

Gaging-Station Records in the Missouri River Basin

By B. R. COLBY and R. E. OLTMAN •

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1077

*An index and summary giving kinds
of records, published sources, and
explanation of data*



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CONTENTS

| | Page |
|--|------|
| Introduction..... | 1 |
| Sources of gaging-station data..... | 2 |
| Gaging-station names..... | 2 |
| Map showing gaging stations..... | 3 |
| Bar charts of records..... | 4 |
| Summary of records by basins..... | 17 |
| Base data for gaging stations..... | 19 |
| Drainage areas..... | 19 |
| Approximate areas irrigated..... | 20 |
| Approximate usable capacity of reservoirs..... | 21 |
| Average discharge for water years 1938-43..... | 22 |
| Average runoff for water years 1938-43..... | 24 |
| Sources of records..... | 25 |
| Period of discharge record..... | 25 |
| Maximum discharge..... | 25 |
| Minimum discharge..... | 26 |
| Annual discharge records..... | 26 |
| Average discharge..... | 27 |
| Bibliography..... | 27 |
| Index..... | 213 |

ILLUSTRATIONS

| | Page |
|--|------|
| Plate 1. Map showing locations of gaging stations and diversions in Missouri River Basin..... In pocket | |
| Figure 1. Diagram showing relative locations of tributaries and canals along Milk River in Montana..... | 5 |
| 2. Diagram showing relative locations of tributaries and canals in Bighorn Basin above Manderson, Wyo..... | 6 |
| 3. Diagram showing relative locations of tributaries and canals in White River Basin above Oglala, S. Dak..... | 7 |
| 4. Diagram showing relative locations of tributaries and canals along North Platte River from Guernsey Reservoir, Wyo., to Minatare, Nebr..... | 8 |
| 5. Diagram showing relative locations of tributaries and canals along North Platte River from Minatare to Lewellen, Nebr..... | 9 |
| 6. Diagram showing relative locations of tributaries and canals along North Platte River from Lewellen to Sutherland, Nebr..... | 10 |
| 7. Diagram showing relative locations of tributaries and canals from Sutherland, Nebr., to mouth of Platte River..... | 11 |
| 8. Diagram showing relative locations of tributaries and canals in South Platte River Basin in Nebraska..... | 12 |
| 9. Diagram showing relative locations of tributaries and canals in Loup River Basin..... | 13 |

| | Page |
|---|------|
| Figure 10. Diagram showing relative locations of tributaries and canals in Republican River Valley above Bloomington, Nebr..... | 14 |

TABLES AND CHARTS

| | Page |
|---|------|
| Table 1. Approximate station years of stream-flow records..... | 18 |
| 2. Comparison of average discharge 1938-43 with average discharge for long periods of record..... | 23 |
| 3. Base data for gaging stations in Missouri River Basin..... | 33 |
| Chart 1. Duration of records at gaging stations in Missouri River Basin..... | 107 |

GAGING-STATION RECORDS IN THE MISSOURI RIVER BASIN

By Bruce R. Colby and Roy E. Oltman

INTRODUCTION

Many hundreds of gaging stations on streams, canals, and reservoirs in the Missouri River Basin have been maintained for different periods of time. Records for most of these periods have been published somewhere, but the publications have been prepared by several governmental agencies so that looking through all the possible sources of stream-flow data to find records at a particular place or in a certain area may be difficult. This index and summary of gaging stations in the Missouri River Basin is intended to fill the need for information on the kinds and lengths of records available, on the published sources of these records, and on facts required to explain the meaning and applicability of the records.

After extensive but not necessarily exhaustive investigation of possible sources of gaging-station records, this index in the form of bar charts has been prepared. A graphical presentation of the periods of record was used because it shows conveniently (1) the periods covered by the records, (2) the kind of records for each period, and (3) where gaging-station records have been published. A summary table listing pertinent facts for nearly a thousand of the gaging stations has also been made.

This report was prepared in the division of water utilization under the general supervision of R. W. Davenport, chief.

SOURCES OF GAGING STATION DATA

The principal sources of the gaging station records are (1) publications of the United States Geological Survey, (2) publications of the Corps of Engineers, Department of the Army, and (3) reports of state engineers and other state officials. The publications from which gaging station records were obtained are listed specifically under the heading "Bibliography," on pages 17-21 of this report.

GAGING-STATION NAMES

Records for the same gaging station or two or more stations, giving approximately equivalent records but obtained at slightly different sites, have sometimes been published under different names. An attempt has been made in this report to combine all such substantially equivalent records under one name unless the practically equivalent records were for gaging stations that were operated concurrently. Parentheses enclose words that appear in earlier published names of a gaging station and follow immediately after the words that supersede them. A comma within parentheses separates words that occurred in two different earlier names of a gaging station. Brackets in a station name enclose words that did not appear in the name under which some earlier records have been published. At three or four places in the Missouri River Basin, records that were not equivalent have been published under one name. In this report these nonequivalent records have been separated.

Canal records that have been published in water-supply papers are listed on the bar charts under the name used in the water-supply papers. The names of canals for which

records have been given only in other publications frequently have been extended to make them more distinctive. This extension consisted of the addition of the name of a nearby town to the canal name if the canal diverted water from a main stream. The name of a canal diverting water principally from some source other than a main stream was extended to show the source from which water was diverted. Thus, the name "Hooper Canal" was extended to "Hooper Canal diversion from Blue Creek, Nebr."

Records for a few gaging stations on streams have been published in state reports under a stream name and a land-line location. Names of these stations have also been extended to include reference to a nearby town.

Names of reservoirs and lakes have been given without reference to the stream on which they are situated, provided their location was readily apparent from the names of stations that precede them in the table or on the bar charts. Whenever the location of a reservoir might otherwise be in doubt, a reference has been made to the stream on which it is located. Offstream reservoirs, which do not occupy the stream channel supplying most of their water, have been noted; and the principal source of supply for each of them has been shown.

Some diversions by pumping from Bighorn River have been published in special reports by the state engineer of Wyoming. Diversions reported as being made by pumps have been shown in this report as ditch diversions. For example the Joe Riedl pump diversion is shown as Joe Riedl ditch.

MAP SHOWING GAGING STATIONS

Gaging stations for which records have been published for periods prior to October 1, 1944, have been plotted with reference numbers on the map of the Missouri River Basin (pl. 1).

4 GAGING-STATION RECORDS IN THE MISSOURI RIVER BASIN

Open circles represent stations on streams, and short bars represent stations on diversions. Gaging stations on streams and canals are too close together in several areas to plot on a map, so schematic diagrams have been prepared to show the relative locations of stations in these areas (figs. 1-10). These diagrams are not to scale. A few of the smaller diversions may be indicated as diverting from the wrong side of the stream. Plate 1 and figures 1-10 have been prepared primarily from published maps and descriptions, but some indefinite locations of gaging stations and canals have been checked by oral or written inquiry. The map reference numbers are listed on the bar charts and in the summary table of gaging-station data.

The reference numbers were assigned to stations in downstream order beginning with the station farthest upstream on Red Rock River (head of the Missouri River) and going downstream along the main stream. Following the farthest downstream station on Missouri River is the most upstream station on the tributary that is nearest the source of the Red Rock River. Other tributaries follow in order downstream, with the list progressing down each tributary as though it were a main stream. This is the order used in most water-supply papers.

Gaging stations on canals have been listed in the downstream order they would occupy if the canals were tributaries entering the stream at the point where the canal diverts water from the stream. All gaging stations on one canal, diversions to it, or wastes from it have been listed in consecutive downstream order along that canal in the order that they would have if the canal were a natural stream.

BAR CHARTS OF RECORDS

The durations and kinds of records for individual gaging stations are shown on the accompanying bar charts. This method

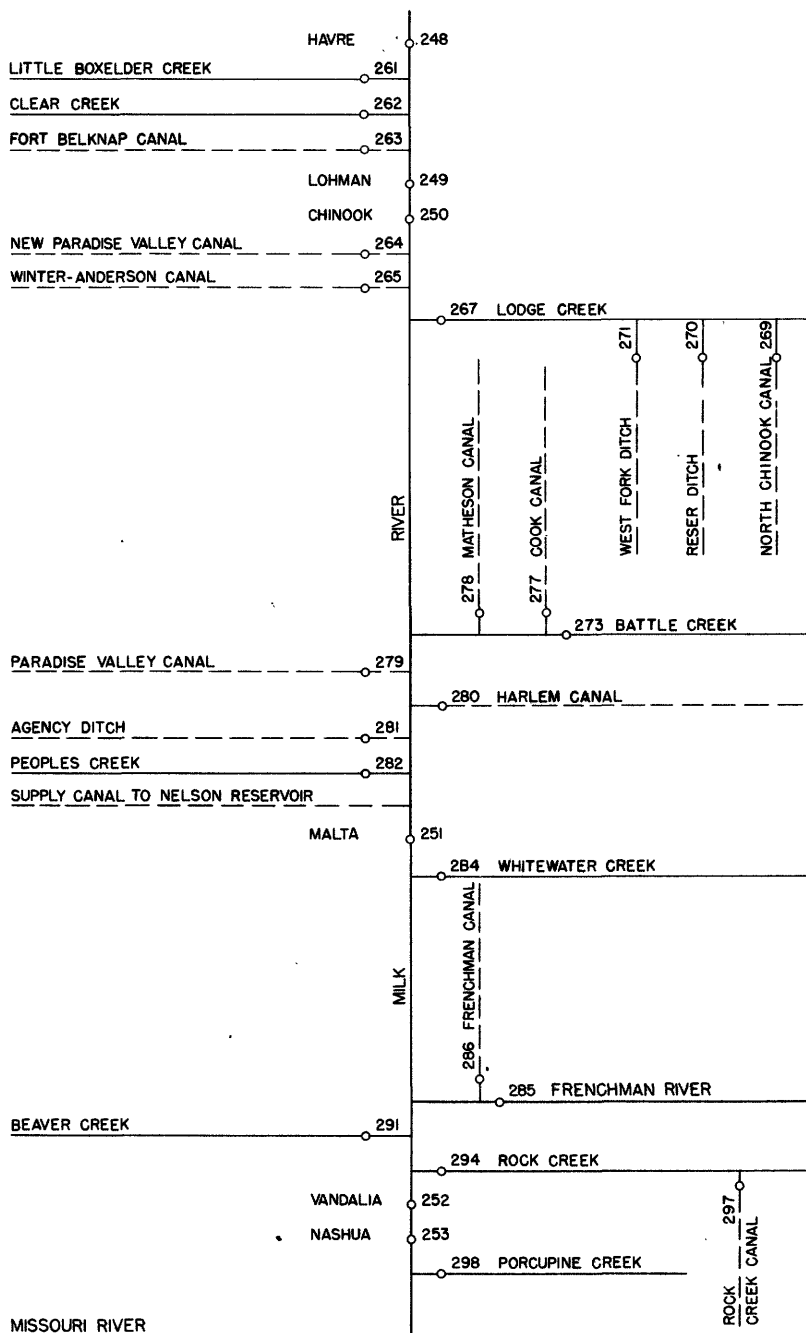


Figure 1.--Diagram showing relative locations of tributaries and canals along Milk River in Montana.

6 GAGING-STATION RECORDS IN THE MISSOURI RIVER BASIN

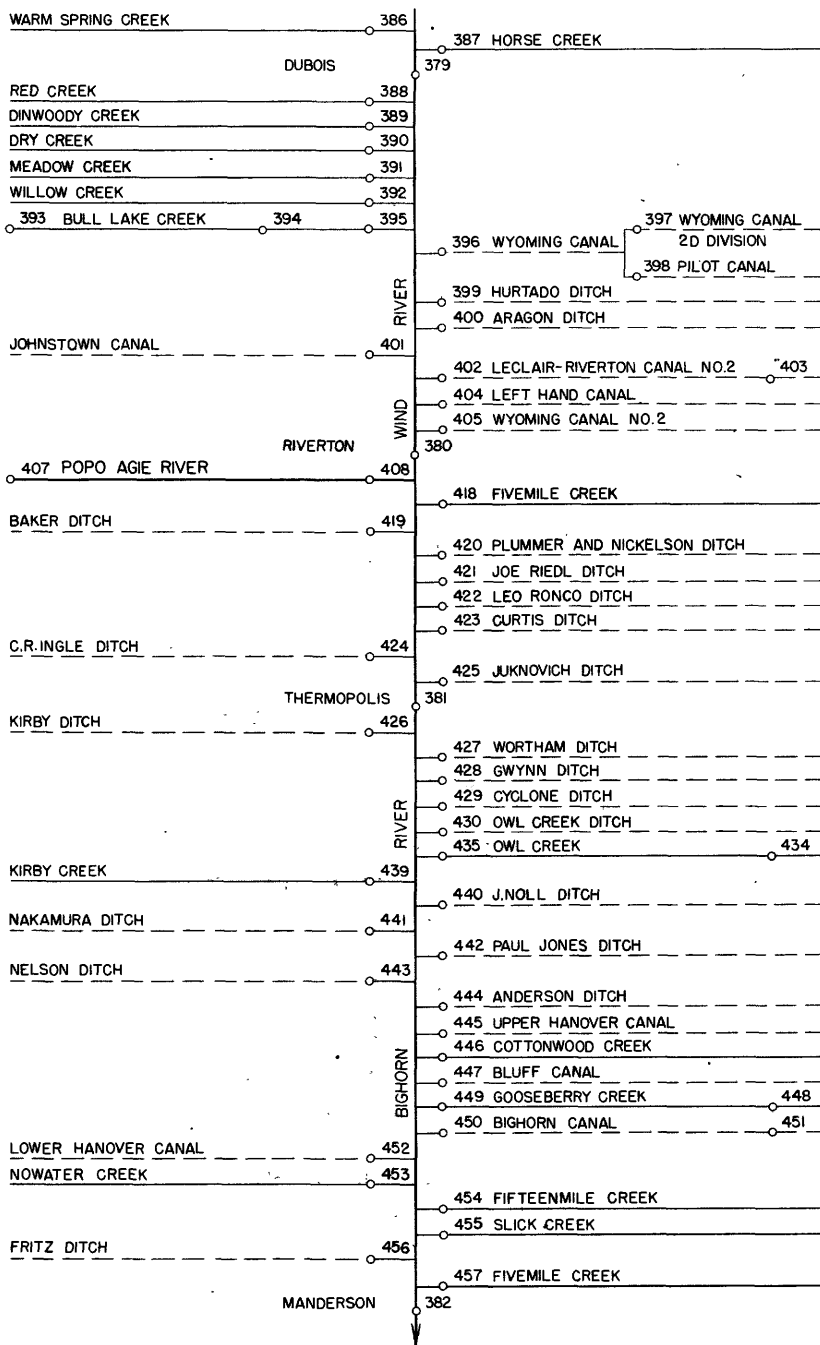


Figure 2.--Diagram showing relative locations of tributaries and canals in Bighorn Basin above Manderson, Wyo.

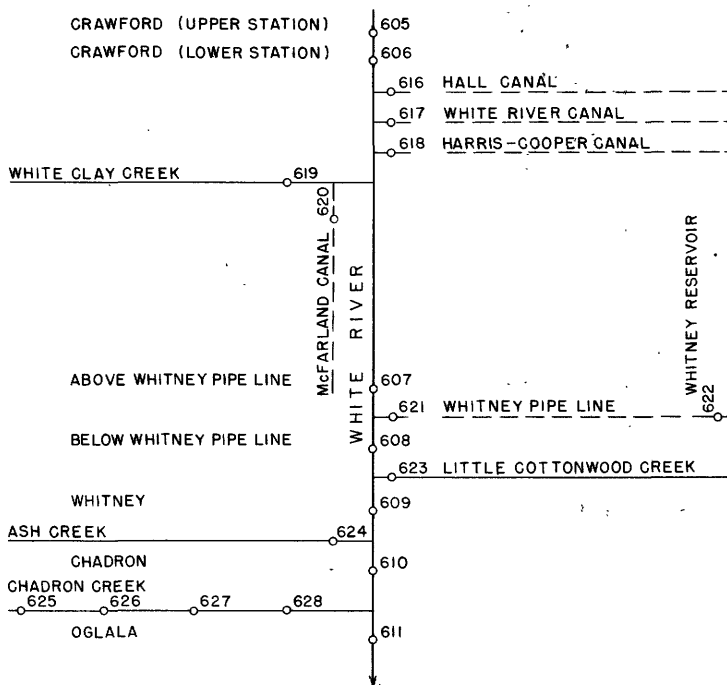


Figure 3.--Diagram showing relative locations of tributaries and canals in White River Basin above Oglala, S. Dak.

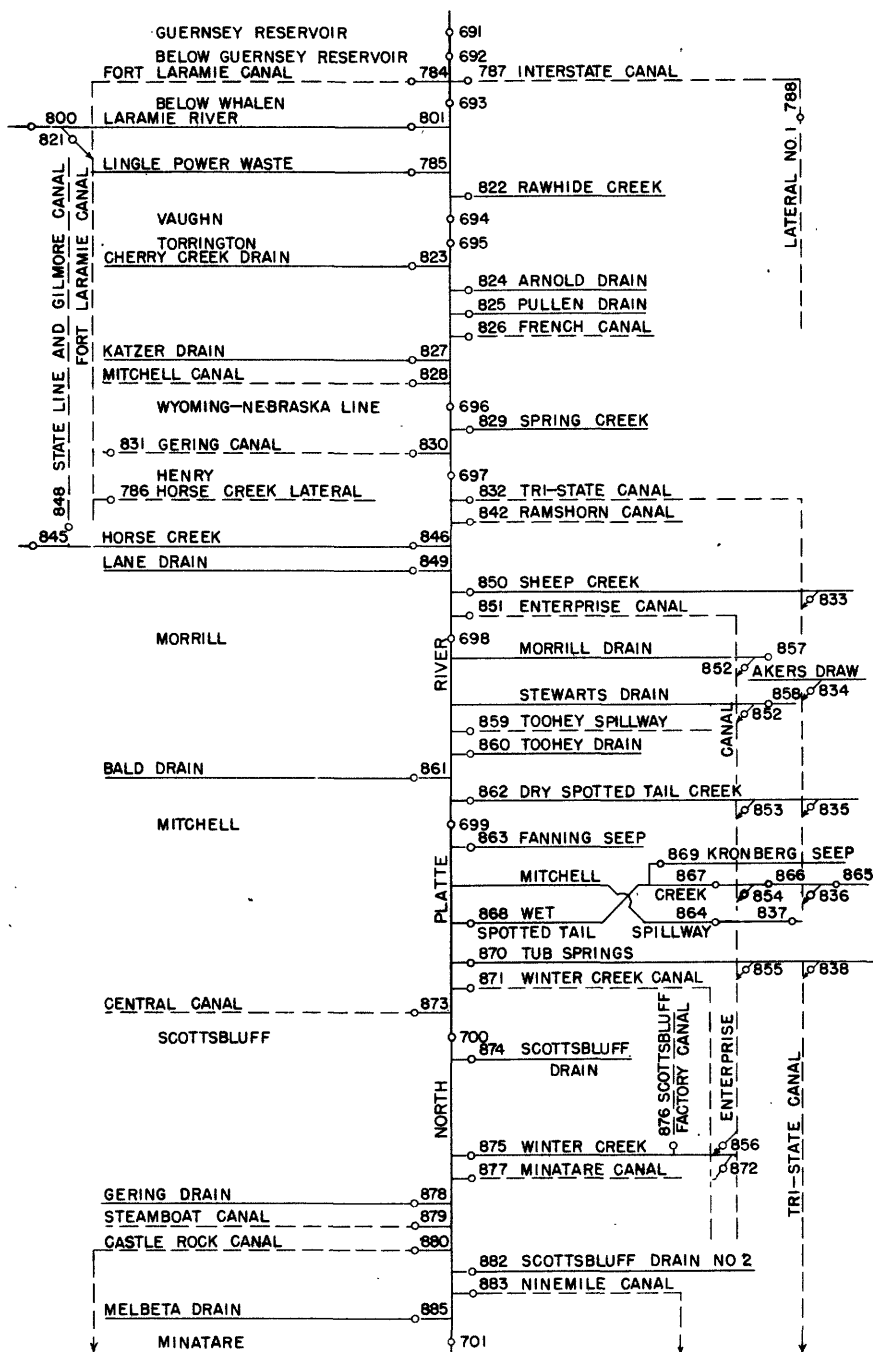


Figure 4.--Diagram showing relative locations of tributaries and canals along North Platte River from Guernsey Reservoir, Wyo., to Minatare, Nebr.

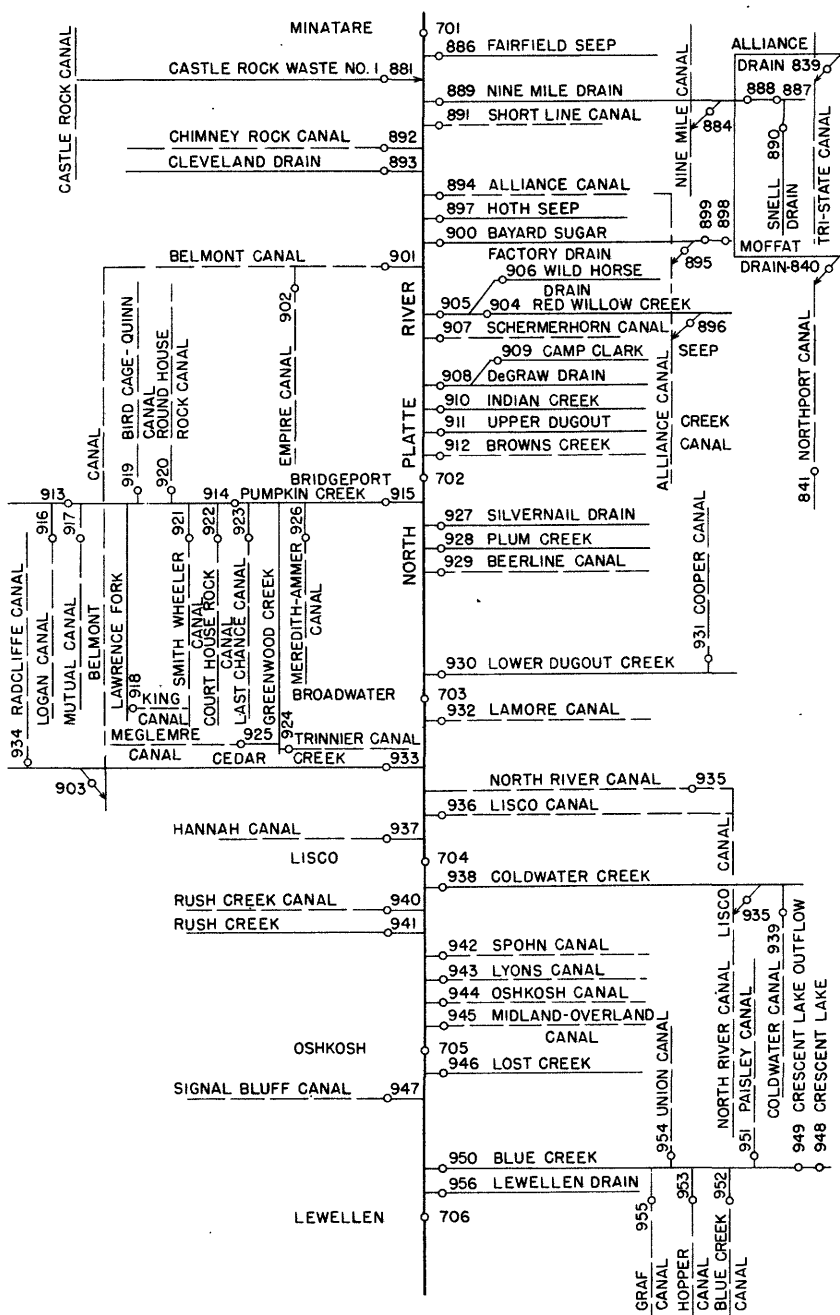


Figure 5.--Diagram showing relative locations of tributaries and canals along North Platte River from Minatare to Lewellen, Nebr.

