of Lakeside, $2\frac{1}{4}$ miles upstream from Jaques Dam, and $5\frac{1}{2}$ miles southeast of Show Low.

Drainage area.--65.6 sq mi.

Records available.--May 1953 to September 1960.

Gage.--Water-stage recorder and concrete-dam control with V-notch weir. Altitude of gage is 6,610 ft.

Average discharge.--7 years (1953-60), 6.48 cfs (4,690 acre-ft per year).

Extremes.--1953-60: Maximum discharge, 2,040 cfs Mar. 23, 1954 (gage height, 6.40 ft), from rating curve extended above 260 cfs on basis of computation of flow over dam; minimum recorded, 0.04 cfs Feb. 14, 1954 (gage height, 0.19 ft).

Remarks.--Record shows inflow to Lake Show Low. Flow partly regulated by several small reservoirs, largest of which are Lakeside and Scott Reservoirs (combined capacity, 2,400 acre-ft). Diversions for irrigation of about 250 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	-	-	-	-	-	-	-	6.70	6.72	5.11	5.67	5.67	-
1954	4.12	3.63	0.99	0.80	0.305	55.3	4.72	4.22	6.20	6.20	5.14	4.46	8.11
1955	3.29	1.85	2.38	1.25	2.50	.87	1.60	6.28	5.81	3.72	10.8	6.06	3.88
1956	2.30	.53	.35	.39	3.91	3.44	1.16	4.25	7.56	3.48	4.49	2.07	2.82
1957	2.12	.69	.52	1.63	7.43	2.78	.97	5.05	6.07	4.32	4.78	2.23	3.19
1958	1.33	.71	.303	.357	3.35	49.8	21.7	4.33	6.66	4.20	4.10	2.29	8.31
1959	1.81	.90	.22	.25	1.49	1.50	2.41	8.58	8.27	1.08	3.18	1.76	2.62
1960	2.35	37.3	19.1	30.7	12.1	81.0	2.65	1.68	2.42	2.34	2.05	1.86	16.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	-	-	-	-	-	-	-	412	400	314	349	337	-
1954	253	216	61	49	17	3,400	281	259	369	381	316	266	5,870
1955	202	110	147	77	139	53	95	385	346	229	665	361	2,810
1956	141	32	22	24	225	211	69	261	450	214	276	123	2,050
1957	130	41	32	100	413	171	58	311	361	266	294	133	2,310
1958	82	42	19	22	186	3,060	1,290	266	396	258	252	136	6,010
1959	111	53	14	15	83	92	144	528	492	67	196	105	1,900
1960	145	2,220	1,180	1,890	697	4,980	158	104	144	144	126	111	11,900

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1953	1393	a15	May 24, 1953	0.7	-	-	-	-	-
1954	1393,1513	2,040	Mar. 23, 1954	.04	8.11	5,870	8.01	5,800	-
1955	1393,1513	273	Aug. 27, 1955	.2	3.88	2,810	3.51	2,540	-
1956	1443,1513	103	July 31, 1956	.2	2.82	2,050	2.83	2,060	-
1957	1513	56	Feb. 9, 1957	.08	3.19	2,310	3.11	2,250	-
1958	1563	867	Mar. 22, 1958	.06	8.31	6,010	8.36	6,040	-
1959	1633	45	Aug. 28, 1959	.09	2.62	1,900	7.27	5,270	-
1960	1713	487	Mar. 8, 1960	.5	16.4	11,900	-	-	-

a Maximum for period May to September.

3910. Lake Show Low at Jaques Dam, near Show Low, Ariz.

Location.--Lat 34°11'40", long 110°00'15", in NW¼ sec.10, T.9 N., R.22 E., 3½ miles northwest of Lakeside and 4½ miles southeast of Show Low.

Drainage area.--67.2 sq mi.

Records available.--June 1953 to September 1960.

Gage.--A staff gage graduated to feet and tenths, reading from 35 to 75 ft, is fastened to the shoreward side of the diversion tower which is located on west side of lake about 1 mile south of dam. Datum of gage is 6,500.00 ft above mean sea level, from Bureau of Reclamation bench mark.

Extremes.--1953-60: Maximum elevation and usable contents: 6,570.8 ft (from floodmark), 5,280 acre-ft on Mar. 8, 1960; no usable contents at times in most years.

Remarks.--Reservoir is formed by an earthfill dam; dam completed and storage began in spring of 1953. Total capacity, 6,176 acre-ft, consisting of 1,070 acre-ft dead storage below elevation 6,535.0 ft (sill of outlet structure), and 5,106 acre-ft usable storage between elevations 6,535.0 and 6,570.0 ft (sill of overflow spillway). Capacity table prepared by Leeds, Hill, and Jewett, Consulting Engineers, from surveys by the firm. Water cannot be pumped when lake elevation is below 6,538.5 ft (sill of intake to pumping plant) but can be released to river channel down to elevation 6,535.0 ft. Elevations obtained periodically by Navapache Electric Co-operative, Inc. and monthly by Geological Survey.

Cooperation.--Records of Lake Show Low furnished by Navapache Electric Co-operative, Inc.

Elevation and contents, in acre-feet

Date	Elevation	Contents	Date	Elevation	Contents
Sept. 18, 1953.....	6,537.1	202	Feb. 4.....	6,536.7	163
Oct. 22.....	6,536.2	115	Mar. 4.....	6,541.4	661
Nov. 17.....	6,536.3	124	Mar. 21, 1957.....	6,541.9	718
Mar. 18, 1954.....	6,536.1	105	Apr. 1.....	6,540.0	505
31.....	6,564.4	4,080	11.....	6,538.8	376
Apr. 3, 4.....	6,565.0	4,160	May 6.....	6,537.5	242
15.....	6,563.0	3,810	June 3.....	6,537.9	283
May 3.....	6,561.5	3,550	July 1.....	6,537.2	212
17.....	6,561.0	3,460	Aug. 5.....	6,536.6	153
31.....	6,560.45	3,370	Sept. 2.....	6,537.9	283
June 15.....	6,558.2	2,990	25.....	6,536.5	144
30.....	6,553.75	2,300	Oct. 28.....	6,535.85	81
July 15.....	6,551.0	1,890	Nov. 25.....	6,536.0	95
31.....	6,546.9	1,330	Dec. 30.....	6,535.8	76
Aug. 15.....	6,543.1	858	Jan. 27, 1958.....	6,535.4	38
31.....	6,538.8	376	Feb. 24.....	6,536.0	95
Sept. 14.....	6,538.7	366	Mar. 31.....	6,561.9	3,620
Oct. 12.....	6,538.0	293	Apr. 2.....	6,562.5	3,720
Nov. 17.....	6,537.1	202	20, 21.....	6,567.0	4,530
Dec. 14.....	6,537.4	232	30.....	6,565.7	4,290
Jan. 11, 1955.....	6,537.3	222	May 31.....	6,559.5	3,210
Feb. 16.....	6,537.3	222	June 30.....	6,556.9	2,170
Mar. 15.....	6,537.2	212	July 31.....	6,544.3	1,000
Apr. 5.....	6,536.9	182	Aug. 20.....	6,538.9	366
May 10.....	6,536.2	115	Sept. 29.....	6,537.6	252
June 28.....	6,537.1	202	Oct. 7.....	6,537.3	222
July 12.....	6,536.4	134	Dec. 8.....	6,536.2	115
29.....	6,536.1	105	Jan. 6, 1959.....	6,535.7	67
Aug. 15.....	6,536.6	153	Feb. 2.....	6,535.4	38
29.....	6,542.3	764	Mar. 2.....	6,536.0	95
Sept. 9.....	6,541.7	695	23.....	6,536.3	124
15.....	6,540.2	527	Apr. 27.....	6,536.3	124
26.....	6,538.65	360	May 13.....	6,536.1	105
Oct. 3.....	6,538.4	334	June 19.....	6,537.8	273
Nov. 7.....	6,536.65	158	July 6.....	6,536.5	144
Dec. 5.....	6,536.2	115	Aug. 1.....	(b)	0
Jan. 2, 1956.....	6,536.0	95	Sept. 2.....	(b)	0
Feb. 6.....	6,536	95	28.....	(b)	0
Mar. 5.....	6,539.2	419	Oct. 5.....	(b)	0
19.....	6,540.1	516	Nov. 2.....	6,537.0	192
Apr. 2.....	6,539.8	484	Dec. 2.....	6,557.9	2,940
4.....	6,539.1	408	Jan. 2, 1960.....	6,568.1	4,740
May 7.....	6,538.0	293	Feb. 1.....	6,570.0	5,110
June 4.....	6,537.0	192	Mar. 1.....	6,568.1	4,740
July 3.....	6,536.5	144	6.....	6,570.8	5,280
Aug. 6.....	6,536.1	105	Apr. 1.....	6,569.7	5,050
Sept. 3.....	6,536.2	115	May 1.....	6,564.5	4,080
24.....	6,535.0	0	June 1.....	6,558.1	2,980
Oct. 1.....	6,535	0	July 1.....	6,551.3	1,940
Nov. 5.....	6,535	0	Aug. 3.....	6,545.5	1,150
Dec. 3.....	6,535.2	19	Sept. 1.....	6,538.2	314
Jan. 7, 1957.....	6,535.3	28	Oct. 6.....	6,535.0	0

a Maximum for year.

b Observed elevation below 6,535 ft.

c Maximum for year (from floodmark).

3920. Show Low Creek below Jaques Dam, near Show Low, Ariz.

Location.--Lat 34°11'40", long 110°00'15", in NW $\frac{1}{4}$ sec.10, T.9 N., R.22 E., on right bank just below Jaques Dam, $3\frac{1}{2}$ miles northwest of Lakeside and $4\frac{1}{2}$ miles southeast of Show Low.

Drainage area.--67.2 sq mi.

Records available.--November 1941 to January 1945, June 1953 to September 1955 (monthly discharge only), October 1955 to September 1960. Monthly discharge only November 1941 to January 1945, published in WSP 1313. Published as "at Jaques dam site, near Lakeside" 1941-45.

Gage.--Water-stage recorder and V-notch weir with supplementary lake elevation readings for flow over concrete spillway. Altitude of gage is about 6,530 ft (from topographic map). November 1941 to January 1945 staff gage at site 100 ft upstream at different datum.

Average discharge.--7 years (1953-60), 3.72 cfs (2,690 acre-ft per year).

Extremes.--1941-45: Maximum daily discharge, 304 cfs Mar. 6, 1943; no flow Aug. 8, 9, 1943.

1953-60: Maximum discharge, 440 cfs (inflow from spillway several hundred feet downstream from station) Mar. 8, 1960; no flow at times.

Remarks.--Record since 1953 shows flow below Lake Show Low in Show Low Creek. Flow regulated by several reservoirs, largest of which are Lake Show Low, completed in 1953; Lakeside Reservoir, completed prior to 1941; and Scott Reservoir, completed in 1946 (combined capacity, 8,800 acre-ft). Diversions for irrigation of about 200 acres above Lake Show Low and diversion by pumping of floodwater stored in Lake Show Low to Forestdale Creek in Salt River basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	6.50	4.91	5.27	4.99	-
1952	-	-	-	-	-	-	-	-	5.84	3.98	4.32	5.42	2.89
1953	4.29	2.17	0.80	0.45	0.22	0.14	2.24	4.70	4.78	4.45	.92	5.57	2.51
1954	3.20	2.16	1.32	.83	.50	.50	1.03	4.78	4.74	4.45	.92	5.57	2.51
1955	4.74	1.12	.58	.47	.52	.58	2.28	5.02	7.04	4.59	3.44	3.50	2.83
1956	1.77	.58	.50	.50	.10	.36	2.42	4.00	6.04	5.08	2.16	4.32	2.24
1957	1.54	.50	.50	.50	.46	.035	1.25	6.47	7.04	7.44	5.17	4.32	2.95
1958	2.07	1.88	.80	.80	.69	.60	2.26	5.85	6.26	5.54	1.88	5.08	2.81
1959	1.00	.48	.50	8.63	2.17	65.2	3.57	6.01	6.79	8.10	7.93	6.18	9.82
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	387	302	324	297	-
1952	284	129	49	28	12	8.3	133	289	348	245	266	323	2,090
1953	197	128	81	51	28	31	61	294	282	274	57	331	1,820
1954	292	67	36	29	30	36	136	308	419	282	211	208	2,050
1955	48	35	31	31	5.5	22	144	246	359	313	133	257	1,620
1956	94	30	31	31	26	2.1	74	398	419	457	318	257	2,140
1957	127	112	49	49	38	37	134	360	372	341	115	302	2,040
1958	62	29	31	531	125	4,010	213	370	404	498	488	368	7,130
1959													
1960													

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950									
1951									
1952									
1953									
1954	1393	7.1	Sept. 1, 1954	0	2.89	2,090	2.84	2,060	
1955	1393	7.9	Sept. 6-8, 1955	.4	2.51	1,820	2.49	1,800	
1956	1443	7.5	(a)	0	2.83	2,050	2.44	1,770	
1957	1513	7.4	Sept. 19-22, 1957	0	2.24	1,620	2.30	1,670	
1958	1563	7.9	July 13-14, 1958	.03	2.95	2,140	3.14	2,270	
1959	1633	6.6	(b)	.1	2.81	2,040	2.58	1,870	
1960	1713	440	Mar. 8, 1960	.3	9.82	7,130	-	-	

a May 25, May 30 to June 2, 1956.

b June 8-13, 25-29, 1959.

3925. Show Low Creek at Show Low, Ariz.

Location.--Lat 34°15'10", long 110°01'40", in NE¼ sec.20, T.10 N., R.22 E., on left bank at downstream side of bridge on U. S. Highway 60 at Show Low.

Drainage area.--87 sq mi, approximately, 20 sq mi of which is below Jaques Dam.

Records available.--January 1941 to June 1955 (monthly discharge only prior to October 1944).

Gage.--Water-stage recorder except July 26, 1951, to Apr. 5, 1952. Datum of gage is 6,309.22 ft above mean sea level, datum of 1929. July 26 to Dec. 8, 1951, temporary staff gage 200 ft upstream at different datum (peak gage heights converted to present datum). Jan. 16 to Apr. 5, 1952, staff gage at present site and datum.

Average discharge.--13 years (1941-54), 10.1 cfs (7,310 acre-ft per year), adjusted for storage in Lake Show Low and for diversions to Forestdale Creek.

Extremes.--1941-55: Maximum discharge, 6,250 cfs Jan. 18, 1952 (gage height, 9.9 ft). From rating curve extended above 510 cfs on basis of slope-area measurement of peak flow; no flow at times in most years.

Remarks.--Diversions above station for irrigation of about 1,600 acres, part of which is below station. Flow regulated by several reservoirs, largest of which are Lake Show Low and Lakeside and Scott Reservoirs (combined capacity, 8,800 acre-ft). Jaques Dam (Lake Show Low) completed in spring of 1953. For record of storage in Lake Show Low see station below Jaques Dam, near Show Low.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.28	0.16	0.54	0.85	0.16	0.50	0.12	0.34	0.15	0.03	1.86	1.49	0.54
1952	.14	.40	18.2	224	7.05	86.0	71.9	3.76	1.42	2.07	1.79	1.49	35.1
1953	.57	4.39	4.06	1.37	.11	9.22	1.41	.72	.66	1.12	.86	.90	2.14
1954	.71	.56	.20	.25	.04	15.2	.53	.45	.38	.81	.76	.83	1.75
1955	.85	.95	.76	.25	.39	.10	0	.25	.53	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	17	9.3	33	52	8.9	31	7.1	21	8.7	1.6	115	89	394
1952	9.7	24	1,120	13,740	406	5,290	4,280	231	85	128	110	89	25,510
1953	35	261	250	84	6.3	567	84	44	39	69	53	53	1,550
1954	44	33	12	15	2.2	934	31	27	23	50	47	49	1,270
1955	52	57	47	15	21	6.0	0	15	32	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	1.94	1,400
1951	1213	170	Aug. 28, 1951	0	0.54	-	2.05	1,490
1952	1243	6,250	Jan. 18, 1952	0	35.1	25,510	34.3	24,900
1953	1283	444	Mar. 8, 1953	.1	2.14	1,550	1.50	1,090
1954	1343	440	Mar. 23, 1954	0	1.75	1,270	1.84	1,330
1955	1393	88.4	June 14, 1954	0	-	-	-	-

a Maximum for period October to June.

3935. Silver Creek near Snowflake, Ariz.

Location.--Lat 34°40'00", long 110°02'30", in SW 1/4 sec. 29, T.15 N., R.22 E., on left bank 6 miles upstream from mouth and 11 miles north of Snowflake.

Drainage area.--886 sq mi.

Records available.--October 1950 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 5,204.1 ft above mean sea level, datum of 1929.

Average discharge.--10 years (1950-60), 17.8 cfs (12,890 acre-ft per year); median of yearly mean discharges, 12 cfs (8,700 acre-ft per year).

Extremes.--1950-60: Maximum discharge, 10,100 cfs Jan. 19, 1952 (gage height, 18.0 ft), from rating curve extended above 4,400 cfs on basis of peak discharge for station near Woodruff; minimum daily, 0.1 cfs Sept. 17, 1959.

Remarks.--Diversions for irrigation above station of about 6,600 acres. Flow regulated by several reservoirs (combined capacity, about 13,700 acre-ft, excluding Lone Pine Reservoir, but including 6,176 acre-ft in Lake Show Low at Jaques Dam).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1	2	1.82	2.32	2.24	1.73	1.3	1.26	0.84	8.06	107	5.31	11.4
1952	5.08	1.31	36.5	457	9.40	79.0	19.5	11.5	3.54	24.9	48.2	40.6	62.2
1953	2.98	5.34	8.31	5.68	4.40	26.6	1.73	2.12	1.28	24.9	14.6	2.26	8.44
1954	2.03	2.18	3.86	5.84	3.75	24.4	2.78	2.39	1.37	34.1	25.4	62.9	14.3
1955	3.55	1.65	1.59	1.67	2.34	.71	.92	1.94	20.9	32.9	119	2.55	16.0
1956	2.11	2.48	1.74	1.38	5.32	3.22	1.01	1.96	17.4	19.3	12.0	.79	5.73
1957	2.19	.90	1.30	1.93	6.65	1.39	.74	2.05	1.76	6.99	44.6	1.93	6.08
1958	19.9	6.48	3.36	3.04	.84	28.0	2.81	2.08	10.1	3.56	41.3	72.4	16.2
1959	16.5	4.16	1.85	1.28	1.28	.67	1.16	1.21	8.27	11.3	9.98	.59	4.90
1960	46.9	64.0	77.0	98.5	14.2	63.5	3.19	3.39	2.90	4.08	6.38	2.50	32.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	61	119	112	143	125	107	77	78	50	496	6,590	316	8,270
1952	312	78	2,250	28,120	540	4,860	1,160	708	211	1,530	2,970	2,420	45,160
1953	183	518	511	349	244	1,630	103	131	75	1,530	900	135	6,110
1954	125	130	237	359	208	1,500	165	147	82	2,100	1,560	3,740	10,350
1955	218	98	98	103	130	43	55	119	1,240	2,020	7,310	152	11,590
1956	130	148	107	85	306	198	60	121	1,040	1,190	736	47	4,170
1957	135	53	80	119	369	86	44	126	105	430	2,740	115	4,400
1958	1,220	386	207	157	47	1,720	167	129	600	219	2,540	4,310	11,730
1959	1,010	247	114	79	71	41	69	74	492	697	614	35	5,540
1960	2,890	3,810	4,730	6,060	818	3,910	190	208	175	251	392	149	23,570

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951	1213	3,780	Aug. 28, 1951	0.5	11.4	8,270	14.7	10,620
1952	1243	10,100	Jan. 19, 1952	.7	62.2	45,160	59.9	43,530
1953	1293	1,060	July 16, 1953	.5	8.44	6,110	7.73	5,590
1954	1343	7,670	Sept. 2, 1954	.5	14.3	10,350	14.2	10,280
1955	1393	4,980	Aug. 6, 1955	.2	16.0	11,590	16.0	11,560
1956	1443	3,620	June 29, 1956	.3	5.73	4,170	5.57	4,050
1957	1513	1,910	Aug. 5, 1957	.2	6.08	4,400	8.21	5,950
1958	1563	4,340	Sept. 8, 1958	.4	16.2	11,730	15.6	11,290
1959	1633	630	July 5, 1959	.1	4.90	3,540	18.8	13,590
1960	1713	2,120	Dec. 25, 1959	.6	32.5	23,570	-	-

3940. Silver Creek near Woodruff, Ariz.

Location.--Lat 34°44', long 110°02', in NW¼NE¼ sec.5, T.15 N., R.22 E., on left bank half a mile upstream from mouth and 3 miles south of Woodruff. Control for station except at medium stages is crest of diversion dam 1,700 ft downstream.

Drainage area.--942 sq mi.

Records available.--April 1929 to October 1933, September 1935 to September 1952.

Gage.--Water-stage recorder. Altitude of gage is 5,196 ft (from river-profile map).

Average discharge.--21 years (1929-33, 1935-52), 25.5 cfs (18,460 acre-ft per year).

Extremes.--1929-52: Maximum discharge, 11,000 cfs July 26, 1940 (gage height, 12.37 ft), from rating curve extended above 3,700 cfs on basis of slope-area measurement of peak flow; no flow during periods in spring and summer of most years.

Remarks.--Diversions above station for irrigation of about 7,200 acres, including 600 acres served by Woodruff Canal. Flow regulated by several reservoirs upstream. Records show discharge over dam and do not include flow in Woodruff Canal which diverts at dam.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.27	4.91	6.77	7.39	6.78	5.85	0.48	0.31	0	7.32	133	6.99	15.2
1952	6.03	2.84	36.1	473	13.1	80.1	26.2	12.6	1.86	21.5	50.8	45.3	65.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	17	292	416	454	376	360	29	19	0	450	8,200	418	11,030
1952	371	169	2,220	29,100	756	4,920	1,560	775	111	1,320	3,130	2,690	47,120

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	#4.89	#3,540
1951	1213	4,440	Aug. 28, 1951	0	15.2	11,030	18.0	13,060
1952	1243	10,100	Jan. 19, 1952	0	65.0	47,120	-	-

* Not previously published.

3945. Little Colorado River at Woodruff, Ariz.

Location.--Lat 34°47', long 110°03', in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.17, T.16 N., R.22 E., on left bank at county bridge in Woodruff, 3 $\frac{1}{2}$ miles downstream from Silver Creek.

Drainage area.--8,100 sq mi, approximately.

Records available.--March to May 1905; June to July 1905 (gage heights only); August 1905 to May 1907; July 1907 to April 1908, July to October 1908, December 1908, and December 1915 to September 1916 (gage heights only); October 1916 to August 1917 (monthly discharge only); September 1917 to March 1918, December 1918 to December 1919, April 1929 to December 1933, September 1935 to September 1960. Published as "near Woodruff" 1916-19, 1929-48.

Gage.--Water-stage recorder. Datum of gage is 5,130.3 ft above mean sea level, datum of 1929. March 1905 to December 1908, staff gages at sites within a quarter of a mile upstream at different datums. Dec. 5, 1915, to Dec. 31, 1919, water-stage recorder at site 1.5 miles downstream and July 4, 1929, to Sept. 21, 1949, at site 1.7 miles downstream, both at datum 5.5 ft lower.

Average discharge.--31 years (1905-6, 1916-17, 1929-33, 1935-60), 56.7 cfs (41,050 acre-ft per year); median of yearly mean discharges, 51 cfs (36,900 acre-ft per year).

Extremes.--1916-17, 1918-20, 1929-60: Maximum discharge, 25,000 cfs Dec. 5, 1919 (gage height, 12.0 ft, datum then in use), from rating curve extended above 2,000 cfs; no flow at times in most years. A greater flood occurred Jan. 19, 1916, discharge not determined (gage height, 12.7 ft, from floodmark, datum then in use).

Remarks.--Diversions above station for irrigation of about 22,000 acres. Some regulation by reservoirs above station (combined capacity, about 73,000 acre-ft, excluding Lone Pine Reservoir). Records of chemical analyses, suspended sediment loads, and water temperatures for the period June 1950 to June 1957 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.05	4.77	5.29	5.87	6.51	5.30	1.18	0.62	0	22.1	295	8.40	30.2
1952	12.7	3.73	31.3	488	14.7	80.8	39.4	11.9	9.47	47.0	81.3	97.9	77.3
1953	4.45	18.4	37.0	12.8	9.27	32.3	3.57	2.58	2.58	65.6	26.4	1.37	18.2
1954	1.36	4.32	6.69	8.22	7.15	31.1	1.66	.96	.01	181	45.9	126	34.7
1955	11.5	5.56	5.72	6.10	6.32	4.06	.12	2.13	87.8	52.5	951	16.1	97.3
1956	2.29	4.80	6.80	18.1	52.4	6.48	.003	.34	14.5	23.5	35.7	.71	13.7
1957	4.20	3.03	5.26	6.35	15.1	4.53	1.03	.34	.45	37.3	358	71.1	42.7
1958	55.7	25.2	12.4	10.8	8.50	33.8	4.27	.88	16.2	15.5	201	145	44.3
1959	28.8	7.69	7.36	10.0	9.15	4.53	4.84	3.55	10.2	19.7	54.0	2.21	13.6
1960	217	102	75.8	144	25.8	72.9	9.08	3.66	5.02	8.88	19.4	5.44	57.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	64	284	325	361	361	326	70	38	0	1,360	18,160	500	21,850
1952	779	222	1,920	30,030	843	4,970	2,350	735	564	2,690	5,000	5,820	56,120
1953	273	1,090	2,280	787	515	1,990	212	159	153	4,030	1,620	82	13,190
1954	84	257	412	505	397	1,910	99	59	.6	11,100	2,820	7,500	25,140
1955	705	331	352	375	351	250	7.1	131	5,230	3,230	58,490	956	70,410
1956	141	285	418	1,110	3,020	399	.2	21	861	1,440	2,190	42	9,930
1957	258	180	324	591	839	278	61	21	27	2,290	22,000	4,250	30,900
1958	3,430	1,500	763	664	472	2,080	254	54	967	953	12,340	8,610	32,090
1959	1,770	458	453	617	508	278	288	218	609	1,210	3,320	131	9,660
1960	13,340	6,050	4,660	8,860	1,480	4,480	540	225	299	546	1,190	324	41,990

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	9.66	7,000	-	-
1951	1213	8,290	Aug. 28, 1951	0	30.2	21,850	33.3	24,100	-	-
1952	1245	10,200	Jan. 19, 1952	0	77.3	56,120	78.3	56,840	-	-
1953	1283	2,770	July 29, 1953	0	18.2	13,190	14.2	10,300	-	-
1954	1343	5,230	Sept. 2, 1954	0	34.7	25,140	35.6	25,780	-	-
1955	1393	6,630	Aug. 6, 1955	0	97.3	70,410	96.5	69,860	-	-
1956	1443	2,250	June 30, 1956	0	13.7	9,930	13.6	9,850	-	-
1957	1513	4,100	Aug. 6, 1957	0	42.7	30,900	49.5	35,830	-	-
1958	1563	3,950	Aug. 22, 1958	.1	44.3	32,090	40.2	29,080	-	-
1959	1633	1,563	Aug. 19, 1959	0	13.6	9,660	43.1	51,250	-	-
1960	1713	4,750	Oct. 30, 1959	.2	57.9	41,990	-	-	-	-

3970. Little Colorado River at Holbrook, Ariz.

Location.--Lat 34°53'50", long 110°09'40", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.6, T.17 N., R.21 E., near right bank on downstream side of bridge on U. S. Highway 260 at Holbrook, 2 $\frac{1}{2}$ miles downstream from Puerco River.

Drainage area.--11,300 sq mi, approximately.

Records available.--March to November 1905, December 1905 to August 1906 (monthly discharge only), September 1906 to April 1907, May 1907 to December 1909 (gage heights only), September 1949 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 5,062.87 ft above mean sea level, datum of 1929. March 1905 to December 1909, staff gage at former highway bridge just upstream from present bridge at different datum.

Average discharge.--12 years (1905-6, 1949-60), 96.7 cfs (70,010 acre-ft per year).

Extremes.--1905-9, 1949-60: Maximum discharge determined, 21,800 cfs Aug. 5, 1957 (gage height, 10.96 ft); maximum daily, 20,200 cfs Nov. 27, 1905; no flow at times in most years.

Peak of flood of Sept. 19, 1923, was computed as 60,000 cfs, from cross section and slope of water surface by Corps of Engineers, whose studies indicate that this was probably the greatest flood since 1870.

Remarks.--Diversions above station for irrigation of about 23,000 acres. Some regulation by reservoirs (combined capacity, about 73,000 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.41	7.08	8.45	12.6	16.8	7.74	2.67	2.06	0.37	29.6	305	14.6	34.6
1952	34.2	16.4	44.1	521	29.8	85.8	113	19.1	30.2	121	194	126	112
1953	9.15	29.8	89.5	31.0	10.4	47.0	3.85	4.18	11.7	261	71.0	2.71	48.3
1954	3.63	5.88	7.81	10.6	12.1	79.5	6.13	2.63	612	119	356	102	102
1955	25.8	8.4	9.4	10.7	12.0	8.5	3.3	3.9	161	140	1,560	51.0	169
1956	4.68	6.88	14.7	33.0	140	9.15	3.00	1.30	25.6	47.0	122	2.30	33.8
1957	8.64	5.34	7.93	17.3	25.6	9.12	3.91	2.32	1.01	201	915	88.8	109
1958	169	36.5	10.4	11.9	10.8	49.2	11.7	3.77	41.7	43.3	428	399	102
1959	40.1	11.7	9.69	11.3	10.1	5.99	6.62	4.78	24.1	44.5	543	6.02	60.8
1960	552	159	97.6	153	49.1	219	10.8	4.78	4.17	7.86	31.7	4.23	109

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	148	421	519	775	931	476	159	127	22	1,820	18,770	866	25,030
1952	2,100	974	2,710	32,030	1,710	5,270	6,700	1,170	1,790	7,450	11,940	7,510	81,350
1953	562	1,770	5,500	1,910	576	2,890	229	257	698	16,050	4,360	161	34,960
1954	223	350	480	652	670	4,890	365	162	54	37,610	7,310	21,160	73,930
1955	1,590	502	579	657	668	522	198	240	9,600	8,580	96,080	3,030	122,200
1956	288	409	905	2,030	8,040	563	178	80	1,520	2,890	7,520	137	24,560
1957	531	318	488	1,060	1,420	561	233	143	60	12,380	56,280	5,280	78,750
1958	10,390	2,170	642	729	602	3,020	694	232	2,480	2,650	26,330	23,740	73,690
1959	2,470	698	586	697	561	368	394	294	1,430	2,730	33,400	358	44,000
1960	33,930	9,470	6,000	9,380	2,850	13,490	642	294	248	483	1,950	251	78,970

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	19.3	13,980
1951	1213	8,700	Aug. 28, 1951	0	34.6	25,030	41.1	29,730
1952	1243	8,400	Jan. 19, 1952	1.2	112	81,350	115	83,400
1953	1283	8,030	July 29, 1953	.8	48.3	34,960	38.9	28,180
1954	1343	10,800	July 22, 1954	0	102	73,930	104	75,540
1955	1393	10,500	Aug. 17, 1955	.4	169	122,200	†167	†121,200
1956	1443	4,210	June 30, 1956	.2	33.8	24,560	33.5	24,300
1957	1513	21,800	Aug. 5, 1957	.3	109	78,750	125	90,620
1958	1563	7,000	Sept. 14, 1958	.3	102	73,690	88.8	54,250
1959	1633	6,300	Aug. 6, 1959	.4	60.8	44,000	124	89,630
1960	1713	11,400	Oct. 29, 1959	.6	109	78,970	-	-

† Corrected.

3975. Chevelon Fork below Wildcat Canyon, near Winslow, Ariz.

Location.--Lat 34°38', long 110°43', in SW¹/₄ sec.36, T.15 N., R.15 E., on right bank three-eighths of a mile downstream from Wildcat Canyon and 25 miles south of Winslow.

Drainage area.--275 sq mi.

Records available.--May 1947 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 5,905.16 ft above mean sea level, datum of 1929 (Bureau of Reclamation bench mark).

Average discharge.--13 years (1947-60), 48.8 cfs (35,330 acre-ft per year); median of yearly mean discharges, 39 cfs (28,200 acre-ft per year).

Extremes.--1947-60: Maximum discharge, 19,800 cfs Jan. 18, 1952 (gage height, 18.2 ft), from rating curve extended above 6,300 cfs on basis of slope-area measurement of peak flow; no flow for extended periods in each year.

Remarks.--Station is just downstream from Wildcat Reservoir site. No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0.02	60.4	22.2	43.0	0.02	0	205	12.7	29.1
1952	0	0	166	523	65.8	119	656	47.4	.19	0	0	0	132
1953	0	0	4.35	43.3	32.3	190	22.3	1.03	0	0	0	0	24.6
1954	0	0	0	0	0	261	115	.64	0	.14	1.11	0	31.8
1955	0	0	0	0	0	52.7	5.28	.25	1.70	0	95.0	1.69	13.3
1956	0	0	10.8	5.56	25.7	88.3	36.4	1.46	0	0	1.26	0	14.1
1957	0	0	0	512	308	143	19.4	9.43	.07	0	0	0	81.6
1958	0	28.1	27.5	1.41	89.5	224	305	5.13	0	0	0	141	67.7
1959	45.9	15.8	7.91	.42	13.9	85.5	25.0	.18	0	0	13.2	.09	17.4
1960	.15	108	130	119	55.3	475	52.8	.99	0	0	0	0	78.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	1.0	3,710	1,320	2,650	1.0	0	12,600	755	21,040
1952	0	0	10,220	32,140	3,780	7,250	39,180	2,910	12	0	0	0	95,490
1953	0	0	267	2,660	1,790	11,710	1,330	63	0	0	0	0	17,820
1954	0	0	0	0	0	16,070	6,850	39	0	8.7	68	0	23,040
1955	0	0	0	0	0	3,240	314	16	101	0	5,840	100	9,610
1956	0	0	662	342	1,480	5,430	2,170	90	0	0	78	0	10,250
1957	0	0	0	31,490	17,080	8,770	1,160	580	4.4	0	0	0	59,090
1958	0	1,670	1,690	87	4,970	13,760	18,160	315	0	0	0	8,380	49,030
1959	2,820	940	486	26	772	5,250	1,490	11	0	0	814	5.4	12,610
1960	9.3	6,450	7,980	7,340	3,180	29,090	3,140	61	0	0	0	0	57,250

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	23.8	17,230
1951	1213	8,940	Aug. 29, 1951	0	29.1	21,040	43.2	31,260
1952	1283	19,800	Jan. 18, 1952	0	132	95,490	110	79,720
1953	1283	653	Mar. 11, 1953	0	24.6	17,820	24.3	17,550
1954	1343	7,500	Mar. 23, 1954	0	31.8	23,040	31.8	23,040
1955	1393	631	Aug. 23, 1955	0	13.3	9,610	14.2	10,280
1956	1443	227	Mar. 6, 1956	0	14.1	10,250	13.2	9,590
1957	1513	11,300	Jan. 9, 1957	0	81.6	59,090	86.3	62,450
1958	1563	4,080	Sept. 28, 1958	0	67.7	49,030	69.0	49,920
1959	1633	479	Oct. 6, 1958	0	17.4	12,610	31.5	22,810
1960	1713	2,630	Dec. 25, 1959	0	78.9	57,250	-	-

3980. Chevelon Fork near Winslow, Ariz.

Location.--Lat 34°56', long 110°31', in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.27, T.18 N., R.17 E., on right bank 3 miles upstream from mouth and 12 miles southeast of Winslow.

Drainage area.--1,010 sq mi, approximately, including some area which is probably noncontributing.

Records available.--December 1905 to December 1906, January 1907 to December 1908 (gage heights only), December 1915 to December 1919, March 1929 to February 1934, September 1935 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 4,899.5 ft above mean sea level, datum of 1929. Prior to Dec. 12, 1908, water-stage recorder at site 1 mile upstream at different datum. Dec. 18, 1915, to Dec. 5, 1919, water-stage recorder 500 ft downstream at datum 1.02 ft higher. Mar. 30 to July 2, 1929, staff gage at site 500 ft downstream at different datum.

Average discharge.--32 years (1916-19, 1929-33, 1935-60), 51.0 cfs (36,920 acre-ft per year); median of yearly mean discharges, 41 cfs (29,700 acre-ft per year).

Extremes.--1915-19, 1929-60: Maximum discharge, 25,300 cfs Jan. 19, 1952 (gage height, 19.8 ft), from rating curve extended above 2,700 cfs on basis of slope-area measurement of peak flow; minimum, about 1 cfs at times in each of several years.

Remarks.--No known diversion above station. Chevelon Canal diverts 2 miles below station for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.71	3.97	3.99	3.74	4.74	37.1	15.2	36.1	2.70	4.40	171	28.8	26.6
1952	4.64	4.10	93.1	663	64.6	103	733	56.2	2.98	5.91	4.81	4.46	145
1953	4.64	6.11	3.39	24.1	32.1	174	27.1	4.55	4.52	9.84	5.84	4.06	25.1
1954	4.14	4.08	3.73	3.68	4.10	211	115	3.93	4.14	12.8	3.91	12.7	32.1
1955	4.87	4.17	3.92	3.89	4.39	31.8	6.97	4.03	21.4	12.8	140	5.78	20.6
1956	4.35	4.21	4.23	5.48	20.6	88.3	26.6	4.25	3.74	6.37	7.18	3.78	14.9
1957	3.94	3.49	3.61	423	319	133	17.1	4.47	4.14	6.00	9.64	4.50	76.4
1958	6.25	7.43	21.2	4.53	63.5	199	300	8.54	10.3	3.54	4.31	100	60.3
1959	62.7	8.44	12.3	5.52	5.02	74.7	18.6	3.55	4.37	6.36	14.1	3.73	18.5
1960	12.5	97.0	137	111	49.2	527	57.6	2.22	2.11	2.96	2.93	3.77	84.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	228	236	245	230	263	2,280	903	2,220	160	270	10,490	1,710	19,240
1952	285	244	5,730	40,790	3,720	6,310	43,630	3,460	177	364	296	265	105,300
1953	285	363	208	1,480	1,760	10,690	1,610	280	269	605	359	243	18,170
1954	254	243	229	226	228	12,980	6,820	242	246	788	241	753	23,250
1955	300	248	241	239	244	1,960	415	248	1,270	787	8,630	344	14,930
1956	267	250	260	337	1,180	5,430	1,580	262	222	392	442	225	10,850
1957	243	208	234	25,980	17,740	8,170	1,020	275	246	369	593	268	55,350
1958	384	442	1,310	278	3,530	12,260	17,860	525	614	218	265	5,950	43,640
1959	3,860	502	758	339	279	4,590	1,100	218	260	391	867	222	13,390
1960	771	5,770	8,400	6,850	2,830	32,380	3,430	136	125	182	160	†224	61,280

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	23.5	16,990
1951	1213	7,200	Aug. 30, 1951	1.0	26.6	19,240	34.2	24,780
1952	1243	25,300	Jan. 19, 1952	2.4	145	105,300	138	99,870
1953	1283	650	Mar. 12, 1953	3.2	25.1	18,170	24.9	18,040
1954	1343	5,730	Mar. 23, 1954	3.3	32.1	23,250	32.2	23,310
1955	1393	1,800	June 13, 1955	2.5	20.6	14,930	20.6	14,910
1956	1443	562	July 23, 1956	3.6	14.9	10,850	14.8	10,760
1957	1513	8,680	Jan. 9, 1957	2.6	76.4	55,350	78.4	56,800
1958	1563	2,140	Sept. 28, 1958	2.7	60.3	43,640	64.4	46,620
1959	1633	1,320	Aug. 14, 1959	1.5	18.5	13,390	32.1	23,210
1960	1713	2,640	Dec. 26, 1959	1.0	84.4	61,280	-	-

3985. Clear Creek below Willow Creek, near Winslow, Ariz.

Location.--Lat 34°40', long 111°00', in NW 1/4 sec.30, T.15 N., R.13 E., on right bank 2 miles downstream from Willow Creek and 30 miles southwest of Winslow.

Drainage area.--321 sq mi.

Records available.--June 1947 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,000 ft (from Forest Service map).

Average discharge.--13 years (1947-60), 75.6 cfs (54,730 acre-ft per year); median of yearly mean discharges, 60 cfs (43,400 acre-ft per year).

Extremes.--1947-60: Maximum discharge, 16,400 cfs Jan. 18, 1952 (gage height, 21.5 ft), from rating curve extended above 6,000 cfs by logarithmic plotting; no flow for many days in most years.

Remarks.--No diversion above station. Station is downstream from Willow Reservoir site.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	46.5	73.8	79.3	0	0	213	24.3	36.8
1952	0	0	197	576	77.7	135	1,128	218	0.54	0	23.5	.14	196
1953	0	0	4.34	27.1	23.1	218	79.1	2.93	0	0	0	0	29.7
1954	0	0	0	0	0	254	242	1.40	0	0	0	0	41.6
1955	0	0	0	0	.08	63.0	33.2	.98	39.1	1.20	228	4.34	31.2
1956	0	0	14.9	7.82	18.9	116	48.0	1.88	0	0	0	0	17.4
1957	0	0	0	492	482	282	76.5	28.6	2.50	0	0	0	112
1958	0	143	39.1	1.89	154	307	514	27.1	0	0	14.2	156	112
1959	30.9	7.45	5.14	0	3.25	86.9	74.7	.77	0	0	51.7	.27	20.2
1960	1.45	70.5	164	129	67.7	711	229	18.1	0	0	5.33	.98	117

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	2,860	4,390	4,870	0	0	13,080	1,450	26,650
1952	0	0	12,120	35,430	4,470	8,310	67,140	13,420	32	0	1,440	8.3	142,400
1953	0	0	267	1,860	1,280	13,430	4,710	180	0	0	0	0	21,530
1954	0	0	0	0	0	15,620	14,390	86	0	0	0	0	30,100
1955	0	0	0	0	4.2	3,870	1,980	60	2,330	74	14,000	258	22,580
1956	0	0	919	481	1,080	7,150	2,860	116	0	0	0	0	12,610
1957	0	0	0	30,200	26,900	17,300	4,550	1,760	149	0	0	0	80,760
1958	0	8,510	2,400	118	9,540	18,900	30,560	1,660	0	0	872	9,270	80,850
1959	1,900	413	316	0	180	5,350	4,440	47	0	0	1,950	16	14,640
1960	89	4,200	10,110	7,930	3,890	43,750	13,650	1,110	0	0	328	58	85,120

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	37.2
1951	1213	8,090	Aug. 29, 1951	0	36.8	26,650	53.6
1952	1243	16,400	Jan. 18, 1952	0	196	142,400	180
1953	1283	497	Mar. 11, 1953	0	29.7	21,530	29.4
1954	1343	6,080	Mar. 23, 1954	0	41.6	30,100	41.6
1955	1393	1,220	June 14, 1955	0	31.2	22,580	32.4
1956	1443	198	Mar. 26, 1956	0	17.4	12,610	16.1
1957	1513	8,880	Jan. 10, 1957	0	112	80,760	127
1958	1563	2,920	Mar. 22, 1958	0	112	80,830	100
1959	1633	296	Aug. 20, 1959	0	20.2	14,640	36.4
1960	1713	2,770	Dec. 25, 1959	0	117	85,120	-

3990. Clear Creek near Winslow, Ariz.

Location.--Lat 34°58', long 110°38', in SE¼ sec.9, T.18 N., R.16 E., on right bank ½ miles upstream from mouth and 5 miles southeast of Winslow.

Drainage area.--607 sq mi.

Records available.--June to December 1906, January 1907 to January 1909 (gage heights only), March 1929 to February 1934, September 1935 to September 1960.

Gage.--Water-stage recorder with diversion dam, 1,200 ft downstream, as control. Datum of gage is 4,861.32 ft above mean sea level, datum of 1929. June 3, 1906, to Jan. 31, 1909, water-stage recorder at site 2¼ miles upstream at different datum. Mar. 25 to July 2, 1929, staff gage and July 3, 1929, to July 9, 1931, water-stage recorder, at present site at datum 4.03 ft higher.

Average discharge.--29 years (1929-33, 1935-60), 78.7 cfs (56,980 acre-ft per year); median of yearly mean discharges, 62 cfs (44,900 acre-ft per year).

Extremes.--1929-60: Maximum discharge, 50,000 cfs Apr. 4, 1929 (gage height, 18.1 ft, present datum), from rating curve extended above 13,500 cfs on basis of velocity-area studies and verified by slope-area measurement at gage height 13.4 ft; no flow for many days in each year.

Floodmarks 3 ft higher than stage of flood of Apr. 4, 1929, were found 1,850 ft downstream from gage in 1929.

Remarks.--Water diverted above station for municipal use. Records show discharge over dam and do not include flow in canal that diverts at dam or leakage through dam.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.15	0.51	1.46	0.48	0.59	9.62	53.8	70.4	0.02	0	170	45.8	29.6
1952	3.03	1.95	111	784	69.9	103	1,183	230	.51	1.44	9.89	.90	208
1953	.69	1.17	2.09	2.83	11.4	207	79.5	1.77	.16	.90	1.80	.007	26.0
1954	.62	1.15	1.53	.84	.72	207	232	.04	.14	7.44	1.35	.94	37.9
1955	1.21	1.37	1.78	1.89	1.86	19.3	19.1	1.72	25.1	.06	207	9.27	24.4
1956	1.64	1.80	2.00	1.79	3.71	91.3	45.5	1.55	.96	1.82	1.19	1.43	12.9
1957	1.63	2.63	2.00	450	392	248	69.1	17.9	.83	1.67	1.83	.85	97.5
1958	.55	102	27.4	2.15	108	270	460	22.2	.16	0	.18	118	91.6
1959	51.6	2.01	2.91	.98	1.51	57.5	64.7	.55	0	.25	11.4	1.01	16.3
1960	.30	44.1	139	102	61.2	637	264	11.9	.43	.44	.01	0	106

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8.9	30	28	30	33	592	3,200	4,330	1.0	0	10,440	2,730	21,420
1952	186	116	6,820	48,180	4,020	6,350	70,400	14,150	30	89	608	53	151,000
1953	43	69	129	174	634	12,740	4,730	109	9.7	55	110	.4	18,800
1954	38	67	94	51	40	12,750	13,780	2.4	8.5	457	83	56	27,430
1955	74	82	109	116	103	1,190	1,140	106	1,490	3.6	12,700	552	17,670
1956	101	107	123	110	214	5,620	2,710	95	57	112	73	85	9,410
1957	100	156	123	27,670	21,750	15,260	4,110	1,100	50	103	112	50	70,580
1958	34	6,090	1,680	132	5,980	16,610	27,380	1,360	9.3	0	11	7,030	66,320
1959	3,180	120	179	60	84	3,530	3,850	34	0	16	700	60	11,810
1960	19	2,620	8,550	6,280	3,520	39,190	15,740	734	26	27	.6	0	76,710

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	33.1	23,950
1951	1213	8,530	Aug. 30, 1951	0	29.6	21,420	39.3	28,480
1952	1243	22,500	Jan. 19, 1952	0	208	151,000	199	144,100
1953	1283	695	Aug. 27, 1953	0	26.0	18,800	25.9	18,760
1954	1343	5,800	Mar. 24, 1954	0	37.9	27,430	38.0	27,490
1955	1393	1,060	Aug. 25, 1955	0	24.4	17,670	24.5	17,730
1956	1443	173	Mar. 27, 28, 1956	0	12.9	9,410	13.0	9,460
1957	1513	9,150	Jan. 11, 1957	0	97.5	70,580	108	78,010
1958	1563	2,920	Mar. 23, 1958	0	91.6	66,320	85.6	61,990
1959	1633	542	Oct. 1, 1958	0	16.3	11,810	27.0	19,520
1960	1713	2,440	Dec. 26, 1959	0	106	76,710	-	-

LITTLE COLORADO RIVER BASIN

4000. Little Colorado River near Winslow, Ariz.

Location--Lat 35°00'10", long 110°39'00", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.33, T.19 N., R.16 E., on left bank 500 ft upstream from The Atchison, Topeka and Santa Fe Railway Co. bridge, 2.0 miles downstream from Clear Creek, 2 $\frac{1}{2}$ miles southeast of Winslow, and 67 miles upstream from Grand Falls.

Drainage area--16,100 sq mi, approximately.

Records available--May 1954 to June 1956 (discharge below 100 cfs only).

Gage--Water-stage recorder. Datum of gage is 4,842.23 ft above mean sea level (State Highway Department bench mark).

Extremes--1954-56: Maximum discharge not determined; maximum gage height, 9.4 ft June 14, 1955; minimum discharge, about 0.1 cfs May 31, June 1, 1955.

Remarks--Diversion above station for irrigation of about 28,000 acres. Some regulation by reservoirs (combined capacity, about 73,000 acre-ft, not including Lone Pine Reservoir).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	-	-	-	-	-	-	-	3.34	2.07	-	-	-	-
1955	-	18.7	25.5	29.1	20.1	-	33.1	6.32	-	-	-	-	-
1956	4.55	7.2	-	-	-	-	-	4.55	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	-	-	-	-	-	-	-	205	123	-	-	-	-
1955	-	1,110	1,560	1,790	1,120	-	1,970	389	-	-	-	-	-
1956	280	428	-	-	-	-	-	280	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1954	1343	-	-	al.2	-	-	-	-	-
1955	1393	-	-	.1	-	-	-	-	-
1956	1443	-	-	bl.2	-	-	-	-	-

a Minimum for period May to September.

b Minimum for period October to June.

4006. River de Flag at Flagstaff, Ariz.

Location--Lat 35°13'05", long 111°39'30", in NE $\frac{1}{4}$ sec.9, T.21 N., R.7 E., on left bank at upstream side of bridge on private road, a quarter of a mile west of Fort Valley Road, 2,000 ft downstream from Schultz Canyon, and 1 $\frac{1}{2}$ miles upstream from The Atchison, Topeka and Santa Fe Railway Co. bridge.

Drainage area--50.4 sq mi.

Records available--October 1955 to September 1960.

Gage--Water-stage recorder and concrete control. Altitude of gage is 6,960 ft (from topographic map).

Extremes--1955-60: Maximum discharge, 56 cfs Apr. 20, 1958 (gage height, 4.91 ft); no flow for most of each year.

Remarks--Small diversion above station in Schultz Canyon for municipal water supply to Flagstaff area.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	2.78	5.69	.03	.32	0	0	0	.73
1959	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	.23	0	0	0	0	0	0	.02

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	171	338	1.8	19	0	0	0	531
1959	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	14	0	0	0	0	0	0	14

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1956	1443	0	-	0	0	0	0	0	0
1957	1513	0	-	0	0	0	0	0	0
1958	1563	56	Apr. 20, 1958	0	.73	531	0	0	0
1959	1633	0	-	0	0	0	0	0	0
1960	1713	11	Mar. 24, 1960	0	.02	14	-	-	-

4008. Mormon Lake near Flagstaff, Ariz.

Location.--Lat 34°57'40", long 111°26'25", in NE $\frac{1}{4}$ sec.9, T.18 N., R.9 E., on east shore of Mormon Lake, 3 $\frac{1}{2}$ miles north of Mormon Lake ranger station and 20 miles southeast of Flagstaff.

Drainage area.--38.3 sq mi.

Records available.--August 1952 to September 1960.

Gage.--Staff gage. Datum of gage is 7,100.00 ft above mean sea level (Public Roads Administration bench mark). Low point in lake bed is elevation 7,102.8 ft.

Extremes.--Maximum and minimum observed gage heights for the water years 1952-60 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Gage height (feet)	Date	Gage height (feet)
1952	(a)	68.0	Sept. 4, 1952	5.6
1953	Nov. 7, 1952	5.7	Aug. 7, Sept. 2, 1953	3.6
1954	Apr. 20, 1954	5.0	Oct. 6, 1953, to Jan. 2, 1954, Sept. 1, 1954	Dry
1955	Apr. 1, 1955	4.9	Oct. 6, 1954, to Mar. 10, 1955, June 1, to Sept. 22, 1955	Dry
1956	Dec. 29, 1955	3.4	May 28, 1956, to Sept. 30, 1956	Dry
1957	Feb. 28, 1957	5.8	Oct. 31 to Dec. 31, 1956	Dry
1958	Apr. 1, 30, 1958	5.5	Sept. 3, 1958	4.1
1959	Oct. 1, 1958, Feb. 27, 1959	4.4	July 30 to Sept. 30, 1959	Dry
1960	Apr. 3, 1960	4.8	Oct. 1, 1959, to Mar. 1, 1960, Sept. 8-30, 1960	Dry

a Probably occurred in April.

b Maximum stage for water year obtained from floodmark.

Maximum gage height known, about 19 ft in 1919 or early 1920's. Lake dry at times in 1888, 1901-4, and in most years since 1947.

Remarks.--Mormon Lake is a natural closed basin. There is no surface outflow and no diversion from lake. Inflow, principally from melting snow, is not affected by storage or diversion. Lake is used for recreation.

LITTLE COLORADO RIVER BASIN

4010. Little Colorado River at Grand Falls, Ariz.

Location.--Lat 35°26', long 111°12', in T.24 N., R.11 E. (unsurveyed), on left bank 1,000 ft downstream from Grand Falls in Navajo Indian Reservation, 4½ miles upstream from Dinnebito Wash, 30 miles northeast of Flagstaff, and 96 miles upstream from mouth.

Drainage area.--21,200 sq mi, approximately.

Records available.--October 1925 to September 1951, October 1951 to September 1953 (peak discharges only), October 1953 to June 1960.

Gage.--Water-stage recorder. Datum of gage is 4,438.9 ft above mean sea level, datum of 1929.

Average discharge.--32 years (1925-51, 1953-59), 253 cfs (183,200 acre-ft per year); median of yearly mean discharges, 210 cfs (152,000 acre-ft per year).

Extremes.--1925-60: Maximum discharge, 50,500 cfs Apr. 5, 1929 (gage height, 30.0 ft); no flow for some periods in each year.

A discharge of about 120,000 cfs occurred Sept. 19, 1923 (gage height, 47.0 ft, from floodmarks).

Remarks.--Diversions for irrigation above station of about 29,000 acres. Flow regulated by many small reservoirs above station (combined capacity, about 73,000 acre-ft, not including Lone Pine Reservoir and Lake Mary).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	2.84	4.11	30.8	35.5	0	31.2	498	156	63.8
1952													
1953													
1954	0	0	0	0	0	339	336	0	0	639	87.8	369	148
1955	44.1	0	0	.41	1.41	18.8	8.83	0	304	85.8	1,986	39.4	210
1956	0	0	2.0	0	64.4	120	34.8	.76	0	0	86.8	0	25.7
1957	0	0	0	704	751	403	50.2	0	0	72.7	721	137	235
1958	209	161	33.8	3.71	117	487	725	19.1	13.1	16.1	363	529	222
1959	144	0	0	0	0	69.0	53.8	0	0	5.76	502	4.74	66.1
1960	200	558	371	359	155	1,460	306	1.62	.03	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	157	253	1,830	2,180	0	1,920	30,600	9,250	46,190
1952													
1953													
1954	0	0	0	0	0	20,840	19,980	0	0	39,310	5,400	21,980	107,500
1955	2,710	0	0	25	79	1,160	525	0	0	5,280	22,100	2,340	152,500
1956	0	0	121	0	3,710	7,380	2,070	47	0	0	5,340	0	18,670
1957	0	0	0	43,300	41,710	24,810	2,980	0	0	4,470	44,360	8,140	169,800
1958	12,850	9,590	2,080	228	6,500	29,940	43,150	1,170	778	987	22,310	31,470	161,100
1959	8,890	0	0	0	0	4,240	3,200	0	0	354	30,890	282	47,860
1960	12,310	33,200	22,830	22,050	8,890	89,750	18,210	99	2.0	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	\$55.5	\$40,190
1951	1213	10,200	Aug. 30, 1951	0	63.8	46,190	-	-
1952	1343	26,100	Jan. 20, 1952	-	-	-	-	-
1953	1343	4,140	July 31, 1953	-	-	-	-	-
1954	1343	7,450	(a)	0	148	107,500	152	110,200
1955	1393	9,020	June 15, 1955	0	210	152,300	207	149,700
1956	1443	2,320	Aug. 17, 1956	0	25.7	18,670	25.5	18,550
1957	1513	8,390	Jan. 12, 1957	0	235	169,800	268	194,300
1958	1563	4,560	Aug. 23, 1958	0	222	161,100	201	145,400
1959	1633	3,080	Aug. 7, 1959	0	66.1	47,860	148	107,500
1960	1713	b7,960	Nov. 1, 1959	0	-	-	-	-

‡ Not previously published.

a Mar. 25, July 25, 1954.

b Maximum for period October to June.

4014. Moenkopi Wash near Tuba, Ariz.

Location.--Lat 36°02', long 111°24', in T.31 N., R.9 E. (unsurveyed), in Navajo Indian Reservation, at downstream side of left pier of bridge on U. S. Highway 89, 9 miles upstream from mouth, 11 miles north of Cameron, and 11 miles southwest of Tuba.

Drainage area.--2,440 sq mi, approximately.

Records available.--July 1926 to December 1953.

Gage.--Water-stage recorder at present site since June 23, 1941. Datum of gage is 4,310.96 ft above mean sea level (State Highway Department bench mark). Prior to Aug. 18, 1929, staff gages and Aug. 18, 1929, to June 22, 1941, water-stage recorder, at site 8 miles upstream at different datums.

Average discharge.--27 years (1926-53), 20.1 cfs (14,550 acre-ft per year).

Extremes.--1926-53: Maximum discharge, 15,100 cfs Aug. 4, 1929, from rating curve

extended above 200 cfs on basis of slope-area measurement of peak flow; no flow for many days in each year.

Remarks.--Diversions above station for irrigation of about 2,500 acres; none below. Records of chemical analyses for the period July to September 1957 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second, of Moenkopi Wash near Tuba, Ariz.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.66	2.50	2.71	3.88	1.05	0.43	2.41	0.66	0	6.01	14.1	53.9	8.24
1952	30.6	4.49	8.82	17.5	3.64	3.32	8.54	0.42	0.46	2.98	28.8	191	24.8
1953	1.65	3.49	7.51	4.32	3.36	2.40	0	0	0	174	69.0	1.03	22.6
1954	1.95	6.00	3.57	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	102	149	167	238	59	26	144	41	0	369	869	3,800	5,960
1952	1,880	267	542	1,070	209	204	508	26	27	183	1,770	11,340	18,030
1953	101	208	462	266	186	148	0	0	0	10,680	4,240	61	16,350
1954	120	357	220	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	5.08	3,670
1951	1213	5,000	Sept. 30, 1951	0	8.24	5,960	11.4	8,240
1952	1243	10,000	Sept. 21, 1952	0	24.8	18,030	22.2	16,110
1953	1283	5,700	July 30, 1953	0	22.6	16,350	22.5	16,290
1954	1283	al73	Nov. 18, 1953	-	-	-	-	-

a Maximum for period October to December.

4015. Moenkopi Wash near Cameron, Ariz.

Location.--Lat 35°55'30", long 111°25'15", in SW¹ sec. 3, T. 29 N., R. 9 E., in Navajo Indian Reservation, 3 miles upstream from mouth, 3½ miles north of Cameron, and 6 miles downstream from bridge on U. S. Highway 89.

Drainage area.--2,590 sq mi, approximately.

Records available.--October 1953 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 4,161.5 ft above mean sea level, datum of 1929.

Average discharge.--7 years (1953-60), 10.1 cfs (7,310 acre-ft per year).

Extremes.--1953-60: Maximum discharge, 7,440 cfs Sept. 23, 1954 (gage height, 15.6 ft), from rating curve extended above 800 cfs on basis of slope-area measurement at gage height 12.6 ft and high-water rating at former station near Tuba; no flow for many days in each year.

A discharge of 15,100 cfs occurred at site 14 miles upstream (published as "near Tuba City") Aug. 4, 1929, from rating curve extended above 200 cfs on basis of slope-area measurement of peak flow. Flood of Sept. 21, 1952, reached a discharge of 10,000 cfs at site 6 miles upstream (published as "near Tuba"), from rating curve extended above 500 cfs on basis of slope-area measurement of peak flow.

Remarks.--Diversions above station for irrigation of about 2,500 acres; none below.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	0	4.10	1.49	3.70	1.20	1.15	0	1.46	0.68	16.7	15.6	52.0	8.16
1955	17.0	2.51	2.86	4.17	4.84	1.85	0.05	0	32.2	94.8	130	.20	24.5
1956	.43	1.87	2.77	3.31	2.61	.32	.97	.92	0	15.0	46.8	0	6.33
1957	.11	1.20	1.56	6.05	2.85	5.39	.12	1.48	4.50	15.3	81.5	1.45	10.3
1958	27.8	21.8	2.72	2.86	5.32	13.6	.89	.03	.22	1.97	37.9	24.1	11.7
1959	2.33	1.94	1.70	2.54	2.29	.15	2.03	0	.88	.86	74.2	0	7.52
1960	3.17	5.90	2.05	1.45	1.88	4.92	.11	0	.57	.01	.03	2.66	1.89

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	0	244	92	227	67	70	0	90	41	1,030	957	3,090	5,910
1955	1,040	149	176	256	269	112	2.8	0	1,910	5,830	7,970	12	17,730
1956	26	111	170	204	150	19	58	57	0	925	2,880	0	4,600
1957	6.5	71	96	372	158	331	7.3	91	268	938	5,010	86	7,430
1958	1,710	1,300	167	176	295	834	53	2.0	13	121	2,330	1,440	8,440
1959	143	115	105	156	127	8.9	121	0	52	53	4,560	0	5,440
1960	195	351	126	89	108	302	6.5	0	34	.6	2.0	158	1,370

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1954	1393	7,440	Sept. 23, 1954	0	8.16	5,910	9.58	6,940
1955	1393	5,020	Aug. 5, 1955	0	24.5	17,730	23.0	16,670
1956	1443	3,480	Aug. 17, 1956	0	6.33	4,600	6.15	4,470
1957	1513	2,910	Aug. 25, 1957	0	10.3	7,430	14.4	10,440
1958	1563	2,600	Aug. 8, 1958	0	11.7	8,440	7.77	5,630
1959	1633	4,160	Aug. 5, 1959	0	7.52	5,440	7.95	5,750
1960	1713	277	Sept. 1, 1960	0	1.89	1,370	-	-

4020. Little Colorado River near Cameron, Ariz.

Location.--Lat 35°56', long 111°34', in Navajo Indian Reservation, on left bank 3 miles downstream from Coconino damsite, 9½ miles downstream from Moenkopi Wash, 9½ miles northwest of Cameron, and 45.5 miles upstream from mouth.

Drainage area.--26,500 sq mi, approximately.

Records available.--June 1947 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 3,979.2 ft above sea level, datum of 1929.

Average discharge.--13 years (1947-60), 203 cfs (147,000 acre-ft per year).

Extremes.--1947-60: Maximum discharge, 24,900 cfs Jan. 21, 1952 (gage height, 20.7 ft); no flow for some periods in each year.

Remarks.--Diversions above station for irrigation of about 32,000 acres and for municipal use. Some regulation by reservoirs above station (combined capacity, about 73,000 acre-ft, not including Lone Pine Reservoir and Lake Mary). All published Quality of Water records are for site at Cameron, 12 miles upstream from gaging station. Records are adjusted for travel time between the two sites and for influence of Moenkopi Wash. Records of chemical analyses for the period October 1950 to September 1958; suspended sediment loads for the period October 1947 to September 1960, and water temperatures for the period October 1951 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0.36	1.54	2.48	0.25	0	7.62	21.3	0	64.6	427	301	69.3
1952	145	1.72	2.39	2,029	177	210	2,216	343	2.77	31.1	204	468	486
1953	1.66	8.2	63.7	26.7	25.6	249	96.4	0	0	242	245	3.82	81.2
1954	0	2.19	.44	2.19	.47	286	339	1.96	4.53	616	102	436	150
1955	67.6	1.15	1.03	1.84	3.18	7.69	.38	0	595	200	2,264	60.5	270
1956	0	0	1.13	1.96	35.4	84.1	20.7	.61	0	32.2	141	.007	26.6
1957	0	0	0	637	736	419	32.4	.95	4.43	67.8	870	156	242
1958	209	209	20.6	5.00	88.3	508	745	26.3	2.77	7.23	375	578	231
1959	176	1.06	.46	2.08	1.44	30.7	40.2	0	.82	1.55	579	4.43	71.0
1960	107	583	309	296	143	1,439	312	.39	.21	0	0	6.42	267

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	22	94	152	14	0	454	1,310	0	3,970	26,270	17,910	50,200
1952	9,050	103	147	124,700	10,190	12,910	31,800	21,070	165	1,910	12,560	27,820	352,400
1953	114	488	3,920	1,640	1,420	15,310	5,730	0	0	14,890	15,050	227	58,790
1954	0	130	27	135	26	17,560	20,200	120	270	37,860	6,290	25,950	108,600
1955	4,160	68	63	113	176	473	22	0	35,380	12,320	139,200	3,600	195,600
1956	0	0	69	121	2,030	5,170	1,230	37	0	1,980	8,690	.4	19,340
1957	0	0	0	39,170	40,880	25,760	1,930	57	263	4,170	53,470	9,270	175,000
1958	12,830	12,420	1,260	307	4,900	31,260	44,540	1,620	165	444	23,090	34,420	167,300
1959	10,810	63	29	128	80	1,890	2,390	0	49	96	35,590	264	51,390
1960	6,580	34,710	19,010	18,200	8,220	88,470	18,560	24	13	0	0	382	194,200

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	55.8	-	40,400
1951	1213	11,700	Aug. 30, 1951	0	69.3	50,200	82.0	-	59,380
1952	1243	24,900	Jan. 21, 1952	0	486	352,400	479	-	347,600
1953	1283	6,230	July 30, 1953	0	81.2	58,790	75.2	-	54,420
1954	1343	7,070	(a)	0	150	108,600	156	-	112,700
1955	1393	8,990	June 13, 1955	0	270	195,600	264	-	191,400
1956	1443	6,650	Aug. 17, 1956	0	26.6	19,340	26.5	-	19,260
1957	1513	8,060	Jan. 12, 1957	0	242	175,000	278	-	201,500
1958	1563	5,010	Oct. 14, 1957	0	231	167,300	209	-	151,600
1959	1633	4,600	Aug. 7, 1959	0	71.0	51,390	139	-	100,800
1960	1713	6,620	Nov. 2, 1959	0	267	194,200	-	-	-

a Mar. 25, July 25, 1954.

4025. Colorado River near Grand Canyon, Ariz.

Location.--Lat 36°05'55", long 112°05'130", on left bank at Kaibab Bridge, a quarter of a mile upstream from Bright Angel Creek, 11 miles by trail northeast of Grand Canyon, Coconino County, 26 miles downstream from Little Colorado River, and 267 miles upstream from Hoover Dam.

Drainage area.--137,800 sq mi, approximately.

Records available.--October 1922 to September 1960. Prior to 1944, published as "at Bright Angel Creek, near Grand Canyon." Gage-height records collected 1½ miles downstream 1908-13, published in reports of U. S. Weather Bureau.

Gage.--Two water-stage recorders, 1 on left bank for ordinary flows since Oct. 1, 1934, and 1 on right bank 700 ft downstream since Dec. 9, 1922, used only for high water since 1934. Datum of both gages is 2,418.7 ft above mean sea level, preliminary datum of 1929.

Average discharge.--38 years (1922-60), 17,010 cfs (12,310,000 acre-ft per year).

Extremes.--1922-60: Maximum discharge, 127,000 cfs July 2, 1927 (gage height, 29.25 ft); minimum, 700 cfs Dec. 28, 1924 (gage height, -0.70 ft).
Maximum discharge known, 300,000 cfs about July 6, 1884 (computed on basis of flood studies at Lees Ferry). Crest discharge of flood of June 19, 1921, 220,000 cfs (gage height, 37.5 ft, from floodmarks), from rating curve extended above 120,000 cfs by logarithmic plotting.

Remarks.--Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Records of chemical analyses, suspended sediment loads, and water temperatures are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5,841	5,969	7,064	5,308	6,595	6,975	8,998	25,240	47,060	22,720	13,540	7,592	13,590
1952	6,910	7,825	5,746	9,658	6,890	7,070	37,130	82,350	87,440	25,860	13,550	10,010	25,020
1953	6,389	6,663	6,503	6,627	6,795	7,767	8,962	16,060	49,280	15,940	11,440	4,880	12,260
1954	5,287	7,199	5,846	5,414	6,352	6,887	9,509	19,700	13,400	10,860	5,679	6,977	8,604
1955	8,558	6,043	4,811	4,245	4,838	9,528	10,440	24,650	26,810	10,050	10,860	4,446	10,470
1956	3,846	5,001	5,748	6,480	5,394	8,316	14,750	34,570	43,420	9,722	6,230	3,106	12,210
1957	3,289	5,462	4,461	5,573	6,671	8,801	13,640	40,680	93,120	65,590	27,190	14,860	24,170
1958	12,740	14,990	8,732	6,745	9,648	12,180	26,550	63,430	63,250	11,110	5,476	6,373	20,100
1959	5,627	6,468	6,503	5,432	5,864	5,931	7,110	16,440	30,320	12,940	7,929	4,550	9,579
1960	8,595	9,567	6,410	5,654	6,144	13,340	27,730	25,700	37,170	11,030	3,762	3,672	13,200

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	359.1	355.2	434.3	326.4	366.3	428.8	535.4	1,552	2,800	1,397	832.6	451.8	9,839
1952	424.9	465.6	353.3	592.6	396.3	434.7	2,209	5,062	5,203	1,590	832.9	595.6	18,160
1953	392.9	396.5	399.9	407.5	377.5	477.6	533.3	988.6	2,932	980	703.1	290.4	8,879
1954	325.1	428.4	359.5	332.9	352.8	423.5	565.8	1,211	797.5	667.8	349.2	415.2	6,229
1955	526.2	359.6	295.8	261	268.7	585.8	621.2	1,515	1,596	618.1	667.6	264.6	7,580
1956	236.5	297.6	353.5	398.5	310.3	511.3	877.9	2,125	2,584	597.6	363	184.8	8,860
1957	202.3	325	274.3	342.6	370.5	541.2	811.6	2,501	5,541	4,033	1,672	884.4	17,500
1958	783.6	991.8	556.9	414.8	535.8	748.9	1,580	3,900	3,763	683.3	336.7	379.2	14,550
1959	346	384.9	387.6	334	325.7	364.7	423.1	1,011	1,804	795.4	487.5	270.8	6,935
1960	528.5	569.3	394.1	347.7	353.4	820.1	1,650	1,580	2,212	678.1	232.6	218.5	9,584

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	14,970	10,840,000
1951	1213	63,700	June 1, 1951	3,420	13,590	9,839,000	13,720	9,934,000
1952	1243	122,000	June 12-13, 1952	3,290	25,020	18,160,000	24,940	18,110,000
1953	1283	68,500	June 17, 1953	3,530	12,260	8,879,000	12,160	8,803,000
1954	1343	32,800	May 27, 1954	3,480	8,604	6,229,000	8,698	6,297,000
1955	1393	40,400	June 14, 1955	2,920	10,470	7,580,000	10,060	7,286,000
1956	1443	67,200	June 6, 1956	2,770	12,210	8,860,000	12,090	8,774,000
1957	1513	125,000	June 13, 1957	2,670	24,170	17,500,000	26,120	18,910,000
1958	1563	108,000	June 2, 1958	4,260	20,100	14,550,000	18,590	13,480,000
1959	1633	38,300	June 19, 1959	3,370	9,579	6,935,000	10,090	7,308,000
1960	1713	46,300	June 10, 1960	2,720	13,200	9,584,000	-	-

4030. Bright Angel Creek near Grand Canyon, Ariz.

Location.--Lat 36°05'55", long 112°05'40", on right bank 1,000 ft upstream from mouth and 11 miles by Bright Angel trail from Grand Canyon, Coconino County.

Drainage area.--98.4 sq mi.

Records available.--October 1923 to September 1960.

Gage.--Water-stage recorder at present site and datum since Apr. 22, 1943. Datum of gage is 2,452.1 ft above mean sea level, preliminary datum of 1929. Oct. 20, 1923, to Jan. 29, 1933, and Aug. 25, 1936, to Apr. 21, 1943, staff gages at several sites within 3,200 ft of mouth at various datums. Jan. 30, 1933, to Aug. 19, 1936, water-stage recorder 200 ft upstream from present site at datum 4.5 ft higher.

Average discharge.--37 years (1923-60), 36.6 cfs (26,500 acre-ft per year).

Extremes.--1923-60: Maximum discharge, 4,400 cfs Aug. 19, 1936, from rating curve extended above 250 cfs on basis of slope-area measurement of peak flow; minimum daily, 12 cfs July 8-14, 1959.

Remarks.--Minor diversion for irrigation of a few acres above station. Some fluctuation in flow caused by powerplant 9 miles upstream from station; no regulation by storage. Records of chemical analyses for the period October 1952 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	19.0	20.0	20.1	20.5	19.9	19.9	24.1	29.8	21.1	19.4	20.2	18.1	21.0
1952	19.0	18.6	25.2	23.2	22.1	25.1	139	306	65.4	29.0	24.3	23.0	60.2
1953	21.0	21.6	22.2	21.2	19.1	21.1	26.9	25.7	18.0	19.9	21.1	18.1	21.2
1954	17.3	17.3	17.3	17.6	17.5	22.3	54.4	41.4	19.1	18.9	15.4	15.8	22.7
1955	17.4	17.6	17.4	18.5	18.1	18.1	22.6	20.8	18.1	15.0	15.4	14.9	17.8
1956	15.4	17.6	17.6	19.8	17.4	22.3	44.7	39.5	19.3	17.1	17.5	15.8	22.0
1957	16.9	17.3	18.3	20.5	23.9	25.3	66.0	117	73.5	25.8	25.3	18.8	37.4
1958	19.8	22.9	21.7	19.8	23.9	29.6	135	376	39.3	29.0	25.1	26.2	64.4
1959	23.0	25.1	22.8	24.3	24.9	18.5	21.9	19.3	15.1	14.6	19.4	16.1	20.4
1960	17.4	19.8	21.4	20.9	21.4	24.0	59.4	43.3	21.7	18.7	17.6	18.0	25.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,170	1,190	1,230	1,260	1,100	1,220	1,440	1,830	1,250	1,190	1,240	1,080	15,200
1952	1,170	1,110	1,550	1,420	1,270	1,540	8,290	18,790	3,890	1,790	1,490	1,370	43,680
1953	1,290	1,290	1,370	1,300	1,060	1,300	1,600	1,460	1,070	1,230	1,300	1,080	15,350
1954	1,070	1,030	1,060	1,080	974	1,370	3,240	2,540	1,140	1,040	944	938	16,430
1955	1,070	1,050	1,070	1,130	1,000	1,110	1,350	1,280	1,080	924	946	889	12,900
1956	948	1,050	1,080	1,220	1,000	1,370	2,660	2,430	1,150	1,050	1,070	938	15,970
1957	1,040	1,030	1,120	1,260	1,320	1,560	3,930	7,200	4,380	1,590	1,550	1,120	27,100
1958	1,220	1,360	1,350	1,220	1,320	1,820	8,030	23,120	2,340	1,790	1,540	1,560	46,650
1959	1,410	1,490	1,400	1,500	1,380	1,140	1,300	1,190	900	899	1,190	956	14,760
1960	1,070	1,180	1,310	1,290	1,230	1,480	3,540	2,660	1,290	1,150	1,080	1,070	18,350

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	29.7	21,500
1951	1213	193	Aug. 29, 1951	16	21.0	15,200	21.3	15,440
1952	1243	672	May 5, 1952	18	60.2	43,680	60.3	43,800
1953	1283	930	Aug. 27, 1953	16	21.2	15,350	20.1	14,580
1954	1343	446	Mar. 23, 1954	13	22.7	16,430	22.7	16,460
1955	1393	103	June 13, 1955	14	17.8	12,900	17.7	12,790
1956	1443	77	Jan. 27, 1956	14	22.0	15,970	22.1	16,080
1957	1513	1,770	Aug. 5, 1957	16	37.4	27,100	38.4	27,820
1958	1563	a900	Aug. 22, 1958	17	64.4	46,650	65.0	47,040
1959	1633	660	Aug. 11, 1959	12	20.4	14,760	19.3	14,010
1960	1713	240	June 6, 1960	14	25.3	18,350	-	-

a Estimated.