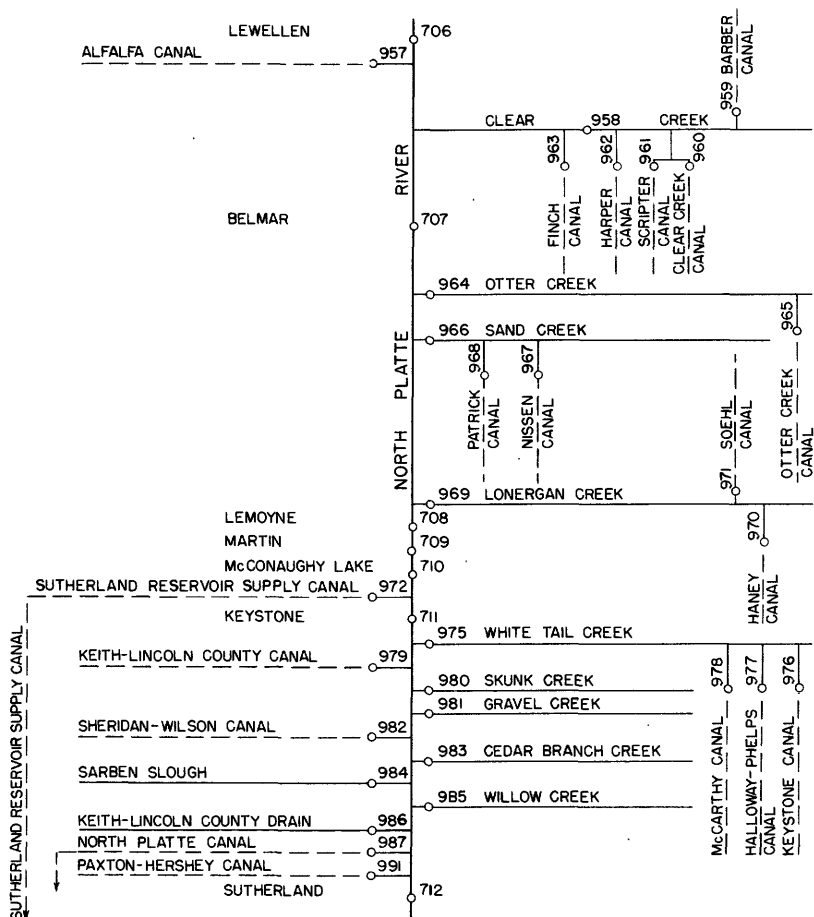


Figure 6.--Diagram showing relative locations of tributaries and canals along North Platte River from Lewellen to Sutherland, Nebr.

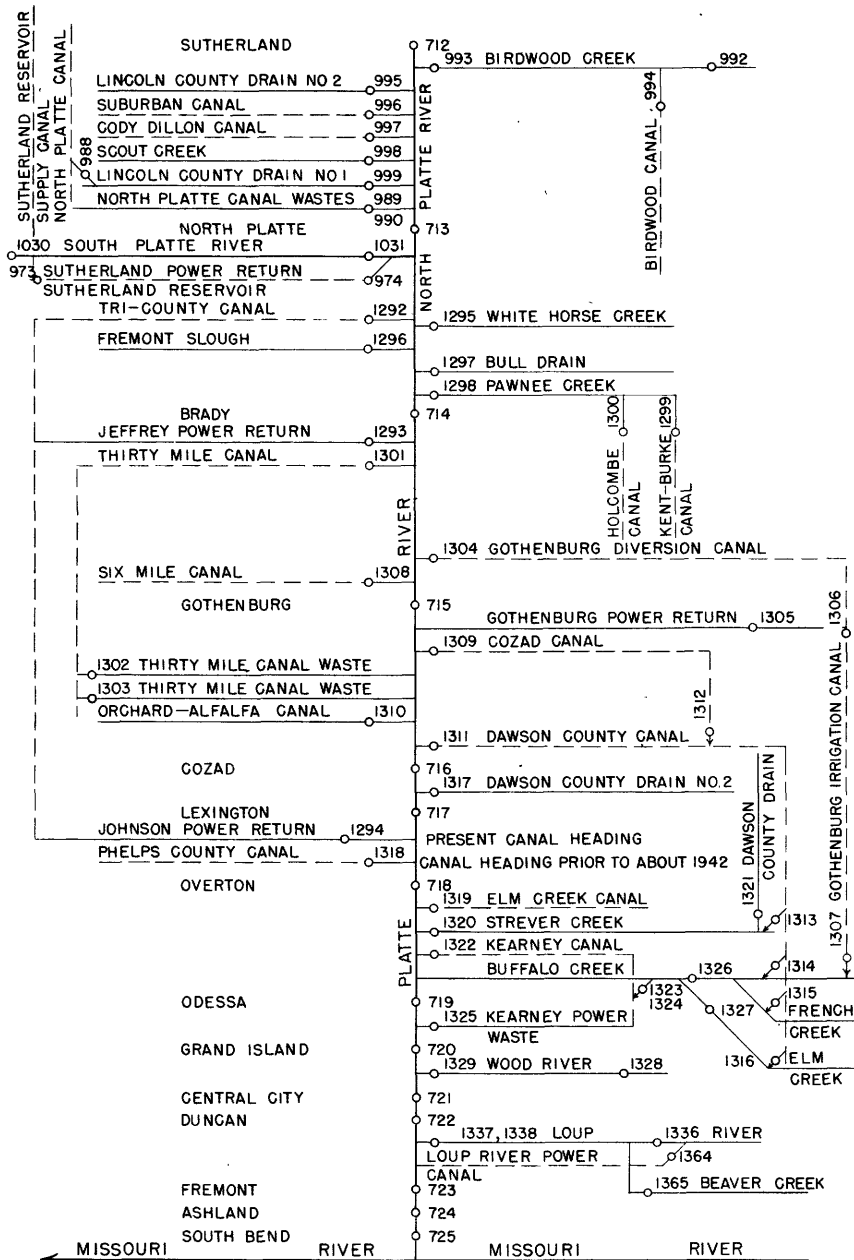


Figure 7.--Diagram showing relative locations of tributaries and canals from Sutherland, Nebr., to mouth of Platte River.

12 GAGING-STATION RECORDS IN THE MISSOURI RIVER BASIN

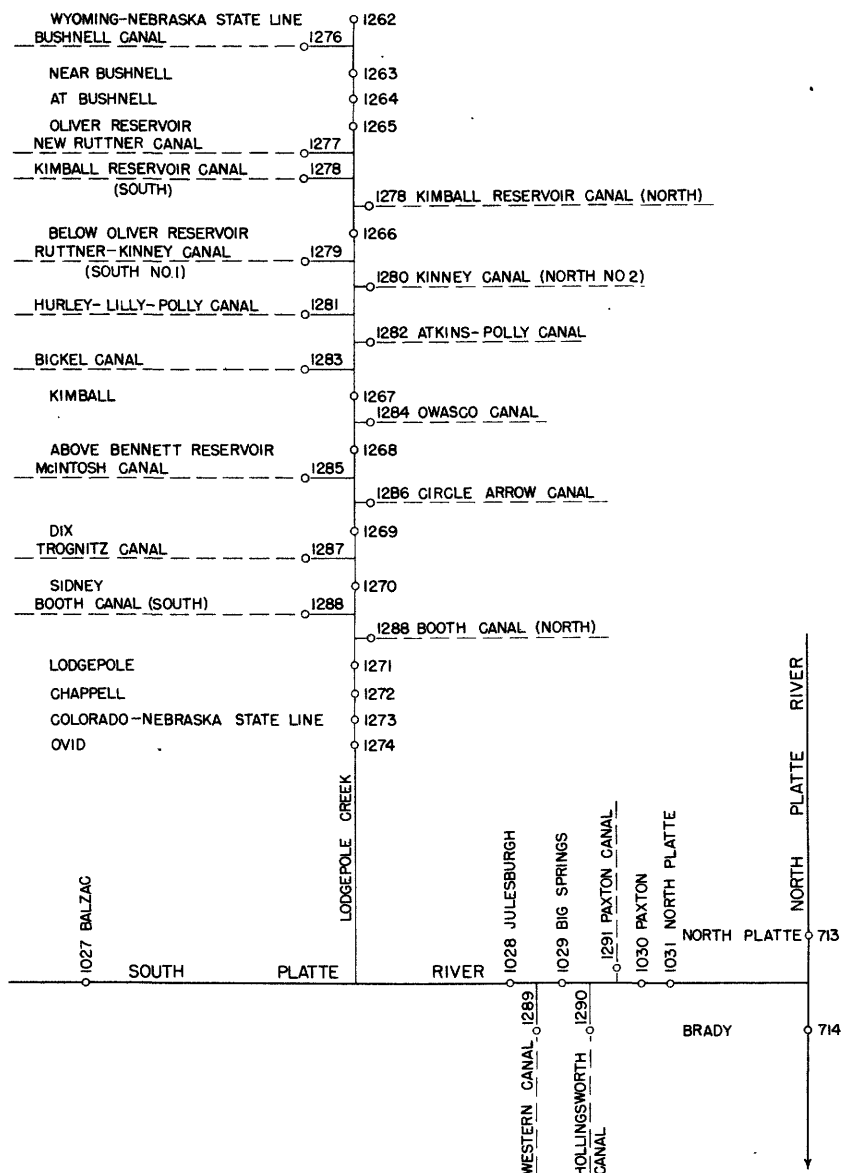


Figure 8.--Diagram showing relative locations of tributaries and canals in South Platte River Basin in Nebraska.

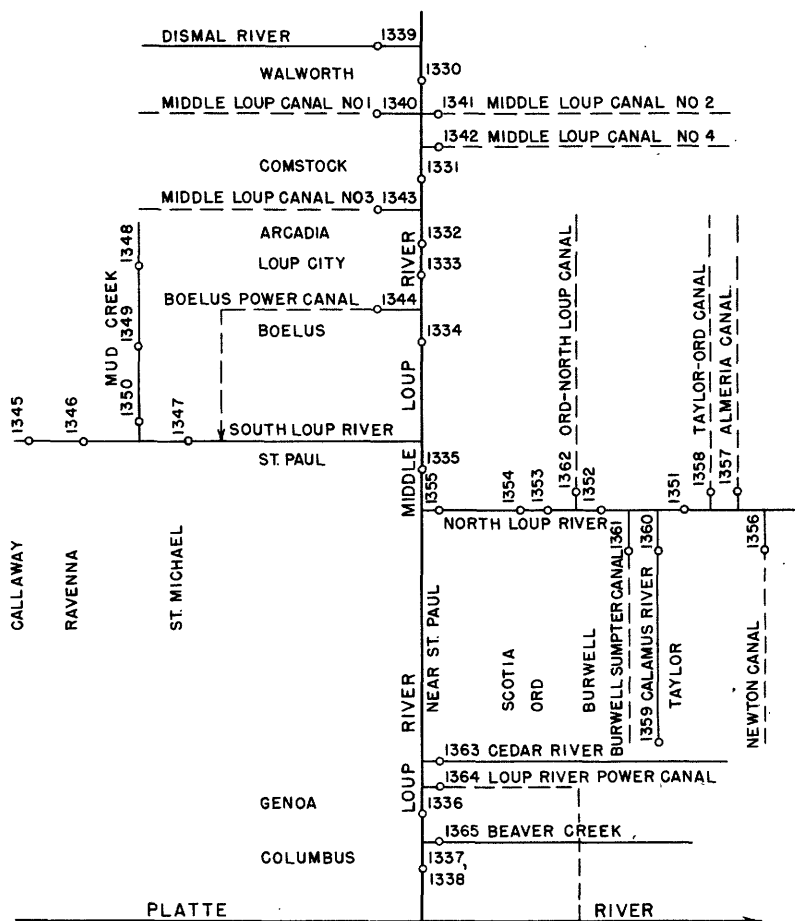


Figure 9.--Diagram showing relative locations of tributaries and canals in Loup River Basin.

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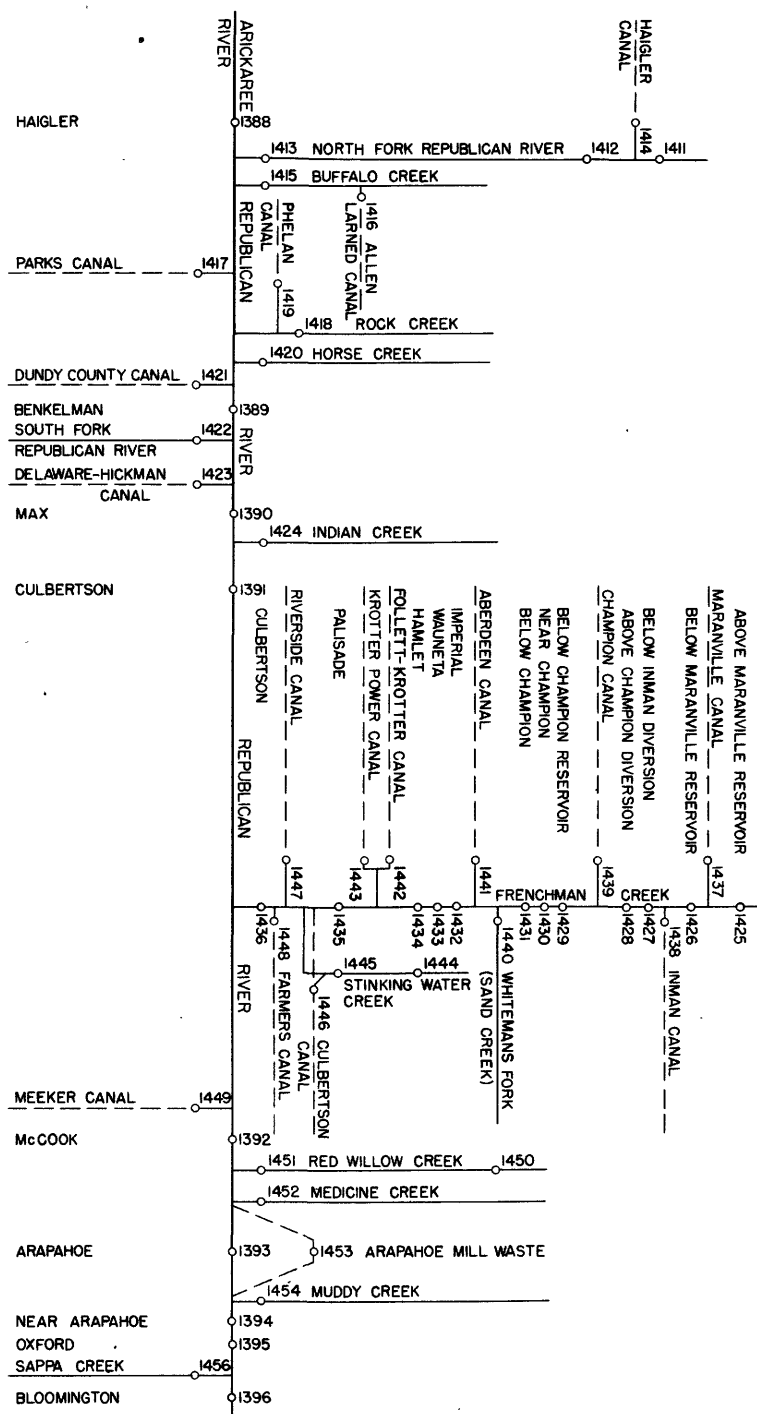


Figure 10.--Diagram showing relative locations of tributaries and canals in Republican River Valley above Bloomington, Nebr.

shows graphically the sources of published data and identifies the daily, monthly, and yearly discharge records. The year used on the charts is the water year, the 12-month period ending September 30.

The period covered by the forms on which the bar charts are drawn is October 1, 1871, to September 30, 1944. The earliest published record of systematic gage readings that have been found for Missouri River or its tributaries were the readings for Missouri River at St. Charles, Mo., where the record begins in 1868. Systematic gage readings of Missouri River beginning in 1872 have been published for stations at St. Joseph, Mo., Leavenworth, Kans., and Omaha, Nebr. No records have been shown on the bar charts for periods after September 30, 1944, principally because no later records had been published by the Geological Survey in water-supply papers at the time the bar charts were prepared.

The bar charts cover practically all published records of gage height or discharge for stations in the Missouri River Basin. Records for stations in Canada operated solely by the Canadian government and a few short records in the United States of flow of wasteways, or drains, or of small diversions from wasteways and drains, have been omitted. Gaging stations maintained jointly by the United States and Canada have been included.

The publications containing the various gaging station records are shown by letter symbols and simple bars, placed above the symbolic bars, to indicate the period of record covered by that symbol. The simple bars indicate only the length of record to be found in the publication indicated by the letter symbol and may have no direct relation to the class of record indicated by the symbolic bars.

The symbolic bars represent the highest class of record

16 GAGING-STATION RECORDS IN THE MISSOURI RIVER BASIN

that can be assembled from the different sources of published data. That is, for a particular gaging station, discontinuous daily discharge figures may have been published in water-supply papers and complete figures of monthly discharge may have been published by the Corps of Engineers. The resulting composite record would be in class 5 (see below), "Daily discharge not continuous, monthly discharge continuous."

The symbolic bars have six different symbols to indicate six classes of record. These classes in ascending order of value for stream-flow stations are:

1. Gage-height (stage) records only.
2. Annual discharge only.
3. Monthly discharge.
4. Daily discharge not continuous.
5. Daily discharge not continuous; monthly discharge continuous.
6. Daily discharge continuous (accompanied by monthly and annual discharge).

Class 1 has not been subdivided to differentiate between periods of complete daily gage height and periods of discontinuous gage heights or to differentiate between periods of daily gage heights and periods for which only average weekly gage heights have been published.

Class 2 consists of records of annual discharge or runoff only.

Class 3 designates records of monthly mean discharge in second-feet or monthly runoff in acre-feet. It also includes reservoir records of contents at the end of each month or of change in contents during each month. Some of the figures of monthly discharge were estimates.

Class 4 contains records of daily discharge for which neither daily discharge nor monthly discharge was continuous

throughout the period shown.

Class 5 is composed of records that have incomplete figures of daily discharge but for which monthly figures of discharge are complete for the period shown. Many of the records in this class have figures of daily discharge, except during the winter months for which only figures of monthly discharge have been published. Some early gage-height records published by the Geological Survey are considered to be equivalent to daily discharge records because rating tables were published with the gage heights. Incomplete gage-height records of this type have been placed in class 5.

Class 6 comprises records of daily discharge throughout the period shown. Records that contain short periods of flat estimates of daily discharge during winter months have been included. Class 6 also includes early records of daily gage heights that were complete, or had no important break, if these gage heights had been published with an applicable table showing the stage-discharge relation.

In general, the bar charts have been plotted to the nearest month, but for a few gaging stations a period of record was so short that the length of the bar chart was somewhat exaggerated in order to show a legible amount of the classification symbol. Sometimes a station was discontinued shortly after the end of a water year; sometimes one was started near the end of a water year. Whenever only a few months of record preceded or followed a water year of record, the symbol for the short period was usually made the same as the symbol for the adjoining water year, provided that no part of the record was poorer than the symbol indicated it to be.

Summary of records by basins

In the Missouri River Basin about 16,400 station years of

18 GAGING-STATION RECORDS IN THE MISSOURI RIVER BASIN

discharge record at gaging stations have been obtained and published for periods prior to October 1, 1944. This number was computed by adding the years of complete and incomplete discharge record for all gaging stations on streams and canals in the Missouri River Basin except those operated in Canada solely by the Canadian government. Table 1 shows the distribution of the published stream-flow records by drainage basins. Figures of total station years of record have been rounded somewhat.

Table 1.—Approximate station years of discharge records

| Stream or basin | Approximate station years |
|--|---------------------------|
| Missouri River main stem..... | 630 |
| Missouri River main stem above Yellowstone River..... | 360 |
| Missouri River main stem below Yellowstone River..... | 270 |
| Jefferson River Basin..... | 290 |
| Madison River Basin..... | 80 |
| Gallatin River Basin..... | 80 |
| Sun River Basin..... | 150 |
| Missouri River Basin above Marias River..... | 1,000 |
| Marias River Basin..... | 330 |
| Musselshell River Basin..... | 250 |
| Milk River Basin (excluding most Canadian stations)..... | 810 |
| Missouri River Basin above Yellowstone River..... | 2,650 |
| Clarks Fork River Basin..... | 150 |
| Bighorn River Basin..... | 890 |
| Tongue River Basin..... | 100 |
| Powder River Basin..... | 160 |
| Yellowstone River Basin..... | 1,800 |
| Missouri River Basin above Cheyenne River..... | 4,800 |
| Cheyenne River Basin..... | 220 |
| White River Basin..... | 180 |
| Missouri River Basin above Platte River..... | 5,500 |
| North Platte River Basin above Laramie River..... | 1,080 |
| Laramie River Basin..... | 380 |
| North Platte River Basin..... | 4,220 |
| South Platte River Basin above Clear Creek..... | 980 |
| Clear Creek Basin..... | 350 |
| St. Vrain Creek Basin..... | 1,160 |
| Thompson River Basin..... | 100 |
| South Platte River Basin above Cache la Poudre..... | 2,850 |
| Cache la Poudre River Basin..... | 120 |
| Lodgepole Creek Basin..... | 220 |
| South Platte River Basin..... | 3,460 |
| Platte River Basin above Loup River..... | 8,250 |
| Loup River Basin..... | 220 |
| Platte River Basin..... | 8,550 |
| Missouri River Basin above Kansas River..... | 14,200 |
| Republican River Basin above Frenchman Creek..... | 160 |
| Frenchman Creek Basin..... | 210 |
| Republican River Basin..... | 610 |

Table 1.—Approximate station years of discharge records—Continued

| Stream or basin | Approximate station years |
|--|---------------------------|
| Republican River Basin—Continued | |
| Smoky Hill River Basin..... | 290 |
| Kansas River Basin above Big Blue River..... | 930 |
| Kansas River Basin..... | 1,020 |
| Missouri River Basin above Grand River..... | 15,600 |
| Grand River Basin..... | 160 |
| Osage River Basin..... | 360 |
| Gasconade River Basin..... | 150 |
| Missouri River Basin..... | 16,400 |

BASE DATA FOR GAGING STATIONS

For gaging stations in the Missouri River Basin table 3 has been prepared to show a summary of most of the records that have been published for periods prior to October 1, 1944. Stations on streams or on reservoirs usually have been included in the table if records of discharge or contents were available for three or more complete water years or for five or more incomplete water years. Gaging stations on drains, or on creeks that are essentially drains rather than natural streams, generally have been omitted. No stations in Canada have been included except international gaging stations, which are, or have been, jointly maintained by the United States and Canada. Gaging stations on canals and on large wasteways have been included, provided they divert from or return to a stream channel an average of at least 2,000 or 5,000 acre-feet of water annually depending on the size of the stream, and have at least three complete water years or five incomplete water years of records. Canal diversions from drains, wasteways, or other canals have not been included.

Drainage areas

Drainage areas above a gaging station are usually those given in the last water-supply paper for which records for that

station have been published. A few drainage areas have been taken from compilation reports in water-supply papers and a few from Water-Supply Paper 847. Drainage area figures that have been obtained from any source other than water-supply papers are shown by a reference mark that indicates either the published source of the figure or that it is approximate. Approximate drainage areas have been computed if no published figure was available or if the published drainage area was inconsistent with the published drainage areas for stations immediately upstream or downstream. These approximate areas have been measured on topographic maps for regions covered by such maps. Usually, they had to be measured on state base maps because these base maps were the best maps available. Drainage areas of streams flowing out of the Sand Hill area of Nebraska are usually indefinite. Parts of many drainage areas in the Missouri River Basin have no surface runoff in normal years but are included in the drainage areas to which they would contribute if runoff occurred.

Approximate areas irrigated

The figures given are approximate areas irrigated during 1939 by diversions above each gaging station. They are based almost entirely on "Irrigation of Agricultural Land, 1940" by the Bureau of the Census. They include small scattered areas irrigated by pumping from ground water wells. To avoid inconsistent increments from one gaging station to another, the acreages generally are given to more significant figures than their accuracy warrants. These figures are subject to errors in the census figures and on the maps showing the distribution of irrigated land during 1939 as well as to errors of interpretation. Some of the figures are probably only rough approximations of the actual areas irrigated. Irrigated acreages

in Canada were estimated from available maps and from figures furnished by Canadian officials of irrigable acreage with water rights in several drainage areas in Canada. Of course, not all of the irrigable acreage was irrigated during 1939.

The quantity of water diverted for irrigation has not been published for some of the small interbasin diversions. The estimated acreage of land irrigated during 1939 by these small diversions of unknown quantity was subtracted from the area irrigated in the basin to which the water was diverted and was added to the area irrigated in the basin in which the water originated.

Obviously, the figures of irrigated acreage are not exact, especially for areas where the irrigation systems are complex and information on the distribution and use of water is incomplete. In many areas, however, the area irrigated by diversions above each gaging station could be determined with reasonable accuracy by a study of the diversion points of canals and of the irrigable acreages under each canal system. The approximate figures of irrigated acreages, although inexact, are a useful index of the irrigation development above each gaging station and of the effect of diversions for consumptive use on the stream flow at each station.

Approximate usable capacity of reservoirs

The table gives the figures of approximate total usable capacity of reservoirs in 1940 above gaging stations in operation in 1940 or started since then. These figures are based on known reservoirs of more than 1,000 acre-feet usable capacity and on census figures that summarize, by drainage areas and by counties, the small reservoirs available during 1940 to store water for irrigation. Offstream reservoirs are included at the point of diversion of their principal water supply.

Where a gaging station is at a reservoir, the capacity of that reservoir is included in the total capacity above the gaging station. The usable capacity as given for gaging stations on major streams is carried to more significant figures than accuracy warrants to avoid large inconsistencies of reservoir capacity in areas drained by tributaries that discharge into the major streams between successive gaging stations.

No separate compilations of usable capacity of reservoirs above gaging stations would produce identical results, as published figures of usable capacities of individual reservoirs often differ widely. Some published capacities do not show whether they are usable or total capacities. Changes in capacity owing to sedimentation are continuous for many reservoirs. Although the figures of approximate usable capacities above gaging stations are not exact, they are a good measure of developed storage capacity above each station.

Average discharge for water years 1938-43

The figures of average discharge for the water years 1938-43 are based on the observed discharges at each gaging station. When the observed discharge has been adjusted for diversions and storage, it is usually termed runoff and is so designated. Discharges for periods of no discharge record were estimated; averages, including such estimates, are indicated by footnote reference.

Some comparisons of average discharge for long periods of record and average discharge for the water years 1938 to 1943 are shown in table 2. In general, the average effect of storage and diversions has been greater in Montana and Wyoming during the water years 1938 to 1943 than during the long periods of discharge record. Thus, the difference between the average discharge for the water years 1938 to 1943 and

Table 2.—Comparison of average discharge 1938-43 with average discharge for long periods of record

| Gaging station | Period of record | Length of record in years | Average discharge | |
|--|--|---------------------------|------------------------|---------------|
| | | | Period of record (cfs) | 1938-43 (cfs) |
| Beaverhead River at Barratts, Mont. | 1908-44 | 37 | 401 | 336 |
| Missouri River at Fort Benton, Mont. | 1882-1944 | 63 | 8,201 | 6,220 |
| Madison River at West Yellowstone, Mont. | 1914-44 | 31 | 469 | 419 |
| Judith River near Utica, Mont. | 1920-32, 1935-44 | 23 | 51 | 46 |
| Musselshell River at Harlowton, Mont. | 1907-29, 1932, 1935-44 | 34 | 181 | 141 |
| Yellowstone River at Corwin Springs, Mont. | 1890-93, 1911-44 | 38 | 2,950 | 2,900 |
| Bighorn River at Thermopolis, Wyo. | 1901-5, 1911-44 | 39 | 1,910 | 1,400 |
| Bull Lake Creek near Lenore, Wyo. | 1918-44 | 27 | 288 | 224 |
| Powder River at Arvada, Wyo. | 1917-44 | 28 | 445 | 273 |
| Cannonball River at Breiten (near Timmer), N. Dak. | 1904-8, 1912-18, 1922-27, 1929-31, 1934, 1935-44 | 32 | 184 | 221 |
| North Platte River at Saratoga, Wyo. | 1904-44 | 41 | 2,239 | 917 |
| North Platte River below Guernsey, Wyo. | 1901-44 | 44 | 2,077 | 1,450 |
| La Poudre Creek near Douglas, Wyo. | 1920-44 | 25 | 42 | 37 |
| Laramie River near Jelm, Wyo. | 1905, 1911-44 | 35 | 168 | 144 |
| Little Laramie River near Fillmore, Wyo. | 1903, 1912-26, 1934-44 | 27 | 106 | 93 |
| Blue Creek near Lewellen, Nebr. | 1921-44 | 24 | 78 | 71 |
| South Platte River at South Platte, Colo. | 1888-91, 1896-97, 1899, 1901-44 | 51 | 371 | 391 |
| South Platte River at Julesburg, Colo. | 1902-44 | 43 | 484 | 507 |
| South Boulder Creek near Eldorado Springs, Colo. | 1896-99, 1905, 1907-44 | 43 | 77 | 77 |
| St. Vrain Creek at Lyons, Colo. | 1888-91, 1896-1903, 1905, 1908-44 | 50 | 133 | 126 |
| Cache la Poudre River near Fort Collins, Colo. | 1884-1944 | 61 | 420 | 374 |
| Middle Loup River at St. Paul, Nebr. | 1895-1915, 1929-44 | 37 | 1,310 | 1,050 |
| Kansas River at Bonner Springs, Kans. | 1918-44 | 27 | 5,422 | 6,110 |
| Smoky Hill River at Ellsworth, Kans. | 1896-1904, 1919-25, 1928-44 | 33 | 216 | 267 |
| Solomon River at Miles, Kans. | 1898-1903, 1918-44 | 33 | 492 | 555 |
| Big Blue River at Randolph, Kans. | 1918-44 | 27 | 1,254 | 1,420 |
| Osage River near Ottawa, Mo. | 1903-5, 1920-44 | 28 | 565 | 599 |
| Osage River near Bagnell, Mo. | 1881-1944 | 64 | 9,505 | 9,840 |
| Gastonsade River at Jerome, Mo. | 1904, 1905, 1916-44 | 31 | 2,553 | 2,600 |

the average during periods of record as shown in table 2, is somewhat more than would be shown by corresponding figures of runoff.

Average runoff for water years 1938-43

The figures of average annual runoff in inches for the water years 1938-43 are based on the discharge adjusted for estimated net diversions, for changes in storage in reservoirs, for interbasin diversions, and for evaporation from large reservoirs. The adjustments for changes in storage and for evaporation were usually small. Net diversions for irrigation and gross diversions for power frequently were large. The amounts of water diverted have been estimated from records of gross diversions whenever such records were available. Most diversions for consumptive use have been computed from the approximate acreage irrigated and from an estimate of the use of water per acre. A few of these adjustments probably are far from correct, but most of the adjustments could not cause appreciable errors in average runoff. The figures of runoff also contain uncertainties that are due to errors in the estimates of discharge. Some streams flowing from the Sand Hill area of Nebraska receive ground water that originates from precipitation outside of the surface drainage area of those streams. The discharge and runoff for gages on these streams include the total ground water contribution to stream flow.

The figures for average runoff for the period from October 1, 1937, to September 30, 1943 (water years 1938 to 1943), are reasonably representative of average runoff for the periods of record for all parts of the Missouri River Basin. However, in parts of Montana and Wyoming the average runoff for this period was somewhat less than the average runoff for long periods of record.

Sources of records

The principal sources of published records of discharge are the water-supply papers and other publications of the Geological Survey. However, several other sources of gaging station records of discharge and gage heights also exist. When those sources are needed to complete the record of discharge for stream-flow stations or to complete the record of contents or gage heights for reservoir gages, they are indicated by letter symbol in table 3. Parts or all of the records may have been published by other agencies also. Some records of diversions published in water-supply papers appear only as part of the information given for the first downstream gaging station affected by the diversion either to or from the basin. A few transmountain diversions to the Missouri River Basin have been published in water-supply papers for the Colorado River Basin but not in those for the Missouri River Basin.

Period of discharge record

The calendar years in which the records begin and end are listed in table 3; if no concluding year is given, the station was still in operation after September 30, 1944. Breaks in the record of less than a year are not shown except by footnote reference.

A continuous record may consist of daily and monthly figures of discharge or of monthly figures only; some estimates may be included.

Maximum discharge

The maximum discharge given in the table is the maximum momentary discharge that occurred during the period or periods of record unless otherwise noted. Many gaging stations were

not equipped with water-stage recorders at the time the maximum discharge occurred. Observations of gage height at some of these stations were discontinued during winter months and sometimes for short periods during the open water months; in a few instances, the maximum discharge observed may have been exceeded by a discharge occurring when the gage observations had been temporarily discontinued. Any maximum discharge listed in the table which may have been exceeded by an ungaged flow during the period of record is footnoted accordingly.

Minimum discharge

The minimum discharge given in table 3 is the minimum momentary discharge during the period or periods of record except as noted.

The dates when the minimum discharges occurred have been listed in the next column. If a particular minimum discharge occurred on several scattered days, the phrase "at times" is used.

Annual discharge records

The water years for which annual discharges have been published are listed by showing the first and last water years of any consecutive period. Thus, 1925-30 represents the continuous 6-year period from October 1, 1924, to September 30, 1930. The fact that a figure of annual discharge has been published does not necessarily imply that figures of monthly discharge are also published; some of the annual discharges are partly estimated.

Canal records both in state publications and in water-supply papers have frequently been given only for the summer months without sufficient explanation to show whether there was flow during the periods for which there is no record.

Probably a number of mistakes have been made in estimating which canal records were complete records of diversion for the entire water year.

Average discharge

The average discharge was computed on the basis of all water years for which the annual discharge was available. The average discharges have not been adjusted for diversions or for changes in storage. The water years included in some averages may not have been representative water years but may have been years of abnormally low or abnormally high discharge. Also, diversions or storage upstream from a gaging station may have changed materially at some time during the period of record. The average discharge is specifically a summarized statement of recorded flow for the indicated years; it is not an acceptable measure of expected future discharge without further study.

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Table 3.--Base data for gaging stations in Missouri River Basin

Unless otherwise noted, all data may be obtained from Water-Supply Papers of the Geological Survey. Sources of records not published in Water-Supply Papers are indicated as follows:

- A - H. Doc. 193, 72d Cong., 1st sess., Jefferson, Madison, and Gallatin Rivers, Mont.
- B - H. Doc. 238, 73d Cong., 2d sess., Missouri River
- C - H. Doc. 191, 72d Cong., 1st sess., Marias River, Mont.
- D - H. Doc. 146, 72d Cong., 1st sess., Musselshell River, Mont.
- E - H. Doc. 88, 73d Cong., 1st sess., Milk River, Mont.
- F - H. Doc. 64, 73d Cong., 1st sess., Little Missouri River, Wyo., Mont., S. Dak., and N. Dak.
- G - H. Doc. 76, 73d Cong., 1st sess., Cannonball, Grand, and Moreau Rivers, N. Dak. and S. Dak.
- H - H. Doc. 190, 72d Cong., 1st sess., Cheyenne River, S. Dak. and Wyo.
- I - H. Doc. 90, 73d Cong., 1st sess., Niobrara River, Nebr. and Wyo.
- J - H. Doc. 83, 73d Cong., 1st sess., James River, N. Dak. and S. Dak.
- K - H. Doc. 197, 73d Cong., 2d sess., Platte River, Colo., Wyo., and Nebr.
- L - H. Doc. 195, 73d Cong., 2d sess., Kansas River, Colo., Nebr., and Kans.
- M - H. Doc. 192, 72d Cong., 1st sess., Gasconade River, Mo.
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- P - Biennial Reports, State Engineer of North Dakota
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- U - Water Resources of Colorado, Appendix No. 4, Colorado State Planning Commission, Water Conservation Board, State Engineer
- V - Biennial Reports, State Engineer of Colorado
- W - Water Resources of Nebraska, Nebraska State Planning Board
- X - Surface Waters of Kansas, Stream-Flow Data of Kansas, Kansas Water Commission and Kansas State Board of Agriculture
- Y - Water Resources of Missouri, Surface Waters of Missouri, Missouri Bureau of Geology and Mines, Missouri Geological Survey and Water Resources

Table 3.—Base data for gaging stations in Missouri River Basin

| Ref. No. (see chart) | Gaging station | Drainage basin | | | | Sources of records not published in Report | Discharge records prior to Oct. 1, 1944 | | | | | Annual discharge | | |
|----------------------|---|---------------------|---|--|---------------------------------|--|---|-----------------|-------------------|-----------------|------------------|---------------------------------------|-----------------|---------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoir in 1940 (thousand acre-feet) | Average discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Years | Discharge (cfs) | Date | Discharge (cfs) | Date | Years | Number of years | Average (cfs) |
| | | | | | | | | | | | | | | |
| 1 | Red Rock River near Lakeview, Mont. | a 190 | 0.8 | - | - | - | b 1933-37 | 1,010 | May 1, 1933 | d 0 | at times | 1935 | 1 | 47 |
| 2 | Red Rock River at Metzger Ford, near Monida, Mont. | A 243 | 0.9 | - | - | - | b 1924-29 | 586 | May 17, 1927 | 2.7 | Sept. 23, 1926 | 1925-27 | 3 | 82 |
| 3 | Red Rock River at Kennedy Ranch, near Lakeview, Mont. | 318 | 1.3 | (c) | f 72 | 4.4 | b 1936- | 1,050 | Apr. 28, 1937 | 1.5 | Sept. 2, 1940 | 1937-42 | 6 | 94 |
| 5 | Red Rock River below Red Rock Reservoir, near Monida, Mont. | 560 | 8.5 | 90 | f 80 | 3.4 | a 1911-18 b 1924- | de 2,500 | May 15, 1933 | d 0 | at times | 1912-18 1925-30 1935 1942-44 | 17 | 165 |
| 6 | Red Rock River at Lima, Mont. | a 600 | 9.1 | - | - | - | b 1907-11 | d 936 | Apr. 11, 1910 | d 14 | at times in 1911 | 1910-11 | 2 | 178 |
| 7 | Red Rock River near Dell, Mont. | 1,420 | 25 | 90 | - | - | b 1942- | 1,480 | June 9, 1944 | d 3 | July 9-11, 1942 | - | 0 | - |
| 9 | Beaverhead River at Barratta, Mont. | 3,000 | 90 | 90 | 336 | 2.7 | b 1907- | d 3,640 | June 19, 20, 1908 | 69 | Jan. 30, 1938 | 1908-31 1935-44 | 34 | 420 |
| 11 | Beaverhead River at Elaine, Mont. | 3,630 | 107 | 94 | 367 | 2.5 | - | d 3,130 | June 12, 1944 | d 7.0 | May 25, 1940 | 1936-44 | 9 | 346 |
| 13 | Jefferson River near Silverstar, Mont. | 7,840 | 269 | - | - | - | a 1910-16 b 1920-39 | 19,800 | June 15, 1927 | d 50 | Sept. 4, 1937 | 1911-16 1921-31 1934-39 | 23 | 1,744 |
| 14 | Jefferson River at Sappington, Mont. | 8,980 | 304 | 157 | f 1,920 | 4.1 | a 1896-1905 1938- | d 15,470 | June 23, 1899 | 134 | Aug. 12, 1940 | 1897-1905 1939-44 | 15 | 2,143 |
| 15 | Missouri River at Toston, Mont. | a 14,000 | 434 | 567 | - | - | b 1910-16 1941- | d 29,800 | June 1, 1913 | 562 | Apr. 30, 1941 | 1911-16 1942-44 | 9 | 5,860 |

| BASE DATA FOR GAGING STATIONS | | | | | | | | | | | | | | | |
|-------------------------------|--|-----------|-------|--------|---------|---|---|---------------------|-----------|----------------------|---------|--------------------|-------------------|----|--------|
| 16 | Missouri River near Townsend, Mont. | 14,500 | 450 | - | - | - | B | 1896-1901 1902-4 | d 52,500 | June 24, 1899 | d 1,020 | Jan. 1, 1901 | 1897-1901 1903 | 6 | 5,840 |
| 17 | Lake Sewall on Missouri River, Mont. | B 15,700 | 462 | 607 | - | - | - | 1939- | - | - | - | - | - | - | - |
| 18 | Missouri River (at Canyon Ferry) below Canyon Ferry Dam, Mont. | B 15,700 | 462 | - | - | - | B | 1889 1917-31 | (g) | - | (g) | - | 1918-31, | 14 | 4,960 |
| 19 | Hanser Lake | 16,600 | 475 | 671 | - | - | - | 1939- | - | - | - | - | - | - | - |
| 20 | Missouri River below Hanser Lake Dam, near Helena, Mont. | 16,600 | 475 | 671 | f 4,310 | - | B | 1922-42 | 33,300 | June 15, 18, 1927 | d 280 | Mar. 3, 1938 | 1923-42 | 20 | 4,115 |
| 21 | Holter Reservoir on Missouri River, Mont. | a 16,900 | 477 | 738 | - | - | - | 1939- | - | - | - | - | - | - | - |
| 22 | Missouri River at Craig, Mont. | 17,600 | 484 | - | - | - | B | 1889-92 | d 28,650 | June 14, 1892 | d 1,742 | at times | 1890-92 | 3 | 5,090 |
| 23 | Missouri River at Cascade, Mont. | 18,300 | 496 | - | - | - | B | 1902-15 | d 49,300 | June 6, 1908 | d 800 | Sept. 2, 1914 | 1903-15 | 13 | 6,500 |
| 25 | Missouri River at Fort Benton, Mont. | 24,600 | 613 | 900 | 6,220 | - | - | 1881- | 140,000 | June 7, 1908 | 320 | July 5, 1936 | 1882-1944 | 63 | 8,201 |
| 26 | Missouri River at Loma, Mont. | 34,100 | 738 | 1,174 | 7,050 | - | - | 1935- | 55,800 | June 17, 1943 | 480 | July 5, b, 1936 | 1936-44 | 9 | 6,540 |
| 27 | Missouri River at power-plant ferry, near Zortman, Mont. | 40,600 | 754 | 1,180 | 7,700 | - | - | 1934- | 63,800 | June 20, 1943 | 1,120 | July 8, 1936 | 1935-44 | 10 | 6,968 |
| 28 | Fort Peck Reservoir at Fort Peck, Mont. | 57,725 | 812 | 20,046 | - | - | - | 1938 | - | - | - | - | 1939-44 | 6 | - |
| 29 | Missouri River below Fort Peck Dam, Mont. | 57,800 | 812 | 20,046 | 5,450 | - | - | 1934- | 33,100 | June 14, 1937 | d 400 | Mar. 29, 1943 | 1935-44 | 10 | 5,670 |
| 30 | Missouri River near Wolf Point, Mont. | 83,200 | 939 | 20,374 | 6,320 | - | - | 1928- | 66,800 | Mar. 25, 1939 | d 320 | Dec. 10, 1941 | 1929-44 | 16 | 6,739 |
| 31 | Missouri River near Oulbertson, Mont. | 92,500 | 941 | 20,374 | - | - | - | 1941- | 78,200 | Mar. 26, 1943 | d 575 | Nov. 22, 1941 | 1942-44 | 3 | 6,630 |
| 33 | Missouri River near Williston, N. Dak. | 164,500 | 1,927 | 21,344 | 18,500 | - | B | b 1905-7 1928- | 231,000 | Apr. 4, 1930 | d 1,320 | Dec. 28, 1939 | 1906 1929-44 | 17 | 18,550 |
| 34 | Missouri River at Sanish, N. Dak. | a 166,000 | 1,927 | - | - | - | - | 1928-32 | d 100,000 | June 12, 13, 1932 | d 3,250 | Nov. 22, 1931 | 1929-32 | 4 | 19,100 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart.) | Gaging station | Drainage basin | | | Average annual runoff 1928-43 (in.) | Sources of record not published in Water-Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | | | | |
|-----------------------|--|---------------------|---|---|-------------------------------------|--|---|-------------------------|-------------------|-----------------|------------------|-----------------------|-------------------------|--------|----------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | Maximum discharge | | Minimum discharge | | Annual discharge | | | | |
| | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | | Years | | | |
| 35 | Missouri River near Elbowoods, N. Dak. | 179,800 | 1,928 | 21,345 | - | - | 1939- | 241,000 | Mar. 31, 1943 | d 1,500 | Dec. 30, 1939 | 1940-44 | 5 | 20,400 | |
| 39 | Missouri River at Bismarck, N. Dak. | 186,400 | 1,929 | 21,353 | 19,700 | 1.9 | B | 1904-5 1927- | 282,000 | Apr. 3, 1943 | d 1,800 | Jan. 3, 1940 | 1905 1928-44 | 18 | 20,260 |
| 40 | Missouri River near Mobridge, S. Dak. | 208,700 | 1,931 | 21,357 | 20,600 | 1.8 | - | 1928- | 282,000 | Apr. 5, 1943 | d 2,600 | Jan. 8, 9, 1940 | 1929-44 | 16 | 19,920 |
| 42 | Missouri River at Pierre, S. Dak. | 243,500 | 1,994 | 21,566 | 21,700 | 1.6 | - | 1929- | 281,000 | Apr. 6, 1943 | d 2,300 | Nov. 14, 15, 16, 1940 | 1930-44 | 15 | 20,580 |
| 46 | Missouri River at Yankton, S. Dak. | 279,500 | 2,018 | 21,584 | 24,000 | 1.5 | B | 1930- | 282,000 | Apr. 8, 1943 | d 2,700 | Nov. 15, 16, 1940 | 1931-44 | 14 | 22,710 |
| 47 | Missouri River at Sioux City, Iowa | 314,600 | 2,018 | 21,670 | 25,000 | 1.4 | B | h 1879-90 1928-31 1938- | h 360,000 | Apr. 23, 1881 | 2,500 | Dec. 29, 1941 | 1880-90 1929-31 1939-44 | 20 | h 41,880 |
| 49 | Missouri River at Omaha, Nebr. | 322,800 | 2,018 | 21,676 | 26,200 | 1.4 | - | 1928- | 200,000 | Apr. 12, 1943 | d 2,200 | Jan. 6, 1937 | 1929-44 | 16 | 25,400 |
| 51 | Missouri River at Nebraska City, Nebr. | 414,400 | 4,379 | 25,890 | 29,000 | 1.4 | - | 1929- | 214,000 | June 14, 1944 | d 3,230 | Dec. 13, 14, 1932 | 1930-44 | 15 | 29,850 |
| 55 | Missouri River at St. Joseph, Mo. | 424,300 | 4,379 | 25,894 | 32,600 | 1.4 | - | 1928- | d 196,000 | June 4, 1929 | d 2,300 | Jan. 9, 1937 | 1929-44 | 16 | 33,080 |
| 58 | Missouri River at Leavenworth, Kans. | 428,000 | 4,379 | - | - | - | B | 1921-29 | 241,000 | July 7, 8, 1923 | 3,450 | Dec. 22, 1924 | 1922-29 | 8 | 52,700 |
| 59 | Missouri River at Kansas City, Mo. | 489,200 | 4,418 | 25,927 | 38,800 | 1.4 | B | h 1879-90 1904-05 1928- | (a) | - | d 1,500 | Jan. 9, 10, 1937 | 1880-90 1905 1929-44 | 28 | h 53,730 |
| 63 | Missouri River at Moberly, Mo. | 491,200 | 4,418 | 25,927 | 40,700 | 1.5 | - | 1929- | 347,000 | Apr. 24, 1944 | d 1,700 | Jan. 9, 1940 | 1930-44 | 15 | 39,440 |

Annual discharge

Years

Date

Discharge (cfs)

Date

Discharge (cfs)

Years

Average annual discharge 1928-43 (cfs)

Average annual discharge 1928-43 (cu. ft.)