4053. Crystal Creek near Cedar City, Utah

Location.--Lat 37°31'20", long 113°01'25", in SW $\frac{1}{4}$ sec.7, T.38 S., R.10 W., on left bank half a mile downstream from Shiver Creek and 12 miles southeast of Cedar City.

Drainage area.--10.2 sq mi.

Records available.--October 1956 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 8,320 ft (from topographic map).

Extremes.--1956-60: Maximum discharge, 1,300 cfs Aug. 19, 1959 (gage height, 5.23 ft), from rating curve extended above 100 cfs on basis of slope-area measurement at gage height 4.48 ft; minimum, 0.1 cfs July 6, 7, 8, 9, 1957.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	0.70	0.70	0.58	0.98	1.20	2.30	15.8	64.4	31.2	1.87	1.66	1.36	10.3
1958	1.86	1.84	1.80	1.80	1.80	2.00	5.83	136	15.9	3.42	1.73	5.07	15.1
1959	1.42	1.40	1.16	1.10	1.0	1.97	14.5	10.9	2.05	1.50	3.08	.78	3.41
1960	.82	.80	.76	.87	.84	1.27	11.4	21.0	4.19	1.39	1.05	1.11	3.80

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	43	42	36	60	67	141	942	3,960	1,860	103	102	81	7,440
1958	115	110	111	111	100	123	347	8,380	945	210	106	301	10,960
1959	87	84	71	68	56	121	861	673	122	92	189	46	2,470
1960	50	47	47	54	48	78	677	1,290	249	86	64	66	2,760

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1957	1563	387	July 11, 1957	-	10.3	7,440	10.6	7,850
1958	1563	863	Sept. 13, 1958	1.4	15.1	10,960	15.0	10,880
1959	1633	1,300	Aug. 19, 1959	.4	3.41	2,470	3.21	2,320
1960	1713	182	Sept. 1, 1960	.5	3.80	2,760	-	-

4055. North Fork Virgin River near Springdale, Utah

Location.--Lat 37°12'35", long 112°58'40", in SW¼NW¼ sec.22, T.41 S., R.10 W., on right bank in Zion National Park, 0.2 mile downstream from point of diversion of Springdale Canal, 0.5 mile downstream from Pine Creek, and 1.9 miles northeast of Springdale.

Drainage area.--350 sq mi (revised), approximately.

Records available.--May 1913 to June 1914, June to November 1923, April to June, August and September 1925 (fragmentary), October 1925 to September 1960. Published as Zion Creek near Springdale 1913-14 (flow of Springdale Canal not included) and as Mukuntu-weap River near Springdale 1923, 1925-32.

Gage.--Water-stage recorder. Altitude of gage is 3,970 ft (from topographic map). May 13, 1913, to June 30, 1914, staff gage at site 3½ miles downstream at different datum. June 6, 1923, to Dec. 14, 1949, staff gages at several sites within three-quarters of a mile of present site at various datums.

Average discharge.--35 years (1925-60), 101 cfs (73,120 acre-ft per year).

Extremes.--1925-60: Maximum discharge, 7,000 cfs Mar. 3, 1938 (gage height, 12.29 ft, present datum, from floodmark), on basis of slope-area measurement of peak flow; minimum observed, 24 cfs Dec. 17, 31, 1928.

Remarks.--Figures given herein include Springdale Canal which diverts water in NW¼NW¼ sec.22, T.41 S., R.10 W., for irrigation in vicinity of Springdale. Diversion above station for irrigation of about 1,400 acres.

Correction.--In WSP 1313, the monthly runoff for August 1928 is in error; it should be 1,970 acre-ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	43.0	51.1	50.0	49.8	52.7	60.6	79.5	88.5	46.3	38.3	59.8	40.6	55.0
1952	44.1	50.5	82.9	57.2	58.0	79.5	57.1	912	193	69.6	60.8	54.2	186
1953	52.6	60.7	61.0	63.6	56.5	65.5	84.3	69.3	45.3	53.3	52.4	36.2	58.4
1954	45.8	49.0	45.5	56.5	60.3	72.6	295	168	59.9	64.2	40.2	51.5	83.9
1955	51.4	50.6	52.5	51.3	60.6	69.6	106	108	51.9	47.6	72.0	29.4	62.7
1956	32.6	50.4	54.7	66.1	48.9	65.0	105	98.5	39.1	35.3	31.0	28.4	54.6
1957	34.0	35.9	40.5	51.1	66.5	62.9	106	238	141	65.6	61.9	51.0	79.6
1958	61.7	70.0	66.1	49.7	94.0	111	356	723	143	85.9	81.2	104	163
1959	61.7	63.0	56.7	51.0	59.1	67.5	88.9	55.9	52.7	40.9	63.5	42.1	58.5
1960	39.0	46.8	48.0	45.6	50.1	73.8	108	99.4	55.9	32.1	30.3	39.5	55.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,640	3,040	3,080	3,060	2,930	3,730	4,730	5,440	2,760	2,350	3,680	2,410	39,850
1952	2,710	3,000	5,100	3,520	3,330	4,890	33,980	56,100	11,500	4,280	3,740	3,230	135,400
1953	3,240	3,610	3,750	3,910	3,140	4,030	5,020	4,260	2,700	3,280	3,220	2,160	42,320
1954	2,820	2,810	2,800	3,480	3,350	4,460	17,570	10,310	3,560	3,950	2,470	3,060	80,740
1955	3,160	3,010	3,230	3,160	3,370	4,280	6,310	6,650	3,090	2,930	4,430	1,750	45,370
1956	2,010	3,000	3,360	4,060	2,810	3,990	6,230	6,060	2,320	2,170	1,910	1,690	39,610
1957	2,090	2,190	2,490	3,140	3,690	3,870	6,290	14,630	8,370	4,040	3,800	3,030	57,630
1958	3,790	4,170	4,060	3,050	5,220	6,810	21,160	44,470	8,530	5,280	4,990	6,180	117,700
1959	3,790	3,750	3,480	3,130	3,280	4,150	5,290	3,440	3,140	2,520	3,910	2,510	42,390
1960	2,400	2,780	2,950	2,800	2,880	4,540	6,430	6,110	3,330	1,980	1,860	2,350	40,410

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	78.1	56,510
1951	1213	833	Aug. 29, 1951	35	55.0	39,850	57.9	41,900
1952	1243	2,520	May 3, 1952	39	186	135,400	186	135,200
1953	1283	1,660	July 30, 1953	35	58.4	42,320	55.6	40,250
1954	1343	2,450	July 25, 1954	35	83.9	60,740	85.1	61,610
1955	1393	3,960	Aug. 25, 1955	26	62.7	45,370	61.2	44,340
1956	1443	956	Jan. 26, 1956	28	54.6	39,610	52.4	39,010
1957	1513	668	June 10, 1957	29	79.6	57,630	86.9	62,880
1958	1563	2,270	May 11, 1958	36	163	117,700	161	116,700
1959	1633	2,070	Aug. 19, 1959	33	58.5	42,390	54.5	39,500
1960	1713	430	Nov. 2, 1959	27	55.7	40,410	-	-

4060. Virgin River at Virgin, Utah

Location.--Lat 37°11'55", long 113°12'25", in NW¼NE¼ sec.28, T.41 S., R.12 W., on right bank 1.1 miles west of Virgin and 2.3 miles downstream from North Creek.

Drainage area.--934 sq mi.

Records available.--April 1909 to September 1960 (fragmentary prior to 1926, monthly figures only published in WSP 1313).

Gage.--Water-stage recorder. Altitude of gage is 3,440 ft (from topographic map). Prior to Dec. 19, 1949, staff or chain gages at several sites within 3 miles of present site at various datums.

Average discharge.--51 years (1909-60), 207 cfs (149,900 acre-ft per year).

Extremes.--1909-60: Maximum discharge observed, 13,500 cfs Mar. 3, 1938 (gage height, 10.7 ft, from floodmarks, site and datum then in use), from rating curve extended above 580 cfs on basis of slope-area measurements at gage heights 8.04 and 10.7 ft; minimum observed, 22 cfs July 10, 1920, June 11, 1921.

Remarks.--Diversions above station for irrigation.

Revisions.--Some periods for the water year 1950 were revised in WSP 1633. All monthly figures for this water year are published in this report.

Correction.--In WSP 1313, the runoff for September 1912, September 1915, August 1929, and July 1930 are listed in error; they should be 7,970, 20,470, 18,480, and 5,000 acre-ft, respectively.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	114	131	*138	*142	186	*178	289	*165	*79.6	*125	*69.5	*69.7	140
1951	75.9	112	114	118	122	124	142	149	64.0	57.8	122	72.1	106
1952	92.3	115	215	155	146	215	834	1,048	241	110	92.4	86.7	279
1953	92.2	132	151	158	137	127	135	109	72.8	126	148	60.1	121
1954	95.8	125	127	154	155	184	414	211	99.4	108	74.4	113	155
1955	132	110	129	118	143	150	169	146	76.5	89.9	216	60.0	128
1956	73.2	126	133	173	132	142	156	132	66.0	72.5	58.1	53.1	110
1957	66.7	88.1	98.5	127	166	139	164	300	182	92.8	106	86.2	135
1958	140	197	153	119	234	309	653	932	175	118	147	289	289
1959	114	137	134	125	154	133	131	87.5	77.5	64.9	143	73.4	114
1960	74.2	115	123	118	122	158	161	132	82.0	50.1	55.3	102	108

* Revised; differs from figures published in WSP 1313.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	7,000	7,780	*8,470	*8,730	*10,340	*10,950	*17,170	*10,180	*4,740	*7,710	*4,270	*4,150	*101,500
1951	4,670	6,670	7,040	7,290	6,800	7,610	8,460	9,160	3,810	3,550	7,520	4,290	76,870
1952	5,670	6,860	13,190	9,500	8,390	13,200	49,650	64,470	14,340	8,770	5,680	5,160	202,900
1953	5,670	7,880	9,270	9,730	7,590	7,800	8,010	6,690	4,350	7,740	9,070	3,580	87,360
1954	5,890	7,440	7,810	9,480	8,620	11,310	24,630	12,940	5,910	6,630	4,570	6,750	112,000
1955	8,140	6,540	7,910	8,260	7,920	9,210	10,030	9,000	4,550	5,530	13,260	3,570	92,920
1956	4,500	7,470	8,200	10,630	7,600	8,710	9,260	8,090	3,930	4,450	3,570	3,160	79,570
1957	4,100	5,240	6,060	7,780	9,240	8,560	9,770	18,420	10,840	5,710	6,540	5,130	97,390
1958	8,590	11,730	9,390	7,290	12,990	18,970	38,860	57,330	10,410	7,260	9,050	17,210	209,100
1959	7,040	8,160	8,230	7,720	8,570	8,170	7,780	5,380	4,610	3,990	8,810	4,370	82,630
1960	4,560	6,820	7,580	7,240	7,050	9,710	9,600	8,150	4,880	3,080	3,400	6,050	78,120

* Revised; differs from figures published in WSP 1313.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1949	-	-	-	-	-	-	174
1950	1179,1633	*6,620	July 8, 1950	51	140	*101,500	133
1951	1213,1633	2,800	Aug. 29, 1951	-	106	76,870	116
1952	1633	4,840	Dec. 30, 1951	70	279	202,900	275
1953	1633	12,900	Aug. 1, 1953	53	121	87,360	118
1954	1633	4,690	Sept. 12, 1954	56	155	112,000	157
1955	1633	10,600	Aug. 25, 1955	50	128	92,920	125
1956	1633	2,260	Jan. 27, 1956	49	110	79,570	103
1957	1633	1,430	June 19, 1957	57	135	97,390	154
1958	1633	7,410	Sept. 3, 1958	67	289	209,100	280
1959	1633	4,420	Aug. 3, 1959	-	114	82,630	108
1960	1713	2,190	Sept. 1, 1960	45	108	78,120	-

* Revised.

VIRGIN RIVER BASIN

4063. Kanarra Creek at Kanarraville, Utah

Location.--Lat 37°32'20", long 113°10'15", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.35, T.37 S., R.12 W., on left bank 400 ft upstream from mouth of canyon and half a mile northeast of Kanarraville.

Drainage area.--10.0 sq mi.

Records available.--August 1959 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,660 ft (from topographic map).

Extremes.--1959-60: Maximum discharge, 28 cfs Sept. 1, 1960 (gage height, 1.25 ft); minimum not determined, occurred during period of no gage-height record.

Remarks.--One small diversion above station for water supply of Kanarraville. Total flow is diverted at mouth of canyon for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	-	-	1.80	-
1960	1.84	1.72	1.5	1.75	1.72	2.33	3.21	2.74	1.91	1.61	1.73	1.76	1.98

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	-	-	107	-
1960	113	102	92	108	99	143	191	168	114	99	106	105	1,440

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1959	1713	-	-	-	-	-	-	-
1960	1713	28	Sept. 1, 1960	-	1.98	1,440	-	-

4076. Ash Creek near Toquerville, Utah

Location.--Lat 37°14', long 113°17', in SW $\frac{1}{4}$ sec.11, T.41 S., R.13 W., on right bank $\frac{1}{2}$ miles south of Toquerville and $2\frac{1}{2}$ miles upstream from mouth.

Drainage area.--213 sq mi.

Records available.--September 1956 to September 1958.

Gage.--Water-stage recorder. Altitude of gage is 3,180 ft (from topographic map).

Extremes.--1956-58: Maximum discharge, 1,270 cfs Apr. 2, 1958 (gage height, 5.70 ft), from rating curve extended above 300 cfs on basis of slope-area measurement at gage height 4.35 ft; minimum, 1.6 cfs Mar. 8, 9, 1958.

Remarks.--The low flow originates in a spring area just upstream from station. Diversions for irrigation above spring area and below gaging station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	-	-	-	-	4.53	-
1957	4.44	4.43	4.99	6.98	14.3	5.22	4.40	4.43	6.54	5.83	4.09	5.22	5.85
1958	5.50	10.1	13.7	5.05	20.8	62.2	132	99.9	12.8	10.1	5.91	8.38	32.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	-	-	-	-	269	-
1957	273	264	307	429	795	321	262	273	389	358	252	311	4,230
1958	336	600	843	511	1,160	3,830	7,880	6,140	759	624	363	499	23,350

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1956	1513	-	-	-	-	-	-	-
1957	1513	708	Feb. 23, 1957	3.7	5.85	4,230	7.14	5,170
1958	1563	1,270	Apr. 2, 1958	2.0	32.3	23,350	-	-

4078. Ash Creek near La Verkin, Utah

Location.--Lat 37°12', long 113°17', in SW $\frac{1}{4}$ sec.23, T.41 S., R.13 W., on left bank 700 ft upstream from mouth and 1 mile west of La Verkin.

Drainage area.--213 sq mi.

Records available.--September 1956 to September 1958.

Gage.--Water-stage recorder and rock-masonry control. Altitude of gage is 3,020 ft (from topographic map).

Extremes.--1956-58: Maximum discharge, 1,320 cfs Apr. 2, 1958 (gage height, 5.56 ft), from rating curve extended above 310 cfs on basis of slope-area measurement at gage height 4.29 ft; minimum not determined.

Remarks.--Station is below all diversions.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	-	-	-	-	-	-
1957	2.70	3.67	4.39	6.99	14.1	5.05	2.78	3.79	4.25	3.80	1.65	2.42	-
1958	3.58	9.62	11.7	4.59	20.4	61.3	102	84.3	6.06	4.76	2.21	9.04	4.46
													26.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	-	-	-	-	-	-
1957	166	218	270	430	758	311	165	233	253	233	101	144	-
1958	220	572	719	282	1,130	3,770	6,050	5,180	360	293	136	93	3,230
													19,250

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1956	1513	-	-	-	-	-	-	-	-	-
1957	1513	703	Feb. 23, 1957	0.4	4.46	3,230	5.65	4,090	-	-
1958	1563	1,320	Apr. 2, 1958	-	26.6	19,250	-	-	-	-

4084. Santa Clara River near Pine Valley, Utah

Location.--Lat 37°23'00", long 113°28'55", in NE $\frac{1}{4}$ sec.24, T.39 S., R.15 W., in Dixie National Forest, on right bank 150 ft upstream from highway bridge. 0.6 mile downstream from Pine Valley Reservoir, 1.6 miles southeast of town of Pine Valley, and 2 $\frac{1}{2}$ miles upstream from Grass Valley Creek.

Drainage area.--18.7 sq mi.

Records available.--July 1959 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,700 ft (from topographic map).

Extremes.--1959-60: Maximum discharge, 45 cfs May 11, 1960 (gage height, 2.45 ft); minimum, 0.8 cfs Sept. 11, Oct. 25, 1959.

Remarks.--Flow slightly regulated by Pine Valley Reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	1.13	1.46	1.33	1.48	1.61	5.89	15.1	19.4	9.30	3.38	1.54	1.06	5.42

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	70	87	82	91	93	362	899	1,190	553	208	162	140	3,940

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1959	1713	-	-	-	-	-	-	-	-	-
1960	1713	45	May 11, 1960	1.0	5.42	3,940	-	-	-	-

4085. Santa Clara-Pinto diversion near Pinto, Utah

Location.--Lat 37°28'00", long 113°28'30", in SW $\frac{1}{4}$ sec.19, T.38 S., R.14 W., on left bank 400 ft downstream from diversion tunnel outlet and 6 miles southeast of Pinto.

Records available.--October 1953 to September 1960.

Gage.--Water-stage recorder and artificial rock-masonry control. Altitude of gage is 6,860 ft (by barometer).

Average discharge.--7 years (1953-60), 1.77 cfs (1,280 acre-ft per year).

Extremes.--1953-60: Maximum discharge, 72 cfs May 26, 1958 (gage height, 1.96 ft); no flow for most of each year.

Remarks.--This is a transmountain diversion from a tributary of Santa Clara River in Colorado River basin to Pinto Creek in Escalante Valley in The Great Basin.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	0	0	0	0	0	0.2	523	548	25	0	0	0	1,100
1955	0	0	0	0	0	0	114	334	73	0	30	0	551
1956	0	0	0	0	0	0.2	47	91	3.2	0	0	0	141
1957	0	0	0	0	0	0	111	873	902	0	0	0	1,890
1958	0	0	0	0	3.4	17	532	2,850	747	0	0	0	4,150
1959	0	0	0	0	0	3.5	36	0	0	0	0	0	40
1960	0	0	0	0	0	94	500	489	46	0	0	0	1,130

4090. Santa Clara River near Central, Utah

Location.--Lat 37°24', long 113°37', in SE $\frac{1}{4}$ sec.11, T.39 S., R.16 W., on right bank 120 ft upstream from road bridge, 1 mile southeast of Central, and $1\frac{1}{2}$ miles upstream from Kane Spring Draw.

Drainage area.--97 sq mi, approximately.

Records available.--April 1909 to September 1930, October 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as Santa Clara Creek near Central 1911-30, 1939-44.

Gage.--Water-stage recorder and rock-masonry control. Altitude of gage 5,170 ft (from topographic map). Prior to Jan. 5, 1939, staff gages at several sites within 100 ft of present site at various datums. Jan. 5, 1939, to Apr. 9, 1949, water-stage recorder 40 ft upstream at datum 1 ft higher and Apr. 10, 1949, to July 9, 1951, 40 ft upstream at same datum.

Average discharge.--43 years (1909-30, 1938-60), 17.2 cfs (12,450 acre-ft per year).

Extremes.--1909-30, 1938-60: Maximum discharge, 1,450 cfs Oct. 6, 1916 (gage height, 5.0 ft, from floodmarks, site and datum then in use), from rating curve extended above 200 cfs; minimum, 1.2 cfs July 12, 1954, July 9, 1956.

Remarks.--Diversions for irrigation of about 1,300 acres above station. Some water is diverted from Grass Valley to Pinto Creek for irrigation in Escalante Valley in The Great Basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.08	4.23	3.69	3.99	4.55	4.77	4.26	11.9	5.33	3.12	3.30	2.48	4.65
1952	3.62	2.59	4.84	4.94	5.55	11.1	75.6	90.2	55.4	21.5	13.5	10.1	24.9
1953	10.1	12.1	13.1	13.0	11.1	9.71	7.95	5.57	4.13	2.83	2.95	2.69	7.92
1954	2.71	5.22	5.52	6.23	6.56	7.14	15.1	23.6	6.26	2.68	2.40	2.29	7.14
1955	2.29	5.23	5.76	6.35	6.54	9.33	6.92	12.9	5.50	2.96	6.99	2.11	6.08
1956	2.70	5.46	5.67	6.29	5.44	4.85	3.20	4.11	1.78	1.61	1.56	1.63	3.69
1957	1.61	1.88	1.97	2.84	4.18	2.33	3.47	16.2	25.4	4.56	1.91	1.57	5.64
1958	4.95	11.7	9.00	5.83	12.5	25.6	58.8	107	44.8	14.5	10.3	9.67	26.3
1959	11.6	11.4	11.2	9.50	9.91	8.98	9.24	6.36	2.62	2.20	2.10	2.14	7.26
1960	2.43	2.65	3.65	3.71	4.46	8.49	12.0	15.9	6.73	1.95	1.78	1.85	5.47

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	251	252	227	245	253	293	253	732	317	192	203	148	3,370
1952	222	154	298	304	319	681	4,500	5,540	3,290	1,320	829	600	19,060
1953	620	722	804	797	615	597	473	343	246	174	182	160	5,730
1954	167	311	340	383	385	439	898	1,450	373	165	148	136	5,180
1955	141	311	354	391	363	574	412	794	327	182	430	125	4,400
1956	168	325	348	387	313	298	191	253	106	99	96	97	2,680
1957	99	112	121	175	232	143	207	997	1,510	280	118	94	4,090
1958	304	896	553	358	696	1,580	3,500	6,610	2,660	891	634	578	19,080
1959	716	676	689	584	551	552	550	391	156	135	129	128	5,260
1960	150	157	224	228	257	522	711	980	401	120	109	110	3,370

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	8.77	6,350
1951	1213	22	Apr. 29, 1951	2.3	4.65	3,370	4.51	3,310
1952	1243	261	Apr. 27, 1952	2.0	24.9	18,060	26.9	19,530
1953	1283	105	Aug. 1, 1953	2.2	7.92	5,730	6.08	4,400
1954	1343	69	Jan. 25, 1954	1.7	7.14	5,180	7.13	5,160
1955	1393	97	Aug. 25, 1955	1.9	6.08	4,400	6.13	4,440
1956	1443	12	Jan. 27, 1956	1.4	3.69	2,680	2.99	2,170
1957	1513	92	June 10, 1957	-	5.64	4,090	7.33	5,310
1958	1563	232	May 11, 1958	1.6	26.3	19,080	27.0	19,590
1959	1633	19	Oct. 25, 1958	2.0	7.26	5,260	5.12	3,710
1960	1713	38	May 12, 1960	1.7	5.47	3,970	-	-

4095. Moody Wash near Veyo, Utah

Location.--Lat 37°26'00", long 113°44'30", in SE $\frac{1}{4}$ sec.34, T.38 S., R.17 W., on left bank 200 ft downstream from Belias Canyon and 7 miles northwest of Veyo.

Drainage area.--33 sq mi, approximately.

Records available.--December 1954 to September 1960.

Gage.--Water-stage recorder and masonry control. Altitude of gage is 4,800 ft (from topographic map).

Average discharge.--5 years (1955-60), 3.09 cfs (2,240 acre-ft per year).

Extremes.--1954-60: Maximum discharge, 532 cfs Aug. 25, 1955 (gage height, 5.64 ft), from rating curve extended above 30 cfs on basis of slope-area measurement at gage height 3.76 ft; no flow for many days in each year.

Remarks.--No diversion above station.

Note.--Records for 1955-60 not previously published. Daily discharges will be published in the 1961 Surface Water Records of Utah and in a future water-supply paper.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	-	-	-	0.69	3.24	4.47	1.11	0.94	0.50	0.05	5.24	0.06	-
1956	0.13	0.64	0.64	3.21	1.01	.75	.94	.53	.14	.09	.01	0	0.69
1957	0	.22	.89	2.75	10.5	12.8	1.54	1.01	.36	.10	.06	0	2.46
1958	.15	2.83	11.1	1.26	13.1	38.8	42.8	8.51	1.79	.11	.11	.11	10.0
1959	.08	.56	.60	.89	3.26	3.00	1.26	.75	.43	.14	.13	0	.91
1960	0	.31	1.16	1.43	2.51	7.63	1.72	1.00	.38	.24	0	.21	1.39

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	-	-	-	55	160	275	66	58	30	3.0	322	4.8	-
1956	7.7	38	52	198	58	46	56	32	8.5	5.8	.8	0	503
1957	0	13	55	169	583	789	92	62	21	6.1	3.8	0	1,790
1958	9.5	169	683	77	726	2,390	2,540	523	107	6.5	6.7	6.3	7,240
1959	5.0	35	37	55	161	185	75	46	26	8.7	7.9	0	662
1960	0	18	73	68	144	469	102	62	23	15	0	12	1,010

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950							
1951							
1952							
1953							
1954							
1955	-	a532	Aug. 25, 1955	0	-	-	1.50
1956	-	145	Jan. 26, 1956	0	0.69	503	.65
1957	-	185	Feb. 23, 1957	0	2.48	1,790	3.57
1958	-	396	Mar. 16, 1958	0	10.0	7,240	8.93
1959	-	25	Feb. 17, 1959	0	.91	662	.93
1960	-	39	Mar. 7, 1960	0	1.39	1,010	-

a Maximum during period December to September.

4100. Santa Clara River above Winsor Dam, near Santa Clara, Utah

Location.--Lat 37°13', long 113°47', near center of sec.17, T.41 S., R.17 W., on right bank 2 miles upstream from Winsor Dam, 2½ miles downstream from Sandy Wash, 8 miles downstream from Magotsu Creek, and 9 miles northwest of Santa Clara.

Drainage area.--338 sq mi.

Records available.--March 1942 to September 1960. Published as Santa Clara Creek above Winsor Dam, near Santa Clara 1942-44.

Gage.--Water-stage recorder. Altitude of gage is 3,340 ft (by barometer). Prior to July 28, 1951, at site 30 ft upstream at datum 1.00 ft higher. July 28, 1951, to Aug. 24, 1960, at datum 1.00 ft higher.

Average discharge.--18 years (1942-60), 22.4 cfs (16,220 acre-ft per year).

Extremes.--1942-60: Maximum discharge, 6,190 cfs Aug. 24, 1955 (gage height, 10.25 ft, datum then in use), from rating curve extended above 680 cfs on basis of slope-area measurements at gage heights 6.25, 6.50, and 9.40 ft; minimum 0.6 cfs Aug. 29, 1960.

Remarks.--Many diversions for irrigation above station. Flow slightly regulated by plants of Southern Utah Power Co. Records of chemical analyses for the period October 1950 to September 1956 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9.60	12.2	13.2	14.6	13.7	14.0	12.9	16.2	11.0	5.40	8.04	6.76	11.5
1952	9.09	12.6	19.0	12.7	15.9	55.6	187	69.5	53.7	26.8	22.0	19.4	43.5
1953	16.9	20.3	20.7	19.9	19.7	17.0	15.4	15.2	11.6	8.78	26.9	9.81	16.8
1954	10.2	11.8	14.3	19.6	16.2	38.8	32.6	26.2	13.4	11.7	9.87	12.4	18.1
1955	10.8	14.0	15.7	17.2	20.7	16.6	12.2	16.2	11.6	16.4	30.1	5.52	15.6
1956	5.96	10.5	13.9	16.8	12.9	11.4	10.4	9.14	5.55	11.9	5.00	3.90	9.78
1957	5.16	6.84	8.33	11.1	20.8	10.4	9.28	19.7	25.3	11.7	16.80	5.25	11.6
1958	16.1	21.0	28.4	13.0	29.0	104	132	125	43.6	22.7	18.3	18.7	47.8
1959	17.4	19.3	19.4	18.5	19.1	15.1	13.2	11.3	7.49	5.28	8.68	8.00	13.5
1960	8.22	8.05	13.9	14.8	15.4	20.2	17.9	16.2	11.8	4.92	2.98	4.71	11.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	590	726	813	898	759	863	768	996	652	332	494	402	8,290
1952	559	751	1,170	779	912	3,420	11,140	5,500	3,200	1,650	1,350	1,150	31,580
1953	1,040	1,210	1,270	1,220	1,090	1,050	914	932	688	540	1,650	584	12,190
1954	628	705	881	1,200	900	2,360	1,940	1,610	795	719	607	738	13,100
1955	667	835	966	1,060	1,150	1,020	727	996	688	1,010	1,850	328	11,300
1956	366	625	855	1,030	741	699	621	562	330	729	307	232	7,100
1957	318	407	512	682	1,150	642	552	1,210	1,500	721	418	313	8,420
1958	993	1,250	1,750	799	1,610	6,380	7,870	7,710	2,590	1,400	1,130	1,110	34,590
1959	1,070	1,150	1,190	1,140	1,060	926	783	692	446	325	534	476	9,790
1960	505	479	857	910	885	1,240	1,070	996	700	302	163	260	8,410

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	17.5	12,630
1951	1213	242	Aug. 3, 1951	2.8	11.5	8,290	11.9	8,640
1952	1243	753	Apr. 7, 1952	5.6	43.5	31,580	44.9	32,620
1953	1283	5,340	Aug. 26, 1953	6.3	16.8	12,190	15.0	10,880
1954	1343	536	Mar. 23, 1954	5.7	18.1	13,100	18.5	13,360
1955	1393	6,190	Aug. 24, 1955	2.6	15.6	11,300	14.8	10,680
1956	1443	2,160	July 27, 1956	2.4	9.78	7,100	8.94	6,490
1957	1513	280	Feb. 23, 1957	3.2	11.6	8,420	15.4	11,180
1958	1563	1,100	Mar. 16, 1958	4.7	47.8	34,590	47.0	34,010
1959	1633	348	Aug. 11, 1959	3.8	13.5	9,790	11.4	8,220
1960	1713	78	June 6, 1960	.8	11.6	8,410	-	-

4130. Santa Clara River at St. George, Utah

Location--Lat 37°04'30", long 113°35'15", in NE $\frac{1}{4}$ sec.1, T.43 S., R.16 W., on right bank half a mile upstream from mouth and 2 miles south of St. George.

Drainage area--540 sq mi, approximately.

Records available--October 1950 to September 1956.

Gage--Water-stage recorder. Altitude of gage is 2,750 ft.

Average discharge--6 years (1950-56), 8.82 cfs (6,390 acre-ft per year).

Extremes--1950-56: Maximum discharge, 4,200 cfs Aug. 24, 1955 (gage height, 10.02 ft), from rating curve extended above 400 cfs on basis of indirect measurements at gage heights 7.31 and 9.48 ft; no flow for some days in 1951, 1953, 1955-56.

Remarks--Diversions above station for irrigation of about 4,800 acres in Santa Clara River basin. Records of chemical analyses are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.39	3.32	4.88	4.05	1.91	4.89	1.72	2.10	1.03	3.53	7.71	5.15	3.41
1952	1.08	1.37	11.3	15.8	10.3	44.6	136	38.1	18.6	3.85	1.87	3.35	23.8
1953	5.96	12.7	14.5	13.8	7.25	4.48	3.66	2.79	.64	.42	7.94	.29	6.21
1954	.55	2.55	8.46	10.5	10.2	35.7	13.6	3.94	2.26	2.99	1.67	3.60	8.01
1955	1.01	4.89	10.5	8.08	10.3	6.65	1.83	1.68	1.03	8.65	38.8	.73	7.88
1956	.45	2.97	6.41	10.0	8.42	2.66	1.67	1.95	4.05	4.14	.05	.34	3.58

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	24	197	300	249	106	301	102	129	61	217	474	306	2,470
1952	66	82	693	969	595	2,760	8,090	2,340	1,100	236	115	200	17,250
1953	366	755	889	850	403	275	218	172	38	26	488	17	4,500
1954	34	152	520	646	567	2,200	809	242	135	184	103	214	5,810
1955	62	291	643	497	572	409	109	103	61	532	2,380	44	5,700
1956	28	177	394	618	484	164	99	120	241	255	3.4	20	2,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950							
1951	1213	1,270	Sept. 28, 1951	0	3.41	2,470	3.85
1952	1243	521	Apr. 8, 1952	.3	23.8	17,250	25.4
1953	1283	3,240	Aug. 27, 1953	0	6.21	4,500	4.41
1954	1343	521	Sept. 2, 1954	.1	8.01	5,810	8.41
1955	1393	4,200	Aug. 24, 1955	0	7.88	5,700	7.33
1956	1443	1,070	June 30, 1956	0	3.58	2,600	-

VIRGIN RIVER BASIN

4135. Virgin River near St. George, Utah

Location.--Lat 37°01', long 113°40', in W $\frac{1}{2}$ sec.29, T.43 S., R.16 W., on right bank 8 miles southwest of St. George.

Drainage area.--3,820 sq mi, approximately.

Records available.--October 1950 to December 1956.

Gage.--Water-stage recorder.

Average discharge.--6 years (1950-56), 137 cfs (99,180 acre-ft per year).

Extremes.--1950-56: Maximum discharge, 13,800 cfs Aug. 25, 1955 (gage height, 12.70 ft); no flow at times during summer months.

Remarks.--Diversions for irrigation of about 23,000 acres above station. Records of chemical analyses are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	22.8	104	97.4	129	88.1	103	53.2	56.7	0	40.7	235	35.5	80.8
1952	47.6	97.8	275	216	156	343	1,312	1,249	162	10.1	41.4	53.9	330
1953	43.3	151	180	172	128	76.7	38.3	6.86	0	83.1	129	1.40	84.2
1954	53.1	104	125	212	176	210	326	98.3	27.6	70.4	96.3	80.3	131
1955	88.0	93.3	159	140	161	119	45.0	22.5	0	123	522	4.13	124
1956	31.6	123	155	184	139	69.3	68.6	20.6	16.7	74.0	4.30	0	73.7
1957	36.1	81.3	64.5	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,400	6,190	5,990	7,950	4,890	6,350	3,160	3,490	0	2,500	14,450	2,110	58,480
1952	2,930	5,820	16,920	13,260	8,950	21,070	78,090	76,800	9,630	622	2,540	3,210	239,800
1953	2,660	8,980	11,040	10,580	7,120	4,720	2,280	422	0	5,110	7,940	83	60,940
1954	3,260	6,160	7,710	13,050	9,770	12,910	19,390	6,040	1,640	4,330	5,920	4,780	94,960
1955	5,410	5,550	9,790	8,630	8,940	7,300	2,680	1,380	0	7,540	32,100	246	89,570
1956	1,940	7,300	9,540	11,300	7,970	4,260	4,080	1,270	996	4,550	264	0	53,470
1957	2,220	4,840	3,970	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951	1243	11,600	Aug. 4, 1951	0	80.8	58,480	97.5	70,570
1952	1243	6,840	Dec. 30, 1951	0	330	239,800	326	236,900
1953	1283	7,280	Aug. 27, 1953	0	84.2	60,940	76.5	55,380
1954	1343	8,720	Aug. 4, 1954	0	131	94,960	136	98,580
1955	1393	13,800	Aug. 25, 1955	0	124	89,570	121	87,600
1956	1443	3,670	June 30, 1956	0	73.7	53,470	63.0	45,720
1957	1443	-	-	-	-	-	-	-

4140. Mesquite Canal near Mesquite, Nev.

Location.--Lat 36°48', long 114°03', in sec.5, T.39 N., R.16 W., Gila and Salt River meridian, on right bank $1\frac{1}{2}$ miles east of Mesquite and $2\frac{1}{4}$ miles downstream from point of diversion.

Records available.--April 1951 to September 1955.

Gage.--Water-stage recorder and Parshall flume.

Extremes.--1951-55: Maximum daily discharge, 52 cfs Aug. 2, 1954; no flow at times in each year.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	1,810	1,750	1,970	1,760	1,410	1,270	-
1952	928	727	696	0	595	1,330	1,680	1,210	1,740	2,170	1,750	1,680	14,510
1953	1,530	1,160	1,070	1,090	1,170	1,340	2,110	2,110	2,090	1,240	1,500	1,390	17,800
1954	1,420	1,250	970	845	1,190	1,360	1,850	2,140	2,050	1,970	1,530	1,520	18,100
1955	1,310	1,440	1,370	1,590	1,170	1,650	1,510	2,100	1,960	1,560	771	1,490	17,920

4145. Bunkerville Canal near Bunkerville, Nev.

Location.--Lat 36°47', long 114°06', in NE $\frac{1}{4}$ sec.19, T.13 S., R.71 E., on left bank 100 ft downstream from bridge on U. S. Highway 91 and $2\frac{1}{4}$ miles northeast of Bunkerville.

Records available.--April 1951 to September 1955.

Gage.--Water-stage recorder and Parshall flume.

Extremes.--1951-55: Maximum daily discharge, 35 cfs Apr. 23, 1951; no flow at times in each year.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	1,180	1,250	1,090	1,030	832	764	-
1952	970	935	835	341	42	920	1,170	835	1,170	1,070	817	886	9,990
1953	1,010	688	821	928	223	1,180	1,210	1,160	1,130	720	770	921	10,760
1954	1,170	804	987	782	656	326	1,190	980	909	933	922	873	10,530
1955	966	1,090	822	822	689	681	1,080	1,060	990	668	0	705	9,770

4150. Virgin River at Littlefield, Ariz.

Location.--Lat 36°53', long 113°56', in SW 1/4 sec. 4, T. 40 N., R. 15 W., on right bank three-eighths of a mile downstream from Beaver Dam Wash, three-eighths of a mile upstream from Littlefield, and 36 miles upstream from water line of Lake Mead at elevation 1,221.4 ft above mean sea level.

Drainage area.--5,090 sq mi, approximately.

Records available.--October 1929 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,763.68 ft above mean sea level, datum of 1929. Prior to May 28, 1933, staff gage at site 300 ft upstream and May 28, 1933, to Nov. 7, 1939, at present site, both at datum 2.53 ft higher. Nov. 8, 1939, to Mar. 31, 1942, staff gage at present site at datum 2.00 ft higher.

Average discharge.--31 years (1929-60), 236 cfs (170,900 acre-ft per year); median of yearly mean discharges, 210 cfs (152,000 acre-ft per year).

Extremes.--1929-60: Maximum discharge, 22,000 cfs Mar. 3, 1938, by slope-area measurement of peak flow; maximum gage height, 13.60 ft Aug. 25, 1955; minimum discharge observed, about 50 cfs for many days in several years, resulting from nearby fairly uniform spring inflow.

Remarks.--Diversions above station for irrigation of about 23,200 acres. Records of chemical analyses, suspended sediment loads, and water temperatures are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	79.0	149	167	179	139	131	117	159	62.6	95.5	271	104	138
1952	111	148	332	344	190	445	1,338	1,156	203	69.0	84.8	96.1	377
1953	94.5	171	221	219	162	117	101	77.7	68.6	134	213	67.3	137
1954	116	159	179	241	224	273	394	157	91.7	123	160	149	189
1955	140	156	214	191	218	172	99.7	83.9	66.6	166	655	75.2	187
1956	88.4	172	216	243	198	126	96.7	73.5	74.3	123	65.6	59.9	128
1957	67.4	102	123	195	247	161	103	248	145	65.8	147	62.2	138
1958	237	347	251	160	340	670	1,068	1,131	121	97.6	88.5	376	407
1959	123	181	158	170	241	149	73.9	66.5	61.0	62.5	192	67.7	128
1960	75.8	210	141	183	175	158	97.1	75.9	55.9	59.2	57.1	94.5	115

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,860	8,840	10,260	11,040	7,740	8,040	6,940	9,760	3,720	5,870	16,690	6,170	99,930
1952	6,820	8,840	20,400	21,180	10,950	27,380	79,610	71,050	12,060	4,240	5,220	5,920	273,700
1953	5,810	10,150	13,610	13,440	9,010	7,200	6,010	4,760	4,080	8,260	13,120	4,000	99,470
1954	7,162	9,460	11,020	14,820	12,460	16,760	23,440	9,680	5,450	7,540	9,820	8,880	136,500
1955	8,620	9,260	13,180	11,760	12,080	10,560	5,930	5,160	3,960	10,230	40,290	4,480	135,500
1956	5,430	10,220	13,260	14,920	11,370	7,740	5,750	4,520	4,420	7,590	4,030	3,570	92,820
1957	4,140	6,100	7,550	11,980	13,700	9,910	6,130	15,240	8,650	4,040	9,030	3,700	100,200
1958	14,550	20,630	15,440	9,820	18,890	41,170	65,540	69,520	7,210	6,000	5,440	22,590	294,600
1959	7,560	10,770	9,710	10,430	13,410	9,160	4,400	4,090	5,630	3,840	11,830	4,030	92,860
1960	4,660	12,490	8,680	11,270	10,070	9,720	5,780	4,670	3,330	3,640	3,510	5,620	83,440

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	maximum Date							
1950	-	-	-	-	-	-	163	118,000	-	-
1951	1213	12,000	Aug. 4, 1951	57	138	99,930	155	112,000	-	-
1952	1243	7,170	Dec. 30, 1951	61	377	273,700	368	267,200	-	-
1953	1283	5,490	Aug. 27, 1953	64	137	99,470	135	97,540	-	-
1954	1343	6,020	Aug. 4, 1954	63	189	136,500	193	139,900	-	-
1955	1393	19,800	Aug. 25, 1955	61	187	135,500	184	133,400	-	-
1956	1443	2,460	Jan. 27, 1956	57	128	92,820	113	81,700	-	-
1957	1513	3,950	Aug. 21, 1957	57	138	100,200	184	133,000	-	-
1958	1563	7,180	Mar. 17, 1958	58	407	294,600	376	272,000	-	-
1959	1633	5,490	Aug. 19, 1959	57	128	92,860	125	90,650	-	-
1960	1713	2,320	Nov. 3, 1959	50	115	83,440	-	-	-	-

4160. Muddy River near Moapa, Nev.

Location.--Lat 36°42'40", long 114°41'40", in SE $\frac{1}{4}$ sec.15, T.14 S., R.65 E., on left bank three-quarters of a mile downstream from Home Ranch, 5 miles northwest of Moapa, and $\frac{9}{2}$ miles upstream from Meadow Valley Wash.

Drainage area.--3,820 sq mi, approximately, of which about 40 sq mi contributes directly to surface runoff (revised).

Records available.--July 1913 to September 1915, April 1916 to September 1918, June 1928 to October 1931, April to July 1932, October 1944 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Records for January 1904 to December 1906 (gage heights only), 1908-9 (discharge measurements only), and April to October 1910 not equivalent owing to large difference in drainage area.

Gage.--Water-stage recorder and Cippoletti weir. Altitude of gage is 1,710 ft (from river-profile map). Oct. 21, 1944, to Sept. 30, 1948, water-stage recorder at datum 0.08 ft higher.

Average discharge.--23 years (1913-15, 1916-18, 1928-31, 1944-60), 46.6 cfs (33,740 acre-ft per year).

Extremes.--1913, 1915-17, 1945-60: Maximum discharge uncertain, occurred Feb. 21, 1914 (gage height, 9.9 ft); minimum, 34 cfs Nov. 20, 1951.

Revisions.--The momentary maximum discharge for the water year 1950 published in WSP 1313 has been revised to 173 cfs.

Remarks.--Diversions for irrigation above station. Normal flow originates from springs in reach 0.9 to 2.5 miles upstream from station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	46.5	47.2	47.5	48.8	48.1	48.0	48.4	48.3	44.6	44.8	45.1	45.0	46.9
1952	46.6	48.0	49.3	49.3	47.5	50.1	47.5	45.6	45.1	44.7	42.2	43.4	46.6
1953	44.4	50.5	52.1	49.6	47.6	45.2	44.7	43.5	42.6	45.9	42.9	43.4	46.0
1954	46.6	49.0	50.3	48.9	48.5	46.5	46.1	45.6	42.4	41.7	42.4	44.4	46.0
1955	45.1	50.3	48.7	52.5	52.1	47.6	45.6	45.8	43.7	42.7	48.5	44.3	47.2
1956	46.1	46.3	48.0	49.5	50.9	47.2	46.0	44.8	43.7	41.8	41.7	43.3	45.8
1957	43.7	47.1	48.8	49.5	50.9	47.3	46.8	47.7	46.1	43.4	54.5	46.5	47.7
1958	52.9	54.2	53.6	52.5	56.2	53.5	50.6	48.5	42.8	44.0	43.3	43.8	49.6
1959	44.7	47.9	52.1	52.7	52.3	52.1	48.8	47.1	44.6	45.2	52.3	46.9	48.9
1960	47.3	53.0	54.9	55.4	51.7	51.5	47.7	45.7	41.2	40.2	41.1	43.4	47.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,860	2,810	2,920	3,000	2,670	2,950	2,880	2,970	2,650	2,750	2,770	2,680	33,910
1952	2,860	2,860	3,030	3,030	2,750	3,080	2,830	2,810	2,680	2,750	2,600	2,580	33,840
1953	2,730	3,000	3,210	3,050	2,640	2,780	2,660	2,680	2,530	2,820	2,640	2,580	33,320
1954	2,860	2,920	3,090	3,010	2,690	2,860	2,740	2,800	2,520	2,560	2,610	2,640	33,300
1955	2,770	2,990	3,000	3,230	2,890	2,930	2,710	2,810	2,600	2,620	2,990	2,640	34,180
1956	2,830	2,760	2,950	3,040	2,930	2,900	2,740	2,760	2,600	2,570	2,560	2,570	33,210
1957	2,690	2,800	3,000	3,040	2,830	2,910	2,780	2,930	2,740	2,670	3,350	2,770	34,510
1958	3,250	3,230	3,300	3,230	3,120	3,290	3,010	2,980	2,550	2,710	2,660	2,600	35,930
1959	2,750	2,850	3,200	3,240	2,910	3,200	2,900	2,900	2,650	2,780	3,220	2,790	35,390
1960	2,910	3,150	3,380	3,400	2,980	3,170	2,840	2,810	2,450	2,470	2,530	2,580	34,670

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	46.0	33,300
1951	1243	93	Sept. 28, 1951	42	46.9	33,910	47.1	34,070
1952	1243	132	July 30, 1952	36	46.6	33,840	46.9	34,050
1953	1283	-	July 14, 1953	38	46.0	33,320	45.9	33,250
1954	1343	98	Oct. 22, 1953	40	46.0	33,300	45.9	33,190
1955	1393	-	Aug. 16, 1955	41	47.2	34,180	46.9	33,960
1956	1443	59	July 22, 1956	39	45.8	33,210	45.7	33,160
1957	1513	356	Feb. 19, 1957	41	47.7	34,510	49.4	35,800
1958	1563	280	Feb. 4, 1958	39	49.6	35,930	48.3	34,950
1959	1633	120	Aug. 19, 1959	41	48.9	35,390	49.8	36,030
1960	1713	260	Dec. 25, 1959	-	47.8	34,670	-	-

4182. Mathews Canyon Wash near Caliente, Nev.

Location.--Lat 37°30'14", long 114°13'35", in E $\frac{1}{2}$ sec.24, T.5 S., R.69 E., on right bank at downstream end of stilling basin at outlet of conduit through flood-control dam, 2 $\frac{1}{2}$ miles upstream from Clover Creek, and 17 miles southeast of Caliente.

Drainage area.--34 sq mi (by Corps of Engineers).

Records available.--June 1958 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 5,409.10 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Extremes.--1958-60: No flow during entire period of record.

Remarks.--No flow exists in this channel except at times of heavy rainfall or rapid snowmelt. Floods that occur in the drainage above station will be controlled by dam constructed in 1958 by Corps of Engineers. Water released by a 3 $\frac{1}{2}$ -foot diameter uncontrolled conduit through dam. Flow over dam spillway will bypass station.

4183. Pine Canyon Wash near Caliente, Nev.

Location.--Lat 37°28'40", long 114°19'00", in sec.30, T.5 S., R.69 E., on left bank 100 ft downstream from outlet of flood-control dam, 4 miles upstream from mouth, and 14 miles southeast of Caliente.

Drainage area.--45 sq mi (by Corps of Engineers).

Records available.--June 1958 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,595 ft (by Corps of Engineers damsite topography).

Extremes.--1958-60: No flow during entire period of record.

Remarks.--There is no flow at this station except following heavy rain storms or during period of rapid snowmelt. Floods that occur in the drainage above the station will be controlled by dam constructed in 1958 by Corps of Engineers. Water released by a 3 $\frac{1}{2}$ -foot diameter uncontrolled conduit through dam. Flow over dam spillway will bypass station.

4185. Meadow Valley Wash near Caliente, Nev.

Location.--Lat 37°33'20", long 114°33'50", in NE $\frac{1}{4}$ sec.35, T.4 S., R.66 E., on right bank half a mile east of Etna and $4\frac{1}{2}$ miles southwest of Caliente.

Drainage area.--1,670 sq mi.

Records available.--January 1951 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,200 ft (by barometer). Prior to June 16, 1955, at site $1\frac{1}{2}$ miles downstream at different datum.

Average discharge.--9 years (1951-60), 12.5 cfs (9,050 acre-ft per year).

Extremes.--1951-60: Maximum discharge, 1,500 ft June 30, 1956 (gage height, 7.10 ft), from rating curve extended above 60 cfs on basis of slope-area measurement of peak flow; minimum daily, 0.6 cfs Aug. 24, 1951.

Remarks.--Several diversions for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	14.4	9.75	7.58	4.59	2.30	1.85	1.43	1.53	-
1952	2.69	4.81	27.7	20.6	29.9	188	93.7	9.62	5.17	5.50	3.38	3.46	33.0
1953	3.43	8.04	19.9	19.5	14.0	9.45	5.36	4.31	4.27	2.40	8.24	1.65	8.37
1954	2.74	7.48	7.55	22.2	21.7	14.3	4.77	3.71	4.14	3.39	8.82	7.33	8.93
1955	2.22	4.64	9.29	8.97	21.7	92.2	5.44	2.39	2.94	6.19	44.4	3.25	17.1
1956	3.28	8.83	24.9	24.7	18.4	10.5	2.94	1.77	11.5	13.9	4.02	1.69	10.5
1957	2.38	3.49	5.45	13.7	28.2	14.3	4.29	8.08	2.83	2.28	2.01	1.95	7.30
1958	3.03	12.7	18.5	15.5	25.8	39.5	43.0	5.22	2.65	1.96	2.03	2.30	13.9
1959	1.72	5.30	9.65	16.4	28.0	11.4	2.40	3.83	2.30	1.59	1.61	2.01	6.91
1960	1.55	3.52	8.37	10.1	21.7	16.0	3.88	2.65	2.07	1.58	1.52	1.33	6.15

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	800	600	451	282	137	114	88	91	-
1952	165	286	1,710	1,270	1,720	11,580	5,570	592	307	338	208	206	23,950
1953	211	478	1,220	1,200	777	581	319	265	254	148	506	98	6,080
1954	169	445	464	1,360	1,200	878	284	228	247	209	542	436	6,460
1955	136	276	571	552	1,210	5,670	324	147	175	381	2,730	195	12,360
1956	202	526	1,530	1,520	1,060	644	175	109	686	855	247	101	7,660
1957	147	208	335	844	1,570	880	255	497	169	140	124	116	5,280
1958	186	758	1,020	954	1,430	2,430	2,560	198	158	121	125	137	10,080
1959	106	315	594	1,010	1,440	702	143	235	137	98	99	119	5,000
1960	95	209	515	624	1,250	984	231	163	123	97	94	79	4,460

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950									
1951	1213	50	Feb. 5, 1951	-	-	-	-	-	-
1952	1243	1,000	Mar. 27, 1952	1.4	33.0	23,950	32.7	23,700	
1953	1283	110	Aug. 2, 1953	1.1	8.37	6,060	7.22	5,230	
1954	1343	825	Sept. 4, 1954	.7	8.93	6,460	8.80	6,370	
1955	1443	705	Aug. 3, 1955	1.0	17.1	12,360	18.8	13,640	
1956	1443	1,500	June 30, 1956	1.2	10.5	7,660	8.38	6,090	
1957	1513	117	Feb. 11, 1957	1.5	7.30	5,280	9.05	6,560	
1958	1563	249	Mar. 22, 1958	1.0	13.9	10,080	12.6	9,130	
1959	1633	75	Feb. 19, 1959	1.4	6.91	5,000	6.64	4,800	
1960	1713	98	Feb. 10, 1960	.9	6.15	4,460	-	-	

4190. Muddy River near Glendale, Nev.

Location.--Lat 36°38'35", long 114°32'20", in SW $\frac{1}{4}$ sec. 7, T.15 S., R.67 E., on left bank at the Narrows, 150 ft downstream from Weiser Wash, 2 miles southeast of Glendale, 2.4 miles downstream from Meadow Valley Wash, and 4 $\frac{1}{2}$ miles northwest of Logandale.

Drainage area.--6,780 sq mi, approximately, of which about 3,000 sq mi contributes directly to surface runoff (revised).

Records available.--January 1904 to December 1906 (gage heights only) and April to October 1910 (published as "near Moapa"), July 1913 to February 1914 (published as "near Logan"), February 1950 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 1,460 ft (from river-profile map).

Jan. 1, 1904, to Dec. 31, 1906, staff gage just upstream at different datum. Apr. 22, 1910, to Feb. 21, 1914, staff gage and rating flume at lower end of the Narrows, $\frac{1}{2}$ miles downstream at different datum.

Average discharge.--10 years (1950-60), 47.2 cfs (34,170 acre-ft per year).

Extremes.--1950-60: Maximum discharge, 1,460 cfs Aug. 26, 1955 (gage height, 12.80 ft), from rating curve extended above 460 cfs on basis of slope-area measurement at gage height 8.42 ft and logarithmic plotting; minimum, 22 cfs July 22, 1951. Maximum stage known, 30 ft Mar. 26, 1906 (datum then in use), discharge not determined.

Remarks.--Diversions for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	40.8	44.4	49.1	49.2	48.2	47.0	52.0	46.0	37.4	35.6	39.8	39.8	44.1
1952	42.9	47.6	52.5	55.2	49.7	113	82.6	43.8	35.9	37.5	39.5	42.9	53.6
1953	43.5	53.4	57.0	52.7	51.2	47.7	45.3	42.0	39.6	40.3	39.1	40.5	46.0
1954	42.2	46.0	50.9	52.9	50.8	49.0	42.4	37.6	33.9	39.4	37.9	43.1	43.8
1955	41.3	52.8	52.4	57.6	55.9	78.0	46.1	43.4	35.4	38.3	115	40.0	54.8
1956	42.6	43.6	50.7	54.7	53.2	47.8	45.4	38.8	34.5	41.8	33.5	36.2	43.6
1957	37.5	46.4	51.0	54.7	60.7	54.0	46.3	44.4	42.3	39.0	59.4	44.0	48.3
1958	59.7	57.8	49.6	48.8	64.1	62.9	61.8	41.2	31.1	33.3	33.6	36.9	48.3
1959	43.2	47.6	51.4	53.7	51.8	47.5	45.1	45.9	38.0	40.3	41.8	34.1	45.0
1960	39.9	50.5	54.7	56.9	55.8	53.5	50.4	45.5	33.8	30.6	29.7	29.3	44.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,510	2,640	3,020	3,020	2,680	2,890	3,100	2,830	2,220	2,190	2,450	2,370	31,920
1952	2,840	2,830	3,230	3,390	2,880	6,940	4,920	2,700	2,140	2,300	2,430	2,550	39,550
1953	2,680	3,180	3,510	3,240	2,840	2,950	2,700	2,580	2,360	2,480	2,410	2,410	33,320
1954	2,600	2,740	3,130	3,250	2,920	3,010	2,520	2,310	2,020	2,420	2,330	2,560	31,710
1955	2,540	3,140	3,220	3,540	3,100	4,790	2,750	2,870	2,110	2,350	7,100	2,380	39,690
1956	2,620	2,600	3,120	3,360	3,060	2,940	2,700	2,390	2,050	2,570	2,060	2,160	31,630
1957	2,310	2,760	3,140	3,370	3,370	3,320	2,760	2,750	2,520	2,400	3,650	2,620	34,950
1958	3,670	3,440	3,050	3,000	3,560	3,870	3,680	2,530	1,850	2,040	2,070	2,200	34,960
1959	2,660	2,830	3,160	3,300	2,880	2,920	2,680	2,820	2,260	2,480	2,570	2,030	32,590
1960	2,450	3,000	3,370	3,500	3,210	3,290	3,000	2,800	2,010	1,880	1,830	1,750	32,090

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950										
1951	1243	879	Apr. 19, 1951	33	44.1	31,920	44.8	32,450		
1952	1243	821	Mar. 28, 1952	34	53.6	38,930	54.5	39,600		
1953	1283	205	Aug. 26, 1953	35	46.0	33,320	44.8	32,420		
1954	1343	351	July 28, 1954	31	43.8	31,710	44.4	32,140		
1955	1393	1,460	Aug. 26, 1955	31	54.8	39,690	54.1	39,130		
1956	1443	398	July 1, 1956	30	43.6	31,630	43.4	31,500		
1957	1513	986	Aug. 21, 1957	33	48.3	34,950	51.0	36,900		
1958	1563	870	Oct. 20, 1957	26	48.3	34,960	46.2	33,450		
1959	1633	130	Oct. 25, 1958	26	45.0	32,590	45.3	32,760		
1960	1713	136	Dec. 25, 1959	26	44.2	32,090	-	-		

4195. Muddy River near Overton, Nev.

Location.--Lat 36°38', long 114°30', in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.21, T.15 S., R.67 E., near left end of Wells Siding diversion dam, 2 miles northwest of Logandale, 5 miles downstream from Meadow Valley Wash, 6 $\frac{1}{2}$ miles northwest of Overton, and 7 $\frac{1}{2}$ miles southeast of Moapa.

Drainage area.--8,180 sq mi, approximately, of which only about 4,230 sq mi contributes directly to surface runoff.

Records available.--May 1913 to September 1916 (published as "near St. Thomas"), December 1947 to September 1952, October 1952 to September 1954 (monthly discharge only).

Average discharge.--6 years (1948-54), 6.08 cfs (4,400 acre-ft per year).

Gage.--Water-stage recorder at present site since Dec. 13, 1947. Control is crest of Wells Siding diversion dam. Datum of gage is 1,432.16 ft above mean sea level, datum of 1929 (Bureau of Reclamation bench mark). May 1913 to September 1916 staff gages at sites 14 $\frac{1}{2}$ and 15 miles downstream at different datums (sites now submerged by Lake Mead).

Extremes.--1913-16, 1947-54: Maximum discharge, 6,500 cfs Feb. 22, 1914 (gage height, between 8 and 9 ft, datum then in use), from rating curve extended above 400 cfs on basis of slope-area measurement of peak flow; no flow at times in most years.
Highest floods known, 10,000 cfs (estimated) Mar. 3, 1938, and 12,000 cfs (estimated) Aug. 11, 1941.

Remarks.--Records show flow below Wells Siding diversion dam including overflow from East Canal which enters river just below dam. Overflow record amounts to about 10 percent of total flow. Many diversions above station for irrigation. Water diverted at dam for irrigation downstream or for storage in Bowman Reservoir is not included in this record.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	1.17	16.4	9.42	0.04	5.06	0	0	0	0.01	0	2.64
1952	.91	8.90	14.5	3.97	5.80	71.2	32.1	.14	0	.25	.16	0	11.5
1953	0	1.55	11.9	27.6	15.1	3.95	1.40	1.49	1.06	0	.02	2.23	5.49
1954	4.48	.46	.61	12.7	17.3	5.39	4.63	.21	0	.49	0	.16	3.79

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	72	1,010	523	2.2	501	0	0	0	0.6	0	1,910
1952	56	530	895	244	334	4,380	1,910	8.7	0	15	10	0	8,380
1953	0	92	734	1,700	837	243	84	92	63	0	1.0	132	3,980
1954	275	27	37	780	963	331	276	13	0	30	.2	9.3	2,740

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	2.33	1,680
1951	1213	a360	Apr. 19, 1951	0	2.64	1,910	4.58	3,320
1952	1243	Mar. 562	1952	0	11.5	8,380	10.6	7,730
1953	1283	37	Jan. 19, 1953	0	5.49	3,980	4.82	3,490
1954	1343	76	July 26, 1954	0	3.79	2,740	-	-

a From floodmark.

4197. Las Vegas Wash near Henderson, Nev.

Location.--Lat 36°05'55", long 114°56'40", in NW 1/4 sec. 28, T.21 S., R.63 E., Mount Diablo meridian, on right bank 5 miles northeast of Henderson and 3.5 miles upstream from high-water line of Lake Mead at elevation 1,221.4 ft above mean sea level.

Drainage area.--2,179 sq mi, of which 1,571 sq mi contributes directly to surface runoff.

Records available.--February 1957 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 1,450 ft (from topographic map). Prior to Oct. 11, 1958, at datum 1.05 ft higher.

Extremes.--1957-60: Maximum discharge, 1,400 cfs Aug. 21, 1957 (gage height, 4.70 ft, present datum), from rating curve extended above 95 cfs on basis of slope-area measurement of peak flow; minimum daily, 4.8 cfs Aug. 17, 1960.

Remarks.--In closed basin above station, 2,150 acres is irrigated mostly by pumping from ground water. Discharge includes waste water from industrial plants and sewage effluent.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	22.7	25.8	33.5	23.7	21.2	45.6	19.4	-
1958	20.7	22.0	23.0	23.8	26.6	22.9	19.4	15.9	8.76	9.36	16.3	19.7	19.0
1959	24.1	40.3	25.3	27.1	26.0	22.5	21.9	17.2	13.5	12.2	13.8	16.2	21.6
1960	20.8	32.8	31.5	26.9	25.9	22.4	19.0	15.4	15.7	13.5	9.93	15.2	20.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	1,400	1,530	2,060	1,410	1,300	2,800	1,160	-
1958	1,280	1,310	1,410	1,470	1,480	1,410	1,160	977	521	576	1,000	1,170	13,760
1959	1,480	2,400	1,560	1,670	1,440	1,380	1,310	1,060	803	752	849	966	15,670
1960	1,280	1,950	1,930	1,660	1,490	1,380	1,130	946	934	833	611	902	15,050

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1957	1513	al,400	Aug. 21, 1957	-	-	-	-	-	-
1958	1563	68	Feb. 4, 1958	6.9	19.0	13,760	21.0	15,200	
1959	1633	1,150	Nov. 12, 1958	10	21.6	15,670	21.3	15,390	
1960	1713	72	Nov. 2, 1959	4.8	20.7	15,050	-	-	

a For period February to September 1957.

4200. Diversions to Las Vegas and Henderson, Nev.
(Formerly published as Diversion to Henderson, Nev., area)

Location.--Lat 36°04', long 114°48', in SW $\frac{1}{4}$ sec.2, T.22 S., R.64 E., Mount Diablo meridian, on Nevada side of Lake Mead, 6 miles upstream from Hoover Dam.

Records available.--October 1941 to September 1960. Prior to October 1956, published as Diversion to Henderson, Nev., area.

Gage.--Venturi meter in pressure supply line from pumping plant.

Remarks.--Since Apr. 7, 1942, water diverted by pumping from Lake Mead for municipal and industrial use at and in vicinity of Henderson. First diversion to Las Vegas Valley Water District occurred October 1956. No return flow to Colorado River basin.

Cooperation.--Records furnished by Bureau of Reclamation and Colorado River Commission of Nevada.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	516	393	329	300	277	472	495	590	670	820	788	766	6,416
1952	678	460	448	462	442	481	552	756	847	1,019	1,059	854	8,058
1953	749	665	647	721	648	861	1,028	851	1,091	1,322	1,296	1,032	10,911
1954	787	704	712	786	789	1,082	1,282	1,585	1,666	1,985	1,950	1,865	15,193
1955	1,700	1,234	1,211	1,174	1,057	1,254	1,365	1,565	1,577	1,979	1,864	1,671	17,651
1956	1,691	1,271	1,279	1,319	1,260	1,495	1,465	1,848	2,280	2,516	2,536	2,319	21,279
1957	1,922	1,426	1,314	1,288	1,260	1,397	1,459	1,590	1,878	2,303	2,068	1,651	19,556
1958	1,157	1,004	989	905	920	1,141	1,145	1,345	1,967	2,464	2,427	2,042	17,484
1959	1,176	1,149	1,104	1,112	975	1,171	1,279	1,332	1,601	2,176	2,133	1,498	16,706
1960	1,324	972	929	924	832	1,057	1,137	1,567	2,220	2,602	2,507	1,615	17,686

4205. Diversions to Boulder City, Nev.

Location.--Lat 36°01', long 114°44', in NE $\frac{1}{4}$ sec.29, T.22 S., R.65 E., Mount Diablo meridian, at Nevada side of powerhouse at Hoover Dam.

Records available.--October 1935 to September 1960.

Gage.--Venturi meters in pressure supply lines from two pumping plants since June 9, 1949. Prior to that date one meter and pumping plant.

Remarks.--Water diverted for municipal use at Boulder City. Water has been diverted from penstock of powerplant since March 1936; prior to that date, water was pumped from river immediately below dam. Diversion began in March 1932.

Cooperation.--Records furnished by Bureau of Reclamation and Colorado River Commission of Nevada.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	213	120	87.6	89.6	97.6	113	154	173	308	346	310	291	2,303
1952	213	120	87.6	84.5	110	96.4	181	221	339	374	371	303	2,500
1953	222	152	91.1	83.8	120	133	182	212	300	363	458	300	2,617
1954	204	131	105	96.5	122	143	211	304	357	400	376	309	2,738
1955	228	131	84.4	70.4	79.3	160	186	243	350	381	318	331	2,562
1956	224	133	99	97.2	102	162	179	269	377	393	394	318	2,747
1957	207	132	113	79	96	146	168	202	352	384	326	280	2,485
1958	156	98	89	82	71	86	157	265	346	404	338	284	2,376
1959	199	104	99	88	81	138	216	260	369	383	365	279	2,581
1960	205	120	89	78	74	140	193	271	371	436	407	283	2,667

4210. Lake Mead at Hoover Dam, Ariz.-Nev.

Location.--Lat 36°00'58", long 114°44'13", in NE¹/₄SW¹/₄ sec.3, T.30 N., R.23 W., Gila and Salt River meridian, in center of Hoover Dam on Colorado River.

Drainage area.--167,800 sq mi, approximately.

Records available.--Contents: February 1935 to September 1960. Evaporation: March 1952 to September 1960. Published as "at Boulder Dam" prior to 1946.

Gage.--Water-stage recorder. Prior to Oct. 1, 1952, daily readings of indicator. Datum of gage is 0.40 ft above mean sea level, datum of 1929, leveling of 1950; used locally as at mean sea level, powerhouse datum, based on adjustment of 1912.

Extremes.--1935-60: Maximum contents, 27,790,000 acre-ft July 29, 30, 1941 (gage height, 1,220.45 ft); minimum (since 1940), 10,695,000 acre-ft Apr. 26, 1956 (gage height, 1,083.21 ft).

Remarks.--Reservoir is formed by concrete-arch gravity-type dam; storage began Feb. 1, 1935; dam completed Mar. 1, 1936. Total capacity, 31,047,000 acre-ft, consisting of the following: dead storage, 2,620,000 acre-ft below gage height, 895.0 ft (gate sills in outlet towers); usable contents, 27,207,000 acre-ft between gage heights 895.0 and 1,221.4 ft (top of automatic spillway gates in raised position); and uncontrolled storage, 1,220,000 acre-ft between gage heights 1,221.4 and 1,229.0 ft. Reservoir is used to store water for flood control, irrigation, municipal water supply, and power development. Figures given herein represent usable contents. Records of chemical analyses for the period October 1940 to September 1960 are published in reports of Geological Survey (records of chemical analyses for the period October 1957 to September 1960 were furnished for publication by the Metropolitan Water District of Southern California, LaVerne, Calif.).

A description of the sedimentation survey of Lake Mead made in 1948-49 is published as a separate report of Geological Survey.

Cooperation.--Records of diversions from Lake Mead furnished by Bureau of Reclamation and Colorado River Commission of Nevada.

Contents, in thousands of acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	19,201	18,686	18,259	17,654	17,255	16,806	16,500	17,043	19,091	19,663	19,518	19,118
1952	18,713	18,334	17,846	17,375	16,574	15,691	16,570	20,086	23,683	23,946	23,350	22,543
1953	21,604	20,712	19,780	18,972	18,318	17,764	17,299	17,177	19,285	19,378	19,072	18,384
1954	17,831	17,490	17,000	16,511	16,154	15,701	15,289	15,342	15,248	14,862	14,294	13,739
1955	13,489	13,175	12,750	12,305	11,869	11,564	11,279	11,847	12,799	12,580	12,497	12,090
1956	11,773	11,544	11,394	11,231	11,038	10,727	10,748	12,043	13,864	13,658	13,266	12,785
1957	12,427	12,150	11,951	11,768	11,700	11,508	11,395	13,133	17,577	20,671	21,498	21,522
1958	21,519	21,400	20,842	20,013	19,712	19,104	19,223	21,928	24,760	24,458	23,814	23,326
1959	22,885	22,466	21,973	21,502	21,190	20,739	20,252	20,222	21,165	21,090	20,616	20,036
1960	19,811	19,748	19,553	19,282	19,121	19,180	19,884	20,544	21,682	21,362	20,564	19,938

Monthly and yearly gross evaporation, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	48,800	37,700	73,700	130,300	106,200	140,200	87,900	-
1952	64,500	104,100	60,700	41,500	47,100	50,500	56,400	85,800	85,500	86,000	110,800	82,900	875,200
1953	75,000	65,000	69,000	41,000	34,000	56,000	51,000	77,000	78,000	89,000	87,000	74,000	796,000
1954	71,000	47,000	51,000	42,000	36,000	43,000	55,000	58,000	65,000	78,000	67,000	86,000	699,000
1955	59,000	61,000	37,000	33,000	38,000	40,000	45,000	62,000	81,000	82,000	100,000	66,000	704,000
1956	76,000	64,000	48,000	30,000	21,000	38,000	47,000	50,000	78,000	96,000	122,000	87,000	757,000
1957	88,000	94,000	64,000	55,000	29,000	53,000	43,000	88,000	118,000	32,000	120,000	20,000	1,004,000
1958	96,700	79,100	52,700	49,600	44,400	58,000	55,800	86,700	93,900	109,600	108,900	107,600	943,000
1959	85,900	64,600	61,200	39,100	49,100	47,900	64,100	76,100	100,200	109,700	133,600	77,600	909,100

4215. Colorado River below Hoover Dam, Ariz-Nev.

Location.--Lat 36°00'55", long 114°44'16", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.3, T.30 N., R.23 W., Gila and Salt River meridian, or SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.29, T.22 S., R.65 E., Mount Diablo meridian, in powerhouse at downstream side of Hoover Dam.

Drainage area.--167,800 sq mi, approximately, at Hoover Dam.

Records available.--October 1933 to September 1960. Published as "near Willow Beach" 1933-39 and as "below Boulder Dam" 1939-45.

Gage.--Totalizing flowmeters on each turbine in Hoover Dam powerhouse. Prior to July 1, 1958, water-stage recorder at site 0.8 mile downstream and prior to Nov. 1, 1939, at site 9 miles downstream.

Average discharge.--26 years (1934-60), 14,580 cfs (10,555,000 acre-ft per year), not adjusted for storage in Lake Mead.

Extremes.--1933-60: Maximum daily discharge, 36,000 cfs Jan. 28, 1942; no flow for part of Feb. 10, 1935.

Remarks.--Flow regulated by Lake Mead since Feb. 1, 1935 (see preceding page). Many diversions above station for irrigation, industrial, and municipal use. Discharge measurements generally made once a month to check flowmeters in Hoover Dam powerhouse. Records of chemical analyses for the period October 1934 to September 1960 (prior to October 1939, near Willow Beach 10 miles below Hoover Dam), suspended sediment loads for the period October 1934 to September 1938 (near Willow Beach), and water temperatures for the period October 1941 to September 1960 are published in reports of Geological Survey.

Cooperation.--Records furnished by Bureau of Reclamation since 1959.

Correction.--In WSP 1313, the monthly runoff, in thousands of acre-ft, for September 1935 and April 1946 are listed in error; they should be 594.4 and 872.3, respectively.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13,790	13,700	13,830	15,090	13,620	13,980	13,390	14,610	11,610	12,740	14,740	14,250	13,790
1952	12,290	13,740	13,480	17,390	21,080	22,300	23,270	24,920	24,060	21,200	21,260	22,850	19,800
1953	21,000	20,410	21,750	19,950	18,790	17,020	16,320	16,220	13,770	14,580	15,740	16,260	17,650
1954	13,040	12,580	13,230	13,590	12,990	14,810	16,380	17,900	15,620	16,700	14,440	15,680	14,760
1955	12,620	11,360	12,050	11,790	12,690	14,730	14,830	15,080	11,420	13,770	12,630	10,440	12,810
1956	8,558	8,190	8,008	9,483	8,669	12,510	14,120	12,170	13,180	12,780	11,310	10,260	10,770
1957	7,963	9,312	7,436	8,694	8,462	12,010	14,960	12,500	13,920	12,790	12,780	13,190	11,170
1958	11,330	16,100	17,580	20,250	15,220	23,340	24,780	18,140	13,760	14,550	14,820	13,310	16,940
1959	11,840	12,530	14,200	12,930	11,660	13,460	15,400	15,440	12,770	13,800	14,530	12,990	13,480
1960	11,280	10,200	9,302	10,220	8,906	11,550	15,270	13,920	17,050	16,000	15,600	13,540	12,740

† Corrected.