Sources of record not published in Water Supply Reports

BASE DATA FOR GAGING STATIONS

37

| | | | | | | | | | | | | | | | |
|-----|--|---------|-------|--------|--------|-----|---|------------------|----------|-------------------|----------|-----------------------|--------------------------|----|--------|
| 67 | Missouri River at Boonville, Mo. | 505,700 | 4,418 | 25,927 | 47,000 | 1.6 | - | 1925- | 504,000 | Apr. 27, 1944 | d 1,800 | Jan. 10, 1940 | 1926-44 | 19 | 53,090 |
| 70 | Missouri River near Bonnota Mill (at Isbell), Mo. | 523,400 | 4,418 | 25,927 | - | - | B | 1928-36 | 427,000 | June 6, 1935 | d 10,000 | Dec. 20, 1932 | 1929-35 | 7 | 59,200 |
| 74 | Missouri River at Hermann, Mo. | 528,200 | 4,418 | 27,175 | 65,900 | 2.0 | - | 1928- | 577,000 | Apr. 28, 1944 | d 4,200 | Jan. 10-12, 1940 | 1929-44 | 16 | 64,010 |
| 75 | Missouri River at St. Charles, Mo. | 529,200 | 4,418 | - | - | - | B | 1879-90 | (g) | - | (g) | - | 1880-90 | 11 | 96,000 |
| 78 | Grasshopper Creek, near Dillon, Mont. | 360 | 14 | - | - | - | A | 1921-33 | 557 | June 5, 1925 | d 0 | at times | 1922-29 | 8 | 55 |
| 79 | Ruby River above reservoir, near Alder, Mont. | 537 | 2.5 | (c) | f 138 | 3.7 | - | 1938- | 1,140 | May 27, 1942 | d 47 | Aug. 17, 18, 1940 | 1939-44 | 6 | 140 |
| 80 | Ruby River Reservoir | a 600 | 3.5 | 39 | - | - | - | 1939- | - | - | - | - | - | - | - |
| 81 | Ruby (Passmar) River at dam site (at Lauterbach's ranch) near Alder, Mont. | a 600 | 3.5 | - | - | - | b | 1911-14, 1935-36 | 1,800 | Aug. 14, 1936 | d 39 | July 8-10, 1936 | 1936 | 1 | 118 |
| 82 | Ruby River near Alder, Mont. | a 620 | 7 | - | - | - | - | 1929-39 | 965 | Aug. 11, 14, 1936 | 0.3 | Apr. 12, 1938 | 1930 1935-38 | 5 | 77 |
| 84 | Big Hole River near Dewey, Mont. | a 2,160 | 97 | - | - | - | A | 1910-13 | d 11,100 | June 13, 1913 | (g) | - | 1911-13 | 3 | 1,370 |
| 85 | Big Hole River near Melrose, Mont. | 2,470 | 105 | 3 | 1,180 | 7.8 | A | 1923- | (g) | June 10, 1927 | d 49 | Aug. 17, 1931 | 1924-26 1928, 29 1933-44 | 17 | 1,090 |
| 88 | Little Pipestone Creek near Whitehall, Mont. | a 20 | 0.2 | (c) | - | - | - | 1935-40 | 175 | July 1, 1938 | d 0.5 | at times | 1937-40 | 4 | 38 |
| 94 | Boulder River near Boulder, Mont. | a 350 | 3 | (c) | 124 | 5.1 | - | 1929-31 1934- | 1,850 | May 28, 1938 | d 0 | July 15, 17, 21, 1931 | 1930, 31 1935-44 | 12 | 99 |
| 98 | South Boulder Creek near Jefferson Island, Mont. | a 25 | 0 | - | - | - | - | 1926-33 | 434 | June 16, 1929 | 2.0 | Apr. 12, 1929 | 1928-30 1932-33 | 5 | 32 |
| 99 | Willow Creek near Harrison, Mont. | 884 | 6 | (c) | f 38.0 | 7.9 | - | 1938- | 725 | June 27, 1944 | 1.6 | Aug. 30, 1940 | - | 0 | - |
| 100 | Harrison Lake (Willow Creek Reservoir) | a 140 | 7.5 | 17 | - | - | - | 1939- | - | - | - | - | - | - | - |
| 101 | Willow Creek near Willow Creek, Mont. | 164 | 7.5 | - | - | - | A | 1919-32 | 456 | June 21, 22, 1922 | d 3 | Nov. 27, 1926 | 1920-29 | 10 | 53 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Sources of record not published in "Water Supply Papers" | Discharge records prior to Oct. 1, 1944 | | | | | | Annual discharge | |
|-------------------------|---|------------------------|--|--|--|---|-----------------------------------|----------|----------------------------------|-------|-------------------------------|------------------|----------------------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | Average annual runoff 1938-43 (in.) | Maximum discharge | | Minimum discharge | | Years | Number of years | Average (cfs) |
| | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | | | |
| 102 | Norwegian Creek near Harrison, Mont. | 34.6 | 1.2 | (c) | 3.8 | f 6.4 | b 1938-43 | 23 | June 2, 1943 | 0.8 | Aug. 3, 1939 Aug. 15, 1940 | 0 | - |
| 104 | Madison River near [Reed] Yellowstone, Mont. | 419 | 0 | (c) | 13.6 | 419 | A 1913- | 2,090 | June 1, 1943 | e 100 | Feb. 7, 1933 | 31 | 1914-44 |
| 105 | Hebgen Reservoir | 904 | 1 | 345 | - | - | - 1939- | - | - | - | - | - | - |
| 106 | Madison River below Hebgen Reservoir, near Grayling, Mont. | 904 | 1 | 345 | 13.4 | f 84.7 | - 1938- | 5,980 | June 3, 1943 | d 105 | Apr. 27, 1939 | 6 | 1939-44 |
| 107 | Madison River at Lyon, Mont. | a 1,300 | 3 | - | - | - | - b 1928-32 | d 3,360 | Aug. 13, 14, 1929 | d 255 | Mar. 24, 26-31, 1930 | 2 | 1929-30 |
| 108 | Madison Reservoir | a 2,170 | 16 | 384 | - | - | - 1939- | - | - | - | - | - | - |
| 109 | Madison River below Madison Reservoir, near McAllister, Mont. | 2,180 | 16 | 384 | 9.7 | f 1,470 | - 1938- | 7,750 | June 2, 3, 1943 | d 409 | Apr. 27, 1941 | 6 | 1939-44 |
| 110 | Madison River near Norris (Red Bluff), Mont. | 2,280 | 16 | - | - | - | - 1890-93 1910 | d 6,420 | May 28, 1890 | d 850 | Aug. 26, 28, 1910 | 2 | 1891-92 |
| 111 | Madison River [Below Cherry Creek] near Norris (Red Bluff), Mont. | 2,390 | 18 | - | - | - | - A 1896-1905 | d 10,275 | June 16, 1899 | (g) | - | 9 | 1897-1905 |
| 112 | Madison River near Three Forks, Mont. | 2,485 | 24 | 384 | - | - | - b 1895-97 b 1928-32 1941- | d 8,175 | June 19, 1896 | d 416 | Feb. 27, 1930 | 7 | 1896 1929-31 1942-44 |
| 114 | Gallatin River near Gallatin Gateway (Boseman), Mont. | 828 | 1.6 | (c) | 11.7 | 712 | - A 1889-94 1930- | d 6,800 | June (g), 1892 June (g), 1894 | 117 | Jan. 19, 1935 | 19 | 1890-94 1931-44 |

BASE DATA FOR GAGING STATIONS

39

| | | | | | | | | | | | | | | | | |
|-----|--|-------|-----|-----|------|------|---|--|-------------------------------------|---------------|---------------|-------------------------------------|--|-------------------------------|------|-------|
| 115 | Gallatin (West Gallatin) River near Salesville, Mont. | 84.8 | 8 | - | - | - | - | A | 1895-1905 b 1910-13 b 1921-23 | d 10,750 | June 18, 1896 | d 100 | Nov. 27-31, 1896 Feb. 29, 1896 | 1896-1905 1912, 13 1923 | 13 | 1,015 |
| 116 | Gallatin River at Logan, Mont. | 1,805 | 87 | 10 | 913 | 8.0 | A | 1895-98 b 1900-1905 b 1928- | d 6,550 | June 18, 1896 | d 130 | July 19, 1939 | 1896-98 1902-05 1929-32 1935-44 | 21 | 886 | |
| 117 | East Gallatin River at Bozeman, Mont. | 149 | 2 | (c) | f 72 | 6.9 | - | 1939- | 615 | Apr. 15, 1942 | 13 | July 17, 1941 | 1940-44 | 5 | 78 | |
| 118 | Hyalite Creek (Middle Creek near Bozeman) at Hyalite ranger station near Bozeman, Mont. | 45 | 0 | (c) | 53.4 | 16.1 | - | b 1895, 96 b 1898-1900 1902, 04 1934- | d 956 | June 14, 1898 | 0.4 | Feb. 2, 1939 | 1935-44 | 10 | 51 | |
| 119 | Broadwater East Canal near Toston, Mont. | - | - | - | - | - | - | 1941- | - | - | d 0 | at times | 1942-44 | 3 | 34.2 | |
| 120 | Broadwater West Canal near Toston, Mont. | - | - | - | - | - | - | 1941- | - | - | d 0 | at times | 1942-44 | 3 | 6.7 | |
| 122 | Crow Creek near Radersburg, Mont. (Upper station) | A 54 | 0 | - | - | - | A | 1924-29 | 772 | June 11, 1927 | 2.1 | Dec. 13, 1924 | 1925-29 | 5 | 47 | |
| 123 | Crow Creek near Radersburg, Mont. (Lower station) | B 66 | 0 | - | - | - | B | 1919-22 | d 817 | June 8, 1920 | d 2.5 | Mar. 7, 14, 1922 | 1920-22 | 3 | 60 | |
| 125 | Prickly Pear Creek near Clancy, Mont. | 178 | 1 | - | - | - | B | 1909 1910-16 b 1921-33 | d 492 | June 3, 1927 | d 4.1 | Aug. 12, 1931 | 1911-16 1923-31 | 15 | 53 | |
| 126 | Prickly Pear Creek at East Helena, Mont. | B 258 | 2 | - | - | - | B | b 1908-13 | d 535 | June 19, 1909 | d 15 | Aug. 26, 1912 | 1910-13 | 4 | 60 | |
| 127 | Dutchman Creek near Alhambra, Mont. | 11.2 | 0.1 | - | - | - | B | 1921-24 | 34 | June 9, 1922 | d 0.5 | Sept. 3, 4, 1924 | 1922-24 | 3 | 440 | |
| 128 | Warm Springs Creek at (near) Alhambra, Mont. | 18.7 | 0.1 | - | - | - | B | 1921-24 | d 71 | June 17, 1922 | d 1.6 | Nov. 21, 1922 Dec. 6-11, 1922 | 1922-24 | 3 | 7.7 | |
| 130 | Lump Gulch Creek at Foley's ranch, near Clancy, Mont. | B 42 | 0.1 | - | - | - | B | 1921-24 | 67 | June 9, 1922 | 0.06 | Sept. 4, 1924 | 1922-24 | 3 | 7.0 | |
| 131 | Lump Gulch Creek at Zastrow's ranch, near Clancy, Mont. | B 54 | 0.2 | - | - | - | B | 1908-13 | d 100 | June 9, 1909 | d 0.2 | July 30, 31, 1913 | 1909-13 | 5 | 12.1 | |

See footnotes at end of table, page 106

GAGING-STATION RECORDS IN THE MISSOURI RIVER BASIN

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | Annual discharge | | |
|----------------------|--|---------------------|---|--|---------------------------------|--|--|-----------------|-------------------------------|-----------------|--------------------------------------|--|-----------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoir in 1940 (thousand acre-feet) | Average discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Years | Discharge (cfs) | Date | Discharge (cfs) | Date | Years | Number of years |
| 132 | Tennille Creek near Rimini, Mont. | 34 | 0 | 2 | 16.1 | 9 | b 1914- | 948 | May 15, 1917 | d 0 | at times | 1915-31 1935-44 | 27 |
| 133 | Tennille Creek near Helena, Mont. | 103 | 3 | 2 | 21.2 | 5 | b 1908- | 865 | May 28, 1917 June 11, 1927 | d 0 | at times | 1909-33 1935-44 | 35 |
| 134 | Sevenmile Creek at Birdseye, Mont. | B 68 | 0.5 | - | - | - | B 1908-13 | (g) | - | d 0.1 | July 30, 1910 Aug. 5, 10, 1910 | 1909-13 | 5 |
| 137 | Little Prickly Pear Creek near Marysville, Mont. | 44 | 0 | - | - | - | B 1913-32 | 454 | May 25, 26, 1917 | d 2 | Mar. 1-11, 1914 | 1914-31 | 18 |
| 138 | Little Prickly Pear Creek near Canyon Creek, Mont. | 180 | 4 | - | - | - | B 1908-11 1913-24 | d 665 | May 29, 1913 | d 0 | at times | 1909-11 1914-24 | 14 |
| 144 | Dearborn River near Clemmons, Mont. | 122 | 0.5 | (c) | 108 | 12.2 | B 1908-11 1920-23 b 1929-32 1934- | 2,490 | June 13, 1943 | d 7.4 | Oct. 22, 23, 1936 | 1910, 11 1921-23 1930, 31 1935-44 | 17 |
| 145 | Falls Creek near Clemmons, Mont. | B 40 | 0 | - | - | - | B 1908-11 | d 540 | June 6, 1909 | (g) | - | 1909-11 | 3 |
| 146 | Smith River near White Sulphur Springs, Mont. | B 36 | 0.5 | - | - | - | B 1922-31, 1934-36 | 242 | Apr. 13, 1936 | d 0 | Sept. 8, 12, 1931 | 1923-31 1935, 36 | 11 |
| 147 | Smith River Reservoir | a 60 | 1 | 11 | - | - | b 1939- | - | - | - | - | - | - |
| 148 | Smith River above Fiveville Creek, near White Sulphur Springs, Mont. | a 60 | 1 | 11 | f 18.5 | 5.0 | b 1934-43 | 930 | Apr. 11, 1936 | d 0.2 | Oct. 20, 1936 Nov. 24, 1941 | 1936 | 1 |
| 149 | Smith River at Truly, Mont. | B 2,005 | 27 | - | - | - | B 1905-07 b 1929-32 | d 4,010 | June 24, 1907 | d 0.2 | Sept. 10, 1931 | 1906 1930-31 | 3 |

| | | | | | | | | | | | | | | | |
|-----|--|---------|-----|-----|------|-----|---|-----------------------------|-----------|---------------|-------|------------------|-------------------------------|----|--------|
| 150 | Sheep Creek near White Sulphur Springs, Mont. | 35.5 | 0.2 | (c) | - | - | - | 1941- | 356 | May 26, 1942 | d 3.5 | Jan. 18-20, 1943 | 1942-44 | 3 | 27 |
| 152 | Gibson Reservoir on Sun River, Mont. | a 570 | 0.1 | 89 | - | - | - | 1940- | - | - | - | - | - | - | - |
| 153 | North Fork (Sun River above Augusta) Sun River, near Augusta, Mont. | 596 | 0 | - | - | - | - | 1889-90 b 1905-28 (1) | 32,300 | June 21, 1916 | de 15 | Apr. 7, 8, 1915 | 1890-21 1906-21 1925-28 | 21 | 900 |
| 154 | Sun River at Fort Shaw, Mont. | 1,475 | 83 | - | - | - | - | b 1912-28 | 17,500 | June 22, 1916 | d 38 | Aug. 27, 1926 | 1915-28 | 14 | 932 |
| 155 | Sun River at Sun River, Mont. | a 1,580 | 84 | - | - | - | - | B 1905-12 | 18,400 | June 7, 1908 | d 47 | Sept. 14, 1906 | 1902-12 | 7 | 1,090 |
| 156 | Sun River near Vaughn, Mont. | a 2,200 | 86 | 138 | 597 | 4.6 | - | 1934- | 11,200 | June 24, 1938 | 20 | Apr. 24, 1944 | 1935-44 | 10 | 530 |
| 159 | Pinkham Reservoir (off stream Sun River), Mont. | B 733 | 0 | 121 | - | - | - | 1940- | - | - | - | - | - | - | - |
| 161 | Willow Creek near Augusta, Mont. | 90 | 1 | - | - | - | - | b 1905-25 | 3,740 | May 26, 1917 | d 0 | July 17, 1910 | 1906-10 1913-25 | 18 | 27.7 |
| 162 | Willow Creek Reservoir on Willow Creek (off stream Sun River), Mont. | a 850 | (g) | 138 | - | - | - | 1940- | - | - | - | - | - | - | - |
| 163 | South Fork Sun River at Augusta, Mont. | 200 | 2.5 | - | - | - | - | B 1904-24 | d 4,300 | June 2, 1908 | d 0 | at times | 1905-24 | 20 | 97 |
| 164 | Smith Creek near Augusta, Mont. | 26 | 0 | - | - | - | - | - 1906-12 | d 806 | June 23, 1907 | d 6 | at times | 1907-12 | 6 | 37 |
| 165 | Ford Creek near Augusta, Mont. | 18 | 0.2 | - | - | - | - | B 1906-12 | d 720 | June 5, 1908 | d 0 | Nov. 2, 3, 1906 | 1907-12 | 6 | 32 |
| 170 | Muddy Creek near Power, Mont. | - | 0 | - | - | - | - | - b 1935-39 | (g) | June 24, 1938 | 0.2 | May 27, 1936 | 1938-39 | 2 | 30 |
| 171 | Muddy Creek at Vaughn, Mont. | - | 0.5 | (c) | j 96 | - | - | - 1925-26 1934- | (g) | June 23, 1938 | d 4.9 | Jan. 24, 1936 | 1935-44 | 10 | j 89.4 |
| 174 | Lower Two Medicine Lake on Two Medicine River, Mont. | a 50 | 0 | 14 | - | - | - | 1940- | - | - | - | - | - | - | - |
| 175 | Two Medicine River near Glacier Park, Mont. | 56 | 0 | - | - | - | - | b 1918-24 | 1,390 | June 11, 1918 | 10 | Dec. 24, 1920 | - | 0 | - |
| 177 | Two Medicine River at Family, Mont. | 368 | 3 | - | - | - | - | b 1907-24 | de 15,000 | June 5, 1908 | d 4.4 | Sept. 6-8, 1919 | 1908, 10, 11 1914-24 | 14 | 381 |

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Paper | Discharge records prior to Oct. 1, 1944 | | | | Annual discharge | | |
|----------------------|---|---------------------|---|---|---------------------------------|-------------------------------------|---|---|-----------------|---------------|-----------------|-------------------------------------|--|-----------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | Average discharge 1938-43 (cfs) | | | Years | Discharge (cfs) | Date | Discharge (cfs) | Date | Years | Number of years |
| 178 | Marias River near Shelby, Mont. | 2,610 | 60 | 176 | 691 | 4.2 | C | b 1902-08 b 1911- | d 29,500 | June 24, 1907 | d 10 | Aug. 20, 1919 | 1907, 4, 12, 13 1915-18 1920-22 1924, 32 1935-44 | 23 |
| 180 | Marias River near Brinkman, Mont. | 6,400 | 71 | 178 | 704 | 1.8 | B | b 1921- | 15,300 | June 17, 1943 | de 30 | Jan. 21-25, 1937 Feb. 2, 8, 1937 | 1922-32 1935-44 | 21 |
| 181 | Badger Creek near Family, Mont. | 241 | 9 | - | - | - | C | b 1907-24 | dk 1,910 | June 12, 1917 | d 2.0 | Aug. 19, 1919 | 1910-13, 15, 16, 1918-22, 1924 | 12 |
| 182 | Four Horns Reservoir (off stream Badger Creek), Mont. | a 148 | 0 | 20 | - | - | - | 1940 | - | - | - | - | - | - |
| 183 | Birch Creek (Swift) Reservoir on Birch Creek, Mont. | 75 | 0 | 30 | - | - | - | 1940- | - | - | - | - | - | - |
| 184 | Birch Creek at Swift Dam, near Dupuyer, Mont. | 75 | 0 | - | - | - | C | 1913-29 | 5,275 | June 21, 1916 | d 0 | Oct. 2, 1918 Jan. 2, 3, 1920 | 1914-29 | 16 |
| 185 | Birch Creek near Dupuyer, Mont. | 110 | 0 | - | - | - | C | b 1907-32 | de 5,000 | June 21, 1916 | d 3 | Apr. 7, 1921 | 1910-30, 1932 | 22 |
| 189 | Dupuyer Creek at Dupuyer, Mont. | 54 | 1 | - | - | - | C | 1907-13 | d 1,070 | June 5, 1908 | d 1.8 | July 4, 1910 to Sept. 3, 1910 | 1908-13 | 6 |
| 190 | Dupuyer Creek near Valier, Mont. | 111 | 2.5 | - | - | - | C | b 1912-32 | d 2,180 | June 21, 1916 | d 0 | at times | 1913, 14, 1917-32 | 18 |

| | | | | | | | | | | | | | | | | | | | |
|-----|---|---------|-----|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 191 | Lake Frances Reservoir (off stream Birch and Dupuyer Creeks), Mont. | a 250 | 3 | 142 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 192 | Ott Bank Creek near Browning, Mont. | a 130 | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 193 | Ott Bank Creek at Ott Bank, Mont. | 971 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 194 | Dry Fork Marias River near Valler, Mont. | 125 | 0.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 195 | Dry Fork Marias River at Forder, Mont. | a 300 | (g) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 196 | Willow Creek near Devon, Mont. | a 290 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 197 | Teton River at Strabane (near Bellevue), Mont. | a 140 | (g) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 198 | Teton River near Choteau, Mont. | a 260 | (g) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 199 | Teton River near Fort Benton, Mont. | B 1,945 | 52 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 200 | Spring Creek near Strabane, Mont. | (g) | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 201 | Spring Creek near Choteau, Mont. | (g) | (g) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 203 | Deep Creek near Choteau, Mont. | a 240 | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 204 | Willow Creek near Choteau, Mont. | a 120 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 205 | Muddy Creek near Bynum, Mont. | 82 | (g) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | Annual discharge | | |
|-------------------------|--|---------------------|---|---|-------------------------------------|--|---|----------|-------------------|-------|------------------------------------|---|-------|-----------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity (thousand acre-feet) | | | Average discharge 1938-43 (cfs) | Years | Maximum discharge | | Minimum discharge | | | |
| | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | Years | Number of years |
| 207 | Blackleaf Creek near Bynum, Mont. | 65 | (g) | - | - | C | b 1912-24 | 600 | June 21, 1916 | d 0 | at times | 1913, 14 1916, 17 1919-21 1923 | 8 | 10.3 |
| 208 | Judith River near Utica, Mont. | 331 | 0.5 | (c) | 45.7 | B | b 1919- | 1,100 | May 25, 1942 | d 0 | Mar. 19-21, 1933 | 1920-32 1935-44 | 23 | 51.1 |
| 211 | Ackley Lake (off stream Judith River), Mont. | 426 | 1.2 | 6 | - | - | 1939- | - | - | - | - | - | - | - |
| 212 | Big Spring Creek near Lewistown, Mont. | - | 0 | (c) | 97 | - | 1932- | d 183 | May 7, 1933 | d 76 | Feb. 1-8, 1938 | 1933-44 | 12 | 105 |
| 214 | Wolf Creek near Stanford, Mont. | 120 | 0.2 | - | - | B | 1919-26 | 322 | June 16, 1920 | d 0 | July 26, 1921 Sept. 30, 1921 | 1920-26 | 7 | 15.2 |
| 215 | North Fork Musselshell near Delpine, Mont. | 21.8 | 0.2 | (c) | - | - | 1940- | 199 | June 3, 1942 | 1.6 | Aug. 16, 1941 | 1941-44 | 4 | 11.1 |
| 216 | North Fork Musselshell River at Delpine, Mont. | 48 | 0.2 | - | - | D | 1908-12 b 1921-32 | d 545 | July 21, 1923 | d 0.1 | Mar. 28, 1931 | 1909-12 1922-28 1932 | 12 | 16.8 |
| 217 | North Fork Musselshell River near Martinsdale, Mont. | D 230 | 5 | - | - | D | 1906-14 | d 572 | May 22, 1912 | d 0.5 | Aug. 4, 5, 27, 28, 1910 | 1907-14 | 8 | 60 |
| 218 | Musselshell River at Harlowton, Mont. | 1,130 | 25 | 30 | 141 | D | b 1906- | (g) | June 24, 1938 | d 0 | at times | 1907-29, 32 1935-44 | 34 | 181 |
| 219 | Musselshell River at Shawmut, Mont. | D 1,580 | 32 | - | - | D | 1904-7 | de 2,600 | June 23-27, 1907 | d 2 | Sept. 23-30, 1905 Aug. 22, 1906 | 1905-07 | 3 | 297 |

| | | | | | | | | | | | | | | | |
|-----|---|---------|-----|-----|-------|-----|---|----------------------|---------|--------------------------------------|-----|------------------------------------|-----------------------------|----|------|
| 221 | Musselshell River at Musselshell, Mont. | D 4,760 | 40 | - | - | - | D | b 1928-32 | 2,130 | June 9, 1932 | d 0 | at times | 1929, 32 | 2 | 109 |
| 222 | Musselshell River at Mosby, Mont. | 8,010 | 56 | 62 | 318 | 0.7 | B | 1938-32 1934- | 18,000 | June 18, 1944 | d 0 | at times | 1930-32 1935-44, | 13 | 222 |
| 223 | Durand Reservoir on North Fork Musselshell River (off stream Checkerboard Creek), Mont. | a 70 | 0.2 | 7 | - | - | - | 1940- | - | - | - | - | - | - | - |
| 224 | Checkerboard Creek at (near) Delpine, Mont. | 24.3 | 0.1 | - | - | - | D | 1908-14 b 1921-32 | d 167 | July 16, 1923 | d 0 | July 13-15, 1931 | 1909-14, 1922-39 1932 | 15 | 9.5 |
| 225 | Spring Creek near Martinsdale, Mont. | 35 | 0 | - | - | - | D | 1921-24 | d 230 | June 21-22, 1923 | (g) | - | 1922-24 | 3 | 13 |
| 226 | South Fork Musselshell above Martinsdale, Mont. | a 310 | 8 | (c) | - | - | - | b 1941- | 954 | June 4, 1942 | 5.3 | Feb. 28, 1943 | 1913-44 | 2 | 95 |
| 227 | South Fork Musselshell River near Martinsdale, Mont. | D 320 | 8 | - | - | - | D | 1906-15 b 1930-32 | d 1,260 | June 2-4, 1911 | d 0 | at times | 1907-15 | 9 | 99 |
| 228 | Martinsdale Reservoir (off stream South Fork Musselshell River), Mont. | D 320 | 8 | 23 | - | - | - | 1940- | - | - | - | - | - | - | - |
| 229 | American Fork near Harlowton, Mont. | D 100 | 5 | - | - | - | D | 1906-14 b 1923-32 | d 870 | June 1, 1908 | d 0 | at times | 1907-14 1924-28 | 13 | 22 |
| 230 | Lebo Creek near Harlowton, Mont. | 48 | 3 | - | - | - | D | 1908-14 b 1923-32 | 417 | July 6, 1928 | d 0 | at times | 1909-14 1924-28 | 11 | 15.6 |
| 231 | Deadmans Basin Reservoir (off stream Musselshell River), Mont. | a 1,450 | 32 | 30 | - | - | - | 1941- | - | - | - | - | - | - | - |
| 232 | Careless Creek near Living Springs, Mont. | 18.5 | 0.4 | - | - | - | D | 1920-23 | d 69 | June 15, 1922 | d 0 | Apr. 20, 1921 to May 7, 1921 | 1921-23 | 3 | 6.4 |
| 233 | Careless Creek at Wallum, Mont. | a 400 | 1 | (c) | f 9.5 | 0.4 | - | b 1934-42 | 410 | June 19, 1938 June 4 or 5 1942 | d 0 | at times | 1935, 36 1938-42 | 7 | 6.0 |
| 235 | Roberts Creek at Hedgesville, Mont. | 300 | 0 | - | - | - | - | 1920-23 | e 2,290 | June 17, 1921 | d 0 | at times | 1921-23 | 3 | 11.1 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | | Annual discharge | |
|----------------------|--|---------------------|------------------------------------|---|---------------------------------|-------------------------------------|--|---|--------|--------------------|-------------------|--|--------------------------------|------------------|---------------|
| | | Area (square miles) | Irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | | Maximum discharge | | | Minimum discharge | | Years | Number of years | Average (cfs) |
| | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | Discharge (cfs) | | | |
| 237 | Box Elder Creek near Winnett, Mont. | a 740 | 2 | - | - | - | - | b 1930-32 b 1934-38 | 4,740 | June 8, 1932 | d 0 | at times | 1935-36 | 2 | 10.1 |
| 238 | Macdonald Creek at Winnett, Mont. | a 350 | 5 | (c) | f 21.0 | 1.1 | - | b 1930-32 b 1934 | 900 | May 15 or 16, 1942 | d 0 | at times | 1931, 35, 36 1939-44 | 9 | 18.5 |
| 239 | Flatwillow Creek near Flatwillow, Mont. | 195 | 4 | (c) | 24.8 | 2.1 | D | b 1911-32 1934- | d 954 | June 4-10, 1917 | d 0 | at times | 1912-28 1931, 32 1935-44 | 29 | 36 |
| 240 | Flatwillow Creek at (near) Petrolia, Mont. | 650 | 6 | - | - | - | D | b 1921-32 | 3,770 | July 5, 1923 | d 0 | at times | 1922-28 | 7 | 63 |
| 241 | Dry Creek near Van Norman, Mont. | 2,530 | 0.2 | 1 | f 41 | 0.2 | - | 1939- | 7,420 | June 18, 1944 | d 0 | at times | 1940-44 | 5 | 53 |
| 242 | South Fork Milk River near international boundary (near Browning, Mont.) | 288 | 0 | - | - | - | E | 1905-30 | (g) | June 6, 1908 | d 0 | Aug. 1-8, 1919 Aug. 18, 1919 Sept. 2, 1919 | 1906-30 | 25 | 87 |
| 243 | South Fork Milk River near international boundary | 433 | 0 | (c) | f 47 | 1.5 | - | b 1931- | 1,680 | June 13, 1937 | d 0 | at times | - | 0 | - |
| 244 | Milk River at Milk River, Alberta | 1,104 | 0 | (c) | m 273 | 0.9 | EW | 1909- | 7,460 | May 22, 1927 | d 0 | at times | 1910-44 | 35 | m 251 |
| 245 | Milk River at eastern crossing of international boundary | 2,514 | n 3 | 1 | fm 297 | 0.6 | EW | b 1909- | 12,000 | May 23, 1927 | d 0 | at times | 1910-30 1935-38 | 25 | m 275 |
| 246 | Fresno Reservoir on Milk River, Mont. | a 3,400 | n 3.2 | 128 | - | - | - | 1940- | - | - | - | - | - | - | - |
| 247 | Milk River above Havre, Mont. | a 3,400 | n 3.5 | - | - | - | E | b 1928-32 | 2,540 | June 21, 1928 | 15.6 | Oct. 30, 1931 | 1929, 30 | 2 | m 341 |

BASE DATA FOR GAGING STATIONS

47

| | | | | | | | | | | | | | | | |
|-----|---|----------|-------|-----|--------|-----|---|------------------------|----------|---------------------------|-------|---------------------|---|----|-------|
| 248 | Milk River at Havre, Mont. | a 5,600 | n 10 | - | - | - | E | 1898-1922 | (g) | Mar. 12, 1916 | d 0 | at times | 1899-1922 | 24 | m 304 |
| 249 | Milk River at Lobman, Mont. | 6,070 | n 32 | 130 | fm 242 | 0.3 | E | 1922-25 b 1934- | 3,450 | Mar. 21, 1939 | d 0 | at times | 1923-25 1935, 1939-44 | 10 | m 251 |
| 251 | Milk River at Malta, Mont. | a 12,500 | n 80 | - | - | - | E | 1902-22 | d 11,500 | Mar. 27, 1918 | d 0 | at times | 1903-22 | 20 | m 448 |
| 252 | Milk River near Vandalia (at Hinsdale), Mont. | 21,900 | n 119 | - | - | - | E | 1907-20 1928-39 | 25,200 | Apr. 11, 1917 | d 0 | at times | 1908-20 1929-39 | 24 | m 677 |
| 253 | Milk River at Neshua, Mont. | 23,300 | n 125 | 324 | f 795 | 0.5 | - | 1939- | 17,400 | Apr. 2, 1943 | 11 | May 24, 1941 | 1940-44 | 5 | 678 |
| 255 | North Fork Milk River above St. Mary Canal, near Browning, Mont. | 62 | 0 | (c) | f 11.2 | 2.4 | E | 1911-12 b 1920- | 659 | June 12, 1937 | 0 | Oct. 29, 1942 | 1912 1921-30 | 11 | 31 |
| 256 | North Fork Milk River near international boundary (near Kimball, Alberta) | 101 | 0 | (c) | fm 213 | 1.3 | E | b 1909- | 1,490 | June 12, 1937 | d 0 | Mar. 1, 2, 1940 | 1910-30 | 21 | m 114 |
| 257 | St. Mary Canal at Hudson Bay divide, near Browning, Mont. | - | - | - | f 202 | - | - | b 1917- | - | - | d 0 | at times | 1917 1920-23 1926-30 1932-41 1943, 44 | 22 | 156 |
| 258 | Big Sandy Creek near Box Elder, Mont. | a 1,500 | 2 | - | - | - | E | b 1927-32 b 1934-38 | 561 | June 25, 1938 | d 0 | at times | 1928-30 | 3 | 17 |
| 260 | Beaver Creek near Havre, Mont. | E 95 | 2 | - | - | - | E | 1918-21 | 500 | July 13, 1920 | d 0.1 | June 26-28, 1919 | 1919-21 | 3 | 9.6 |
| 262 | Fort Belknap Canal near Chinook (Tonic), Mont. | - | - | - | - | - | - | b 1903-21 | - | - | d 0 | at times | 1904-5 1911-13 1916 | 6 | 14.0 |
| 266 | Lodge Creek at international boundary | 797 | n 2 | 11 | f 37 | 0.7 | E | b 1910- | 5,110 | Mar. 30, 1943 | d 0 | at times | 1917-31 1934 1936, 37 | 18 | 38 |
| 268 | McRae Coulee at international boundary | 53 | 0 | (c) | f 2.5 | 0.6 | E | b 1926- | 976 | about Mar. 29, 1943 | d 0 | at times | 1927-31 1933-37 | 10 | 1.7 |
| 269 | North Chinook Canal near Havre, Mont. | - | - | - | - | - | - | b 1928- | - | - | d 0 | at times | 1929-31 1933, 34 1938-40 1944 | 9 | 5.6 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual runoff 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | Annual discharge | | | |
|-------------------------|--|---------------------|---|---|-------------------------------------|-------------------------------------|--|---|-------------------|---------------|-------------------|------------------|--|-----------------------|------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | | Years | Maximum discharge | | Minimum discharge | | Years | Number of years (cfs) | |
| | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | | | |
| 272 | Battle Creek at international boundary | 726 | n 4 | (c) | f 23 | 0.5 | E | b 1917- | 3,200 | Apr. 13, 1917 | d 0 | at times | 1918-30 1936, 37 | 15 | 43 |
| 273 | Battle Creek (North Fork Milk River) near Chinook, Mont. | a 1,500 | n 5 | - | - | - | E | 1905-21 | de 12,000 | Mar. 31, 1918 | d 0 | at times | 1906-21 | 16 | 91 |
| 274 | Woodpile Coulees near international boundary | 70 | 0 | (c) | f 5.4 | 1.0 | E | b 1926- | 1,450 | Mar. 30, 1943 | d 0 | at times | 1927-29 1933 1935-37 | 7 | 3.6 |
| 275 | East Fork Battle Creek near international boundary | 98 | 0 | (c) | f 4.0 | 0.6 | E | b 1926- | 717 | Mar. 21, 1939 | d 0 | at times | 1927-33 1935-37 | 10 | 3.0 |
| 276 | Irons Coulee at international boundary | N 47 | n 0.1 | (c) | f 2.8 | 0.9 | E | b 1926- | 674 | Apr. 21, 1940 | d 0 | at times | 1927-33 1935-37 | 10 | 3.1 |
| 277 | Cook Canal near Chinook, Mont. | - | - | - | - | - | - | b 1905-19 | - | - | d 0 | at times | 1906, 8, 1910, 11 1916-18 | 7 | 3.3 |
| 278 | Matheson Canal near Chinook, Mont. | - | - | - | - | - | - | b 1905-21 b 1928- | - | - | d 0 | at times | 1906-8, 10, 11, 1917, 1929-38 1940-42, 44 | 20 | 0.9 |
| 279 | Paradise Valley Canal near Chinook, Mont. | - | - | - | - | - | - | b 1904-9 b 1911-19 | - | - | d 0 | at times | 1904-7, 9 1911-43 1915-49 | 13 | 1.9 |
| 280 | Harlem Canal near Zurich, Mont. | - | - | - | - | - | - | b 1904-21 | - | - | d 0 | at times | 1906, 7 1910, 11 1913, 14 1916, 21 | 8 | 10.3 |

BASE DATA FOR GAGING STATIONS

| | | | | | | | | | | | | | | | | |
|-----|--|----------|-------|-----|--------|-----|----|--------------------------------|----------|-------------------|-----|----------|-------------------------------|-----------------------------|------|-----|
| 281 | Agency ditch near Harlem, Mont. | - | - | - | - | - | - | - | - | 1905 b 1910-20 | - | d 0 | at times | 1905, 10, 11 1913, 16 | 5 | 9.7 |
| 283 | Molson Reservoir (off stream Milk River), Mont. | a 12,000 | n 80 | - | 240 | - | - | - | - | 1940 | - | - | - | - | - | - |
| 284 | Whitewater Creek near international boundary | E 662 | 0 | (c) | f 5.3 | 0.1 | E | b 1926- | 2,070 | Mar. 25, 1943 | d 0 | at times | 1927-30, 1937 | 5 | 8.2 | |
| 285 | Frenchman River at international boundary | E 2,613 | n 7 | 88 | f 94 | 0.7 | E | b 1907- | 5,440 | Mar. 29, 1925 | d 0 | at times | 1918-28 1930, 36, 37 | 14 | 102 | |
| 286 | Frenchman Canal near Saco, Mont. | - | - | - | 3.3 | - | - | 1928- | - | - | d 0 | at times | 1929-44 | 16 | 3.3 | |
| 287 | Beaver Creek near Malta, Mont. | E 1,130 | 8 | - | - | - | E | 1917-21 | d 4,990 | Apr. 6, 1917 | d 0 | at times | 1918-20 | 3 | 70 | |
| 289 | Beaver Creek overflow near Bowdoin, Mont. Bypasses gage on Beaver Creek near Saco/ | - | - | - | - | - | - | b 1903-6 b 1908-10, 12 | (g) | June (g), 1906 | d 0 | at times | - | 0 | - | |
| 290 | Beaver Creek near Saco (Ashfield), Mont. | E 1,215 | 8 | - | - | - | E | 1903-6 b 1908-12 1917-18 | 6,650 | June 9, 1906 | d 0 | at times | 1904, 6, 9 1910, 12, 18 | 7 | 45 | |
| 292 | Rock Creek at international boundary (near Barnard, Mont.) | 242 | n 0.3 | (c) | f 18 | 1.0 | EN | b 1914-15 b 1926- | 1,190 | Mar. 25, 1939 | d 0 | at times | 1927-30, 1937 | 5 | 14.6 | |
| 293 | Rock Creek below Horse Creek, near international boundary (near Barnard, Mont.) | a 320 | n 0.3 | - | - | - | N | b 1916-26 | d 3,370 | Mar. 30, 1925 | d 0 | at times | - | 0 | - | |
| 294 | Rock Creek near Hinedale, Mont. | F 1,396 | 8 | - | - | - | E | b 1905-7 1911-20 | e 10,000 | Apr. (g), 1912 | d 0 | at times | 1906 1912-20 | 10 | 116 | |
| 295 | Horse Creek at international boundary (near Barnard, Mont.) | 71 | 0 | (c) | f 5.9 | 1.1 | EN | b 1914- | 1,040 | Mar. 30, 1925 | d 0 | at times | 1927-30 1935-37 | 7 | 4.5 | |
| 296 | McEachern (McEachern) Creek at international boundary | 160 | 0 | (c) | f 12.4 | 1.0 | EN | b 1924- | 2,050 | Mar. 23, 1939 | d 0 | at times | 1927-30 1935-37 | 7 | 13.2 | |
| 298 | Porcupine Creek at Mashua, Mont. | E 729 | 0 | - | - | - | E | 1908-24 | 2,700 | Apr. 11, 1916 | d 0 | at times | 1909-24 | 16 | 27 | |
| 299 | Little Porcupine Creek at Fraser, Mont. | B 344 | 0 | - | - | - | B | 1908-16 1917-19 | 750 | Apr. 1, 1916 | d 0 | at times | 1909-16 1918, 19 | 10 | 7.8 | |
| 300 | Wolf Creek near Wolf Point, Mont. | B 244 | 0.2 | - | - | - | B | 1909-14 | (g) | - | d 0 | at times | 1910-14 | 5 | 7.8 | |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Reports | Discharge records prior to Oct. 1, 1944 | | | | | | |
|-------------------------|---|---------------------|---|--|-------------------------------------|---|---|---------|-------------------|-------------------------------|------------------------|------------------------|------------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoir in 1940 (thousand acre-feet) | | | Average discharge 1938-43 (cfs) | Years | Maximum discharge | | Minimum discharge | | Annual discharge |
| | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | |
| 302 | Redwater Creek at Circle, Mont. | 534 | 0.6 | 1 | f 16.2 | 0.4 | B | b 1929- | 6,220 | June 17, 1944 | d 0 at times | 1930-32, 36 1939-44 | 10 11.1 |
| 303 | Middle Fork Poplar River at international boundary | 381 | 0 | (c) | f 18.9 | 0.7 | - | b 1931- | 1,910 | Mar. 21, 1939 | d 0 at times | 1936, 37 | 2 7.5 |
| 304 | Poplar River near Bredette, Mont. | 2,840 | 0.5 | (c) | f 133 | 0.6 | - | b 1934- | 11,600 | Mar. 24, 1939 | d 0 at times | - | 0 - |
| 305 | Poplar River near Poplar, Mont. | B 3,070 | 0.7 | - | - | - | B | 1908-24 | 10,000 | Apr. 10, 1912 | d 0 Dec. 16, 17, 1918 | 1909-24 | 16 137 |
| 306 | East Fork Poplar River at international boundary | 256 | 0 | (c) | f 15.9 | 0.8 | - | b 1931- | a 1,500 | Mar. 22, 1939 | d 0 at times | 1936, 37 | 2 4.8 |
| 308 | West Fork Poplar River at international boundary | 141 | 0 | (c) | f 4.7 | 0.5 | - | b 1931- | (g) | Mar. 23, 1939 | d 0 at times | 1936, 37 | 2 0.8 |
| 309 | West Fork Poplar River near Richland, Mont. | a 420 | 0 | (c) | f 20.0 | 0.6 | - | b 1935- | d 2,660 | Mar. 23, 24, 1939 | d 0 at times | 1939 | 1 40 |
| 310 | Big Muddy Creek at Reserve, Mont. | B 1,385 | 0.4 | - | - | - | B | 1919-24 | d 1,280 | Mar. 31, 1920 | d 0 Sept. 1, 4-6, 1924 | 1920-24 | 5 50 |
| 311 | Big Muddy Creek near Culbertson, Mont. | B 2,784 | 0.5 | - | - | - | B | 1909-21 | d 1,550 | Mar. 31, 1916 | d 0 at times | 1910-21 | 12 75 |
| 314 | Yellowstone Lake at Lake Hotel, Yellowstone National Park | 1,010 | 0 | (e) | - | - | - | b 1921- | - | - | - | - | 0 - |
| 315 | Yellowstone River at Yellowstone Lake Outlet, Yellowstone National Park | 1,010 | 0 | (c) | 1,250 | 18.6 | - | 1926- | d 7,420 | June 29, 1927 to July 1, 1927 | 200 Dec. 17, 1936 | 1927-44 | 18 1,206 |