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	848.2	815.1	850.6	928.1	756.3	859.9	796.5	898.4	690.6	783.2	906.6	847.9	9,981
1952	755.7	817.7	829.0	1,070	1,212	1,371	1,385	1,532	1,432	1,304	1,307	1,359	14,370
1953	1,291	1,215	1,338	1,227	1,043	1,048	971.1	997.6	819.3	896.8	967.5	967.5	12,780
1954	801.8	748.7	813.6	855.9	721.3	910.8	974.6	1,101	929.4	1,027	868.0	933.0	10,690
1955	775.3	675.8	741.1	724.6	704.9	905.9	862.5	927.5	679.6	846.9	788.9	621.5	9,276
1956	526.1	487.3	492.4	583.1	498.6	769.2	840.2	748.4	784.0	782.3	695.7	610.2	7,818
1957	489.6	554.1	457.2	534.5	470.0	738.7	890.4	768.6	828.2	786.1	785.7	785.1	8,088
1958	696.6	958.3	1,081	1,245	845.5	1,435	1,473	1,115	818.6	894.4	911.2	792.0	12,270
1959	728.3	745.8	873.1	794.8	647.5	827.4	916.1	949.4	759.9	848.4	893.5	773.2	9,757
1960	692.6	606.8	572.0	628.6	512.3	710.1	908.8	855.7	1,015	983.9	959.1	805.7	9,251

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	16,600	12,020,000
1951	1213	28,100	Jan. 10, 1951	5,880	13,790	9,981,000	13,630	9,870,000
1952	1243	38,800	May 14, 1952	5,340	19,800	14,370,000	21,790	15,820,000
1953	1283	30,600	Apr. 27, 1953	8,090	17,650	12,780,000	15,610	11,300,000
1954	1343	33,700	May 12, 1954	6,240	14,760	10,690,000	14,520	10,510,000
1955	1393	32,400	May 31, 1955	4,170	12,810	9,276,000	11,860	8,588,000
1956	1443	28,900	Mar. 23, 1956	4,260	10,770	7,818,000	10,760	7,813,000
1957	1513	29,600	June 24, 1957	3,980	11,170	8,088,000	12,880	9,323,000
1958	1563	a30,000	Mar. 7, 1958	5,200	16,940	12,270,000	16,410	11,880,000
1959	1633	a21,400	May 28, 1959	5,860	13,480	9,757,000	12,820	9,282,000
1960	1713	a22,700	July 18, 1960	4,700	12,740	9,251,000	-	-

a Maximum daily.

4225. Lake Mohave at Davis Dam, Ariz.-Nev.

Location.--Lat 35°11'50", long 114°34'00", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.18, T.21 N., R.21 W., Gila and Salt River meridian, on forebay structure on Arizona side of Davis Dam on Colorado River, 29 miles west of Kingman, Ariz. and 67 miles downstream from Hoover Dam.

Drainage area.--169,300 sq mi, approximately, at Davis Dam, of which 1,520 sq mi is below Hoover Dam.

Records available.--January 1950 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929.

Extremes.--1950-60: Maximum contents, 1,811,000 acre-ft May 24, 1958 (elevation, 647.03 ft); minimum (since 1952), 1,168,000 acre-ft Sept. 8, 1953 (elevation, 622.15 ft).

Remarks.--Reservoir is formed by earth- and rock-fill dam; dam completed in April 1949 and storage began Jan. 17, 1950. Usable capacity, 1,810,000 acre-ft between elevations 533.39 (lowest point of penstock outlet) and 647.0 ft (top of spillway gates). Dead storage, 8,530 acre-ft below elevation 533.39 ft. Lake is used for power development, reregulation for irrigation demand, and to satisfy requirements of the Treaty of 1944 with Mexico.

Contents, in thousands of acre-feet, at 12 p.m. on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	554.9	796.9	1,030	1,329	1,494	1,549	1,509	1,679	1,470	1,270	1,282	1,374
1952	1,341	1,542	1,596	1,601	1,607	1,586	1,585	1,608	1,565	1,587	1,584	1,589
1953	1,591	1,596	1,610	1,621	1,587	1,640	1,705	1,690	1,513	1,310	1,186	1,282
1954	1,396	1,587	1,695	1,686	1,720	1,785	1,799	1,783	1,738	1,691	1,521	1,625
1955	1,705	1,693	1,701	1,653	1,711	1,758	1,765	1,808	1,553	1,383	1,352	1,223
1956	1,199	1,268	1,439	1,645	1,709	1,720	1,772	1,789	1,645	1,512	1,315	1,262
1957	1,210	1,370	1,474	1,672	1,688	1,690	1,735	1,754	1,671	1,477	1,365	1,423
1958	1,533	1,597	1,595	1,542	1,743	1,740	1,782	1,786	1,659	1,526	1,513	1,523
1959	1,562	1,594	1,649	1,678	1,701	1,703	1,651	1,775	1,607	1,403	1,387	1,385
1960	1,427	1,558	1,657	1,780	1,728	1,568	1,565	1,540	1,514	1,373	1,390	1,465

4230. Colorado River below Davis Dam, Ariz.-Nev.

Location.--Lat 35°11'30", long 114°34'15", in SE 1/4 sec. 1, T.32 S., R.66 E., Mount Diablo meridian, on right bank half a mile downstream from Davis Dam, 29 miles west of Kingman, Ariz., and 68 miles downstream from Hoover Dam.

Drainage area.--169,300 sq mi, approximately.

Records available.--June 1905 to September 1907 (published as "at Hardyville"), March 1949 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 500.00 ft above mean sea level, datum of 1929. Staff gage at site 4 1/4 miles downstream at datum about 13.4 ft lower 1905-7. Mar. 16 to May 3, 1949, water-stage recorder at site half a mile downstream at present datum. May 4, 1949, to Feb. 24, 1956, water-stage recorder at site 400 ft upstream at present datum.

Average discharge.--11 years (1949-60), 14,400 cfs (10,430,000 acre-ft per year), unadjusted.

Extremes.--1905-7: Maximum daily discharge, 116,000 cfs June 20, 1906; minimum daily, 2,850 cfs Jan. 5, 1906.

1949-60: Maximum discharge, 31,200 cfs Apr. 22, 1952 (gage height, 13.91 ft); no flow at Davis Dam for parts of several days July to September and Dec. 27, 1950, when gates in dam were closed.

Remarks.--Flow regulated by Lake Mead (see p. 466) since Feb. 1, 1935, and by Lake Mohave (see p. 468) since Jan. 17, 1950. Many diversions upstream for irrigation, industrial, and municipal use.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11,520	9,280	9,558	9,553	9,886	12,920	14,250	11,850	15,440	16,270	14,710	12,720	12,340
1952	12,970	10,160	12,440	17,520	20,830	22,590	23,300	24,400	24,690	20,790	21,150	22,840	19,460
1953	21,020	20,010	11,520	19,980	19,380	16,230	15,020	16,420	16,840	18,170	17,610	18,370	18,050
1954	10,950	9,033	11,130	13,760	12,410	13,380	16,100	18,330	16,130	17,450	13,480	14,120	14,120
1955	11,020	11,540	11,680	12,540	11,560	13,660	14,540	14,370	16,240	16,620	13,040	12,610	13,330
1956	8,976	6,923	4,945	5,766	7,380	12,400	13,340	12,420	15,410	14,930	14,590	11,110	10,690
1957	8,710	6,430	5,420	4,950	7,700	11,620	13,960	11,900	14,980	15,910	14,190	12,180	10,670
1958	9,530	14,860	17,280	20,980	11,380	23,330	24,140	17,940	15,860	16,730	14,950	12,910	16,700
1959	11,000	11,730	13,080	12,240	11,130	13,260	16,140	13,210	15,470	17,040	14,710	13,000	13,510
1960	10,540	7,880	7,710	8,170	9,590	14,050	15,020	13,700	16,810	17,520	14,840	12,020	12,330

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	708.6	552.2	587.7	587.4	549.0	794.6	848.1	728.7	919.0	1,001	904.4	757.1	8,938
1952	797.8	604.4	764.7	1,077	1,198	1,389	1,387	1,500	1,469	1,278	1,301	1,359	14,120
1953	1,293	1,191	1,323	1,228	1,076	997.9	893.6	1,010	1,002	1,117	1,083	855.1	13,070
1954	673.1	537.5	684.5	846.3	689.5	822.7	958.0	1,127	959.8	1,073	1,048	802.1	110,220
1955	677.4	686.5	718.4	770.8	641.9	839.8	865.0	883.6	966.5	1,022	828.1	750.5	9,650
1956	551.9	411.9	304.1	354.6	424.5	762.3	793.8	763.6	916.8	918.0	897.3	661.0	7,760
1957	535.8	382.4	333.0	304.5	427.6	714.5	830.5	731.8	891.2	978.0	872.7	724.6	7,727
1958	586.3	884.5	1,062	1,290	632.0	1,435	1,436	1,103	943.7	1,029	919.5	768.2	12,090
1959	676.3	698.2	804.4	752.4	618.1	815.2	960.2	812.1	920.7	1,048	904.7	773.8	9,784
1960	648.0	468.6	474.0	502.6	551.7	863.8	893.8	842.2	1,000	1,077	912.2	715.4	8,949

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	14,970	10,830,000
1951	1213	26,000	June 25, 1951	5,130	12,340	8,938,000	12,780	9,256,000
1952	1243	31,200	Apr. 22, 1952	8,790	19,460	14,120,000	21,720	15,760,000
1953	1283	30,500	Oct. 5, 1952	7,910	18,050	13,070,000	15,410	11,160,000
1954	1343	26,200	May 19, 1954	6,810	14,120	110,220,000	14,380	10,410,000
1955	1393	25,800	July 10, 1955	9,820	13,330	9,650,000	12,210	8,636,000
1956	1443	24,400	July 10, 1956	2,650	10,690	7,760,000	10,670	7,743,000
1957	1513	24,100	July 1, 1957	2,780	10,670	7,727,000	12,440	9,008,000
1958	1563	28,100	Jan. 28, 1958	6,730	16,700	12,090,000	16,210	11,740,000
1959	1633	25,300	June 5, 1959	8,040	13,510	9,784,000	12,700	9,196,000
1960	1713	25,300	July 19, 1960	7,150	12,330	8,949,000	-	-

† Corrected.

4240. Colorado River near Topock, Ariz.

Location.--Lat 34°41'15", long 114°27'45", in SW¼ sec. 13, T.15 N., R.21 W., Gila and Salt River meridian, on left bank in Mohave Canyon, 2.7 miles downstream from Topock, 39.5 miles upstream from Parker Dam, and 49 miles downstream from Davis Dam.

Drainage area.--172,300 sq mi, approximately.

Records available.--January 1917 to September 1960. Daily mean elevations published since October 1938.

Gage.--Water-stage recorder. Datum of gage is 423.02 ft above mean sea level, datum of 1929, gage readings have been reduced to elevations above mean sea level. Prior to Dec. 3, 1922, at site about 1 mile upstream at different datum. Since May 1, 1939, supplementary water-stage recorder at former highway bridge at Topock 2.7 miles upstream from base gage at datum 13.33 ft higher.

Average discharge.--17 years (1917-34), 20,260 cfs (14,670,000 acre-ft per year); 26 years (1934-60), 14,070 cfs (10,160,000 acre-ft per year), unadjusted.

Extremes.--1917-34: Maximum discharge, probably exceeded 200,000 cfs June 22, 1921; minimum, 1,480 cfs Aug. 17, 1934.

1934-60: Maximum discharge, 35,700 cfs Jan. 29, 1942; maximum elevation, 457.37 ft July 9, 1959; minimum discharge, 375 cfs Feb. 14, 1935; minimum daily, 422 cfs Feb. 14, 1935.

Discharge of about 300,000 cfs (based on determination at Lees Ferry gaging station) occurred about July 10, 1884. Discharge in excess of 400,000 cfs (estimated) probably occurred within the period 1857-68 and most likely in 1862.

Remarks.--Many diversions above station for irrigation, municipal, and industrial use. Flow regulated by Lake Mead (see p. 466) since Feb. 1, 1935, and by Lake Mohave (see p. 468) since Jan. 17, 1950. Records of water temperatures for the period July 1952 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11,710	8,955	9,371	9,400	9,582	12,080	14,300	11,120	15,550	15,680	14,560	11,950	12,040
1952	12,500	10,040	11,750	16,990	20,390	22,550	22,810	23,900	24,380	20,830	21,050	22,750	19,150
1953	20,570	19,900	21,190	19,590	19,110	15,810	14,890	16,270	16,390	17,840	17,340	14,370	17,780
1954	10,980	8,890	10,710	13,470	12,500	13,190	15,400	17,960	15,520	16,810	16,670	13,170	13,790
1955	10,860	11,160	11,180	12,240	11,400	13,050	14,250	13,980	15,220	16,340	15,410	12,100	12,940
1956	8,791	7,031	5,028	5,458	6,953	11,530	13,060	11,650	14,590	14,620	14,350	11,230	10,360
1957	8,780	6,480	5,500	4,920	7,390	11,280	13,940	11,650	14,510	16,030	14,470	12,180	10,610
1958	9,714	13,750	17,070	21,030	11,310	22,860	23,880	18,070	15,750	16,220	14,780	12,800	16,480
1959	11,130	11,200	13,250	12,040	11,150	12,770	15,820	12,940	14,900	16,800	14,760	12,930	13,320
1960	10,380	7,934	7,652	8,133	9,292	13,060	15,120	13,610	16,480	17,130	15,250	11,800	12,160

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	720.2	532.9	576.2	578.0	532.1	743.0	850.9	683.7	925.5	964.4	895.3	711.2	8,713
1952	768.6	597.7	722.5	1,044	1,173	1,387	1,357	1,470	1,451	1,281	1,295	1,354	13,900
1953	1,265	1,184	1,303	1,205	1,062	971.9	885.8	1,001	975.1	1,097	1,066	855.3	12,870
1954	675.9	529.2	658.7	828.5	694.4	811.3	916.2	1,104	923.5	1,033	1,025	785.5	9,983
1955	667.7	664.0	687.7	752.7	633.3	802.3	847.7	859.4	905.7	1,004	824.5	719.8	9,369
1956	540.6	418.4	309.0	335.7	399.9	708.8	777.4	716.0	868.2	898.9	882.4	668.4	7,524
1957	539.9	385.5	338.2	302.8	410.2	695.6	829.7	716.6	865.4	985.6	890.0	724.9	7,680
1958	597.3	818.1	1,050	1,295	628.0	1,405	1,421	1,111	937.0	1,097.1	908.8	761.9	11,950
1959	684.5	666.6	814.4	740.2	619.4	785.5	941.2	795.6	886.8	1,033	907.4	769.2	9,644
1960	638.0	472.1	470.5	500.1	534.5	803.2	899.9	836.6	980.8	1,053	937.4	702.0	8,828

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Maximum day		Date	Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge							
1950	-	-	-	-	-	-	-	-	-
1951	1213	22,200	June 26, 1951	5,600	12,040	8,713,000	12,390	10,640,000	8,973,000
1952	1243	a26,900	June 5, 1952	8,440	19,150	13,900,000	21,440	15,560,000	12,440,000
1953	1283	22,900	Oct. 12, 1953	9,610	17,780	12,870,000	15,170	10,980,000	9,983,000
1954	1343	19,700	May 20, 1954	7,660	13,790	9,983,000	14,010	10,139,000	9,059,000
1955	1393	18,100	(b)	9,430	12,940	9,369,000	11,900	8,617,000	-
1956	1443	15,700	(c)	3,020	10,360	7,524,000	10,360	7,519,000	-
1957	1513	17,200	July 11-13, 1957	3,180	10,610	7,680,000	12,270	8,882,000	-
1958	1563	24,500	May 3, 1958	8,080	16,480	11,930,000	16,060	11,630,000	-
1959	1633	18,200	July 9, 1959	9,340	13,320	9,644,000	12,510	9,059,000	-
1960	1713	a17,700	July 1, 1960	7,450	12,160	8,828,000	-	-	-

a Momentary maximum.
b June 23, 24, 26, 27, 1955.

c July 7, Aug. 18, 1956.

4255. Santa Maria River near Alamo, Ariz.

Location--Lat 34°18', long 113°31', in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 9, T.11 N., R.12 W., on right bank half a mile upstream from confluence with Big Sandy River and $5\frac{1}{2}$ miles upstream from Alamo.

Drainage area--1,520 sq mi, approximately.

Records available--October 1939 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage--Water-stage recorder. Datum of gage is 1,124.1 ft above mean sea level (river-profile survey). Prior to Apr. 1, 1951, at site 800 ft upstream at datum 2.50 ft higher.

Average discharge--21 years (1939-60), 32.8 cfs (23,750 acre-ft per year); median of yearly mean discharges, 12 cfs (8,700 acre-ft per year).

Extremes--1939-60: Maximum discharge, 33,600 cfs Aug. 29, 1951 (gage height, 12.95 ft); minimum, less than 1 cfs for many days in most years.

Remarks--Diversions above station for irrigation of about 2,000 acres, most of which is irrigated by pumpage from ground water.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.99	1.50	2.32	3.32	3.52	3.25	4.13	3.22	1.86	1.33	624	12.6	56.1
1952	34.1	8.8	125	128	9.30	602	45.8	21.2	38.0	2.33	1.91	1.44	85.9
1953	1.77	2.27	7.04	5.82	5.40	5.71	4.28	2.74	2.12	4.42	9.34	1.25	4.36
1954	1.42	1.86	2.55	4.79	6.84	397	6.43	2.78	1.68	1.61	1.30	1.49	36.4
1955	1.46	2.57	2.27	2.82	1.87	3.82	3.03	2.00	1.13	37.5	137	1.82	16.7
1956	1.94	2.26	2.77	4.14	4.41	4.55	2.62	2.15	1.26	1.04	.82	.66	2.38
1957	.83	2.17	2.53	10.5	25.2	4.61	3.09	2.61	2.20	1.26	16.3	1.25	5.93
1958	17.8	13.2	3.16	2.71	66.4	1.31	60.3	2.48	2.29	.68	.97	9.86	25.7
1959	1.71	1.57	2.77	4.87	17.6	6.54	3.05	1.38	1.02	.60	20.5	.79	5.14
1960	.55	.92	47.2	22.7	13.0	42.6	4.96	2.19	1.41	1.11	.74	.53	11.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	61	89	143	204	195	200	246	198	112	82	38,360	748	40,640
1952	2,090	522	7,710	7,850	535	37,040	2,730	1,300	2,260	143	117	86	62,380
1953	109	135	433	358	300	351	253	169	126	272	574	74	3,150
1954	87	111	156	295	380	24,400	382	171	100	99	80	89	26,350
1955	90	153	140	173	104	235	180	123	67	2,300	8,440	108	12,110
1956	119	134	170	254	253	280	156	132	75	64	50	39	1,730
1957	51	129	155	647	1,400	284	184	161	131	78	1,000	75	4,300
1958	1,100	783	194	167	3,690	8,080	3,590	153	136	42	60	587	18,580
1959	105	93	171	299	977	402	181	85	60	37	1,260	47	3,720
1960	34	55	2,900	1,390	750	2,620	295	135	84	68	45	32	8,410

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	3.33
1951	1213	33,600	Aug. 29, 1951	0.9	56.1	40,640	70.0
1952	1243	8,020	Dec. 31, 1951	.8	85.9	62,380	72.6
1953	1283	560	Aug. 28, 1953	1.0	4.36	3,150	3.91
1954	1343	16,000	Mar. 23, 1954	.5	36.4	26,350	36.4
1955	1393	7,180	Aug. 18, 1955	.4	16.7	12,110	16.8
1956	1443	107	July 24, 1956	.3	2.38	1,730	2.26
1957	1513	2,050	Aug. 20, 1957	.6	5.95	4,300	8.33
1958	1563	7,870	Mar. 22, 1958	.2	25.7	18,580	23.3
1959	1633	2,940	Aug. 3, 1959	.4	5.14	3,720	8.76
1960	1713	3,220	Dec. 26, 1959	.3	11.6	8,410	-

4260. Bill Williams River near Alamo, Ariz.

Location.--Lat 34°14', long 113°35', in SW¼NW¼ sec.2, T.10 N., R.13 W., on left bank 1.5 miles downstream from Alamo, 2.0 miles downstream from Bullard Wash, and 6 miles downstream from confluence of Santa Maria and Big Sandy Rivers.

Drainage area.--4,730 sq mi, approximately, of which 400 sq mi is below confluence of Santa Maria and Big Sandy Rivers.

Records available.--October 1939 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Prior to October 1943, published as Williams River near Alamo.

Gage.--Water-stage recorder. Datum of gage is 1,002.95 ft above mean sea level, datum of 1929. Supplementary water-stage recorder at site 300 ft downstream at datum 0.51 ft higher since Apr. 18, 1955.

Average discharge.--21 years (1939-60), 92.8 cfs (67,180 acre-ft per year); median of yearly mean discharges, 44 cfs (31,900 acre-ft per year).

Extremes.--1939-60: Maximum discharge, 65,100 cfs Aug. 29, 1951 (gage height, 30.8 ft); minimum daily, 1.1 cfs Sept. 4, 1958.

Flood of Sept. 6, 1939, reached a stage of 39.6 ft, from floodmarks (discharge, 86,000 cfs, from rating curve extended above 50,000 cfs on basis of slope-area measurement of peak flow made just below confluence of Santa Maria and Big Sandy Rivers). Floodmarks indicate a previous stage of about 46 ft.

Remarks.--Diversions above station for irrigation of about 5,000 acres, most of which is irrigated by pumpage from ground water.

Correction.--In WSP 1313, the runoff for April 1941 is listed in error; it should be 128,200 acre-ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6.46	7.54	9.00	9.97	9.64	8.98	9.21	8.05	5.32	4.71	964	62.7	93.6
1952	44.1	22.9	409	653	59.8	1,546	171	51.6	46.2	6.63	6.59	6.62	255
1953	7.21	9.46	11.3	14.1	15.1	15.0	10.7	8.76	7.10	6.94	12.5	6.08	10.3
1954	6.90	8.56	8.87	12.2	13.0	900	39.3	8.93	5.49	7.28	17.2	8.09	87.7
1955	5.99	8.10	9.30	10.6	10.9	9.52	8.81	6.56	4.73	62.9	422	8.60	48.1
1956	8.71	10.3	11.8	18.8	16.3	11.7	10.3	7.63	6.47	8.30	5.64	5.32	10.1
1957	6.36	8.76	9.86	17.4	43.5	13.1	12.4	8.03	6.66	7.71	49.1	6.50	15.6
1958	29.3	68.3	12.3	12.6	195	459	260	13.1	10.1	8.98	5.83	15.9	90.1
1959	12.8	14.7	13.4	13.2	63.3	18.9	11.1	7.83	5.14	3.28	86.5	5.32	21.1
1960	5.25	6.14	57.0	91.1	84.3	151	12.8	6.18	3.60	3.83	3.40	4.48	36.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	397	449	553	613	535	552	548	495	317	289	59,280	3,730	67,760
1952	2,710	1,360	25,120	40,130	3,440	95,080	10,170	3,170	2,750	407	405	394	185,100
1953	443	563	695	869	839	924	636	539	422	426	766	362	7,480
1954	424	509	545	748	722	55,360	2,340	549	328	447	1,060	461	63,510
1955	368	482	572	652	603	585	524	403	282	3,870	25,960	512	34,810
1956	558	611	728	1,160	936	722	614	469	385	510	347	316	7,330
1957	391	521	606	1,070	2,410	803	740	493	396	474	3,020	387	11,310
1958	1,800	4,060	754	774	10,840	28,240	15,480	804	599	552	359	946	65,210
1959	788	873	823	813	3,510	1,160	662	481	306	202	5,320	317	15,260
1960	323	484	3,500	5,600	4,850	9,280	759	379	214	236	209	267	26,100

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	9.87	7,150
1951	1213	65,100	Aug. 29, 1951	4.4	93.6	67,760	132	95,550
1952	1243	37,600	Dec. 31, 1951	4.8	255	185,100	217	157,600
1953	1283	193	Aug. 28, 1953	4.5	10.3	7,480	10.0	7,260
1954	1343	34,700	Mar. 23, 1954	4.8	87.7	63,510	87.6	63,460
1955	1393	4,610	Aug. 23, 1955	2.9	48.1	34,810	48.7	35,270
1956	1443	162	July 24, 1956	3.6	10.1	7,330	9.61	6,980
1957	1513	12,100	Aug. 20, 1957	4.8	15.6	11,310	22.7	16,410
1958	1563	13,000	Mar. 22, 1958	1.1	90.1	65,210	84.4	61,080
1959	1633	2,900	Aug. 18, 1959	2.0	21.1	15,260	23.6	17,080
1960	1713	3,420	Dec. 26, 1959	3.2	36.0	26,100	-	-

4270. Colorado River aqueduct near Parker Dam, Ariz.-Calif.

Location.--Lat 34°19'00", long 114°09'25", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.28, T.3 N., R.27 E., San Bernardino meridian, at intake pumping plant of Metropolitan Water District of Southern California on Havasu Lake, 1.8 miles upstream from Parker Dam and 154 miles downstream from Hoover Dam.

Records available.--January 1939 to September 1960 (monthly diversions only after October 1942). Published as a supplement to records for Colorado River below Parker Dam 1942-50.

Gage.--Venturi meters in pressure lines at intake pumping plant.

Average discharge.--21 years (1939-60), 360 cfs (260,600 acre-ft per year).

Extremes.--1939-60: Maximum daily diversion, 1,990 cfs Aug. 14, 1960; no diversion at times.

Remarks.--Pumping began Jan. 7, 1939. Figures of monthly diversion represent water pumped from Havasu Lake less infrequent return surface flow from Gene and Cooper Basin Reservoir. Percolation from Gene and Cooper Basin Reservoirs enters Havasu Lake and the Colorado River as return flow but is not subtracted from the diversion record. Cooling water for intake pumping plant, after being recorded as diversion to Colorado River aqueduct, is returned directly to Havasu Lake.

Cooperation.--Records furnished by Metropolitan Water District of Southern California.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	14,027	11,054	13,035	13,452	11,041	13,775	20,412	12,699	25,070	26,013	24,680	25,057	210,315
1952	22,996	23,395	12,770	12,990	12,313	12,988	12,763	17,084	14,211	12,969	12,951	24,323	191,753
1953	18,916	13,612	9,944	0	5,443	21,004	26,422	23,533	13,278	22,916	33,521	34,281	222,870
1954	24,714	9,934	13,271	11,729	11,792	24,132	22,251	31,165	23,447	36,405	37,099	35,735	281,672
1955	34,926	35,471	37,006	25,284	29,935	39,166	34,698	34,163	37,731	32,794	36,123	35,521	412,876
1956	39,466	35,824	36,317	29,887	34,387	35,208	37,284	33,028	35,758	36,754	44,916	47,620	446,449
1957	49,699	47,451	49,501	48,151	41,801	51,016	45,540	57,852	56,334	56,479	55,970	49,094	606,888
1958	53,928	52,375	28,657	26,412	40,709	49,888	32,841	49,851	50,798	54,812	54,794	47,128	542,193
1959	49,270	42,322	41,344	53,733	23,619	55,470	59,052	67,051	67,669	67,382	70,121	63,688	660,721
1960	71,149	62,460	46,544	68,154	47,581	60,562	64,941	74,887	82,499	86,418	94,100	91,908	851,203

COLORADO RIVER MAIN STEM

4275. Havasu Lake near Parker Dam, Ariz.-Calif.

Location.--Lat 34°19'00", long 114°09'25", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.28, T.3 N., R.27 E., San Bernardino meridian, at intake pumping plant for Colorado River aqueduct of Metropolitan Water District of Southern California, 1.8 miles upstream from Parker Dam on Colorado River, which is 156 miles downstream from Hoover Dam.

Drainage area.--178,800 sq mi, approximately, at Parker Dam.

Records available.--July 1938 to September 1960. Published as Parker Reservoir near Parker Dam 1938.

Gage.--Water-stage recorder. Datum of gage is 400.54 ft above mean sea level, datum of 1929. Gage readings have been reduced to elevations above mean sea level.

Extremes.--1938-60: Maximum contents, 693,000 acre-ft (by temporary use of flashboards) Apr. 18, 1943, June 4, 1953; maximum elevation, 450.77 ft June 26, 1958; minimum contents, 71,400 acre-ft June 25, 1942 (elevation, 412.09 ft).

Remarks.--Lake is formed by concrete-arch dam; dam was completed and storage began July 1, 1938. Usable capacity, 619,400 acre-ft between elevations 400.54 (sill of regulating gates and 450.54 ft (top of regulating gates) above mean sea level, based on resurvey of Havasu Lake made in April 1957 by Bureau of Reclamation between elevations 430.54 and 450.54 ft. Prior to Oct. 1, 1956, different capacity table used. Dead storage, 28,600 acre-ft below 400.54 ft (based on original survey). About 0.07 ft fall indicated between gage and Parker Dam under normal operating conditions. Drawdown below elevation 440.54 ft not legally permissible except by consent of the Metropolitan Water District of Southern California or in an emergency affecting safety of the dam. Lake is used for flood control, power development, reregulation of river for irrigation demand, and as a basin from which water is pumped by Metropolitan Water District of Southern California to Colorado River aqueduct. Figures given herein represent usable contents. For record of diversion to Colorado River aqueduct and return flow, see Colorado River aqueduct near Parker Dam, preceding page.

Contents, in thousands of acre-feet, at 12 p.m. on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	639.2	613.4	614.8	618.5	622.4	604.4	662.9	651.8	676.2	652.8	639.2	600.0
1952	625.6	622.2	636.0	580.2	598.0	607.5	650.2	659.2	669.1	646.3	613.4	605.3
1953	597.2	591.4	582.4	585.3	608.6	621.0	660.8	672.3	677.0	650.9	621.7	619.2
1954	629.8	604.2	615.4	612.6	613.7	636.9	662.9	684.9	673.7	649.1	631.8	625.4
1955	619.0	615.2	612.3	614.5	617.4	630.2	673.7	685.6	667.7	660.1	619.9	619.2
1956	611.5	611.5	605.5	605.1	591.4	615.6	661.5	658.8	683.4	656.9	651.2	625.4
1957	563.3	556.2	546.3	548.5	550.6	578.7	611.8	608.8	599.0	588.4	574.7	559.8
1958	568.0	556.2	539.8	519.5	532.8	546.7	582.3	607.6	615.2	590.3	574.9	556.2
1959	563.3	545.2	547.7	547.7	549.0	567.1	608.2	599.8	583.2	570.3	549.0	556.7
1960	561.1	554.6	555.2	540.0	551.7	547.0	581.3	582.1	592.6	597.0	566.9	555.6

4280. Colorado River below Parker Dam, Ariz.-Calif.

Location.--Lat 34°15'30", long 114,09'00", in NE1/4 sec.16, T.2 N., R.27 E., San Bernardino meridian, on right bank 3.9 miles downstream from Parker Dam, 10.4 miles upstream from Headgate Rock Dam, and 11 miles northeast of Parker, Ariz.

Drainage area.--178,800 sq mi, approximately.

Records available.--February to September 1934 (gage heights and fragmentary discharge records), October 1934 to September 1960. Published as "near Parker, Ariz." prior to October 1937.

Gage.--Water-stage recorder. Datum of gage is 346.23 ft above mean sea level, datum of 1929.

Average discharge.--26 years (1934-60), 13,710 cfs (9,926,000 acre-ft per year), unadjusted; 13,740 cfs (9,947,000 acre-ft per year), adjusted for storage in Havasu Lake, but not Lake Mead and Lake Mohave.

Extremes.--1934-60: Maximum discharge, 42,400 cfs Feb. 8, 1937; no flow at Parker Dam for parts of several days in 1942 when gates in dam were closed; minimum daily, 1,440 cfs Feb. 15, 1935.

An unregulated discharge of probably less than 1,350 cfs occurred Aug. 18, 1934 (lowest unregulated discharge since 1917 and probably since a much earlier date).

Remarks.--Many diversions above station. Flow regulated by Lake Mead since Feb. 1, 1935, Lake Mohave since Jan. 17, 1950, and Havasu Lake since July 1, 1936. For record of diversion to Colorado River aqueduct and return flows, see Colorado River aqueduct near Parker Dam, page 473. Records of water temperatures for the period February 1954 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	10,590	9,103	9,062	8,950	9,018	11,870	12,850	10,980	14,480	15,370	15,360	12,150	11,680
1952	11,530	9,420	11,500	17,960	19,720	21,180	21,940	23,460	23,850	20,550	22,080	22,210	18,850
1953	20,070	19,700	21,190	19,480	18,370	15,410	13,580	15,490	16,060	17,770	17,170	13,830	17,350
1954	10,310	8,863	10,320	12,960	11,900	12,720	14,510	16,500	14,830	16,270	15,960	12,680	13,170
1955	10,350	10,720	10,720	11,940	10,770	11,910	12,740	12,880	14,560	15,670	13,800	11,650	12,320
1956	8,111	6,209	4,651	5,160	6,354	10,210	11,490	10,910	13,220	14,060	13,390	10,650	9,543
1957	7,910	5,396	4,682	3,948	6,278	9,579	12,290	10,490	13,160	14,480	13,280	11,110	9,397
1958	8,181	13,120	16,350	20,900	10,170	21,880	22,400	16,470	14,350	15,130	14,090	11,990	15,460
1959	9,920	10,470	12,250	11,010	10,680	11,220	13,980	11,480	13,380	15,650	14,200	11,460	12,150
1960	9,073	6,808	6,677	6,956	8,236	12,360	13,620	12,040	14,780	16,040	14,110	10,750	10,950

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	651.2	541.7	557.2	550.3	500.8	729.6	764.6	675.3	861.8	944.9	944.5	723.2	8,445
1952	709.2	560.5	707.1	1,104	1,134	1,424	1,300	1,443	1,419	1,263	1,296	1,321	13,680
1953	1,234	1,172	1,303	1,198	1,020	947.3	808.1	952.7	955.6	1,093	1,056	822.9	12,560
1954	633.9	527.4	634.3	797.2	660.9	782.3	863.6	1,015	882.6	1,000	981.6	754.5	9,533
1955	636.2	637.9	659.0	733.9	598.2	732.5	758.1	792.0	866.2	963.4	848.7	693.5	78,920
1956	498.7	369.4	286.0	317.3	365.5	627.7	683.8	670.7	786.8	864.8	823.3	633.8	6,928
1957	486.3	321.1	287.9	242.8	348.7	589.0	731.5	645.0	782.9	890.6	815.6	660.9	6,803
1958	503.0	780.7	1,005	1,285	564.7	1,345	1,333	1,013	853.7	930.2	866.8	713.7	11,190
1959	609.7	622.8	752.9	676.8	593.0	690.0	851.7	705.7	797.0	962.4	873.3	682.1	78,797
1960	557.9	405.1	410.5	427.7	473.8	759.9	810.2	740.2	879.3	986.2	868.0	639.4	7,958

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	14,460	10,470,000
1951	1213	21,100	Aug. 29, 1951	8,190	11,660	8,445,000	11,980	8,672,000
1952	1243	27,000	Sept. 24, 1952	8,230	18,850	13,680,000	21,230	15,410,000
1953	1283	23,000	Oct. 2, 1952	12,100	17,350	12,560,000	14,710	10,650,000
1954	1343	20,300	Sept. 5, 1954	8,150	13,170	9,533,000	15,360	9,670,800
1955	1393	18,700	July 3, 1955	9,230	12,320	78,920,000	11,240	8,141,000
1956	1443	18,030	July 2, 1956	3,760	9,543	6,928,000	9,462	6,869,000
1957	1513	18,000	June 25, 1957	2,120	9,397	6,803,000	11,050	7,997,000
1958	1563	22,800	Apr. 22, 1958	5,920	15,460	11,190,000	15,040	10,890,000
1959	1633	19,000	July 9, 1959	7,930	12,150	78,797,000	11,310	8,186,000
1960	1713	18,700	June 11, 1960	5,390	10,960	7,958,000	-	-

† Corrected.

4285. Colorado River Indian Reservation Main Canal, near Parker, Ariz.

Location.--Two gages, lat 34°10'05", long 114°16'30" in SE $\frac{1}{4}$ sec.31, T.10 N., R.19 W., Gila and Salt River meridian. Forebay gage, in river gate-control structure at Arizona end of Headgate Rock Dam. Tailrace gage, 250 ft below canal intake gates at Headgate Rock Dam. Both gages are on Colorado River Indian Reservation $\frac{1}{2}$ miles northeast of Parker and $\frac{1}{4}$ miles downstream from Parker Dam.

Records available.--January 1915 to September 1960 (prior to January 1937, fiscal year diversions only; January 1937 to September 1954, monthly diversions only published as Diversions for Colorado Indian Reservation, near Parker).

Gage.--Tape gages on intake gates to show openings. Water-stage recorders above and below intake gates to record head. Datum of gages is 350.00 ft above mean sea level, datum in use locally, or 350.51 ft above mean sea level, datum of 1929. Normal operating level of forebay is 362.9 ft, datum in use locally. Prior to October 1954, discharges computed by various methods as described in WSP 1313.

Extremes.--1955-60: Maximum daily diversion, 988 cfs July 17, 18, 1960; no diversion at times in most years.

Remarks.--Daily diversions computed on basis of head on intake gates and gate openings. Records show water diverted to project and surface return flows to Colorado River through 2 drainage canals and 2 wasteways, all of which are equipped with water-stage recorders. Water used for irrigation of 34,450 acres on east side of Colorado River between Parker and Ehrenberg.

Cooperation.--Record of return surface flow to Colorado River furnished by Bureau of Indian Affairs.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	15,660	14,720	10,540	6,970	8,950	18,250	23,370	20,860	31,830	37,980	28,670	21,630	239,400
1952	19,490	14,890	10,710	6,090	14,320	16,250	25,340	26,550	28,300	43,890	43,150	26,880	275,900
1953	20,860	12,890	13,710	853	16,280	28,370	27,450	28,870	37,910	44,480	45,930	30,360	308,000
1954	21,770	16,750	15,230	5,390	20,460	21,410	36,720	32,380	42,790	42,520	42,860	30,050	328,300
1955	25,350	21,500	20,440	522	16,880	28,190	32,080	36,190	36,640	40,000	36,300	33,000	329,100
1956	26,330	20,150	14,670	9,360	11,140	27,240	33,100	32,080	39,090	43,860	43,080	27,640	327,700
1957	18,840	11,090	11,130	10,620	10,690	25,960	25,900	26,130	37,550	39,570	41,110	35,130	293,700
1958	28,630	23,390	16,180	17,510	16,000	33,290	33,740	33,760	40,900	46,700	43,710	38,020	371,800
1959	22,290	19,250	22,400	21,120	14,750	41,120	40,000	30,330	44,520	50,850	41,160	34,890	382,700
1960	25,260	18,350	15,680	15,710	19,000	41,370	39,720	32,720	49,620	57,340	52,760	37,970	405,500

† Corrected.

Monthly and yearly return surface flows, in acre-feet, to Colorado River

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,420	4,640	5,630	4,980	5,080	5,880	5,730	7,590	7,970	7,430	7,790	7,510	74,650
1952	7,410	7,270	6,900	7,030	6,180	7,570	7,620	7,740	6,990	7,980	7,390	8,930	89,010
1953	8,730	8,800	8,500	5,970	7,850	8,570	7,820	8,090	8,470	11,110	11,190	8,940	104,000
1954	10,100	7,710	9,020	6,690	6,110	7,340	10,060	10,780	10,930	12,850	9,520	7,320	108,400
1955	9,680	9,150	8,570	6,830	4,900	9,090	10,510	10,160	8,670	11,330	17,060	11,070	117,000
1956	10,800	10,110	8,400	6,470	5,720	10,130	12,960	10,080	8,270	7,550	10,160	12,960	113,600
1957	10,510	9,590	7,310	9,560	6,970	8,990	9,920	10,180	10,330	13,360	15,270	14,910	127,500
1958	20,460	22,160	19,790	15,920	14,880	18,130	18,330	16,630	21,850	21,470	20,620	22,500	225,300
1959	16,310	13,950	12,970	15,640	12,980	15,330	20,990	20,440	17,840	19,300	24,080	17,460	206,300
1960	17,170	17,400	14,840	11,880	12,730	17,700	26,290	19,340	17,740	23,300	23,290	22,400	224,100

4285.3 Arch Creek near Earp, Calif.

Location.--Lat 34°09'55", long 114°22'20", in NE $\frac{1}{4}$ sec.20, T.1 N., R.25 E., on right bank on Parker Dam road, 4 miles east of Earp.

Drainage area.--1.52 sq mi.

Records available.--January to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 600 ft (from topographic map).

Extremes.--January to September 1960: Maximum discharge, 60 cfs Sept. 1, 1960 (gage height, 5.00 ft, from floodmarks), no flow for entire period except Sept.1, 1960.

Flood of Sept. 13, 1959, reached a stage of 13.24 ft, from floodmarks (discharge, 674 cfs, by indirect measurement of peak flow through culvert).

Remarks.--No regulation or diversion.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	0	0	0	0	0	0	0	0	0.06	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	0	0	0	0	0	0	0	0	3.8	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1960	1714	a196	Dec. 25, 1959	0	-	-	-	-

a Maximum for water year.

4290. Palo Verde Canal near Blythe, Calif.

Location.--Lat 33°43'54", long 114°30'43", in SE 1/4 NE 1/4 sec. 19, T. 5 S., R. 24 E., San Bernardino meridian, at canal intake structure on west side of Palo Verde Diversion Dam, 10 miles northeast of Blythe and 43 miles downstream from Headgate Rock Dam.

Records available.--January 1922 to December 1923, January 1925 to September 1960 (prior to October 1950, monthly discharge only).

Gage.--Recording ages above and below intakes to record head. Datum of gage is: forebay gage, at mean sea level, tailrace gage, 274.13 ft above mean sea level, both at datum of 1929. Aug. 7, 1950, to Nov. 30, 1952, water-stage recorder on tailrace and auxiliary recorder half a mile downstream and Dec. 1, 1952, to Oct. 28, 1957, recording gage above and below former intake structure a quarter of a mile upstream at different datums.

Average discharge.--10 years (1950-60), 1,155 cfs (836,200 acre-ft per year).

Extremes.--1950-60: Maximum daily discharge, 2,100 July 16, 1959; no flow at times in several years.

Remarks.--Figures given herein represent flow diverted from Colorado River for irrigation of 75,366 acres. There is appreciable return flow from seven wasteways extending throughout the project and from Outfall drain which has not been subtracted. Periodic measurements of return flow through Outfall drain, as measured in NE 1/4 sec. 11, T. 9 S., R. 21 E., 1 mile south of Palo Verde, are listed in annual Water-Supply Papers.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,134	948	881	727	859	1,173	1,093	1,170	1,323	1,316	1,091	826	1,047
1952	826	699	586	560	810	893	1,108	1,125	1,300	1,400	1,395	1,279	998
1953	952	741	484	589	737	1,123	1,082	1,188	1,488	1,666	1,533	1,245	1,071
1954	744	635	637	710	1,081	1,175	1,422	1,316	1,467	1,684	1,625	1,359	1,155
1955	963	870	601	489	989	1,248	1,205	1,226	1,530	1,594	1,275	1,323	1,109
1956	906	884	786	820	972	1,397	1,310	1,363	1,702	1,711	1,708	1,536	1,259
1957	1,185	1,041	905	741	986	1,244	1,317	1,563	1,685	1,361	1,361	1,328	1,221
1958	847	670	630	735	802	1,042	1,256	1,430	1,607	1,734	1,416	1,490	1,140
1959	1,051	983	918	893	1,077	1,389	1,555	1,638	1,844	1,852	1,489	1,334	1,320
1960	1,003	824	490	530	1,108	1,317	1,357	1,540	1,738	1,740	1,714	1,418	1,231

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	69,730	56,400	54,160	44,680	47,700	72,120	65,050	71,960	78,740	80,910	67,100	49,150	757,700
1952	50,790	41,580	36,060	34,430	46,590	54,910	65,910	69,200	77,340	86,100	85,750	76,130	724,800
1953	58,560	44,110	29,770	36,220	40,930	69,040	64,400	73,070	88,560	102,400	94,270	74,060	775,400
1954	45,750	37,800	39,150	43,650	60,030	72,270	84,600	80,930	87,310	103,600	99,930	80,870	835,900
1955	59,230	51,780	36,930	30,080	54,940	76,740	71,720	75,390	91,020	98,020	78,380	78,740	803,000
1956	55,700	52,620	48,320	50,450	55,930	85,900	77,970	83,820	101,300	105,200	105,000	91,380	913,600
1957	72,750	61,960	55,490	45,580	55,310	77,210	74,030	80,990	93,020	103,600	84,930	79,000	883,800
1958	52,070	39,870	38,760	45,090	44,560	64,060	74,720	87,910	95,620	106,600	87,090	88,680	825,000
1959	64,620	58,490	56,470	54,910	59,820	85,430	80,630	100,700	109,700	113,900	91,560	79,360	955,600
1960	61,660	49,010	30,120	32,560	63,720	80,990	80,750	94,670	103,400	107,000	105,400	84,400	893,700

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Maximum day		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	1,060	767,700		
1951	1213	1,490	June 14, 1951	299	1,047	757,700	975	705,800		
1952	1243	1,660	July 2, 1952	400	998	724,800	1,007	728,800		
1953	1283	1,780	June 30, 1953	200	1,071	775,400	1,058	765,600		
1954	1343	1,760	July 22, 1954	488	1,155	835,900	1,189	861,100		
1955	1393	1,730	July 7, 1955	322	1,109	803,000	1,121	811,700		
1956	1443	1,880	June 22, 1956	517	1,259	913,600	1,305	947,100		
1957	1513	1,770	Aug. 2, 1957	461	1,221	883,800	1,139	824,400		
1958	1563	2,010	July 18, 1958	0	1,140	825,000	1,207	873,900		
1959	1633	2,100	July 16, 1959	534	1,320	955,600	1,266	916,800		
1960	1713	2,030	June 2, 1960	187	1,231	893,700	-	-		

4291. Colorado River below Palo Verde Dam, Ariz.-Calif.

Location.--Lat 33°43'10", long 114°29'50", in NE $\frac{1}{4}$ sec.2, T.4 N., R.22 W., Gila and Salt River meridian, on right bank 1.4 miles downstream from Palo Verde Canal Intake structure, 9.5 miles northeast of Blythe, Calif., and 11.0 miles upstream from Ehrenberg, Ariz.

Drainage area.--182,200 sq mi, approximately.

Records available.--March 1956 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 260.00 ft above mean sea level, datum of 1929.

Extremes.--1956-60: Maximum discharge, 24,300 cfs Mar. 21, 1958; maximum gage height, 17.94 ft May 4, 1958; minimum discharge, 1,540 cfs Jan. 11, 1957.

Remarks.--Many diversions above station for irrigation, municipal, and industrial uses. Flow regulated by Lake Mead, Lake Mohave, and Havasu Lake. Records of water temperatures for the period October 1956 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	9,879	8,895	10,880	11,870	11,040	8,877	-
1957	6,775	4,624	3,732	3,228	5,055	7,881	10,570	8,570	10,690	12,600	11,520	9,508	7,909
1958	7,476	12,330	15,630	20,450	9,393	20,430	20,960	15,080	12,140	12,660	11,770	10,100	10,070
1959	9,113	9,383	11,470	10,180	9,846	9,620	12,200	10,020	11,120	13,120	12,370	10,010	10,710
1960	8,136	6,046	6,346	6,497	6,983	10,480	11,740	9,683	11,700	13,010	11,300	9,201	9,294

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	587.8	546.9	647.6	729.9	679	528.2	-
1957	416.6	275.1	229.4	198.5	280.7	484.6	629.0	527	636.2	774.5	708.5	565.7	5,726
1958	459.7	733.8	961	1,257	521.7	1,247	927.6	722.2	778.1	723.6	601.1	10,190	6,754
1959	560.3	558.3	705.5	625.8	546.8	591.5	725.8	615.8	661.6	806.9	760.5	595.4	7,754
1960	500.2	359.8	390.3	399.5	401.7	644.6	698.6	595.4	696.4	799.9	713.3	547.5	6,747

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1956	1443	14,400	July 14, 1956	-	-	-	-	-
1957	1513	14,900	Aug. 19, 1957	1,700	7,909	5,726,000	9,613	6,959,000
1958	1563	24,300	Mar. 21, 1958	5,630	14,070	10,190,000	13,620	9,858,000
1959	1633	18,000	Aug. 2, 1959	6,860	10,710	7,754,000	9,918	7,180,000
1960	1713	16,400	Apr. 11, 1960	4,990	9,294	6,747,000	-	-

a For period March to September.

4293. Colorado River below Cibola Valley, Ariz.

Location.--Lat 33°13'15", long 114°40'20", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.30, T.2 S., R.23 W., Gila and Salt River meridian, on left bank 6.7 miles south of Cibola, 38 miles upstream from Imperial Dam, 39.7 miles downstream from Ehrenberg, Ariz., 52.1 miles from Palo Verde diversion dam near Blythe, Calif., and at mile 620 on Colorado River-Profile Survey map.

Drainage area.--183,800 sq mi, approximately.

Records available.--April 1956 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 200.00 ft above mean sea level, datum of 1929.

Extremes.--1956-60: Maximum discharge, 21,800 cfs Apr. 8, 1958; maximum gage height, 13.60 ft May 6, 1958; minimum discharge, 2,740 cfs Jan. 12, 1957.

Remarks.--Many diversions above station for irrigation, municipal, and industrial uses.

Flow regulated by Lake Mead, Lake Mohave, and Havasu Lake. Considerable return flow above station from Palo Verde Irrigation District. Records of water temperatures for the period October 1956 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	10,830	9,877	11,340	12,540	11,970	9,819	-
1957	7,719	5,793	4,778	4,149	5,670	8,497	11,200	9,125	11,250	13,050	12,160	10,130	8,638
1958	8,111	12,180	15,910	20,810	10,210	20,480	21,270	16,040	12,900	13,580	12,940	10,870	14,640
1959	9,858	10,020	12,250	10,810	10,700	10,330	13,080	10,650	11,770	13,620	13,290	10,660	11,430
1960	8,916	6,767	6,863	7,108	7,419	10,890	12,710	10,800	12,740	13,860	12,090	9,858	10,010

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	644.5	607.3	675.0	771.0	736.3	584.3	-
1957	474.6	344.7	293.8	255.1	314.9	522.5	666.2	561.1	668.1	802.3	747.6	602.8	6,254
1958	498.7	724.5	978.0	1,279	567.1	1,259	1,265	986.0	767.8	834.8	789.2	646.6	10,600
1959	606.1	595.9	753.1	664.5	594.2	635.2	778.1	655.0	700.2	837.6	817.2	634.3	8,271
1960	548.2	402.6	422.0	437.1	426.7	669.4	756.5	663.8	758.3	852.5	743.4	586.6	7,287

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1956	1443	13,800	July 6, 1956	7,430	-	-	-	-
1957	1513	14,200	July 11, 1957	2,770	8,638	6,254,000	10,140	7,342,000
1958	1563	21,800	Apr. 8, 1958	6,540	14,640	10,600,000	14,300	10,350,000
1959	1633	18,200	Aug. 2, 1959	7,680	11,430	8,271,000	10,620	7,689,000
1960	1713	15,200	July 22, 1960	6,000	10,010	7,287,000	-	-

a For period April to September.

4295. Colorado River at Imperial Dam, Ariz.-Calif.

Location.--Lat 32°53'00", long 114°27'50", at Imperial Dam. The California end of dam is in W¹/₄ sec.9, T.15 S., R.24 E., San Bernardino meridian; the Arizona end in SW¹/₄ sec.30, T.6 S., R.21 W., Gila and Salt River meridian. The dam is 5 miles upstream from Laguna Dam, 15 miles northeast of Yuma, 90 miles downstream from Palo Verde Dam, and 147 miles downstream from Parker Dam.

Drainage area.--184,600 sq mi, approximately.

Records available.--1903-34 (yearly discharge only), July 1934 to September 1960 (monthly discharge only since October 1942). Published as "near Picacho, Calif." prior to 1943.

Gage.--No gage on river at this site. Discharge figures published herein are based on the combined daily records of discharge obtained at gaging stations on Colorado River at Yuma, All-American Canal near Imperial Dam, and Gila Gravity Main Canal at Imperial Dam, less that of the Gila River near Dome. Drainage and waste return flows and channel losses between these stations and Imperial Dam have been neglected. Prior to October 1942, water-stage recorder at site 14½ miles upstream at datum 167.38 ft above mean sea level, datum of 1929.

Average discharge (unadjusted).--26 years (1934-60), 12,880 cfs (9,325,000 acre-ft per year).

Extremes.--1934-60: Maximum discharge, 40,800 cfs Sept. 5, 1939; minimum, 538 cfs Aug. 3, 1934; minimum daily since regulation of Hoover Dam began, 1,450 cfs Feb. 17, 1935.

Remarks.--Records show flow of Colorado River reaching Imperial Dam, which is above all diversions in vicinity of Yuma. Many diversions from Colorado River and tributaries upstream. Flow regulated by many reservoirs, principally Lake Mead, since 1935.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9,807	8,562	8,783	9,069	8,972	10,320	12,510	9,858	11,810	13,340	13,870	11,710	10,730
1952	11,100	9,394	11,360	17,210	19,240	23,160	21,880	22,000	19,230	19,160	20,490		17,970
1953	20,160	19,760	21,110	19,780	18,410	14,820	12,700	13,930	13,630	15,950	15,150	13,040	16,540
1954	10,470	8,778	10,080	12,730	11,910	11,760	12,980	15,110	13,510	14,400	14,420	12,090	12,360
1955	10,080	10,120	10,470	12,030	10,680	11,020	12,030	11,860	12,540	14,350	13,180	10,720	11,600
1956	8,122	6,362	4,848	4,844	5,989	8,872	10,860	9,663	11,180	12,240	11,660	9,806	8,710
1957	7,791	5,766	4,853	4,192	5,655	8,462	11,200	9,451	10,930	12,920	12,340	10,350	8,573
1958	8,518	11,690	15,900	21,120	11,460	20,360	21,520	16,530	12,930	13,210	13,040	11,000	14,790
1959	10,150	9,949	12,380	10,950	10,670	10,050	12,940	10,510	11,410	13,400	13,350	10,820	11,390
1960	9,182	7,076	7,166	7,298	7,573	10,600	12,610	10,580	12,360	13,740	12,640	10,180	10,110

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	603.0	509.5	540.0	557.7	498.3	634.8	744.3	606.1	702.5	820.2	852.9	696.8	7,766
1952	682.3	559.0	698.4	1,058	1,107	1,424	1,279	1,345	1,309	1,182	1,178	1,219	13,040
1953	1,240	1,176	1,298	1,216	1,022	911.4	755.9	856.3	810.8	980.4	931.2	775.7	11,970
1954	643.6	522.3	620.0	782.7	661.3	723.4	772.4	929.3	803.7	885.2	886.8	719.4	8,950
1955	619.5	602.2	643.9	739.4	593.3	677.8	715.6	729.1	746.2	882.2	810.4	638.1	8,398
1956	449.4	378.5	298.1	297.6	344.5	545.5	646.1	594.1	685.5	752.7	717.2	583.5	6,323
1957	479.0	343.1	297.2	257.7	314.1	520.3	666.7	561.1	650.6	794.4	758.7	616.1	6,279
1958	511.4	695.2	977.9	1,299	636.7	1,253	1,280	1,016	769.4	812.4	801.7	654.7	10,707
1959	625.9	592.0	761.1	673.6	592.4	617.9	770.0	646.5	679.1	824.1	821.2	643.7	8,246
1960	564.6	421.1	440.6	448.7	435.6	651.5	762.0	650.2	735.7	845.0	776.9	606.8	7,338

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	13,680	9,906,000
1951	123	17,700	Aug. 31, 1951	7,570	10,730	7,766,000	11,120	8,053,000
1952	1243	25,400	Mar. 19, 1952	7,990	17,970	13,040,000	20,410	14,820,000
1953	1263	23,200	Dec. 18, 1952	11,100	16,540	11,970,000	13,860	10,050,000
1954	1343	17,400	May 25, 1954	8,080	12,360	8,950,000	12,470	9,030,000
1955	1393	15,700	July 12, 1955	8,700	11,600	8,398,000	10,650	7,708,000
1956	1443	13,000	July 7, 1956	4,040	8,710	6,323,000	8,632	6,268,000
1957	1513	13,700	July 31, 1957	2,220	8,673	6,279,000	10,140	7,344,000
1958	1563	22,500	Apr. 24, 1958	6,630	14,790	10,707,000	14,500	10,500,000
1959	1633	16,300	Aug. 5, 1959	7,910	11,390	8,246,000	10,630	7,695,000
1960	1713	14,500	July 23, 1960	6,010	10,110	7,338,000	-	-

4305. Gila River near Gila, N. Mex.

Location.--Lat 33°03'45", long 108°32'20", in NW $\frac{1}{4}$ sec.30, T.14 S., R.16 W., on left bank at Hooker damsite, 1 mile upstream from Mogollon Creek, and 7 miles northeast of Gila.

Drainage area.--1,864 sq mi.

Records available.--April to December 1914, December 1927 to September 1960. Monthly discharge only December 1927 to September 1930, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 4,655.8 ft above mean sea level (river-profile survey). Prior to Dec. 31, 1928, at site 5 miles upstream at different datum. Dec. 31, 1928, to Jan. 7, 1942, at site 200 ft upstream at present datum.

Average discharge.--33 years (1927-60), 123 cfs (89,050 acre-ft per year).

Extremes.--1929-60: Maximum discharge, 25,400 cfs Sept. 29, 1941 (gage height, 17.2 ft, from floodmark), from rating curve extended above 1,100 cfs on basis of velocity-area studies and logarithmic plotting; minimum daily, 17 cfs July 6, 7, 1956.
Other major floods occurred in November 1905, December 1906, and January 1916.

Remarks.--Divisions for irrigation of about 500 acres above station. Records of suspended sediment loads and water temperatures for the period July 1959 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	45.2	47.8	53.4	57.1	64.2	73.4	74.7	68.0	31.0	26.3	39.2	37.0	51.4
1952	36.4	69.1	68.8	583	104	235	375	218	122	61.6	62.6	47.3	186
1953	41.1	53.1	60.1	55.5	58.3	239	98.8	71.3	42.9	47.0	53.6	25.3	70.8
1954	32.6	51.8	50.1	50.0	50.9	204	108	58.6	27.4	38.1	95.2	68.6	69.8
1955	53.3	54.4	52.7	58.4	60.1	58.0	52.9	54.7	29.8	87.5	212	60.2	70.2
1956	74.8	53.0	58.2	56.7	68.9	58.6	51.9	38.8	24.1	26.6	37.5	24.0	47.8
1957	29.1	48.1	51.8	128	64.2	67.9	60.8	72.7	47.2	69.5	52.7	149	110
1958	83.8	73.2	62.6	60.1	72.0	90.3	892	289	92.9	42.3	61.8	158	217
1959	97.6	73.5	67.9	56.8	62.0	56.0	57.1	38.2	24.7	39.0	174	48.7	68.5
1960	48.8	90.5	98.4	324	213	492	200	111	50.3	44.5	41.5	34.1	146

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,780	2,840	3,280	3,510	3,560	4,510	4,440	4,180	1,840	1,620	2,410	2,200	37,170
1952	2,240	4,110	4,230	35,870	5,970	14,450	22,300	13,270	7,250	3,790	3,850	2,810	120,100
1953	2,520	3,160	3,700	3,410	3,240	14,710	5,880	4,380	2,550	2,890	3,300	1,500	51,240
1954	2,000	3,080	3,080	3,070	2,820	12,520	6,400	3,600	1,630	2,340	5,850	3,960	50,350
1955	3,580	3,240	3,240	3,590	3,340	3,570	3,150	1,560	1,770	5,380	13,050	3,580	50,850
1956	4,600	3,150	3,580	3,490	3,960	3,610	3,090	2,390	1,440	1,640	2,310	1,430	34,690
1957	1,790	2,860	3,180	7,890	3,570	4,180	3,620	4,470	2,810	4,280	32,430	8,880	79,940
1958	5,250	4,350	3,850	3,700	4,000	55,540	41,170	17,780	5,530	2,600	3,790	9,420	158,900
1959	6,000	4,380	4,180	3,490	3,440	3,440	3,400	2,350	1,470	2,400	10,690	2,900	48,140
1960	3,000	5,390	6,050	19,950	12,240	30,230	11,890	8,820	2,990	2,740	2,550	2,030	105,900

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Nomentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	62.1	44,930
1951	1213	105	Mar. 11, 1951	19	51.4	37,170	53.7	38,850
1952	1243	4,870	Jan. 19, 1952	26	166	120,100	164	118,900
1953	1283	950	Mar. 10, 1953	23	70.8	51,240	69.1	50,020
1954	1343	2,100	Mar. 24, 1954	22	69.6	50,350	72.2	52,250
1955	1393	1,350	July 20, 1955	19	70.2	50,850	72.0	52,120
1956	1443	1,760	Oct. 3, 1955	17	47.8	34,690	42.9	31,190
1957	1513	2,230	Aug. 24, 1957	20	110	79,940	118	85,460
1958	1563	4,120	Mar. 23, 1958	31	217	158,900	218	158,100
1959	1633	682	Aug. 23, 1959	18	68.5	48,140	68.3	48,020
1960	1713	2,040	Jan. 12, 1960	25	146	105,900	-	-

4310. Gila River near Cliff, N. Mex.

Location--Lat 32°56'20", long 108°36'20", in S½ sec.4, T.16 S., R.17 W., on U. S. Highway 260, 1½ miles downstream from Bear Creek, 1½ miles south of Cliff, 2½ miles southwest of Gila, and 6½ miles upstream from Mangas Creek.

Drainage area--2,438 sq mi (revised).

Records available--January 1942 to September 1951, water years 1952-60 (annual maximum).

Gage--Crest-stage gage. Datum of gage is 4,454.5 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1951, water-stage recorder at same site and datum.

Average discharge--9 years (1942-51), 119 cfs (86,150 acre-ft per year).

Extremes--1942-60: Maximum discharge, 17,200 cfs Jan. 14, 1949 (gage height, 12.6 ft), from rating curve extended above 7,200 cfs on basis of slope-area measurement of peak flow.

1942-51: Minimum daily discharge, 5.8 cfs July 2, 7, 1946, Aug. 8, 1947. Maximum stage known, 14.0 ft Sept. 29, 1941 (discharge not determined).

Remarks--Diversions for irrigation of about 4,500 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	46.7	52.5	48.5	52.5	70.6	72.9	47.5	45.0	17.7	11.2	18.3	16.6	41.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,870	3,120	2,990	3,230	3,920	4,480	2,820	2,770	1,050	687	1,120	986	30,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	59.0	42,750
1951	1213	684	Oct. 4, 1950	7.2	41.5	30,000	-	-
1952	-	7,510	Jan. 19, 1952	-	-	-	-	-
1953	-	6,620	Aug. 20, 1953	-	-	-	-	-
1954	-	10,800	Aug. 10, 1954	-	-	-	-	-
1955	-	10,900	Aug. 4, 1955	-	-	-	-	-
1956	-	3,500	Aug. 13, 1956	-	-	-	-	-
1957	-	13,700	(a)	-	-	-	-	-
1958	-	7,370	(b)	-	-	-	-	-
1959	-	10,800	Aug. 19, 1959	-	-	-	-	-
1960	-	7,540	Jan. 1, 1960	-	-	-	-	-

a Occurred sometime during August 1957.

b Occurred sometime during August 1958.

4315. Gila River near Red Rock, N. Mex.

Location.--Lat 32°43'30", long 108°40'30", in W $\frac{1}{2}$ sec.23, T.18 S., R.18 W., on left bank a quarter of a mile upstream from lower end of box canyon, 4 miles northeast of Red Rock, and 14 miles downstream from Mangas Creek.

Drainage area.--2,829 sq mi.

Records available.--September 1904 to February 1905 (gage heights only); May 1905 to December 1906; January to December 1907 and July to October 1908 (gage heights only); November 1908 to December 1910; January 1911 to January 1912 and May to June 1912 (gage heights only); August 1912 to June 1919, October to November 1919, February 1920 to January 1921, March to May, July 1921, October 1922 to July 1923, December 1925, January to March, May 1927, July 1927 to September 1955. Monthly or annual discharge only for some periods, published in WSP 1313. Published as "near Cliff" 1904-7.

Gage.--Water-stage recorder. Altitude of gage is 4,080 ft (from river-profile map). Prior to Dec. 31, 1907, staff gage at site 1 $\frac{3}{4}$ miles upstream at different datum. May 14, 1908, to July 16, 1909, staff gage at site a quarter of a mile downstream at different datum.

Average discharge.--46 years (1905-6, 1908-10, 1912-55), 195 cfs (141,200 acre-ft per year).

Extremes.--1905-55: Maximum discharge, 40,000 cfs Sept. 29, 1941 (gage height, 31 ft, from floodmark), computed on basis of known peak flow for station below Blue Creek; minimum daily, 3 cfs Aug. 2-7, 1947.

Remarks.--Diversions for irrigation of about 5,000 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	53.7	59.7	61.1	63.6	65.5	65.5	52.7	49.4	17.7	11.4	20.5	14.9	47.5
1952	31.5	95.0	83.5	768	148	288	481	252	136	68.8	63.4	70.6	207
1953	27.7	78.1	80.8	66.0	68.0	311	78.6	46.8	28.7	61.3	115	9.81	81.1
1954	16.1	47.5	59.6	70.4	65.6	246	97.4	43.4	18.7	105	530	129	120
1955	*112	52.6	62.0	83.0	80.8	62.9	34.4	39.6	17.4	*239	*426	66.4	*107

* Revised.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,300	3,550	3,760	3,910	4,640	5,130	3,140	3,030	1,060	698	1,260	889	34,370
1952	1,950	5,850	5,140	47,100	8,490	17,730	26,630	15,490	8,090	4,230	3,900	4,200	150,600
1953	1,700	4,530	4,970	4,060	3,780	19,090	4,680	2,880	1,590	3,770	7,050	584	58,680
1954	987	2,830	3,660	4,530	3,650	15,150	5,800	2,670	1,110	6,460	32,560	7,700	86,910
1955	*6,880	3,130	3,810	*5,120	4,480	3,870	2,050	2,440	1,030	*14,720	*26,190	3,950	*77,670

* Revised.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	68.3	49,460
1951	1213	454	Oct. 4, 1950	4.1	47.5	34,370	50.4	36,480
1952	1243	9,100	Jan. 19, 1952	4.1	207	150,600	205	149,100
1953	1263	7,700	Aug. 20, 1953	6.1	81.1	58,680	75.9	54,100
1954	1343	10,400	Aug. 10, 1954	6.2	120	86,910	*129	*93,250
1955	1393	*8,960	Aug. 4, 1955	3.3	*107	*77,670	-	-

* Revised.

4320. Gila River below Blue Creek, near Virden, N. Mex.

Location.--Lat 32°38'55", long 108°50'45", in SE 1/4 SW 1/4 sec. 18, T. 19 S., R. 19 W., on left bank at head of canyon, 1 1/4 miles downstream from Blue Creek, 10 miles east of Virden, and 16 miles upstream from State line.

Drainage area.--3,203 sq mi, excluding Animas River basin.

Records available.--May to November 1914, March to September 1915, June 1927 to September 1928, June 1927 to May 1931 (monthly discharge only), computed as sum of flow at Virden Bridge, 8 1/2 miles downstream, and in Sunset Canal. Published as Gila River near Duncan, Ariz., 1914-15 and as Gila River at Fuller's Ranch, near Duncan, Ariz., 1931-38.

Gage.--Water-stage recorder at present site and datum since July 8, 1931. Altitude of gage is 3,875 ft (from river-profile map). May 11, 1914, to Sept. 30, 1915, at site 6 miles downstream, 1,000 ft upstream from Intake of Sunset Canal.

Average discharge.--33 years (1927-60), 161 cfs (116,600 acre-ft per year); median of yearly mean discharges, 130 cfs (94,100 acre-ft per year).

Extremes.--1927-60: Maximum discharge, 41,700 cfs Sept. 29, 1941 (gage height, 25.78 ft); minimum, 1 cfs July 14, 1934.

Remarks.--Station is above all Duncan Valley diversions. Diversions for irrigation of about 6,200 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	63.5	54.9	60.4	64.9	82.5	83.7	48.9	40.8	10.1	4.85	9.35	6.27	44.0
1952	25.8	91.7	75.9	709	150	265	450	223	139	57.4	50.5	87.3	194
1953	29.6	65.3	79.1	68.4	67.1	262	75.9	36.2	14.9	51.1	98.9	4.89	70.6
1954	5.64	38.4	53.1	67.4	65.2	211	93.6	32.2	23.3	129	508	127	114
1955	102	55.6	57.0	75.5	73.5	57.5	27.7	26.2	7.23	207	379	40.2	93.2
1956	86.1	54.3	69.3	66.2	80.6	56.5	28.0	13.5	4.43	8.05	41.0	6.26	43.1
1957	5.59	34.9	47.6	151	80.8	63.6	30.8	45.6	19.8	115	966	195	148
1958	122	104	35.2	84.1	101	1,162	949	289	65.6	16.2	117	251	280
1959	175	111	31.6	73.6	85.6	54.1	39.5	21.9	5.74	51.9	540	54.3	109
1960	33.4	119	127	621	317	635	228	97.7	38.4	45.7	32.0	23.7	194

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,910	3,270	3,710	3,990	4,580	5,150	2,910	2,510	603	299	575	373	31,880
1952	1,580	5,360	4,670	43,590	8,600	16,280	26,790	13,720	8,270	3,530	3,110	5,190	140,800
1953	1,820	3,890	4,800	4,200	3,730	15,500	4,520	2,230	889	3,140	6,080	291	51,090
1954	347	2,290	3,270	4,150	3,620	12,980	5,570	1,980	1,390	7,920	31,240	7,550	82,310
1955	6,280	3,310	3,500	4,650	4,080	3,530	1,650	1,610	431	12,710	23,300	2,390	+67,440
1956	5,290	3,230	4,260	4,070	4,790	3,480	1,670	828	264	495	2,520	372	31,270
1957	331	2,080	2,930	9,300	4,490	3,910	1,830	2,610	1,180	7,100	59,430	11,610	107,000
1958	7,530	6,200	5,730	5,170	5,590	71,450	56,480	17,760	3,900	1,120	7,180	14,920	203,000
1959	10,730	6,610	5,630	4,520	4,750	3,330	2,350	1,350	341	3,190	33,190	3,230	79,220
1960	2,050	7,080	7,810	38,210	18,240	39,120	13,590	6,010	2,290	2,810	1,970	1,410	140,600

† Corrected.

Yearly discharge, in cubic feet per second

Year	MSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Maximum					
1950	-	-	-	-	-	-	67.5	48,910
1951	1213	440	Aug. 28, 1951	1.6	44.0	31,880	45.2	32,710
1952	1243	6,100	Jan. 19, 1952	2.0	194	140,800	192	139,600
1953	1283	3,330	Aug. 21, 1953	3.0	70.6	51,090	64.2	46,490
1954	1343	6,670	Aug. 21, 1954	3.0	114	82,310	124	89,490
1955	1393	5,280	July 28, 1955	1.9	93.2	+67,440	92.7	67,130
1956	1443	2,660	Aug. 13, 1956	1.5	43.1	31,270	32.8	23,830
1957	1513	6,710	Aug. 5, 1957	1.7	148	107,000	167	121,100
1958	1563	4,550	May 23, 1958	2.9	280	203,000	285	206,500
1959	1633	16,400	Aug. 13, 1959	3.2	109	79,220	101	73,200
1960	1713	5,220	Jan. 12, 1960	4.4	194	140,600	-	-

† Corrected.

4325. Diversions from Gila River in Duncan Valley, N. Mex.-Ariz.

Location.--Duncan Valley lies along Gila River in Hidalgo County, N. Mex., and Greenlee County, Ariz. The part in New Mexico is also known as Virden Valley. The valley extends from a point about 8 miles east of State line to vicinity of Guthrie, Ariz. Nine canals, listed in the following table according to their position from east to west, and several pumps have rights to divert water from Gila River for irrigation in the valley. The first three canals listed divert in New Mexico and the others divert in Arizona. Intake of Sunset Canal, at eastern end of valley, is 6 miles downstream from station on Gila River below Blue Creek, near Virden, N. Mex. Intake of York Canal, at western end, is about 14 miles upstream from station on Gila River near Clifton, Ariz.

Records available.--January 1936 to September 1960 (combined monthly diversions and annual diversions by each canal). Records of daily discharge since 1936 published in reports of Gila Water Commissioner.

Gage.--Water-stage recorders and Parshall flumes on canals and rated pumps for pumped water.

Remarks.--Record shows total diversions, unadjusted for return flows. Water obtained by pumping from ground water for irrigation in the valley is not included in these records. Decreed area for irrigation for the valley is 8,061 acres.

Cooperation.--All records except those for Sunset and New Model Canals furnished by Gila Water Commissioner. Combined monthly diversions compiled by Gila Water Commissioner and Geological Survey.

Combined monthly and yearly diversions, in acre-feet, by canals diverting from Gila River in Duncan Valley, N. Mex.-Ariz.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	793	658	869	0	61	367	0	234	330	57	369	239	3,980
1952	351	286	932	0	671	3,870	4,160	3,700	1,500	1,210	1,590	468	18,740
1953	714	823	1,170	0	35	1,410	847	824	618	1,050	1,420	124	9,040
1954	113	1,200	488	.2	0	1,430	1,470	1,410	488	1,700	3,330	1,710	13,340
1955	940	671	815	4.4	205	552	1,020	1,250	292	1,720	4,170	1,380	13,020
1956	1,750	747	852	979	1,220	700	739	659	59	92	1,070	281	9,150
1957	173	1,400	1,070	275	244	521	1,250	1,290	482	673	2,910	1,260	11,550
1958	920	273	727	0	1,040	2,220	2,840	3,740	1,130	639	1,700	1,660	16,890
1959	1,090	996	1,580	31	978	957	1,080	1,030	71	1,170	2,040	1,060	12,100
1960	1,230	1,500	1,040	0	0	4,220	4,580	1,490	1,460	828	1,140	698	16,180

Diversion, in acre-feet, by water years for each canal in Duncan, Valley, N. Mex.-Ariz.

Year	Sunset	New Model	Valley	Duncan	Black & McClesky	Colmen-ero	Sexton	R. Sexton	York	Misc. & direct pumping	Total
1951	3,190	543	240	0	0	6	0	0	0	0	3,980
1952	9,950	4,470	3,760	0	0	193	372	0	0	0	18,740
1953	6,280	1,640	1,120	0	0	0	0	0	0	0	9,040
1954	7,700	3,750	1,890	0	0	0	0	0	0	0	13,340
1955	8,280	2,640	2,100	0	0	0	0	0	0	0	13,020
1956	5,610	1,990	1,550	0	0	0	0	0	0	0	9,150
1957	6,950	3,060	1,420	58	60	0	0	0	0	0	11,550
1958	8,650	4,630	3,100	328	178	0	0	0	0	0	16,890
1959	8,510	1,740	1,710	140	0	0	0	0	0	0	12,100
1960	9,950	3,930	3,850	22	428	0	0	0	0	0	18,180

Diversion, in acre-feet, by calendar years for each canal in Duncan, Valley, N. Mex.-Ariz.

Year	Sunset	New Model	Valley	Duncan	Black & McClesky	Colmen-ero	Sexton	R. Sexton	York	Misc. & direct pumping	Total
1950	8,270	2,230	1,980	87*	13	143	101	0	0	0	12,820
1951	2,600	346	272	0	0	6	0	0	0	0	3,230
1952	10,970	4,440	3,900	0	0	193	372	0	0	0	19,880
1953	5,430	1,870	833	0	0	0	0	0	0	0	8,130
1954	8,630	3,500	1,830	0	0	0	0	0	0	0	13,960
1955	8,420	3,080	2,440	0	0	0	0	0	0	0	13,940
1956	5,110	1,760	1,570	0	0	0	0	0	0	0	8,440
1957	6,530	3,090	1,040	112	60	0	0	0	0	0	10,830
1958	8,970	5,220	8,960	311	178	0	0	0	0	0	18,640
1959	9,010	1,340	1,740	103	0	0	0	0	0	0	12,190
1960	-	-	-	-	-	-	-	-	-	-	-

* All water received through New Model Canal and not included in that record.

4330. Sunset Canal near Virden, N. Mex.

Location.--Lat 32°39'20", long 108°56'00", in NW $\frac{1}{4}$ sec.17, T.19 S., R.20 W., on left bank 1.7 miles downstream from intake and 4.5 miles southeast of Virden.

Records available.--October 1914 to September 1915, July 1922 to September 1931, January 1936 to September 1960. Monthly discharge only January 1936 to December 1938, published in WSP 1313. Prior to 1939, published as "near Duncan, Ariz."

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 3,790 ft (from topographic map). Oct. 1, 1914, to Sept. 30, 1915, staff gage at site 0.4 mile upstream and July 15, 1922, to Sept. 30, 1931, staff gage at site 0.5 mile downstream, at different datums. Mar. 9, 1936, to Feb. 20, 1942, water-stage recorder and submerged rectangular weir at site 300 ft downstream at different datum.

Extremes.--1914-15, 1922-31, 1936-60: Maximum daily discharge, 62 cfs Sept. 21, 22, 1929; no flow at times.

Remarks.--Canal diverts from right bank of Gila River in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.21, T.19 S., R.20 W., for irrigation of about 2,750 acres in Virden-Duncan Valley. No diversion between intake and station.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	240	658	869	0	0	367	0	198	330	55	251	220	3,190
1952	304	117	760	0	159	1,560	1,980	1,720	875	968	1,230	293	9,950
1953	697	618	892	0	0	417	339	771	618	855	951	124	6,280
1954	113	768	478	.2	0	665	910	1,110	482	985	1,130	1,060	7,700
1955	804	671	815	4.4	0	552	778	1,010	292	734	1,690	951	8,280
1956	1,110	570	746	0	84	700	618	659	59	84	739	237	5,610
1957	173	1,040	715	92	0	204	962	764	428	381	1,300	893	6,950
1958	698	200	607	0	384	1,050	1,050	1,250	807	513	1,060	730	8,650
1959	438	310	1,080	0	250	855	972	877	71	1,040	1,720	893	8,510
1960	996	428	899	0	0	1,520	1,870	976	955	765	647	698	9,950

4335. Sunset Canal above New Mexico-Arizona State line, near Virden, N. Mex.

Location.--Lat 32°41', long 109°02', in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.31, T.18 S., R.21 W., a quarter of a mile east of State line and 2.5 miles west of Virden.

Records available.--February 1939 to July 1951.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 3,730 ft (from topographic map).

Extremes.--1939-51: Maximum daily discharge, 17 cfs Sept. 16, 1939; no flow at times.

Remarks.--Canal diverts from right bank of Gila River in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.21, T.19 S., R.20 W., for irrigation in Virden Valley. Diversions for irrigation above and below station, and flow may at times be supplemented by pumping above station.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	29	81	125	0	0	39	2.8	61	68	-	-	-	-

4340. Sunset Canal wasteway near Virden, N. Mex.

Location.--Lat 32°41'40", long 109°02'55", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.31, T.18 S., R.21 W., just below intake at New Mexico-Arizona State line, 2 $\frac{1}{4}$ miles west of Virden.

Records available.--February 1939 to June 1951.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 3,730 ft (from topographic map).

Extremes.--1939-51: Maximum daily discharge, 11 cfs Feb. 23, 1940; no flow most of time.

Remarks.--Discharge represents waste from Sunset Canal to Gila River by way of Carlyle Canyon. Intake of wasteway is between State line and station on Sunset Canal above State line.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.8	1.0	2.2	0	0	11	0	0.2	0.2	-	-	-	-

Location.--Lat 32°40'30", long 108°59'30", in NE $\frac{1}{4}$ sec.10, T.19 S., R.21 W., 1 mile downstream from intake, 1 mile southeast of Virden, and 3 $\frac{1}{4}$ miles east of State line.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 3,745 ft (from topographic map). Prior to Nov. 25, 1926, staff gage and Nov. 25, 1926, to Feb. 21, 1942, water-stage recorder, at several sites within half a mile upstream at different datums.

Remarks.--Canal diverts from left bank of Gila River in NE¹/₄SE¹/₄ sec.11, T.19 S., R.21 W., for irrigation of about 2,450 acres in Virden-Duncan Valley.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	359	0	0	0	61	0	0	19	0	2.4	83	19	543
1952	32	60	70	0	123	1,450	998	1,100	360	51	182	44	4,470
1953	0	0	134	0	35	729	332	0	0	108	304	0	1,640
1954	0	360	0	0	0	664	278	108	0	468	1,550	320	3,750
1955	114	0	0	0	205	0	0	0	0	609	1,490	223	2,640
1956	374	116	60	572	583	0	51	0	0	2.2	204	29	1,990
1957	0	142	179	81	241	241	204	355	27	255	991	340	3,060
1958	212	43	96	0	657	643	982	1,290	99	77	179	353	4,630
1959	368	298	265	0	463	14	37	84	0	72	46	87	1,740
1960	52	383	97	.2	0	1,300	1,430	179	170	12	294	0	3,930

Remarks.--Canal diverts from left bank of Gila River in NW¹/₄SE¹/₄ sec.11, T.19 S., R.21 W., for irrigation in Virden-Duncan Valley. Records show water passing State line for irrigation in Arizona.

[illegible]

4420. Gila River near Clifton, Ariz.

Location.--Lat 32°57'50", long 109°18'15", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.30, T.5 S., R.30 E., on left bank 1,100 ft upstream from bridge on county road, 6 miles upstream from San Francisco River, and 7 miles south of Clifton.

Drainage area.--4,010 sq mi.

Records available.--November 1910 to July 1918 (published as "at Guthrie"), October 1927 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 3,339.50 ft above mean sea level, datum of 1929, supplementary adjustment of 1959. Nov. 6, 1910, to July 11, 1918, staff gage or water-stage recorder at two sites about 5 $\frac{1}{2}$ miles upstream at Guthrie at different datums. March 1928 to June 1948 water-stage recorder at site 1,100 ft downstream at datum 4.03 ft lower.

Average discharge.--39 years (1911-17, 1927-60), 187 cfs (135,400 acre-ft per year); median of yearly mean discharges, 130 cfs (94,100 acre-ft per year).

Extremes.--1910-18, 1928-60: Maximum discharge, 28,200 cfs Sept. 29, 1941 (gage height, 20.12 ft, site and datum then in use); minimum, 5.6 cfs July 9, 1951, July 22, 1956.

Remarks.--Diversions for irrigation of about 14,300 acres above station. Station is below all Duncan Valley diversions.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	50.4	39.8	46.8	61.5	77.0	64.2	35.2	22.2	11.2	27.7	63.2	11.6	42.5
1952	44.8	69.7	51.1	518	85.6	152	313	117	87.1	72.0	78.1	97.9	141
1953	25.2	42.6	60.4	62.7	61.1	178	35.5	17.9	12.1	71.1	71.1	11.9	54.4
1954	12.5	13.7	24.1	42.5	43.2	142	38.1	11.7	11.3	221	507	115	99.6
1955	93.3	39.2	43.8	73.0	66.5	44.3	18.7	12.4	14.4	421	422	40.0	109
1956	220	35.6	50.8	48.4	62.0	40.7	15.9	12.2	9.93	16.7	42.4	8.24	47.2
1957	8.66	10.7	17.3	108	24.0	20.5	12.3	21.0	11.9	140	790	147	111
1958	107	85.2	69.2	76.8	77.0	988	813	246	45.6	21.1	155	282	248
1959	174	84.7	70.4	82.8	79.0	37.8	18.1	13.3	9.37	42.8	569	35.1	102
1960	15.9	87.5	92.2	534	301	540	182	58.3	13.2	22.7	16.8	11.8	156

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,100	2,370	2,880	3,780	4,280	3,950	2,090	1,370	666	1,700	5,880	688	30,750
1952	2,760	4,150	3,140	31,830	4,920	8,370	18,630	7,190	5,180	4,430	4,800	5,830	102,200
1953	1,550	2,530	3,710	3,860	3,400	10,970	2,110	1,100	720	4,370	4,370	708	39,400
1954	766	817	1,480	2,620	2,400	8,700	2,270	718	670	13,580	31,200	6,860	72,080
1955	5,740	2,330	2,690	4,490	3,700	2,720	1,110	760	858	25,910	25,960	2,380	78,650
1956	13,540	2,120	3,130	2,970	3,570	2,510	948	750	591	1,030	2,610	490	34,260
1957	535	639	1,060	6,660	1,350	1,260	732	1,290	710	8,620	48,570	8,740	80,140
1958	6,570	5,070	4,250	4,720	4,280	60,730	48,350	15,110	2,710	1,300	9,560	16,800	179,400
1959	10,710	5,040	4,330	5,090	4,390	2,330	1,080	819	558	2,630	34,960	2,090	74,030
1960	978	5,210	5,670	32,810	17,300	33,130	10,860	3,580	785	1,390	1,030	703	113,500

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	55.0	-	39,790
1951	1213	4,600	Aug. 3, 1951	7.4	42.5	30,750	44.8	-	32,450
1952	1243	4,280	Jan. 20, 1952	9.6	141	102,200	138	-	99,970
1953	1283	3,700	July 30, 1953	9.2	54.4	39,400	47.9	-	34,670
1954	1343	6,000	Aug. 23, 1954	8.8	99.6	72,080	110	-	79,780
1955	1393	9,450	July 23, 1955	9.4	109	78,650	120	-	86,680
1956	1443	12,700	Oct. 4, 1955	6.5	47.2	34,260	24.4	-	17,700
1957	1513	8,070	Aug. 29, 1957	6	111	80,140	130	-	93,800
1958	1563	3,980	Mar. 24, 1958	6	248	179,400	254	-	183,600
1959	1633	5,610	Aug. 26, 1959	8.0	102	74,030	90.9	-	65,800
1960	1713	4,000	Jan. 13, 1960	8.2	156	113,500	-	-	-

4426.8. San Francisco River near Reserve, N. Mex.

Location.--Lat 33°44'30", long 108°46'15", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.35, T.6 S., R.19 W., on left bank 500 ft upstream from mouth of Rainbow Bridge Canyon and 2 miles northwest of Reserve.

Drainage area.--350 sq mi, approximately.

Records available.--March 1959 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,850 ft above mean sea level (from topographic map).

Extremes.--1959-60: Maximum discharge, 628 cfs July 19, 1959 (gage height, 2.92 ft), from rating curve extended above 300 cfs on basis of slope-area measurement of peak flow; minimum daily, 1.4 cfs June 11, 12, 28, 1959.

Remarks.--Slight regulation at times by one small reservoir. Diversion for irrigation of about 500 acres above station.

GILA RIVER BASIN

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Monthly and yearly mean discharge, in cubic feet per second, of San Francisco River near Reserve, N. Mex.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	4.04	3.50	2.70	1.97	8.37	16.2	3.09	-
1960	9.08	22.8	10.3	15.1	21.6	123	20.5	6.45	3.62	3.58	5.26	6.08	20.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	248	208	166	117	515	999	184	-
1960	558	1,360	631	929	1,240	7,570	1,220	396	216	220	324	362	15,020

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1959	1633	628	July 19, 1959	1.4	-	-	-	-	-
1960	1712	588	Sept. 9, 1960	2.0	20.7	15,020	-	-	-

4440. San Francisco River near Glenwood, N. Mex.

Location.--Lat 33°15'05", long 108°52'40", in NE¼NW¼ sec.23, T.12 S., R.20 W., on left bank a quarter of a mile upstream from hot springs, 5 miles south of Glenwood, and 6 miles downstream from Whitewater Creek.

Drainage area.--1,653 sq mi (revised).

Records available.--October 1927 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 4,552.06 ft above mean sea level, datum of 1929. Prior to Feb. 15, 1934, at site 4½ miles upstream at datum 98.82 ft higher.

Average discharge.--33 years (1927-60), 62.6 cfs (45,320 acre-ft per year).

Extremes.--1927-60: Maximum discharge, 7,800 cfs Jan. 13, 1949 (gage height, 10.74 ft), from rating curve extended above 2,800 cfs on basis of slope-area measurement of peak flow; minimum daily, 2.5 cfs June 25, 1956.

Major floods occurred Jan. 19 and Oct. 14, 1916, when discharges of 90,000 cfs (or greater) were computed for station at Clifton, Ariz. Other major floods occurred at Alma Nov. 26, 1905, and Dec. 3, 1906.

Remarks.--Divisions for irrigation of about 2,000 acres above station. One small reservoir (contents unknown) in headwaters.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	22.2	14.1	18.1	21.0	24.0	16.6	15.3	18.3	14.9	16.6	62.9	15.8	21.7
1952	26.7	25.3	29.0	435	55.4	80.1	268	111	50.2	36.4	38.5	22.9	98.5
1953	14.5	23.1	27.2	23.6	20.7	34.2	19.4	18.1	15.7	25.4	27.8	9.27	21.6
1954	12.1	12.2	12.9	18.8	18.8	104	19.3	21.2	21.4	35.9	151	28.6	38.4
1955	22.2	17.7	17.4	20.4	20.5	13.9	10.3	9.36	12.3	76.0	137	19.2	31.7
1956	30.4	12.4	14.2	13.5	14.9	14.2	10.4	8.65	5.70	16.2	18.4	7.66	13.9
1957	10.3	10.8	13.5	20.2	16.7	16.4	10.2	29.0	17.1	33.6	392	52.7	52.5
1958	37.0	38.2	22.3	19.1	23.4	480	553	136	25.3	17.4	42.5	109	125
1959	50.2	33.3	23.1	22.0	18.6	11.3	13.5	11.2	9.49	52.7	138	21.8	34.1
1960	37.1	73.1	70.9	167	80.9	308	82.4	35.8	19.3	18.9	13.7	14.2	77.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,360	840	1,110	1,290	1,330	1,020	908	1,130	885	1,020	3,870	938	15,700
1952	1,640	1,510	1,780	26,740	3,190	4,920	15,960	6,830	2,990	2,240	2,360	1,360	71,520
1953	895	1,370	1,670	1,450	1,150	2,100	1,160	1,110	933	1,560	1,710	552	15,660
1954	741	724	795	1,150	1,040	6,420	1,150	1,300	1,270	2,210	9,300	1,700	27,800
1955	1,370	1,050	1,070	1,250	1,140	856	612	575	732	4,670	8,450	1,140	22,920
1956	1,870	737	875	831	858	871	622	532	339	997	1,130	456	10,120
1957	635	642	829	1,240	928	1,010	610	1,780	1,020	2,070	24,090	3,140	37,990
1958	2,280	2,270	1,370	1,170	1,300	29,500	32,920	8,360	1,500	1,070	2,610	6,460	90,810
1959	3,080	1,980	1,420	1,350	1,040	696	800	687	564	3,240	8,510	1,300	24,670
1960	2,280	4,350	4,360	10,300	4,650	18,950	4,900	2,200	1,150	1,160	844	847	55,990

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	22.2	-	16,030
1951	1212	1,320	Aug. 4, 1951	5.6	21.7	15,700	23.9	-	17,320
1952	1242	5,410	Jan. 19, 1952	10	98.5	71,520	97.1	-	70,520
1953	1282	680	Aug. 20, 1953	5.9	21.6	15,660	19.3	-	13,980
1954	1342	3,430	Aug. 2, 1954	4.5	38.4	27,800	40.1	-	29,050
1955	1392	3,350	Aug. 26, 1955	5.4	31.7	22,920	31.7	-	22,910
1956	1442	2,400	Oct. 4, 1955	2.5	13.9	10,120	12.0	-	8,740
1957	1512	4,590	Aug. 1, 1957	4.5	52.5	37,990	57.7	-	41,810
1958	1562	2,870	Mar. 23, 1958	9.2	125	90,810	126	-	91,370
1959	1632	4,250	Aug. 19, 1959	6.0	34.1	24,670	40.3	-	29,180
1960	1712	3,070	Jan. 12, 1960	7.1	77.1	55,990	-	-	-

4445. San Francisco River at Clifton, Ariz.

Location.--Lat 33°02'50", long 109°17'50", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.31, T.4 S., R.30 E., on right bank 1,140 ft downstream from Railroad Boulevard Bridge at Clifton and $\frac{3}{4}$ miles upstream from mouth.

Drainage area.--2,766 sq mi.

Records available.--October 1910 to March 1911, July 1911 to June 1912, September 1912, November 1912 to March 1913, May 1913 to July 1918, July 1927 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as "at dam above Clifton" in 1911 and under both names in 1912.

Gage.--Water-stage recorder. Datum of gage is 3,430.79 ft above mean sea level, datum of 1929. Oct. 23, 1910, to May 14, 1914, and Mar. 8 to June 10, 1916, staff or chain gages at several sites within $\frac{2}{3}$ miles upstream at different datums. May 15, 1914, to Jan. 19, 1916, water-stage recorder at site 1,200 ft upstream at different datum; June 11, 1916, to July 12, 1918, at site 3,140 ft upstream at different datum; July 20, 1927, to Apr. 6, 1959, at site 1,140 ft upstream at datum 0.88 ft higher.

Average discharge.--36 years (1913-15, 1916-17, 1927-60), 180 cfs (130,300 acre-ft per year); median of yearly mean discharges, 120 cfs (86,900 acre-ft per year).

Extremes.--1927-60: Maximum discharge, 24,100 cfs Jan. 13, 1949 (gage height, 15.4 ft, site and datum then in use); minimum 6.5 cfs July 9, 1956. Flood of Jan. 19, 1916, reached a stage of 16.8 ft, from floodmark, at gage 1,200 ft upstream from present gage (discharge, 90,000 cfs by slope-area measurement). A greater flood occurred Oct. 14, 1916.

Remarks.--Divisions for mining, municipal use, and for irrigation of about 2,700 acres above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	40.7	32.5	37.7	42.8	45.6	43.9	39.9	37.5	23.6	31.7	98.7	28.6	42.0
1952	59.1	65.0	75.4	136.2	147	240	559	257	106	79.8	114	47.3	261
1953	35.1	45.3	50.1	47.8	40.6	123	66.2	44.7	30.4	97.0	97.5	22.2	58.7
1954	23.3	30.8	33.5	37.0	38.8	347	71.7	36.0	37.7	116	333	89.9	101
1955	66.4	40.6	42.3	50.9	42.8	44.2	36.3	28.1	24.8	267	428	63.5	95.6
1956	126	37.6	49.3	47.1	60.4	46.6	40.9	23.7	11.0	28.5	57.9	21.5	46.0
1957	23.9	28.2	33.6	81.1	59.4	75.4	55.0	74.5	37.7	160	788	136	129
1958	113	113	69.4	62.2	106	2,476	1,306	269	60.1	45.7	140	406	348
1959	255	102	71.8	59.9	63.1	47.1	47.0	26.9	19.3	105	500	59.6	114
1960	103	225	265	769	247	679	208	82.0	36.0	45.1	40.6	39.7	229

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,500	1,940	2,320	2,630	2,530	2,700	2,370	2,310	1,400	1,950	6,070	1,700	30,420
1952	3,630	3,870	4,640	83,720	8,470	14,740	33,250	15,800	6,330	4,910	7,020	2,810	189,200
1953	2,160	2,700	3,080	2,940	2,260	7,580	3,940	2,750	1,810	5,970	6,000	1,320	42,510
1954	1,430	1,830	2,060	2,280	2,150	21,380	4,270	2,210	2,240	7,120	20,480	5,350	72,780
1955	4,080	2,420	2,600	3,130	2,380	2,720	2,160	1,730	1,480	16,430	26,290	3,780	69,200
1956	7,730	2,240	3,030	2,890	3,480	2,870	2,430	1,460	652	1,750	3,560	1,280	33,370
1957	1,470	1,680	2,060	4,980	3,300	4,510	3,270	4,580	2,240	9,860	47,220	8,100	93,270
1958	6,920	6,740	4,270	3,820	5,870	90,760	77,720	16,540	3,580	2,810	8,590	24,160	251,800
1959	15,690	6,070	4,410	3,690	3,500	2,900	2,800	1,650	1,150	6,490	30,750	3,540	82,640
1960	6,320	13,380	16,270	47,310	14,220	41,760	12,360	5,040	2,140	2,770	2,500	3,360	166,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	47.2	-	34,140
1951	1213	735	Aug. 29, 1951	12	42.0	30,420	49.4	35,800	
1952	1243	15,800	Jan. 19, 1952	22	261	189,200	255	185,000	
1953	1283	6,090	Aug. 18, 1953	16	58.7	42,510	55.1	39,890	
1954	1343	7,280	Aug. 7, 1954	18	101	72,780	106	76,560	
1955	1393	8,450	July 23, 1955	9.5	95.6	69,200	101	73,100	
1956	1443	5,820	Oct. 4, 1955	8.0	46.0	33,370	35.2	25,580	
1957	1513	5,230	July 26, 1957	15	129	93,270	146	106,000	
1958	1563	7,000	Sept. 12, 1958	21	348	251,800	359	260,000	
1959	1633	11,600	Aug. 28, 1959	13	114	82,640	128	92,440	
1960	1713	11,800	Jan. 12, 1960	15	229	166,400	-	-	

4450. Willow Creek diversion from Black River, near Morenci, Ariz.

Location.--Lat 33°24'45", long 109°42'45", in SW $\frac{1}{4}$ sec.23, T.1 N., R.25 E. (unsurveyed), in San Carlos Indian Reservation, on left bank just downstream from end of diversion pipeline, 3 miles northeast of Point of Pines, 5 $\frac{1}{2}$ miles southeast of pumping plant (on Black River, 2,100 ft downstream from Freezeout Creek), and 29 miles northwest of Morenci.

Records available.--April 1945 to September 1960.

Gage.--Water-stage recorder and steel-edged rectangular weir. Datum of gage is 5,985.19 ft above mean sea level (Phelps Dodge Corp. bench mark). Prior to June 26, 1946, at end of pipeline at that time, 3 $\frac{1}{2}$ miles upstream at datum about 50 ft higher.

Average discharge.--15 years (1945-60), 9.43 cfs (6,830 acre-ft per year).

Extremes.--1945-60: Maximum discharge, 22.7 cfs Mar. 18, 1947 (gage height, 2.82 ft); no flow for long periods in each year.

Remarks.--The entire flow consists of Black River (head of Salt River) water which is pumped into headwaters of Willow Creek (tributary of Eagle Creek) for industrial and municipal supply in vicinity of Morenci.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13.3	10.1	0.01	0	0.05	10.1	15.6	15.1	12.3	16.7	14.0	12.6	10.0
1952	13.4	8.12	1.86	0	0	3.45	11.9	12.9	12.8	15.2	14.2	14.9	9.07
1953	11.2	7.51	0	0	0	7.13	13.9	13.3	11.7	12.7	13.1	13.4	8.70
1954	13.8	9.52	4.75	3.20	0	4.05	13.0	12.8	16.1	12.7	13.2	14.3	9.83
1955	13.3	7.96	5.60	1.44	0	11.5	13.7	16.2	16.6	5.50	10.8	14.7	9.82
1956	11.9	6.78	3.22	2.42	0	7.80	12.9	16.5	16.7	12.8	15.1	15.7	10.2
1957	13.6	3.78	3.70	0.58	0	5.39	11.9	11.5	13.5	12.2	10.3	12.1	8.08
1958	12.7	6.29	0	0	0	1.59	9.02	11.1	11.1	11.2	9.83	7.75	6.76
1959	11.8	4.56	0	0	0	8.62	16.1	8.40	7.62	3.79	2.64	0	5.31
1960	0	0	0	0	0	2.59	12.3	15.3	13.4	16.6	13.4	6.25	6.67

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	819	603	0.8	0	2.6	619	930	926	733	1,030	861	748	7,270
1952	821	483	115	0	0	212	708	791	764	932	874	886	6,590
1953	686	447	0	0	0	438	829	820	696	782	807	796	6,300
1954	846	566	292	197	0	249	771	790	960	779	814	850	7,110
1955	815	474	345	88	0	709	813	996	986	338	665	877	7,110
1956	733	403	198	149	0	479	770	1,020	993	789	927	932	7,390
1957	837	225	228	35.5	0	209	711	704	801	748	634	718	5,850
1958	781	374	0	0	0	98	537	684	661	688	611	461	4,900
1959	724	271	0	0	0	530	956	516	454	233	162	0	3,850
1960	0	0	0	0	0	159	730	941	795	1,020	824	372	4,840

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	9.98	7,230
1951	1213	21.9	May 8, 1951	0	10.0	7,270	10.0	7,270
1952	1243	19.9	June 8, 1952	0	9.07	6,590	8.68	6,300
1953	1283	19.8	Mar. 31, 1953	0	8.70	6,300	9.49	6,870
1954	1343	20.5	June 16, 1954	0	9.83	7,110	9.73	7,040
1955	1393	21.2	Mar. 14, 1955	0	9.82	7,110	9.40	6,810
1956	1443	18.9	June 10, 1956	0	10.2	7,390	10.1	7,350
1957	1513	18.9	July 18, 1957	0	8.08	5,850	7.90	5,720
1958	1563	18.3	Oct. 15, 1957	0	6.76	4,900	6.54	4,740
1959	1633	20.6	Mar. 19, 1959	0	5.31	3,850	3.94	2,850
1960	1713	20.8	May 11, 1960	0	6.67	4,840	-	-

4455. Willow Creek near Point of Pines, near Morenci, Ariz.

Location.--Lat 33°22'45", long 109°39.00", in NW¼ sec.2, T.1 S., R.26 E. (unsurveyed), in San Carlos Indian Reservation, on right bank at head of box canyon, 4 miles east of Point of Pines, 10 miles west of Double Circle Ranch, and 23 miles northwest of Morenci.

Drainage area.--102 sq mi.

Records available.--August 1944 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,804 ft (by barometer).

Average discharge.--16 years (1944-60), 11.6 cfs (8,400 acre-ft per year), unadjusted.

Extremes.--1944-60: Maximum discharge, 2,590 cfs Jan. 13, 1952 (gage height, 10.1 ft), from rating curve extended above 60 cfs on basis of slope-area measurement of peak flow; no flow for many days in each year.

Remarks.--Almost all flow of less than 20 cfs past this station is water pumped from Black River (see preceding page).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	12.9	9.97	0	0	0	9.67	15.0	14.4	11.6	16.2	16.7	11.9	9.93
1952	13.6	7.83	14.4	103	0.28	32.2	17.1	12.8	12.0	14.5	14.0	14.0	21.5
1953	10.2	6.91	.003	0	0	6.67	12.5	11.8	10.5	12.2	12.1	12.6	8.00
1954	13.2	8.80	4.04	2.80	0	37.6	12.4	12.0	14.9	12.6	17.9	13.7	12.6
1955	12.2	7.29	5.05	1.59	0	11.1	12.9	14.9	15.8	4.77	14.1	13.7	9.48
1956	11.7	6.28	3.09	1.90	0	7.22	11.9	14.8	15.1	11.7	12.8	13.9	9.23
1957	12.3	3.56	3.31	1.76	1.03	3.94	10.6	10.3	12.1	10.8	16.9	10.8	8.17
1958	11.3	5.82	0	0	6.42	76.3	21.4	10.3	11.3	10.5	9.66	8.69	14.4
1959	11.3	4.23	0	0	0	7.66	15.3	7.73	6.89	3.75	34.7	0	7.70
1960	.24	2.53	23.4	63.1	20.7	24.1	12.1	15.2	13.3	16.3	14.0	5.96	17.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	791	593	0	0	0	595	893	888	692	998	1,030	706	7,190
1952	839	468	886	6,340	15	1,980	1,020	788	717	892	858	833	15,630
1953	630	411	.2	0	0	410	746	724	624	751	745	748	5,790
1954	813	524	248	172	0	2,310	737	737	886	772	1,100	815	9,110
1955	751	434	311	98	0	680	769	914	939	293	864	813	6,860
1956	722	375	190	117	0	444	710	913	900	717	787	828	6,700
1957	759	212	203	108	57	242	634	632	722	661	1,040	641	7,910
1958	697	347	0	0	357	4,690	1,270	656	673	647	594	517	10,430
1959	693	242	0	0	0	471	912	475	410	231	2,130	0	5,570
1960	15	150	1,440	3,880	1,190	1,480	719	935	792	1,000	858	355	12,810

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	9.49	6,870	-
1951	1213	878	Aug. 5, 1951	0	9.93	7,190	11.0	7,990	-
1952	1243	2,590	Jan. 13, 1952	0	21.5	15,630	20.0	14,480	-
1953	1283	378	July 8, 1953	0	8.00	5,790	8.75	6,330	-
1954	1343	1,410	Mar. 23, 1954	0	12.6	9,110	12.5	9,020	-
1955	1395	1,140	Aug. 10, 1955	0	9.48	6,860	9.19	6,660	-
1956	1443	440	Oct. 2, 1955	0	9.23	6,700	9.08	6,590	-
1957	1513	459	Aug. 24, 1957	0	8.17	7,910	7.99	5,780	-
1958	1563	727	Mar. 22, 1958	0	14.4	10,430	14.3	10,330	-
1959	1633	1,920	Aug. 1, 1959	0	7.70	5,570	8.62	6,230	-
1960	1713	1,140	Jan. 11, 1960	0	17.7	12,810	-	-	-

† Corrected.

4460. Willow Creek near Double Circle Ranch, near Morenci, Ariz.

Location.--Lat 33°21'15", long 109°31'30", in NE $\frac{1}{4}$ sec.13, T.1 S., R.24 E. (unsurveyed), in San Carlos Indian Reservation, on left bank 1 mile upstream from lower end of box canyon, 2 $\frac{1}{2}$ miles northwest of Double Circle Ranch 2 $\frac{1}{2}$ miles upstream from mouth, and 19 miles northwest of Morenci.

Drainage area.--149 sq mi.

Records available.--August 1944 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,969 ft (by barometer).

Average discharge.--16 years (1944-60), 13.2 cfs (9,560 acre-ft per year), unadjusted; median of yearly mean discharges, 11 cfs (8,000 acre-ft per year).

Extremes.--1944-60: Maximum discharge, 4,230 cfs Jan. 13, 1952, from rating curve extended above 20 cfs on basis of slope-area measurement of peak flow; maximum gage height, 8.2 ft Aug. 1, 1959; no flow Sept. 1-10, 1944, and part of each day June 29, 1946, July 2, Oct. 1, 1959.

Remarks.--Most flow of less than 20 cfs past this station is water pumped from Black River (see p. 489). Records of water temperatures for the period December 1956 to February 1958 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	12.8	11.5	1.25	1.14	1.47	9.16	15.8	14.3	10.6	15.0	23.4	12.0	10.8
1952	14.3	9.81	15.6	163	1.53	31.7	17.1	12.3	11.1	15.0	17.4	12.8	26.9
1953	9.83	8.20	1.33	.95	1.89	6.91	12.8	11.6	8.85	12.0	10.7	11.0	7.94
1954	12.0	9.33	4.68	4.14	1.00	43.0	12.6	10.8	13.6	11.7	19.4	12.7	13.0
1955	12.0	7.83	5.46	3.11	1.03	10.5	13.8	14.7	14.1	5.41	23.6	12.5	10.4
1956	11.9	6.13	4.11	3.58	1.58	7.77	12.6	14.7	14.6	9.63	13.8	14.3	9.57
1957	12.4	4.63	4.18	3.51	2.52	4.82	11.7	10.9	11.8	11.8	26.5	11.8	9.77
1958	13.7	7.81	1.42	1.29	10.6	103	22.5	10.1	9.77	9.09	11.3	14.3	18.0
1959	12.5	6.15	1.71	1.58	1.35	8.88	17.1	6.50	6.10	4.07	54.9	.45	10.2
1960	.93	4.95	35.1	110	26.6	26.4	12.5	15.1	12.8	14.7	13.2	5.81	23.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	768	682	77	70	82	563	938	881	628	924	1,440	713	7,790
1952	878	584	957	10,040	88	1,950	1,020	756	658	802	1,070	762	19,560
1953	604	488	82	59	49	425	759	710	527	737	657	656	5,750
1954	737	555	288	254	56	2,640	748	663	811	722	1,190	755	9,420
1955	740	466	336	191	57	643	822	903	838	333	1,450	747	7,530
1956	731	365	253	220	91	478	749	904	868	592	848	853	6,950
1957	765	275	257	216	140	297	697	672	698	724	1,630	701	7,070
1958	841	465	87	79	588	6,360	1,340	624	582	559	694	849	13,070
1959	771	366	105	97	75	546	1,020	400	363	251	3,380	25	7,400
1960	57	294	2,160	6,790	1,530	1,620	741	928	761	903	809	346	16,940

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	9.72
1951	1213	1,370	Aug. 5, 1951	0.9	10.8	7,790	12.0
1952	1243	4,230	Jan. 13, 1952	1.2	26.9	19,560	25.2
1953	1283	202	July 8, 1953	.8	7.94	5,750	8.51
1954	1343	1,610	Mar. 23, 1954	.7	13.0	9,420	13.0
1955	1393	2,840	Aug. 6, 1955	.8	10.4	7,530	10.1
1956	1443	122	Oct. 3, 1955	.8	9.57	6,950	9.50
1957	1513	630	Aug. 24, 1957	1.7	9.77	7,070	9.30
1958	1563	1,640	Mar. 22, 1958	1.2	18.0	13,070	17.8
1959	1633	3,520	Aug. 1, 1959	.1	10.2	7,400	12.0
1960	1713	2,380	Jan. 11, 1960	.2	23.3	16,940	-

4465. Eagle Creek near Double Circle Ranch, near Morenci, Ariz.

Location.--Lat 33°18'00", long 109°29'30", in SW¼ sec.32, T.1 S., R.28 E. (unsurveyed), on left bank half a mile upstream from head of box canyon, 2¼ miles downstream from Willow Creek, 3¼ miles downstream from Double Circle Ranch, and 17 miles northwest of Morenci.

Drainage area.--377 sq mi.

Records available.--August 1944 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,722 ft (by barometer). Prior to Jan. 13, 1952, at datum 2.01 ft higher.

Average discharge.--16 years (1944-60), 23.0 cfs (16,650 acre-ft per year), unadjusted; median of yearly mean discharges, 19 cfs (13,800 acre-ft per year).

Extremes.--1944-60: Maximum discharge, 7,270 cfs Sept. 10, 1958 (gage height, 8.7 ft), from rating curve extended above 1,000 cfs on basis of slope-area measurement of peak flow; minimum, 1.5 cfs Sept. 5, 1951.

Remarks.--Diversion above station for irrigation of about 500 acres; one small diversion between mouth of Willow Creek and this station. Water pumped from Black River into Eagle Creek basin 35 miles upstream and since Apr. 27, 1959, from Eagle Creek Wells into Eagle Creek 1½ miles upstream is an appreciable part of flow past this station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	14.6	14.5	5.14	4.83	5.01	11.1	18.4	15.8	12.0	14.8	38.6	11.8	14.0
1952	16.2	11.3	26.9	310	14.3	67.3	55.1	24.3	15.1	13.6	22.2	12.9	49.4
1953	9.95	9.15	4.69	4.71	4.95	9.23	17.0	16.0	11.4	19.5	12.8	10.9	10.9
1954	11.6	10.4	6.63	6.52	4.15	64.4	17.8	12.8	13.9	28.2	78.9	16.6	22.9
1955	15.4	11.0	8.23	6.98	4.75	10.9	16.1	17.0	15.6	25.6	70.2	15.7	18.3
1956	13.6	7.76	7.43	7.08	5.88	9.69	17.4	17.2	16.9	18.9	17.8	13.6	12.8
1957	13.9	7.21	7.56	11.9	15.0	20.8	18.1	13.1	13.3	26.7	42.2	13.7	17.0
1958	18.0	13.4	5.80	5.79	22.2	213	88.9	19.0	12.6	12.5	24.6	41.9	40.0
1959	26.6	13.6	6.74	6.12	6.00	11.6	20.8	14.6	13.7	23.1	93.2	13.9	21.0
1960	12.5	21.6	65.8	187	57.2	60.2	25.1	18.6	13.6	14.6	17.9	15.2	42.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	900	861	316	297	278	682	1,090	971	712	912	2,380	702	10,100
1952	997	670	1,650	19,080	820	4,140	3,280	1,500	781	838	1,360	767	35,880
1953	612	545	288	290	276	568	1,010	984	676	1,200	787	649	7,880
1954	712	617	408	401	230	3,960	1,060	785	829	1,730	4,850	988	16,570
1955	946	652	506	429	264	671	959	1,040	926	1,580	4,310	932	13,220
1956	833	462	457	435	338	596	1,030	1,060	1,000	1,160	1,090	807	9,270
1957	853	429	465	733	831	1,280	1,080	808	794	1,640	2,590	815	12,320
1958	1,100	795	357	356	1,230	13,100	5,290	1,170	751	771	1,510	2,490	28,920
1959	1,640	808	415	376	333	711	1,240	897	817	1,420	5,730	827	15,210
1960	767	1,280	4,040	11,510	3,290	3,700	1,490	1,150	808	897	1,100	907	30,940

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	13.2	9,540
1951	1213	1,470	Aug. 28, 1951	3.8	14.0	10,100	15.7	11,340
1952	1243	7,000	Jan. 13, 1952	4.2	49.4	35,880	46.8	34,010
1953	1283	456	Aug. 1, 1953	4.1	10.9	7,880	11.3	8,180
1954	1343	4,380	Aug. 24, 1954	3.6	22.9	16,570	23.4	16,940
1955	1393	2,680	Aug. 21, 1955	3.6	18.3	13,220	17.8	12,860
1956	1443	1,410	July 31, 1956	4.5	12.8	9,270	12.9	9,260
1957	1513	1,810	Aug. 1, 1957	8.2	17.0	12,320	17.7	12,820
1958	1563	7,270	Sept. 10, 1958	5.1	40.0	28,920	40.8	29,530
1959	1633	3,200	Aug. 1, 1959	5.4	21.0	15,210	25.5	18,440
1960	1713	4,990	Jan. 12, 1960	4.6	42.6	30,940	-	-

4470. Eagle Creek above pumping plant, near Morenci, Ariz.

Location.--Lat 33°04'00", long 109°26'45", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.22, T.4 S., R.28 E., on right bank $\frac{1}{2}$ miles upstream from Phelps Dodge Corp. pumping plant, 5 miles west of Morenci, and 13 miles upstream from mouth.

Drainage area.--613 sq mi.

Records available.--April 1944 to September 1960.

Gage.--Water-stage recorder, Parshall flume and weir. Altitude of gages is 3,650 ft (from topographic map). Supplementary water-stage recorder 80 ft upstream at datum of Parshall flume. Prior to Nov. 15, 1952, supplementary water-stage recorder at site 75 ft downstream at different datum.

Average discharge.--16 years (1944-60), 35.0 cfs (25,340 acre-ft per year), unadjusted; median of yearly mean discharges, 29 cfs (21,000 acre-ft per year).

Extremes.--1944-60: Maximum discharge, 6,150 cfs Sept. 10, 1958 (gage height, 8.1 ft, at supplementary gage); minimum, 3.2 cfs July 1, 1946.

A discharge of 13,000 cfs (by slope-area measurement of peak flow) occurred Feb. 10, 1932, at a stage of 11 ft above normal low water at footbridge $\frac{1}{2}$ miles downstream.

Remarks.--Diversions above station for irrigation of about 500 acres, mostly above Willow Creek. Water from Black River is pumped into Eagle Creek basin $\frac{1}{2}$ miles upstream from this station, and water is pumped from wells into Eagle Creek near Double Circle Ranch. Diversions by pumping for industrial and municipal use in and near Morenci and Clifton are made from Eagle Creek, $\frac{1}{2}$ miles downstream, and from San Francisco River near Clifton (see following station).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	19.5	20.8	12.3	12.6	12.5	17.0	26.8	21.4	14.7	17.2	48.5	14.6	19.9
1952	19.2	19.2	33.1	439	27.1	88.6	73.8	28.4	17.3	20.2	42.9	17.4	69.7
1953	15.0	17.0	11.3	10.7	11.2	16.0	23.8	20.3	13.1	31.1	19.7	12.9	16.9
1954	15.0	16.4	14.1	13.6	11.4	133	24.8	15.6	14.4	64.3	128	26.6	40.0
1955	21.2	17.4	14.1	14.8	12.5	17.4	23.7	21.0	16.8	42.0	98.0	19.9	26.8
1956	19.2	14.4	14.6	14.1	13.1	15.3	21.3	20.3	17.9	16.9	25.3	16.6	17.4
1957	17.9	13.8	12.9	21.5	23.4	28.0	23.6	20.6	18.9	63.5	82.0	19.0	28.9
1958	26.0	22.0	14.2	13.5	42.0	418	105	25.1	15.9	16.5	35.4	114	70.9
1959	45.7	18.1	12.0	10.8	10.9	15.9	26.3	19.8	15.6	40.9	203	21.2	37.0
1960	17.9	35.8	131	308	73.2	69.7	32.5	23.1	13.2	15.5	21.9	21.0	63.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,200	1,240	758	777	696	1,040	1,600	1,320	877	1,060	2,980	868	14,420
1952	1,190	1,140	2,040	26,960	1,580	5,450	4,390	1,950	1,030	1,240	2,640	1,030	50,510
1953	922	1,010	696	660	624	983	1,420	1,250	761	1,910	1,210	766	12,230
1954	920	977	867	838	630	8,160	1,470	982	854	3,950	7,750	1,580	28,980
1955	1,300	1,040	865	912	695	1,070	1,410	1,290	1,000	2,580	6,020	1,180	19,360
1956	1,180	856	899	866	754	939	1,270	1,250	1,070	1,040	1,560	988	12,670
1957	1,100	820	791	1,320	1,300	1,720	1,410	1,270	1,120	3,900	5,040	1,130	20,920
1958	1,600	1,310	872	828	2,330	25,720	6,240	1,540	948	1,020	2,170	6,780	51,360
1959	2,810	1,080	735	667	608	978	1,560	1,220	929	2,510	12,470	1,260	26,830
1960	1,100	2,130	8,070	18,910	4,210	4,290	1,930	1,420	783	953	1,340	1,250	46,390

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	18.8
1951	1213	1,260	Aug. 28, 1951	4.9	19.9	14,420	21.5
1952	1243	5,340	Jan. 14, 1952	7.9	69.7	50,610	67.3
1953	1283	2,780	July 25, 1953	8.9	16.9	12,230	17.1
1954	1343	4,930	July 22, 1954	10.5	40.0	28,960	40.6
1955	1393	3,260	Aug. 6, 1955	6.2	26.8	19,360	26.4
1956	1443	452	July 30, 1956	7.3	17.4	12,670	17.1
1957	1513	4,210	July 25, 1957	11.9	28.9	20,920	30.4
1958	1563	6,150	Sept. 10, 1958	7.9	70.9	51,360	72.1
1959	1633	4,780	Aug. 17, 1959	9.5	37.0	26,830	46.3
1960	1713	5,350	Jan. 12, 1960	8.2	63.9	46,390	-

4475. Pumpage to Clifton and Morenci from San Francisco River and Eagle Creek, near Morenci, Ariz.

Water is pumped from San Francisco River and Eagle Creek for municipal use, mining, and metallurgical treatment of ores in and near Clifton and Morenci. Some ground water is included. About 97 percent of the pumpage is from Eagle Creek basin. The source of most of the pumpage from Eagle Creek is water pumped into the headwaters from Black River (see Willow Creek diversion from Black River, near Morenci).

Water is pumped from San Francisco River at three points within 5 miles upstream from Clifton and from Eagle Creek at two points within 3 miles downstream from station Eagle Creek above pumping plant, near Morenci. Records are obtained by flow meters in pipelines at four of the points and by a water-stage recorder above a weir at the fifth. Figures given here represent total pumpage from all sources.

Monthly and yearly pumpage, in acre-feet, to Clifton and Morenci from San Francisco River and Eagle Creek, near Morenci, Ariz.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	757	857	990	694	688	789	797	813	628	703	787	668	9,150
1952	747	713	789	732	663	674	720	724	584	702	773	719	8,520
1953	593	617	628	648	628	768	754	723	549	618	658	635	7,820
1954	713	637	640	678	597	638	733	630	674	583	767	700	7,970
1955	712	734	799	803	752	840	739	801	748	246	620	728	8,520
1956	663	677	637	695	628	746	722	795	792	543	737	669	8,300
1957	726	685	633	671	539	686	604	600	590	525	574	626	7,460
1958	634	636	634	638	588	636	555	559	532	479	520	473	6,880
1959	619	636	640	686	620	816	838	778	694	523	610	162	7,620
1960	143	123	204	143	715	698	690	822	663	746	915	804	6,660

4485. Gila River at head of Safford Valley, near Solomon, Ariz.

Location.--Lat 32°52'10", long 109°30'40", in SE 1/4 sec. 31, T.6 S., R.28 E., on left bank 0.6 mile downstream from intake of Brown Canal, 8 miles northeast of Solomon, and 13 miles downstream from San Francisco River. Record includes flow of Brown Canal which is measured 2,000 ft downstream from intake.

Drainage area.--7,896 sq mi.

Records available.--April 1914 to September 1960. Prior to October 1932 and October 1940 to September 1949 published as "near Solomonsville" and October 1932 to October 1933 and May 1935 to September 1940 as "below Bonita Creek near Solomonsville." Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 3,064.88 ft above mean sea level, datum of 1929, supplementary adjustment of 1959. Prior to Sept. 13, 1917, at datum 1.89 ft higher and Sept. 13, 1917, to Sept. 30, 1932, at datum 0.89 ft higher, both at present site. Oct. 1, 1932, to Dec. 31, 1940, at site 3 miles upstream and three-eighths of a mile downstream from Bonita Creek at different datum. Supplementary water-stage recorder and Parshall flume on Brown Canal.

Average discharge.--46 years (1914-60), 445 cfs (322,200 acre-ft per year); median of yearly mean discharges, 320 cfs (232,000 acre-ft per year).

Extremes.--1914-60: Maximum discharge, about 100,000 cfs Jan. 19, 1916 (gage height, 14.0 ft, datum then in use), extended above 18,000 cfs on basis of area and velocity study; minimum, 11 cfs June 25, 1956.

Remarks.--Records show water reaching head of Safford Valley. Diversions above station for mining, municipal use, and for irrigation of about 17,500 acres, much of which is pumping from ground water.

Cooperation.--Record for Brown Canal furnished by Gila Water Commissioner.

Correction.--In WSP 1313, the monthly mean for August 1923 is listed in error; it should be 2,500 cfs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	109	91.3	97.9	119	129	127	98.0	72.3	35.8	59.1	221	50.5	101
1952	97.0	156	137	2,180	277	423	915	426	275	182	227	145	455
1953	67.6	97.4	120	119	119	311	118	76.0	44.1	184	196	39.6	125
1954	42.7	54.7	71.2	92.8	102	601	144	59.0	43.4	1,015	255		245
1955	180	96.6	97.2	131	122	104	65.6	49.6	41.3	721	892	133	222
1956	352	89.7	108	102	123	96.0	68.1	37.8	19.7	51.4	130	35.9	102
1957	39.9	48.6	60.1	210	107	120	82.8	107	54.9	391	1,892	371	293
1958	223	205	139	137	211	2,589	2,153	569	121	71.6	320	708	622
1959	491	226	148	152	150	99.4	77.4	46.4	25.9	177	1,168	131	243
1960	112	382	429	1,515	736	1,251	446	163	52.7	63.5	66.0	57.8	440

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6,680	5,430	6,020	7,310	7,170	7,810	5,830	4,450	2,130	3,640	13,670	3,010	73,050
1952	5,960	9,290	8,400	134,100	15,960	25,990	54,440	26,190	16,370	11,220	13,950	8,620	330,500
1953	4,160	5,790	7,370	7,320	6,600	19,100	7,050	4,670	2,630	11,340	12,080	2,350	90,460
1954	2,630	3,260	4,380	5,710	5,690	36,980	8,540	3,680	2,560	26,690	62,420	15,160	177,700
1955	11,060	5,750	5,980	8,070	6,790	6,380	3,900	3,050	2,460	44,340	54,870	7,940	160,600
1956	21,670	5,340	6,660	6,260	7,080	5,900	4,050	2,330	1,170	3,160	7,970	2,140	73,730
1957	2,460	2,890	3,690	12,900	5,920	7,360	4,920	6,600	3,270	24,400	116,400	22,060	212,500
1958	13,710	12,170	8,580	8,430	11,710	159,200	34,990	7,210	4,460	19,650	42,120	450,500	
1959	30,200	13,430	9,080	9,330	8,340	6,110	4,610	2,850	1,540	10,900	71,810	7,820	176,000
1960	6,900	22,720	26,390	93,180	42,350	76,930	26,540	10,030	3,140	3,910	4,060	3,440	319,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	121	-	87,290	
1951	1213	4,240	Aug. 3, 1951	15	101	73,050	109	78,570		
1952	1243	19,700	Jan. 19, 1952	40	455	330,500	447	324,200		
1953	1283	3,040	July 30, 1953	24	125	90,460	115	83,410		
1954	1343	9,850	Mar. 24, 1954	20	245	177,700	263	190,200		
1955	1393	11,700	July 24, 1955	21	222	160,600	237	171,500		
1956	1443	13,300	Oct. 4, 1955	13	102	73,730	67.6	49,100		
1957	1513	5,980	July 26, 1957	30	293	212,500	329	237,900		
1958	1563	9,060	Mar. 23, 1958	34	622	450,300	647	468,500		
1959	1633	7,860	Aug. 28, 1959	19	243	176,000	248	179,300		
1960	1713	16,700	Jan. 12, 1960	24	440	319,600	-	-		

4490. Diversions from Gila River in Safford Valley, Ariz.

Location.--Safford Valley lies along Gila River in Graham County, extending from vicinity of Bonita Creek on the east to San Carlos Indian Reservation on the west. Twelve canals, listed in tables below in downstream order, and one pump divert water from Gila River for irrigation in the valley. Intake of Brown Canal, at upper end of the valley, is 0.6 mile upstream from station on Gila River near Solomon. Intake of Colvin-Jones Canal, at lower end, is 25.8 miles upstream from station at Calva. Records of canals obtained below wasteways used for regulation.

Records available.--1936-60 (records of combined monthly diversions in Safford Valley, and annual diversions by each canal); records of monthly diversion 1914-15 and records of monthly and daily diversion 1920-31 for all canals except Colvin-Jones; records for Brown Canal also for water year 1931-32. Tidwell Canal was published as Michelana Canal in 1914-15 and 1920-31.

Gage.--Water-stage recorders and Parshall flumes on canals and rated pump.

Remarks.--Record shows total diversions unadjusted for return flows. Decreed area for irrigation in Safford Valley is 32,512 acres. Water obtained by pumping from ground water for irrigation in the valley is not included.

Cooperation.--Records furnished by Gila Water Commissioner.

Combined monthly and yearly diversions, in acre-feet, by canals diverting from Gila River in Safford Valley, Ariz.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5,310	4,570	5,760	0	0	41	0	37	1,840	2,740	6,560	2,490	29,350
1952	3,290	4,490	4,900	772	2,940	22,720	30,110	21,060	10,980	8,920	13,490	6,130	129,800
1953	3,440	3,880	5,050	0	9	4,860	4,340	402	1,740	7,420	8,840	2,650	42,630
1954	2,590	3,240	3,250	0	0	7,830	5,470	2,460	1,890	13,160	19,100	11,360	70,350
1955	8,560	5,080	5,330	1,760	4,330	5,490	3,580	2,740	2,380	13,010	26,480	7,840	86,580
1956	8,070	4,450	6,010	3,500	3,350	5,880	3,820	2,540	1,120	3,860	8,170	2,070	52,440
1957	2,280	2,920	3,690	2,300	250	4,130	1,740	418	2,460	5,940	20,590	11,070	57,770
1958	6,860	6,280	8,120	3,470	4,090	24,000	25,980	23,930	6,570	4,890	13,900	12,650	140,700
1959	10,690	6,850	9,530	5,580	5,090	8,630	4,210	2,650	1,150	8,940	17,350	6,420	85,090
1960	3,300	7,690	10,580	1,360	8,780	32,050	28,150	10,770	3,270	4,320	5,020	3,810	119,100

Diversion, in acre-feet, by water years for each canal in Safford Valley, Ariz.

Year	Brown	Tidwell	Four-ness	San Jose	Montezuma	Union	Graham	Smith-ville	Dodge Nevada	Curtis	Fort Thomas	Colvin-Jones	Direct pumping	Total
1951	493	402	95	5,160	6,290	7,810	2,220	2,420	1,360	1,570	1,450	70	14	29,350
1952	3,140	1,700	579	17,490	19,460	27,600	17,430	10,650	8,700	8,210	13,930	689	215	129,800
1953	920	480	145	6,330	7,550	11,200	4,650	3,220	1,990	2,510	3,430	159	41	42,630
1954	1,160	1,510	471	10,420	13,510	17,760	6,450	5,790	3,910	3,130	5,780	324	135	70,350
1955	1,680	1,460	168	13,020	15,580	21,530	9,170	7,400	5,050	4,300	6,990	169	65	86,580
1956	1,340	1,250	0	9,390	12,200	12,220	4,450	4,530	2,080	2,130	2,740	28	87	52,440
1957	1,330	1,080	169	9,110	11,190	13,300	6,800	4,290	3,620	2,640	3,900	236	107	57,770
1958	3,450	2,010	494	17,920	22,280	32,190	17,540	11,900	8,260	8,850	15,130	491	*225	140,700
1959	1,300	1,140	82	11,910	13,670	18,850	11,260	7,590	5,880	5,420	7,560	297	*128	85,090
1960	1,820	1,850	313	16,380	18,830	28,520	13,620	9,580	7,490	8,250	11,900	371	*168	119,100

* Revised.

Diversion, in acre-feet, by calendar years for each canal in Safford Valley, Ariz.

Year	Brown	Tidwell	Four-ness	San Jose	Montezuma	Union	Graham	Smith-ville	Dodge Nevada	Curtis	Fort Thomas	Colvin-Jones	Direct pumping	Total
1950	1,190	1,030	96	11,010	13,400	18,130	5,820	6,460	3,410	4,050	3,470	392	45	68,500
1951	624	366	84	4,110	4,990	6,790	2,610	1,690	1,300	1,260	2,470	70	22	26,390
1952	2,980	1,700	579	17,830	19,750	28,000	17,070	10,800	7,910	8,460	13,510	706	215	129,500
1953	696	480	145	6,600	8,640	10,140	3,560	2,730	2,110	1,820	2,250	142	27	39,340
1954	1,470	1,780	471	11,600	14,520	19,770	7,330	6,950	4,560	3,860	7,430	362	135	80,240
1955	1,440	1,300	168	13,460	15,900	21,820	9,220	7,490	5,060	4,070	6,000	151	85	86,140
1956	1,260	1,530	0	8,080	11,140	10,140	13,220	2,550	1,310	1,510	1,940	28	69	42,780
1957	1,880	749	216	9,230	11,420	15,380	9,010	6,440	4,490	3,980	6,910	312	*144	70,160
1958	3,240	2,140	447	18,820	22,650	33,270	18,950	12,660	9,300	9,200	15,230	454	*212	146,600
1959	1,190	953	82	11,580	13,600	18,020	9,950	6,580	5,010	5,200	6,970	308	*132	79,580

* Revised.

4562. San Simon Creek below fandrop detention dam, near Bowie, Ariz.

Location.--Lat 32°27'15", long 109°22'00" in NE 1/4 sec. 27, T.11 S., R.29 E., 1 1/2 miles northeast of Bowie and 3 1/2 miles southeast of Safford.

Drainage area.--1,400 sq mi.

Records available.--November 1955 to June 1959.

Gage.--Water-stage recorder in outlet structure for 36-inch outlet pipe and in reservoir for concrete drop-outlet structure. Altitude of gage is 3,385 ft (from topographic map).

Extremes.--1955-59: Maximum discharge, 1,790 cfs Sept. 1, 1957 (gage height, 10.65 ft), from rating curve extended above 250 cfs on basis of theoretical rating for outlet structure; no flow for most of time.

Remarks.--Flood flows regulated by detention dam.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	0	0	0	0	0	0	0	0	0	10.9	0.64	-
1957	0	0	0	0	0	0	0	11.4	.01	42.8	96.1	72.8	18.7
1958	3.89	.70	0	0	3.91	.11	0	0	0	3.35	68.7	142	18.3
1959	1.24	0	0	0	0	0	0	0	0	0	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	0	0	0	0	0	0	0	0	0	671	38	-
1957	0	0	0	0	0	0	0	704	.4	2,630	5,910	4,330	13,570
1958	239	42	0	0	217	6.9	0	0	0	206	4,100	8,460	13,070
1959	76	0	0	0	0	0	0	0	0	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1956	1513	a194	Aug. 17, 1956	0	-	-	0.98	709
1957	1513	1,790	Sept. 1, 1957	0	18.7	13,570	19.1	13,860
1958	1563	1,590	Sept. 26, 1958	0	18.3	13,070	18.1	13,070
1959	1633	b30	Oct. 1, 1958	-	-	-	-	-

a For period November 1955 to September 1956.

b For period October 1958 to June 1959.

4566. Gold Gulch below Creighton detention dam, near Bowie, Ariz.

Location.--Lat 32°22'35", long 109°33'35", in center of sec. 23, T.12 S., R.27 E., in reservoir 6 miles northeast of Bowie, at end of Fisher Hills.

Drainage area.--104 sq mi.

Records available.--July 1956 to July 1959.

Gage.--Water-stage recorder. Altitude of gage is 3,825 ft (from topographic map).

Extremes.--1956-59: Maximum discharge, 380 cfs July 28, 1959; no flow for most of each year.

Remarks.--Flood peaks regulated by Creighton detention dam.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	-	-	5.76	0	0	-
1957	0	0	0	0	0	0	0	0	0	18.9	30.1	0	4.16
1958	0	0	0	0	4.62	6.79	1.73	0	0	12.3	16.1	9.27	4.24
1959	0	0	0	0	0	0	0	0	3.0	32.9	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	-	-	354	0	0	-
1957	0	0	0	0	0	0	0	0	0	1,160	1,850	0	3,010
1958	0	0	0	0	256	418	103	0	0	754	987	552	3,070
1959	0	0	0	0	0	0	0	0	179	2,020	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1956	1513	a235	July 30, 1956	-	-	-	-	-
1957	1513	359	Aug. 5, 1957	0	4.16	3,010	4.16	3,010
1958	1563	284	Aug. 10, 1958	0	4.24	3,070	4.24	3,070
1959	1713	b380	July 28, 1959	-	-	-	-	-

a For period July to September 1956.

b For period October 1958 to July 1959.

4567. Gold Gulch below HX detention dam, near Bowie, Ariz.

Location.--Lat 32°26'45", long 109°30'25", in NW¼SW¼ sec.29, T.11 S., R.28 E., 6 miles downstream from Creighton detention dam and 8.3 miles north of Bowie.

Drainage area.--144 sq mi.

Records available.--June 1956 to June 1959.

Gage.--Water-stage recorder in reservoir and concrete drop-inlet pipe spillway. Altitude of gage is 3,575 ft (from topographic map).

Extremes.--1956-59: Maximum discharge, 503 cfs Aug. 30, 1957 (gage height, 10.92 ft); no flow for most of each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	-	-	7.01	0.66	0	-
1957	0	0	0	0	0	0	0	0	0	4.65	24.8	0	2.50
1958	0	0	0	0	0	0	0	0	0	4.78	5.54	6.52	1.43
1959	0	0	0	0	0	0	0	0	0	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	-	-	431	41	0	-
1957	0	0	0	0	0	0	0	0	0	286	1,520	0	1,810
1958	0	0	0	0	0	0	0	0	10	294	341	368	1,030
1959	0	0	0	0	0	0	0	0	0	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1956	1513	3393	July 30, 1956	-	-	-	-	-	-
1957	1513	503	Aug. 30, 1957	0	2.50	1,810	2.50	1,810	-
1958	1563	474	Sept. 1, 1958	0	1.43	1,030	1.43	1,030	-
1959	1633	(b)	-	-	-	-	-	-	-

a For period June to September.

b No flow for period October 1958 to June 1959.

4568. San Simon Creek at Tanque, Ariz.

Location.--Lat 32°36'30", long 109°32'00", in NW¼SE¼ sec.36, T.9 S., R.27 E., on left bank 0.1 mile east of Tanque and 15 miles southeast of Solomon.

Drainage area.--1,953 sq mi.

Records available.--July 1957 to June 1959.

Gage.--Water-stage recorder and concrete control. Datum of gage is 3,217.74 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1957, at datum 1.95 ft lower.

Extremes.--1957-59: Maximum discharge, 6,040 cfs Aug. 30, 1957 (gage height, 12.95 ft, present datum), from rating curve extended above 940 cfs on basis of slope-area measurement of peak flow; no flow for most of each year.

Remarks.--Most flood peaks regulated by Fandrop detention dam, and by Creighton and HX detention dam on Gold Gulch.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	-	43.3	170	65.5	-
1958	0.42	0	0	0	3.64	0.31	0.83	0	2.07	4.52	63.6	171	20.4
1959	1.17	0	0	0	0	0	0	0	0	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	-	2,860	10,500	3,900	-
1958	26	0	0	0	202	19	49	0	123	278	3,910	10,150	14,760
1959	72	0	0	0	0	0	0	0	0	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1957	1513	6,040	Aug. 30, 1957	-	-	-	-	-	-
1958	1563	2,340	Sept. 12, 1958	0	20.4	14,760	20.5	14,800	-
1959	1633	535	Oct. 1, 1958	-	-	-	-	-	-

a For period July to September.

b For period October 1958 to June 1959.

4569. Goat Well Wash below drop structure, near Solomon, Ariz.

Location.--Lat 32°43'10", long 109°33'25", in center SW $\frac{1}{4}$ sec.23, T.8 S., R.27 E., on right side of drop structure, 0.3 mile upstream from mouth and 7 miles southeast of Solomon.

Drainage area.--77.2 sq mi.

Records available.--July 1956 to June 1959.

Gage.--Water-stage recorder on concrete drop-outlet structure. Altitude of gage is 3,175 ft (from topographic map).

Extremes.--1956-59: Maximum discharge, 1,500 cfs July 17, 1957 (gage height, 3.05 ft), from rating curve extended above 130 cfs by logarithmic plotting; no flow for most of each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	-	-	0.62	0	0	-
1957	0	0	0	0	0	0	0	0	0	6.95	6.88	0	1.17
1958	.02	0	0	0	5.87	.06	.003	0	0	.55	1.65	1.44	.76
1959	0	0	0	0	0	0	0	0	0	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	-	-	38	0	0	-
1957	0	0	0	0	0	0	0	0	0	427	423	0	850
1958	1.2	0	0	0	326	3.8	.2	0	0	34	101	86	552
1959	0	0	0	0	0	0	0	0	0	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1956	1513	872	July 18, 1956	-	-	-	-	-	-
1957	1513	1,500	July 17, 1957	0	1.17	850	1.18	850	
1958	1563	1,010	Feb. 20, 1958	0	.76	552	.76	552	
1959	1633	(b)		-	-	-	-	-	-

a For period July to September.

b No flow for period October 1958 to June 1959.

4570. San Simon Creek near Solomon, Ariz.

Location.--Lat 32°48'06", long 109°38'19", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.25, T.7 S., R.26 E., 1 mile south-west of Solomon and 2 $\frac{1}{2}$ miles upstream from mouth.

Drainage area.--2,192 sq mi.

Records available.--June 1931 to September 1932, May 1935 to September 1960. Prior to October 1949, published as "near Solomonsville."

Gage.--Water-stage recorder and concrete control. Datum of gage is 2,960.15 ft above mean sea level, datum of 1929.

Average discharge.--26 years (1931-32, 1935-60), 14.6 cfs (10,570 acre-ft per year); median of yearly mean discharges, 12 cfs (8,700 acre-ft per year).

Extremes.--1931-60: Maximum discharge, 27,500 cfs Aug. 9, 1931 (gage height, 19.0 ft), by slope-area measurement of peak flow; no flow for most of time in most years.

Remarks.--Records do not include waste water passing station from San Jose Canal, which diverts from Gila River. Diversions above station for irrigation of about 13,800 acres, mostly by pumping from ground water. Flood flows are partly regulated by six flood control detention structures on main stream and tributaries; combined maximum capacity in excess of 10,500 acre-ft. Records of suspended sediment loads for the periods June to September 1956 and July to August 1957, and water temperatures for the period July to August 1957 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	1.5	0.24	0	0	34.5	56.2	0	7.85
1952	23.4	2.53	0	0	0	0	0	0	6.40	2.61	65.9	8.87	9.25
1953	0	0	0	0	.17	0	.02	0	0	2.1	83.6	18.2	8.84
1954	0	0	0	0	0	0	0	0	0	86.7	*328	34.6	38.1
1955	6.19	0	0	0	0	0	0	0	0	274	135	.06	35.3
1956	32.4	0	0	0	0	0	0	1.0	0	10.7	8.86	.5	4.53
1957	0	0	0	.43	0	0	0	4.75	0	68.5	199	59.6	28.1
1958	1.5	.06	0	0	13.0	1.73	.6	.17	2.94	25.1	64.2	176	23.7
1959	.33	0	0	0	0	0	0	0	0	41.1	113	0	15.1
1960	4.1	.3	0	0	0	0	0	0	0	9.85	4.91	15.5	2.89

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	91	14	0	0	2,120	3,450	0	5,680
1952	1,440	150	0	0	0	0	0	0	381	160	4,050	528	6,710
1953	0	0	0	0	9.3	1.2	0	0	127	5,140	1,120	0	6,400
1954	0	0	0	0	0	0	0	0	0	5,330	20,190	2,060	27,580
1955	381	0	0	0	0	0	0	0	0	16,840	8,330	3.4	†25,550
1956	1,990	0	0	0	0	0	0	61	0	658	545	30	3,280
1957	0	0	0	26	0	0	0	292	0	4,210	12,250	3,550	20,330
1958	95	3.8	0	0	724	107	38	10	175	1,540	3,950	10,490	17,130
1959	20	0	0	0	0	0	0	0	0	2,530	6,920	0	9,470
1960	250	20	0	0	0	0	0	0	0	606	302	923	2,100

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean		Acre-feet
		Discharge	Date						
1950	-	-	-	-	-	-	7.73	-	5,600
1951	1213	7,390	Aug. 2, 1951	0	7.85	5,680	10.0	-	7,270
1952	1243	5,100	Aug. 17, 1952	0	9.25	6,710	7.06	-	5,120
1953	1283	3,970	July 7, 1953†	0	8.84	6,400	8.84	-	6,400
1954	1343	6,980	Sept. 12, 1954	0	38.1	27,580	38.6	-	27,960
1955	1393	6,400	July 30, 1955	0	35.3	†25,550	37.5	-	27,160
1956	1443	1,520	Oct. 4, 1955	0	4.53	3,280	1.78	-	1,290
1957	1513	8,950	Aug. 30, 1957	0	28.1	20,330	28.2	-	20,430
1958	1563	4,250	Aug. 16, 1958	0	23.7	17,130	23.6	-	17,050
1959	1633	4,610	Aug. 23, 1959	0	13.1	9,470	13.4	-	9,720
1960	1713	3,260	Sept. 9, 1960	0	2.89	2,100	-	-	-

† Corrected.

4585. Gila River at Safford, Ariz.

Location.--Lat 32°50'50", long 109°42'55", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.5, T.7 S., R.26 E., at highway bridge 1 mile north of Safford and 4 $\frac{1}{2}$ miles downstream from San Simon Creek.

Drainage area.--10,459 sq mi.

Records available.--June 1940 to June 1947, June 1948 to June 1949, October 1956 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,800.07 ft above mean sea level, datum of 1929. Prior to July 1, 1942, at site 1,400 ft upstream at datum 6.91 ft higher.

Average discharge.--10 years (1940-46, 1956-60), 314 cfs (227,300 acre-ft per year); median of yearly mean discharges, 220 cfs (159,000 acre-ft per year).

Extremes.--1940-49, 1956-60: Maximum discharge, 33,000 cfs Sept. 30, 1941; maximum gage height, 13.1 ft Jan. 14, 1949; no flow at times in most years.

Remarks.--Many diversions above station for mining and irrigation of about 40,000 acres, of which about 10,000 acres is below station. Canals diverting in Safford Valley above station are Brown, Tidwell, Fourness, San Jose, Montezuma, Union, and Graham. Those diverting below station are Smithville, Dodge-Nevada, Curtis, Fort Thomas, and Colvin-Jones.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	0.16	0.28	1.33	180	84.2	57.2	44.5	97.5	9.43	442	1,660	249	238
1958	135	151	58.9	107	137	2,072	1,680	238	27.8	35.5	226	808	474
1959	358	123	54.4	85.3	67.3	12.8	4.66	.13	.61	80.31	1,037	27.6	156
1960	51.9	273	308	1,487	549	772	130	23.9	1.16	11.3	11.1	20.5	304

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	9.7	17	8.2	11,060	4,680	3,520	2,650	5,990	561	27,170	102,100	14,830	172,700
1958	8,300	9,010	3,620	6,590	7,610	127,400	99,950	14,610	1,660	2,180	13,910	48,100	342,900
1959	22,020	7,320	3,340	5,240	3,740	789	277	7.7	36	4,940	63,790	1,640	113,100
1960	3,190	16,260	18,930	91,440	31,590	47,470	7,720	1,470	69	694	681	1,220	220,700

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1957	1513	10,300	Aug. 31, 1957	0	238	172,700	267
1958	1563	9,660	Sept. 13, 1958	0	474	342,900	490
1959	1633	6,810	Aug. 28, 1959	0	156	113,100	164
1960	1713	15,400	Jan. 12, 1960	0	304	220,700	-

4665. Gila River at Calva, Ariz.

Location.--Lat 33°11'10", long 110°13'10", in SW $\frac{1}{4}$ sec.8, T.3 S., R.21 E. (unsurveyed), in San Carlos Indian Reservation, on various piers of railroad bridge at head of San Carlos Reservoir, $\frac{1}{2}$ miles northwest of Calva.

Drainage area.--11,470 sq mi.

Records available.--October 1929 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,514.77 ft above mean sea level, datum of 1929. Oct. 1, 1954, to Aug. 24, 1958, at datum 3.00 ft lower.

Average discharge.--31 years (1929-60), 246 cfs (178,100 acre-ft per year); median of yearly mean discharges, 190 cfs (138,000 acre-ft per year).

Extremes.--1929-60: Maximum discharge, 27,900 cfs Oct. 1, 1941 (gage height, 11.82 ft, present datum); no flow for short periods in most years.

Maximum discharge known, probably in excess of 100,000 cfs Jan. 20, 1916, determined on basis of peak discharge at stations near Solomon and at Kelvin.

Remarks.--Diversion above station for metallurgical treatment of ores, municipal use, and irrigation of about 69,000 acres, partly by pumping from ground water.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7.80	3.02	6.16	71.6	89.6	95.6	70.3	25.3	0.21	27.3	188	0.78	48.8
1952	19.5	80.4	20.7	1,886	199	92.4	435	142	65.6	10.5	154	46.1	264
1953	5.12	22.2	42.1	90.1	83.7	193	28.6	23.6	1.4	141	79.8	0.02	59.3
1954	0	0	0	30.0	38.7	347	15.2	1.67	0	236	1,086	148	161
1955	65.0	9.86	12.1	78.7	34.5	15.2	9.04	3.73	.28	838	934	24.3	172
1956	204	5.65	8.85	21.6	47.6	13.1	6.01	1.25	0	9.89	24.9	0	28.7
1957	0	0	0	92.1	28.5	10.3	1.35	44.6	0	241	1,411	269	177
1958	133	120	27.7	58.7	118	1,988	1,500	211	20.4	23.3	149	555	409
1959	249	129	49.0	73.7	74.8	26.3	16.7	5.65	.06	53.3	899	23.9	135
1960	27.0	225	255	1,287	567	653	130	35.0	5.98	5.42	4.85	3.99	267

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	480	180	379	4,390	4,980	5,890	4,180	1,550	13	1,680	11,550	47	35,310
1952	1,200	4,790	1,270	15,900	11,420	5,680	25,910	8,700	3,910	648	9,460	2,740	191,600
1953	315	1,320	2,590	5,540	4,650	11,850	1,580	1,450	83	8,670	4,910	14	42,960
1954	0	0	0	1,850	2,150	21,320	906	103	0	14,500	66,770	8,800	116,400
1955	4,000	587	747	4,840	1,910	936	538	229	16	51,530	57,430	1,450	124,200
1956	12,540	336	544	1,330	2,740	803	358	77	0	608	1,530	0	20,870
1957	0	0	0	5,660	1,580	635	90	2,740	0	14,830	86,760	16,000	128,300
1958	8,200	7,110	1,710	3,610	6,530	22,200	89,230	12,950	1,220	1,430	9,160	53,050	296,400
1959	15,280	7,650	3,010	4,530	4,160	1,620	992	347	3.4	3,280	55,300	1,420	97,590
1960	1,660	13,390	15,680	79,160	32,590	40,170	7,720	2,150	356	333	299	237	193,700

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1213	2,970	Aug. 4, 1951	0	48.8	35,310	41.0	29,710	
1952	1243	13,200	Jan. 20, 1952	0	264	191,600	57.4	41,530	
1953	1283	2,040	July 30, 1953	0	59.3	42,960	260	189,600	
1954	1343	4,260	Mar. 25, 1954	0	161	116,400	53.5	38,730	
1955	1393	4,950	Aug. 4, 1955	0	172	124,200	169	121,700	
1956	1443	4,240	Oct. 5, 1955	0	28.7	20,870	183	132,300	
1957	1513	4,220	Sept. 1, 1957	0	177	128,300	201	145,300	
1958	1563	6,700	Mar. 26, 1958	0	409	296,400	422	305,300	
1959	1633	3,920	Aug. 26, 1959	0	135	97,590	141	102,400	
1960	1713	9,090	Jan. 14, 1960	0	267	193,700	-	-	

4685. San Carlos River near Peridot, Ariz.

Location.--Lat 33°19'20", long 110°26'50", in NW¼ sec.30, T.1 S., R.19 E. (unsurveyed), in San Carlos Indian Reservation, at downstream side of concrete pier near right end of highway bridge, 2 miles downstream from San Carlos and 2 miles upstream from Peridot.