BASE DATA FOR GAGING STATIONS

51

| | | 0 | (c) | - | - | 8,550 | June 27, 1918 | (g) | - | - | 0 |
|-----|---|----------|-----|---------|------|-----------|-------------------|---------|---|---|-----------|
| 316 | Yellowstone River near Canyon Hotel (Canyon soldier station), Yellowstone National Park | 1,160 | | | | | | | | | |
| 317 | Yellowstone River at Corbin Springs (Horr), Mont. | 2,650 | (c) | 2,900 | 15.0 | d 26,500 | June 14, 15, 1918 | d 285 | Mar. (g), 1897 1890-93 1911-44 | | 38 2,950 |
| 318 | Yellowstone River near Livingston, Mont. | 3,580 | (c) | f 3,450 | 13.2 | 30,600 | June 20, 1943 | d 590 | Jan. 22, 1940 1898-1905 1929-32 1939-44 | | 18 3,557 |
| 319 | Yellowstone River at Billings, Mont. | a 11,600 | 282 | 6,620 | 8.1 | 64,800 | June 27, 1944 | 430 | Dec. 12, 1932 1929, 31 32 1935-44 | | 13 6,159 |
| 320 | Yellowstone River at Huntley, Mont. | 12,000 | 315 | - | - | 58,100 | June 30, 1916 | d 1,060 | Dec. 26-28, 1907 1908, 11 | | 2 8,540 |
| 321 | Yellowstone River at Miles City, Mont. | a 48,500 | 877 | 10,980 | 3.6 | 96,300 | June 19, 1944 | d 996 | Dec. 14, 1932 1930-44 | | 15 10,110 |
| 322 | Yellowstone River at Glendive, Mont. | 65,900 | 940 | - | - | d 107,000 | June 9, 1909 | d 1,060 | Dec. 14, 1932 1904 1932-34 | | 4 11,200 |
| 323 | Yellowstone River at Intake, Mont. | 66,800 | 983 | - | - | 159,000 | June 21, 1921 | d 1,200 | Jan. 6, 7, 1923 1922 | | 21 14,820 |
| 324 | Yellowstone River near Sidney, Mont. | 69,450 | 984 | 11,790 | 2.7 | 132,000 | Mar. 29, 1943 | d 860 | Dec. 31, 1934 1935-44 | | 10 11,490 |
| 325 | Tower Creek at Tower Falls, Yellowstone National Park | 51 | (c) | f 51 | 13.7 | d 642 | May 30, 1925 | 5.6 | Mar. 17, 1934 1924-32 1939-43 | | 14 51.5 |
| 326 | Lamar River near Tower Falls ranger station, Yellowstone National Park | 640 | 0 | f 817 | 17.3 | 13,600 | May 25, 1928 | 45 | Nov. 2, 1936 1926-35 | | 10 793 |
| 327 | Blacktail Deer Creek near Mammoth, Yellowstone National Park | 14.8 | 0 | f 7.2 | 6.6 | 168 | June 1, 1943 | 0 | Dec. 23, 24, 1937 1939-41 1943, 44 | | 5 7.2 |
| 328 | East Fork Blacktail Deer Creek near Mammoth, Yellowstone National Park | 10.3 | 0 | - | - | 38 | May 13, 1940 | 0 | at times 1939-41 | | 3 1.8 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average discharge 1928-43 (cfs) | Average annual runoff 1936-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | | | |
|-------------------------------|---|---------------------------|---|--|--|---|--|---|--------------------|------------------------|--------------------|--|----------------------------|-----------------------|------------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoir in 1940 (thousand acre-feet) | | | | Maximum discharge | | Minimum discharge | | Annual discharge | | | |
| | | | | | | | | Years | Discharge (cfs) | Date | Discharge (cfs) | Date | Years | Number of years | Average (cfs) |
| 331 | Gardiner River at Mammoth, Yellowstone National Park | 198 | 0 | - | - | - | - | b 1922-38 | 1,790 | May 28, 1928 | 31 | Apr. 7, 1928 | 1928-38 | 13 | 158 |
| 332 | Gardiner River near Mammoth, Yellowstone National Park | 200 | 0 | (c) | f 192 | 13.0 | - | 1938- | 1,660 | June 20, 1943 | 35 | Mar. 28, 1942 | 1939-44 | 6 | 189 |
| 333 | Impine Creek near Mammoth, Yellowstone National Park | 446 | 0 | (c) | - | - | - | 1937-41 | 36 | June 5, 1938 | 0.4 | Jan. 30, 1938 Dec. 24, 1939 | 1939-41 | 3 | 3.1 |
| 334 | Shields River near Wilsall, Mont. | a 85 | 0.3 | (c) | 53 | 8.5 | - | 1935- | d 870 | June 9, 1944 | d 2.3 | Feb. 11-15, 1936 | 1936-44 | 9 | 54 |
| 335 | Shields River at Clyde Park, Mont. | 544 | 18 | (c) | 150 | 4.5 | - | b 1921-23 1929-32 1934- | 4,450 | Mar. 29, 1943 | 1.8 | Aug. 29, 1935 | 1930-32 1935-44 | 13 | 120 |
| 336 | Brackett Creek (River) near Clyde Park, Mont. | 56.5 | 0.5 | (c) | 24.6 | 7.7 | - | 1921-23 b 1934- | 490 | Mar. 28 or 29, 1943 | d 0.6 | Dec. 27, 1943 | 1922, 23, 35 1938-44 | 10 | 24.0 |
| 340 | North Fork Big Timber Creek near Big Timber, Mont. | 40 | 0.2 | - | - | - | - | b 1907-11 | d 897 | June 1, 1908 | d 5.0 | Sept. 10, 1910 | - | 0 | - |
| 341 | Big Timber Creek near Big Timber, Mont. | 72 | 0.3 | - | - | - | - | b 1912-24 | 1,960 | July 15, 1918 | d 0 | Oct. 3-6, 1922 | 1918, 19 | 2 | 112 |
| 342 | South Fork Big Timber Creek near Big Timber, Mont. | 10 | 0 | - | - | - | - | b 1907-11 | d 550 | June 1, 1908 | d 2.0 | at times | - | 0 | - |
| 343 | Boulder River near Contact, Mont. | 236 | 0.2 | - | - | - | - | b 1910-16 1929 | 4,750 | June 27, 1916 | d 20 | Nov. 22-24, 1914 Mar. 21-24, 1915 | 1911 | 1 | 442 |
| 346 | West Fork Boulder River near Bruffery, Mont. | 94 | 0.1 | - | - | - | - | b 1904-8 1910- | d 1,610 | June 18, 1904 | d 20 | at times | - | 0 | - |

| | | | | | | | | | | | | | | | | |
|-----|---|---------|-----|-----|-------|------|---|---|------------------------|----------|--------------------|-------|-------------------------------|-----------------------------|----|-------|
| 347 | West Fork Boulder River at Malden, Mont. | 137 | 3 | - | - | - | - | - | b 1907-14 | d 1,990 | June 17, 1909 | (g) | - | 1911 | 1 | 185 |
| 348 | Sweetgrass Creek above Mairville, Mont. | 594.6 | 1.2 | (e) | 82 | 19.1 | D | - | b 1907-24 1937- | 1,510 | June 11, 1918 | d 2.6 | Mar. 12, 1922 | 1911, 1911-24 1938-44 | 19 | 89 |
| 349 | Sweetgrass Creek below Mairville, Mont. | 137 | 8 | 10 | f 83 | 9.6 | - | - | b 1907-24 b 1937-42 | 2,500 | June 4, 1942 | 4.5 | Aug. 8, 9, 1938 | 1938-40 1942 | 4 | 77 |
| 351 | Stillwater River near Nye, Mont. | 187 | 0 | - | - | - | - | - | b 1924-27 b 1929-32 | (g) | June 8, 1927 | 15 | Mar. 17, 1931 | 1926 1930, 31 | 3 | 344 |
| 352 | Stillwater River near Absarokee, Mont. | a 960 | 26 | 21 | 914 | 13.4 | - | - | b 1910-14 1935- | 9,820 | June 27, 1944 | d 58 | Apr. 2, 1936 | 1936-44 | 9 | 881 |
| 356 | Rosebud Creek near Absarokee, Mont. | a 380 | 20 | 21 | 420 | 15.9 | - | - | b 1910-14 1935- | 4,850 | June 22, 1937 | 31 | May 25, 1936 Dec. 28, 1936 | 1936-44 | 9 | 405 |
| 357 | Myrtle Lake on West Rosebud Creek | a 55 | 0 | 21 | - | - | - | - | 1939- | - | - | - | - | - | - | - |
| 358 | Clarks Fork below Grandall Creek, Wyo. | 401 | 0.4 | - | - | - | - | - | 1929-32 | 6,430 | June 25, 1932 | (g) | - | 1930-32 | 3 | 545 |
| 359 | Clarks Fork near Clark, Wyo. | 929 | 4 | - | - | - | - | - | b 1919-24 | 10,500 | June 12, 1921 | 154 | Mar. 26, 1922 | - | 0 | - |
| 360 | Clarks Fork at Chance, Mont. | a 1,140 | 11 | 2 | 890 | 10.9 | - | - | b 1921- | d 10,900 | May 26, 1928 | 48 | Jan. 16, 1943 | 1935-44 | 10 | 877 |
| 361 | Clarks Fork at Fremberg, Mont. | 2,500 | 35 | - | - | - | - | - | b 1905-13 | d 12,100 | July 3, 4, 1909 | d 195 | Feb. 17, 1908 Mar. 4, 1908 | 1911 | 1 | 1,290 |
| 362 | Clarks Fork at Edgar, Mont. | a 1,940 | 40 | 2 | 1,020 | 7.7 | - | - | b 1921- | 10,900 | June 2, 1936 | 41 | July 25, 1931 | 1931, 1935-44 | 11 | 971 |
| 363 | Sunlight Creek near Painter, Wyo. | 139 | 0.6 | - | - | - | - | - | 1929-32 | 2,110 | June 26, 1932 | (g) | - | 1930-32 | 3 | 115 |
| 364 | Glacier Lake on Rock Creek, Mont. | a 40 | 0 | 4 | - | - | - | - | b 1939-40 | - | - | - | - | - | - | - |
| 365 | Rock Creek near Red Lodge, Mont. | a 100 | 0.6 | 4 | 168 | 25 | - | - | 1932, 34- | 2,010 | June 19, 1943 | d 17 | Mar. 26, 1944 | 1935-44 | 10 | 169 |
| 366 | Rock Creek at Rockvale, Mont. | a 550 | 40 | 32 | - | - | - | - | b 1920-22 b 1932-40 | 2,310 | June 8, 1932 | d 0 | July 14-16, 1935 | 1935-40 | 6 | 123 |
| 367 | West Fork Rock Creek below Basin Creek, near Red Lodge, Mont. | a 60 | 0.1 | (e) | f 85 | 19 | - | - | b 1937- | 722 | June 26, 1944 | d 10 | Dec. 19, 1939 | - | 0 | - |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | | Average annual discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | | |
|----------------------|--|---------------------|---|---|-------------------|--|-------------------------------------|--|---|-------------------|-------|---------------------------------|----------------------|-----------------|-------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | Maximum discharge | | | | | Minimum discharge | | Annual discharge | | | |
| | | | | | Discharge (cfs) | | | | Date | Discharge (cfs) | Date | | Years | Discharge (cfs) | Date |
| 368 | West Fork Rock Creek near Red Lodge, Mont. | a 80 | 3.0 | (c) | 70 | 16 | - | 1932-1934-44 | 1,850 | June 22, 1937 | 2.5 | Nov. 18, 1939 | 1935-44 | 10 | 66.5 |
| 369 | Red Lodge Creek above Conner Reservoir, near Boyd, Mont. | a 140 | 10 | (c) | f 70 | 10 | - | b 1937- | 1,050 | June 17, 1944 | 1.5 | May 27, 1937 | - | 0 | - |
| 370 | Conner Reservoir on Red Lodge Creek, Mont. | a 210 | 21 | 28 | - | - | - | 1939- | - | - | - | - | - | - | - |
| 371 | Red Lodge Creek below Conner Reservoir, near Boyd, Mont. | a 210 | 21 | 28 | 96 | 10 | - | 1937- | 1,510 | May 30, 1942 | 1.6 | Dec. 21, 1937 | 1938-44 | 7 | 101 |
| 373 | Willow Creek near Boyd, Mont. | a 45 | 11 | (c) | f 28 | 15 | - | b 1937- | 469 | June 27, 1944 | 1.2 | Aug. 1, 1939 | - | 0 | - |
| 376 | Pryor Creek near Billings (at Coburn), Mont. | a 400 | 2 | (c) | f 46 | 1.7 | - | b 1911-24 1938- | 1,500 | May 14, 1942 | d 0 | at times | 1939-44 | 6 | 54 |
| 377 | Pryor Creek at Huntley, Mont. | 800 | 2.2 | - | - | - | - | b 1904-16 | d 1,560 | July 3, 1912 | d 0 | July 26-28 1908 | 1911, 14 | 2 | 48 |
| 380 | Wind River at (near) Riverton (near Arapahoe Agency), Wyo. | 2,320 | 73 | 177 | 804 | 5.9 | - | b 1906-8 1911-27 1928- | d 12,300 | June 14, 1906 | d 80 | Nov. 13, 1940 | 1908 1911-27 1929-44 | 34 | 1,106 |
| 381 | Bighorn River at Thermopolis, Wyo. | 8,080 | 128 | 198 | 1,400 | 2.9 | - | 1900-05 1910- | 29,800 | July 24, 1923 | d 162 | Nov. 14, 1940 | 1903-05 1911-44 | 39 | 1,910 |
| 382 | Bighorn River at Manderson, Wyo. | 11,900 | 187 | 199 | - | - | - | 1941- | 17,900 | June 4, 1944 | d 160 | Dec. 11, 12, 1943 Aug. 21, 1944 | 1942-44 | 3 | 2,050 |
| 383 | Bighorn River at Kane, Wyo. | 15,900 | 275 | 257 | 2,210 | 2.5 | - | 1928- | 25,200 | June 16, 1935 | d 179 | July 22, 1934 | 1929-44 | 16 | 2,284 |

| | | | | | | | | | | | | | | | |
|-----|--|----------|-----|-----|-------|------|---|--------------------------------|----------|---------------------|-------|-------------------------------------|--------------------------------|----|-------|
| 384 | Big Horn River near St. Xavier, Mont. | a 19,600 | 390 | 722 | 3,440 | 3.1 | - | 1934- | d 37,400 | June 16, 1935 | 228 | Dec. 9, 1937 | 1935-44 | 10 | 3,507 |
| 385 | Big Horn River near Hardin (Fort Gustav), Mont. | 20,700 | 420 | - | - | - | - | b 1904-25 1928-33 | 45,900 | Mar. 11, 1929 | d 353 | Feb. 14, 1933 | 1910, 11 1917-24 1929-32 | 14 | 4,535 |
| 389 | Dimocky Creek near Burris (Crownheart, Lemore), Wyo. | 114 | 0 | - | - | - | - | 1909 1918-30 | 1,710 | July 25, 1923 | d 6 | Nov. 4, 1929 | 1919-29 | 11 | 167 |
| 390 | Dry Creek near Burris (at Crownheart, Lemore), Wyo. | 57 | 0.1 | (e) | - | - | - | b 1921-40 | 1,400 | June 12, 1921 | d 0 | Mar. 1, 1934 to Apr. 11, 1934 | 1925-36 | 12 | 44 |
| 392 | Willow Creek near Crownheart (at J. K. Ranch near Lemore, near Lemore), Wyo. | 50 | 0.1 | (e) | - | - | - | 1909 1921-23 b 1925-40 | 1,360 | May 31, 1939 | (g) | - | 1935 | 1 | 16 |
| 393 | Ball Lake Creek above Ball Lake Reservoir, Wyo. | 178 | 0 | (e) | - | - | - | 1941- | 2,360 | June 27, 1944 | 16 | Mar. 21, 1943 | 1942-44 | 3 | 317 |
| 394 | Ball Lake Reservoir on Ball Lake Creek, Wyo. | a 215 | 0 | 145 | - | - | - | 1938- | - | - | - | - | - | - | - |
| 395 | Ball Lake Creek near Lemore, Wyo. | 222 | 0.1 | 145 | 224 | 15.1 | - | 1918- | 3,990 | June 16, 1918 | d 0 | Feb. 28, 1937 to Apr. 7, 1937 | 1918-44 | 27 | 288 |
| 400 | Aragon ditch near Lemore, Wyo. | - | - | - | - | - | 0 | 1942- | - | - | - | - | 1943-44 | 4 | 6 |
| 402 | McClair - Riverton Canal No. 2 near Riverton, Wyo. | - | - | - | - | - | 0 | 1942- | - | - | - | - | 1943-44 | 4 | 73 |
| 406 | Headgate/Popo Agie River near Lander, Wyo. | 84 | 0.2 | - | - | - | - | 1911-12 b 1918-24 | d 2,720 | June 7, 1921 | d 6 | Feb. 4, 7, 8, 1918 | 1919, 20 | 2 | 90 |
| 407 | Popo Agie (Little Wind) River below Arapahoe, Wyo. | 1,530 | 47 | - | - | - | - | b 1906-9 b 1911-18 | d 9,710 | June 23-26, 1917 | (g) | - | 1912, 16 | 2 | 668 |
| 408 | Popo Agie River near Riverton, Wyo. | 2,010 | 48 | 20 | f 478 | 4.0 | - | 1941- | 6,150 | June 2, 1944 | d 67 | Sept. 10, 1942 | 1942-44 | 3 | 677 |
| 409 | North (North Fork) Popo Agie River near Lander, Wyo. | 140 | 7 | (e) | f 91 | 10.4 | - | 1938- | 1,390 | June 1, 1944 | d 5.0 | Nov. 10, 1939 | 1939-44 | 6 | 94 |
| 411 | Little Popo Agie River at Hudson, Wyo. | 331 | 6 | (e) | f 69 | 3.4 | 0 | b 1907-9 b 1911-17 1938- | d 1,490 | June 21-25, 1917 | d 0.4 | Aug. 16-18, 1940 | 1939-44 | 6 | 75 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | Average discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | Annual discharge | | |
|-------------------------|--|---------------------|------------------------------------|-------|---|---------------------------------|-------------------------------------|--|---|-------|-------------------|-------|-------------------------------|-------------------|---------------|-----|
| | | Area (square miles) | Irrigated in 1939 (thousand acres) | Years | | | | | Maximum discharge | | Minimum discharge | | Years | Number of years | Average (cfs) | |
| | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | | | | |
| 432 | South Fork Little Wind River near Fort Washakie, Wyo. | 118 | 0 | 8 | - | - | - | - | b 1921-40 | 5,220 | July 9, 1926 | (g) | - | 1921-37 | 17 | 132 |
| 434 | Little Wind River above Arapahoe, Wyo. | 716 | 22 | - | - | - | - | - | b 1906-9 b 1911-18 | 3,840 | June 17, 1911 | (g) | - | 1912, 16 | 2 | 260 |
| 435 | North Fork Little Wind River at Fort Washakie, Wyo. | 127 | 1 | (c) | - | - | - | - | b 1921-40 | 2,640 | July 9, 1926 | d 8.5 | Oct. 28, 1939 to Nov. 1, 1939 | 1921-37 | 17 | 125 |
| 437 | Beaver Creek near Lander, Wyo. | 118 | 0.3 | (c) | - | - | 0 | - | 1938-41 | 167 | July 26, 1938 | d 1.2 | Aug. 17, 1940 | 1939-41 | 3 | 11 |
| 431 | South Fork Owl Creek near Anchor, Wyo. | 86 | 0 | (c) | f 35 | 5.4 | - | - | b 1939-43 | 1,940 | July 25, 1941 | d 1.9 | Nov. 10, 1939 | 1941 | 1 | 56 |
| 432 | South Fork Owl Creek above (at) Curtis Ranch, near Thermopolis, Wyo. | 139 | 0.2 | (c) | f 33 | 3.4 | - | - | 1931-32 1938- | 1,070 | Aug. 11, 1941 | d 0 | at times | 1939-44 | 6 | 37 |
| 433 | South Fork Owl Creek near Thermopolis (Owl Creek near Embury), Wyo. | 191 | 1.6 | - | - | - | - | - | b 1921-22 b 1923-32 | 480 | Aug. 15, 1930 | d 0 | July 17, 21, 24, 1931 | 1931 | 1 | 33 |
| 434 | Owl Creek near Thermopolis, Wyo. | 484 | 9 | 1 | f 35 | 1.5 | 0 | - | b 1910-17 1921-32 1938- | 1,190 | June 4, 1944 | d 0 | at times | 1939-44 | 6 | 47 |
| 435 | Owl Creek near Lacerne, Wyo. | 505 | 12 | 1 | f 23 | 1.4 | - | - | 1932-33 b 1938- | 698 | May 27, 1942 | d 0 | at times | 1939, 40, 1942-44 | 5 | 28 |
| 436 | North Fork Owl Creek near Anchor, Wyo. | 56.2 | 0.5 | (c) | - | - | - | - | b 1941- | 1,080 | May 25, 1942 | d 0.9 | Nov. 16, 1943 | - | 0 | - |
| 439 | Kirby Creek near Lacerne, Wyo. | 240 | 0.1 | (c) | - | - | - | - | 1941- | 980 | Mar. 10, 1942 | d 0 | at times | 1942-44 | 3 | 15 |

BASE DATA FOR GAGING STATIONS

57

| | | | | | | | | | | | | | | | |
|-----|---------------------------------------|-------|-----|-----|-------|-----|---|--------------------------------|---------|--------------------------------|-------|---|--|----|-----|
| 446 | Cottonwood Creek at Winchester, Wyo. | 432 | 2.9 | (c) | - | - | 0 | 1941- | d 1,350 | June (g), 1941 | d 0 | at times | 1942-44 | 3 | 24 |
| 449 | Gooseberry Creek at Pulliam, Wyo. | 371 | 2.8 | (c) | - | - | 0 | 1941- | 823 | June 10, 1941 | d 0 | at times | 1942-44 | 3 | 21 |
| 450 | Bighorn Canal near Worland, Wyo. | - | - | - | - | - | 0 | 1942- | - | - | - | - | 1941 1943-44 | 3 | 139 |
| 453 | Nowater Creek near Worland, Wyo. | a 300 | 0.1 | (c) | - | - | 0 | 1941- | (g) | - | d 0 | at times | 1942-44 | 3 | 9.2 |
| 454 | Fifteemile Creek near Worland, Wyo. | a 500 | 0 | (c) | - | - | 0 | 1941- | d 1,380 | Apr. (g), 1944 | d 0 | at times | 1942-44 | 3 | 27 |
| 457 | Fivemile Creek near Manderson, Wyo. | a 35 | 0 | (c) | - | - | 0 | 1941- | d 1,100 | Apr. (g), 1944 | (g) | - | 1942-44 | 3 | 11 |
| 458 | Nowood Creek near Tensleep, Wyo. | 805 | 4.2 | (c) | f 116 | 2.2 | - | 1938-43 | 2,610 | June 28, 1938 June 20, 1940 | d 0.7 | Aug. 13, 1940 | 1939-43 | 5 | 120 |
| 459 | Nowood Creek at Bonanza, Wyo. | 1,790 | 13 | - | - | - | - | b 1910-28 | 5,160 | June 15, 1924 | d 1.5 | July 27-31, 1919 | - | 0 | - |
| 460 | Tensleep Creek near Tensleep, Wyo. | 228 | 2 | (c) | - | - | - | 1910-12 1915-24 1943- | 2,650 | June 15, 1924 | d 35 | Jan. 18, 19, 1922 Apr. 10, 14-16, 1922 | 1911, 12 1915-24 1944 | 13 | 171 |
| 461 | Ganyon Creek near Tensleep, Wyo. | 663 | 0 | (c) | - | - | - | 1939-44 | 248 | May 18, 1944 | d 16 | July 20, 1940 Aug. 9, 1940 | 1940-44 | 5 | 32 |
| 463 | Paintrock Creek near Hyattville, Wyo. | 164 | 0 | (c) | - | - | - | b 1920-27 1941- | 4,960 | July 24, 1923 | 14 | Mar. 2, 1943 | 1921-23 1942-44 | 6 | 138 |
| 464 | Paintrock Creek near Bonanza, Wyo. | 398 | 4 | - | - | - | - | 1910-13 b 1915-22 | 3,390 | June 12, 1918 | d 0.7 | July 27, 1919 | 1911-13, 1915-22 | 11 | 160 |
| 466 | Graybull River near Meeteetse, Wyo. | 680 | 6 | - | - | - | - | 1910-12 1915-16 | d 4,400 | July 3, 1912 | (g) | - | 1911, 12 1915, 16 | 4 | 375 |
| 467 | Graybull River at Meeteetse, Wyo. | 690 | 10 | 53 | 329 | 7.0 | - | 1897 1920- | 10,500 | June 20, 1937 | 11 | Mar. 26, 1931 | 1921-44 | 24 | 363 |
| 468 | Graybull River near Basin, Wyo. | 1,130 | 48 | 53 | 199 | 4.2 | - | 1930- | 5,390 | Aug. 12, 1941 | d 0 | at times | 1930-44 | 15 | 194 |
| 469 | Wood River near Meeteetse, Wyo. | 218 | 3.6 | (c) | 126 | 8.2 | - | 1910-12 1915, 16 b 1930- | e 1,700 | June 8, 1912 | d 9 | Jan. 21, 1940 | 1911, 12 1915, 16 1930-33, 35 1937-44 | 17 | 125 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | Annual discharge | | | |
|----------------------|---|---------------------|---|---|--|-------------------------------------|--|---|----------|-------------------------------|-------|--------------------------------|---------------------------|-------|-----------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | | Average discharge 1938-43 (cfs) | Years | Maximum discharge | | Minimum discharge | | | |
| | | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | Years | Number of years |
| 470 | Beach Canal near Burlington, Wyo. | - | - | - | - | - | - | b 1930-38 | d 245 | June 26, 1937 July 2, 1937 | d 0 | at times | 1932 | 1 | 33 |
| 471 | Shell Creek near Shell, Wyo. | 148 | 0.1 | 2 | - | - | - | 1941- | 1,320 | May 31, 1944 | d 27 | Mar. 12, 1941 | 1942-44 | 3 | 127 |
| 472 | Shell Creek at Shell, Wyo. | 256 | 4 | - | - | 0 | - | b 1911-23 | d 1,910 | June 11, 1918 | 30 | Apr. 29, 1921 | 1914-23 | 10 | 142 |
| 473 | North Fork Shoshone River near Wapiti, Wyo. | 800 | 1 | - | - | - | - | b 1921-26 | 9,250 | June 23, 1925 | d 110 | Jan. 4-10, 1925 | 1922-25 | 4 | 864 |
| 474 | Buffalo Bill (Shoshone) Reservoir on Shoshone River, Wyo. | 1,500 | 13 | 457 | - | - | - | 1938- | - | - | - | - | - | - | - |
| 475 | Shoshone River below Shoshone Reservoir, Wyo. | 1,520 | 13 | 457 | 1,290 | 12.0 | - | 1921- | 14,700 | May 28, 1928 | d 14 | Nov. 19, 1923 | 1921-44 | 24 | 1,268 |
| 476 | Shoshone River at Cody, Wyo. | 1,600 | 17 | - | - | - | - | b 1902-9 | d 15,800 | July 4, 1907 | (g) | - | 1904-8 | 5 | 1,690 |
| 477 | Shoshone River at Corbett Dam, Wyo. | 1,750 | 22 | - | - | - | - | b 1908-25 | d 18,700 | June 15, 1918 | d 0 | Oct. 21, 1909 Nov. 19, 1909 | 1911-15 1917-25 | 13 | 1,460 |
| 479 | Shoshone River at Byron, Wyo. | 2,300 | 105 | 465 | 1,010 | 7.9 | - | 1929- | 13,900 | June 25, 1932 | 29 | Feb. 14, 1932 | 1930-44 | 15 | 921 |
| 481 | South Fork Shoshone River near Ishawa, Wyo. | 532 | 4 | - | - | - | - | b 1915-24 | 7,740 | June 14, 1918 | d 69 | Apr. 16, 1919 | - | 0 | - |
| 482 | South Fork Shoshone River above Shoshone Reservoir (at Marquette), Wyo. | 580 | 11 | - | - | - | - | 1903 b 1905-8 b 1921-26 | d 5,300 | July 4, 1907 | d 9 | Aug. 28, 1924 | 1907 1923-26 | 5 | 485 |
| 483 | Garland Canal (Corbett Tunnel) at Corbett Dam, Wyo. | - | - | - | - | - | - | 1909-20 1922-24 1925-26 | d 941 | July 30, 31, 1920 | d 0 | at times | 1914-20 1923-24, 26 | 10 | 203 |