Drainage area.--1,027 sq mi.

Records available.--August 1910 to January 1911 (gage heights only), April 1914 to July 1915, August to September 1915 (monthly discharge only, published in WSP 1313), October 1929 to September 1960. Published as "at San Carlos" prior to 1929.

Gage.--Water-stage recorder. Datum of gage is 2,582.71 ft above mean sea level, datum of 1929. Prior to Jan. 11, 1911, staff gage at former railroad bridge 10 miles downstream at different datum. Apr. 26, 1914, to July 31, 1915, water-stage recorder at site 9½ miles downstream and Nov. 14, 1929, to Jan. 31, 1942, water-stage recorder at site 4 miles downstream, both at different datum.

Average discharge.--31 years (1929-60), 46.6 cfs (33,740 acre-ft per year); median of yearly mean discharges, 29 cfs (21,000 acre-ft per year).

Extremes.--1929-60: Maximum discharge, 40,600 cfs Mar. 14, 1941 (gage height, 11.4 ft, site and datum then in use), from rating curve extended above 23,000 cfs on basis of rate of change in storage in San Carlos Reservoir; no flow at times in most years.

Remarks.--Diversions above station for irrigation of about 600 acres.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.34	4.35	5.07	7.58	7.65	10.7	6.22	5.00	0.07	15.0	84.8	0.98	12.6
1952	2.32	4.29	132	870	15.0	215	12.6	4.57	3.18	3.09	50.4	3.81	111
1953	1.25	2.16	8.87	9.80	7.03	73.4	6.08	2.58	.04	13.9	8.09	.24	11.6
1954	.26	2.94	6.46	8.29	7.70	490	13.4	1.78	.45	55.1	92.0	10.8	58.4
1955	5.77	5.65	7.77	10.7	9.01	7.65	5.49	2.24	4.50	76.5	294	9.86	37.2
1956	8.83	5.76	9.77	132	47.6	7.53	4.54	.81	0	7.58	5.23	0	19.1
1957	.20	2.68	5.72	33.0	24.4	8.23	3.39	1.08	0	35.2	36.8	.50	12.6
1958	29.2	14.3	6.34	5.80	149	522	32.6	4.25	.03	8.36	12.8	9.88	66.2
1959	20.9	4.97	6.60	6.69	8.32	4.83	2.17	.03	0	9.81	39.9	1.21	8.87
1960	99.1	75.2	364	430	60.6	23.1	6.24	3.10	.13	0	2.20	0	89.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	144	259	312	466	425	655	370	308	4.0	919	5,220	58	9,140
1952	143	255	8,130	53,520	864	13,220	753	281	189	190	3,100	215	80,860
1953	77	368	545	603	390	4,520	362	158	2.6	854	497	14	8,390
1954	16	175	397	510	428	30,120	798	110	27	3,390	5,680	843	42,270
1955	355	336	478	661	501	470	326	138	268	4,710	18,080	587	26,910
1956	543	343	601	8,090	2,740	463	270	50	0	466	321	0	13,890
1957	12	159	351	2,030	1,350	506	202	67	0	2,160	2,270	30	9,140
1958	1,790	852	390	356	8,300	32,120	1,940	261	1.6	514	764	588	47,900
1959	1,290	296	406	411	462	297	129	1.8	0	603	2,460	72	6,430
1960	6,100	4,470	22,400	26,430	3,480	1,420	372	190	7.5	0	135	0	65,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	8.04	-	5,820
1951	1213	2,940	Aug. 29, 1951	0	12.6	9,140	23.4	-	16,950
1952	1243	39,200	Jan. 13, 1952	0	111	80,860	101	-	73,320
1953	1283	860	Aug. 27, 1953	0	11.6	8,390	11.0	-	7,990
1954	1343	23,500	Mar. 23, 1954	0	58.4	42,270	59.2	-	42,860
1955	1393	14,600	Aug. 6, 1955	0	37.2	26,910	37.6	-	27,230
1956	1443	9,300	Jan. 29, 1956	0	19.1	13,890	16.2	-	11,740
1957	1513	7,310	July 26, 1957	0	12.6	9,140	16.1	-	11,850
1958	1563	7,870	Mar. 22, 1958	0	66.2	47,900	64.4	-	46,850
1959	1633	2,280	Aug. 18, 1959	0	8.87	6,430	51.7	-	37,410
1960	1713	14,300	Dec. 26, 1959	0	89.5	65,000	-	-	-

4690. San Carlos Reservoir at Coolidge Dam, Ariz.

Location.--Lat 33°10'30", long 110°31'45", in NW¼ sec.17, T.3 S., R.18 E. (unsurveyed), at right intake tower of Coolidge Dam on Gila River.

Drainage area.--12,886 sq mi.

Records available.--November 1928 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Prior to Jan. 15, 1937, series of stakes with tops at known elevations for reference points on right bank about 1,000 ft upstream from dam. Jan. 15, 1937, to Dec. 31, 1947, water-stage recorder at present site at datum 0.72 ft lower.

Extremes.--1928-60: Maximum contents, 819,200 acre-ft Mar. 18, 1942 (elevation, 2,501.62 ft, present datum); no usable contents at times in recent years.

Remarks.--Reservoir is formed by concrete multiple-dome dam; dam completed Oct. 25, 1928. Storage began Nov. 15, 1928. Usable capacity, 1,206,000 acre-ft between elevations 2,382.63 (sill of lowest outlet gate) and 2,523.0 ft (top of automatic spillway gates in raised position). Dead storage below elevation 2,382.63 ft, 3,834 acre-ft according to 1947 survey. Figures given herein represent usable contents. Water is used for irrigation of San Carlos project and for power development, depending on irrigation demands.

Contents, in acre-feet, on last day of month, of San Carlos Reservoir at Coolidge Dam, Ariz.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	248	352	133	799	836	1,040	669	20	0	611	8,000	133
1952	611	547	4,990	146,600	154,300	160,000	159,100	147,600	111,600	60,110	23,750	1,340
1953	976	2,100	2,110	5,300	7,750	14,580	8,730	3,580	20	5,640	324	0
1954	0	0	0	379	386	40,080	26,210	16,560	1,910	13,810	71,130	62,540
1955	54,300	44,590	32,870	38,220	34,700	18,910	248	39	0	43,240	108,800	87,150
1956	87,480	76,730	68,260	74,950	76,000	53,650	35,060	17,240	100	449	26	0
1957	0	0	0	7,650	10,190	146	0	2,230	0	10,710	72,400	64,750
1958	68,580	72,940	57,980	56,360	63,510	175,300	228,000	204,200	160,600	109,700	91,880	106,800
1959	116,200	117,900	107,900	110,800	108,000	80,780	58,560	40,950	11,860	2,410	56,360	37,510
1960	39,040	54,480	86,320	180,600	205,800	214,700	193,200	165,300	123,200	70,560	24,040	180

4695. Gila River below Coolidge Dam, Ariz.

Location.--Lat 33°10'15", long 110°31'45", in SW $\frac{1}{4}$ sec.17, T.3 S., R.18 E. (unsurveyed), on left bank 2,200 ft downstream from Coolidge Dam.

Drainage area.--12,886 sq mi.

Records available.--July to October 1899, April 1900 to March 1902, July to September 1902, December 1902 to December 1904; January to May 1905 (gage heights only); June to November 1905; August 1910 to February 1911 (gage heights only); April 1914 to September 1960. Published as "at San Carlos" 1899-1911, as "near San Carlos" 1914-26, and as "at Coolidge Dam" 1927-38.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 2,309.33 ft above mean sea level, datum of 1929. Prior to Feb. 5, 1911, staff or chain gages at various sites and datums upstream from mouth of San Carlos River. Apr. 29, 1914, to Mar. 8, 1937, water-stage recorder at various sites within 1 mile upstream from present site at different datums.

Average discharge (adjusted for storage in San Carlos Reservoir).--48 years (1900-1901, 1903-4, 1914-60), 359 cfs (259,900 acre-ft per year); median of yearly mean discharges, 230 cfs (167,000 acre-ft per year).

Extremes.--1914-60: Maximum discharge, 130,000 cfs Jan. 20, 1916, estimated on basis of peak discharge near Solomon and at Kelvin; no flow for several periods.

Maximum discharge since completion of Coolidge Dam, 1,350 cfs July 28, 1952 (gage height, 4.64 ft).

Remarks.--Large diversions above San Carlos Reservoir for irrigation, metallurgical treatment of ore, and municipal supply. About 55,500 acres of land was irrigated, a considerable portion by pumping from ground water. Flow regulated by San Carlos Reservoir at Coolidge Dam since Nov. 15, 1928 (see preceding page). Record includes flow of Warm Springs which enters between dam and gage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11.7	0.77	7.79	55.1	85.2	90.2	75.3	27.1	0.60	5.48	114	133	50.2
1952	2.50	73.6	24.6	2.62	49.7	179	438	312	621	841	797	445	316
1953	19.3	10.6	48.1	46.6	52.2	136	143	102	53.2	39.2	161	3.85	68.1
1954	168	68	77	4.58	28.6	22.1	254	160	247	56.1	107	267	95.3
1955	180	164	210	9.18	103	263	284	5.64	3.70	50.0	4.69	347	135
1956	168	169	159	2.67	79.5	388	329	265	220	2.48	19.3	76	150
1957	62	62	80	2.87	14	135	2.08	2.88	17.0	73.7	296	328	72.0
1958	66.0	25.4	260	83.8	124	311	495	530	685	803	406	228	336
1959	76.5	78.2	205	31.8	127	426	353	249	403	161	58.6	283	204
1960	87.9	2.99	62.8	3.38	124	494	472	463	679	813	711	321	354

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	719	46	479	3,390	4,730	5,550	4,480	1,670	36	337	7,000	7,910	36,350
1952	154	4,380	1,510	161	2,860	10,980	26,070	19,200	36,940	51,700	48,980	26,500	229,400
1953	1,180	630	2,960	2,870	2,900	8,370	8,490	6,240	3,170	2,410	9,870	229	49,320
1954	42	46	55	281	1,590	1,360	15,100	9,850	14,690	3,450	6,600	15,900	68,960
1955	11,040	9,750	12,940	564	5,740	16,160	16,920	347	220	3,070	289	20,670	97,710
1956	10,310	10,080	9,790	164	4,570	23,840	19,550	16,280	13,100	153	1,180	45	109,100
1957	38	48	49	54	63	8,310	124	177	1,010	4,530	18,220	19,500	52,120
1958	4,060	1,510	16,020	5,150	6,890	19,140	29,450	32,560	40,740	49,400	24,750	13,550	243,200
1959	4,700	4,650	12,630	1,960	7,060	26,210	21,020	15,340	23,970	9,890	3,600	16,840	147,900
1960	5,400	178	3,860	208	7,140	30,360	28,080	28,460	40,380	50,010	43,740	19,080	256,900

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	170	-	123,200
1951	1213	321	Sept. 13, 1951	-	50.2	36,350	56.8	-	41,150
1952	1243	1,350	July 28, 1952	0.4	316	229,400	314	-	228,200
1953	1283	373	Dec. 16, 1952	.6	68.1	49,320	61.7	-	44,690
1954	1343	545	June 24, 1954	.6	95.3	68,960	142	-	102,600
1955	1393	611	July 23, 1955	.6	135	97,710	130	-	54,160
1956	1443	1,070	Mar. 26, 1956	.6	150	109,100	109	-	79,020
1957	1513	509	July 31, 1957	.6	72.0	52,120	102	-	73,580
1958	1563	924	July 12, 1958	2.8	336	243,200	337	-	243,600
1959	1633	671	June 29, 1959	1.0	204	147,900	187	-	135,900
1960	1713	861	July 20, 1960	2.4	354	256,900	-	-	-

4700. Gila River at Winkelman, Ariz.

Location.--Lat 33°00'10", long 110°45'55", in NW 1/4 sec. 13, T.5 S., R.15 E., on right bank 1 1/2 miles north of Winkelman, 2 miles upstream from San Pedro River, and 29 miles downstream from Coolidge Dam.

Drainage area.--13,268 sq mi, of which 382 sq mi is below Coolidge Dam.

Records available.--September 1917 to June 1918, December 1928 to February 1935 (discharge measurements only), September 1941 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,920.95 ft above mean sea level, datum of 1929, supplementary adjustment of 1949. Sept. 10, 1917, to June 27, 1918, chain gage at bridge 1.5 miles downstream at different datum.

Average discharge (adjusted for storage in San Carlos Reservoir).--19 years (1941-60), 189 cfs (136,800 acre-ft per year); median of yearly mean discharges, 150 cfs (109,000 acre-ft per year).

Extremes.--1941-60: Maximum discharge, 55,000 cfs, of which 500 cfs was released at Coolidge Dam, Aug. 3, 1944 (gage height, 18.40 ft), from rating curve extended above 2,900 cfs on basis of slope-area measurement of peak flow; no flow at times when Coolidge Dam is closed.

Remarks.--Large diversions above station for irrigation, metallurgical treatment of ore, and municipal supply, but none between Coolidge Dam and this station. About 69,000 acres irrigated in the basin above Coolidge Dam, a considerable portion by pumping from ground water. Flow regulated by San Carlos Reservoir (see p. 502).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	12.6	1.87	8.50	58.8	84.6	94.0	84.4	28.6	0.31	2.50	257	130	63.5
1952	5.95	75.3	51.1	103	60.1	212	469	313	622	825	782	433	330
1953	27.9	12.5	50.1	46.3	56.8	134	138	90.2	52.0	40.8	151	5.80	67.4
1954	.36	1.33	2.49	6.20	28.3	115	256	156	245	72.5	379	284	129
1955	187	162	206	24.6	106	274	296	8.43	7.77	150	69.5	329	152
1956	174	165	174	15.7	76.2	366	329	257	235	8.88	24.3	.21	152
1957	0	.40	2.42	19.2	8.99	145	6.40	2.01	11.5	55.2	334	335	77.2
1958	99.1	35.8	278	65.5	151	358	467	527	681	817	421	270	351
1959	87.7	88.1	202	41.3	148	427	377	250	400	178	69.8	285	213
1960	134	12.9	144	110	156	502	471	460	650	796	708	329	374

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	774	111	523	3,610	4,700	5,780	5,020	1,760	19	154	15,790	7,760	46,000
1952	366	4,480	3,140	6,330	3,460	13,020	27,930	19,250	37,020	50,820	48,060	25,760	239,600
1953	1,710	743	3,080	2,850	3,160	8,260	8,210	5,550	3,090	2,510	9,290	345	46,800
1954	22	79	153	381	1,570	7,040	15,220	9,600	14,570	4,450	23,300	16,900	93,280
1955	11,490	9,620	12,680	1,510	5,870	16,840	17,620	518	463	9,250	4,280	19,600	109,700
1956	10,700	9,840	10,720	968	4,380	22,480	19,580	15,830	13,990	546	1,490	13	110,500
1957	0	24	149	1,180	499	8,930	381	123	686	3,390	20,560	19,950	55,870
1958	6,090	2,130	17,090	5,250	8,370	22,020	27,780	32,420	40,540	50,230	25,900	16,050	253,900
1959	5,390	5,240	12,400	2,540	8,240	26,240	22,450	15,350	23,830	10,930	4,290	16,940	153,800
1960	8,240	768	8,830	6,750	8,990	30,870	28,050	28,310	38,710	48,930	43,540	19,560	271,500

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	169	122,600
1951	1213	26,200	Aug. 2, 1951	0	63.5	46,000	72.6	52,580
1952	1243	2,240	Jan. 13, 1952	3.6	330	239,600	327	237,200
1953	1283	732	Aug. 25, 1953	.2	67.4	46,800	60.1	43,520
1954	1343	51,700	Aug. 5, 1954	.1	129	93,280	175	126,800
1955	1393	13,200	July 25, 1955	0	152	109,700	148	107,200
1956	1443	1,100	July 29, 1956	0	152	110,500	109	79,450
1957	1513	1,270	Aug. 12, 1957	0	77.2	55,870	112	81,010
1958	1363	2,050	Sept. 3, 1958	7.7	351	253,900	348	251,600
1959	1633	1,300	Oct. 6, 1958	2.0	213	153,800	205	148,600
1960	1713	2,370	Dec. 26, 1959	8.5	374	271,500	-	-

4705. San Pedro River at Palominas, Ariz.

Location.--Lat 31°22'48", long 110°06'38", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.33, T.23 S., R.22 E., near left bank on downstream side of pier of highway bridge, 0.7 mile east of Palominas, 2 $\frac{1}{2}$ miles upstream from Green Brush Draw, $\frac{1}{2}$ miles downstream from international boundary, and 13 miles southwest of Bisbee.

Drainage area.--741 sq mi, of which 649 sq mi is in Mexico.

Records available.--May 1930 to October 1933, May 1935 to July 1941, July 1950 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 4,187.62 ft above mean sea level (State Highway Department bench mark). Prior to Oct. 18, 1936, at datum 3.71 ft higher; Oct. 18, 1936, to Oct. 10, 1939, at datum 3.91 ft higher; Oct. 11, 1939, to July 16, 1941, at datum 0.29 ft lower; July 17, 1950, to Feb. 13, 1955, at present datum; Feb. 14, 1955, to Nov. 23, 1955, at site 400 ft downstream at datum 1.84 ft lower.

Average discharge.--18 years (1930-33, 1935-40, 1950-60), 36.4 cfs (26,350 acre-ft per year).

Extremes.--1930-41, 1950-60: Maximum discharge, 22,000 cfs Aug. 14, 1940 (gage height, 16.16 ft, present datum), from rating curve extended above 5,600 cfs on basis of slope-area measurement of peak flow; no flow at times in most summers.

Greatest flood known occurred Sept. 28, 1926 (gage height, about 23.9 ft, present datum, from floodmarks; discharge not determined).

Remarks.--Small diversions for irrigation of a few hundred acres above station, mostly in Mexico. Record shows approximate flow of river at international boundary.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.27	1.33	3.03	3.81	4.36	2.78	2.02	0.83	1.40	77.2	69.1	0.48	14.1
1952	.73	.72	2.49	2.73	1.56	3.59	5.55	.22	3.86	11.6	142	10.8	15.7
1953	.29	.17	1.02	1.43	1.20	2.51	.37	.06	.02	235	21.3	1.13	22.4
1954	.073	.032	.102	.042	.054	.793	.136	.076	6.88	263	591	30.6	75.8
1955	3.44	2.83	3.73	6.37	5.74	5.35	1.35	.92	1.34	180	578	8.21	67.5
1956	5.98	5.09	5.71	6.09	6.92	2.46	3.21	1.12	1.38	98.5	35.4	.87	14.6
1957	.31	.61	2.54	4.23	3.05	5.88	.54	.17	.14	47.1	71.2	7.78	12.1
1958	.74	.89	1.32	2.75	2.18	5.70	1.95	.41	23.4	86.5	477	275	73.7
1959	19.5	8.96	7.35	8.00	7.45	5.63	2.67	.71	22.4	280	170	4.51	45.3
1960	3.21	10.2	7.88	127	23.8	8.43	2.11	.22	.22	8.50	55.1	5.75	21.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	17	79	186	234	242	171	120	51	84	4,750	4,250	28	10,210
1952	45	43	152	168	90	220	330	14	229	716	8,750	642	11,400
1953	18	10	63	86	66	155	22	5.2	1.4	14,450	1,510	67	16,260
1954	4.5	1.9	6.2	2.6	3.0	49	8.1	4.7	409	18,180	36,370	1,820	54,860
1955	212	168	229	392	319	206	90	57	80	11,080	35,540	488	49,850
1956	368	303	351	374	398	152	191	69	82	6,050	2,180	52	10,570
1957	19	36	156	260	170	362	32	10	8.5	2,890	4,580	463	8,790
1958	45	53	81	169	121	350	116	25	1,390	5,320	29,350	16,340	53,360
1959	1,200	533	452	492	414	223	159	43	1,330	17,240	10,450	268	32,800
1960	197	609	484	7,810	1,370	518	126	14	13	523	3,390	342	15,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	-
1951	1213	5,710	July 2, 1951	0	14.1	10,210	14.0
1952	1243	7,400	Aug. 16, 1952	0	15.7	11,400	15.5
1953	1283	11,900	July 7, 1953	0	22.4	16,260	22.3
1954	1343	17,300	July 31, 1954	.02	75.8	54,860	76.6
1955	1393	6,250	July 31, 1955	0	67.5	49,850	68.0
1956	1443	4,640	July 17, 1956	.2	14.6	10,570	13.4
1957	1513	2,540	Aug. 20, 1957	0	12.1	8,790	12.1
1958	1563	16,500	Aug. 5, 1958	0	73.7	53,360	76.5
1959	1633	13,000	July 27, 1959	.2	45.3	32,800	44.1
1960	1713	3,410	Aug. 16, 1960	0	21.2	15,400	-

4708. Garden Canyon near Fort Huachuca, Ariz.

Location.--Lat 31°28'22", long 110°20'50", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.31, T.22 S. R.20 E. (unsurveyed), on right bank in Fort Huachuca (U. S. Army) Military Reservation, 2.4 miles southeast of Huachuca Peak, 5.5 miles south of Fort Huachuca, and 6.4 miles northwest of Miller Peak.

Drainage area.--8.38 sq mi.

Records available.--October 1959 to September 1960.

Gage.--Water-stage recorder and concrete control with 90° V-notch weir. Altitude of gage is 5,300 ft (from topographic map).

Extremes.--1959-60: Maximum discharge, 81 cfs Sept. 5, 1960 (gage height, 3.08 ft); minimum daily, 0.2 cfs for many days.

Monthly and yearly mean discharge, in cubic feet per second, of Garden Canyon near Fort Huachuca, Ariz.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	0.61	1.39	1.56	11.5	5.27	3.48	1.58	0.69	0.29	0.20	0.66	*1.15	*2.36

* Revised; revised daily discharge for the period thus affected is available and will be published in a future water-supply paper.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	38	83	96	708	303	214	94	42	17	12	40	*68	*1,720

* Revised. See footnote to table above.

4710. San Pedro River at Charleston, Ariz.

Location.--Lat 31°37'40", long 110°10'30", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.11, T.21 S., R.21 E., in Spanish land grant of San Juan de las Boquillas y Nogales, at downstream side of pier near center of highway bridge, a quarter of a mile south of Charleston, 1 $\frac{1}{2}$ miles upstream from Charleston damsite, 8 $\frac{1}{2}$ miles upstream from Babocomari River, and 29 miles upstream from Benson.

Drainage area.--1,219 sq mi, of which 696 sq mi is in Mexico.

Records available.--January and February 1904 (gage heights only); March 1904 to August 1906; November 1910 to December 1911 (gage heights only); September 1912 to September 1960. Published as "near Lewis Springs" 1910-11, and as "near Fairbank" 1911-26.

Gage.--Water-stage recorder and concrete control. Datum of gage is 3,954.01 ft above mean sea level, datum of 1929, supplementary adjustment of 1958. Prior to Dec. 1, 1942, staff gage or water-stage recorder at various sites within 6 $\frac{1}{2}$ miles downstream at different datums.

Average discharge.--49 years (1904-5, 1912-60), 66.3 cfs (48,000 acre-ft per year); median of yearly mean discharges, 56 cfs (40,500 acre-ft per year).

Extremes.--1916-60: Maximum discharge, about 98,000 cfs Sept. 28, 1926 (gage height, 21.9 ft, site and datum then in use), by slope-area measurement of peak flow; minimum since 1928, 0.8 cfs June 27, 1956.

Remarks.--Diversion, mostly by pumping from ground water, for irrigation of about 2,000 acres above station, including an estimated 200 acres in Mexico. Record shows flow available at Charleston damsite.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.56	7.55	11.7	14.0	11.1	11.8	12.4	8.17	3.34	93.6	138	5.57	27.2
1952	4.83	8.71	10.5	13.8	12.2	14.3	16.6	7.31	33.3	39.8	246	21.2	36.0
1953	4.81	6.99	11.3	9.99	11.2	17.0	9.51	7.30	4.62	343	32.7	5.58	39.2
1954	3.58	7.85	9.94	11.3	11.5	10.9	8.45	7.56	11.4	314	968	50.8	120
1955	16.1	12.7	15.8	19.0	15.6	14.1	11.7	10.5	4.92	324	942	30.8	120
1956	14.8	15.9	18.4	20.2	17.7	16.2	13.8	8.44	3.70	142	59.2	5.89	28.2
1957	4.42	10.2	14.5	17.1	16.6	18.3	11.4	8.03	4.44	102	153	28.4	31.0
1958	7.18	11.4	13.9	16.7	16.8	20.2	12.5	5.95	26.3	153	597	350	103
1959	35.8	24.5	21.0	21.4	19.5	15.9	11.9	7.15	30.2	272	249	13.0	60.9
1960	12.2	25.2	21.0	141	34.4	19.7	10.1	7.35	3.57	17.5	87.0	20.7	33.5

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	280	449	717	861	617	727	740	503	198	5,760	8,480	332	19,660
1952	297	518	847	847	701	881	989	449	1,980	2,450	15,120	1,260	26,140
1953	296	416	696	614	621	1,050	566	449	275	21,080	2,010	332	28,400
1954	220	467	611	692	639	669	502	334	678	19,340	59,540	3,020	86,730
1955	989	756	970	1,170	865	867	698	648	293	19,930	57,890	1,830	86,910
1956	912	946	1,130	1,240	1,020	998	819	519	220	8,700	3,640	350	20,490
1957	272	607	695	1,050	922	1,120	681	492	264	6,240	8,200	1,690	22,430
1958	442	678	855	1,030	930	1,240	746	366	1,570	9,390	36,690	20,800	74,740
1959	2,200	1,460	1,290	1,310	1,080	974	706	439	1,790	16,740	15,290	773	44,050
1960	749	1,500	1,290	8,640	1,980	1,210	602	452	212	1,080	5,350	1,230	24,300

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1950	-	-	-	-	-	-	41.0	-	29,710	
1951	1213	5,730	July 2, 1951	1.9	27.2	19,660	27.2	19,680		
1952	1243	7,850	Aug. 17, 1952	1.5	36.0	26,140	35.9	26,080		
1953	1283	8,590	July 7, 1953	2.6	39.2	28,400	39.1	28,290		
1954	1343	23,600	Aug. 15, 1954	2.2	120	86,730	122	88,150		
1955	1393	14,400	Aug. 6, 1955	1.6	120	86,910	120	87,180		
1956	1443	6,550	July 18, 1956	2.4	28.2	20,490	26.6	19,280		
1957	1513	6,000	July 25, 1957	1.6	31.0	22,430	31.3	22,630		
1958	1563	8,400	Aug. 5, 1958	2.0	103	74,740	107	77,710		
1959	1633	7,480	July 27, 1959	4.2	60.9	44,050	58.9	42,640		
1960	1713	3,900	Aug. 11, 1960	2.1	33.5	24,300	-	-		

4720. San Pedro River near Redington, Ariz.

Location.--Lat 32°22'50", long 110°26'40", in NE¼NW¼ sec.19, T.12 S., R.19 E., on right bank half a mile upstream from Cochise-Pima County line, 4½ miles upstream from Redington, and 30 miles downstream from Benson.

Drainage area.--2,939 sq mi, of which 696 sq mi is in Mexico.

Records available.--June 1943 to June 1947, July 1950 to September 1960 (monthly discharge only, July 1954 to March 1955). Also extremes for water years 1948-50, published in WSP 1179.

Gage.--Water-stage recorder and supplementary water-stage recorder 400 ft downstream. Datum of gage is 2,940.51 ft above mean sea level, datum of 1929. Prior to July 1950, at site 400 ft downstream at datum 2.98 ft lower.

Average discharge.--13 years (1943-46, 1950-60), 54.3 cfs (39,310 acre-ft per year); median of yearly mean discharges, 36 cfs (26,100 acre-ft per year).

Extremes.--1943-60: Maximum discharge, 28,600 cfs Aug. 2, 1951 (gage height, 18.0 ft), from rating curve extended above 1,400 cfs on basis of slope-area measurement of peak flow; no flow at times in each year.

Maximum discharge known, about 90,000 cfs Sept. 28, 1926 (gage height, 21.5 ft, former datum, from floodmark), computed on basis of peak discharge of same flood for station at Charleston and for Gila River at Kelvin.

Remarks.--Diversions above station for irrigation of about 5,300 acres, including about 200 acres in Mexico.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0.05	0.11	0.49	0.23	0.15	0.51	0.15	0	29.5	204	1.34	20.1
1952	3.6	1.43	5.67	4.48	.22	20.1	1.31	.22	12.1	70.7	210	7.99	28.6
1953	1.76	1.78	2.03	1.80	1.89	2.24	1.35	.68	.04	273	13.1	.27	25.4
1954	0	.21	.50	.62	.71	12.6	.04	0	.01	199	862	26.2	93.4
1955	6.59	.46	.30	.67	.36	.18	.02	0	0	621	1,479	5.09	179
1956	21.7	.23	.25	.84	.74	.50	.68	.22	0	129	22.7	.21	15.0
1957	.08	.41	.65	19.7	0	0	0	0	0	62.1	171	21.8	23.4
1958	3.77	.11	.11	.05	.05	13.6	.76	.01	0.22	188	784	367	114
1959	15.4	1.98	1.32	.68	.55	.42	.12	0	5.4	341	350	.73	61.0
1960	3.61	3.97	2.10	138	13.2	.42	.06	0	.04	3.41	45.1	27.8	20.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	3.0	6.9	30	13	9.1	30	9.3	0	1,810	12,540	80	14,530
1952	220	85	348	276	12	1,230	78	14	720	4,350	12,930	475	20,740
1953	108	106	125	110	105	138	80	42	2.6	16,770	808	16	18,410
1954	0	13	31	38	39	776	2.6	0	.8	12,220	52,970	1,580	67,650
1955	405	27	19	41	20	11	1.2	0	0	38,190	90,930	303	129,900
1956	1,330	14	15	52	43	31	40	14	0	7,900	1,390	29	10,860
1957	4.8	24	40	1,210	0	0	0	0	0	3,820	10,530	1,300	16,930
1958	232	6.3	6.7	2.8	2.8	839	45	.6	12.9	11,550	48,230	21,840	82,770
1959	949	118	81	42	31	26	7.3	0	323	20,990	21,520	43	44,130
1960	222	236	129	8,480	762	26	3.6	0	2.6	209	2,770	1,650	14,490

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951	1213	28,600	Aug. 2, 1951	0	20.1	14,530	21.0	15,170
1952	1243	4,470	Aug. 16, 1952	0	28.6	20,740	28.1	20,420
1953	1283	7,290	July 7, 1953	0	25.4	18,410	25.0	18,120
1954	1343	18,500	Aug. 1, 1954	0	93.4	67,650	94.0	68,060
1955	1393	18,800	Aug. 7, 1955	0	179	129,900	181	130,900
1956	1443	3,160	July 30, 1956	0	15.0	10,860	13.2	9,570
1957	1513	9,300	Aug. 18, 1957	0	23.4	16,930	23.6	17,100
1958	1563	10,800	Aug. 17, 1958	0	114	82,770	116	83,670
1959	1633	8,580	July 27, 1959	0	61.0	44,130	60.2	43,570
1960	1713	1,980	Sept. 5, 1960	0	20.0	14,490	-	-

4740. Gila River at Kelvin, Ariz.

Location.--Lat 33°06'10", long 110°58'45", in NW¼NW¼ sec.12, T.4 S., R.13 E., on left bank at Kelvin, 1,000 ft downstream from Mineral Creek, 17 miles downstream from San Pedro River, and 1½ miles upstream from Ashurst-Hayden Dam.

Drainage area.--18,011 sq mi, of which 5,125 sq mi is below Coolidge Dam.

Records available.--January 1911 to September 1960.

Gage.--Water-stage recorder. Supplementary water-stage recorder 900 ft upstream since May 27, 1951. Datum of gage is 1,743.22 ft above mean sea level, datum of 1929, supplementary adjustment of 1949. Prior to June 15, 1914, and Dec. 1, 1914, to Aug. 31, 1915, staff gages at several sites within 2 miles of present site at different datums.

Average discharge (adjusted for storage in San Carlos Reservoir).--49 years (1911-60), 485 cfs (352,100 acre-ft per year); median of yearly mean discharges, 350 cfs (254,000 acre-ft per year).

Extremes.--1911-60: Maximum discharge, about 132,000 cfs Jan. 20, 1916 (gage height, 19.5 ft), from rating curve extended above slope-area measurement at gage height 16.2 ft; minimum, less than 1 cfs in summers of several years.
Maximum discharge since completion of Coolidge Dam, 42,800 cfs Aug. 8, 1930 (gage height, 12.6 ft).

Remarks.--Large diversions above station for irrigation, of which about 90 percent is above Coolidge Dam. About 78,000 acres irrigated (in 1955), a considerable portion by pumping from ground water. Flow regulated by San Carlos Reservoir (Coolidge Dam) after Nov. 15, 1928 (see p. 502); no other regulation. San Pedro River contributes major portion of unregulated inflow. Records of chemical analyses for the period December 1950 to September 1960, suspended sediment loads for the period January 1958 to September 1960, and water temperatures for the period December 1950 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11.5	5.09	10.8	57.6	89.2	104	94.8	28.0	0.71	44.3	512	128	90.9
1952	5.44	81.4	107	356	73.5	352	461	282	573	851	917	455	378
1953	37.7	19.7	74.2	70.3	71.2	235	141	85.8	48.1	297	162	7.39	105
1954	1.33	3.12	8.25	9.25	28.5	333	245	143	234	413	1,320	319	257
1955	195	174	234	56.9	115	288	309	10.8	5.01	499	1,565	336	317
1956	178	177	197	64.7	115	371	329	238	227	64.7	43.1	2.06	167
1957	1.02	3.53	7.06	111	22.1	133	9.19	2.47	3.57	91.8	407	318	93.2
1958	139	55.5	268	90.8	197	543	508	498	646	879	877	473	433
1959	114	103	222	60.2	169	407	372	226	344	405	405	270	259
1960	209	41.7	404	543	223	518	460	435	594	780	721	349	442

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	708	303	682	3,540	4,950	6,420	5,640	1,720	42	2,720	31,510	7,600	65,820
1952	335	4,840	6,560	21,880	4,230	21,640	27,450	17,350	34,080	52,510	56,410	27,050	274,100
1953	2,320	1,170	4,560	4,320	3,950	14,480	8,590	5,280	2,860	18,240	9,960	440	75,970
1954	82	186	508	569	1,580	20,510	14,600	8,800	13,910	25,370	81,140	18,960	186,200
1955	11,990	10,370	14,390	3,500	6,410	16,480	18,400	663	298	30,690	96,230	19,990	229,400
1956	10,920	10,550	12,120	3,980	6,600	22,820	19,600	14,630	13,480	3,980	2,650	123	121,500
1957	62	210	434	6,850	1,230	8,150	547	152	212	5,640	25,040	18,940	67,470
1958	8,520	3,300	16,490	5,580	10,940	33,360	30,220	30,600	38,430	54,050	53,910	28,140	313,500
1959	7,020	6,130	13,850	3,700	9,380	25,020	22,140	13,870	20,480	24,920	24,890	16,090	187,500
1960	12,660	2,480	24,820	33,400	12,840	31,830	27,380	26,720	35,360	47,940	44,360	20,760	320,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	215	155,600	
1951	1213	13,200	Aug. 3, 1951	0.5	90.9	65,820	105	75,880	
1952	1243	5,430	Jan. 14, 1952	3.1	378	274,100	373	270,400	
1953	1283	4,210	July 7, 1953	.6	105	75,970	34.9	68,700	
1954	1343	17,800	Aug. 5, 1954	1.2	257	186,200	307	222,200	
1955	1393	9,860	Aug. 8, 1955	.6	317	229,400	313	228,200	
1956	1443	1,800	(a)	.7	167	121,500	122	86,570	
1957	1513	4,540	Aug. 19, 1957	.1	93.2	67,470	131	95,070	
1958	1563	5,310	Aug. 6, 1958	11	433	313,500	431	312,000	
1959	1633	5,930	Aug. 17, 1959	23	259	187,300	277	200,600	
1960	1713	11,200	Dec. 26, 1959	27	442	320,800	-	-	

a July 31, Aug. 17, 1956.

4755. Florence-Casa Grande Canal near Florence, Ariz.

Location.--Lat 33°05', long 111°17', in NE $\frac{1}{4}$ sec.14, T.4 S., R.10 E., at China Wash, 2.6 miles downstream from head of Ashurst-Hayden Dam and 6 $\frac{1}{2}$ miles northeast of Florence.

Records available.--Monthly diversions, January 1928 to September 1960.

Gage.--Water-stage recorder and Parshall flume to obtain record of diversions. Prior to Jan. 12, 1937, water-stage recorder 900 ft downstream from Ashurst-Hayden Dam.

Average discharge.--32 years (1928-60), 264 cfs (191,100 acre-ft per year).

Remarks.--Records show water diverted at dam supplemented by pumping from ground water for irrigation of land under 100,000-acre San Carlos project. Canal records adjusted for intervening sluicing and pumping (but not natural losses), to show water available at dam, except for flow through dam or water passed over dam during times of flood runoff.

Cooperation.--Records collected and prepared by Bureau of Indian Affairs.

Corrections.--In WSP 1313, the acre-feet for water year 1937 is listed in error; it should be 285,000.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	20	18	24	23	2.4	0	83	296	41	507
1952	0	14	66	235	20	190	180	78	178	717	1,620	259	5,560
1953	11	0	62	14	15	95	51	20	10	420	87	0	785
1954	0	0	0	0	0	280	90	49	80	761	1,870	480	3,610
1955	176	83	142	47	52	101	150	0	0	274	1,090	180	2,300
1956	116	76	107	0	203	100	87	77	66	46	28	0	906
1957	0	0	0	202	0	39	0	0	0	105	317	105	768
1958	38	20	94	0	171	596	472	833	815	2,240	2,720	1,700	9,700
1959	175	7.9	141	27	103	663	651	199	315	1,310	1,450	258	5,280
1960	542	17	1,060	1,040	178	626	608	503	1,220	1,910	1,690	595	9,990

4785. Queen Creek at Whitlow damsite, near Superior, Ariz.

Location.--Lat 33°17'55", long 111°16'25", in NW¼SE¼ sec.36, T.1 S., R.10 E., on left bank at Whitlow damsite, 2½ miles upstream from Whitlow Canyon, 4 miles northeast of Florence Junction, and 10 miles west of Superior.

Drainage area.--144 sq mi.

Records available.--January 1896 to December 1897, January 1898 to August 1899 (fragmentary), February to September 1915 (gage heights only), October 1915 to September 1920, May 1948 to January 1959. Published as "at Whitlow's Ranch" 1896-99 and as "near Superior" 1915-20.

Gage.--Water-stage recorder. Datum of gage is 2,045.70 ft above mean sea level, datum of 1929, supplementary adjustment of 1949. Jan. 25, 1896, to Aug. 11, 1899, staff gage at site 300 ft upstream and Feb. 14, 1915, to Sept. 30, 1920, staff gage at site 1 mile downstream at different datums. May 1, 1948, to Aug. 19, 1954, water-stage recorder and concrete control at site 300 ft upstream at datum 3.26 ft higher.

Average discharge.--14 years (1916-20, 1948-58), 5.69 cfs (4,120 acre-ft per year); median of yearly mean discharges, 4.1 cfs (3,000 acre-ft per year).

Extremes.--1915-20, 1948-59: Maximum discharge, 42,900 cfs Aug. 19, 1954 (gage height, 19.8 ft, present datum, from floodmarks); from rating curve extended above 2,000 cfs on basis of slope-area measurement of peak flow; no flow at times in each year.

Remarks.--Small diversions above station for irrigation and municipal and mining use, mostly by pumping from ground-water basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	6.4	0	0	0	0	0	0.99	14.4	0	1.85
1952	0	0.6	13.1	16.6	0	27.3	7.07	2.41	1.71	1.11	.31	0.07	5.93
1953	0	3.85	.90	.10	0.47	30.5	.52	1.28	.68	4.02	.45	.02	3.61
1954	0	0	0	.44	0	49.7	.20	.20	.08	.65	106	2.78	13.6
1955	2.08	1.10	.58	1.11	.58	.38	.30	.11	10.2	18.7	29.3	1.46	5.55
1956	.77	.54	2.37	2.79	.01	0	0	0	0	3.48	5.05	0	1.27
1957	0	0	0	5.43	.37	0	0	0	.003	3.52	17.2	.19	2.27
1958	8.52	.05	0	0	4.45	17.6	8.90	1.54	1.71	.30	.03	2.84	3.63
1959	2.05	0	0	0	-	-	-	-	-	-	-	-	-
1960													

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	391	0	0	0	0	0	61	887	0	1,340
1952	0	34	805	1,020	0	1,680	420	148	102	68	19	4.4	4,300
1953	0	229	56	6.1	26	1,870	31	79	40	247	27	1.4	2,610
1954	0	0	0	27	0	3,060	12	12	4.6	40	6,510	166	9,830
1955	128	66	36	68	32	23	18	6.5	605	1,150	1,800	87	4,020
1956	47	32	146	171	.8	0	0	0	0	214	311	0	922
1957	0	0	0	334	20	0	0	0	.2	216	1,060	12	1,640
1958	524	3.0	0	0	247	1,080	530	94	102	18	11.6	169	2,770
1959	126	0	0	0	-	-	-	-	-	-	-	-	-
1960													

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	2.1	1,490
1951	1213	1,510	Aug. 3, 1951	0	1.85	1,340	3.01	2,180
1952	1243	1,170	Jan. 18, 1952	0	5.93	4,300	5.17	3,750
1953	1283	1,780	July 29, 1953	0	3.61	2,610	3.22	2,330
1954	1343	42,900	Aug. 19, 1954	0	13.6	9,830	13.9	10,060
1955	1393	5,430	Aug. 3, 1955	0	5.55	4,020	5.55	4,010
1956	1443	4,100	Aug. 17, 1956	0	1.27	922	.96	697
1957	1513	8,260	Aug. 19, 1957	0	2.27	1,640	3.00	2,170
1958	1563	3,970	Mar. 22, 1958	0	3.83	2,770	3.28	2,370
1959	1633	a480	Oct. 6, 1958	-	-	-	-	-
1960								

a For period October 1958 to January 1959.

4795. Gila River near Laveen, Ariz.

Location.--Lat 33°15'25", long 112°09'59", in SW 1/4 NW 1/4 sec.16, T.2 S., R.2 E., in Gila River Indian Reservation, on left abutment of highway bridge, 2.1 miles upstream from Santa Cruz River, 2.6 miles south of Komatke, and 7.3 miles south of Laveen.

Drainage area.--20,615 sq mi, of which 696 sq mi is in Mexico.

Records available.--January 1940 to September 1946, December 1947 to September 1960.

Gage.--Water-stage recorder above concrete diversion dam. Datum of gage is 1,018.90 ft above mean sea level, datum of 1929, supplementary adjustment of 1949. Since Oct. 16, 1940, supplementary staff gage or water-stage recorder on overflow channel at highway bridge a quarter of a mile south at datum 0.23 ft lower.

Average discharge.--18 years (1940-46, 1948-60), 31.3 cfs (22,660 acre-ft per year); median of yearly mean discharges, 19 cfs (13,800 acre-ft per year).

Extremes.--1940-60: Maximum discharge, 11,900 cfs Jan. 2, 1941 (gage height, 9.33 ft); no flow at times in many years.

Remarks.--Records include flow over dam, through sluice gate in dam, and in overflow channel, but do not include flow in cooperative canal which diverts at dam. Large diversions above station for irrigation. Flow partly regulated by storage in San Carlos reservoir (see p. 502).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.07	0.17	2.22	2.40	0.32	2.14	0.27	0.28	0.49	11.5	103	6.12	11.1
1952	.10	.11	.01	120	13.2	3.38	1.12	.55	.02	6.87	28.6	.28	14.7
1953	.43	11.2	4.4	5.3	5.5	5.7	2.7	2.69	.03	30.5	.9	.1	5.82
1954	0	0	0	0	.03	46.5	2.25	.055	0	97.5	644	38.4	70.3
1955	.02	.44	.23	.70	.15	0	0	0	0	249	895	2.58	97.5
1956	0	0	.31	1.65	.41	.01	0	.05	.08	.01	.01	0	.21
1957	0	0	0	8.02	0	.17	.03	0	0	1.48	9.72	0	1.65
1958	.91	17.5	0	.01	3.76	5.10	.30	0	.65	5.97	92.4	38.1	13.8
1959	.96	0	0	0	0	0	0	0	0	33.2	65.4	0	8.45
1960	10.5	25.7	102	165	0	0	0	0	0	0	0	.12	25.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	128	10	136	147	18	132	16	17	29	708	6,340	364	8,040
1952	6.3	6.3	.8	7,380	762	208	67	34	1.0	422	1,760	17	10,660
1953	26	666	272	325	305	351	163	165	1.8	1,870	54	7.9	4,210
1954	0	0	0	0	1.8	2,860	134	3.4	0	6,000	26,630	2,290	50,920
1955	1.0	26	14	43	8.3	0	0	0	0	15,330	55,000	153	70,580
1956	0	0	19	101	24	.8	0	3.4	4.6	.8	.8	0	154
1957	0	0	0	493	0	.11	1.8	0	0	91	597	0	1,190
1958	56	1,040	0	.6	209	313	18	0	39	367	5,680	2,260	9,980
1959	59	0	0	0	0	0	0	0	0	2,040	4,020	0	6,120
1960	647	1,520	6,300	10,150	0	0	0	0	0	0	0	6.9	18,620

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	16.7	12,100
1951	1213	-	-	0	11.1	8,040	10.8	7,780
1952	1243	1,210	Aug. 29, 1951	0	14.7	10,660	16.0	11,620
1953	1283	565	July 31, 1953	0	5.82	4,210	4.49	3,240
1954	1343	4,510	Aug. 8, 1954	0	70.3	50,920	70.4	50,960
1955	1393	3,230	Aug. 24, 1955	0	97.5	70,580	97.5	70,550
1956	1443	46	Jan. 31, 1956	0	.21	154	.19	135
1957	1513	446	Aug. 20, 1957	0	1.65	1,190	3.16	2,290
1958	1563	995	Aug. 19, 1958	0	13.8	9,980	12.4	8,950
1959	1633	934	Aug. 19, 1959	0	8.45	6,120	20.1	14,530
1960	1713	1,760	Jan. 14, 1960	0	25.7	18,620	-	-

4800. Santa Cruz River near Lochiel, Ariz.

Location.--Lat 31°21'20", long 110°35'25", in SW $\frac{1}{4}$ sec.11, T.24 S., R.17 E. (unsurveyed), on southern border of Spanish land grant of San Rafael, near left bank on downstream side of pier of bridge on county road, 1 $\frac{1}{2}$ miles upstream from international boundary and 2 $\frac{1}{2}$ miles northeast of Lochiel.

Drainage area.--82.2 sq mi.

Records available.--January 1949 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,620 ft (from topographic map).

Average discharge.--11 years (1949-60), 3.66 cfs (2,650 acre-ft per year); median of yearly mean discharges, 1.8 cfs (1,300 acre-ft per year).

Extremes.--1949-60: Maximum discharge, 4,520 cfs July 30, 1950 (gage height, 6.75 ft), from rating curve extended above 1,400 cfs on basis of slope-area measurement of peak flow; maximum gage height, 8.30 ft Aug. 6, 1955; no flow for many days in each year.

Remarks.--Small diversions for irrigation of 200 acres above station, mostly by pumping from ground water.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.48	0.52	0.45	0.73	0.40	0.27	0.33	0.16	0	3.24	†15.7	†4.73	†2.45
1952	.87	1.05	1.01	1.01	.55	.67	.49	.07	.07	.15	3.93	.12	.84
1953	.06	.19	.12	.06	.09	.24	.09	.02	0	36.9	.45	0	3.25
1954	0	0	0	.06	.10	.12	.02	0	0	15.3	25.4	2.71	3.71
1955	.50	.37	.58	.52	.35	.08	.01	0	0	13.8	165	18.7	16.9
1956	5.47	1.52	1.20	.84	.81	.24	.22	.02	0	4.95	.39	.02	1.30
1957	0	0	.09	.24	.29	.21	.22	.06	0	1.68	7.45	0	.87
1958	.002	.024	.061	.085	.135	.18	.15	.073	0	1.97	4.82	3.65	.936
1959	2.17	1.16	1.03	.72	.69	.45	.08	.06	0	.75	5.92	.79	1.16
1960	.88	.77	.60	1.14	1.09	.92	.311	.036	0	1.25	1.20	.103	.693

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	153	51	28	45	22	17	20	10	0	200	†964	282	†1,770
1952	54	62	62	62	32	41	29	4.6	4.4	9.5	242	7.1	610
1953	3.6	12	7.3	3.6	5.0	15	5.6	1.0	0	2,270	28	0	2,350
1954	0	0	0	3.6	5.4	7.3	1.0	0	0	942	1,560	161	2,680
1955	31	22	36	32	19	5.0	0.4	0	0	846	10,120	1,110	12,220
1956	337	90	74	39	46	15	13	1.4	0	304	24	1.2	945
1957	0	0	5.6	15	16	13	13	4.0	0	104	458	0	629
1958	0.1	1.4	3.8	5.3	7.5	11	8.7	4.5	0	121	297	217	677
1959	133	69	63	44	38	27	4.6	3.8	0	46	364	47	839
1960	54	46	37	70	62	57	19	2.2	0	77	74	6.1	504

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	8.37	6,060
1951	1213	2,560	Aug. 2, 1951	0	†2.45	†1,770	†2.40	†1,740
1952	1243	550	Aug. 16, 1952	0	.84	610	.62	454
1953	1283	3,320	July 14, 1953	0	3.25	2,350	3.22	2,330
1954	1343	1,570	July 22, 1954	0	3.71	2,680	3.83	2,770
1955	1393	4,300	Aug. 6, 1955	0	16.9	12,220	17.4	12,630
1956	1443	1,360	July 17, 1956	0	1.30	945	.62	449
1957	1513	688	Aug. 9, 1957	0	.87	629	.867	628
1958	1563	380	Aug. 7, 1958	0	.936	677	1.30	937
1959	1633	243	Aug. 14, 1959	0	1.16	839	.98	711
1960	1713	625	July 30, 1960	0	.693	504	-	-

† Corrected.

4805. Santa Cruz River near Nogales, Ariz.

Location.--Lat 31°20'40", long 110°51'05", in NW $\frac{1}{4}$ sec.18, T.24 S., R.15 E. (unsurveyed), in Spanish land grant of Buena Vista, on left bank three-quarters of a mile downstream from international boundary, $\frac{5}{8}$ miles upstream from Yerba Buena damsite, and $\frac{5}{8}$ miles east of Nogales.

Drainage area.--533 sq mi, of which 348 sq mi is in Mexico.

Records available.--March to November 1907 and April 1909 to December 1912 (discharge measurements and fragmentary gage-height record), January 1913 to June 1922 (octoter 1915 to September 1916, monthly discharges only), May 1930 to December 1933, July 1935 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 3,702.54 ft above mean sea level, datum of 1929 (levels by International Boundary and Water Commission). Prior to June 30, 1922, staff gage or water-stage recorder at various sites 5 to 6 miles downstream at different datums.

Average discharge.--41 years (1912-22, 1929-60), 21.7 cfs (15,710 acre-ft per year); median of yearly mean discharges, 17 cfs (12,300 acre-ft per year).

Extremes.--1930-60: Maximum discharge, 12,000 cfs Aug. 31, 1935 (gage height, 12.3 ft), from rating curve extended above 2,300 cfs on basis of slope-area measurements at gage heights, 9.5 and 10.9 ft; maximum gage height, 13.71 ft Aug. 20, 1955; no flow at times in most years.

Flood of Dec. 22, 1914, probably exceeded that of Aug. 31, 1935.

Remarks.--Irrigated area above station of about 2,500 acres, of which all but 200 acres is in Mexico. No storage above station.

Note.--Listed in table below are yearly figures of runoff for previously incomplete water years that have been partly estimated on basis of correlation with records at Tucson and for San Pedro River at Charleston.

Water year	Mean	Runoff in acre-feet	Water year	Mean	Runoff in acre-feet
1913	4.83	3,500	1922	16.6	12,000
1915	104	75,000	1930	20.7	15,000
1916	17.2	12,500	1934	10.6	7,700
1920	20.7	15,000	1935	29.0	21,000
1921	30.4	22,000			

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.65	0.75	3.95	5.41	4.19	2.90	3.09	1.15	0.39	16.0	39.8	0.51	6.64
1952	.47	.84	1.74	5.41	3.46	18.5	5.42	1.88	.75	16.4	29.3	6.43	7.61
1953	1.10	2.06	4.08	3.85	4.59	9.67	4.28	1.69	5.00	52.3	1.48	5.58	7.24
1954	.42	.63	.93	1.04	1.05	25.7	1.02	2.74	.49	142	285	24.2	41.2
1955	8.29	6.16	5.55	6.69	6.16	4.32	2.70	.70	.22	68.3	745	60.3	77.4
1956	23.5	12.5	10.8	8.74	7.70	5.49	3.33	1.75	6.00	28.3	5.28	.29	9.52
1957	.18	1.04	2.46	3.99	4.58	3.68	1.48	1.00	.31	4.56	61.7	1.13	7.25
1958	.47	.41	1.56	3.62	3.73	13.5	2.66	.68	.62	30.0	175	93.1	27.4
1959	20.1	12.6	8.54	7.90	9.05	6.01	3.35	.55	.22	35.7	125	19.3	20.9
1960	5.05	19.2	32.4	272	47.0	15.0	7.46	2.92	.40	2.02	15.7	3.76	35.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	40	44	243	332	233	178	184	71	23	981	2,450	30	4,810
1952	29	50	107	333	199	1,140	323	115	45	1,010	1,800	383	5,530
1953	68	123	251	237	244	594	255	104	30	3,210	91	35	5,240
1954	26	38	57	64	59	1,580	60	168	30	8,740	17,550	1,440	29,810
1955	510	367	341	411	342	266	160	43	13	4,200	45,790	3,590	56,030
1956	1,450	745	661	538	443	338	198	108	357	1,740	325	17	6,920
1957	21	62	151	245	245	226	88	62	19	3,790	67	5,240	5,240
1958	29	24	96	223	207	829	158	42	37	1,640	10,800	5,540	19,820
1959	1,250	750	525	486	503	370	199	34	13	2,190	7,670	1,150	15,120
1960	311	1,140	1,990	16,710	2,710	920	444	180	24	124	968	224	25,740

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	27.0
1951	1213	3,040	Aug. 5, 1951	0.1	6.64	4,810	6.44
1952	1243	2,350	July 29, 1952	.1	7.61	5,530	7.97
1953	1285	5,500	July 14, 1953	.2	7.24	5,240	6.80
1954	1343	10,600	July 10, 1954	0	41.2	29,810	42.7
1955	1393	11,100	Aug. 20, 1955	.1	77.4	56,030	79.6
1956	1443	2,530	June 28, 1956	.1	9.52	6,920	5.90
1957	1513	1,620	Aug. 18, 1957	0	7.25	5,240	7.15
1958	1563	4,000	Aug. 13, 1958	.1	27.4	19,820	30.6
1959	1635	2,640	Aug. 6, 1959	.1	20.9	15,120	22.2
1960	1713	2,760	Jan. 11, 1960	.1	53.	25,740	-

4815. Sonoita Creek near Patagonia, Ariz.

Location--Lat 31°30'00", long 110°49'00", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.21, T.22 S., R.15 E., on left abutment of former railroad bridge, 5 miles downstream from Patagonia.

Drainage area--209 sq mi.

Records available--June 1930 to December 1933, July 1935 to September 1960 (monthly discharge only, July 1954 to March 1955).

Gage--Water-stage recorder. Datum of gage is 3,818.09 ft above mean sea level, datum of 1929, supplementary adjustment of 1959. Prior to Mar. 6, 1940, at site 2,700 ft downstream at datum 18.00 ft lower.

Average discharge--28 years (1930-33, 1935-60), 7.12 cfs (5,150 acre-ft per year); median of yearly mean discharges, 6.3 cfs (4,600 acre-ft per year).

Extremes--1930-60: Maximum discharge, 14,000 cfs Sept. 30, 1946 (gage height, 13.0 ft), from rating curve extended above 1,500 cfs on basis of slope-area measurement of peak flow; no flow at times in most years.

Remarks--Several small diversions for irrigation and mining above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.19	2.10	3.72	5.02	4.98	5.52	5.14	2.62	0.65	1.23	26.0	5.80	5.35
1952	3.87	1.71	2.68	4.42	4.40	8.76	5.82	2.28	.40	4.38	21.4	1.85	5.20
1953	2.38	4.03	5.71	5.02	4.87	4.50	2.91	1.25	.18	24.3	1.55	.23	4.78
1954	.03	.32	.99	1.11	.99	.87	.49	.06	0	45.1	59.0	11.1	10.2
1955	3.26	2.99	3.00	3.94	3.05	3.69	3.00	2.10	.44	24.6	151	12.0	18.0
1956	4.39	4.90	7.36	9.03	9.57	8.38	6.86	3.68	2.66	6.63	3.23	.55	5.60
1957	1.69	3.37	2.44	2.77	2.23	1.99	1.07	.40	.01	5.80	18.4	.05	3.05
1958	.06	1.14	1.92	2.48	2.54	10.1	2.41	.14	1.16	20.0	10.3	2.57	4.62
1959	3.02	2.07	4.75	4.32	4.11	3.87	3.40	2.18	2.17	10.6	29.7	3.81	6.22
1960	1.74	3.94	8.53	52.2	6.42	4.99	4.06	2.40	1.27	4.26	13.3	3.37	8.95

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	73	125	229	308	276	339	306	161	39	76	1,600	345	3,880
1952	238	102	165	272	253	539	346	140	24	270	1,320	110	3,780
1953	146	240	351	309	271	277	173	77	11	1,500	95	14	3,460
1954	1.6	19	61	68	55	53	29	3.8	0	2,770	3,630	662	7,350
1955	201	178	184	242	169	227	179	129	26	1,520	9,290	711	13,060
1956	270	292	452	555	551	515	408	227	158	408	199	33	4,070
1957	104	201	150	171	124	122	64	25	.8	234	1,010	3.2	2,210
1958	3.8	68	118	153	141	623	143	8.7	69	1,230	636	153	3,350
1959	186	123	292	266	228	†238	203	134	129	649	1,830	227	4,500
1960	107	235	524	3,210	369	307	241	148	75	262	820	200	6,500

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	12.3	8,880
1951	1213	5,030	Aug. 2, 1951	0.2	5.35	3,880	5.46	3,960
1952	1243	3,630	Aug. 14, 1952	.1	5.20	3,780	†5.52	4,010
1953	1283	2,870	July 14, 1953	0	4.78	3,460	3.87	2,810
1954	1343	4,670	July 20, 1954	0	10.2	7,350	10.8	7,830
1955	1393	6,920	Aug. 12, 1955	0	18.0	13,060	18.7	13,510
1956	1443	780	July 19, 1956	.4	5.60	4,070	4.83	3,510
1957	1513	4,860	Aug. 2, 1957	0	3.05	2,210	2.68	1,940
1958	1563	5,590	July 5, 1958	0	4.62	3,350	5.19	3,760
1959	1633	2,310	Aug. 24, 1959	-	6.22	4,500	6.58	4,770
1960	1713	1,550	Aug. 13, 1960	.3	8.95	6,500	-	-

† Corrected.

4820. Santa Cruz River at Continental, Ariz.

Location.--Lat 31°51'10", long 110°58'40", in NE¼NE¼ sec.23, T.18 S., R.13 E. (unsurveyed), in Spanish land grant of San Ignacio de la Canoa, near left bank on downstream side of pier of highway bridge at Continental.

Drainage area.--1,662 sq mi, of which 395 sq mi is in Mexico.

Records available.--May 1940 to December 1946, October 1951 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,836.35 ft above mean sea level, datum of 1929, supplementary adjustment of 1958.

Average discharge.--15 years (1940-46, 1951-60), 16.8 cfs (12,200 acre-ft per year); median of yearly mean discharges, 11 cfs (8,000 acre-ft per year).

Extremes.--1940-46, 1951-60: Maximum discharge, 17,500 cfs Aug. 19, 1955 (gage height, 11.34 ft), from rating curve extended above 4,600 cfs on basis of float-area measurements at gage heights 7.90 and 8.85 ft; no flow for most of each year.

Remarks.--Diversion for irrigation above station of about 12,500 acres, including about 2,300 acres in Mexico, mostly by pumping from ground water.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952	7.32	0	0	0	0	0	0	0	0	9.02	26.7	10.4	4.49
1953	0	0	0	0.01	0.02	0	0	0	0	113	.70	0	9.63
1954	0	0	0	0	0	7.20	0	0	2.43	227	342	37.7	52.2
1955	.13	0	0	0	0	0	0	0	0	47.4	753	.02	68.0
1956	.02	0	0	0	0	0	0	0	0	16.4	0	0	1.40
1957	0	0	0	0	0	0	0	0	0	4.66	15.2	0	1.69
1958	.023	0	0	0	0	0	0	0	0	48.0	164	20.1	19.7
1959	0	0	0	0	0	0	0	0	1.93	10.1	78.5	.01	7.69
1960	0	0	2.34	191	0	0	0	0	0	6.87	22.9	10.4	19.7

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952	450	0	0	0	0	0	0	0	0	555	1,640	617	3,260
1953	0	0	0	0.6	1.0	0	0	0	0	6,930	43	0	6,970
1954	0	0	0	0	0	443	0	0	145	13,940	21,000	2,240	†37,770
1955	7.9	0	0	0	0	0	0	0	0	2,910	46,300	1.0	49,220
1956	1.4	0	0	0	0	0	0	0	0	1,010	0	0	1,010
1957	0	0	0	0	0	0	0	0	0	266	935	0	1,220
1958	1.4	0	0	0	0	0	0	0	0	2,950	10,090	1,190	14,230
1959	0	0	0	0	0	0	0	0	115	620	4,830	.8	5,570
1960	0	0	144	1,730	0	0	0	0	0	422	1,410	621	14,330

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952	1283	1,820	Aug. 15, 1952	0	4.49	3,260	3.87	2,810
1953	1283	4,910	July 14, 16, 1953	0	9.63	6,970	9.63	6,970
1954	1343	14,600	Aug. 5, 1954	0	52.2	†37,770	52.2	37,780
1955	1393	17,500	Aug. 19, 1955	0	68.0	49,220	68.0	49,210
1956	1443	3,090	July 29, 1956	0	1.40	1,010	1.39	1,010
1957	1513	1,690	Aug. 21, 1957	0	1.69	1,220	1.69	1,220
1958	1563	5,620	Aug. 5, 1958	0	19.7	14,230	19.7	14,230
1959	1633	3,900	Aug. 17, 1959	0	7.69	5,570	7.89	5,710
1960	1713	3,740	Jan. 12, 1960	0	19.7	14,330	-	-

† Corrected.

4825. Santa Cruz River at Tucson, Ariz.

Location.--Lat 32°13'15" long 110°58'50", in NE 1/4 sec. 14, T. 14 S., R. 13 E., on downstream side of pier of Congress Street Bridge in Tucson.

Drainage area.--2,222 sq mi, of which 395 sq mi is in Mexico, adjusted for 15.2 sq mi of Tucson Arroyo drainage area contributing to this station effective July 1956.

Records available.--October 1905 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,322.90 ft above mean sea level, datum of 1929. Prior to Nov. 27, 1929, staff gages or reference points for measuring to water surface at various places on bridge at various datums. Nov. 27, 1929, to June 18, 1958, at datum 4.00 ft higher.

Average discharge.--55 years (1905-60), 21.6 cfs (15,640 acre-ft per year); median of yearly mean discharges, 15 cfs (10,900 acre-ft per year).

Extremes.--1905-60: Maximum discharge, about 15,000 cfs Dec. 23, 1914, from rating curve extended above 9,000 cfs; no flow for most of each year.

Remarks.--Large diversions above station, mostly by pumping from ground water, for irrigation of about 2,300 acres in Mexico and about 23,700 acres in the United States, and small diversions for municipal supply and mining.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0.55	0	0	27.6	87.3	2.1	9.98
1952	17.4	.19	.58	0	0	0	.24	0	0	14.6	48.5	17.4	8.33
1953	0	4.14	.03	0	.02	.01	0	0	0	152	1.44	0	13.4
1954	0	0	.04	.01	0	2.92	0	0	24.7	276	238	46.0	49.7
1955	3.23	0	0	.22	0	.003	0	0	0	131	682	.23	69.3
1956	.74	0	0	.01	0	0	0	0	.58	18.0	1.56	0	1.77
1957	0	0	0	.17	.01	.06	0	.05	.003	3.94	27.2	4.93	3.08
1958	4.52	.25	.20	0	.68	.64	.23	0	.03	110	157	15.4	24.5
1959	1.26	.02	0	0	0	0	0	0	0	26.7	83.7	.07	9.49
1960	.006	.08	1.47	140	.32	.21	0	0	.007	2.34	57.9	10.4	18.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	33	0	0	1,700	5,370	127	7,230
1952	1,070	11	36	0	0	0	14	0	0	901	2,980	1,040	6,050
1953	0	246	1.8	0	1.4	.8	0	0	0	9,370	89	0	9,710
1954	0	0	2.4	.8	0	2	180	0	1,470	16,950	14,630	2,740	35,970
1955	198	0	0	13	0	0	0	0	0	8,040	41,920	14	50,180
1956	46	0	0	.8	0	0	0	0	35	1,110	96	0	1,290
1957	0	0	0	11	.6	4.0	0	2.8	.2	242	1,670	294	2,220
1958	278	15	12	0	38	39	13	0	1.8	6,780	9,640	917	17,730
1959	78	1.0	0	0	0	0	0	0	0	1,640	5,150	4.0	6,870
1960	.4	4.6	90	8,580	18	13	0	0	.4	144	3,560	620	13,030

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	39.9	28,880
1951	1213	5,020	Aug. 2, 1951	0	9.98	7,230	11.5	8,350
1952	1243	3,820	Aug. 16, 1952	0	8.33	6,050	7.14	5,180
1953	1283	5,900	July 15, 1953	0	13.4	9,710	13.1	9,460
1954	1343	9,570	July 24, 1954	0	49.7	35,970	49.9	36,170
1955	1393	10,900	Aug. 3, 1955	0	69.3	50,180	69.1	50,030
1956	1443	2,610	July 29, 1956	0	1.77	1,290	1.71	1,240
1957	1513	3,050	Aug. 31, 1957	0	3.08	2,220	3.50	2,530
1958	1563	6,350	July 29, 1958	0	24.5	17,730	24.2	17,510
1959	1633	4,420	Aug. 20, 1959	0	9.49	6,870	9.51	6,890
1960	1713	6,140	Aug. 10, 1960	0	18.0	13,030	-	-

4830. Tucson Arroyo at Vine Avenue, Tucson, Ariz.

Location.--Lat 32°13'00", long 110°57'00", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.18, T.14 S., R.14 E., on right bank at Vine Avenue, a quarter of a mile downstream from Arroyo Chico and $2\frac{1}{4}$ miles upstream from mouth.

Drainage area.--Original area prior to August 1945, 27.0 sq mi; subsequently reduced to following areas by flood-control diversion structures: August 1945 to June 1953, 23.4 sq mi; June 1953 to June 1954, 18.1 sq mi; June 1954 to June 1956, 15.9 sq mi; since June 1956, 8.2 sq mi. The contributing area above an overflow spillway on main interceptor canal is not included in the latter area. See Remarks.

Records available.--June 1944 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 2,411.9 ft above mean sea level (city of Tucson bench mark).

Average discharge.--8 years (1944-52), 0.68 cfs (492 acre-ft per year), representing flow from 23.4 sq mi.

Extremes.--1944-60: Maximum discharge, 4,100 cfs July 24, 1948 (gage height, 9.9 ft), from rating curve extended above 1,800 cfs on basis of conveyance-extension determination of peak flow; no flow for most of each year.

Remarks.--A flood-control project diverted runoff from 15.2 sq mi at upper end of basin into a flood-control detention reservoir in SE $\frac{1}{4}$ sec.23, T.14 S., R.14 E., from which reservoir water is released to Julian Wash, which enters Santa Cruz River upstream from Tucson Arroyo. An overflow spillway on main interceptor canal in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.22, T.14 S., R.14 E., allows overflow to Tucson Arroyo when canal discharge exceeds about 1,000 cfs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0.69	0	0	0.54	2.85	0	0.34
1952	1.77	.07	.08	0	.13	.15	0	0	0	.19	8.21	0	.87
1953	0	1.32	0	0	.08	.13	0	0	.03	11.7	0	0	1.12
1954	0	0	0	.16	.03	1.14	0	0	.43	8.88	2.27	4.24	1.44
1955	0	0	0	.48	0	0	0	0	0	7.90	6.76	.07	1.29
1956	.8	0	.14	.79	.09	0	.04	0	0	.36	1.33	0	.30
1957	0	0	0	1.30	.01	.46	.03	.26	0	1.85	1.25	.06	.44
1958	3.25	.39	.28	0	1.11	.79	0	0	.39	3.34	1.42	2.14	1.11
1959	.1	.27	0	0	.01	0	.20	0	.003	4.75	7.48	.08	1.08
1960	.19	.12	2.83	1.67	.28	.02	0	0	0	.09	1.76	.02	.59

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	41	0	0	33	175	0	249
1952	109	4.2	5.0	0	0	7.9	8.9	0	0	12	487	0	†634
1953	0	78	0	0	4.4	7.9	0	0	1.8	718	0	0	810
1954	0	0	0	9.9	1.8	70	0	0	25	546	159	252	1,040
1955	0	0	0	30	0	0	0	0	0	486	416	4.2	936
1956	48	0	8.3	49	5.2	0	2.4	0	0	22	82	0	217
1957	0	0	0	80	.6	28	1.6	16	0	113	77	3.4	320
1958	199	23	17	0	61	49	12	0	23	205	87	127	803
1959	7.9	16	0	0	.8	0	0	0	.2	292	459	5.0	781
1960	12	7.3	174	103	16	1.0	0	0	0	5.6	108	1.0	428

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	0.80	581
1951	1213	676	Aug. 2, 1951	0	0.34	249	.51	368
1952	1243	1,780	Aug. 15, 1952	0	.87	†634	.82	594
1953	1283	3,240	July 14, 1953	0	1.12	810	1.01	732
1954	1343	1,970	July 20, 1954	0	1.44	1,040	1.44	1,040
1955	1393	1,960	July 31, 1955	0	1.29	936	1.37	992
1956	1443	364	Aug. 26, 1956	0	.30	217	.22	160
1957	1513	716	July 17, 1957	0	.44	320	.77	559
1958	1563	860	Sept. 11, 1958	0	1.11	803	.81	588
1959	1633	2,540	Aug. 20, 1959	0	1.08	781	1.31	950
1960	1713	609	Aug. 20, 1960	0	.59	428	-	-

† Corrected.

4831. Tanque Verde Creek near Tucson, Ariz.

Location.--Lat 32°14'48", long 110°40'46", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.2, T.14 S., R.16 E., on right bank 4.4 miles east of Tanque Verde School, 7.4 miles upstream from Agua Caliente Wash, 7.8 miles northwest of Spudrock, and 17.5 miles east of Tucson.

Drainage area.--43.0 sq mi.

Records available.--October 1959 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 2,720 ft (from topographic map).

Extremes.--1959-60: Maximum discharge, 789 cfs Jan. 11, 1960 (gage height, 2.83 ft); no flow for long periods.

Remarks.--Small diversions mostly for domestic use above and below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	0.3	4.38	25.0	94.2	11.3	8.03	0.723	0.020	0	0	0	0.11	12.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	16	261	1,540	5,790	652	494	43	1.2	0	0	0	6.3	8,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1960	1713	789	Jan. 11, 1960	0	12.1	8,800	-	-

4833. Sabino Creek near Mount Lemmon, Ariz.

Location.--Lat 32°25'20", long 110°45'05", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.6, T.12 S., R.16 E., on left bank 250 ft downstream from Bear Wallow Creek, $\frac{1}{2}$ miles south of Mount Lemmon Post Office, and 18 miles northeast of Tucson.

Drainage area.--3.19 sq mi.

Records available.--May 1951 to March 1959.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 7,250 ft (from topographic map).

Average discharge.--7 years (1951-58), 1.63 cfs (1,180 acre-ft per year).

Extremes.--1951-59: Maximum discharge, 344 cfs Mar. 23, 1954 (gage height, 11.3 ft), from rating curve extended above 50 cfs on basis of slope-area measurement of peak flow; no flow for several days in most years.

Remarks.--Small diversions for domestic use above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	0.682	0.011	0.445	4.13	0.438	-
1952	0.70	2.32	3.60	15.6	0.97	3.35	11.5	3.17	.35	.22	.71	.17	3.57
1953	.022	.159	.42	.67	.39	3.17	.94	.245	.065	5.27	.35	.013	.817
1954	0	0	.005	.030	.26	14.0	1.01	.214	.037	.872	2.95	1.48	1.76
1955	.40	.151	.107	.27	.99	1.09	.35	.101	.041	.233	9.11	.67	1.14
1956	.081	.072	.091	.085	.41	.28	.110	.026	0	.364	.113	.027	.138
1957	.002	.0003	.008	6.78	5.98	1.85	.87	.185	.018	.084	2.23	.211	1.50
1958	1.78	1.87	1.74	.41	1.52	9.89	9.69	1.08	.20	.37	.82	.14	2.46
1959	1.54	.58	.25	.099	.360	.25	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	42	0.7	27	254	26	-
1952	43	138	221	958	56	206	686	195	21	13	44	10	2,590
1953	1.3	9.4	26	41	22	195	56	15	3.9	201	21	.8	592
1954	0	0	.3	1.9	14	861	60	13	2.2	54	181	88	1,280
1955	25	9.0	6.6	17	55	67	21	6.2	2.4	14	560	40	823
1956	5.0	4.3	5.6	5.2	24	17	6.5	1.6	0	22	6.9	1.6	100
1957	.1	.02	.5	417	332	114	52	11	1.1	5.2	137	13	1,080
1958	109	111	107	25	85	608	577	66	12	23	50	8.4	1,780
1959	95	34	15	6.1	†20	16	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950							
1951	1213	a180	July 23, 1951	-	-	-	-
1952	1283	262	Jan. 13, 1952	0.02	3.57	2,590	3.19
1953	1283	219	July 16, 1953	0	.817	592	.767
1954	1343	344	Mar. 23, 1954	0	1.76	1,280	1.82
1955	1593	329	Aug. 23, 1955	0	1.14	823	1.10
1956	1443	68	July 20, 1956	0	.138	100	.118
1957	1513	197	Jan. 9, 1957	0	1.50	1,080	1.95
1958	1563	116	Mar. 22, 1958	0	2.46	1,780	2.21
1959	1633	b73	Oct. 5, 1958	-	-	-	-
1960							

a Maximum for period May to September 1951.

b Maximum for period October 1958 to March 1959.

4840. Sabino Creek near Tucson, Ariz.

Location.--Lat 32°19'00", long 110°48'35", in SE 1/4 sec. 9, T.13 S., R.15 E., on right bank half a mile north of Coronado National Forest boundary and 12 miles northeast of Tucson.

Drainage area.--35.5 sq mi.

Records available.--July 1904 to June 1912 (monthly discharge only), June 1932 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 2,720 ft (from topographic map). July 1904 to June 1912 water-stage recorder and sharp-crested weir at site half a mile upstream at different datum.

Average discharge.--35 years (1904-11, 1932-60), 11.7 cfs (8,470 acre-ft per year); median of yearly mean discharges, 8.5 cfs (6,200 acre-ft per year).

Extremes.--1932-60: Maximum discharge, 5,110 cfs Mar. 23, 1954 (gage height, 8.43 ft), from rating curve extended above 3,000 cfs by logarithmic plotting based on rating for spillway of dam 1,000 ft downstream; no flow at times in most years.

Remarks.--No diversion above station except for domestic supply.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.010	0.010	0.013	0.030	0.029	0.354	5.74	2.47	0.005	0.93	24.6	2.44	3.09
1952	5.32	27.9	24.5	67.7	3.55	48.3	34.4	7.37	.32	2.42	7.90	.16	19.3
1953	0	1.23	5.49	3.49	1.09	24.0	1.84	.135	.002	19.9	2.02	.013	5.01
1954	0	0	.16	.408	2.07	120	3.43	.117	.002	28.6	31.9	12.9	16.9
1955	1.58	.048	.059	3.44	6.14	3.02	.454	.026	.005	8.26	70.0	1.79	8.00
1956	.025	.010	.011	.032	3.29	.78	.111	.007	0	1.11	.950	.005	.518
1957	0	0	.008	49.7	37.4	20.1	4.74	.546	.008	0	24.4	.502	11.3
1958	13.0	20.2	11.1	1.72	14.3	115	54.2	5.10	.047	1.59	9.56	1.45	20.7
1959	15.2	3.36	1.47	.45	1.99	.43	.030	.001	0	21.6	22.6	1.30	5.79
1960	14.4	12.3	59.5	106	27.3	26.3	5.84	.378	.004	1.35	.747	.293	21.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.63	0.60	0.79	1.9	1.1	†22	341	152	0.32	57	1,510	145	2,230
1952	327	1,660	1,510	4,160	204	2,970	2,040	453	19	149	486	9.4	13,990
1953	0	73	338	215	60	1,480	109	8.3	.1	1,220	124	.8	3,630
1954	0	0	1.0	25	115	7,390	204	7.2	.1	1,760	1,960	765	12,230
1955	97	2.8	3.6	211	341	185	27	1.6	.3	508	4,510	107	5,790
1956	1.5	.6	.7	2.0	189	48	6.6	.4	0	68	58	.3	375
1957	0	0	.5	3,060	2,070	1,230	282	34	.5	0	1,500	30	8,210
1958	799	1,200	684	106	793	7,100	3,230	313	2.8	98	588	86	15,000
1959	936	200	90	27	111	26	1.8	.08	0	1,330	1,390	77	4,190
1960	887	732	5,660	6,530	1,570	1,620	347	23	.2	83	46	17	15,520

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Acre-feet
		Discharge	Date				
1950	-	-	-	-	-	-	-
1951	1213	750	Aug. 2, 1951	0	3.09	2,230	2.27
1952	1243	1,640	Jan. 13, 1952	0	19.3	13,990	7.91
1953	1283	861	July 16, 1953	0	5.01	3,630	15.0
1954	1243	5,110	Mar. 23, 1954	0	16.9	12,230	4.44
1955	1393	2,000	Aug. 3, 1955	0	8.00	5,790	17.0
1956	1443	55	Aug. 11, 1956	0	.518	375	7.86
1957	1513	2,030	Jan. 9, 1957	0	11.3	8,210	5.15
1958	1563	1,500	Mar. 22, 1958	0	20.7	15,000	15.0
1959	1633	4,240	July 26, 1959	0	5.79	4,190	18.7
1960	1713	1,600	Dec. 24, 1959	0	21.4	15,520	11.4

4842. Bear Creek near Tucson, Ariz.

Location.--Lat 32°18'20", long 110°48'03", in NW¼ sec.15, T.13 S., R.15 E., on left bank 0.8 mile upstream from mouth and 15 miles northeast of Tucson.

Drainage area.--16.3 sq mi.

Records available.--October 1959 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 2,670 ft (from topographic map).

Extremes.--1959-60: Maximum discharge, 575 cfs Jan. 11, 1960 (gage height, 2.30 ft); no flow for many days.

Remarks.--Minor regulation and diversion for domestic and recreational use above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	5.07	4.01	18.9	56.9	11.5	5.42	0.160	0.005	0	0	0.007	0.001	8.56

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	312	239	1,180	3,500	662	333	9.5	0.3	0	0	0.4	0.08	6,220

4846. Pantano Wash near Vail, Ariz.

Location.--Lat 32°02'09", long 110°40'37", in SW¼SE¼ sec.14, T.16 S., R.16 E., on right bank 60 ft upstream from dam, 2.2 miles southeast of Vail, 2.4 miles southwest of Pistol Hill, and 20 miles southeast of Tucson.

Drainage area.--457 sq mi.

Records available.--January 1959 to September 1960

Gage.--Water-stage recorder and concrete control. Altitude of gage is 3,205 ft (from topographic map).

Extremes.--1959-60: Maximum discharge, 9,310 cfs Aug. 17, 1959 (gage height, 9.60 ft); minimum not determined.

A flood of about 38,000 cfs occurred Aug. 11, 1958 (gage height, about 24 ft, from floodmarks).

Remarks.--Records published herein represent combined flow over dam, leakage through pipe in dam, and diversion into tunnel from infiltration chamber at upstream side of dam. Base runoff past station consists of down-valley underflow that is brought to the surface by the concrete dam 60 ft downstream which extends to bedrock.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	1.75	1.86	1.54	1.29	1.05	1.29	31.1	55.4	1.44	-
1960	6.50	1.11	1.40	17.7	3.17	2.25	1.61	1.55	1.33	4.08	23.1	2.97	5.62

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	108	103	95	77	65	77	1,910	3,400	85	-
1960	400	66	86	1,090	182	138	96	95	79	251	1,420	177	4,080

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1959	1713	9,310	Aug. 17, 1959	-	-	-	8.95	6,470
1960	1713	7,300	Aug. 9, 1960	-	5.62	4,080	-	-

4850. Rincon Creek near Tucson, Ariz.

Location.--Lat 32°07'50", long 110°37'30", in NE¼ sec.17, T.15 S., R.17 E., a quarter of a mile north of Sentinel Butte, 9 miles upstream from mouth, and 20 miles southeast of Tucson.

Drainage area.--44.8 sq mi.

Records available.--October 1952 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 3,120 ft (from topographic map).

Average discharge.--8 years (1952-60), 4.42 cfs (3,200 acre-ft per year).

Extremes.--1952-60: Maximum discharge, 8,250 cfs Aug. 3, 1955 (gage height, 9.90 ft, from floodmarks), from rating curve extended above 1,800 cfs on basis of slope-area measurement of peak flow; no flow for many days in each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	0	0	0	0	0	6.10	0.12	0	0	2.17	1.24	0	0.82
1954	0	0	0	0	0	12.1	.11	0	0	3.29	29.4	.05	3.82
1955	.10	0	0	0	0	0	0	0	0	12.6	64.0	.71	6.57
1956	.42	.10	.09	.08	0	0	0	0	0	.16	0	0	.07
1957	0	0	0	†35.5	6.59	3.06	.47	0	0	.02	32.4	10.9	†7.47
1958	0	.81	1.74	.24	.30	42.5	13.6	.18	0	1.26	7.47	.02	5.75
1959	9.38	2.94	.78	.13	.10	.04	0	0	0	.19	22.7	.07	3.06
1960	.04	1.14	6.46	62.7	15.1	7.54	.43	.04	0	0	0	0	7.82

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	0	0	0	0	0	375	7.1	0	0	133	76	0	591
1954	0	0	0	0	0	747	6.5	0	0	202	1,810	3.0	2,770
1955	6.0	0	0	0	0	0	0	0	0	775	3,930	42	4,750
1956	26	6.0	5.6	4.8	0	0	0	0	0	9.9	0	0	52
1957	0	0	0	†2,180	366	190	28	0	0	1.0	1,990	648	†5,400
1958	0	48	107	14	17	2,610	811	11	0	77	459	1.0	4,160
1959	577	175	48	7.9	5.6	2.4	0	0	0	12	1,400	4.2	2,230
1960	2.4	68	357	3,850	867	463	26	2.4	0	0	0	0	5,680

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953	1283	194	July 30, 1953	0	0.82	591	0.82	591
1954	1343	2,160	Aug. 19, 1954	0	3.82	2,770	3.83	2,770
1955	1393	8,250	Aug. 3, 1955	0	6.57	4,750	6.61	4,780
1956	1443	150	July 20, 1956	0	.07	52	.02	15
1957	1513	3,570	Jan. 9, 1957	0	†7.47	†5,400	7.68	5,560
1958	1563	492	Mar. 22, 1958	0	5.75	4,160	6.64	4,800
1959	1633	5,220	Oct. 21, 1958	0	3.08	2,230	2.62	1,900
1960	1713	747	Jan. 12, 1960	0	7.82	5,680	-	-

† Corrected.

4860. Rillito Creek near Tucson, Ariz.

Location.--Lat 32°17'40", long 110°59'05", in SW¹/₄SE¹/₄ sec.14, T.13 S., R.13 E., on right bank 1,100 ft downstream from Pima Canyon, 2,300 ft downstream from bridge on U. S. Highway 89, 4¹/₂ miles upstream from mouth, and 5 miles north of Tucson.

Drainage area.--918 sq mi.

Records available.--October 1908 to September 1960 (prior to October 1917, monthly discharge only).

Gage.--Water-stage recorder. Datum of gage is 2,283.98 ft above mean sea level, datum of 1929, supplementary adjustment of 1954. Prior to July 19, 1945, water-stage recorder or staff gages at site of former highway bridge 1,800 ft upstream at various datums. July 19, 1945, to Dec. 18, 1955, at datum 4.01 ft higher.

Average discharge.--52 years (1908-60), 16.9 cfs (12,240 acre-ft per year); median of yearly mean discharges, 8.4 cfs (6,100 acre-ft per year).

Extremes.--1908-60: Maximum discharge, 24,000 cfs Sept. 23, 1929 (gage height, 24 ft from floodmark, site and datum then in use), from rating curve extended above 12,000 cfs on basis of velocity-area studies; no flow for most of each year.

Remarks.--Several small diversions above station for irrigation and municipal and domestic supply, mostly by pumping from ground water.

Correction.--In WSP 1313, the acre-feet runoff for May 1915 is listed in error; it should be 0 acre-ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	0	0	38.7	30.6	0	5.71
1952	4.29	19.8	8.58	33.9	0	30.3	1.93	.11	0	.85	1.06	0	8.48
1953	0	0	0	0	0	.21	0	0	0	28.1	0	0	2.41
1954	0	0	0	0	0	104	0	0	.62	59.7	28.6	19.3	18.0
1955	0	0	0	0	0	0	0	0	0	62.9	137	0	17.0
1956	.29	0	0	.4	0	0	0	0	0	4.17	.24	0	.43
1957	0	0	0	44.9	3.34	.88	0	.19	0	.73	16.6	2.3	5.82
1958	4.59	3.87	.58	0	1.4	107	4.67	0	0	21.4	39.6	.49	15.6
1959	1.94	.09	0	0	0	0	0	0	0	21.1	61.7	.57	7.25
1960	7.2	1.8	43.0	160	0	0	0	0	0	0	7.90	0	18.6

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	0	0	2,260	1,880	0	4,140
1952	284	1,180	528	2,080	0	1,880	115	6.9	0	53	65	0	†6,150
1953	0	0	0	0	0	15	0	0	0	1,730	0	0	1,740
1954	0	0	0	0	0	6,420	0	0	37	3,670	1,760	1,150	†13,040
1955	0	0	0	0	0	0	0	0	0	3,670	8,430	0	12,300
1956	18	0	0	26	0	0	0	0	0	257	14	0	315
1957	0	0	0	2,760	186	54	0	12	0	45	1,020	137	4,210
1958	282	230	36	0	79	6,580	278	0	0	1,320	2,430	29	11,260
1959	119	5.2	0	0	0	0	0	0	0	1,300	3,800	34	5,260
1960	442	105	2,640	9,820	0	0	0	0	0	0	486	0	13,490

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	10.0
1951	1213	9,500	July 25, 1951	0	5.71	4,140	8.44
1952	1243	1,630	Nov. 11, 1951	0	8.48	†6,150	5.76
1953	1283	5,470	July 16, 1953	0	2.41	1,740	2.41
1954	1343	7,680	July 24, 1954	0	18.0	†13,040	18.0
1955	1393	8,070	July 21, 1955	0	17.0	12,300	17.0
1956	1443	2,050	July 29, 1956	0	.43	315	.41
1957	1513	4,500	Jan. 9, 1957	0	5.82	4,210	6.58
1958	1563	8,930	Aug. 12, 1958	0	15.6	11,260	15.0
1959	1633	7,710	Aug. 17, 1959	0	7.25	5,260	11.5
1960	1723	3,610	Jan. 12, 1960	0	18.6	13,490	-

† Corrected.

4865. Santa Cruz River at Cortaro, Ariz.

Location.--Lat 32°21'10", long 111°05'45", in SW¹/₄SW¹/₄ sec.26, T.12 S., R.12 E., on downstream side of bridge pier, half a mile southwest of Cortaro, 3 miles downstream from Canada del Oro, and 4 miles downstream from Rillito Creek.

Drainage area.--3,503 sq mi.

Records available.--October 1939 to June 1947 (published as "at Rillito"), July 1950 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,137.13 ft above mean sea level (State Highway Department bench mark). Prior to June 30, 1947, at site $4\frac{1}{2}$ miles downstream at different datum.

Average discharge.--17 years (1939-46, 1950-60), 28.1 cfs (20,300 acre-ft per year); median of yearly mean discharges, 23 cfs (16,700 acre-ft per year).

Extremes.--1939-47, 1950-60: Maximum discharge, 17,000 cfs Aug. 14, 1940 (gage height, 9.9 ft, site and datum then in use); no flow for most of each year.

Remarks.--Many diversions above station, mostly by pumping from ground water, for irrigation of about 34,000 acres. Waste water from irrigation and from sewage disposal plant occasionally causes flow past station during dry periods, but is not included in this record.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	1.23	0.47	1.31	70.7	112	1.83	15.9
1952	28.0	15.9	12.7	26.7	0	26.7	5.10	0	.03	17.6	72.4	18.8	18.8
1953	0	8.85	0	0	.05	.11	0	0	.01	231	2.76	0	20.6
1954	0	0	0	0	0	102	0	0	28.8	393	274	72.1	73.6
1955	3.91	0	0	.89	0	0	0	0	.1	222	868.	1.11	93.1
1956	2.2	0	0	1.77	0	0	0	0	0	23.4	3.14	0	2.59
1957	0	0	0	27.1	.58	0	0	0	.04	5.39	30.5	15.3	6.65
1958	8.15	3.2	.03	0	5.92	62.4	.13	0	109	133	13.4	28.4	28.4
1959	2.13	.14	0	0	0	0	0	0	0	62.3	157	1.4	19.0
1960	12.2	.4	32.4	245	.16	0	0	0	0	1.68	72.3	6.3	31.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	11	73	28	78	4,350	6,860	109	11,510
1952	1,720	945	782	1,640	0	1,640	303	0	1.8	1,080	4,450	1,120	13,680
1953	0	527	0	0	3.0	6.5	0	0	.4	14,200	170	0	14,910
1954	0	0	0	0	0	6,240	0	0	0	24,180	16,830	4,290	53,250
1955	241	0	0	55	0	0	0	0	4	13,680	53,340	66	67,390
1956	137	0	0	109	0	0	0	0	0	1,440	193	0	1,880
1957	0	0	0	1,670	32	0	0	0	2.6	332	1,870	908	4,810
1958	501	192	2.0	0	328	3,840	7.7	0	0	6,700	8,170	798	20,540
1959	131	8.3	0	0	0	0	0	0	0	3,830	9,680	81	13,730
1960	752	24	2,000	15,070	9.3	0	0	0	0	104	4,450	377	22,780

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1213	6,820	July 25, 1951	-	15.3	11,710	-	-
1952	1243	8,100	Aug. 14, 1952	0	18.8	13,880	20.7	14,960
1953	1283	10,800	July 14, 1953	0	20.6	14,910	19.9	14,380
1954	1343	9,150	July 24, 1954	0	73.6	53,250	73.9	53,490
1955	1393	16,600	Aug. 3, 1955	0	93.1	67,390	92.9	67,280
1956	1443	3,150	July 29, 1956	0	2.59	1,880	2.40	1,740
1957	1513	4,400	Sept. 1, 1957	0	6.65	4,810	7.61	5,510
1958	1563	7,890	Aug. 12, 1958	0	28.4	20,540	27.6	19,980
1959	1633	8,000	Aug. 20, 1959	0	19.0	13,730	22.6	16,370
1960	1713	6,420	Aug. 11, 1960	0	31.4	22,790	-	-

4875. Santa Rosa Wash at Gu Komelik, near Sells, Ariz.

Location.--Lat 32°30'27", long 111°57'05", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.33, T.10 S., R.4 E., on down-stream side near center of bridge on Papago Indian Reservation at Gu Komelik, 13 miles north of Santa Rosa (Gu Achi), 28 miles southeast of Casa Grande, and 4 $\frac{1}{2}$ miles north of Sells.

Drainage area.--629 sq mi.

Records available.--October 1954 to June 1959.

Gage.--Water-stage recorder. Datum of gage is 1,590.07 ft above mean sea level, datum of 1929, unadjusted.

Extremes.--1954-59: Maximum discharge, 14,000 cfs Oct. 31, 1957 (gage height, 11.76 ft), from rating curve extended above 170 cfs on basis of indirect measurement of peak flow over highway embankment and at culverts; no flow for most of each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	0	0	0	2.51	0	0	0	0	0	55.6	63.6	0	10.3
1956	.28	0	0	2.92	0	0	0	0	0	4.01	0	0	.61
1957	0	0	0	0	0	0	0	0	0	11.5	0	0	.98
1958	130	60.1	0	0	114	56.8	2.06	0	.98	106	39.3	.05	42.2
1959	12.7	0	0	0	0	0	0	0	0	0	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	0	0	0	155	0	0	0	0	0	3,420	3,910	0	7,480
1956	17	0	0	180	0	0	0	0	0	246	0	0	443
1957	0	0	0	0	0	0	0	0	0	707	0	0	707
1958	8,010	3,570	0	6,320	3,490	122	0	58	6,520	2,420	3.0		30,510
1959	780	0	0	0	0	0	0	0	0	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1955	1393	1,120	Aug. 7, 1955	0	10.3	7,480	10.4	7,500
1956	1443	240	July 24, 1956	0	.61	443	.59	426
1957	1513	738	July 17, 1957	0	.98	707	17.0	12,290
1958	1563	14,000	Oct. 31, 1957	0	42.2	30,510	27.2	19,710
1959	1633	a918	Oct. 21, 1958	-	-	-	-	-

a Maximum for period October 1958 to June 1959.

4880. Kohatk Wash near Chiapuk, near Sells, Ariz.

Location.--Lat 32°33'15", long 112°09'00", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.15, T.10 W., R.2 E., on right bank on Papago Indian Reservation, $\frac{1}{2}$ miles northwest of Chiapuk, 12 $\frac{1}{2}$ miles west of Gu Komelik, and 46 $\frac{1}{2}$ miles north of Sells.

Drainage area.--185 sq mi.

Records available.--October 1954 to June 1959.

Gage.--Water-stage recorder. Datum of gage is 1,931.85 ft above mean sea level, datum of 1929, unadjusted.

Extremes.--1954-59: Maximum discharge, 2,830 cfs July 20, 1955 (gage height, 9.10 ft), from rating curve extended above 60 cfs on basis of slope-area measurement at gage height 7.4 ft; no flow for most of each year.

Maximum stage known since 1950, that of July 20, 1955.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	0	0	0	0	0	0	0	0	0	37.1	71.0	0	9.19
1956	.003	0	0	.42	0	0	0	0	1.59	.56	0	0	.21
1957	0	0	0	0	0	0	0	0	2.19	1.00	0	0	.27
1958	3.20	.003	0	0	.47	.28	.05	0	0	.02	6.40	.07	.89
1959	0	0	0	0	.0004	0	0	0	0	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	0	0	0	0	0	0	0	0	0	2,280	4,370	0	6,650
1956	.2	0	0	26	0	0	0	0	95	35	0	0	156
1957	0	0	0	0	0	0	0	0	0	135	61	0	196
1958	197	.2	0	26	17	2.8	0	0	0	1.0	394	4.4	642
1959	0	0	0	0	.02	0	0	0	0	-	-	-	-

Yearly discharge, in cubic feet per second

Daily discharge, in cubic feet per second								
Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1955	1393	2,830	July 20, 1955	0	9.19	6,650	9.19	6,650
1956	1443	1,130	June 28, 1956	0	.21	156	.21	156
1957	1513	974	July 16, 1957	0	.27	196	.54	393
1958	1563	762	Aug. 14, 1958	0	.89	642	.61	445
1959	1633	a.2	Feb. 9, 1959	-	-	-	-	-

a For period October 1958 to June 1959.

4885. Santa Rosa Wash near Vaiva Vo, near Sells, Ariz.

Location.--Lat 32°40'00", long 111°55'40", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.2, T.9 S., R.4 E., in Papago Indian Reservation, on right bank $3\frac{1}{2}$ miles south of Vaiva Vo, $10\frac{1}{2}$ miles southeast of Chuichu, 12 miles downstream from Gu Komelik, and $52\frac{1}{2}$ miles north of Sells.

Drainage area.--1,782 sq mi.

Records available.--October 1954 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 1,470 ft (from topographic map).

Average discharge.--6 years (1954-60), 14.6 cfs (10,570 acre-ft per year).

Extremes.--1954-60: Maximum discharge, about 10,000 cfs Nov. 1, 1957 (gage height, 13.2 ft, from floodmark), from rating curve extended above 840 cfs on basis of determination of peak flow by indirect measurement 12 miles upstream and current meter measurement 16 miles downstream; no flow for most of each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	0	0	0	1.92	0	0	0	0	0	129	156	0.87	24.4
1956	.34	0	.007	8.49	0	0	0	0	1.55	15.7	.02	0	2.21
1957	0	0	0	0	0	0	0	0	13.6	4.43	0	0	1.53
1958	84.4	150	0	0	92.3	39.5	1.9	0	.04	69.3	25.2	.12	38.1
1959	5.1	0	0	0	0	0	†.007	0	0	66.9	81.7	0	13.1
1960	24.4	2.63	33.2	8.40	0	0	0	.006	0	11.2	6.75	9.99	8.14

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953													
1954													
1955	0	0	0	118	0	0	0	0	0	7,920	9,580	52	17,670
1956	21	0	.4	522	0	0	0	0	92	967	1.2	0	1,600
1957	0	0	0	0	0	0	0	0	0	835	272	0	1,110
1958	5,190	8,920	0	0	5,130	2,430	111	0	2.4	4,260	1,550	7.1	27,600
1959	313	0	0	0	0	0	0	.4	0	4,110	5,020	0	9,440
1960	1,500	156	2,040	516	0	0	0	.4	0	688	415	594	5,910

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953								
1954								
1955	1393	1,150	Aug. 8, 1955	0	24.4	17,670	24.4	17,690
1956	1443	740	July 24, 1956	0	2.21	1,600	2.18	1,580
1957	1513	492	Aug. 12, 1957	0	1.53	1,110	21.0	15,220
1958	1563	a10,000	Nov. 1, 1957	0	38.1	27,600	19.1	13,800
1959	1633	4,120	July 13, 1958	0	13.1	9,440	17.7	12,830
1960	1713	805	July 30, 1960	0	8.14	5,910	-	-

a About.

4890. Santa Cruz River near Laveen, Ariz.

Location.--Lat 33°13'56", long 112°10'08", in NE 1/4 sec. 29, T.2 S., R.2 E., in Gila River Indian Reservation, on downstream side of highway bridge, 3.4 miles upstream from mouth, 4.3 miles south of Komatke, and 9 miles south of Laveen.

Drainage area.--8,581 sq mi.

Records available.--January 1940 to September 1946, December 1947 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,020.86 ft above mean sea level, datum of 1929, Phoenix-Picacho supplementary adjustment of 1949.

Average discharge.--18 years (1940-46, 1948-60), 21.7 cfs (15,710 acre-ft per year); median of yearly mean discharges, 14 cfs (10,100 acre-ft per year).

Extremes.--1940-46, 1947-60: Maximum discharge, 5,060 cfs (including an estimated 1,000 cfs in overflow channel bypassing gage) Aug. 28, 1951 (gage height, 17.00 ft); no flow at times in many years.

Remarks.--Many diversions above station, mostly by pumping from underground basin, for municipal use and irrigation of about 240,000 acres, not including San Carlos project. Much of low flow at times is drainage and wasteway return from irrigated lands upstream.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.32	0.04	0.27	6.85	9.0	3.1	4.7	5.3	5.1	28.0	501	10.8	48.7
1952	3.15	1.00	.99	2.6	2.0	10.7	19.8	9.7	6.9	35.2	62.4	16.0	14.3
1953	.42	60.2	2.63	4.1	8.5	18.9	20.6	11.4	9.2	41.6	14.4	8.7	16.7
1954	1.08	.24	.64	2.05	2.68	5.22	5.56	2.08	1.68	43.7	80.5	7.88	13.0
1955	.64	.10	.40	2.80	1.02	1.94	1.88	1.17	1.59	123	597	3.48	62.4
1956	.02	.09	.31	3.54	1.56	1.60	2.09	1.33	.06	4.36	1.21	.99	1.44
1957	.55	0	.14	.56	1.38	2.41	2.31	1.36	.18	4.33	16.3	1.20	2.58
1958	24.2	200	.10	.93	71.1	31.2	4.20	3.38	8.81	.11	42.7	12.2	32.4
1959	0	0	0	0	.23	1.20	.21	.15	.09	11.4	20.5	.67	18.5
1960	11.0	6.09	48.2	39.8	.34	2.00	1.74	.68	.61	.93	3.32	4.39	10.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	20	2.6	16	421	498	188	278	325	303	1,720	30,820	643	35,230
1952	194	60	61	159	117	680	1,180	597	411	2,170	3,840	952	10,400
1953	26	3,580	162	254	472	1,180	1,230	702	547	2,560	885	516	12,090
1954	66	14	39	126	149	321	331	128	100	2,690	4,950	469	9,380
1955	39	6.1	25	172	57	119	112	72	95	7,570	36,890	207	45,160
1956	1.4	5.2	19	218	90	99	124	82	3.8	268	75	59	1,040
1957	34	0	8.3	34	76	148	137	84	11	266	1,000	71	1,870
1958	1,490	1,900	6.1	57	3,950	1,920	250	23	524	6.9	2,630	723	23,480
1959	0	0	0	0	13	74	12	8.9	5.6	699	12,570	40	13,420
1960	677	362	2,960	2,450	19	123	103	42	36	57	204	261	7,290

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean		Acre-feet
		Discharge	Date						
1950	-	-	-	-	-	-	6.36	-	4,620
1951	1213	5,060	Aug. 28, 1951	0	48.7	35,230	49.1	-	35,510
1952	1243	1,860	Aug. 15, 1952	.3	14.3	10,400	19.1	-	13,850
1953	1283	555	July 17, 1953	.1	16.7	12,090	11.7	-	8,440
1954	1343	726	Aug. 9, 1954	0	13.0	9,380	12.9	-	9,330
1955	1393	2,180	Aug. 10, 1955	0	62.4	45,160	62.3	-	45,120
1956	1443	90	Jan. 30, 1956	0	1.44	1,040	1.46	-	1,060
1957	1513	1,040	Aug. 20, 1957	0	2.58	1,870	21.0	-	15,220
1958	1563	3,360	Nov. 3, 1957	0	32.4	23,480	13.9	-	10,080
1959	1633	3,010	Aug. 12, 1959	0	18.5	13,420	24.2	-	17,420
1960	1713	707	Jan. 15, 1960	0	10.0	7,290	-	-	-

4892. Pachete Creek at Maverick, Ariz.

Location.--Lat 33°44'25", long 109°32'25", at corner of secs.28, 29, 32, 33, T.4½ N., R.27 E., on left bank half a mile south of Maverick.

Drainage area.--14.8 sq mi.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 7,850 ft (by barometer).

Extremes.--1957-60: Maximum discharge, 312 cfs Apr. 22, 1958 (gage height, 4.33 ft); minimum, 0.1 cfs June 10, 1959, June 30, July 2, 1960.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	2.06	4.36	2.16	1.08	3.55	18.1	94.1	41.5	4.44	1.30	2.53	8.82	15.3
1959	12.7	3.04	2.17	1.33	1.39	3.67	3.66	82	.34	.78	2.40	1.04	2.79
1960	.57	1.65	.85	1.87	3.12	41.3	33.0	8.02	.85	.25	.37	.33	7.70

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	127	259	133	67	186	1,110	5,600	2,550	264	80	156	525	11,060
1959	779	181	133	82	77	226	218	50	20	48	148	62	2,020
1960	35	98	52	115	180	2,540	1,970	493	51	15	23	19	5,590

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1958	1563	312	Apr. 22, 1958	0.8	15.3	11,060	16.1	11,630	
1959	1633	140	Oct. 6, 1958	.2	2.79	2,020	1.54	1,120	
1960	1713	102	Mar. 21, 1960	.2	7.70	5,590	-	-	

4895. Black River below pumping plant, near Point of Pines, Ariz.

Location.--Lat 33°28'30", long 109°46'00", in W½ sec.32, T.2 N., R.25 E. (unsurveyed), in San Carlos Indian Reservation, on left bank 1 mile downstream from Phelps Dodge Corp. pumping plant, 1½ miles downstream from Freezeout Creek, 7 miles northwest of Point of Pines, and 63 miles upstream from confluence with White River.

Drainage area.--560 sq mi.

Records available.--June 1953 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,742 ft (from river-profile map).

Average discharge.--7 years (1953-60), 146 cfs (105,700 acre-ft per year), adjusted.

Extremes.--1953-60: Maximum discharge, 5,000 cfs Mar. 23, 1954 (gage height, 9.35 ft).

from rating curve extended above 600 cfs on basis of slope-area measurement of peak flow; minimum, 0.9 cfs Nov. 22, 1956, result of freezeup.

Remarks.--Water is diverted at pumping plant 1 mile upstream and pumped into headwaters of Willow Creek (tributary of Eagle Creek) for mining, metallurgical treatment of ores, and domestic supply in vicinity of Morenci (see p. 489).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	-	-	-	-	-	-	-	-	25.1	32.2	26.2	11.6	-
1954	13.6	22.7	20.0	26.5	38.6	323	280	68.3	14.7	36.5	87.7	34.7	80.7
1955	22.5	29.5	28.5	36.6	46.0	67.9	49.5	25.1	14.4	46.0	343	55.8	\$64.2
1956	26.5	30.5	42.9	42.0	80.5	273	189	65.1	17.2	20.9	27.4	9.36	68.7
1957	15.1	29.1	28.4	77.9	223	258	239	148	56.9	44.0	376	104	133
1958	61.1	124	75.5	47.9	141	761	1,872	649	95.1	31.6	53.9	154	337
1959	207	60.2	51.2	40.5	48.5	66.6	66.5	29.7	19.2	33.2	251	60.5	78.4
1960	48.9	164	109	206	182	1,000	507	131	42.7	16.5	20.4	21.6	204

* Not previously published.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1953	-	-	-	-	-	-	-	-	1,490	1,980	1,610	692	-
1954	837	1,350	1,230	1,630	2,140	19,840	16,640	4,200	876	2,250	5,400	2,070	58,460
1955	1,380	1,760	1,750	2,250	2,560	4,180	2,950	1,540	854	2,830	21,090	3,520	146,460
1956	1,630	1,810	2,640	2,580	4,630	16,810	11,240	4,100	1,020	1,280	1,690	557	49,890
1957	930	1,730	1,750	4,790	12,390	15,850	14,240	9,110	3,380	2,700	23,130	6,170	96,170
1958	3,760	7,380	4,640	2,950	7,850	46,780	11,400	39,930	5,060	1,950	3,310	9,170	244,200
1959	12,700	3,580	3,150	2,490	2,690	4,100	3,960	1,830	1,140	2,040	15,460	3,600	56,740
1960	5,010	9,730	6,700	12,640	10,480	61,510	30,160	8,070	2,540	1,020	1,250	1,280	148,400

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1953	1343	1410	July 26, 1953	-	-	-	-	-	-
1954	1343	5,000	Mar. 23, 1954	6.6	80.7	58,460	\$82.8	59,940	
1955	1393	1,310	Aug. 21, 1955	8.8	\$64.2	146,460	65.8	47,650	
1956	1443	642	Mar. 20, 1956	5.1	68.7	49,890	66.4	48,220	
1957	1513	2,060	Aug. 26, 1957	12	133	96,170	149	107,600	
1958	1563	4,590	Apr. 23, 1958	19	337	244,200	342	247,800	
1959	1633	4,820	Aug. 19, 1959	12	78.4	56,740	78.4	56,750	
1960	1733	1,920	Mar. 14, 1960	5.6	204	148,400	-	-	

† Corrected.

* Not previously published.

a Maximum for period June to September.

4897. Big Bonita Creek near Fort Apache, Ariz.

Location.--Lat 33°40'10", long 109°50'45", in NE $\frac{1}{4}$ sec.28, T.4 N., R.24 E., near right bank on downstream side of pier of highway bridge, 1 $\frac{1}{2}$ miles upstream from Tonto Creek, 3 $\frac{1}{2}$ miles southeast of Chino Springs, and 11 $\frac{1}{2}$ miles southeast of Fort Apache.

Drainage area.--119 sq mi.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,910 ft (by barometer).

Extremes.--1957-60: Maximum discharge, 1,200 cfs Aug. 15, 1959 (gage height, 6.20 ft, from floodmark); minimum, 4.2 cfs July 1, 1959.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	15.6	30.3	21.5	13.4	46.5	177	483	233	41.4	11.9	24.9	54.1	94.2
1959	80.7	21.7	16.8	13.3	16.5	20.9	27.3	11.3	6.28	12.5	95.3	17.1	28.5
1960	16.2	43.2	37.4	64.5	55.2	217	180	81.0	21.5	9.26	10.4	6.98	62.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	958	1,800	1,320	821	2,580	10,910	27,550	14,300	2,460	730	1,530	3,220	68,180
1959	4,960	1,290	1,040	815	914	1,290	1,620	698	374	771	5,860	1,020	20,650
1960	998	2,570	2,300	3,960	3,180	13,370	10,720	4,980	1,280	570	638	416	44,980

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1958	1563	1,120	Mar. 22, 1958	7.8	94.2	68,180	98.6	71,390
1959	1633	1,200	Aug. 15, 1959	4.4	28.5	20,650	25.6	19,230
1960	1713	356	Mar. 27, 1960	4.9	62.0	44,980	-	-

4900. Turkey Creek near Fort Apache, Ariz.

Location.--Lat 33°44'15", long 109°52'10", in NW $\frac{1}{4}$ sec.32, T.4 $\frac{1}{2}$ N., R.24 E. (unsurveyed), in Fort Apache Indian Reservation, on right bank 7 $\frac{1}{2}$ miles southeast of Fort Apache and 16 $\frac{1}{2}$ miles upstream from mouth.

Drainage area.--12.7 sq mi.

Records available.--June 1955 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 6,430 ft (by barometer).

Average discharge.--5 years (1955-60), 1.75 cfs (1,270 acre-ft per year).

Extremes.--1955-60: Maximum discharge, 307 cfs Mar. 22, 1958 (gage height, 3.80 ft). From rating curve extended above 40 cfs by logarithmic plotting; no flow for parts of several days in 1956-57.

Remarks.--Records of chemical analyses for the period November 1955 to June 1956 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	-	-	-	-	-	-	-	-	-	0.288	2.03	0.72	-
1956	0.12	0.14	0.22	0.23	2.18	3.91	0.91	0.24	0.060	.096	.055	.013	0.677
1957	.036	.046	.068	.221	2.04	2.68	.89	.25	.094	.024	.251	.173	.556
1958	.159	.33	.34	.24	3.66	24.8	10.0	1.56	.56	.32	.38	.270	3.56
1959	.75	.27	.19	.13	.31	.43	.26	.094	.028	.018	1.96	.461	.412
1960	.104	1.78	3.65	9.13	6.53	15.0	2.78	.93	.37	.15	.120	.128	3.40

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	-	-	-	-	-	-	-	-	-	18	125	43	-
1956	7.5	8.1	13	14	126	240	54	15	3.6	5.9	3.4	0.8	491
1957	2.2	2.7	4.2	14	113	165	53	16	5.6	1.4	15	10	402
1958	9.8	19	21	14	203	1,520	595	96	34	20	23	16	2,570
1959	46	16	12	7.7	17	27	15	5.8	1.7	1.0	120	29	298
1960	6.4	106	224	561	378	925	164	57	22	8.9	7.4	7.6	2,470

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1955	1443	a18	July 20, 1955	-	-	-	-	-
1956	1443	16	July 19, 1956	0.01	0.677	491	0.649	472
1957	1513	6.8	Mar. 24, 1957	.01	.556	402	.612	443
1958	1563	307	Mar. 22, 1958	.03	3.56	2,570	3.59	2,600
1959	1633	64	Aug. 2, 1959	.01	.412	298	.78	561
1960	1713	61	Dec. 25, 1960	.01	3.40	2,470	-	-

a Maximum for period June to September.

4905. Black River near Fort Apache, Ariz.

Location.--Lat 33°42'45", long 110°12'40", in NW¼ sec.12, T.4 N., R.20 E., on downstream side of first pier from right on highway bridge, 5 miles upstream from mouth and 14 miles west of Fort Apache.

Drainage area.--1,232 sq mi.

Records available.--October 1912 to December 1915, September 1916, October 1917 to January 1918, April 1918, October 1957 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 4,345 ft (from river-profile map). November 1912 to July 1918, staff gages or water-stage recorders at several sites within 1 mile of present site at various datums.

Average discharge.--6 years (1912-15, 1957-60), 463 cfs (335,200 acre-ft per year).

Extremes.--1912-15, 1917-18, 1957-60: Maximum discharge recorded, 18,000 cfs Dec. 20, 1914 (gage height, 15.9 ft, from floodmarks, site and datum then in use), from rating curve extended above 1,000 cfs (flood of Jan. 28, 1915, is known to have exceeded this by an unknown amount); minimum, 12 cfs Sept. 24, 1960.

Remarks.--One transbasin diversion for industrial and municipal use (see p. 489). Negligible storage in several small recreational lakes.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	96.3	181	109	65.6	524	1,975	2,492	909	126	38.4	102	231	569
1959	335	95.7	73.7	60.0	70.0	90.8	94.9	39.3	19.3	51.9	658	99.0	142
1960	74.2	349	608	917	366	1,272	753	209	65.7	29.9	45.8	30.5	394

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	5,920	10,760	6,680	4,030	29,080	121,400	148,300	55,900	7,520	2,360	6,290	13,720	412,000
1959	20,820	5,700	4,530	3,690	3,890	5,580	5,640	2,420	1,150	5,190	40,490	5,890	102,800
1960	4,560	20,760	37,370	56,370	21,030	78,200	44,800	12,960	5,910	1,840	2,820	1,810	286,300

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1958	1563	12,900	Mar. 22, 1958	23	569	412,000	579	419,400
1959	1633	8,300	Aug. 18, 1959	13	142	102,800	186	134,600
1960	1713	12,900	Dec. 26, 1959	13	394	286,300	-	-

4910. White River near McNary, Ariz.

Location.--Lat 34°02'45", long 109°44'15", in E $\frac{1}{2}$ sec. 31, T.8 N., R.25 E. (unsurveyed), in Fort Apache Indian Reservation, on left bank 2 miles downstream from Paradise Creek and 6 $\frac{1}{2}$ miles southeast of McNary.

Drainage area.--66 sq mi, approximately.

Records available.--June 1945 to June 1947, May 1948 to June 1949, May 1950 to September 1954 (monthly discharge only, July to September 1954), Water years 1955-56 (annual maximum), June 1957 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,750 ft (from Indian Irrigation Service river-profile map).

Average discharge.--8 years (1945-46, 1950-54, 1957-60), 39.1 cfs (28,310 acre-ft per year).

Extremes.--1945-60: Maximum discharge, 1,290 cfs Sept. 19, 1946 (gage height, 5.36 ft), from rating curve extended above 350 cfs by logarithmic plotting.
1945-54, 1957-60: Minimum discharge recorded, 4 cfs Nov. 19, 1948, Nov. 29, 1950, caused by ice jam upstream.

Remarks.--No storage above station. Water diverted about 5 miles upstream from station for use at McNary.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9.53	8.41	7.51	6.7	8.7	19.2	28.6	39.6	15.7	10.5	21.1	16.2	16.0
1952	11.9	12.4	18.3	77.9	21.4	22.2	262	217	159	29.2	32.9	23.0	75.4
1953	12.5	14.5	17	20	17	45.6	56.6	50.7	37.5	23.7	18.7	9.46	27.0
1954	9.41	9.69	7.65	6.45	10.1	31.0	33.5	69.3	20.7	14.8	29.9	16.2	26.6
1955													
1956										29.5	96.5	36.1	-
1957													
1958	20.0	23.1	19.4	13.7	16.2	33.1	244	228	92.0	21.5	19.9	37.4	64.1
1959	36.7	20.7	16.5	15.3	17.6	19.3	27.6	17.0	9.95	10.5	42.2	20.0	21.3
1960	13.1	21.0	16.9	21.9	19.1	123	122	117	60.1	16.5	13.5	9.81	46.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	586	500	462	413	482	1,180	1,700	2,430	935	647	1,300	964	11,600
1952	731	736	1,120	4,790	1,230	1,360	16,800	13,340	9,450	1,790	2,020	1,370	54,740
1953	770	861	1,050	1,230	944	2,810	3,370	3,120	2,230	1,460	1,150	563	19,560
1954	578	576	470	397	563	1,900	5,560	4,260	1,230	912	1,840	966	19,250
1955													
1956										1,820	5,940	2,150	-
1957										1,320	1,220	2,230	46,400
1958	1,230	1,380	1,190	845	900	2,040	14,530	14,060	5,470	1,320	2,220	2,230	46,400
1959	2,380	1,230	1,020	940	978	1,180	1,640	1,050	592	644	2,590	1,190	15,430
1960	805	1,250	1,040	1,350	1,100	7,550	7,280	7,180	3,580	1,020	827	584	33,570

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1213	167	Aug. 28, 1951	-	16.0	11,600	17.5	12,640
1952	1243	748	Apr. 6, 1952	-	75.4	54,740	75.5	54,830
1953	1293	152	Mar. 29, 1953	8.9	27.0	19,560	25.5	18,500
1954	1343	304	Mar. 23, 1954	-	26.6	19,250	-	-
1955	1513	1145	-	-	-	-	-	-
1956	1513	1170	-	-	-	-	-	-
1957	1513	729	Aug. 24, 1957	-	-	-	-	-
1958	1563	1,230	Apr. 22, 1958	-	64.1	46,400	65.2	47,240
1959	1635	148	Oct. 5, 1958	6.5	21.3	15,430	19.2	13,900
1960	1713	390	Mar. 26, 1960	8.2	46.2	33,570	-	-

a Estimated from high-water marks.

4924. East Fork White River near Fort Apache, Ariz.

Location.--Lat 33°49'20", long 109°48'50", in NW $\frac{1}{4}$ sec.21, T.5 N., R.24 E., in Fort Apache Indian Reservation, on downstream side of left abutment of highway bridge, a quarter of a mile upstream from mouth of Rock Creek and 10 $\frac{1}{2}$ miles east of Fort Apache.

Drainage area.--38.8 sq mi.

Records available.--August 1957 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,060 ft (by barometer).

Extremes.--1957-60: Maximum discharge, 411 cfs Apr. 22, 1958 (gage height, 3.23 ft); minimum, 2.8 cfs Feb. 23, 1959.

Remarks.--One small diversion for irrigation above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	13.0	20.4	12.2	9.05	14.8	35.6	119	180	49.7	12.5	15.0	37.3	43.3
1959	48.0	14.4	10.9	9.69	10.4	9.93	18.9	13.4	6.22	12.8	70.6	16.3	20.3
1960	9.68	19.4	14.2	20.6	17.6	63.6	101	97.6	41.0	10.5	10.9	7.84	34.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	798	1,210	752	557	824	2,190	7,060	11,060	2,960	766	920	2,220	31,320
1959	2,950	855	673	596	579	611	1,120	828	370	790	4,340	972	14,680
1960	595	1,160	875	1,270	1,010	3,910	6,020	6,000	2,440	647	670	466	25,060

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1958	1563	411	Apr. 22, 1958	7.0	43.3	31,320	45.6	33,040
1959	1633	330	Oct. 6, 1958	4.6	20.3	14,680	17.7	12,830
1960	1713	207	May 13, 1960	5.7	34.5	25,060	-	-

4925. Rock Creek near Fort Apache, Ariz.

Location.--Lat 33°49'25", long 109°49'05", in NW $\frac{1}{4}$ sec.21, T.5 N., R.24 E. (unsurveyed), in Fort Apache Indian Reservation, on right bank at downstream side of highway bridge, 200 ft upstream from mouth and 10 miles east of Fort Apache.

Drainage area.--20.3 sq mi.

Records available.--June 1955 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 6,030 ft (by barometer).

Average discharge.--5 years (1955-60), 5.39 cfs (3,900 acre-ft per year).

Extremes.--1955-60: Maximum discharge, 217 cfs Mar. 22, 1958 (gage height, 4.21 ft); no flow June 29, 30, 1955.

Remarks.--Records of chemical analyses for the period November 1955 to June 1956 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	-	-	-	-	-	-	-	-	-	1.93	13.3	2.40	-
1956	0.61	0.69	0.95	0.93	3.80	12.8	7.34	1.24	0.25	.67	1.16	.24	2.55
1957	.35	.50	.64	3.88	12.8	14.5	4.91	1.48	.55	.36	1.85	.71	3.49
1958	1.01	1.75	1.44	.73	6.04	33.3	64.4	9.98	.96	.27	1.46	1.67	10.1
1959	3.07	1.54	1.19	.87	1.21	2.01	1.88	.48	.23	.33	8.29	1.25	1.88
1960	1.11	4.86	6.08	12.8	10.4	50.6	16.2	2.73	.81	.37	.42	.44	8.93

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	-	-	-	-	-	-	-	-	-	119	816	143	-
1956	37	41	58	57	219	786	437	76	15	41	72	14	1,850
1957	22	30	39	239	711	893	292	91	33	22	114	42	2,530
1958	62	104	86	45	335	2,050	3,930	614	57	17	29	99	7,350
1959	189	92	73	54	67	124	112	29	14	20	510	74	1,360
1960	68	289	374	790	598	3,110	963	168	46	23	26	26	6,480

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1955	1443	all 12	Aug. 24, 1955	-	-	-	-	-
1956	1443	20	Mar. 24, 1956	0.1	2.55	1,850	2.49	1,810
1957	1513	34	Jan. 10, 1957	.2	3.49	2,530	3.72	2,690
1958	1563	217	Mar. 22, 1958	.1	10.1	7,350	10.3	7,430
1959	1633	29	Aug. 24, 1959	.1	1.88	1,360	2.40	1,740
1960	1713	98	Mar. 23, 1960	.2	8.93	6,480	-	-

a Maximum for period June to September.

4940. White River near Fort Apache, Ariz.

Location.--Lat 33°44'10", long 110°09'55", in SE $\frac{1}{4}$ sec.32, T.4 $\frac{1}{2}$ N., R.21 E. (unsurveyed), in Fort Apache Indian Reservation, on right bank 2,200 ft downstream from highway bridge, 5 miles upstream from mouth, and 11 miles west of Fort Apache.

Drainage area.--632 sq mi.

Records available.--October 1917 to September 1918 (published as "at Wanslee's Ranch"), October 1957 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 4,365.99 ft above mean sea level, datum of 1929. Oct. 12, 1917, to Aug. 31, 1918, staff gage at site 2,100 ft upstream at different datum.

Extremes.--1917-18, 1957-60: Maximum discharge, 4,900 cfs July 28, 1959 (gage height, 9.2 ft), from rating curve extended above 1,700 cfs on basis of slope-area measurement of peak flow; minimum, 3.9 cfs July 3, 4, 1959.

Remarks.--Small diversions above station for irrigation of about 1,460 acres. Negligible storage above station in several small recreational lakes.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	47.3	71.5	58.0	40.4	86.2	375	963	711	164	33.5	66.2	117	228
1959	158	61.4	46.8	39.6	43.5	58.6	77.2	30.6	10.2	34.3	218	50.8	67.8
1960	53.7	173	138	182	135	652	543	337	126	22.7	38.9	19.5	202

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	2,910	4,250	3,560	2,480	4,790	23,050	57,330	43,740	9,750	2,060	4,070	6,960	165,000
1959	8,460	3,650	2,880	2,430	2,420	3,600	4,590	1,880	606	2,110	13,390	3,020	49,040
1960	3,300	10,270	8,460	11,190	7,750	40,090	32,300	20,750	7,480	1,400	2,390	1,160	146,500

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1958	1563	2,700	Mar. 22, 1958	19	228	165,000	234	169,200
1959	1633	4,900	July 28, 1959	4.2	67.8	49,040	77.5	56,090
1960	1713	2,580	Dec. 26, 1959	11	202	146,500	-	-

4943. Carrizo Creek above Corduroy Creek, near Show Low, Ariz.

Location.--Lat 34°00'00", long 110°17'20", in sec.13, T.7 N., R.19 E. (unsurveyed), in Fort Apache Indian Reservation, half a mile above Corduroy Creek and 23 miles southwest of Show Low.

Drainage area.--237 sq mi.

Records available.--October 1953 to September 1960.

Gage.--Water-stage recorder. Concrete control since June 5, 1956. Altitude of gage is 5,240 ft (based on datum of downstream gage and probable slope of streambed).

Average discharge.--7 years (1953-60), 10.8 cfs (7,820 acre-ft per year).

Extremes.--1953-60: Maximum discharge, 3,260 cfs Jan. 11, 1960; no flow at times in each year.

Remarks.--No storage or diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	1.44	4.22	4.83	5.38	5.35	52.6	8.57	4.32	0.63	9.69	6.44	4.52	9.08
1955	1.99	3.36	4.07	5.35	5.19	4.41	3.86	2.31	1.65	.48	30.7	1.18	5.42
1956	1.68	3.79	4.58	5.38	5.78	3.94	4.76	1.66	.01	2.97	5.84	0	3.37
1957	.12	.87	1.97	24.4	32.9	8.37	4.45	3.37	.56	.137	7.20	.819	6.94
1958	3.74	4.08	3.53	3.48	6.11	47.2	19.6	4.08	.91	0	1.01	9.64	8.64
1959	6.51	4.76	4.18	4.05	4.89	3.79	3.52	1.33	.007	.003	13.2	.07	3.87
1960	6.84	53.9	107	135	32.1	95.6	15.1	8.83	3.17	.73	.89	1.20	38.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1954	88	251	297	331	297	3,230	510	266	37	596	396	269	6,570
1955	122	201	250	328	288	271	230	142	98.0	29.6	1,890	70.4	3,920
1956	103	225	282	331	332	242	283	102	.6	182	359	0	2,440
1957	7.5	52	121	1,500	1,830	515	265	207	33	8.4	443	49	5,030
1958	230	243	217	214	340	2,900	1,170	251	54	0	62	574	6,260
1959	400	283	257	249	272	233	210	82	.4	.2	809	4.4	2,800
1960	420	3,210	6,570	8,300	1,850	5,760	897	543	189	45	55	72	27,910

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1954	1443	2,760	July 9, 1954	0	9.08	6,570	8.99	6,500
1955	1443	1,850	Aug. 18, 1955	0	5.42	3,920	5.47	3,960
1956	1443	2,470	Aug. 14, 1956	0	3.37	2,440	2.77	2,010
1957	1513	935	Aug. 31, 1957	0	6.94	5,030	7.65	5,540
1958	1563	2,870	Sept. 4, 1958	0	8.64	6,260	8.98	6,510
1959	1633	1,240	Aug. 19, 1959	0	3.87	2,800	16.7	12,060
1960	1713	3,260	Jan. 11, 1960	0	38.4	27,910	-	-

4945. Corduroy Creek above Forestdale Creek, near Show Low, Ariz.

Location--Lat 34°06'40", long 110°07'50", in NW $\frac{1}{4}$ sec. 9, T.8 N., R.21 E. (unsurveyed), in Fort Apache Indian Reservation, on left bank 700 ft upstream from Forestdale Creek and 1 $\frac{1}{2}$ miles southwest of Show Low.

Drainage area--57.0 sq mi.

Records available--September 1952 to September 1960.

Gage--Water-stage recorder. Concrete control since May 19, 1956. Datum of gage is 6,834.23 ft above mean sea level (State Highway Department bench mark).

Average discharge--8 years (1952-60), 3.96 cfs (2,870 acre-ft per year).

Extremes--1952-60: Maximum discharge, 2,210 cfs Nov. 2, 1959 (gage height, 9.03 ft), from rating curve extended above 900 cfs on basis of slope-area measurement at gage height 7.95 ft; no flow for extended periods in each year.

Remarks--No storage or diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	0.35	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	0	0.24	0.68	1.10	0.31	25.1	0.56	0.08	0	0	0	0	2.38
1954	0	0	0	0	0	42.5	1.30	.12	0	5.05	2.22	.07	4.35
1955	0	0	0	.14	.41	.26	0	0	.003	.40	4.20	0	.46
1956	0	0	0	.12	2.85	3.74	.11	0	0	.01	0	0	.56
1957	0	0	0	4.71	12.6	4.85	.244	.158	0	.83	2.22	.132	2.08
1958	.08	.143	.041	.064	3.01	40.3	10.8	.122	0	.32	.374	.384	4.67
1959	.567	.005	.003	.050	.911	.089	.001	0	0	0	1.07	0	.221
1960	2.9	51.4	45.7	52.7	11.0	58.7	.80	.257	0	0	0	0	17.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	21	-
1952	-	-	-	-	-	-	-	-	-	-	-	0	-
1953	0	14	42	67	17	1,550	33	5.0	0	0	0	0	†1,730
1954	0	0	0	0	0	2,610	77	7.1	0	311	136	4.4	3,150
1955	0	0	0	8.5	23	16	0	0	.2	25	258	0	331
1956	0	0	0	7.3	164	230	6.7	0	0	.4	0	0	408
1957	0	0	0	289	698	298	14	9.7	0	51	136	7.9	1,500
1958	4.8	8.5	2.5	3.9	167	2,480	641	7.5	0	20	23	23	3,380
1959	35	.3	.2	3.1	51	5.5	.06	0	0	0	66	0	161
1960	177	3,060	2,910	3,240	634	2,380	48	16	0	0	0	0	12,360

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952	1283	-	-	-	-	-	-	-
1953	1283	361	Mar. 8, 1953	0	2.38	†1,730	2.30	1,670
1954	1343	1,570	Mar. 23, 1954	0	4.35	3,150	4.35	3,150
1955	1393	739	Aug. 7, 1955	0	.46	331	.46	331
1956	1443	22	Mar. 4, 1956	0	.56	408	.56	408
1957	1513	1,140	July 27, 1957	0	2.08	1,500	2.10	1,520
1958	1563	556	Mar. 22, 1958	0	4.67	3,380	4.69	3,400
1959	1633	53	Aug. 18, 1959	0	.221	161	8.52	6,170
1960	1713	2,210	Nov. 2, 1959	0	17.0	12,360	-	-

† Corrected.

4950. Forestdale Creek diversion from Show Low Creek, near Show Low, Ariz.

Location.--Lat 34°10'40", long 110°01'00", in SE $\frac{1}{4}$ sec.16, T.9 N., R.22 E., on boundary of Fort Apache Indian Reservation on right bank, 170 ft below terminal structure of Show Low Creek diversion works, 4,350 ft west of pumping plant on Lake Show Low, and 7 miles by road south of Show Low.

Records available.--May 1953 to September 1960.

Gage.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 6,621.57 ft above mean sea level (Bureau of Reclamation bench mark).

Average discharge.--7 years (1953-60), 2.60 cfs (1,880 acre-ft per year).

Extremes.--1953-60: Maximum discharge, 24.4 cfs June 9, 10, 1954 (gage height, 2.87 ft); no flow for most of each year.

Remarks.--Entire flow consists of water pumped from Lake Show Low in Little Colorado River basin, into headwaters of Forestdale Creek in Gila River basin.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	-	-	-	-	-	-	-	7.31	0	0	0	0	-
1954	0	0	0	0	0	0	9.52	0	15.0	15.7	15.3	0	4.65
1955	0	0	0	0	0	0	0	0	0	0	0	5.95	.49
1956	0	0	0	0	0	.01	1.26	0	0	0	0	0	.10
1957	0	0	0	0	0	3.31	1.92	0	0	0	0	0	.44
1958	0	0	0	0	0	.01	10.0	12.6	14.6	14.3	8.84	0	5.07
1959	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	13.3	14.5	14.0	12.8	10.8	10.2	5.35	8.44	0	7.43

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952													
1953	-	-	-	-	-	-	-	449	0	0	0	0	-
1954	0	0	0	0	0	0	568	0	894	963	943	0	3,370
1955	0	0	0	0	0	0	0	0	0	0	0	354	354
1956	0	0	0	0	0	.6	75	0	0	0	0	0	76
1957	0	0	0	0	0	204	114	0	0	0	0	0	318
1958	0	0	0	0	0	.8	596	774	871	882	544	0	3,670
1959	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	818	837	861	759	664	605	329	519	0	5,390

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Maximum day		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952								
1953	1283	a17.2	May 21, 1953	-	-	-	-	-
1954	1343	b24.4	June 9-10, 1954	0	4.65	3,370	4.65	3,370
1955	1393	15.5	Sept. 10-15, 1955	0	.49	354	.49	354
1956	1443	b23.3	Apr. 3, 4, 1956	0	.10	76	.10	76
1957	1513	9.9	Mar. 22-23, 1957	0	.44	318	.44	318
1958	1563	17.0	June 1-5, 1958	0	5.07	3,670	5.07	3,670
1959	1633	0	-	0	0	0	0	0
1960	1713	15.9	Apr. 1-14, 1960	0	7.43	5,390	-	-

a Maximum for period May to September.

b Momentary maximum.

4955. Forestdale Creek near Show Low, Ariz.

Location.--Lat 34°06'50", long 110°07'45", in SE $\frac{1}{4}$ sec.4, T.8 N., R.21 E. (unsurveyed), in Fort Apache Indian Reservation, on right bank 375 ft upstream from mouth, 8 miles downstream from end of pipeline diverting from Lake Show Low, and 11 $\frac{1}{2}$ miles southwest of Show Low.

Drainage area.--33.4 sq mi.

Records available.--September 1952 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 6,334.23 ft above mean sea level (State Highway Department bench mark).

Average discharge.--8 years (1952-60), 3.03 cfs (2,190 acre-ft per year), unadjusted for transbasin diversion.

Extremes.--1952-60: Maximum discharge, 1,290 cfs Nov. 2, 1959 (gage height, 7.95 ft), from rating curve extended above 340 cfs on basis of slope-area measurement at gage height 6.90 ft; no flow for many days in each year.

Remarks.--No storage or diversion from creek above station. Record includes transbasin diversions from Show Low Creek in Little Colorado River basin (see preceding page).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	0.03	-
1952	0	0.08	0.17	0.21	0.12	4.33	0.23	6.61	0.11	0	0	0	1.00
1953	0	0	0.02	0.08	0.01	5.88	9.21	0.01	13.9	15.5	15.2	0.25	5.04
1954	0	.003	.02	.05	.03	0	0	0	.01	.06	.34	5.03	.46
1955	0	.007	.003	.01	.10	0	1.12	0	0	.27	0	0	.12
1956	.006	0	0	.37	.42	2.57	1.76	.003	0	.51	.25	.89	.56
1957	.006	.020	.002	.0006	.049	2.16	8.94	10.8	13.0	12.7	8.34	.047	4.70
1958	.123	.030	.020	.029	.051	.014	.001	0	0	0	.454	0	.061
1959	.214	19.0	11.9	27.4	17.9	22.3	14.6	11.0	9.45	5.53	8.17	†.013	12.3

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	2.0	-
1952	0	5.0	10	13	6.5	266	13	407	6.3	0	0	0	727
1953	0	0	1.2	4.8	.6	361	548	.8	828	951	936	15	3,650
1954	0	.2	1.0	3.0	1.8	0	0	0	.6	3.8	20.6	299	330
1955	0	.4	.2	.8	6.0	0	66	0	0	16	0	0	89
1956	.4	0	0	23	23	158	104	.2	0	32	16	53	410
1957	.4	1.2	1.1	.04	2.7	133	532	661	775	784	513	2.8	3,410
1958	7.6	1.8	0	1.8	2.8	.8	.06	0	0	0	28	0	44
1959	13	1,130	733	1,690	1,030	1,370	870	677	563	340	502	.8	8,920

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951								
1952	1283	-	-	-	-	-	-	-
1953	1283	106	Mar. 8, 1953	0	1.00	727	0.99	713
1954	1343	130	Mar. 23, 1954	0	5.04	3,650	5.04	3,650
1955	1393	43	Aug. 23, 1955	0	.46	330	.46	330
1956	1443	315	July 21, 1956	0	.12	89	.12	89
1957	1513	490	July 27, 1957	0	.56	410	.567	411
1958	1563	43	Aug. 5, 1958	0	4.70	3,410	4.72	3,410
1959	1633	81	Aug. 5, 1959	0	.061	44	2.64	1,910
1960	1713	1,290	Nov. 2, 1959	0	12.3	8,920	-	-

4960. Corduroy Creek near mouth, near Show Low, Ariz.

Location.--Lat 34°01'00", long 110°14'30", in sec.9, T.7 N., R.20 E. (unsurveyed), in Fort Apache Indian Reservation, on right bank 4 miles upstream from mouth and 20 miles southwest of Show Low.

Drainage area.--213 sq mi.

Records available.--September 1951 to September 1960.

Gage.--Water-stage recorder. Concrete control since May 29, 1956. Altitude of gage is 5,350 ft (from topographic map).

Average discharge.--9 years (1951-60), 18.6 cfs (13,470 acre-ft per year), unadjusted for transbasin diversion.

Extremes.--1951-60: Maximum discharge, 10,900 cfs Jan. 18, 1952 (gage height, 11.1 ft), from rating curve extended above 1,200 cfs on basis of slope-area measurement of peak flow; minimum daily, 0.9 cfs Oct. 25-28, 1959.

Remarks.--No storage or diversion from creek above station. Record includes transbasin diversions from Show Low Creek in Little Colorado River basin (see p. 535).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	0.16	-
1952	1.88	1.91	61.0	434	14.9	166	50.2	8.21	2.57	2.60	2.66	3.62	63.3
1953	2.09	3.66	3.56	3.99	2.48	57.4	2.77	7.62	2.31	6.23	2.26	1.76	8.11
1954	1.91	1.91	1.94	2.24	1.96	88.2	15.6	2.40	15.4	26.7	24.1	3.91	15.4
1955	2.13	2.09	2.02	2.33	2.65	1.97	1.78	1.79	1.96	2.09	6.30	6.47	2.96
1956	1.94	2.08	2.11	2.43	5.51	5.39	3.00	1.80	1.34	2.18	1.92	1.47	2.59
1957	1.75	2.26	2.30	18.6	27.1	9.52	4.11	2.13	1.68	4.20	8.23	3.15	6.97
1958	2.33	2.41	2.24	2.09	6.51	81.1	25.5	12.0	13.7	13.6	10.4	2.59	14.6
1959	3.36	2.04	1.85	1.86	2.77	2.11	2.02	1.86	1.85	2.20	4.68	1.62	2.35
1960	8.88	95.9	119	168	47.0	114	17.1	12.1	12.6	6.73	9.15	2.23	51.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	9.5	-
1952	116	113	3,750	26,690	860	10,210	2,990	505	153	160	164	215	45,930
1953	129	218	219	245	138	3,530	165	469	138	383	139	105	5,880
1954	118	114	119	138	109	5,420	811	147	799	1,640	1,480	232	11,130
1955	131	124	124	143	147	121	106	109	117	129	510	385	2,150
1956	119	124	130	149	317	331	178	110	80	134	118	87	1,880
1957	108	135	141	1,140	1,510	585	244	131	106	258	506	187	5,040
1958	143	143	138	129	562	4,990	1,510	740	818	935	637	154	10,800
1959	207	122	113	115	154	130	120	115	110	135	288	96	1,700
1960	546	5,590	7,319	10,360	2,700	6,990	1,010	746	670	414	563	133	37,040

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951	1243	-	-	-	-	-	-	-
1952	1243	10,900	Jan. 18, 1952	1.5	63.3	45,930	56.7	42,510
1953	1283	1,200	July 29, 1953	1.6	8.11	5,880	7.82	5,660
1954	1343	2,450	Mar. 23, 1954	1.5	15.4	11,130	15.4	11,160
1955	1393	257	Aug. 7, 1955	1.6	2.98	2,150	2.96	2,140
1956	1443	149	Aug. 17, 1956	1.2	2.59	1,880	2.60	1,990
1957	1513	1,420	Aug. 2, 1957	1.1	6.97	5,040	7.02	5,080
1958	1563	1,140	Mar. 22, 1958	1.3	14.6	10,800	1.47	10,620
1959	1633	316	Aug. 19, 1959	1.3	2.35	1,700	20.5	14,720
1960	1713	3,500	Dec. 25, 1959	.9	51.0	37,040	-	-

4965. Carrizo Creek near Show Low, Ariz.

Location.--Lat 33°59'15", long 110°17'00", in sec.24, T.7 N., R.19 E. (unsurveyed), in Fort Apache Indian Reservation, on upstream side of center pier of bridge on U. S. Highway 60, 1 mile downstream from Corduroy Creek, 23½ miles southwest of Show Low, and 24 miles upstream from mouth.

Drainage area.--459 sq mi.

Records available.--June 1951 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 5,225.11 ft above mean sea level (State Highway Department bench mark).

Average discharge.--9 years (1951-60), 33.7 cfs (24,400 acre-ft per year), unadjusted for transbasin diversion.

Extremes.--1951-60: Maximum discharge, 20,500 cfs Jan. 18, 1952 (gage height, 12.08 ft), from rating curve extended above 2,000 cfs on basis of slope-area measurement of peak flow; minimum, 0.1 cfs Sept. 21, 1959.

Remarks.--Diversions for irrigation above station of less than 300 acres. Record includes transbasin diversion from Show Low Creek (see p. 535).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	1.75	55.3	3.02	-
1952	3.43	5.12	96.5	758	30.8	264	119	25.2	9.15	6.75	15.2	13.9	114
1953	6.77	15.0	13.1	12.6	9.04	93.7	11.3	13.0	5.05	25.2	9.42	2.32	18.2
1954	2.84	6.00	6.14	7.34	6.99	148	23.0	5.81	12.9	36.9	33.1	9.96	25.2
1955	4.39	5.84	6.66	8.66	7.82	6.08	5.29	3.59	2.95	2.12	41.8	6.96	8.55
1956	3.13	6.02	6.36	7.65	11.6	8.95	7.20	3.05	.87	5.69	8.45	.91	5.81
1957	1.63	2.53	3.86	38.5	59.6	17.3	8.54	5.09	1.55	2.75	16.0	3.78	13.1
1958	7.07	6.66	5.92	5.87	13.0	125	45.9	16.0	14.3	13.1	10.9	13.2	23.2
1959	10.6	6.54	5.91	6.94	8.04	6.39	5.60	2.80	1.56	2.40	20.6	.98	6.54
1960	11.6	147	218	315	80.6	204	32.5	21.7	13.9	7.45	10.3	2.23	89.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	107	3,400	180	-
1952	211	305	5,940	46,580	1,770	16,250	7,090	1,550	544	415	932	826	82,410
1953	416	892	805	774	502	5,760	674	801	301	1,550	579	138	13,190
1954	175	357	378	451	398	9,090	1,370	357	767	2,270	2,030	593	18,230
1955	270	348	410	532	435	374	315	221	175	131	2,570	416	6,200
1956	192	358	391	470	667	550	428	187	52	350	520	54	4,220
1957	100	150	238	2,360	3,310	1,060	508	313	92	169	985	225	9,510
1958	435	396	364	361	722	7,690	2,730	985	850	804	671	786	16,790
1959	649	389	363	426	446	393	333	172	93	147	1,270	58	4,740
1960	711	8,740	13,390	19,340	4,640	12,520	1,940	1,330	828	458	630	132	64,660

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950								
1951	1213	a3,260	Aug. 28, 1951	-	-	-	-	-
1952	1243	20,500	Jan. 18, 1952	2.1	114	82,410	108	78,070
1953	1283	3,200	July 29, 1953	1.4	18.2	13,190	16.6	11,990
1954	1343	3,910	Mar. 23, 1954	1.2	25.2	18,230	25.3	18,340
1955	1393	2,060	Aug. 18, 1955	.4	8.55	6,200	8.44	6,110
1956	1443	2,400	Aug. 14, 1956	.5	5.81	4,220	5.19	3,770
1957	1513	1,560	Aug. 2, 1957	.7	13.1	9,510	14.1	10,220
1958	1563	2,920	Sept. 4, 1958	1.1	23.2	16,790	23.5	17,000
1959	1633	1,560	Aug. 19, 1959	.2	6.54	4,740	36.2	26,180
1960	1713	6,980	Jan. 11, 1960	1.3	89.1	64,660	-	-

† Corrected.

a Maximum for period June to September.

4966. Cibecue No. 1, tributary to Carrizo Creek, near Show Low, Ariz.

Location.--Lat 34°00', long 110°20', in NW $\frac{1}{4}$ sec.22, T.7 N., R.19 E. (unsurveyed), in Fort Apache Indian Reservation, on an unnamed tributary to Carrizo Creek, on Cibecue ridge, 2.8 miles upstream from mouth and 25 miles southwest of Show Low.

Drainage area.--0.099 sq mi (63.2 acres).

Records available.--June 1958 to September 1960.

Gage.--Water-stage recorder and modified critical-depth flume. Altitude of gage is 5,400 ft (from topographic map).

Extremes.--1958-60: Maximum discharge, 39 cfs Aug. 17, 1959 (gage height, 2.47 ft); no flow for most of each year.

Remarks.--No diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	-	-	0	0.005	0.028	-
1959	0.017	-	-	0	-	0	0	0	0	0.004	0.055	0	0.006
1960	.053	.007	.031	.0006	0	0	0	0	0	0	.003	0	.008

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	-	-	-	0.28	1.67	-
1959	1.03	0	0	0	0	0	0	0	0	0.26	3.35	0	4.64
1960	3.27	.44	1.90	.04	0	0	0	0	0	0	.16	0	5.81

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1958	1633	a24	Sept. 4, 1958	-	-	-	-	-	-	-
1959	1633	39	Aug. 17, 1959	0	0.006	4.64	0.013	-	-	9.21
1960	1714	8.3	Oct. 29, 1959	0	.008	5.81	-	-	-	-

a Maximum for period June to September.

4967. Cibecue No. 2 tributary to Carrizo Creek, near Show Low, Ariz.

Location.--Lat 34°00', long 110°19', in NE $\frac{1}{4}$ sec.22, T.7 N., R.19 E. (unsurveyed), in Fort Apache Indian Reservation, on an unnamed tributary to Carrizo Creek, on Cibecue ridge, 1.9 miles upstream from mouth of main stem and 25 miles southwest of Show Low.

Drainage area.--0.065 sq mi (41.7 acres).

Records available.--June 1958 to September 1960.

Gage.--Water-stage recorder and modified critical-depth flume. Altitude of gage is 5,200 ft (from topographic map).

Extremes.--1958-60: Maximum discharge, 34 cfs Aug. 19, 1959 (gage height, 2.90 ft); no flow for most of each year.

Remarks.--No regulation or diversion above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	-	-	0.0006	0.006	0.028	-
1959	0.019	0	0	0	0	0	0	0	0	0	.062	0	0.007
1960	.051	.007	.048	.026	.002	0	0	0	0	0	.0003	0	.012

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	-	-	0.04	0.38	1.53	-
1959	1.19	0	0	0	0	0	0	0	0	0	3.83	0	5.02
1960	3.15	.42	2.96	1.63	.14	.14	0	0	0	0	.02	0	8.46

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet		
		Discharge	Date							
1958	1563	a30	Sept. 4, 1958	-	-	-	-	-	-	-
1959	1633	34	Aug. 19, 1959	0	0.007	5.02	0.014	-	-	10.4
1960	1713	11	Dec. 25, 1959	0	.012	8.46	-	-	-	-

a Maximum for period June to September.

4975. Salt River near Chrysotile, Ariz.

Location.--Lat 33°48', long 110°30', in sec.25, T.5 N., R.17 E. (unsurveyed), in San Carlos Indian Reservation, on left bank 1,200 ft upstream from bridge on U. S. Highway 60, 5½ miles northeast of Chrysotile, 8 miles upstream from Cibecue Creek, and 33 miles downstream from confluence of Black and White Rivers.