| | | | | | | | | | | | | | | | |
|------|--|---------|-----|-----|-------|-----|---|---|---------|---------------|-------|---------------------------------|------------------------|----|------|
| 484. | Soap Creek near St. Xavier, Mont. | 111 | 0.4 | (c) | f 25 | 3.1 | - | b 1911-24 b 1911-22 | 1,300 | May 13, 1942 | 4.0 | Mar. 16, 1941 | 1940-44 | 5 | 30 |
| 485 | Rottengrass Creek near St. Xavier, Mont. | a 155 | 0.2 | - | - | - | - | - | a 500 | Mar. 30, 1917 | d 0 | Aug. 22, 1919 to Sept. 30, 1919 | - | 0 | - |
| 486 | Little Bighorn (Little Horn) River at State line, near Wyola, Mont. | 199 | 0.2 | (c) | f 140 | 9.6 | - | - | 2,730 | June 3, 1944 | 22 | Jan. 16, 17, 1943 | 1940-44 | 5 | 154 |
| 487 | Little Bighorn (Little Horn) River near Wyola, Mont. | 260 | 1 | - | - | - | - | b 1912-24 | 1,610 | June 16, 1924 | 32 | Apr. 10-12, 1915 | - | 0 | - |
| 488 | Little Bighorn (Little Horn) River below Pass Creek, near Wyola, Mont. | 429 | 6 | (c) | f 173 | 5.8 | - | - | 3,200 | June 4, 1944 | 27 | Sept. 9, 1940 | 1940-44 | 5 | 202 |
| 489 | Little Bighorn (Little Horn) River near Crow Agency, Mont. | 1,190 | 13 | 23 | f 240 | 3.0 | - | b 1904-6 b 1912-24 b 1928-32 1938- | a 8,200 | July 23, 1923 | d 0 | July 28, 1921 to Aug. 6, 1921 | 1929, 32 1939-44 | 8 | 294 |
| 490 | Pass Creek near Wyola, Mont. | 119 | 4.5 | (c) | f 34 | 4.7 | - | b 1935- | 785 | May 13, 1942 | d 0 | Aug. 3, 9, 10, 1935 | 1939-44 | 6 | 40 |
| 491 | Owl Creek near Lodgegrass, Mont. | 161 | 0.2 | (c) | f 4 | 0.6 | - | - | 1,020 | June 18, 1944 | d 0 | at times | 1940-44 | 5 | 8.2 |
| 492 | Lodgegrass Creek above Willow Creek diversion, near Wyola, Mont. | 83 | 0.3 | (c) | f 44 | 7.3 | - | - | 762 | June 4, 1944 | 3.4 | Feb. 16, 1940 to Mar. 13, 1941 | 1940-44 | 5 | 49 |
| 494 | Lodgegrass Creek near Lodgegrass, Mont. | a 143 | 0.5 | - | - | - | - | b 1912-15 b 1921-24 | (g) | Apr. 7, 1924 | 2.7 | Sept. 2, 1921 | - | 0 | - |
| 495 | Lodgegrass Creek at Lodgegrass, Mont. | a 173 | 1.5 | - | - | - | - | b 1916-20 | (g) | - | d 0 | July 12, 1919 to Sept. 30, 1919 | - | 0 | - |
| 496 | Rosebud Creek near Rosebud, Mont. | a 1,220 | 0.5 | (c) | f 24 | 0.3 | - | - | 827 | May 31, 1941 | d 0 | at times | 1939-42 | 4 | 11.4 |
| 497 | Tongue River near Dayton, Wyo. | 204 | 2 | 6 | f 130 | 9.1 | - | b 1918-29 1940- | 3,400 | June 3, 1944 | d 18 | Nov. 29, 1919 | 1919-27, 29 1942-44 | 13 | 205 |
| 499 | Tongue River at Carnegieville, Wyo. | 495 | 13 | - | - | - | 0 | b 1911-13 b 1915-17 | 2,690 | June 18, 1917 | (g) | - | - | 0 | - |
| 500 | Tongue River near Acme, Wyo. | 894 | 52 | 40 | f 355 | 6.7 | - | - | 9,110 | June 4, 1944 | d 3.4 | Aug. 24, 1940 | 1939-44 | 6 | 401 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | Annual discharge | | | |
|----------------------|--|---------------------|---|---|--|-------------------------------------|--|---|----------|-------------------|-------|---|-----------------|-------|-----------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | | Average discharge 1938-43 (cfs) | Years | Maximum discharge | | Minimum discharge | | | |
| | | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | Years | Number of years |
| 501 | Tongue River near Decker, Mont. | 1,610 | 58 | - | - | - | - | 1928-38 | 7,220 | June 2, 1929 | d 2.9 | Aug. 20, 21, 1934 | 1929-38 | 10 | 389 |
| 502 | Tongue River Reservoir on Tongue River, Mont. | a 1,740 | 58 | 115 | - | - | - | b 1939- | - | - | - | - | - | - | - |
| 503 | Tongue River at Tongue River Dam, near Decker, Mont. | a 1,740 | 58 | 115 | f 370 | 3.9 | - | 1939- | 6,180 | June 5, 1944 | (g) | in 1940 | 1940-44 | 5 | 446 |
| 506 | Goose Creek near Sheridan, Wyo. | 120 | 11 | 9 | 79 | 10.7 | - | 1929- | 1,900 | June 18, 1937 | d 2.2 | Nov. 27, 1939 | 1930-44 | 15 | 79.5 |
| 507 | Goose Creek at Sheridan, Wyo. | 182 | 18 | - | - | - | b 1909-13 b 1915-16 | - | (g) | - | (g) | - | - | 0 | - |
| 510 | Little Goose Creek in Canyon, near Big Horn, Wyo. | 51 | 0.2 | 3 | - | - | - | 1941- | 928 | June 3, 1944 | d 5.2 | Mar. 12, 1944 | 1942-44 | 3 | 71 |
| 512 | Little Goose Creek at Sheridan, Wyo. | 159 | 18 | - | - | - | b 1896-97 b 1909-12 | - | (g) | - | d 0 | at times | - | 0 | - |
| 515 | Powder River at (near) Arvada, Wyo. | 6,050 | 23 | 4 | 273 | 0.7 | - | b 1915- | 72,000 | Sept. 29, 1923 | d 0 | at times | 1917-44 | 28 | 445 |
| 516 | Powder River at Moorhead, Mont. | a 8,030 | 68 | 35 | 488 | 1.0 | - | b 1929- | 14,800 | Aug. 30, 1933 | d 0 | at times | 1935-44 | 10 | 504 |
| 517 | Powder River near Missoula, Mont. | a 11,900 | 70 | - | - | - | b 1928-33 | 1928-33 | d 14,700 | Mar. 12, 1939 | d 0 | at times | 1931 | 1 | 345 |
| 518 | Powder River near LOCATE, Mont. | a 12,900 | 70 | 35 | f 613 | 0.8 | - | 1938- | 31,000 | Feb. 19, 1943 | d 1.2 | Sept. 20, 21, 1940 | 1939-44 | 6 | 804 |
| 519 | Middle Fork Powder River at Kaycee, Wyo. | 647 | 5 | - | - | - | b 1911-12 b 1929-32 | 1911-12 | 1,680 | May 14, 1932 | d 19 | July 20, 1931 | 1931 | 1 | 102 |
| 520 | Middle Fork Powder River near Kaycee, Wyo. | 980 | 9 | (c) | f 130 | 2.0 | b 1933-34 b 1938- | 1933-34 | 5,230 | Aug. 11, 1941 | d 0 | July 14-16, 1938 Aug. 1-11, 14, 1938 | 1939 1941-44 | 5 | 161 |

BASE DATA FOR GAGING STATIONS

61

| | | | | | | | | | | | | | | | |
|-----|---|---------|-----|-----|-------|------|----|---|----------|----------------|--------|---------------------------------------|--|----|--------|
| 522 | North Fork Powder River near Mayoworth, Wyo. | 69 | 0.1 | (e) | f 28 | 5.5 | - | b 1940 | 1,270 | Aug. 11, 1941 | d 10 | Jan. 16, 1943 | 1943, 44 | 2 | 44 |
| 523 | North Fork Powder River near Kaycee, Wyo. | 244 | 2.5 | - | - | - | - | b 1911 b 1928-32 | 966 | May 14, 1932 | d 0 | at times | 1931 | 1 | 25 |
| 525 | Crazy Woman Creek near Arvada, Wyo. | 944 | 8 | 1 | f 55 | 1.0 | - | b 1939-43 | 1,850 | July 13, 1941 | d 0 | at times | 1940-43 | 4 | 63 |
| 527 | Clear Creek near Buffalo, Wyo. | 120 | 8 | (e) | f 51 | 8.1 | - | b 1894 b 1894-1900 b 1917-27 b 1938- | 1,380 | June 28, 1927 | d 0 | Feb. 14-16, 1939 Nov. 12, 13, 1940 | 1918-27 1939-44 | 16 | q 74.8 |
| 529 | Clear Creek near Arvada, Wyo. | 1,110 | 37 | 31 | f 180 | 2.9 | - | b 1915-19 b 1928-29 b 1939- | 9,000 | June 26, 1942 | d 0.2 | Aug. 16, 17, 1940 | 1940-44 | 5 | 233 |
| 530 | Piney Creek at Kearney, Wyo. | 106 | 10 | 5 | f 76 | 12.4 | 0 | b 1902-6 b 1910-17 b 1919-23 b 1940- | 2,360 | June 3, 1944 | d 6.8 | Sept. 5, 1911 | 1942-44 | 3 | 117 |
| 531 | Piney Creek at Ucross, Wyo. | 253 | 17 | - | - | - | - | b 1917-19 b 1920-23 | 2,580 | Sept. 28, 1923 | 1 | July 30, 1920 | - | 0 | - |
| 534 | Little Powder River at Biddle, Mont. | a 1,540 | 0.5 | (e) | f 23 | 0.2 | - | b 1938-43 | 5,700 | Aug. 17, 1940 | d 0 | at times | 1939-42 | 4 | 25 |
| 536 | Little Muddy River near Williston, N. Dak. | 1,100 | 0 | - | - | - | B | b 1909-9 b 1932-33 | de 4,340 | Apr. 11, 1904 | de 0.1 | Feb. 1-20, 1933 | 1904-8 | 5 | 60 |
| 540 | Little Missouri River near Alsada, Mont. | 780 | 0.2 | (e) | 58 | 1.0 | F | b 1911-25 b 1928-32 b 1935- | d 6,000 | Apr. 4, 1944 | d 0 | at times | 1912-25 1929-32 1936-44 | 27 | 114 |
| 542 | Little Missouri River at Harmar, N. Dak. | P 4,724 | 0.7 | 1 | f 283 | 0.8 | - | b 1938- | 22,200 | Apr. 5, 1944 | d 0 | at times | 1939-44 | 6 | 400 |
| 543 | Little Missouri River at Medora, N. Dak. | 6,190 | 0.7 | - | - | - | BP | b 1903-8 b 1921-26 b 1928-34 | 38,700 | June 7, 1929 | d 0 | at times | 1904-8 1922-25 1929-31 1933, 34 | 14 | 564 |
| 544 | Little Missouri River near Watford City, N. Dak. | 8,490 | 0.8 | 1 | 545 | 0.9 | - | b 1934- | 32,600 | Apr. 8, 1944 | d 0 | at times | 1935-44 | 10 | 576 |
| 545 | Little Beaver Creek near Harmar, N. Dak. | P 633 | 0 | (e) | f 34 | 0.8 | - | b 1938- | 6,820 | June 22, 1944 | d 0 | at times | 1939-44 | 6 | 47 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | | Annual discharge | |
|----------------------|--|---------------------|---|---|--|-------------------------------------|--|---|-----------------|--------------------------------------|-----------------|---|---|------------------|-----|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | | Years | Discharge (cfs) | Date | Discharge (cfs) | Date | Years | | |
| | | | | | | | | | | | | | | | |
| 546 | Beaver Creek at Wibaux, Mont. | a 240 | 0.03 | (c) | f 24.5 | 1.4 | - | 1938- | 3,780 | Mar. 21, 1939 | d 0 | at times | 1939-44 | 6 | 25 |
| 547 | Knife River near Golden Valley (at Broncho, near Broncho), N. Dak. | 1,230 | 0.02 | (c) | - | - | BP | 1903-19 1921-25, 27 1943- | d 7,700 | June 26, 1914 | d 0 | Sept. 6-8, 1905 Sept. 18, 19, 1908 | 1904-19 1922-25 1944 | 21 | 93 |
| 548 | Knife River at Hazen, N. Dak. | 2,352 | 0.03 | 7 | 165 | 1.0 | B | b 1928-33 1937- | 11,400 | Mar. 26, 1943 or Mar. 27, 1943 | d 0 | Jan. 21, 1933 to Feb. 5, 1933 | 1929-31 1938-44 | 10 | 156 |
| 555 | Heart River near Richardson, N. Dak. | 1,310 | 0.02 | (c) | - | - | B | 1903-24 1943- | d 8,020 | June 10, 1906 | d 0 | at times | 1904-23 1944 | 21 | 89 |
| 557 | Heart River near Mandan (at Sunny), N. Dak. | 3,362 | 0.03 | (c) | 258 | 1.0 | B | b 1924-33 1937- | 21,400 | Mar. 27, 1943 | d 0 | at times | 1925-27 1929-31 1938-44 | 13 | 196 |
| 560 | Cannonball River near Timmer (at Stevenson), N. Dak. | 3,650 | 0.25 | - | - | - | BP | 1903-8 1911-18 b 1921-34 | d 6,900 | Mar. (g), 1923 | d 0 | at times | 1904-8 1912-18 1922-27 1929-31 1934 | 22 | 168 |
| 561 | Cannonball River at Breiden, N. Dak. | 4,066 | 0.25 | 4 | 221 | 0.7 | - | 1934- | 21,900 | Mar. 27, 1943 | d 0 | at times | 1935-44 | 10 | 219 |
| 564 | North Branch (Fork) Grand River at Haley, N. Dak. | 500 | 0 | - | - | - | G | 1908-20 | (g) | - | d 0 | at times | 1909-20 | 12 | 24 |
| 566 | Grand River near Wakpala, S. Dak. | 5,510 | 0.5 | (c) | 271 | 0.6 | B | 1912-17 1928- | 32,000 | Apr. 9, 10, 1944 | d 0 | at times | 1913-17 1929-44 | 21 | 269 |
| 570 | Moran River at Promise, S. Dak. | 5,223 | 0.6 | 8 | 226 | 0.6 | B | 1928- | 22,800 | Apr. 11, 1944 | d 0 | at times | 1929-44 | 16 | 227 |

BASE DATA FOR GAGING STATIONS

63

| | | | | | | | | | | | | | | |
|-----|--|--------|-----|-----|-------|---|-----------------------------|----------|---------------|-------|---|---------------------|----|-------|
| 571 | Cheyenne River at (near) Edgemont, S. Dak. | 6,050 | 4+4 | - | - | H | 1903-6 1927-33 | d 11,000 | July 29, 1905 | d 0 | at times | 1904-6 1928-32 | 8 | 239 |
| 572 | Cheyenne River near Hot Springs (Cassade Springs), S. Dak. | 8,710 | 7 | 5 | - | - | 1914-20 1943- | 114,000 | May 12, 1920 | d 3 | July 7, 1943 | 1915-20, 1944 | 7 | 607 |
| 573 | Cheyenne River near Warts, S. Dak. | 12,800 | 18 | 20 | 444 | H | 1914-15 1928-32 1934- | 46,300 | May 6, 1932 | d 5 | Feb. 10-12, 1939 | 1929-31 1935-44 | 13 | 471 |
| 574 | Cheyenne River near Eagle Butte (Carlisle), S. Dak. | 24,500 | 63 | 201 | 877 | H | 1928- | 104,000 | May 24, 1933 | d 4 | Feb. 21-25, 1937 Jan. 24-28, 1940 | 1929-44 | 16 | 1,010 |
| 577 | Beaver Creek near Burdick (Edgemont), S. Dak. | 1,480 | 3 | - | - | H | 1904-6 1928-32 | 3,720 | June 18, 1932 | d 0 | at times | 1905, 6 1929, 31 | 4 | 71 |
| 579 | Fall River at Hot Springs, S. Dak. | 137 | 0.1 | (e) | f 30 | - | 1937- | 8,400 | Sept. 4, 1938 | 4 | Sept. 23, 1940 | 1939-44 | 6 | 30 |
| 580 | Beaver Creek near Buffalo Gap, S. Dak. | 130 | 0.4 | (e) | 8.0 | - | 1937- | 11,700 | Sept. 4, 1938 | d 0.2 | Aug. 11-13, 1944 | 1939-44 | 6 | 7.7 |
| 582 | Spring Creek near Hill City, S. Dak. | 142 | 0.1 | (e) | - | - | 1937-40 | e 500 | Apr. 16, 1938 | d 0.1 | Aug. 25-28, 1938 July 23, 24, 1940 | 1938-40 | 3 | 2.6 |
| 584 | Rapid Creek near Pactola, S. Dak. | 319 | 0.2 | - | - | H | 1928-32 | 794 | June 3, 1929 | (g) | - | 1929-31 | 3 | 84 |
| 585 | Rapid Creek at Big Bend, S. Dak. | 332 | 0.2 | (e) | f 32 | R | 1913-42 | (g) | - | (g) | - | 1915-42 | 28 | 75 |
| 586 | Rapid Creek at Rapid City (Rapid), S. Dak. | 410 | 0.3 | (e) | - | H | 1903-6 1942- | 936 | June 13, 1943 | 22 | Jan. 7, 1944 | 1904-6 1943, 44 | 5 | 95 |
| 591 | Belle Fourche River near Moorcroft, Wyo. | 1,380 | 0.2 | - | - | H | 1923-32 | 12,500 | Apr. 7, 1924 | d 0 | at times | 1924-29 1931 | 7 | 79 |
| 593 | Belle Fourche River at Hulet, Wyo. | 2,800 | 0.3 | 2 | f 53 | - | 1929-32 1936- | 6,320 | Mar. 26, 1943 | d 0 | at times | 1931, 32 1939-44 | 8 | 64 |
| 594 | Belle Fourche River at Belle Fourche, S. Dak. | 3,250 | 0.4 | - | - | H | 1903-6 | 6,270 | June 6, 1904 | (g) | - | 1904-6 | 3 | 247 |
| 595 | Belle Fourche River near Belle Fourche, S. Dak. | 4,310 | 9 | 2 | f 190 | H | 1905-6 1911-40 | d 22,400 | Apr. 9, 1924 | d 0 | at times | 1906 1912-40 | 30 | 372 |
| 596 | Belle Fourche River near Elm Springs, S. Dak. | 7,210 | 44 | 181 | 298 | H | 1928-32 1934- | 35,700 | June 10, 1941 | d 0 | at times | 1929, 31 1935-44 | 12 | 377 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | | Annual discharge | |
|-------------------------|--|---------------------|---|---|--|-------------------------------------|--|---|-------------------|---------------|-----------------|---------------------------------------|-----------------------------|------------------|---------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | | Years | Maximum discharge | | | Minimum discharge | Years | Number of years | Average (cfs) |
| | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | | | | |
| 597 | Redwater Creek near Beulah, Wyo. | 459 | 0.5 | - | - | - | - | 1929-31 1936-37 | 3,250 | July 17, 1937 | d 0 | Aug. 13-15, 1929 | 1930, 31 | 2 | 55 |
| 599 | Redwater Creek (River) at Belle Fourche, S. Dak. | H 1,048 | 9 | - | - | - | H | 1903-6 | 8,110 | June 5, 1904 | (g) | - | 1904-6 | 3 | 228 |
| 600 | Spearfish Creek near Spearfish, S. Dak. | (g) | 0 | - | - | - | H | 1903-6 | d 4,150 | June 4, 1904 | (g) | - | 1904-6 | 3 | 104 |
| 603 | Bad River near Fort Pierre, S. Dak. | 3,107 | 0 | (c) | 189 | 0.8 | B | 1928-32 1934- | 34,200 | May 1, 1942 | d 0 | at times | 1929-31 1935-44 | 13 | 155 |
| 604 | North Fork Bad River at Philip, S. Dak. | 164 | 0 | (c) | f 5.4 | 0.4 | - | 1939-44 | 1,640 | June 4, 1942 | d 0 | at times | 1940-44 | 5 | 6.2 |
| 606 | White River at Crawford, Nebr. | 295 | 0.4 | (c) | 21.5 | 1.0 | S | b 1924-27 1931-43 | 1,170 | Aug. 2, 1940 | d 3.9 | Aug. 11, 1936 | 1925, 26 1932-43 | 14 | 22.3 |
| 607 | White River above Whitney pipe line near Crawford, Nebr. | a 350 | 0.5 | - | - | - | S | 1922-23 b 1926-29 | (g) | - | (g) | - | 1923, 28 | 2 | 31 |
| 610 | White River near Chadron, Nebr. | 750 | 11.7 | 15 | 27 | 0.8 | SW | 1924-43 | 3,690 | May 12, 1942 | d 0 | at times | 1925-29 1931-43 | 18 | 29 |
| 612 | White River near Interior, S. Dak. | 4,120 | 12.1 | - | - | - | - | b 1904-6 b 1912-18 1928-32 1939-42 | 17,100 | May 1, 1942 | d 0 | at times | 1918, 1929-31 1940-42 | 7 | 218 |
| 614 | White River at (near) Westover, S. Dak. | 7,850 | 13 | - | - | - | - | b 1912-18 | d 15,200 | Apr. 4, 1915 | d 4 | Nov. 11, 1912 | 1918 | 1 | 567 |
| 615 | White River near Oacoma, S. Dak. | 10,200 | 13.5 | 16 | 544 | 0.7 | - | 1928- | 35,300 | May 8, 1942 | d 0.5 | July 21, 23, 1936 Aug. 8, 10, 1936 | 1929-44 | 16 | 505 |