Drainage area.--2,849 sq mi.

Records available.--September 1924 to September 1960 (monthly discharge only for July to December 1954).

Gage.--Water-stage recorder. Datum of gage is 3,354.57 ft above mean sea level, datum of 1929.

Average discharge.--36 years (1924-60), 587 cfs (425,000 acre-ft per year); median of yearly mean discharges, 480 cfs (348,000 acre-ft per year).

Extremes.--1924-60: Maximum discharge, 52,900 cfs Feb. 7, 1937, corrected (gage height, 15.18 ft); minimum, 49 cfs July 6, 7, 1955.

Flood peak of 74,000 cfs (gage height, 18 ft, from floodmarks), from rating curve extended above 52,000 cfs by logarithmic plotting, occurred prior to 1924 and is believed to be the peak of the flood of Jan. 19, 1916.

Remarks.--Several small diversions for irrigation above station of about 3,100 acres, 1 transbasin diversion into basin (see p.535 for record of Forestdale Creek diversion from Show Low Creek, near Show Low), and 1 transbasin diversion out of basin (see p. 489 for record of Willow Creek diversions from Black River, near Morenci).

Corrections.--In WSP 1313, the acre-feet runoff for August 1931 is listed in error; it should be 45,340 acre-ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	108	116	134	147	161	205	299	341	109	96.5	335	163	185
1952	120	179	708	4,253	574	1,535	4,455	2,011	649	199	330	196	1,270
1953	126	176	171	181	168	847	512	310	184	212	203	87.4	266
1954	85.6	115	118	130	147	1,716	848	342	123	264	514	227	368
1955	122	118	128	149	153	214	161	132	92.6	176	1,202	219	242
1956	134	137	162	197	348	672	578	358	110	120	154	68.5	253
1957	79.1	112	113	393	635	672	624	504	320	183	941	329	408
1958	200	312	206	153	631	2,648	3,727	1,698	391	125	229	458	896
1959	538	212	182	154	168	195	218	106	73.8	147	912	209	261
1960	252	754	1,253	1,691	736	2,354	1,409	637	269	112	142	107	812

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6,620	6,890	8,260	9,050	8,940	12,620	17,810	20,950	6,490	5,930	20,580	9,690	133,800
1952	7,370	10,680	43,550	261,500	33,020	94,400	265,100	123,600	38,640	12,210	20,270	11,660	922,000
1953	7,750	10,460	10,540	11,120	9,350	52,060	30,460	19,060	10,970	13,030	12,450	5,200	192,400
1954	5,260	6,850	7,270	7,970	8,180	105,500	50,480	21,050	7,340	16,240	31,560	13,500	281,200
1955	7,500	7,030	7,860	9,190	8,510	13,160	10,790	8,100	5,510	10,600	73,890	13,040	175,400
1956	8,260	8,140	9,960	12,140	20,000	41,340	34,420	21,990	6,580	7,350	9,440	4,080	183,700
1957	4,870	6,690	6,950	24,170	35,240	41,320	37,150	30,990	19,030	11,250	57,860	19,580	295,100
1958	12,310	18,560	12,620	9,380	35,060	162,800	221,800	104,400	22,690	7,690	14,090	27,290	648,700
1959	33,100	12,600	11,220	9,490	9,350	12,000	12,950	6,500	4,390	9,010	56,090	12,450	189,200
1960	15,490	44,850	77,040	104,000	42,320	144,800	83,860	39,170	15,990	6,920	8,740	6,360	589,500

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	215	155,600
1951	1213	5,150	Aug. 29, 1951	62	185	133,800	240	173,700
1952	1243	51,500	Jan. 14, 1952	90	1,270	922,000	1,225	889,200
1953	1283	3,680	July 30, 1953	75	266	192,400	253	183,100
1954	1343	28,700	Mar. 23, 1954	75	368	281,200	393	284,200
1955	1393	8,820	Aug. 23, 1955	56	242	175,400	248	179,400
1956	1443	1,640	Jan. 29, 1956	55	253	183,700	242	175,800
1957	1513	3,760	Aug. 2, 1957	56	408	295,100	442	320,100
1958	1563	19,700	Mar. 22, 1958	90	896	648,700	915	662,100
1959	1633	7,290	Aug. 20, 1959	60	261	189,200	372	269,600
1960	1713	26,200	Dec. 26, 1959	74	812	589,500	-	-

4978. Cibecue Creek near Chrysotile, Ariz.

Location.--Lat 33°50'25", long 110°33'25", in E $\frac{1}{2}$ sec.8, T.5 N., R.17 E. (unsurveyed), in Fort Apache Indian Reservation, on right bank half a mile upstream from mouth and 7 miles north of Chrysotile.

Drainage area.--295 sq mi.

Records available.--May 1959 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 3,200 ft (from topographic map).

Extremes.--1959-60: Maximum discharge, 7,080 cfs Dec. 26, 1959 (gage height, 9.30 ft), from rating curve extended above 710 cfs on basis of slope-area measurement at gage height, 7.7 ft; minimum, 4.4 cfs Oct. 26, 27, 1959.

Remarks.--Small diversions for irrigation in the vicinity of village of Cibecue.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	7.54	78.7	98.7	8.71	-
1960	79.5	66.6	124	157	53.1	146	40.6	18.6	12.0	13.9	23.6	17.2	63.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	449	4,840	5,940	518	-
1960	4,890	3,960	7,590	9,650	3,060	8,980	2,420	1,140	714	853	1,450	1,020	45,730

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1959	1633	4,600	July 29, 1959	-	-	-	-	-
1960	1713	7,080	Dec. 26, 1959	4.4	63.0	45,730	-	-

a Maximum for period May to September.

4985. Salt River near Roosevelt, Ariz.

Location.--Lat 33°37'10" N., long 110°55'15" W., in SE 1/4 sec. 9, T.3 N., R.14 E. (unsurveyed), on left bank 100 ft downstream from bridge on Globe-Young Highway, a quarter of a mile downstream from Pinal Creek, 1 mile upstream from diversion dam for power canal, 14 miles east of village of Roosevelt, and 17 miles upstream from Roosevelt Dam.

Drainage area.--4,306 sq mi.

Records available.--January 1913 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,177.14 ft above mean sea level, datum of 1929. Prior to 1925, staff gage at diversion dam about 1 mile downstream at different datum. Staff gage at present site and datum 1925 to Jan. 17, 1935. May 20, 1955, to July 30, 1959, supplementary water-stage recorder at diversion dam.

Average discharge.--47 years (1913-60), 856 cfs (619,700 acre-ft per year); median of yearly mean discharges, 670 cfs (485,000 acre-ft per year).

Extremes.--1913-60: Maximum discharge, 117,000 cfs Mar. 14, 1941 (gage height, 24.4 ft), from rating curve extended above 55,000 cfs on basis of velocity-area studies and float-area measurements at 66,000 and 102,000 cfs; minimum, 59 cfs all or part of each day July 1-4, 7-12, 1955.
Minimum discharge known, about 42 cfs Aug. 5, 1911.

Remarks.--Several small diversions for irrigation of about 4,000 acres and 2 transbasin diversions above station, 1 into basin from Show Low Creek and 1 out of basin to Willow Creek. Records show inflow to Roosevelt Reservoir. See page 543 for record for Tonto Creek, which also contributes to Roosevelt Reservoir. Records of water temperatures for the period April 1958 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	116	135	152	169	192	243	329	373	118	112	1,064	248	272
1952	154	217	923	6,245	725	2,259	5,184	2,252	672	236	434	232	1,633
1953	151	237	225	257	216	1,157	598	350	201	289	235	104	337
1954	101	139	152	164	186	2,215	978	366	131	354	680	283	483
1955	139	139	148	171	173	233	212	155	129	225	1,615	259	302
1956	139	153	189	225	398	736	645	371	121	138	187	77.9	280
1957	85.5	122	127	764	925	769	617	500	320	187	1,048	352	482
1958	233	363	240	186	723	3,137	3,915	1,825	407	147	296	571	1,002
1959	670	232	206	181	203	230	240	127	78.7	228	1,331	237	333
1960	552	1,259	2,675	2,620	1,008	2,936	1,644	677	285	131	172	136	1,179

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7,100	7,930	9,360	10,390	10,640	14,970	19,570	22,940	7,050	6,910	65,400	14,730	197,000
1952	9,480	12,920	56,780	394,000	41,680	138,900	308,400	138,400	40,010	14,520	26,660	13,820	1,186,000
1953	9,270	14,120	13,850	15,830	11,980	71,170	35,590	21,520	11,940	17,740	14,430	8,160	243,600
1954	6,220	8,300	9,350	10,110	10,340	136,200	58,190	22,520	7,780	21,780	41,810	16,830	349,400
1955	8,520	8,270	9,130	10,520	9,590	14,330	12,590	9,530	7,680	15,810	99,330	15,390	218,700
1956	8,540	9,130	11,530	13,860	22,320	45,240	38,350	22,830	7,180	8,500	11,500	4,640	203,600
1957	5,250	7,280	7,830	46,980	51,380	46,760	36,700	30,740	19,040	11,490	64,470	20,940	348,900
1958	13,710	21,610	14,780	11,410	40,150	192,900	232,900	112,200	24,230	9,020	18,190	33,960	725,100
1959	41,220	13,820	12,670	11,130	11,300	14,160	14,510	7,810	4,680	14,040	81,830	14,070	241,000
1960	33,940	74,890	164,500	161,100	57,980	180,600	97,810	41,630	16,940	8,040	10,550	8,090	856,100

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	252	182,300	
1951	1213	27,600	Aug. 28, 1951	64	272	197,000	348	251,800	
1952	1243	111,000	Jan. 18, 1952	105	1,633	1,186,000	1,576	1,144,000	
1953	1283	4,520	Mar. 9, 1953	88	337	243,600	318	230,200	
1954	1343	40,800	Mar. 23, 1954	88	483	349,400	486	351,500	
1955	1393	8,640	Aug. 24, 1955	59	302	218,700	307	222,000	
1956	1443	1,460	Jan. 29, 1956	64	280	203,600	268	194,800	
1957	1513	6,720	Jan. 10, 1957	64	482	348,900	523	378,600	
1958	1563	24,000	Mar. 23, 1958	118	1,002	725,100	1,026	742,700	
1959	1633	12,100	Aug. 20, 1959	65	333	241,000	617	446,700	
1960	1713	78,200	Dec. 26, 1959	106	1,179	856,100	-	-	

4990. Tonto Creek above Gun Creek, near Roosevelt, Ariz.

Location.--Lat 33°59', long 111°18', in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2, T. 7 N., R. 10 E., in Tonto National Forest, on left bank 600 ft upstream from Gun Creek, 23 $\frac{1}{2}$ miles northwest of village of Roosevelt, and 26 miles upstream from Roosevelt Dam.

Drainage area.--675 sq mi.

Records available.--December 1940 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,523.14 ft above mean sea level, datum of 1929.

Average discharge.--19 years (1941-60), 105 cfs (76,020 acre-ft per year); median of yearly mean discharges, 86 cfs (62,300 acre-ft per year).

Extremes.--1940-60: Maximum discharge, 45,400 cfs Jan. 18, 1952 (gage height, 16.55 ft), from rating curve extended above 2,000 cfs on basis of shape of previous rating curve defined to 27,000 cfs; no flow for short periods in several years.

Remarks.--Small diversions above station for irrigation.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.55	6.56	10.4	20.7	26.0	37.2	23.7	37.6	3.54	1.96	1,091	61.8	112
1952	17.5	25.7	540	1,277	84.6	873	567	141	27.8	45.8	60.3	16.3	309
1953	13.6	77.5	118	90.4	36.4	343	40.7	21.2	8.99	47.5	30.7	2.40	69.8
1954	1.46	10.2	12.5	18.2	14.2	407	69.2	13.7	2.73	43.2	26.7	31.6	54.8
1955	7.92	6.47	10.4	20.5	16.5	23.9	13.2	6.17	94.9	207	583	20.1	85.3
1956	7.84	14.0	56.0	25.4	77.7	40.7	24.8	9.30	.33	13.5	14.7	.78	23.6
1957	7.09	7.96	9.88	979	454	121	37.2	27.7	11.6	12.1	69.7	5.21	144
1958	47.6	97.2	26.7	17.5	177	792	294	35.0	9.96	4.65	35.6	138	139
1959	61.9	18.6	18.6	18.1	39.7	29.5	18.4	6.65	.55	25.1	247	3.87	41.0
1960	374	202	1,020	954	212	551	76.8	30.3	11.7	7.32	16.5	12.3	292

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	157	390	639	1,280	1,440	2,290	1,410	2,320	210	121	67,100	3,680	81,030
1952	1,080	1,530	33,230	78,510	4,860	53,680	33,760	8,660	1,660	2,820	3,710	970	224,500
1953	837	4,610	7,230	5,560	2,020	21,070	2,420	1,300	535	2,920	1,890	143	50,540
1954	90	606	772	1,120	790	25,020	4,120	840	162	2,660	1,640	1,880	39,700
1955	487	385	642	1,260	918	1,470	787	390	5,650	12,720	35,870	1,200	61,770
1956	482	836	3,440	1,560	4,470	2,500	1,470	572	20	827	902	46	17,120
1957	436	474	607	60,200	25,200	7,440	2,220	1,710	693	747	4,280	310	104,300
1958	2,930	5,790	1,640	1,080	9,810	48,690	17,500	2,150	593	286	2,190	8,230	100,900
1959	3,800	1,110	1,150	1,110	2,210	1,820	1,090	409	33	1,540	15,170	230	29,670
1960	23,000	12,020	62,610	58,680	12,210	33,910	4,570	1,860	698	450	1,020	734	211,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	32.2	-	23,280
1951	1213	31,100	Aug. 28, 1951	0.5	112	81,030	160	-	115,700
1952	1243	45,400	Jan. 18, 1952	6.6	309	224,500	277	-	201,300
1953	1283	2,620	July 30, 1953	.1	69.3	50,540	54.3	-	39,330
1954	1343	8,100	Mar. 23, 1954	0	54.3	39,700	54.9	-	39,750
1955	1393	15,200	Aug. 6, 1955	0	85.3	61,770	89.8	-	65,010
1956	1443	2,330	July 18, 1956	0	23.6	17,120	19.1	-	13,880
1957	1513	15,000	Jan. 9, 1957	.5	144	104,300	156	-	113,200
1958	1563	10,600	Mar. 22, 1958	1.5	139	100,900	133	-	96,590
1959	1633	11,100	Aug. 19, 1959	0	41.0	29,670	167	-	121,200
1960	1713	25,200	Dec. 26, 1959	2.2	292	211,800	-	-	-

5010. Reservoir system on Salt River at and below Roosevelt Dam, Ariz.

Location.--This system comprises 4 storage reservoirs created by 4 separate dams on Salt River: Roosevelt Lake, formed by Roosevelt Dam, in sec.20, T.4 N., R.12 E. (unsurveyed); Apache Lake, formed by Horse Mesa Dam, 17 miles downstream from Roosevelt Dam; Canyon Lake, formed by Mormon Flat Dam, 27 miles downstream from Roosevelt Dam; Saguaro Lake, formed by Stewart Mountain Dam, 37 miles downstream from Roosevelt Dam.

Drainage area.--6,211 sq mi, at Stewart Mountain Dam.

Records available.--April 1910 to September 1960. Prior to October 1934 month-end contents only, published in WSP 1313. Evaporation: April 1958 to September 1960.

Gages.--Roosevelt Lake, water-stage recorder; Apache Lake, water-stage indicator in power-plant connected to long distance transmitter on lake since April 1949 (prior to that date, staff gage or reference mark); Canyon and Saguaro Lakes, mercury column gages.

Extremes.--1910-60: Maximum contents, 1,764,000 acre-ft May 22, 1941; minimum, 20,680 acre-ft Sept. 16, 1940.

Remarks.--Records given herein represent usable contents. Dead storage negligible. Total capacity of the four reservoirs is 1,755,000 acre-ft, divided as follows: Roosevelt Lake, 1,382,000 acre-ft; Apache Lake, 245,000 acre-ft; Canyon Lake, 58,000 acre-ft; Saguaro Lake, 70,000 acre-ft. Dams forming these reservoirs were built as follows: Roosevelt 1905-11; Horse Mesa 1924-27; Mormon Flat 1923-26; Stewart Mountain 1928-30. The four dams forming these reservoirs completely develop the fall in Salt River from Roosevelt Lake to Stewart Mountain Dam. Elevation of water surface varies from 1,422.0 (still of lowest outlet in Stewart Mountain Dam) to 2,136 ft (top of spillway gates in raised position on Roosevelt Dam). Since 1910, spill over Roosevelt Dam because of capacity storage has occurred only during the following periods: Apr. 15 to June 21, 1915, Jan. 19 to May 30, 1916, Apr. 21 to June 7, 1917, Feb. 17 to June 3, 1920, and Apr. 13 to July 24, 1941. Water from this system is used for irrigation of Salt River Valley and for generation of power.

Cooperation.--Records of daily contents furnished by Salt River Valley Water Users' Association.

Correction.--In WSP 1313, the contents for Sept. 30, 1950, is listed in error; it should be 303,700 acre-ft.

Contents, in thousands of acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	275.8	266.6	258.1	266.0	271.4	242.5	223.3	223.6	161.6	89.26	189.6	205.9
1952	215.7	232.6	290.9	744.2	785.8	1,017	1,337	1,451	1,458	1,402	1,346	1,291
1953	1,292	1,314	1,335	1,356	1,350	1,387	1,360	1,326	1,244	1,170	1,086	1,007
1954	984.2	968.9	941.6	944.4	928.3	1,054	1,065	1,033	968.7	935.7	916.3	880.0
1955	857.0	842.7	814.4	822.5	814.2	767.5	707.6	653.3	590.1	557.7	649.6	577.4
1956	557.8	562.0	573.0	579.7	598.6	583.0	566.0	535.2	454.8	369.2	296.5	223.5
1957	205.5	204.1	191.9	308.4	388.0	433.8	441.2	461.5	424.5	363.2	346.2	292.4
1958	311.9	377.6	352.7	361.8	404.4	620.7	845.3	904.6	867.4	805.4	748.0	740.4
1959	773.0	782.4	790.0	796.7	810.1	748.2	717.4	673.7	600.1	525.8	562.7	511.7
1960	572.1	646.3	888.0	1,131	1,200	1,581	1,446	1,448	1,401	1,325	1,253	1,191

Monthly and yearly gross evaporation, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	6,100	11,190	13,180	13,950	10,030	8,600	-
1959	+6,820	+3,690	+1,940	+1,830	+1,900	+4,350	+6,450	+8,500	+8,070	+7,570	+6,020	+6,500	+63,440
1960	+5,310	+3,740	+4,290	3,060	+2,980	4,040	8,910	11,690	14,050	14,350	12,010	8,460	+93,490

† Corrected.

5020. Salt River below Stewart Mountain Dam, Ariz.

Location.--Lat 33°33'00", long 111°34'35", in N $\frac{1}{2}$ NW $\frac{1}{4}$ sec. 6, T.2 N., R.8 E. (unsurveyed), on left bank $3\frac{1}{2}$ miles downstream from Stewart Mountain Dam and 6 miles upstream from Verde River.

Drainage area.--6,232 sq mi, of which 21 sq mi is below Stewart Mountain Dam.

Records available.--March 1930 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as "at Stewart Mountain Dam" 1934-41.

Gage.--Water-stage recorder. Altitude of gage is 1,370 ft (from topographic map). Prior to Sept. 27, 1934, water-stage recorder at site $3\frac{1}{2}$ miles upstream at different datum. Sept. 27, 1934, to Jan. 20, 1950, at site $2\frac{1}{2}$ miles upstream at datum 1,396.33 ft above mean sea level, datum of 1929.

Average discharge.--30 years (1930-60), 803 cfs (531,300 acre-ft per year).

Extremes.--1930-60: Maximum discharge, 11,700 cfs May 7, 1941 (gage height, 15.97 ft, site and datum then in use); no flow at times 11 recent years.

Remarks.--Flow regulated at Stewart Mountain Dam and three other dams (combined capacity, 1,755,000 acre-ft, see preceding page). Entire flow is diverted at Granite Reef Dam, 10 miles downstream, for irrigation in Salt River Valley. Records of chemical analyses and water temperatures for the period December 1950 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	619	253	287	57.2	56.2	769	634	402	1,243	1,404	983	10.3	564
1952	4.41	1.40	298	3.02	1.75	273	3.85	3.49	241	1,041	1,358	1,018	362
1953	63.9	1.38	.04	0	279	969	1,010	770	1,491	1,498	1,576	1,339	751
1954	396	317	537	143	361	892	1,786	728	1,097	854	1,264	993	699
1955	399	294	605	4.81	221	909	1,169	954	1,318	1,232	1,031	1,504	804
1956	434	.54	5.98	80.9	143	1,011	885	801	1,441	1,654	1,495	1,460	786
1957	291	94.4	366	2.28	.39	62.1	465	1.07	908	1,201	1,341	1,231	499
1958	65.3	.42	0	0	.69	102	46.6	502	803	963	1,211	899	392
1959	62.8	1.02	.15	0	40.2	1,285	709	717	1,229	1,426	889	1,085	624
1960	285	43.7	48.0	206	10.2	137	305	530	935	1,302	1,314	1,077	518

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	38,080	15,050	17,660	3,510	3,120	47,280	37,700	24,750	73,940	86,330	60,430	614	408,500
1952	271	63	18,310	186	101	237	207	16,830	20,600	64,030	83,370	60,560	262,800
1953	3,930	81	2.6	0	15,490	59,570	60,110	47,320	88,690	92,080	96,930	78,660	543,900
1954	24,340	18,870	33,030	8,820	20,040	54,860	46,760	44,780	65,260	52,500	77,700	59,080	506,000
1955	24,520	17,490	37,180	296	12,290	55,880	69,580	57,450	78,450	75,750	63,380	89,520	581,800
1956	26,700	32	368	4,980	8,220	62,190	52,640	49,240	85,760	101,700	91,950	86,860	570,600
1957	17,900	5,620	22,490	140	21	3,820	27,680	68	54,030	73,850	82,430	73,240	361,300
1958	4,020	25	0	38	8,250	27,770	35,770	47,800	59,180	74,480	53,510	283,800	283,800
1959	3,860	60	9.5	0	2,230	78,990	42,160	44,100	73,130	87,690	54,640	64,540	451,400
1960	17,520	2,600	2,950	12,650	586	8,400	18,140	32,590	55,610	80,030	80,800	64,110	376,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean		Acre-feet
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1213	2,200	July 19, 1951	8.3	564	408,500	729	528,000	
1952	1243	2,780	Sept. 2, 1952	.6	362	262,800	492	356,300	
1953	1283	2,200	July 13, 1953	0	751	543,900	342	248,100	
1954	1345	6,610	Aug. 19, 1954	.6	699	506,000	851	616,100	
1955	1393	2,620	Sept. 2, 1955	0	804	581,800	703	509,000	
1956	1443	2,720	July 9, 1956	0	786	570,600	732	529,700	
1957	1513	1,730	Dec. 28, 1956	0	499	361,300	812	589,600	
1958	1563	1,880	Sept. 3, 1958	0	392	285,800	441	319,300	
1959	1633	1,900	Mar. 18, 1959	0	624	451,400	392	263,700	
1960	1713	2,980	July 11, 1960	2.8	518	376,000	650	470,600	

5045. Oak Creek near Cornville, Ariz.

Location.--Lat 34°46'00", long 111°53'30", in SE $\frac{1}{4}$ sec.23, T.16 N., R.4 E., near left bank on downstream side of pier of county highway bridge, 0.2 mile upstream from Page Springs, 4 miles northeast of Cornville, and 15 miles upstream from mouth.

Drainage area.--357 sq mi.

Records available.--July 1940 to September 1945, April 1948 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 3,470 ft (from topographic map).

Average discharge.--17 years (1940-45, 1948-60), 81.4 cfs (58,930 acre-ft per year); median of yearly mean discharges, 73 cfs (52,800 acre-ft per year).

Extremes.--1940-45, 1948-60: Maximum discharge, 17,200 cfs Dec. 30, 1951 (gage height, 14.5 ft in gage well, 16.9 ft from floodmarks on bank); minimum, 6 cfs July 27, 1940 (gage height, 1.98 ft).
Maximum stage known, 23 ft in March 1938, from floodmarks.

Remarks.--Some slight regulation during low flow by several small diversions above station for irrigation. Records of water temperatures for the period June 1954 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	24.5	35.4	35.4	39.3	37.8	46.4	34.5	70.4	18.7	16.6	90.0	36.7	40.7
1952	46.5	36.8	400	276	65.4	213	458	33.0	16.3	22.7	27.7	29.9	136
1953	25.5	36.8	39.8	63.5	36.5	45.2	29.5	27.2	17.1	38.3	32.1	25.0	34.8
1954	26.2	34.0	37.3	37.4	41.6	449	136	23.2	18.2	36.6	30.6	34.5	75.9
1955	27.1	31.1	33.4	36.4	43.1	94.1	29.3	23.1	23.9	25.6	50.0	20.4	36.5
1956	23.9	33.7	36.7	37.6	39.1	34.7	32.1	22.4	20.7	24.1	28.8	20.8	29.5
1957	24.4	33.0	36.4	180	43	85.4	32.7	34.0	58.0	25.9	37.0	22.4	79.7
1958	42.0	333	48.5	35.1	246	542	175	24.3	17.5	17.8	53.1	97.3	135
1959	33.8	37.5	35.8	35.6	76.2	65.3	29.6	24.6	18.0	24.8	71.9	23.9	39.6
1960	32.9	37.1	126	64.8	51.1	294	34.6	27.7	18.7	16.4	44.7	37.3	65.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,510	2,110	2,170	2,410	2,100	2,850	2,050	4,330	1,110	1,020	5,590	2,180	29,430
1952	2,860	2,190	24,800	16,960	3,760	13,100	27,230	2,030	968	1,390	1,700	1,780	98,570
1953	1,570	2,190	2,450	3,910	2,030	2,780	1,760	1,670	1,020	2,350	1,970	1,490	25,190
1954	1,610	2,020	2,290	2,300	2,310	27,630	8,060	1,420	1,080	2,250	1,880	2,050	54,900
1955	1,660	1,850	2,050	2,240	2,390	5,790	1,750	1,420	1,420	1,580	3,080	1,210	26,440
1956	1,470	2,010	2,260	2,310	2,250	2,130	1,910	1,380	1,230	1,480	1,770	1,240	21,440
1957	1,500	1,970	2,240	11,090	22,930	5,250	1,950	2,090	3,450	1,590	2,280	1,330	57,670
1958	2,580	19,830	2,980	2,160	13,680	33,320	10,420	1,490	1,040	1,080	3,260	5,790	97,630
1959	2,080	2,230	2,200	2,190	4,230	4,010	1,760	1,510	1,070	1,530	4,420	1,420	28,650
1960	2,020	2,210	7,730	3,990	2,940	18,090	2,060	1,700	1,110	1,010	2,750	2,220	47,830

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	57.4	41,550	
1951	1213	3,440	Aug. 29, 1951	14	40.7	29,430	73.6	53,290	
1952	1243	a17,200	Dec. 30, 1951	-	136	98,570	104	75,130	
1953	1283	858	(b)	13	34.8	25,190	34.4	24,900	
1954	1343	7,850	Mar. 23, 1954	13	75.9	54,900	75.4	54,540	
1955	1393	6,400	Aug. 23, 1955	13	36.5	26,440	36.8	26,610	
1956	1443	675	Aug. 17, 1956	12	29.5	21,440	29.5	21,410	
1957	1513	5,150	Jan. 10, 1957	16	79.7	57,670	107	77,350	
1958	1563	9,620	Nov. 3, 1957	12	135	97,630	109	78,750	
1959	1633	3,750	Aug. 5, 1959	14	39.6	28,650	47.1	34,100	
1960	1713	4,340	Dec. 25, 1959	14	65.9	47,830	-	-	

a From floodmarks.

b July 14, Aug. 28, 1953.

5075. Fossil Creek diversions to Childs powerplant, near Camp Verde, Ariz.

Location.--Lat 34°22'05", long 111°39'55", in NE¼SW¼ sec.20, T.11½ N., R.7 E., at head of Stehr Lake, 2½ miles northeast of Childs powerplant, 4.4 miles by flume downstream from Irving powerplant, and 17½ miles southeast of Camp Verde.

Records available.--January 1952 to September 1960.

Gage.--Water-stage recorder and weir in concrete flume. Altitude of gage is 3,730 ft (from topographic map).

Extremes.--1952-60: Maximum daily discharge, 51 cfs Apr. 17-21, 1952; no flow for short periods in most years.

Remarks.--Record is obtained at head of Stehr Lake, a regulatory basin, and shows the water used by Childs powerplant. Most of the flow originates at Fossil Springs which are fairly constant. Diversion is made from Fossil Creek 8 miles upstream from this station and is first used by Irving powerplant. A secondary diversion from Fossil Creek enters the flume below Irving powerplant.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951													
1952	-	-	-	2,910	2,660	2,910	2,870	2,800	2,640	2,760	2,510	2,680	-
1953	2,760	2,670	2,780	2,860	2,570	2,860	2,710	2,800	2,620	2,800	2,740	2,700	32,870
1954	2,770	2,660	2,370	2,780	2,460	2,810	2,750	2,700	2,600	2,710	2,730	2,670	32,010
1955	2,520	2,500	2,590	2,690	2,440	2,760	2,600	2,290	2,350	2,630	2,550	2,500	30,420
1956	2,580	2,460	2,660	2,700	2,480	2,660	2,500	2,550	2,440	2,500	2,630	2,240	30,380
1957	2,590	2,500	2,710	2,660	2,390	2,740	2,580	2,730	2,590	2,560	2,630	2,510	31,180
1958	2,650	2,100	2,590	2,740	2,340	2,280	2,160	2,680	2,550	2,650	2,640	2,610	29,960
1959	2,800	2,650	2,720	2,740	2,420	2,760	2,650	2,660	2,600	2,700	2,660	2,610	31,770
1960	2,710	2,620	2,670	2,710	2,580	2,740	2,640	2,680	2,610	2,650	2,630	2,490	31,730

5085. Verde River below Tangle Creek, above Horseshoe Dam, Ariz.

Location.--Lat 34°04'25", long 111°42'50", in sec.35, T.9 N., R.6 E. (unsurveyed), in Tonto National Forest, on right bank $1\frac{1}{4}$ miles downstream from Tangle Creek and 9 miles upstream from Horseshoe Dam.

Drainage area.--5,872 sq mi (including 373 sq mi in Aubrey Valley Playa, a closed basin).

Records available.--August 1945 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,029.0 ft above mean sea level, datum of 1929.

Average discharge.--15 years (1945-60), 409 cfs (296,100 acre-ft per year); median of yearly mean discharges, 340 cfs (246,000 acre-ft per year).

Extremes.--1945-60: Maximum discharge, 81,600 cfs Dec. 31, 1951 (gage height, 17.62 ft), from rating curve extended above 42,000 cfs by logarithmic plotting; minimum, 48 cfs June 17, 1956, July 18, 19, 1958, caused by power regulation on Fossil Creek.

Greatest flood since 1924 occurred Mar. 3, 1938, discharge, 100,000 cfs (gage height, 19.0 ft, from floodmarks), computed from comparison of peak discharge at other stations on Verde River.

Remarks.--Diversion above station for irrigation of about 12,500 acres, some of which is pumping from ground water. Low flow slightly regulated by powerplant 32 miles above station, using water from Fossil Creek. This station is above all major reservoirs on Verde River.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	155	205	227	249	262	261	207	263	94.6	94.5	1,184	280	291
1952	222	280	1,750	2,255	416	1,865	2,474	315	108	127	212	270	859
1953	188	299	327	412	244	315	176	161	101	430	418	182	272
1954	164	201	241	253	254	1,949	625	130	99.8	299	340	253	403
1955	198	215	239	285	268	362	179	135	316	332	841	142	294
1956	183	221	284	250	243	205	186	117	86.8	205	169	98.5	189
1957	158	211	231	1,351	2,239	589	175	201	175	194	322	136	488
1958	208	973	269	232	900	2,689	1,181	156	129	75.5	254	604	636
1959	269	244	239	227	378	331	170	133	94.3	228	546	130	249
1960	640	315	1,367	859	411	1,873	246	155	109	90.0	175	237	544

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9,510	12,190	13,980	15,310	14,550	16,050	12,340	16,180	5,630	5,810	72,830	16,640	211,000
1952	13,630	16,680	106,400	138,700	23,930	114,600	147,200	19,220	6,410	7,780	13,020	16,070	623,600
1953	11,540	17,770	20,100	25,340	13,540	19,340	10,490	9,900	6,020	26,410	25,720	10,820	197,000
1954	10,080	11,990	14,790	15,560	14,080	119,800	37,190	7,960	5,940	18,360	20,890	15,050	291,700
1955	12,200	12,800	14,710	17,510	14,860	22,260	10,640	8,320	18,820	20,390	51,720	8,430	212,700
1956	11,230	13,140	17,440	15,370	13,990	12,610	11,050	7,210	5,180	12,630	11,630	5,860	137,300
1957	9,710	12,540	14,210	83,040	24,300	36,280	10,420	12,360	10,430	11,940	19,820	8,110	353,100
1958	12,760	57,920	16,550	14,260	49,990	165,300	70,290	9,580	7,890	4,640	15,610	35,950	460,500
1959	16,520	14,540	14,720	13,940	20,390	20,340	10,100	8,150	5,610	14,000	33,550	7,760	180,200
1960	39,340	18,720	84,070	52,800	23,660	115,200	14,640	9,500	6,480	5,530	10,740	14,120	394,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	284	205,600
1951	1213	16,400	Aug. 30, 1951	68	291	211,000	431	312,000
1952	1243	81,600	Dec. 31, 1951	77	859	623,600	739	536,300
1953	1283	6,390	Aug. 29, 1953	80	272	197,000	255	184,400
1954	1343	19,700	Mar. 23, 1954	79	403	291,700	407	294,500
1955	1393	11,600	Aug. 23, 1955	87	294	212,700	297	214,800
1956	1443	12,800	July 31, 1956	67	189	137,300	182	132,000
1957	1513	14,500	Jan. 10, 1957	88	468	353,100	558	403,900
1958	1563	21,100	Mar. 23, 1958	61	636	460,500	579	419,100
1959	1633	6,060	Aug. 17, 1959	76	249	160,200	362	276,600
1960	1713	23,400	Dec. 26, 1959	75	544	394,800	-	-

5095. Reservoir system on Verde River at and below Horseshoe Dam, Ariz.

Location.--This system comprises two storage reservoirs created by Horseshoe and Bartlett Dams on Verde River. Horseshoe Reservoir, formed by Horseshoe Dam, lat 33°59'15", long 111°42'45", in sec.2, T.7 N., R.6 E. (unsurveyed), and Bartlett Reservoir, formed by Bartlett Dam, lat 33°49', long 111°38', in sec.34, T.6 N., R.7 E. (unsurveyed).

Drainage area.--6,185 sq mi, at Bartlett Dam.

Records available.--July 1939 to September 1960. Prior to 1946, published as Bartlett Reservoir at Bartlett Dam.

Gages.--Water-stage recorders on dam structures. Datum of gage on Horseshoe Reservoir is 1,900.00 ft and on Bartlett Reservoir 1,609.46 ft above mean sea level, datum of 1929.

Extremes.--1939-60: Maximum contents, 310,100 acre-ft May 2, 1952; no storage at times when natural flow of river was passed through reservoir system.

Remarks.--Horseshoe Reservoir is formed by earth- and rock-fill dam; dam completed and storage began Nov. 15, 1945. Bartlett Reservoir is formed by concrete multiple-arch dam; dam completed May 1939 and storage began Feb. 5, 1939. Total capacity of the two reservoirs is 322,300 acre-ft divided as follows: Horseshoe Reservoir, 142,800 acre-ft between elevations 1,915.0 (sill of outlet gate) and 2,026.0 ft (top of spillway gates); Bartlett Reservoir, 179,500 acre-ft between elevations 1,619.46 (10 ft above sill of outlet gates) and 1,797.46 ft (top of spillway gates). No dead storage. Records given herein represent usable contents. Water is used for irrigation of Salt River Valley and for municipal supply.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	5,110	4,710	4,270	7,380	10,240	7,480	9,050	3,730	2,740	2,370	70,580	31,200
1952	12,320	13,400	91,080	216,500	208,400	273,900	307,800	282,500	169,300	112,400	80,220	53,390
1953	29,890	35,040	33,830	36,610	35,710	48,440	50,370	52,740	35,440	33,650	22,120	17,450
1954	8,860	17,510	28,150	40,150	51,450	161,000	142,800	138,800	92,070	48,580	30,860	16,350
1955	24,060	32,420	42,230	56,100	66,670	58,340	56,020	54,330	41,410	37,330	76,650	70,390
1956	70,680	74,340	70,000	78,260	87,290	69,640	65,850	55,530	32,150	16,850	9,490	5,260
1957	9,330	13,140	18,820	99,880	209,600	190,200	181,200	150,800	110,500	80,240	73,540	62,310
1958	58,390	103,900	103,400	108,100	152,200	250,200	233,900	199,700	147,500	84,080	73,520	100,200
1959	97,380	102,300	103,000	108,300	122,900	114,500	97,510	90,570	56,140	30,150	52,970	36,990
1960	96,700	110,800	206,100	256,500	246,300	220,300	162,700	120,400	54,700	20,700	19,000	19,000

5100. Verde River below Bartlett Dam, Ariz.

Location.--Lat 33°48'30", long 111°40'00", in NE $\frac{1}{4}$ sec. 6, T. 5 N., R. 7 E., on right bank $\frac{2}{3}$ miles downstream from Bartlett Dam and $\frac{3}{4}$ miles upstream from Camp Creek.

Drainage area.--6,188 sq mi.

Records available.--August 1888 to September 1960. Prior to October 1941, published under different names as follows: "near Fort McDowell," "at mouth," "above Salt River," "at McDowell," "at McDowell, near Lehi," "near McDowell," and "above Camp Creek, near McDowell."

Gage.--Water-stage recorder. Datum of gage is 1,572.34 ft above mean sea level, datum of 1929. Prior to Feb. 17, 1925, staff gages at several sites about 20 miles downstream at various datums. Feb. 17, 1925, to Dec. 31, 1941, water-stage recorder at two sites within half a mile upstream from Camp Creek at various datums.

Average discharge.--72 years (1888-1960), 685 cfs (495,900 acre-ft per year); median of yearly mean discharges, 550 cfs (398,000 acre-ft per year), adjusted for storage in Bartlett and Horseshoe Reservoirs.

Extremes.--1888-1939: Maximum discharge not determined (probably over 150,000 cfs Feb. 24, 1891); minimum daily, 29 cfs July 11, 13, 1901. Floods of Nov. 27, 1905, and Mar. 4, 1938, reached maximum discharges of 96,000 and 95,000 cfs, respectively. 1939-60: Maximum discharge, 45,800 cfs Mar. 15, 1941 (gage height, 17.5 ft, present site and datum, from floodmarks); no flow at Bartlett Dam at times in several years when gates in dam were closed.

Remarks.--Diversions for irrigation above station of about 12,500 acres, some of which is by pumping from ground water. Flow completely regulated by Bartlett Reservoir since Feb. 5, 1939, and Horseshoe Reservoir since Nov. 15, 1945 (see preceding page), except during periods of spill or occasional floodflow below Bartlett Dam. Entire flow is diverted at Granite Reef Dam, 10 miles downstream, for irrigation in Salt River Valley and municipal use by city of Phoenix. Records of chemical analyses and water temperatures for the period December 1950 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	122	208	232	204	195	308	169	344	94.1	94.0	112	994	256
1952	552	283	202	131	602	900	1,929	1,039	1,732	1,118	783	754	833
1953	588	219	318	373	227	178	150	110	394	436	591	253	321
1954	308	52.8	53.0	51.8	50.0	92.7	988	174	877	1,091	837	513	408
1955	61.1	59.6	60.2	70.6	66.3	490	214	147	524	479	176	220	215
1956	117	174	379	108	91.7	499	254	267	479	455	309	141	274
1957	104	99.7	102	53.3	136	872	340	677	862	689	407	313	390
1958	270	126	276	151	132	1,043	1,492	698	1,027	1,177	417	155	583
1959	332	164	228	172	76.5	418	454	225	691	667	267	383	341
1960	24.6	61.4	73.1	208	592	2,316	1,328	848	1,183	711	199	215	646

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7,510	12,360	14,240	12,550	10,850	18,950	10,070	21,170	5,600	5,780	6,870	59,120	185,100
1952	33,960	16,850	12,400	8,070	34,610	55,350	114,800	63,880	103,000	68,750	48,170	44,850	604,700
1953	36,180	13,060	19,570	22,920	12,610	10,940	8,930	6,740	23,450	26,830	36,320	15,030	232,600
1954	18,820	3,140	3,260	3,190	2,780	5,700	58,770	10,690	52,170	67,080	39,190	30,500	295,300
1955	3,780	3,550	3,700	4,340	3,680	30,100	12,730	9,030	31,180	29,450	10,850	13,080	155,400
1956	7,220	10,350	23,310	6,630	5,270	30,690	15,090	16,430	28,500	27,970	19,010	8,390	198,900
1957	6,410	5,930	6,250	3,270	7,530	53,630	20,260	41,640	51,270	42,340	25,020	18,620	282,200
1958	16,620	7,500	16,970	9,310	7,360	64,100	88,810	42,950	61,130	72,370	25,610	9,200	421,900
1959	20,420	9,780	14,020	10,580	4,250	25,700	26,990	13,850	41,040	16,400	18,400	22,810	246,900
1960	1,510	3,650	4,490	12,780	34,030	142,400	79,050	52,170	70,400	43,690	12,250	12,790	469,200

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	328
1951	1213	2,080	Sept. 13, 1951	2	256	185,100	296
1952	1243	3,040	Apr. 1, 1952	6.6	833	604,700	841
1953	1283	1,230	June 24, 1953	20	321	232,600	261
1954	1243	2,440	July 8, 1954	45	468	295,300	588
1955	1393	3,220	July 23, 1955	24	215	155,400	256
1956	1443	1,400	Mar. 22, 1956	2.0	274	198,900	243
1957	1513	1,480	June 5, 1957	8.1	390	282,200	421
1958	1563	4,150	Mar. 25, 1958	6	583	421,900	587
1959	1633	1,280	July 15, 1959	6.5	341	246,900	293
1960	1713	3,500	July 4, 1960	.3	646	469,200	-

5110. Diversion for city of Phoenix from Salt and Verde Rivers, near McDowell, Ariz.

Location.--Lat 33°33', long 111°40', in SE $\frac{1}{4}$ sec.6, T.2 N., R.7 E., on pipeline, near mouth of Verde River, 1 and 6 miles downstream from intakes and 6.1 miles south of McDowell.

Records available (monthly diversion only).--February 1922 to September 1960. Published as Diversion for city of Phoenix from Verde River, at McDowell, prior to October 1954.

Gage.--Sparling meter. Prior to April 1950, water-stage recorder and weir at site 2 miles upstream.

Remarks.--Water is diverted from infiltration galleries and shallow wells from the Verde River and also by pumping directly from Verde and Salt Rivers. Infiltration galleries on right bank of Verde River in SE $\frac{1}{4}$ sec.6, T.3 N., R.7 E., three-quarters of a mile downstream from McDowell and 6 $\frac{1}{2}$ miles upstream from mouth of river; pump on Verde River since 1950 located in SE $\frac{1}{4}$ sec.31, T.3 N., R.7 E., 1 mile upstream from mouth and 6 miles downstream from McDowell; and four pumps on Salt River since May 6, 1954, in SE $\frac{1}{4}$ sec.6, T.2 N., R.7 E., just below mouth of Verde River. Water is used for municipal supply of Phoenix and is carried 29 miles to that city by pipeline. Negligible amount of waste occurs below point of measurement.

Water for Phoenix municipal use since June 3, 1954, is also diverted from Arizona Canal at the Squaw Peak filtration plant at lat 33°31', long 112°02', in SE $\frac{1}{4}$ sec.10, T.2 N., R.3 E. This water is included in published record Diversions from Salt River at Granite Reef Dam, Ariz.

Cooperation.--Records collected by city of Phoenix and furnished by Salt River Valley Water Users' Association.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,500	2,210	2,050	2,020	1,730	2,150	2,050	3,340	4,360	4,290	3,470	3,000	33,970
1952	3,550	1,390	1,280	1,400	1,650	1,860	2,160	3,510	4,350	4,910	4,820	3,500	33,380
1953	2,130	1,040	1,840	1,840	1,620	1,810	2,100	2,900	4,450	5,310	5,250	4,550	34,840
1954	2,880	2,000	1,530	1,730	1,900	2,140	3,030	3,740	3,620	3,520	2,730	2,270	30,870
1955	2,030	1,940	1,870	1,400	1,530	1,950	2,490	2,820	3,090	3,540	3,230	3,090	28,980
1956	0	0	0	0	0	311	1,880	2,420	2,750	2,240	2,690	12,290	
1957	1,590	207	0	527	397	1,090	1,750	2,000	2,660	2,970	2,880	2,610	18,680
1958	1,310	336	820	254	0	0	1,720	2,940	3,260	2,880	2,520	16,040	
1959	1,460	954	0	0	0	0	939	3,180	3,660	2,530	2,530	15,250	
1960	1,890	66	0	0	0	579	2,180	3,170	4,820	5,270	4,240	3,620	25,840

5120. Diversions from Salt River at Granite Reef Dam, Ariz.

Location.--Lat 33°31', long 111°42', at heads of Arizona and South Canals, which divert on right and left banks, respectively, at Granite Reef Dam on Salt River, 3 $\frac{1}{2}$ miles downstream from Verde River.

Records available (monthly diversions only).--January 1913 to September 1960.

Gages.--Water-stage recorders.

Remarks.--Records given herein are those of discharge at the two gaging stations less flow returned from the canals to the river by wasteways between stations and irrigated lands and represent flow diverted from Salt River for irrigation in Salt River Valley and to city of Phoenix for municipal use. See preceding station for published record of Diversions for city of Phoenix from Salt and Verde Rivers near McDowell. Flow at Granite Reef Dam is regulated by four dams on Salt River (see Reservoir system on Salt River at and below Roosevelt Dam) and by Bartlett and Horseshoe Dams on Verde River.

Cooperation.--Records furnished by Salt River Valley Water Users' Association.

Monthly and yearly mean diversion, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	42,950	26,280	30,540	16,100	12,780	63,770	44,960	41,010	71,130	83,630	64,580	54,000	551,700
1952	30,980	15,700	29,600	9,270	30,180	56,710	107,400	72,420	14,100	128,700	124,200	97,840	817,100
1953	36,890	13,490	19,340	25,040	27,790	67,190	66,550	50,230	102,300	113,800	127,800	88,490	736,900
1954	39,060	20,970	35,620	11,550	21,340	58,000	99,680	50,890	109,300	110,300	106,300	86,800	749,800
1955	26,100	18,760	38,230	3,980	15,390	79,230	79,810	61,200	101,800	100,800	72,300	97,600	695,200
1956	30,640	9,630	21,150	11,070	11,410	88,350	64,770	58,430	106,400	122,700	103,600	90,360	718,500
1957	23,190	11,170	28,280	5,230	6,900	53,900	47,220	36,450	98,050	110,500	101,400	87,880	608,200
1958	19,820	6,930	15,580	8,900	4,790	59,300	83,060	73,890	102,400	112,900	96,720	60,820	654,700
1959	22,090	8,500	11,550	8,720	4,020	97,450	63,690	52,060	102,400	120,100	67,030	79,360	637,000
1960	17,710	5,100	6,060	24,080	32,290	135,400	90,760	76,300	116,500	116,200	85,740	75,250	781,400

5123. Cave Creek near Cavecreek, Ariz.

Location.--Lat 33°47'10", long 112°04'00", in SW $\frac{1}{4}$ sec.12, T.5 N., R.3 E., on left bank 200 ft upstream from Prescott to Mesa transmission line, 4 $\frac{1}{4}$ miles southwest of town of Cavecreek, and 5 miles upstream from Cave Creek Dam.

Drainage area.--121 sq mi.

Records available.--May 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 1,800 ft (by barometer).

Extremes.--1958-60: Maximum discharge, 8,570 cfs Oct. 29, 1959 (gage height, 8.47 ft), from rating curve extended above 720 cfs on basis of slope-area measurement at gage height 6.79 ft and logarithmic plotting; no flow for most of time.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	0.03	-	-	0	0	0	7.77	21.2	-
1959	0.55	0	0	0	0	0	0	0	0	0	17.3	0	1.51
1960	68.0	.62	112	17.3	0	0	0	0	0	0	5.95	1.6	17.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	1.8	-	-	0	0	0	48	1,260	-
1959	34	0	0	0	0	0	0	0	0	0	1,060	0	1,100
1960	4,180	37	6,870	1,060	0	0	0	0	0	0	366	93	12,610

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1958	1563	as 5,680	Sept. 12, 1958	-	-	-	-	-	-
1959	1633	3,590	Aug. 5, 1959	0	1.51	1,100	16.8	12,150	-
1960	1713	8,570	Oct. 29, 1959	0	17.4	12,610	-	-	-

a Maximum for period May to September.

5124. Cave Creek at Phoenix, Ariz.

Location.--Lat 33°35'00", long 112°06'50", in SW $\frac{1}{4}$ sec.24, T.3 N., R.2 E., on right bank at Peoria Avenue in Phoenix, 0.7 mile upstream from Arizona Canal.

Drainage area.--252 sq mi.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,249.33 ft above mean sea level, datum of 1929, adjustment of 1948 (from Salt River Valley Water Users' Association temporary bench mark).

Extremes.--1957-60: Maximum discharge, 573 cfs Sept. 13, 1958 (gage height, 2.76 ft), from rating curve extended above 240 cfs by logarithmic plotting; no flow for most of time.

Remarks.--Peak flow regulated by detention dam 12 miles upstream.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	2.52	1.86	0	0	4.86	0	0	0	0.60	0	1.29	15.6	2.18
1959	0	0	0	0	0	0	0	0	0	0	6.85	0	.58
1960	23.8	28.7	71.7	4.5	0	0	0	0	0	0	4.2	0	11.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	155	111	0	0	270	0	0	0	38	0	79	929	1,580
1959	0	0	0	0	0	0	0	0	0	0	421	0	421
1960	1,470	1,710	4,410	276	0	0	0	0	0	0	256	0	8,120

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1958	1563	573	Sept. 13, 1958	0	2.18	1,580	1.81	1,310	-
1959	1633	541	Aug. 5, 1959	0	.58	421	11.0	8,010	-
1960	1713	557	Dec. 14, 1959	0	11.2	8,120	-	-	-

5125. Agua Fria River near Mayer, Ariz.

Location.--Lat 34°19', long 112°04', in NW 1/4 sec. 20, T.11 N., R.3 E., on left bank at Sycamore damsite, 700 ft downstream from Bigbug Creek and 12 miles southeast of Mayer.

Drainage area.--588 sq mi.

Records available.--January 1940 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 3,434 ft (levels by Maricopa County Municipal Water Conservation District No. 1).

Average discharge (unadjusted).--20 years (1940-60), 14.2 cfs (10,280 acre-ft per year); median of yearly mean discharges, 10 cfs (7,200 acre-ft per year).

Extremes.--1940-60: Maximum discharge, 13,000 cfs Mar. 1, 1941, from rating curve extended above 1,600 cfs on basis of slope-area measurement of peak flow; maximum gage height, 12.00 ft Aug. 3, 1955; negligible flow at times during summer months in most years when entire flow was diverted to Perry Canal above station and flow past gage was seepage only.

Remarks.--Diversions above station for mining and irrigation of about 600 acres. For total flow of river at Sycamore damsite, see last table below showing combined flow of Agua Fria River and of Perry Canal, which diverts just above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.14	0.10	0.06	0.07	0.02	0.01	0	0.03	0.06	7.79	244	22.8	23.3
1952	32.7	1.83	20.4	89.3	4.53	80.7	6.10	.89	.70	3.61	33.9	17.4	24.6
1953	.75	4.41	3.54	2.80	1.60	1.66	.89	.97	.40	28.0	15.6	.48	5.16
1954	.48	.59	.87	1.82	1.64	44.4	2.87	.29	2.75	11.4	14.8	18.5	8.44
1955	1.05	.84	1.03	2.07	2.65	.80	.23	.25	22.9	48.2	159	1.09	20.3
1956	3.95	1.38	1.99	1.53	.55	.41	.53	5.68	27.9	6.43	.26		4.31
1957	.20	.39	.39	22.7	13.8	2.62	1.43	.29	1.68	11.6	17.7	.33	6.09
1958	2.17	14.4	1.37	1.34	22.9	29.6	4.24	1.04	10.6	.43	37.1	42.9	13.9
1959	1.16	1.21	1.40	1.85	4.81	1.83	1.01	.49	.34	31.1	121	.61	14.2
1960	1.01	1.37	61.6	46.0	4.66	3.11	2.5	2.5	2.35	.15	17.4	10.7	12.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8.7	6.0	4.8	4.4	1.2	0.4	0	2.0	3.4	479	14,980	1,360	16,850
1952	2,010	109	1,250	5,490	260	4,960	363	55	42	222	2,080	1,040	17,880
1953	46	262	218	172	89	102	53	60	24	1,720	959	28	3,730
1954	30	35	54	112	91	2,730	171	18	163	700	909	1,100	6,110
1955	65	50	63	128	147	49	14	16	1,360	2,970	9,800	65	14,730
1956	243	82	122	94	32	34	24	33	338	1,720	395	16	3,130
1957	12	23	24	1,390	768	161	86	18	100	713	1,090	20	4,400
1958	133	858	84	82	1,270	1,820	252	64	629	27	2,280	2,550	10,050
1959	71	72	86	114	267	112	60	30	20	1,910	7,470	36	10,250
1960	62	82	3,790	2,830	268	191	149	154	140	9.5	1,070	634	9,380

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	3.76	2,720
1951	1213	8,180	Aug. 28, 1951	0	23.3	16,850	27.9	20,200
1952	1243	7,500	Jan. 18, 1952	.3	24.6	17,880	20.7	15,040
1953	1203	5,510	July 6, 1953	.2	5.16	3,730	4.59	3,330
1954	1343	4,570	Sept. 3, 1954	.1	8.44	6,110	8.53	6,170
1955	1393	12,800	Aug. 3, 1955	.2	20.3	14,730	20.7	15,000
1956	1443	6,880	July 25, 1956	.2	4.31	3,130	3.78	2,740
1957	1513	2,710	Aug. 13, 1957	.1	6.09	4,400	7.49	5,420
1958	1563	4,620	June 21, 1958	.2	13.9	10,050	12.7	9,200
1959	1633	9,700	Aug. 4, 1959	.3	14.2	10,250	19.3	13,950
1960	1713	4,820	Aug. 6, 1960	.1	12.9	9,380	-	-

Monthly and yearly combined discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	22	37	55	82	93	119	101	58	33	490	14,980	1,360	17,430
1952	2,020	109	1,250	5,490	260	4,960	405	165	100	251	2,080	1,040	18,130
1953	46	262	301	233	164	181	158	103	58	1,730	959	28	4,220
1954	30	35	54	112	113	2,740	197	62	182	700	909	1,100	6,230
1955	65	50	63	128	147	128	95	74	1,360	2,970	9,800	65	14,960
1956	243	82	122	158	150	158	113	61	350	1,720	395	16	3,570
1957	12	23	39	1,410	768	161	86	71	121	716	1,090	20	4,520
1958	133	858	84	84	1,280	1,820	252	66	644	27	2,280	2,550	10,100
1959	71	72	86	114	267	153	117	48	30	1,910	7,470	36	10,370
1960	62	82	3,790	2,830	268	191	149	154	140	9.5	1,070	634	9,380

† Corrected.

5130. Agua Fria River at Lake Pleasant Dam, Ariz.

Location.--Lat 33°51', long 112°16', in NW¼ sec.21, T.6 N., R.1 E., at left upstream end of Lake Pleasant Dam, 22 miles northwest of Glendale and 24½ miles upstream from New River.

Drainage area.--1,459 sq mi.

Records available.--November 1910 to September 1914 (gage heights only), October 1914 to September 1919, October 1919 to September 1924 (gage heights only), October 1933 to September 1960 (monthly discharge only). Published as "near Glendale" prior to 1920.

Gage.--Staff gage on Lake Pleasant. Datum of gage is 1,431.2 ft above mean sea level, datum of 1929. Prior to Sept. 30, 1924, staff gage or water-stage recorder at several sites in vicinity of diversion dam 1¼ miles downstream from Lake Pleasant Dam at different datum.

Average discharge.--32 years (1914-19, 1933-60), 90.1 cfs (65,230 acre-ft per year); median of yearly mean discharges, 43 cfs (31,100 acre-ft per year).

Extremes.--1910-24, 1933-60: Maximum discharge, about 105,000 cfs Jan. 28, 1916 (gage height, 30 ft, same datum as in 1919, from floodmarks), Nov. 27, 1919 (gage height, 33 ft, datum then in use, from floodmarks), from rating curve extended above 13,000 cfs on basis of velocity-area studies (on basis of comparative gage heights, the flood of Nov. 27, 1919, is believed to have been the greater); no flow during spring and summer of several years.

Remarks.--Figures given herein represent flow into Lake Pleasant. Discharge computed on basis of three factors as follows: 1. Change in contents of Lake Pleasant and in contents of small reservoir behind diversion dam 1¼ miles downstream from Lake Pleasant. 2. (a) Release from Lake Pleasant computed from twice-daily readings by Clausen-Pierce weir rule and release hydrograph. Weir rule readings checked by current meter measurements by U. S. Geological Survey; (b) spill from Lake Pleasant as measured over diversion dam (none since May 13, 1941). 3. Effect of rainfall and evaporation on lake; evaporation assumed as 0.85 of that measured once daily in 3-foot square land pan buried 1½ ft in ground near left end of Lake Pleasant Dam. Effect of bank storage and bank release in Lake Pleasant is not taken into account. For months when inflow to lake is small and other factors relatively large, discordant figures of runoff may appear. Such discrepancies that may be attributed to inaccuracies in the capacity table or to the fact that bank storage and bank release are not taken into account, result in quantities too large for periods of falling stage but are compensated for by quantities too small for periods of rising stage. Inaccuracies in figures of release and evaporation, which may be within reasonable limits within themselves, may result in disproportionately large inaccuracies in small figures of inflow computed as residuals. Diversion for irrigation above Lake Pleasant probably not over 1,000 acres. Records of chemical analyses for the period December 1950 to September 1958 and water temperatures for the period January 1952 to September 1958 are published in reports of Geological Survey.

Cooperation.--Records collected and prepared in cooperation with Maricopa County Municipal Water Conservation District No. 1.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.2	0.9	0.8	12.7	1.2	1.4	2.0	1.4	0	12.7	1,658	9.4	144
1952	0	51.2	31.0	294	17.7	348	82.7	15.8	0	30.4	75.3	28.9	81.9
1953	5.1	8.6	10.5	6.1	5.3	10.6	5.9	1.84	21.2	91.9	42.4	6.2	18.0
1954	1.4	3.2	2.6	5.8	4.6	215	21.8	4.9	9.5	30.7	77.7	49.1	35.9
1955	.9	1.7	2.2	5.7	4.1	5.4	3.5	2.4	58.0	102	271	6.0	39.1
1956	3.0	1.9	3.6	3.2	3.6	5.2	3.2	3.2	9.3	54.4	14.6	0	8.8
1957	2.3	2.1	2.7	180.8	79.9	18.7	2.5	2.4	4.1	3.6	3.8	0	25.1
1958	4.18	74.1	3.7	3.34	91.5	162	41.2	1.87	9.20	0	24.1	204	50.9
1959	4.96	1.83	2.61	3.58	11.6	4.80	1.01	3.98	5.50	15.8	222	0	23.0
1960	83.4	12.2	314	140	34.2	28.0	6.89	5.55	7.81	9.01	74.0	30.4	62.8

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	71	56	47	779	68	88	118	83	0	782	101,800	562	104,500
1952	0	3,050	1,900	18,080	1,020	21,410	4,920	971	0	1,870	4,630	1,600	59,450
1953	315	509	647	374	185	649	350	113	1,260	5,650	2,610	371	13,030
1954	88	192	160	355	253	13,210	1,300	299	587	1,890	4,780	2,920	26,010
1955	55	99	134	352	228	329	207	147	3,450	6,280	16,680	359	28,300
1956	182	111	222	194	205	318	192	195	553	3,343	901	0	6,416
1957	141	125	168	11,120	4,440	1,150	146	148	248	228	235	0	18,400
1958	256	4,410	229	205	5,080	9,960	2,450	115	547	0	1,480	12,140	36,870
1959	305	109	173	208	642	295	60	245	30	970	13,620	0	16,660
1960	5,130	725	19,280	8,620	1,970	1,720	410	341	465	554	4,550	1,810	45,580

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	7.8	5,670
1951	1213	-	-	-	144	104,500	151	109,200
1952	1243	-	-	-	81.9	59,450	77.1	55,970
1953	1283	-	-	-	18.0	13,030	16.6	12,000
1954	1343	-	-	-	35.9	26,010	35.7	25,860
1955	1393	-	-	-	39.1	28,300	39.4	28,530
1956	1443	-	-	-	8.8	6,416	8.7	6,330
1957	1513	-	-	-	25.1	18,140	31.2	22,600
1958	1563	-	-	-	50.9	36,870	4.50	32,560
1959	1633	-	-	-	23.0	16,660	59.6	41,200
1960	1713	-	-	-	62.8	45,580	-	-

5135. Lake Pleasant at Lake Pleasant Dam, Ariz.

Location.--Lat 33°51', long 112°16', in NW¼ sec.21, T.6 N., R.1 E., at left upstream end of Lake Pleasant Dam on Agua Fria River.

Drainage area.--1,460 sq mi, approximately.

Records available.--February 1928 to September 1960 (annual contents only, prior to 1939).

Gage.--Staff gage. Datum of gage is 1,431.2 ft above mean sea level, datum of 1929.

Extremes.--1928-60: Maximum contents, 178,500 acre-ft Apr. 19, 1941 (gage height, 170.13 ft), of which 500 acre-ft was uncontrolled storage; no storage Sept. 5, 1933, July 19 to Aug. 13, 1940.

Remarks.--Lake is formed by multiple-arch dam; dam completed and storage began in 1927. Capacity, 163,800 acre-ft between gage heights 59 (25 ft above center line of outlet works) and 170.0 ft (top of spillway gates). There is no storage below gage height 59 ft because of accumulated sediment. Water released from reservoir flows down River channel 1¼ miles to diversion dam where it is diverted for irrigation near Beardsley. Figures given herein represent usable contents in Lake Pleasant. Contents of small reservoir formed by diversion dam is not included.

Cooperation.--Gage-height record furnished by Maricopa County Municipal Water Conservation District No. 1.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	211	209	207	984	1,000	1,000	1,060	1,020	856	1,480	101,900	100,900
1952	98,000	100,300	101,800	119,200	118,300	137,600	139,900	135,800	125,300	109,200	94,150	84,030
1953	82,350	82,240	82,460	82,240	81,720	77,620	74,910	72,180	61,050	49,460	37,180	33,700
1954	33,040	32,740	32,470	32,710	32,580	45,600	44,660	43,110	37,580	30,430	26,530	23,970
1955	23,480	23,160	22,960	23,290	23,150	22,920	22,400	21,750	20,660	20,830	34,960	29,860
1956	28,410	28,020	27,920	27,800	27,780	27,420	26,810	26,030	21,090	17,720	12,660	9,600
1957	9,370	9,130	9,010	20,080	24,340	25,060	24,590	23,990	21,520	15,350	9,490	3,170
1958	3,320	7,560	7,630	7,620	12,550	22,320	24,280	23,560	21,400	15,020	9,880	18,610
1959	18,460	18,260	18,090	18,020	18,520	18,270	17,770	17,360	15,030	10,840	20,420	14,400
1960	19,100	19,460	38,760	47,160	48,740	49,680	48,900	47,850	44,180	37,060	32,290	27,790

5140. Buckeye Canal near Avondale, Ariz.

Location.--Lat 33°23'40", long 112°22'25", in SW¹/₄SW¹/₄ sec.28, T.1 N., R.1 W., on left bank 0.3 mile downstream from canal intake, 0.7 mile downstream from Agua Fria River, 3 miles southwest of Avondale, and 4 miles downstream from Salt River.

Records available.--May 1953 to September 1960.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 904.62 ft above mean sea level, datum of 1929, supplementary adjustment of 1949.

Average discharge.--7 years (1953-60), 28.9 cfs (20,920 acre-ft per year).

Extremes.--1953-60: Maximum daily discharge, 257 cfs Aug. 8, 1954; no flow for several days in most years.

Remarks.--Canal diverts from right bank of Gila River in SE¹/₄SW¹/₄ sec.28, T.1 N., R.1 W., for irrigation in the Buckeye area. Record includes waste water and flow from canals of Salt River project, delivered through Buckeye feeder ditch to the Gila River channel in SW¹/₄NW¹/₄ sec.34, T.1 N., R.1 W., near mouth of Agua Fria River. In February 1960 pumpage of water from the Buckeye Canal began between canal intake and measuring flume and is not included in the canal record.

Cooperation.--Record of Buckeye feeder ditch furnished by Salt River Valley Water Users' Association and record of pumpage from Buckeye Canal furnished by Buckeye Irrigation Co. are published in annual reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	89.2	28.9	20.7	23.4	28.0	49.2	48.3	17.2	26.0	63.5	147	71.8	46.2
1955	30.5	12.2	29.6	20.6	20.9	19.5	18.8	11.2	29.5	84.0	219	67.2	47.3
1956	26.6	9.47	21.4	19.2	22.7	23.4	21.2	11.3	7.79	37.5	38.2	25.9	22.1
1957	.65	1.40	16.1	13.8	9.99	11.2	10.3	2.70	1.14	29.1	28.9	37.1	13.6
1958	13.2	32.2	13.9	10.1	22.8	33.9	19.3	4.70	11.7	41.8	82.0	55.6	28.5
1959	7.86	2.27	12.2	7.44	6.69	11.0	16.9	4.44	7.14	36.8	86.8	39.7	19.7
1960	19.4	10.4	13.1	29.1	15.7	29.7	23.7	11.1	35.9	46.2	44.9	20.5	25.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	1,610	2,890	4,150	3,650	2,390	-
1954	548	1,720	1,270	1,440	1,560	3,020	2,870	1,060	1,550	5,140	9,010	4,270	33,460
1955	1,870	728	1,820	1,270	1,160	1,200	1,120	688	1,760	5,160	13,470	4,000	34,250
1956	1,630	563	1,320	1,180	1,310	1,440	1,260	694	464	2,310	2,350	1,540	16,060
1957	40	63	989	848	555	686	613	166	68	1,790	1,780	2,210	9,830
1958	815	1,920	854	624	1,270	2,090	1,150	289	699	2,570	5,040	3,310	20,630
1959	484	135	749	458	372	675	1,000	27	425	2,260	5,340	2,360	14,280
1960	1,190	618	806	1,790	905	1,830	1,410	682	2,140	2,840	2,760	1,220	18,190

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Maximum day		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	1170	July 31, 1953	-	-	-	-	-	-
1954	1343	257	Aug. 8, 1954	3.2	46.2	33,460	47.4	34,340	
1955	1393	244	Aug. 17, 1955	5.2	47.3	34,250	46.0	33,340	
1956	1443	59	Oct. 6, 1956	0	22.1	16,060	18.8	13,660	
1957	1513	108	Aug. 21, 1957	0	13.6	9,830	17.0	12,300	
1958	1563	245	Aug. 9, 1958	0	28.5	20,630	25.4	18,410	
1959	1633	215	Aug. 14, 1959	0	19.7	14,280	21.5	15,530	
1960	1713	105	Jan. 21, 1960	0	25.0	18,190	-	-	

a Maximum for period May to September.

5155. Hassayampa River at Box damsite, near Wickenburg, Ariz.

Location.--Lat 34°02'35", long 112°42'35", in SE¼ sec.7, T.8 N., R.4 W. (unsurveyed), at Box damsite, 7½ miles upstream from Wickenburg.

Drainage area.--417 sq mi.

Records available.--January to June 1938, May 1946 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,236.12 ft above mean sea level, datum of 1929. January to June 1938 at site 1 mile downstream at datum 23.76 ft lower. May 1, 1946, to Nov. 17, 1949, at present site at datum 2.16 ft higher.

Average discharge.--14 years (1946-60), 11.9 cfs (8,620 acre-ft per year); median of yearly mean discharges, 9.0 cfs (6,500 acre-ft per year).

Extremes.--1938, 1946-60: Maximum discharge, 27,000 cfs Aug. 29, 1951 (gage height, 18.3 ft), from rating curve extended above 2,000 cfs on basis of slope-area measurements at gage heights 9.16 and 18.3 ft; minimum, 0.2 cfs Oct. 3, 1948.

Remarks.--Small diversions for irrigation and mining above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.67	1.11	1.59	1.60	1.05	1.17	2.26	1.94	1.17	2.88	372	6.03	33.5
1952	2.05	2.19	9.00	30.9	16.1	142	94.6	17.4	2.92	3.80	17.3	8.88	29.0
1953	2.04	3.88	4.39	5.45	2.49	3.35	2.30	3.03	1.85	10.4	4.92	1.76	3.84
1954	1.62	1.55	1.76	2.33	2.11	115	6.76	2.07	1.53	6.01	3.36	6.69	12.7
1955	1.67	1.65	1.73	1.69	1.60	1.48	1.47	1.36	7.31	41.5	90.8	1.74	13.0
1956	4.40	1.53	1.74	1.60	1.57	1.41	1.40	1.30	1.10	5.76	8.76	1.03	2.65
1957	1.06	.85	1.13	15.6	2.33	3.11	1.64	1.24	2.77	1.10	5.40	1.42	3.16
1958	7.65	16.3	1.39	1.23	25.4	75.8	35.5	2.13	1.09	1.24	23.6	95.7	23.8
1959	2.21	2.41	2.44	1.93	2.43	2.07	2.07	1.65	1.79	2.61	57.2	1.89	6.81
1960	1.47	1.73	50.0	11.6	8.38	5.79	2.89	2.25	3.39	4.58	13.9	7.39	9.52

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	103	66	98	99	59	72	134	119	70	177	22,890	359	24,250
1952	126	131	554	1,900	927	8,740	5,630	1,070	174	234	1,060	529	21,080
1953	125	231	270	535	158	206	137	166	110	637	502	105	2,780
1954	100	92	109	143	117	7,060	402	128	91	370	207	398	9,220
1955	103	98	106	104	89	91	88	84	435	2,550	5,590	104	9,440
1956	270	91	107	98	90	86	83	80	66	354	539	61	1,920
1957	65	51	69	959	130	191	98	76	165	67	332	84	2,290
1958	471	972	85	76	1,410	4,660	2,110	131	65	76	1,450	5,700	17,210
1959	136	143	150	119	135	127	123	102	107	160	3,520	113	4,940
1960	90	103	3,080	712	482	356	172	138	202	281	858	440	6,910

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	3.01
1951	1213	27,000	Aug. 29, 1951	0.8	33.5	24,250	34.2
1952	1243	1,590	Dec. 30, 1951	.6	29.0	21,080	28.8
1953	1283	865	July 18, 1953	1.2	3.84	2,780	3.40
1954	1343	3,090	Mar. 23, 1954	.9	12.7	9,220	12.7
1955	1393	8,840	July 23, 1955	1.0	13.0	9,440	13.3
1956	1443	1,210	Aug. 18, 1956	1.0	2.65	1,920	2.26
1957	1513	1,980	Aug. 10, 1957	.5	3.16	2,290	5.01
1958	1563	10,600	Sept. 5, 1958	.4	23.8	17,210	22.2
1959	1633	5,110	Aug. 24, 1959	.5	6.81	4,940	10.7
1960	1713	3,210	Dec. 26, 1959	.6	9.52	6,910	-

5185. Gila Bend Canal at Gillespie Dam, Ariz.

Location.--Lat 33°13'45", long 112°46'00", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.28, T.2 S., R.5 W., 200 ft downstream from headgates to Gillespie Dam.

Records available.--May 1935 to September 1960 (since October 1941, monthly discharge only).

Gage.--Water-stage recorder. Datum of gage is 743.91 ft above mean sea level, datum of 1929.

Remarks.--Canal diverts from left side of Gila River at Gillespie Dam for irrigation of about 8,500 acres near Gila Bend. Pumps located along canal below gage supplement the surface water supply.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,090	1,420	1,980	2,810	3,700	2,690	2,100	1,710	736	962	4,500	4,330	28,030
1952	2,960	3,760	3,970	5,980	4,380	4,670	4,110	2,870	1,730	1,870	2,830	1,170	40,300
1953	770	2,630	2,880	2,670	2,330	2,730	1,780	1,700	970	1,390	690		21,030
1954	344	510	885	1,410	1,420	2,230	1,330	900	569	1,020	4,250	1,620	16,490
1955	934	720	928	1,560	1,210	1,540	762	538	325	288	0	1,770	10,580
1956	1,460	1,130	1,160	1,230	1,400	1,470	1,800	976	525	348	309	383	12,190
1957	258	281	401	426	643	807	184	108	59	45	580	192	3,980
1958	170	294	92	60	843	1,180	879	87	49	146	595	579	4,980
1959	181	248	394	403	594	609	578	385	149	102	1,210	19	4,870
1960	73	1,140	1,590	3,690	1,630	1,330	831	578	125	116	330	106	11,540

5190. Enterprise Canal at Gillespie Dam, Ariz.

Location.--Lat 33°13'35", long 112°46'15", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.28, T.2 S., R.5 W., 600 ft downstream from intake at Gillespie Dam.

Records available.--June 1935 to September 1939 (discharge measurements and monthly estimates only), October 1939 to September 1960 (since October 1941, monthly discharge only).

Gage.--Water-stage recorder since Nov. 29, 1939. Datum of gage is 732.15 ft above mean sea level, datum of 1929. No gage prior to Nov. 29, 1939, but many discharge measurements in 1935-59.

Remarks.--Canal diverts from right side of Gila River at Gillespie Dam for irrigation of about 900 acres between dam and Gila Bend.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	590	621	677	714	778	972	973	839	674	688	1,200	1,180	9,910
1952	703	812	194	686	691	688	732	641	620	658	817	688	7,920
1953	589	711	666	747	849	827	571	667	554	766	762	606	8,320
1954	503	565	681	724	574	713	867	687	538	738	1,460	1,050	9,100
1955	646	738	711	946	774	684	898	923	601	935	1,150	1,080	9,970
1956	970	821	928	1,010	992	816	469	562	453	548	638	522	8,730
1957	570	698	748	1,140	761	837	1,170	686	497	560	979	592	9,240
1958	821	960	1,260	1,210	1,150	998	766	1,000	728	458	926	902	11,180
1959	753	708	646	780	560	487	488	454	378	355	1,110	691	7,410
1960	662	821	711	616	568	570	614	522	556	461	540	575	7,220

5195. Gila River below Gillespie Dam, Ariz.

Location.--Lat 33°13'45", long 112°46'00", in SE¼NE¼ sec.28, T.2 S., R.5 W., at left end of Gillespie Dam, 8 miles downstream from Hassayampa River. Gila Bend Canal diverts from left bank, and Enterprise Canal diverts from right bank at Gillespie Dam.

Drainage area.--49,620 sq mi.

Records available.--August 1921 to September 1960 (river below dam only). Records for Gila Bend Canal May 1935 to September 1960 (since October 1941, monthly discharge only); for Enterprise Canal June 1935 to September 1939 (discharge measurements and monthly estimates only), October 1939 to September 1960 (since October 1941, monthly discharge only). Combined discharge of river and Gila Bend and Enterprise Canals June 1935 to September 1960. Published as "at Gillespie Dam" prior to 1939.

Gages.--Gila River: Water-stage recorder since July 28, 1924. Datum of gage is 10.00 ft below average elevation of crest of dam, which is 753.46 ft above mean sea level, datum of 1929. Prior to Nov. 11, 1924, depth of water read on crest at left end of dam. Nov. 11, 1924, to July 22, 1932, datum of gage was at average elevation of dam crest. July 23, 1932, to Apr. 27, 1955, datum of gage was 5.00 ft below average elevation of crest of dam.

Gila Bend Canal: Water-stage recorder 200 ft downstream from headgates.

Enterprise Canal: Water-stage recorder since Nov. 29, 1939, 600 ft downstream from intake.

Average discharge (river below dam).--19 years (1941-60), 26.7 cfs (19,330 acre-ft per year); median of yearly mean discharges, 14 cfs (10,100 acre-ft per year).

Extremes.--1921-60: Maximum discharge observed, 85,000 cfs Dec. 28, 1923 (gage height, 16.0 ft, present datum); no flow for most of time in most years.

Maximum discharge known, 250,000 cfs (estimated) in February 1891.

Remarks.--Records in first three tables include flow over crest and through sluice gates of Gillespie Dam, but do not include flow in Gila Bend and Enterprise Canals which divert from river immediately above dam. Fourth table shows flow immediately above dam, computed as combined flow of river below dam and Gila Bend and Enterprise Canals.

Large diversions above station for irrigation and municipal and industrial use. Flow of Gila River and tributaries above this station is regulated by San Carlos Reservoir on Gila River (capacity, 1,205,000 acre-ft), a series of reservoirs on Salt River (capacity, 1,755,000 acre-ft), Bartlett and Horseshoe Reservoirs on Verde River (capacity, 322,300 acre-ft), and Lake Pleasant on Agua Fria River (capacity, 163,800 acre-ft). Records of chemical analyses and water temperatures for the period December 1950 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	10.4	0.8	0	0	0	0	50.2	1,340	321	145
1952	2.1	8.1	0	43.5	.1	0	0	0	0	0	1.6	0	4.7
1953	0	3.27	0	0	0	0	0	0	0	0	.8	0	.34
1954	0	0	0	0	0	5.53	0	0	0	29.1	255	4.0	24.9
1955	0	0	0	0	0	0	0	0	0	237	1,404	18.0	141
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	5.6	0	0	0	0	0	0	.27	0	.50
1958	0	45.9	0	0	31.5	6.09	0	0	0	.32	20.3	48.5	12.4
1959	0	0	0	0	3.93	1.94	0	0	0	0	98.4	0	8.83
1960	23.6	24.0	86.3	72.2	0	0	0	0	0	0	1.3	0	17.5

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	637	42	0	0	0	0	3,080	82,400	19,100	105,300
1952	127	484	0	2,680	7.9	0	0	0	0	0	97	0	3,400
1953	0	195	0	0	0	0	0	0	0	0	50	0	245
1954	0	0	0	0	0	340	0	0	0	1,790	15,660	236	18,030
1955	0	0	0	0	0	0	0	0	0	14,550	86,310	1,070	101,900
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	343	0	0	0	0	0	0	17	0	360
1958	0	2,730	0	0	1,750	374	0	0	0	20	1,250	2,880	9,000
1959	0	0	0	0	218	119	0	0	0	0	6,050	0	6,390
1960	1,450	1,430	5,300	4,440	0	0	0	0	0	0	79	0	12,700

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	3.9	2,810
1951	1213	16,600	Aug. 28, 1951	0	145	105,300	146	105,900
1952	1243	430	Jan. 22, 1952	0	4.7	3,400	4.10	2,980
1953	1283	115	Nov. 20, 1952	0	.34	245	.1	50
1954	1343	1,760	Aug. 12, 1954	0	24.9	18,030	24.9	18,030
1955	1393	3,660	Aug. 28, 1955	0	141	101,900	141	101,900
1956	1443	0	-	0	0	0	0	0
1957	1513	205	Jan. 29, 1957	0	.50	360	4.27	3,090
1958	1563	976	Sept. 13, 1958	0	12.4	9,000	8.67	6,270
1959	1633	480	Aug. 17, 1959	0	8.83	6,390	20.1	14,570
1960	1713	640	Jan. 19, 1960	0	17.5	12,700	-	-

Monthly and yearly combined discharge, in acre-feet, of Gila River below Gillespie Dam and of Gila Bend and Enterprise Canals at Gillespie Dam, Ariz.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,690	2,040	2,660	4,180	4,520	3,670	3,080	2,540	1,410	4,730	88,190	24,640	145,300
1952	5,790	5,060	4,170	2,350	5,070	5,360	4,850	3,510	2,350	2,530	3,740	1,850	51,630
1953	1,560	3,540	3,550	3,410	3,180	3,560	2,560	2,370	1,530	2,160	1,500	1,090	29,610
1954	849	1,080	1,560	2,140	1,990	3,290	2,200	1,590	1,100	3,550	21,370	2,910	24,650
1955	1,580	1,460	1,640	2,500	1,980	2,230	1,660	1,380	926	15,780	87,460	3,900	122,500
1956	2,430	1,950	2,090	2,240	2,390	2,290	2,260	1,530	982	895	948	908	20,910
1957	823	972	1,150	1,910	1,410	1,640	1,360	789	557	605	1,580	785	13,580
1958	1,000	3,990	1,360	1,280	3,740	2,560	1,650	1,090	783	624	2,770	4,360	25,210
1959	944	958	1,040	1,190	1,380	1,210	1,070	859	523	455	8,370	711	18,690
1960	2,190	3,390	7,600	8,740	2,200	1,900	1,450	1,100	679	577	943	682	31,450

5205. Gila River near Dome, Ariz.

Location.--Lat 32°45'40", long 114°25'10", in SW $\frac{1}{4}$ sec.4, T.8 S., R.21 W., on right bank 440 ft upstream from bridge on State Highway 95, 3 miles west of Dome, and 12 miles upstream from mouth.

Drainage area.--58,080 sq mi, approximately (includes 373 sq mi in Aubrey Valley Playa, a closed basin, and excludes all other closed basins).

Records available.--January 1903 to September 1960. Monthly discharge only for some periods, published in WSP 1313. Published as "at Yuma and Gila City" 1903, as "near Gila City" 1904, and as "at Dome (Gila City)" 1905-6. Records for 1907-29 are published in WSP 918 as "at Yuma and at near Dome."

Gage.--Water-stage recorder since May 1929. Datum of gage is 148.18 ft above mean sea level, datum of 1929. Prior to October 1903 and January 1907 to April 1929, no gage; discharge estimated. October 1903 to December 1906 principal staff gage 4 miles upstream at datum 158.37 ft above mean sea level, adjustment of 1912, supplemented by many staff gages at different datums.

Extremes.--1929-60: Maximum discharge, 20,700 cfs Feb. 15, 1932 (gage height, 16.75 ft); no flow for part or all of each year.

Maximum daily discharge, 200,000 cfs (roughly estimated) Jan. 22, 1916.

Remarks.--Most low flow is waste and drainage return from Wellton-Mohawk Division of Gila project. Many diversions above station for irrigation. Flow above station regulated by reservoirs at and above Painted Rock Dam.

Correction.--In WSP 1313, the monthly runoff in acre-feet for July 1942 is listed in error; it should be zero acre-ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	0	0	0	0	102	8.3
1952	4.24	.53	.47	.59	.47	.29	3.34	12.0	0	0	0	0	1.84
1953	0	0	2.27	.69	0	0	0	0	0	0	6.82	2.05	1.00
1954	.10	4.67	1.47	0	.21	3.45	12.75	0	.04	.69	.07	1.21	1.20
1955	4.10	3.63	8.02	.93	2.40	1.78	.07	.22	0	.42	116	70.7	17.40
1956	7.30	.23	.28	.72	3.24	.09	0	0	0	.07	.01	.01	.99
1957	0	1.04	.06	0	0	1.27	0	0	0	0	1.55	.80	.40
1958	.02	0	0	0	3.94	.35	1.01	.05	0	8.6	.47	0	1.19
1959	.23	0	0	.08	.41	.14	.42	1.76	.19	2.68	43.5	3.30	4.46
1960	1.43	.78	.12	5.21	9.66	19.5	17.4	18.5	8.10	5.31	7.10	77.4	14.1

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0	0	0	0	0	0	0	0	0	0	6,040	6,040
1952	280	32	29	36	27	18	199	738	0	0	0	0	1,340
1953	0	0	140	42	0	0	0	0	0	0	419	122	723
1954	8.0	278	91	0	.8	212	163	0	2.4	42	4.4	72	872
1955	250	216	493	57	133	109	4.2	13	0	26	7,140	4,150	12,590
1956	449	14	17	44	187	5.4	0	0	0	4.4	.8	.6	722
1957	0	62	3.6	0	0	78	0	0	0	0	96	48	288
1958	1.4	0	0	0	218	21	60	2.8	0	532	29	0	864
1959	14	0	0	5.0	23	8.3	25	108	12	163	2,670	197	3,230
1960	88	46	7.1	320	555	1,200	1,040	1,140	482	326	437	4,600	10,240

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	-	-	-	-	-	0	-	0
1951	1213	1,100	Sept. 7, 1951	0	8.3	6,040	8.79	6,360	6,360
1952	1243	293	Oct. 30, 1951	0	1.84	1,340	1.59	1,160	1,160
1953	1283	47	Sept. 17, 1953	0	1.00	723	1.32	958	958
1954	1343	56	Sept. 3, 1954	0	1.20	872	2.01	1,460	1,460
1955	1393	1,070	Aug. 17, 1955	0	17.40	12,590	16.7	12,110	12,110
1956	1443	86	Oct. 12, 1955	0	.99	722	.42	308	308
1957	1513	66	Aug. 29, 1957	0	.40	288	.31	223	223
1958	1563	719	July 31, 1958	0	1.19	864	1.21	877	877
1959	1633	802	Aug. 8, 1959	0	4.46	3,230	4.63	3,550	3,550
1960	1713	2,130	Sept. 1, 1960	0	14.1	10,240	-	-	-

5210. Colorado River at Yuma, Ariz.

Location.--Lat 32°43'45", long 114°37'15", in NW¼NE¼ sec.35, T.16 S., R.22 E., San Bernardino meridian, on left bank 500 ft upstream from lower highway bridge, 1,800 ft downstream from upper highway bridge at Yuma, half a mile upstream from Yuma Main Canal wasteway, 5 miles downstream from Gila River, 7 miles upstream from boundary between California and Mexico, and 19 miles downstream from Imperial Dam.

Drainage area.--242,900 sq mi, approximately, including all closed basins entirely within the drainage boundary.

Records available.--January 1878 to December 1901 (gage heights only), January 1902 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 102.32 ft above mean sea level, Yuma project datum, or 102.86 ft, datum of 1929, leveling of 1941 (datum was 0.07 ft lower prior to earthquake of May 18, 1940). Prior to May 1922 staff gages at several sites 600 to 1,000 ft upstream at approximately same datum. May 1922 to October 1933, water-stage recorder or automatic transmitter at site 800 ft upstream from present site at same datum. Nov. 11, 1933, to July 19, 1934, staff gage at present site and datum. Supplementary water-stage recorder 180 ft downstream since Oct. 30, 1953.

Extremes.--1902-34: Maximum discharge, 250,000 cfs Jan. 22, 1916 (gage height, 34.0 ft); minimum daily, 18 cfs Aug. 25-27, 1934, caused by diversion at Laguna Dam.

1934-60: Maximum discharge, 34,900 cfs Sept. 7, 1939 (gage height, 24.57 ft); minimum, 41 cfs Mar. 8, 1956; minimum gage height, 8.36 ft July 16, 1947.

Remarks.--Many diversions from Colorado River and tributaries. Principal diversions below Parker Dam are Colorado River Indian Reservation Canal, Palo Verde Canal, All-American Canal and Gila Gravity Main Canal. Return flows entering downstream but above northerly international boundary are Yuma Main Canal wasteway, Reservation Canal Main Drain No. 4, Drain 8-B, and Pilot Knob powerplant and wasteway. Monthly tables for combined flow of river, Yuma Main Canal wasteway, and Reservation Canal Main Drain No. 4 are published in annual reports. Flow of Colorado River regulated by Hoover, Davis, Parker, Headgate Rock, and to a small extent by Imperial, Palo Verde, and Laguna Dams. No regulation on Gila River below Fainted Rock Dam. Records of chemical analyses for the periods June 1947 to July 1952 and November 1952 to September 1960 and water temperatures for the period February 1954 to January 1956 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,045	1,848	3,262	3,410	2,542	2,654	4,080	1,356	3,089	4,407	5,734	4,434	3,158
1952	3,179	3,738	7,064	12,350	12,790	16,020	12,770	12,710	12,770	9,416	9,742	11,830	10,350
1953	11,600	13,670	16,320	14,370	11,660	6,897	3,497	4,674	4,064	5,453	5,052	3,785	8,400
1954	2,088	2,418	4,403	7,563	4,821	3,683	3,315	5,656	4,378	4,914	5,135	3,568	4,318
1955	1,724	3,412	4,937	8,020	3,822	2,639	2,548	2,349	2,530	4,625	4,822	1,990	3,627
1956	595	561	569	659	572	717	1,731	590	1,816	2,908	2,695	1,314	1,229
1957	445	521	575	673	438	484	1,940	643	1,380	2,076	1,722	677	967
1958	641	3,043	5,537	9,222	4,498	8,135	7,897	4,504	2,422	2,229	2,763	1,494	4,372
1959	1,438	1,863	2,399	2,032	1,774	1,300	1,885	924	787	1,497	1,465	731	1,508
1960	1,185	1,076	838	1,000	604	933	1,224	921	920	1,293	1,103	838	997

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	64,260	110,000	200,600	209,700	141,200	163,200	242,800	83,400	183,800	271,000	352,600	263,900	2,288,000
1952	195,500	220,400	434,300	759,300	735,500	984,800	759,900	781,500	759,900	579,000	599,000	703,700	7,515,000
1953	713,500	813,200	1,003,000	883,800	647,600	411,800	208,100	287,400	241,800	335,300	310,600	225,200	6,081,000
1954	128,400	143,900	270,700	465,000	267,700	226,500	197,300	347,800	261,300	302,200	315,700	200,400	3,126,000
1955	106,000	203,000	303,600	493,100	212,300	162,300	151,600	144,400	150,500	284,300	298,500	118,400	2,626,000
1956	36,570	33,360	34,970	40,490	32,900	44,080	103,000	36,270	108,000	178,800	165,700	78,210	892,400
1957	27,340	30,990	35,390	41,370	24,330	29,760	115,400	39,550	82,110	127,700	105,900	40,310	700,200
1958	39,390	181,100	340,500	567,100	249,800	500,200	489,900	277,000	144,100	137,100	169,900	88,910	3,185,000
1959	88,390	110,800	147,500	24,900	98,550	79,900	112,200	56,840	46,680	92,680	90,110	43,490	1,092,000
1960	72,840	84,020	51,540	61,520	34,750	57,390	72,830	56,620	54,740	79,520	67,820	49,880	723,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	4,785
1951	1213	16,100	Apr. 5, 1951	335	3,158	2,286,000	3,817
1952	1243	23,600	Mar. 12, 20, 1952	1,570	10,350	7,515,000	†12,680
1953	1283	24,300	Feb. 12, 1953	1,380	8,400	6,081,000	5,656
1954	1343	18,200	(a)	1,140	4,318	3,126,000	4,414
1955	1393	*18,100	Feb. 1, 1955	520	3,627	2,626,000	2,926
1956	1443	3,970	July 7, 1956	112	1,229	892,400	1,214
1957	1513	3,390	July 8, 1957	310	967	700,200	1,612
1958	1563	15,800	Apr. 24, 1958	406	4,372	3,165,000	4,076
1959	1633	13,700	Jan. 6, 1959	508	1,508	1,092,000	1,289
1960	1713	10,500	Jan. 19, 1960	377	997	723,400	-

* Revised.

† Corrected.

a Jan. 26, June 1, 1954.

5220. Colorado River at northerly international boundary above Morelos Dam, near Andrade, Calif.

Location.--Lat 32°43'00", long 114°43'00", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.21, T.8 S., R.24 W., Gila and Salt River meridian, on left bank at northerly international boundary, half a mile east of Andrade, 1.1 miles upstream from Morelos Dam, 1.1 miles downstream from Rockwood Gate, and 7.2 miles downstream from gaging station on Colorado River at Yuma, Ariz.

Drainage area.--243,000 sq mi, approximately, including all closed basins entirely within the drainage boundary.

Records available.--January 1950 to September 1960. Prior to October 1958, published as "at international boundary."

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, leveling of 1941. Supplementary water-stage recorder 1,450 ft upstream at same datum.

Extremes.--1950-60: Maximum discharge, 25,390 cfs Jan. 1, 1953; maximum elevation, 114.24 ft Jan. 28, 1958; minimum discharge, 570 cfs Feb. 24, 1956 (elevation, 103.00 ft).

Remarks.--This record shows water passing northerly international boundary. Minor diversions to the United States below this station from river and by pumping from ground water for irrigation in floodway between river and Yuma levee.

Cooperation.--Records furnished by International Boundary and Water Commission, United States Section.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,545	3,397	4,991	5,008	4,088	4,088	5,595	2,707	4,292	5,584	6,828	5,579	4,561
1952	4,284	4,457	7,714	13,850	14,040	16,950	13,850	14,380	14,290	10,490	10,930	12,960	11,500
1953	12,760	15,090	18,150	16,100	13,420	8,300	5,234	6,356	5,447	6,618	6,231	5,135	9,897
1954	3,722	4,147	6,193	9,210	6,476	5,186	4,954	7,150	5,918	6,332	6,682	4,874	5,909
1955	3,360	5,076	6,767	9,975	5,328	4,016	4,030	3,773	3,829	6,043	6,313	3,247	5,157
1956	1,502	1,340	1,261	1,133	1,227	2,061	3,332	1,874	3,192	4,336	4,178	2,667	2,345
1957	1,183	944	811	1,142	1,088	1,744	3,406	1,744	2,689	4,500	4,790	2,256	2,388
1958	2,568	7,812	12,346	16,963	7,841	13,933	13,521	8,415	4,919	4,926	5,710	4,058	8,601
1959	3,640	5,115	8,697	7,025	5,932	2,943	4,669	2,669	3,294	4,824	5,866	3,665	4,863
1960	2,715	2,809	4,245	4,683	2,026	3,612	4,468	2,307	3,626	4,563	4,233	3,099	3,541

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	156,500	202,160	306,880	307,950	227,050	251,350	332,930	166,430	255,370	343,360	419,820	331,970	†3,301,770
1952	265,590	265,210	474,310	807,850	1,042,390	823,850	883,950	850,510	844,730	671,780	771,590	8,350,470	
1953	784,580	897,820	1,180,000	989,830	745,030	510,350	311,460	390,840	324,120	406,930	353,110	305,550	7,165,420
1954	228,670	246,760	350,770	568,280	359,640	318,680	294,760	439,620	352,170	359,560	410,660	290,000	4,277,970
1955	206,600	302,140	416,070	613,510	325,890	246,960	239,600	231,970	227,860	371,560	388,190	193,190	3,733,540
1956	92,370	79,720	77,510	69,680	70,560	126,700	198,250	115,240	189,960	266,600	256,900	158,680	1,702,170
1957	72,760	56,200	56,030	70,190	60,400	107,210	202,690	107,250	158,600	276,730	294,530	193,730	1,656,520
1958	157,890	464,850	759,110	1,043,010	435,490	856,700	804,580	517,410	292,700	302,920	351,070	241,450	6,227,180
1959	223,810	304,360	534,760	431,960	329,430	180,970	277,800	164,130	196,030	296,590	360,690	218,060	3,518,590
1960	166,910	167,170	260,990	287,920	116,560	222,110	265,840	141,860	215,740	280,540	260,270	184,420	2,570,320

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	6,155	4,456,250
1951	1213	17,300	Apr. 5, 1951	1,720	4,561	†3,301,770	5,027	3,639,140
1952	1243	19,130	Mar. 18, 1952	2,930	11,500	8,350,470	13,980	10,145,760
1953	1283	25,390	Jan. 1, 1953	2,780	9,897	7,165,420	7,215	5,223,640
1954	1343	21,000	June 1, 1954	2,850	5,909	4,277,970	6,004	4,346,360
1955	1393	21,920	Jan. 4, 1955	1,780	5,157	3,733,540	4,224	3,058,330
1956	1443	5,770	July 9, 1956	677	2,345	1,702,170	2,262	1,637,560
1957	1513	7,650	Aug. 23, 1957	604	2,288	1,656,520	3,941	2,853,380
1958	1563	21,960	Mar. 18, 1958	775	8,601	6,227,180	8,161	5,908,260
1959	1633	19,020	Dec. 16, 1958	1,910	4,863	3,518,590	4,214	3,050,730
1960	1713	11,270	Jan. 19, 1960	1,590	3,541	2,570,320	-	-

† Corrected.

5222. Colorado River at southerly international boundary, near San Luis, Ariz.

Location.--Lat 32°30', long 114°49', in Mexico, on right bank about 1,000 ft upstream from southerly international boundary, 2 miles west of San Luis, and 19.4 miles downstream from Morelos Dam.

Drainage area.--243,000 sq mi, approximately, including all closed basins entirely within the drainage boundary.

Records available.--January 1950 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, leveling of 1941. Prior to June 24, 1954, at site 1,100 ft downstream at same datum. Since August 1956, supplementary water-stage recorders at various sites within 6 miles upstream used to compute discharge during periods of backwater from diversion dike downstream.

Extremes.--1950-60: Maximum discharge, 28,610 cfs Dec. 18, 1952; maximum elevation, 84.84 ft Nov. 29, 1957; no flow Sept. 1, 1956, June 26-30, 1957, Aug. 23-26, Aug. 28 to Sept. 1, 1958.

Remarks.--This record shows water passing southerly international boundary. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for municipal use and irrigation, and return flows from irrigated areas.

Cooperation.--Records furnished by International Boundary and Water Commission, United States Section; not previously published by Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	13,450	12,680	10,510	6,062	8,858	4,469	2,970	1,961	2,323	-
1951	2,500	3,199	4,596	4,912	3,797	1,758	1,970	1,255	1,082	1,204	2,556	3,205	2,664
1952	3,511	4,261	7,529	13,920	13,760	15,290	10,670	12,620	10,590	5,794	6,291	10,040	9,506
1953	11,820	14,690	17,530	16,190	13,100	5,342	2,193	4,919	2,149	1,825	1,584	2,353	7,791
1954	2,940	4,142	5,650	9,031	6,301	2,072	1,563	5,386	1,962	1,423	1,755	1,596	3,645
1955	2,340	4,874	6,465	9,754	5,334	2,293	822	1,228	913	1,401	1,984	731	3,177
1956	619	1,377	1,168	994	696	457	370	604	126	169	110	280	514
1957	148	613	493	566	471	708	433	405	418	283	164	585	227
1958	870	5,949	9,740	14,760	7,498	10,220	8,899	6,404	560	152	152	619	5,477
1959	2,643	4,772	9,078	6,307	4,911	334	728	618	805	466	1,151	413	2,498
1960	1,750	2,531	3,071	3,867	675	277	301	260	442	266	295	264	1,099

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	826,710	704,410	646,490	360,710	544,680	265,900	182,640	120,600	138,210	-
1951	153,700	190,350	282,600	302,000	210,860	108,090	117,230	77,200	64,410	74,010	157,160	190,730	1,928,340
1952	215,860	253,570	462,940	855,830	791,350	939,910	635,090	776,190	629,930	356,250	366,820	597,440	6,901,180
1953	726,740	873,860	1,078,200	995,190	727,540	328,480	130,470	302,440	127,860	112,220	97,410	139,990	5,640,400
1954	180,750	246,450	347,390	555,290	349,960	127,400	92,990	331,200	116,720	87,490	107,920	94,940	2,638,500
1955	143,890	290,020	398,780	599,720	296,210	141,020	48,910	75,500	54,350	86,120	121,980	43,480	2,299,980
1956	38,080	81,920	71,850	61,090	40,020	28,090	22,020	3,710	7,520	10,390	6,790	1,660	373,140
1957	9,120	36,500	30,320	34,780	26,130	4,350	2,930	2,490	2,490	1,740	1,080	3,540	164,470
1958	53,460	548,040	598,810	907,500	416,430	628,500	529,550	393,760	33,300	9,340	9,560	36,840	3,965,080
1959	162,530	283,950	496,700	367,830	272,730	20,530	43,290	38,010	4,790	2,870	70,770	24,560	1,808,560
1960	107,610	150,620	188,850	237,800	38,820	17,040	17,900	17,220	2,630	1,630	1,810	15,720	797,650

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet	
		Discharge	Date						
1950	-	a20,010	Feb. 23, 1950	1,390	-	-	6,101	4,417,000	
1951	-	b12,310	Sept. 1, 1951	180	2,664	1,928,340	3,086	2,234,060	
1952	-	20,100	Jan. 24, 1952	2,080	9,506	6,901,180	11,910	8,647,610	
1953	-	28,610	Dec. 18, 1952	480	7,791	5,640,400	5,161	3,736,190	
1954	-	18,350	Jan. 26, 1954	385	3,645	2,638,500	3,725	2,696,600	
1955	-	17,480	Jan. 4, 1955	94	3,177	2,299,980	2,292	1,659,140	
1956	-	2,320	Nov. 22, 1955	0	514	373,140	354	257,230	
1957	-	2,960	Feb. 1, 1957	0	227	164,470	1,504	1,088,840	
1958	-	19,200	Jan. 28, 1958	0	5,477	3,965,080	5,596	3,907,950	
1959	-	13,410	Jan. 21, 1959	11	2,498	1,808,560	1,615	1,312,460	
1960	-	10,120	Jan. 19, 1960	8	1,099	797,650	749	544,060	

a Maximum for period January to September.

b Maximum day.

5225. Gila Gravity Main Canal at Imperial Dam, Ariz.-Calif.

Location.--Lat 32°51'35", long 114°27'15", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.30, T.6 S., R.21 W., Gila and Salt River meridian, on right bank 3,200 ft downstream from intake at east end of Imperial Dam.

Records available.--August 1943 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 160.00 ft above mean sea level, datum of 1929.

Extremes.--1943-60: Maximum daily discharge, 1,910 cfs June 20, 1959; no flow at canal intake at times in several years when intake gates were closed.

Remarks.--Gila Gravity Main Canal diverts water from Colorado River at left end of Imperial Dam for irrigation of lands on Gila project in Arizona. Diversion to this canal began Aug. 17, 1943. Diversion to North Gila Valley from this canal began Dec.16, 1954. During 1960 calendar year, water was used for irrigation of 82,002 acres divided as follows: North and South Gila Valleys, 8,061 acres; Yuma Mesa Division, 16,872 acres; Wellton-Mohawk Division, 54,127 acres; Yuma Mesa Auxiliary Division, 2,942 acres. Records of water temperatures for the period January 1956 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	203	213	159	139	187	204	277	297	319	356	302	301	247
1952	299	193	161	133	199	217	394	529	562	557	624	568	370
1953	470	272	119	187	235	425	614	640	779	944	959	785	537
1954	434	339	265	247	457	601	827	818	857	892	960	844	629
1955	531	399	397	252	544	840	941	984	1,211	1,110	903	1,088	767
1956	699	539	475	450	517	897	989	1,032	1,151	1,095	1,123	1,083	838
1957	761	521	610	377	623	938	978	1,055	1,330	1,435	1,512	1,096	921
1958	682	452	521	502	536	815	1,231	1,325	1,400	1,485	1,270	1,150	958
1959	903	655	665	575	706	1,094	1,297	1,330	1,629	1,647	1,348	1,294	1,087
1960	1,034	654	448	421	749	1,083	1,342	1,446	1,632	1,655	1,557	1,174	1,100

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	12,510	12,690	9,790	8,570	10,370	12,550	16,480	18,270	19,000	21,920	18,600	17,900	178,600
1952	18,360	11,460	9,920	8,180	11,440	13,330	23,440	32,540	33,410	34,250	38,390	33,810	268,500
1953	28,870	16,160	7,320	11,510	13,060	26,110	36,530	39,370	46,330	58,070	58,950	46,710	389,000
1954	26,720	20,160	16,290	15,160	25,400	36,950	49,210	50,290	51,010	54,820	59,010	50,240	455,300
1955	32,660	23,730	24,420	15,520	30,190	51,670	55,980	60,500	72,070	68,260	55,500	64,740	555,200
1956	42,980	32,040	29,230	27,660	29,760	55,170	58,830	63,460	69,510	67,320	69,080	64,470	608,500
1957	46,790	30,980	37,500	23,170	34,570	57,670	58,220	64,860	79,140	88,230	80,680	65,240	667,000
1958	41,930	26,910	32,030	30,850	29,770	56,240	73,260	81,440	83,330	91,320	78,080	68,430	693,600
1959	55,550	39,000	40,920	35,380	39,200	67,290	77,160	81,770	96,910	101,300	82,880	77,020	794,400
1960	63,550	38,890	27,550	25,880	43,100	66,610	79,850	88,900	97,130	101,800	95,760	69,840	798,900

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year		
		Maximum day		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	207	150,200
1951	1213	a457	July 13, 1951	2	247	178,600	253	183,400
1952	1243	732	Sept. 3, 1952	21	370	268,500	387	281,100
1953	1283	1,100	Sept.16, 1953	.3	537	389,000	552	399,800
1954	1343	1,080	Aug. 10, 1954	99	629	455,300	653	472,900
1955	1393	1,620	July 1, 1955	86	767	555,200	799	578,700
1956	1443	1,410	Sept. 5, 1956	243	838	608,500	853	619,500
1957	1513	1,740	June 28-29, 1957	177	921	667,000	902	652,600
1958	1563	1,760	July 18, 1958	163	958	693,600	1,006	728,200
1959	1633	1,910	June 20, 1959	363	1,097	794,400	1,090	788,900
1960	1713	1,840	May 18, 1960	0	1,100	798,900	-	-

a Momentary maximum.

5230. All-American Canal near Imperial Dam, Ariz.-Calif.

Location.--Lat 32°52'15", long 114°28'50", in SE¼NW¼ sec.17, T.15 S., R.24 E., San Bernardino meridian, on left bank 6,000 ft downstream from intake at west end of Imperial Dam and 13½ miles upstream from Turnout to Yuma Main Canal.

Records available.--October 1938 to September 1960. Monthly discharge only prior to October 1939, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 150.00 ft above mean sea level, datum of 1929 (subject to undetermined changes caused by earthquake of May 18, 1940). Since Aug. 21, 1952, auxiliary water-stage recorder 18½ miles downstream from base gage.

Average discharge.--19 years (1941-60), 7,265 cfs (5,260,000 acre-ft per year).

Extremes.--1938-60: Maximum daily discharge, 13,500 cfs Apr. 16, 1958; no flow at times in several years.

Remarks.--All-American Canal diverts water from Colorado River at Imperial Dam. Water is used for power development and for irrigation in Yuma, Coachella, and Imperial Valleys. Water can be released back to river through Pilot Knob powerplant and wasteway for power, regulatory purposes, or for downstream use in Mexico. First diversion to All-American Canal began October 1938, but prior to October 1940 was used only for priming canal.

Cooperation.--Gage-height record furnished by Imperial Irrigation District.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8,496	6,441	5,300	5,455	6,176	7,397	8,096	8,146	8,335	8,515	7,765	7,016	7,268
1952	7,556	5,394	4,087	4,674	6,192	8,878	8,272	8,624	8,610	9,193	8,743	8,029	7,187
1953	6,034	5,741	4,621	5,185	6,459	7,587	8,458	8,479	8,650	9,409	8,999	8,332	7,500
1954	7,805	5,881	5,319	4,825	6,558	7,370	8,726	8,515	8,130	8,449	8,194	7,741	7,294
1955	7,700	6,198	5,075	3,752	6,324	7,552	8,547	8,522	8,801	8,618	7,566	7,710	7,197
1956	6,836	5,263	3,804	3,737	4,903	7,256	8,135	8,038	8,220	8,253	7,854	7,412	6,646
1957	6,585	4,726	3,648	3,142	4,596	7,042	8,282	7,751	8,223	9,411	9,298	8,585	6,784
1958	7,000	8,184	9,849	11,400	6,446	11,330	12,390	10,710	9,111	9,506	9,015	8,357	9,465
1959	7,801	7,428	9,307	8,346	8,191	7,661	9,766	8,298	8,991	10,260	10,590	8,788	8,790
1960	6,968	5,347	5,880	5,882	6,229	8,600	10,250	8,226	9,613	10,800	9,975	8,249	8,023

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	522,400	583,200	325,900	355,400	343,000	454,800	481,800	500,900	496,000	523,600	477,400	417,500	5,262,000
1952	464,600	321,000	250,100	287,400	356,200	422,900	492,200	530,200	512,300	565,200	537,600	477,800	5,218,000
1953	494,000	341,600	284,100	318,700	357,600	487,100	503,300	521,300	514,700	578,500	553,300	495,800	5,430,000
1954	479,900	349,900	327,000	296,700	363,100	453,200	519,300	523,600	483,700	519,500	505,800	460,600	5,280,000
1955	473,500	368,800	312,100	230,700	351,200	464,400	508,600	524,000	523,700	529,900	465,200	458,800	5,211,000
1956	420,300	313,200	233,900	229,800	282,000	446,200	484,100	494,300	489,100	507,500	482,900	441,000	4,824,000
1957	404,900	281,200	224,300	195,500	232,550	304,530	402,800	476,600	489,300	578,700	571,700	510,800	4,912,000
1958	430,400	487,000	605,800	701,100	358,000	696,400	737,400	658,300	542,100	584,500	554,300	497,300	6,852,000
1959	479,700	441,900	572,300	513,200	454,900	471,000	581,100	510,100	535,000	630,600	650,900	522,900	6,364,000
1960	428,400	318,200	361,500	361,300	358,300	528,800	610,000	505,800	583,900	663,900	613,300	490,800	5,825,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Maximum day		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	8,633	6,250,000
1951	1213		Oct. 5, 1950	3,930	7,268	5,262,000	6,998	5,066,000
1952	1243	al0,400	July 10, 1952	3,260	7,187	5,218,000	7,303	5,302,000
1953	1283	9,990	July 23, 1953	3,280	7,500	5,430,000	7,552	5,467,000
1954	1343	9,380	Apr. 23, 1954	3,660	7,294	5,280,000	7,290	5,278,000
1955	1393	9,360	July 2, 1955	3,130	7,197	5,211,000	6,939	5,024,000
1956	1443	8,580	July 16, 1956	2,750	6,646	4,824,000	6,567	4,767,000
1957	1513	10,100	Sept. 13, 1957	1,440	6,784	4,912,000	7,631	5,524,000
1958	1563	13,500	Apr. 16, 1958	3,580	9,465	6,852,000	9,425	6,823,000
1959	1633	12,700	Aug. 5, 1959	5,790	8,790	6,364,000	8,257	5,978,000
1960	1713	11,600	Mar. 27, 30, 1960	4,340	8,023	5,825,000	-	-

a Momentary maximum.

5235. Diversions from All-American Canal and Yuma Main Canal
above siphon-drop powerplant, Calif.

Location.--Turnouts for four canals diverting from All-American Canal between canal stations 311 and 695, and a turnout for Walapai Canal diverting from forebay of siphon-drop powerplant 4 miles north of Yuma, Ariz.

Gages.--For Reservation Canal, staff gage at head of All-American Canal at rated gates.

For Tisink Canal, water-stage recorder at 2-foot Parshall flume since Aug. 28, 1950. Prior to that, staff gage at same site.

For Yaqui Canal, water-stage recorder at 4-foot Parshall flume since June 12, 1950. Prior to that, staff gage at same site.

For Pontiac (formerly Pequod) Canal, water-stage recorder at 3-foot Parshall flume since Aug. 17, 1950. Prior to that, staff gage at same site.

For Walapai Canal, water-stage recorder at 6-foot Cippoletti weir since Aug. 21, 1950. Prior to that, staff gage at rated gates at about same site.

Remarks.--The five canals listed above were supplied with water for many years by Yuma Main Canal diverting at Laguna Dam. Walapai Canal is still supplied from Yuma Main Canal (using water diverted from All-American Canal since Aug. 4, 1941, except for five months in 1945), and the other four canals have been supplied from All-American Canal since the dates shown below, all in 1948. Records herewith show sum of flow of Walapai Canal since Oct. 1, 1947, Pequod Canal since June 11, 1948, Yaqui Canal since June 22, 1948, Reservation Canal since June 23, 1948, and Tisink Canal since Nov. 17, 1948. Tisink Canal was supplied by seepage from All-American Canal from June 23, 1948, to Nov. 17, 1948. Total irrigation water available to Yuma project in California after June 23, 1948, is the sum of diversions shown here and those shown under heading Diversions from Yuma Main Canal between siphon-drop powerplant and Yuma Main Canal wasteway, Calif.

Cooperation.--Records furnished by Bureau of Reclamation.

Monthly and yearly diversion, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5,390	3,620	3,360	4,150	4,690	7,290	5,650	7,710	8,720	11,080	7,750	5,310	74,710
1952	5,730	2,960	2,730	3,110	3,410	6,210	7,500	8,780	9,350	11,260	8,640	8,860	78,540
1953	5,530	2,820	1,560	3,280	3,260	7,930	6,360	6,580	9,460	12,290	10,830	8,420	78,320
1954	4,660	2,160	2,680	2,990	4,960	8,460	8,580	8,260	8,970	10,210	9,390	7,810	79,130
1955	6,180	4,030	3,230	1,090	4,190	9,400	7,090	8,480	9,550	9,520	10,040	6,910	79,710
1956	5,310	4,550	2,620	3,650	4,760	7,210	6,960	9,340	8,990	10,720	10,040	7,650	81,800
1957	6,210	3,850	3,560	3,410	4,930	7,890	7,490	8,070	10,000	11,400	8,300	7,120	82,230
1958	4,470	1,590	3,390	3,390	2,750	6,810	6,890	8,200	9,350	9,970	6,260	6,390	69,840
1959	4,510	4,100	4,380	3,370	6,450	9,010	8,030	9,030	12,030	11,820	7,370	7,430	87,530
1960	6,330	4,090	2,190	1,540	6,490	9,070	7,540	10,110	12,630	12,450	10,980	5,850	89,270

5240. Yuma Main Canal at siphon-drop powerplant, near Yuma, Ariz.

Location.--Lat 32°46'35", long 114°38'05", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.10, T.16 S., R.22 E., San Bernardino meridian, on right bank at downstream end of powerplant, 500 ft from turnout in All-American Canal to Yuma Main Canal, 4 miles north of Yuma, and 14 $\frac{1}{2}$ miles downstream from intake of All-American Canal at Imperial Dam.

Records available.--July 1926 to September 1960. Monthly discharge only prior to October 1938, published in WSP 1313. Diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant, October 1947 to September 1960 (monthly discharge only). Diversions from Yuma Main Canal between siphon-drop powerplant and Yuma Main Canal wasteway, October 1940 to September 1960 (monthly discharge only).

Gage.--Differential recorder to record head on turbines of powerplant. Normal operating level of forebay of powerplant is 151.0 ft above mean sea level, datum of 1929, or 150.3 ft above mean sea level, Yuma project datum. Prior to Oct. 30, 1938, floating staff gages on tailrace and in stilling well connected to forebay. Oct. 30, 1938, to Mar. 1, 1945, water-stage recorder on tailrace and floating staff gage on forebay stilling well and Mar. 2, 1945, to Jan. 11, 1951, water-stage recorders on tailrace and forebay stilling wells. Since Sept. 15, 1952, water-stage recorder operated on forebay by Bureau of Reclamation.

Average discharge.--34 years (1926-60), 1,713 cfs (1,240,000 acre-ft per year).

Extremes.--1930-60: Maximum daily discharge, 2,040 cfs Nov. 11, 1943; no flow for some days in 1937-39, 1945.

Remarks.--Daily discharge determined from flow through turbines, computed from relation between discharge, head, and gate openings as logged by powerplant operators. Bypass discharge through waste gates determined from relationship of forebay elevation and gate openings as logged by powerplant operators. Rating of turbines and bypass flow checked by two or more discharge measurements a month. Flow regulated by gates from All-American Canal to Yuma Main Canal. Records show quantity of water diverted from All-American Canal to Yuma Main Canal, except that diverted from forebay of powerplant to Walapai Canal. The water not needed for irrigation on Yuma project is returned to Colorado River through Yuma Main Canal wasteway, 3 $\frac{1}{2}$ miles downstream.

Cooperation.--Record of turbine gate openings and diversions furnished by Bureau of Reclamation.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	116,700	116,200	116,700	116,600	98,190	114,500	114,800	116,000	109,000	112,400	114,900	112,500	1,362,000
1952	101,000	65,120	56,520	109,300	112,500	114,600	110,500	113,300	109,800	111,000	110,110	600	1,227,000
1953	116,800	116,800	116,800	116,800	116,800	116,800	116,800	116,800	116,800	116,800	116,800	116,800	1,349,000
1954	116,900	116,900	116,900	116,900	116,900	116,900	116,900	116,900	116,900	116,900	116,900	116,900	1,358,000
1955	116,100	116,100	116,100	116,100	116,100	116,100	116,100	116,100	116,100	116,100	116,100	116,100	1,356,000
1956	71,070	60,400	49,630	38,810	52,240	105,900	108,900	108,900	109,110	110,400	112,100	101,000	1,026,000
1957	62,120	40,670	28,680	29,840	47,480	93,520	106,900	90,110	105,100	108,090	112,900	600	936,700
1958	92,300	115,300	115,300	115,300	115,300	115,300	115,300	115,300	115,300	115,300	115,300	115,300	1,338,000
1959	118,400	114,800	117,300	103,000	103,000	103,000	103,000	103,000	103,000	103,000	103,000	103,000	1,342,000
1960	113,800	110,600	119,000	87,570	110,600	112,400	110,700	108,100	102,100	103,000	109,500	107,400	1,282,000

5245. Diversions from Yuma Main Canal between siphon-drop powerplant and Yuma Main Canal wasteway, Calif.

Location.--Turnouts for several small canals diverting from Yuma Main Canal between siphon-drop powerplant, 4 miles north of Yuma, and Yuma Main Canal wasteway, 1,650 ft upstream from Colorado River siphon.

Determination of discharge.--Since 1949, records estimated on basis of measurements of discharge in the several canals near their intakes by the Clausen-Pierce weir rule. Prior to 1949, records based on estimates by ditch riders.

Remarks.--These diversions were supplied with water from Yuma Main Canal for many years prior to beginning of record given herewith. Total irrigation water available to Yuma project in California after June 23, 1948, is the sum of diversions shown here and those shown under heading Diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant, Calif.

Cooperation.--Records furnished by Bureau of Reclamation.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	353	60	97	87	113	664	202	379	595	708	466	397	4,120
1952	200	+85	83	91	109	583	210	906	843	900	708	587	5,300
1953	270	12	2.0	119	123	607	381	579	811	899	764	516	5,080
1954	157	12	32	182	367	482	484	647	569	645	740	712	5,030
1955	353	242	133	208	327	881	748	722	772	873	883	514	6,660
1956	264	387	188	175	333	516	504	827	692	631	490	343	5,350
1957	278	319	202	288	266	768	341	519	399	526	553	524	4,970
1958	258	36	153	210	218	754	383	595	543	454	266	159	4,030
1959	236	24	175	165	327	620	418	460	598	530	369	382	4,300
1960	179	173	85	59	419	622	422	540	583	484	536	506	4,610

+ Corrected.

5250. Yuma Main Canal wasteway at Yuma, Ariz.

Location.--Yuma Main Canal wasteway receives water from Yuma Main Canal at gates, lat 32°44'00", long 114°37'20", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.26, T.16 S., R.22 E., San Bernardino meridian, 1,645 ft upstream from intake of Colorado River siphon on Yuma Main Canal, half a mile north of Yuma, and $\frac{3}{4}$ miles downstream from siphon-drop powerplant on Yuma Main Canal. The wasteway discharges into Colorado River in SW $\frac{1}{4}$ sec.26, T.16 S., R.22 E., half a mile downstream from station on Colorado River at Yuma.

Records available.--April 1913 to September 1960. Monthly discharge only for some periods, published in WSP 1313.

Average discharge.--32 years (1928-60), 1,255 cfs (908,600 acre-ft per year).

Extremes.--1930-60: Maximum daily discharge, 2,020 cfs Dec. 24, 1948; no flow for several days in 1937-39, 1945, 1950.

Remarks.--Discharge computed as differences between discharge of Yuma Main Canal at siphon-drop powerplant and that of same canal below Colorado River siphon, with deduction for small irrigation diversions from canal between those stations. Records do not include flow of Reservation Canal Main Drain No. 4 which discharges into wasteway a quarter of a mile above its mouth.

Cooperation.--Record of small irrigation diversions between Yuma Main Canal and siphon-drop powerplant and Yuma Main Canal below Colorado River siphon furnished by Bureau of Reclamation.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	78,410	87,390	98,980	96,890	71,170	83,250	86,580	78,990	71,350	70,160	72,520	74,920	970,600
1952	63,200	42,150	42,840	92,850	87,090	84,100	78,290	77,060	68,490	64,980	65,020	66,480	832,600
1953	82,970	93,140	106,900	91,480	83,700	76,380	82,080	81,540	70,510	69,150	69,050	71,210	978,100
1954	89,830	95,660	103,900	102,500	80,190	82,490	78,090	82,210	76,070	74,520	76,340	72,690	1,014,000
1955	86,440	90,590	103,500	110,700	83,010	80,310	80,070	80,610	72,220	80,350	83,500	65,460	1,017,000
1956	42,910	37,530	34,340	21,770	30,280	75,460	82,540	69,690	75,990	78,390	81,500	68,000	698,400
1957	58,100	19,060	13,480	14,450	24,900	66,070	81,860	60,190	72,720	73,380	81,250	73,320	816,800
1958	67,860	101,500	100,900	101,900	89,140	86,640	74,350	77,790	75,530	73,850	83,650	76,680	1,010,000
1959	90,050	92,710	100,600	80,620	78,190	85,900	78,270	78,600	73,800	73,220	87,950	77,410	997,100
1960	87,150	91,020	108,800	77,410	78,290	83,980	70,140	74,700	66,170	63,480	76,910	72,840	950,900

5255. Yuma Main Canal below Colorado River siphon, at Yuma, Ariz.

Location.--Two gages, one at each end of canal siphon passing under Colorado River. At intake, lat 32°43'50", long 114°37'10", in SW¼SE¼ sec.26, T.16 S., R.22 E., San Bernardino meridian, on left bank in California, 1,645 ft downstream from center of Yuma Main Canal wasteway gates and 3½ miles downstream from siphon-drop powerplant. At outlet, in NW¼NE¼ sec.35, T.16 S., R.22 E., San Bernardino meridian, on right bank in Arizona. Both gages are a quarter of a mile downstream from upper highway bridge over Colorado River at Yuma.

Records available.--January 1924 to September 1960. Monthly discharge only prior to October 1938, published in WSP 1313. Diversion from Yuma Main Canal for municipal supply for Yuma, October 1947 to September 1960 (monthly discharge only).

Gage.--Water-stage recorder at each end of siphon. Datum of each gage is 100.03 ft above mean sea level, Yuma project datum, or 100.57 ft, datum of 1929. Elevation of sill of inlet is 125.5 ft above mean sea level, datum of 1929. Prior to Oct. 29, 1938, staff gages at approximately same sites, read simultaneously.

Average discharge.--36 years (1924-60), 475 cfs (343,900 acre-ft per year).

Extremes.--1930-60: Maximum daily discharge, 882 cfs Aug. 15, 1952; no flow for short periods in most years.

Remarks.--Daily discharge computed from relation between discharge and head on siphon, which is the difference between intake and outlet gages. Records show quantity of water delivered through Colorado River siphon for irrigation of 44,915 acres in the Valley Division of the Yuma project and for supplementary municipal supply for city of Yuma. Records of chemical analyses for the period October 1942 to September 1960 and water temperatures for the period May to September 1960 are published in reports of Geological Survey.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	37,940	28,790	19,820	21,600	26,870	30,530	28,070	36,600	37,120	41,480	41,970	37,210	387,800
1952	37,610	22,870	13,590	16,360	25,300	29,890	32,040	35,320	40,540	45,100	47,390	43,570	389,600
1953	33,560	23,350	12,590	17,560	21,110	36,110	28,550	33,780	37,910	40,730	42,030	39,560	365,900
1954	26,890	19,430	15,080	16,560	23,680	31,040	31,070	31,180	33,060	36,970	35,710	37,370	338,200
1955	29,350	23,650	14,520	10,520	23,060	32,120	30,180	32,710	35,720	31,750	28,110	41,260	333,500
1956	27,890	22,490	15,100	16,890	21,520	29,960	25,870	32,430	32,240	32,330	30,180	35,600	322,500
1957	23,740	22,290	15,040	14,930	22,320	26,630	24,710	29,410	32,020	36,910	31,100	35,710	314,800
1958	24,160	13,950	14,310	16,880	18,390	28,650	31,300	35,740	33,530	38,700	32,250	35,800	323,700
1959	28,140	22,060	16,600	22,270	25,160	27,350	32,090	34,730	32,130	37,860	27,890	33,910	340,200
1960	26,480	19,390	10,130	10,230	27,770	27,790	31,110	32,910	35,400	39,480	32,090	34,030	326,800

5260. Diversion from Yuma Main Canal for municipal supply for Yuma, Ariz.

Location.--Lat 32°43'40", long 114°37'10", in NW¼NE¼ sec.35, T.16 S., R.22 E., San Bernardino meridian, at outlet of Colorado River siphon of Yuma Main Canal on Arizona side of Colorado River at Yuma.

Gage.--Sparling saddle-type flow meters on discharge line from two pumps since August 1950. Prior to that, one meter and pump.

Remarks.--Record shows supplementary water for Yuma municipal supply; total municipal supply is much greater. Water shown in table herewith is also included in record for Yuma Main Canal below Colorado River siphon. Capacity of pump used prior to August 1950, about 12 cfs; combined capacity of two pumps used since, about 20 cfs.

Cooperation.--Records of diversion for supplementary municipal supply for city of Yuma furnished by Arizona Water Co. (prior to April 1955, Arizona Public Service Co.).

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.0	0	0	0.8	0.9	0	0	52	127	186	143	149	660
1952	0	0	0	0	8.7	0	0	97	7	656	0	0	762
1953	0	0	0	0	1	193	1.1	0.2	12	0	1.3	0	#208
1954	0	0	0	0	3.7	6	1.4	0	0	0	0	.1	5.8
1955	3.6	3.9	1.7	0	0	1.4	6.0	.3	12	0	72	209	310
1956	0	0	.05	0	0	0	0	.2	0	0	0	0	25
1957	0	0	0	0	0	0	0	0	40.2	0	2.9	34.8	77.9
1958	3.6	0	0	0	0	0	0	.6	.7	24	22	56	107
1959	0	0	0	0	0	0	0	0	2.1	11	13	0	26
1960	0	0	0	0	0	0	0	0	1.1	0	0	44	45

* Not previously published.

5265. All-American Canal above Pilot Knob wasteway, Calif.

Location.--Lat 32°45'00", long 114°42'20", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.24, T.16 S., R.21 E., San Bernardino meridian, near right bank on downstream side of pier of bridge on U. S. Highway 80, 1.1 miles upstream from Pilot Knob wasteway, 5 miles downstream from turnout to Yuma Main Canal, 5 $\frac{1}{2}$ miles northeast of Yuma, and 19 $\frac{1}{2}$ miles downstream from intake at Imperial Dam.

Records available.--October 1938 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 148.52 ft above mean sea level, datum of 1929. Auxiliary water-stage recorder, in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.15, T.16 S., R.22 E., on wash overshoot structure 4.4 miles upstream.

Average discharge.--19 years (1941-60), 5,258 cfs (3,807,000 acre-ft per year).

Extremes.--1938-60: Maximum daily discharge, 11,400 cfs Apr. 28, 1958; maximum gage height, 19.91 ft Apr. 1, 1945; no flow (since continuous operation of canal began Sept. 18, 1940) Dec. 17-20, 1940.

Remarks.--First flow in All-American Canal at this point began Feb. 5, 1939. Water is used for power development, irrigation in Coachella and Imperial Valleys, and can be released back to Colorado River through Pilot Knob powerplant and wasteway for power, for regulatory purposes, or downstream use in Mexico.

Cooperation.--Gage-height record furnished by Imperial Irrigation District.

Monthly and yearly diversion, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	586,800	258,900	194,500	207,600	237,600	324,000	553,300	565,600	561,200	586,500	503,440	800,284	3,705,000
1952	551,800	248,100	186,600	170,000	237,900	297,100	585,800	400,000	584,900	429,300	405,500	505,49	3,826,000
1953	562,900	220,400	158,100	198,100	240,800	339,400	586,600	591,400	584,900	439,200	411,800	568,500	3,900,000
1954	547,200	231,500	197,400	186,100	248,200	317,900	586,000	586,100	555,100	582,200	559,200	532,500	3,720,000
1955	541,200	245,500	182,700	96,280	229,900	326,700	575,900	591,400	586,100	583,200	532,500	530,600	3,620,000
1956	533,000	239,800	167,800	172,800	212,200	326,100	560,800	572,700	556,300	566,800	536,600	505,11	3,556,000
1957	513,300	218,400	177,300	145,700	185,800	312,800	565,100	565,500	560,000	439,500	440,000	505,89	3,711,000
1958	519,300	263,100	177,700	205,750	800,241	600,568	000,618	400,530	000,416	700,458	200,427	900,668	9,364,000
1959	548,600	18,400	447,800	599,900	341,400	345,500	459,300	584,300	410,300	501,600	520,000	597,100	4,872,000
1960	295,700	194,400	235,600	264,100	237,800	401,000	497,800	582,400	461,200	545,800	485,900	574,200	4,376,000

5270. Pilot Knob powerplant and wasteway near Pilot Knob, Calif.

Location.--Lat 32°44'15", long 114°42'55", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.25, T.16 S., R.21 E., San Bernardino meridian, 2 miles east of summit of Pilot Knob, 6 miles west of Yuma, Ariz., and 20.8 miles downstream from intake of All-American Canal at Imperial Dam.

Records available.--February 1939 to September 1960. Prior to October 1943, monthly discharge only, published in WSP 1313. Prior to October 1956, published as Pilot Knob wasteway near Pilot Knob.

Gage.--Water-stage recorder on right bank of All-American Canal, 550 ft upstream from wasteway gates and 1,800 ft from entrance of powerplant. Tailrace gage is on left bank 680 ft below powerplant with automatic recording equipment in control house. All bypass gates are equipped with calibrated openings which are read on all gate changes. Datum of forebay and tailrace gage is at mean sea level, datum of 1929. Elevation of sill of wasteway gates is 147.88 ft, datum of 1929.

Extremes.--1939-60: Maximum daily discharge, 8,350 cfs Jan. 26, 1958; no flow for long periods.

Remarks.--Daily discharge computed from flowmeter equipment and head and openings on wasteway gates or from head and gate openings on wicket and wasteway gates. Records show water released through Pilot Knob powerplant and wasteway from All-American Canal and returned to Colorado River through Rockwood gates. Pilot Knob wasteway completed in summer of 1938 and first flow occurred Feb. 5, 1939. Pilot Knob powerplant was completed in January 1957 and first flow occurred Jan. 14, 1957.

Cooperation.--Midnight readings of flowmeter, recorder graph of forebay, and record of tailrace elevation and gate openings furnished by Imperial Irrigation District.

Combined monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	48,280	3,330	0	0	0	0	0	0	0	0	0	0	51,610
1952	0	0	0	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	8,900	12,140	3,590	0	0	0	0	24,630
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	89	0	0	0	0	0	0	0	115	0	204
1956	0	0	0	0	0	0	0	0	0	0	0	3,410	3,410
1957	0	0	0	5,830	1,860	3,530	0	0	0	70,870	100,400	74,780	257,100
1958	45,660	182,600	19,700	400,200	93,200	279,300	260,900	185,400	71,540	85,240	89,390	71,850	2,085,000
1959	42,700	97,180	287,800	220,100	149,500	6,040	79,930	22,340	70,850	126,400	173,900	87,510	1,364,000
1960	0	4,910	94,470	146,000	778	70,440	115,500	4,580	83,740	22,400	102,600	49,110	794,500

5300. Reservation Canal Main Drain No. 4 at Yuma, Ariz.

Location.--Water-stage recorder 500 ft upstream from crossing of U. S. Highway 80. Drainage canal enters Yuma Main Canal wasteway 200 ft downstream from spillway structure. Prior to May 1955, it entered 500 ft upstream from outlet of Yuma Main Canal wasteway in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.26, T.16 S., R.22 E., San Bernardino meridian.

Records available.--Monthly discharge January 1913 to April 1920, October 1921 to March 1925, January 1934 to September 1960. Prior to October 1955, published as California drainage canal.

Remarks.--Record shows waste and drainage water from area east of Yuma Main Canal on Reservation Division. Since 1939, seepage from All-American Canal has caused large increase. Flow is not included in record of Yuma Main Canal wasteway.

Cooperation.--Record furnished by Bureau of Reclamation.

Corrections.--In WSP 1313, the water year totals in acre-feet for 1946-50 are listed in error; they should be as given in following table:

Water year	Acre-feet
1946.....	42,060
1947.....	54,070
1948.....	58,920
1949.....	56,690
1950.....	53,580

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,910	4,420	4,340	4,480	3,840	5,110	5,040	5,350	5,290	5,930	5,810	4,990	59,510
1952	5,380	4,870	4,250	4,180	4,010	4,370	4,320	5,300	5,580	5,840	6,030	5,750	60,380
1953	5,740	5,030	4,850	4,610	4,230	5,160	5,170	5,470	5,510	6,550	6,810	6,220	65,150
1954	5,390	4,260	4,320	4,230	3,930	4,750	4,760	5,590	5,320	5,760	5,860	5,450	59,620
1955	5,540	4,770	4,810	3,970	3,770	5,240	4,950	5,300	5,020	5,880	6,350	5,400	61,000
1956	5,520	5,120	4,610	4,440	4,230	4,970	5,250	5,480	5,340	5,810	5,930	5,110	61,810
1957	5,100	4,640	4,250	4,040	3,740	4,800	4,590	4,680	5,170	5,470	5,640	4,900	57,020
1958	4,980	4,530	4,840	4,700	4,080	4,950	4,960	5,180	4,600	4,610	4,520	4,190	56,140
1959	4,230	3,860	3,880	3,480	3,650	4,450	4,510	4,430	4,180	4,520	4,440	3,790	49,230
1960	3,950	3,590	3,520	3,000	3,270	3,960	3,930	3,920	4,090	4,320	4,350	3,760	45,660

5305. Drain 8-B near Yuma, Ariz.

Location.--Enters Colorado River in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.30, T.16 S., R.22 E., San Bernardino meridian, 4 miles downstream from outlet of Yuma Main Canal wasteway.

Records available.--Monthly discharge March 1948 to September 1960. Prior to October 1955, published as Araz drain near Yuma.

Remarks.--Record shows waste and drainage water west of Yuma Main Canal on the Reservation Division. There is no gage, but due to fairly constant drainage, flow record is computed by Bureau of Reclamation by interpolation between discharge measurements, which are made on a weekly basis by Imperial Irrigation District.

Cooperation.--Record furnished by Bureau of Reclamation.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	849	809	678	549	524	563	595	547	867	994	1,190	940	9,100
1952	889	724	674	494	488	651	597	615	815	968	1,110	1,070	9,100
1953	1,110	1,240	1,050	899	746	853	1,000	906	1,030	1,260	1,320	1,370	12,780
1954	1,220	934	891	791	623	583	676	922	924	1,050	1,080	1,040	10,730
1955	1,050	908	766	645	502	690	829	966	990	1,210	1,350	1,160	11,070
1956	1,090	895	821	682	569	591	668	714	698	789	956	928	9,400
1957	928	809	756	651	541	655	676	692	870	716	706	623	8,400
1958	607	577	619	534	502	706	702	779	589	639	700	664	7,620
1959	627	579	599	536	490	623	504	561	547	569	571	484	6,690
1960	551	543	468	353	309	381	379	383	405	448	456	472	5,150

5320. Cooper wasteway near Yuma, Ariz.

Location.--Water-stage recorder and weir, in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.33, T.8 S., R.24 W., half a mile downstream from Morelos Dam.

Records available.--Monthly discharge January 1934 to September 1960.

Remarks.--Record shows waste water from Valley Division returned to Colorado River.

Cooperation.--Record furnished by International Boundary and Water Commission, United States Section.

Monthly and yearly return flow, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	439	403	199	228	241	338	343	338	424	222	320	462	3,960
1952	341	23	244	350	400	310	350	440	480	430	340	350	4,060
1953	490	340	150	240	180	230	230	320	300	280	150	190	3,100
1954	200	210	200	140	110	100	200	150	180	110	100	120	1,820
1955	140	230	180	110	210	290	100	190	190	120	90	150	2,000
1956	100	210	250	180	210	180	130	180	120	200	110	140	2,010
1957	150	240	300	170	200	210	190	150	180	150	100	110	2,150
1958	120	80	90	40	50	140	180	140	140	130	90	50	1,250
1959	90	100	120	160	170	190	140	170	80	160	120	80	1,570
1960	90	190	130	50	190	150	140	180	140	110	110	140	1,620

5325. Eleven-Mile wasteway near Yuma, Ariz.

Location.--Water-stage recorder and regulating gate, in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.8, T.9 S., R.24 W., $\frac{3}{4}$ miles downstream from Morelos Dam.

Records available.--January 1924 to September 1960.

Remarks.--Record shows waste water from Valley Division returned to Colorado River.

Cooperation.--Record furnished by International Boundary and Water Commission, United States Section.

Monthly and yearly return flow, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,400	2,640	3,930	3,060	2,430	2,330	1,860	2,060	1,520	840	2,510	1,430	26,010
1952	3,000	2,810	1,460	2,120	2,540	3,170	3,190	2,840	2,850	1,100	710	900	26,690
1953	2,360	3,360	3,090	2,510	2,240	3,410	3,480	2,760	2,110	1,050	2,320	2,260	30,950
1954	3,820	4,340	3,520	2,430	2,490	3,400	2,450	2,140	2,290	1,700	1,540	1,240	31,360
1955	2,670	2,790	2,660	2,740	2,130	2,320	2,620	1,920	1,750	2,000	2,570	1,710	27,880
1956	2,560	2,350	2,440	2,470	2,510	1,000	1,310	950	910	1,300	1,540	1,410	20,750
1957	2,410	2,210	2,350	2,040	1,620	2,130	2,000	1,880	1,990	1,850	2,250	2,000	24,730
1958	2,890	1,870	1,980	2,520	1,590	2,220	2,670	2,570	3,250	1,670	1,880	1,310	26,430
1959	2,420	2,260	2,390	2,300	2,150	2,310	2,340	1,820	1,200	1,860	1,540	1,220	23,810
1960	1,560	1,480	2,240	1,510	1,370	1,180	1,380	1,290	1,490	1,570	1,710	1,520	18,300

5330. Twenty-one-Mile wasteway near Yuma, Ariz.

Location.--Recording gage and flume, in NW $\frac{1}{4}$ sec.35, T.10 S., R.25 W., 13 miles south of Morelos Dam.

Records available.--March 1939 to September 1960.

Remarks.--Record shows waste water from Valley Division returned to Colorado River.

Cooperation.--Record furnished by International Boundary and Water Commission, United States Section.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	238	567	492	397	485	293	386	669	292	192	633	522	5,170
1952	817	735	1,030	1,190	590	580	460	680	770	340	200	240	7,600
1953	500	820	760	970	600	1,270	1,180	910	310	530	230	510	8,490
1954	1,080	990	1,150	1,000	490	680	840	680	610	800	460	450	9,230
1955	620	750	610	600	710	730	970	1,030	960	750	650	550	8,930
1956	860	830	980	560	630	430	690	520	780	540	420	410	7,650
1957	660	580	760	700	600	860	600	590	700	830	540	600	8,020
1958	940	600	820	900	530	850	830	830	890	830	410	390	8,820
1959	690	700	640	730	520	590	630	700	630	630	620	770	7,850
1960	600	610	500	620	630	820	430	690	790	730	670	540	7,630

5340. Main drain at Arizona-Sonora boundary

Location.--Pumping plant, in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.11, T.11 S., R.25 W., half a mile west of San Luis. Water-stage recorder at outlet, and at inlet since May 8, 1953.

Records available.--Monthly discharge January 1919 to September 1960.

Remarks.--Record computed from rated pumps checked by discharge measurements made once a month by International Boundary and Water Commission, United States Section. Flow consists mostly of drainage water from the Valley Division which is pumped across Arizona-Sonora boundary for use in Mexico.

Cooperation.--Record furnished by Yuma County Water Users' Association and International Boundary and Water Commission, United States Section.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8,550	8,800	8,290	7,120	6,710	8,050	8,500	8,210	8,220	7,540	7,470	7,090	94,550
1952	8,060	7,720	7,330	7,140	7,160	8,780	8,990	9,220	9,390	9,470	9,100	10,350	102,700
1953	10,820	10,180	9,870	9,690	9,370	11,060	10,680	9,460	8,730	8,650	8,830	8,290	115,600
1954	9,230	8,400	7,920	7,920	7,650	9,280	9,150	9,360	8,680	8,460	8,590	9,130	103,800
1955	9,780	9,160	8,660	7,950	8,030	9,800	9,180	9,020	8,520	8,700	8,410	8,620	105,800
1956	9,640	9,050	8,590	8,400	8,160	9,240	9,060	8,940	8,110	8,050	8,230	9,170	104,600
1957	9,810	9,560	8,700	9,180	8,790	10,100	9,750	10,190	10,020	10,510	10,670	10,110	119,400
1958	10,940	10,460	10,500	10,630	10,580	12,170	11,810	13,140	12,040	11,850	11,960	11,560	137,800
1959	9,970	12,010	11,480	11,140	10,940	12,010	11,890	12,360	11,320	11,130	10,850	10,770	135,900
1960	11,810	11,350	10,920	10,480	10,840	11,980	11,580	12,150	11,120	10,720	11,530	11,450	135,900

5345. East Main Canal wasteway at Arizona-Sonora boundary

Location.--Water-stage recorder, in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.12, T.11 S., R.25 W., a quarter of a mile east of Main drain pumping plant and a quarter of a mile west of San Luis.

Records available.--Monthly discharge January 1924 to June 1928, January 1932 to December 1933, April 1935 to September 1960. Calendar year estimates 1934-35, published in WSP 1313.

Remarks.--Record shows amount of unused water at the extreme end of the Valley Division which is discharged across Arizona-Sonora boundary for use in Mexico.

Cooperation.--Record furnished by International Boundary and Water Commission, United States Section.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,060	1,010	716	1,320	1,100	1,080	865	1,080	1,120	1,840	1,700	662	13,550
1952	571	948	1,110	778	1,100	1,530	708	466	545	452	169	159	8,540
1953	615	605	496	506	571	902	458	851	482	361	526	609	6,980
1954	508	829	934	1,340	960	1,280	820	1,230	1,140	1,000	880	880	11,800
1955	900	980	1,040	1,100	920	880	1,100	1,220	1,000	1,130	1,000	980	12,250
1956	1,100	820	610	560	610	800	1,540	1,590	1,110	1,280	1,080	1,040	12,140
1957	950	1,160	1,160	1,590	810	1,090	1,010	1,070	990	740	930	900	12,400
1958	660	430	650	810	720	660	540	760	530	590	650	890	7,890
1959	740	660	570	990	780	840	470	750	660	500	550	700	8,210
1960	670	1,120	940	1,190	750	630	730	840	900	830	540	620	9,760

† Corrected.

WHITEWATER DRAW BASIN

5375. Whitewater Draw near Douglas, Ariz.

Location.--Lat 31°21'15", long 109°35'00", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 10, T.24 S., R.27 E., at downstream side of pier of bridge on U. S. Highway 80, 1½ miles upstream from international boundary and 2 miles west of Douglas.

Drainage area.--1,023 sq mi.

Records available.--August to October 1911 (gage heights and discharge measurements only), July to October 1912, January to June 1913, October 1913, December 1913 to June 1914, February to June 1915, October 1915 to September 1919, October 1919 to April 1922 (gage heights and discharge measurements only), June 1930 to December 1933, May 1935 to September 1960 (July 1954 to March 1955 monthly discharge only). Monthly discharge only for some periods, published in WSP 1313. Records for July to September, November 1913, July 1914 to January 1915, and July to September 1915, published in WSP 359, 389, 409, and 1049, have been found to be unreliable and should not be used. Published as White River near Douglas 1911 and as White Water River near Douglas 1912.

Gage.--Water-stage recorder. Datum of gage is 3,906.94 ft above mean sea level, datum of 1929, supplementary adjustment of 1958; prior to May 14, 1938, 0.03 ft higher. Prior to Apr. 30, 1922, staff gages at various sites between a quarter of a mile upstream and three-quarters of a mile downstream at different datums.

Average discharge.--31 years (1915-19, 1930-33, 1935-46, 1947-60), 11.5 cfs (8,330 acre-ft per year); median of yearly mean discharges, 9.2 cfs (6,700 acre-ft per year).

Extremes.--1911-22, 1930-60: Maximum discharge, 5,060 cfs Aug. 7, 1955; maximum gage height, 14.93 ft July 27, 1959; no flow at times in most years.

Remarks.--Diversions above station for irrigation of about 27,800 acres (in 1953), mostly by pumping from ground water. Whitewater Draw discharges into Gulf of California through Yaqui River in Mexico. Record shows flow at international boundary, except for smelter waste water which joins stream below station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.12	0.41	0.38	0.46	0.45	0.35	0.95	0.30	0.18	21.4	38.2	0.22	5.46
1952	.50	.37	.26	.27	.23	.19	1.08	.27	25.2	7.66	55.5	.27	7.70
1953	.11	.14	.40	.20	.15	.65	.07	0	0	132	13.9	.13	12.5
1954	.034	.042	.085	.132	.116	.093	.034	.047	+.0003	69.1	233	2.12	25.9
1955	1.73	.18	.34	.38	.18	.151	.103	.062	.027	125	235	.42	31.0
1956	.30	.35	.20	.21	.24	.10	.12	.049	.011	5.56	8.22	.013	1.30
1957	.007	.089	.042	.101	.069	.344	.020	2.24	6.23	39.4	46.0	1.79	8.16
1958	.185	.066	.047	.080	.109	.901	2.90	.015	.042	33.2	43.1	43.7	10.4
1959	.61	.15	.15	.19	.16	.069	.032	0	1.3	56.5	203	.64	22.3
1960	4.85	5.91	2.30	7.34	.37	.21	.20	.167	.019	11.5	13.3	4.26	4.24

† Corrected.

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	69	25	24	28	25	22	56	18	11	1,310	2,350	13	3,950
1952	31	22	16	16	13	12	64	16	1,500	471	3,410	16	5,590
1953	6.7	8.5	25	12	8.3	40	4.2	0	0	8,110	854	7.7	9,060
1954	2.1	2.5	5.2	8.1	6.4	5.7	2.0	2.9	.02	4,250	14,310	126	18,720
1955	106	11	21	24	10	9.3	6.1	3.8	1.6	7,710	14,460	25	22,410
1956	18	21	12	13	14	6.1	6.9	3.0	.7	342	505	.8	942
1957	.5	5.3	2.6	6.2	3.8	21	1.2	138	371	2,420	2,830	107	5,910
1958	11	3.9	2.9	3.7	6.0	55	173	1.0	2.5	2,040	2,650	2,650	7,550
1959	38	8.7	9.1	12	9.1	4.3	1.9	0	77	3,470	12,490	38	16,160
1960	298	352	141	451	21	13	12	10	1.1	709	817	254	3,080

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean
		Discharge	Date				
1950	-	-	-	-	-	-	11.6
1951	1213	1,230	Aug. 20, 1951	0.1	5.46	3,950	5.39
1952	1243	1,670	June 2, 1952	0	7.70	5,590	7.66
1953	1283	2,950	July 7, 1953	0	12.5	9,060	12.5
1954	1343	3,680	Aug. 9, 1954	0	25.9	18,720	26.0
1955	1393	5,060	Aug. 7, 1955	.02	31.0	22,410	30.8
1956	1443	513	Aug. 27, 1956	0	1.30	942	1.24
1957	1513	2,720	July 24, 1957	0	8.16	5,910	8.17
1958	1563	1,280	Sept. 23, 1958	0	10.4	7,550	10.5
1959	1633	2,760	July 27, 1959	0	22.3	16,160	23.3
1960	1713	676	July 31, 1960	0	4.24	3,080	-

† Not previously published.

Published herein are revisions and corrections for records published in WSP 1313 for stations discontinued prior to September 30, 1950.

3870. Zuni River at Blackrock, N. Mex.

Corrections.--In WSP 1313, the monthly runoff in acre-feet for September 1923 is listed in error; correct figure is 8,580 acre-ft.

4715. San Pedro River at Fairbanks, Ariz.

Corrections.--In WSP 1313, the date of momentary maximum discharge for water year 1928 is listed in error; correct date is July 15, 1928.

4725. San Pedro River near Mammoth, Ariz.

Corrections.--In WSP 1313, the water year runoff in acre-feet for 1933 is listed in error; correct figure is 15,030 acre-ft.

4995. Tonto Creek near Roosevelt, Ariz.

Corrections.--In WSP 1313, the runoff in acre-feet for January 1914 is listed in error; correct figure is 7,050 acre-ft.

5365. West Turkey Creek near Light, Ariz.

Corrections.--In WSP 609 and 1313, the dates given for the momentary maximum discharge for water year 1925 are listed in error; they should be July 3, 19, 1925.

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