| | | | | | | | | | | | | | | | | |
|-----|---|---------|-----|-----|---------|-----|----|----|----------------------------------|--------|---------------|-------|--|----------------------------|----|-------|
| 619 | White Clay Creek near Crawford, Nebr. | a 22 | 0 | - | - | - | - | S | b 1922-27 | (g) | - | (g) | - | 1925, 26 | 2 | 2.9 |
| 621 | Whitney Reservoir diversion (Whitney pipe line) from White River, Nebr. | - | - | - | - | - | - | S | b 1925-26 b 1928-29 1932 | (g) | - | (g) | - | 1926, 29 | 2 | 12 |
| 622 | Whitney Reservoir (off stream White River), Nebr. | a 350 | 0.5 | 11 | - | - | - | S | b 1925-29 b 1933-42 b 1943 | - | - | - | - | - | - | - |
| 625 | Chadron Creek above City Reservoir, near Chadron, Nebr. | a 24 | 0 | - | - | - | - | S | b 1922-29 | (g) | - | (g) | - | 1923-28 | 6 | 3.3 |
| 626 | Chadron Creek below City Reservoir, near Chadron, Nebr. | a 25 | 0 | - | - | - | - | S | b 1922-29 | d 8.2 | Aug. 4, 1923 | d 0.1 | Sept. 11-20, 1923 Oct. 21-31, 1923 | 1923-28 | 6 | 1.2 |
| 627 | Chadron Creek near Chadron, Nebr. | a 37 | 0 | - | - | - | - | S | b 1922-29 | d 6.2 | Aug. 4, 1923 | d 0 | Aug. 21, 1924 to Sept. 5, 1924 at times | 1923-28 | 6 | 1.4 |
| 628 | Chadron Creek above mouth, near Chadron, Nebr. | a 57 | 0 | - | - | - | - | S | b 1922-29 | (g) | - | d 0 | Oct. 21, 1914 | 1923-28 | 6 | 3.0 |
| 633 | South Fork (Little) White River near Westover, S. Dak. | 1,590 | 0.9 | - | - | - | - | - | b 1913-15 b 1916-18 | 3,800 | May 30, 1918 | 20 | Nov. 1-30, 1929 | 1925-28 | 4 | 41 |
| 637 | Miohara River near Harland, Nebr. | a 1,300 | 5.2 | - | - | - | - | S | b 1924-29 | (g) | - | d 0 | Aug. 2-4, 1936 | 1924-42 | 19 | 47 |
| 639 | Miohara River at Dunlap, Nebr. | 1,550 | 7.4 | (c) | f 37 | 0.4 | SW | SW | 1923-42 | 2,890 | Sept. 4, 1937 | d 0.6 | July 29, 30, 1931 | 1929-31 | 3 | 165 |
| 640 | Miohara River near Gordon, Nebr. | 2,590 | 8.2 | - | - | - | I | I | 1928-32 | 2,630 | May 6, 1932 | d 58 | - | 1902-6 1929-32 | 9 | 832 |
| 641 | Miohara River near (at) Valentine (at Fort Miohara), Nebr. | 6,160 | 9.0 | - | - | - | IS | IS | 1901-6 1928-32 | (g) | - | (g) | Nov. 14, 1940 Dec. 18, 19, 1940-44 | 1914 1928-36 1941-44 | 14 | 1,257 |
| 642 | Miohara River near Spencer (lynch), Nebr. | 10,800 | 10 | (c) | f 1,180 | 1.5 | I | I | 1913-14 1927-36 1940- | 21,500 | June 14, 1943 | d 5 | June 28, 29, 1933 July 4, 5, 1933 | 1934, 38 1944 | 7 | 17 |
| 648 | James River at Jamestown, N. Dak. | 2,740 | 0 | 13 | - | - | P | P | b 1928-34 1937-38 1943- | 1,830 | Mar. 31, 1943 | d 0 | - | - | - | - |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published or Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | Annual discharge | | |
|-------------------------|--|---------------------|------------------------------------|---|--|-------------------------------------|--|---|-------------------|----------------|-------------------|-------------------|-------------------------|-----------------|---------------|
| | | Area (square miles) | Irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | | Years | Maximum discharge | | Minimum discharge | | Years | Number of years | Average (cfs) |
| | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | | | |
| 650 | James River at Huron, S. Dak. | 15,800 | 0.2 | 41 | - | - | J | b 1928-32 1943- | d 2,110 | Mar. 20, 1929 | d 0 | at times | 1929, 31 1944 | 3 | 191 |
| 651 | James River near Scotland, S. Dak. | 21,550 | 0.3 | 50 | 287 | 0.2 | B | 1928- | d 10,800 | May 15, 1942 | d 0 | at times | 1929-44 | 16 | 225 |
| 652 | Big Sioux near Flandreau, S. Dak. | 2,520 | 0 | - | - | - | - | b 1928-32 | d 5,200 | Mar. 15, 1929 | d 0 | Sept. 14-18, 1931 | 1931 | 1 | 22 |
| 655 | Big Sioux at Akron, Iowa | 8,851 | 0.1 | 36 | 846 | 1.3 | B | 1928- | 21,400 | June 4, 1942 | d 7 | Feb. 26-28, 1936 | 1936 | 16 | 696 |
| 659 | Floyd River at James, Iowa | 918 | 0 | (c) | 117 | 1.8 | - | 1934- | 7,440 | May 13, 1944 | d 1 | Aug. 20, 27, 1936 | 1936 | 9 | 142 |
| 660 | Little Sioux River at Spencer, Iowa | 1,030 | 0 | (c) | - | - | - | 1936-42 | a 5,000 | Sept. 16, 1938 | d 4.7 | Jan. 23, 1937 | 1937-42 | 6 | 198 |
| 661 | Little Sioux River at Correctionville, Iowa | 2,450 | 0 | (c) | 595 | 3.3 | B | 1918-25 1928-32 1936- | 13,000 | June 12, 1944 | d 2.6 | July 17, 25, 1936 | 1919-24 1929-31 1937-44 | 17 | 610 |
| 662 | Little Sioux River near Kennebec, Iowa | 2,730 | 0 | (c) | - | - | - | 1939- | 10,800 | June 13, 1944 | d 24 | Jan. 25-31, 1940 | 1940-44 | 5 | 742 |
| 663 | Little Sioux River near Turin (Blancoe), Iowa | r 4,460 | 0 | (e) | - | - | - | 1939- | 4,130 | June 6, 1942 | d 0 | at times | 1940-44 | 5 | 548 |
| 667 | Maple River at Mapleton, Iowa | 661 | 0 | (c) | - | - | - | 1941- | 4,950 | June 30, 1942 | d 15 | Jan. 19, 1943 | 1942-44 | 3 | 230 |
| 669 | West Fork ditch at Holly Springs, Iowa | 395 | 0 | (c) | - | - | - | 1939- | 3,360 | June 4, 1940 | 0.4 | Dec. 25, 1943 | 1940-44 | 5 | 62 |
| 670 | Monona-Harrison ditch near Turin (Blancoe), Iowa | - | 0 | (c) | - | - | - | 1939- | d 6,700 | June 16, 1944 | d 3 | Sept. 8, 1941 | 1940-44 | 5 | 523 |
| 671 | Soldier River at Pisgah, Iowa | 417 | 0 | (c) | - | - | - | 1940- | 17,800 | June 28, 1942 | d 4 | Jan. 10, 1942 | 1941-44 | 4 | 94 |

| | | | | | | | | | | | | | | | |
|-----|---|----------|-----|-------|-------|-----|----|-------------------------------------|----------|---------------------|-------|-----------------------|---------------------|----|-------|
| 672 | Boyer River at Logan, Iowa | 810 | 0 | (c) | f 189 | 3.2 | B | 1918-25 1927- | 13,600 | July 9, 1940 | d 0 | Sept. 27-29, 1918 | 1919-25 1929-44 | 13 | 275 |
| 673 | Grizzly Creek near Walden (Hebron), Colo. | 252 | 17 | (c) | f 50 | 5.0 | KV | 1904-5 1922-23 b 1926- | 1,340 | June 10, 1923 | d 0 | at times | 1905, 23 1927-30 | 6 | 88 |
| 674 | North Platte River near Walden (Hebron), Colo. | 463 | 42 | (c) | f 163 | 7.9 | KV | b 1904-5 b 1923- | 1,940 | Apr. 19, 1938 | d 5.2 | Sept. 19, 20, 1934 | 1924-30 1935, 36 | 9 | 239 |
| 676 | North Platte River near Northgate (Fitchampton), Colo. | 1,440 | 153 | 7 | 340 | 6.7 | K | 1904-6 1910- | s 6,720 | June 11, 1923 | d 19 | July 19, 1934 | 1905, 6 1911-44 | 36 | 480 |
| 677 | North Platte River at Saratoga, Wyo. | 2,880 | 224 | 8 | 917 | 6.7 | SW | 1903- | 18,000 | June 8, 1909 | d 38 | July 18-20, 1934 | 1904-44 | 41 | 1,239 |
| 678 | North Platte River above Seminole Reservoir, near Sincclair (Farco), Wyo. | a 4,190 | 255 | 10 | f 977 | 5.0 | - | 1939- | 11,300 | June 3, 1943 | d 70 | Sept. 17, 1944 | 1940-44 | 5 | 890 |
| 679 | Seminole Reservoir | 7,360 | 326 | 1,036 | - | - | - | 1939- | - | - | - | - | - | - | - |
| 680 | North Platte River above Pachinder Reservoir, Wyo. | 7,410 | 326 | - | - | - | SW | 1903-39 | 18,800 | June 26, 1917 | d 12 | during 1939 | 1904-39 | 36 | 1,727 |
| 681 | Pachinder Reservoir | 10,700 | 346 | 2,119 | - | - | S | 1909- | - | - | - | - | - | - | - |
| 682 | North Platte River below Pachinder Reservoir (at Pachinder), Wyo. | 10,700 | 346 | 2,119 | - | - | K | 1904-40 | d 18,900 | June 25-27, 1917 | d 0 | at times | 1905-40 | 36 | 1,760 |
| 683 | Alcova Reservoir | 10,800 | 346 | 2,285 | - | - | - | 1938- | - | - | - | - | - | - | - |
| 684 | North Platte River at Alcova, Wyo. | 10,800 | 346 | 2,285 | 1,150 | 2.5 | - | b 1904-5 b 1923- | d 13,440 | June 11, 1905 | d 0 | at times | 1937-44 | 8 | 1,200 |
| 686 | North Platte River below Casper, Wyo. | 12,600 | 353 | 2,310 | 1,250 | 2.3 | - | 1929- | 13,800 | May 30, 1929 | d 33 | Jan. 7, 1937 | 1930-44 | 15 | 1,358 |
| 687 | North Platte River at Parkerton, Wyo. | a 13,000 | 368 | - | - | - | - | b 1919-24 | d 16,500 | June 15, 1921 | d 35 | June 2, 1923 | - | 0 | - |
| 688 | North Platte River at Douglas, Wyo. | 14,200 | 385 | - | - | - | - | b 1891-94 b 1919-23 b 1929-39 | 16,700 | July 13, 1937 | d 45 | Jan. 8, 1937 | 1930-39 | 10 | 1,505 |
| 689 | North Platte River at Orin (Orin Junction), Wyo. | 14,800 | 392 | - | - | - | - | b 1895-99 1924 | d 23,000 | June 24, 1899 | d 170 | Sept. 11-14, 1899 | - | 0 | - |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | | | |
|-------------------------|---|---------------------|---|--|--|-------------------------------------|--|---|-------------------|-------------------|-----------------|-------------------|--------------------|------------------|-----------------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoir in 1940 (thousand acre-feet) | | | | Years | Maximum discharge | | | Minimum discharge | | Annual discharge | |
| | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | Years | | Number of years (cfs) |
| 691 | Guernsey Reservoir | 16,200 | 400 | 2,382 | - | - | S | 1928- | - | - | - | - | - | - | - |
| 692 | North Platte River below Guernsey Reservoir (at Guernsey, above Whalen), Wyo. | 16,200 | 400 | 2,382 | 1,450 | 2.0 | W | 1900- | d 30,000 | June 2 or 3, 1908 | d 0 | Feb. 28, 1927 | 1900-44 | 44 | 2,077 |
| 693 | North Platte River at recorder station below Whalen (near Fort Laramie, below Whalen), Wyo. | 16,350 | 600 | 2,461 | 420 | 2.0 | - | b 1887-90 1909- | d 19,900 | June 3, 1909 | d 0 | at times | 1910-44 | 35 | 1,111 |
| 695 | North Platte River at Torrington, Wyo. | 21,700 | 800 | - | - | - | KS | 1919 1926-39 | d 14,200 | June 2, 1929 | d 80 | May 16, 1934 | 1927-39 | 13 | 1,180 |
| 696 | North Platte River at Wyoming-Nebraska State line | 22,100 | 815 | 2,789 | 721 | 1.8 | W | 1927- | 17,900 | June 2, 1929 | d 21 | May 16, 1934 | 1928-44 | 17 | 969 |
| 697 | North Platte River at Henry, Nebr. | 22,100 | 825 | - | - | - | S | b 1912-19 | (g) | - | (g) | - | - | 0 | - |
| 698 | North Platte River at Morrill, Nebr. | 24,000 | 910 | - | - | - | S | 1917 b 1919-23 | d 25,000 | June 17, 1921 | (g) | - | - | 0 | - |
| 699 | North Platte River at Mitchell, Nebr. | 24,300 | 920 | 2,819 | 565 | 1.7 | SW | b 1901-11 b 1916-18 1920- | d 23,600 | June 17, 1921 | d 45 | May 10, 1934 | 1902-10 1921-44 | 33 | 1,496 |
| 700 | North Platte River at Scottsbluff (Gering), Nebr. | 24,500 | 925 | 2,819 | - | - | S | b 1897-1900 1912 b 1917-18 | d 26,000 | June 6, 1897 | d 50 | Sept. (g), 1898 | - | 0 | - |
| 701 | North Platte River near Minatare (at Halbeta), Nebr. | 24,700 | 940 | 2,819 | 756 | 1.7 | S | b 1916-19 b 1922- | d 23,400 | June 18, 1921 | d 11 | Aug. 16-18, 1940 | 1918 1924-44 | 22 | 1,385 |

BASE DATA FOR GAGING STATIONS

69

| | | | | | | | | | | | | | | | |
|-----|--|----------|-------|-------|-------|-----|-----|--------------------------------|----------|---|-------|---|-------------------|----|-------|
| 702 | North Platte River at Bridgeport (near Camp Clark), Nebr. | 25,300 | 970 | 2,819 | 1,010 | 1.7 | KSW | b 1896-1900 1902-6 1914- | d 23,600 | June 26, 27, 1899 | d 55 | May 28, 1934 Aug. 15, 1940 | 1903-6 1915-44 | 34 | 1,920 |
| 703 | North Platte River at Broadwater, Nebr. | a 26,700 | 980 | - | - | - | S | b 1917-23 | d 25,800 | June 19, 1921 | d 550 | at times | - | 0 | - |
| 704 | North Platte River at Lisco, Nebr. | 26,900 | 990 | 2,819 | 1,150 | 1.6 | S | b 1916-17 1931- | d 20,100 | June 27, 29, 1917 | d 8 | Aug. 4, 1934 | 1932-44 | 13 | 1,137 |
| 705 | North Platte River at Onkosh, Nebr. | 27,500 | 990 | 2,819 | 1,170 | 1.6 | S | b 1916-17 1928- | d 19,200 | June 4, 1929 | d 0 | at times during 1934 | 1929-44 | 16 | 1,420 |
| 706 | North Platte River at Lewellen, Nebr. | a 28,200 | 1,000 | 2,828 | - | - | - | 1931 1940- | 8,380 | May 16, 1942 | d 81 | Aug. 15, 1941 | 1942-44 | 3 | 1,520 |
| 707 | North Platte River at Belmar, Nebr. | a 29,000 | 1,000 | - | - | - | KS | b 1917-25 | d 22,600 | June 20, 1921 | d 100 | July 30, 1919 | 1918 1921-25 | 6 | 2,820 |
| 709 | North Platte River at Martin, Nebr. | 30,000 | 1,000 | - | - | - | - | 1933-38 | 16,400 | June 17, 1935 | d 0 | at times during 1934 | 1934-38 | 5 | 1,200 |
| 710 | McDonoughy Lake on North Platte River near Keystone, Nebr. | a 30,000 | 1,000 | 2,828 | - | - | - | 1941- | - | - | - | - | - | - | - |
| 711 | North Platte River near Keystone, Nebr. | a 30,000 | 1,000 | 3,019 | - | - | S | 1917 b 1939- | d 20,200 | June 28, 30, 1917 | d 4 | Apr. 16, 1944 | 1943-44 | 2 | 340 |
| 712 | North Platte River near Sutherland, Nebr. | 31,300 | 1,045 | 3,019 | 547 | 1.5 | S | 1917 b 1931-33 b 1935- | d 20,000 | June 28, 1917 July 2, 1917 July 5, 1917 | d 0 | July 24-28, 30-31, 1921 July 20-28, 1940 | 1937-44 | 8 | 537 |
| 713 | North Platte River at North Platte, Nebr. | 32,000 | 1,045 | 3,019 | 766 | 1.5 | S | 1895- | d 27,100 | June 6, 1909 | d 20 | Sept. 20, 1904 | 1896-44 | 49 | 2,300 |
| 714 | Platte River at Brady, Nebr. | 56,900 | 2,210 | 4,204 | - | - | S | b 1937- | 15,400 | May 7, 1942 | d 0 | Aug. 22-24, 1941 | 1939-44 | 6 | 859 |
| 716 | Platte River near (at) Cozad, Nebr. | 57,200 | 2,280 | 4,204 | - | - | S | 1932 b 1936- | 16,600 | May 10, 1942 | d 0 | at times | 1940-44 | 5 | 557 |
| 717 | Platte River near Lexington, Nebr. | 58,000 | 2,288 | - | - | - | KS | 1902-6 1917-24 | d 35,400 | June 14, 15, 1921 | d 0 | at times | 1903-6 1918-24 | 11 | 3,590 |
| 718 | Platte River near Overton (Elm Creek), Nebr. | 58,400 | 2,290 | 4,204 | 1,120 | 1.4 | SW | 1914- | 37,600 | June 5, 1935 | d 0 | at times | 1915-44 | 30 | 2,583 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual discharge (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | Annual discharge | | | |
|----------------------|--|---------------------|---|---|--------------------------------|-------------------------------------|--|---|-----------------|---------------|-------------------|------------------|---------------------------------|-------|-----------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | | Years | Discharge (cfs) | Date | Minimum discharge | Discharge (cfs) | Date | Years | Number of years |
| 719 | Platte River near (at) Odeesa, Nebr. | 58,800 | 2,300 | 4,204 | 944 | 1.3 | S | 1937- | 17,500 | May 10, 1942 | d 0 | at times | 1938-44 | 7 | 937 |
| 720 | Platte River near Grand Island, Nebr. | 59,500 | 2,325 | 4,204 | 950 | 1.3 | - | 1933- | 30,000 | June 6, 1935 | d 0 | at times | 1934-44 | 11 | 960 |
| 721 | Platte River at Central City, Nebr. | 60,400 | 2,326 | - | - | - | S | b 1922-23 b 1925-27 | d 18,200 | Oct. 6, 1923 | d 0 | at times | - | 0 | - |
| 722 | Platte River near Duncan (Columbus), Nebr. | 61,600 | 2,332 | 4,204 | 965 | 1.3 | KS | b 1895-1909 b 1911-15 b 1928- | d 51,100 | June 23, 1905 | d 0 | at times | 1896-1909 1912-15 1929-44 | 33 | 2,627 |
| 723 | Platte River near Fremont (Lehara), Nebr. | a 77,000 | 2,358 | - | - | - | KS | b 1911-15 | d 29,500 | June 5, 1915 | (g) | - | - | 0 | - |
| 724 | Platte River near Ashland, Nebr. | 83,800 | 2,361 | 4,214 | 3,770 | 1.4 | - | 1928- | 107,000 | June 12, 1944 | d 265 | Aug. 18, 1941 | 1929-44 | 16 | 4,628 |
| 726 | Little Grizzly Creek near Hebron, Colo. | 96 | 12 | (c) | f 52 | 11.5 | V | b 1904-5 b 1931- | d 592 | June 11, 1905 | d 0 | at times | 1935 | 1 | 44 |
| 727 | Boaring Fork near Walden (Hebron), Colo. | 84 | 12 | (c) | f 50 | 12.9 | KV | b 1904-5 b 1923- | 790 | June 15, 1924 | d 2 | Aug. 15, 1904 | 1905 1924-30 1935 | 9 | 70 |
| 729 | North Fork North Platte River near Walden, Colo. | 168 | 15 | (c) | f 62 | 9.2 | K | b 1923-28 b 1937- | 694 | Apr. 19, 1926 | d 2.8 | Apr. 8, 1940 | 1924-28 | 5 | 92 |
| 730 | Michigan River near Lindland, Colo. | 62 | 3-5 | (c) | - | - | V | b 1931-41 | 663 | June 11, 1933 | d 1.8 | Oct. 13, 1935 | - | 0 | - |
| 732 | Michigan River at (near) Walden, Colo. | 185 | 28 | (c) | f 47 | 9.3 | TKV | b 1904-5 1918 b 1923- | 1,070 | June 10, 1923 | d 1.1 | Aug. 24, 1939 | 1905 1924-30 1935 | 9 | 85 |

| | | 480 | 70 | 7 | f 58 | 6.8 | - | b 1904-5 b 1937- | | 925 | | Apr. 19, 1938 | d 0 | at times | - | 0 | - |
|-----|---|-------|----|-----|-------|-----|----|----------------------------------|---------|---------|--|---------------|-------|-------------------------------|----------------------------|----|------|
| 723 | Michigan River near Cowdrey, Colo. | | | | | | | | | | | | | | | | |
| 725 | Illinois Creek near Rand, Colo. | 71 | 11 | (c) | - | - | V | b 1931-40 | d 655 | d 655 | | May 23, 1932 | d 1.3 | Sept. 3, 1934 | - | 0 | - |
| 726 | Illinois Creek at Walden, Colo. | 259 | 33 | 7 | f 26 | 5.8 | KV | b 1917-18 b 1923- | 2,520 | 2,520 | | May 28, 1926 | d 0 | at times | 1924-30 1935 | 8 | 67 |
| 727 | Willow Creek near Rand, Colo. | 71 | 6 | (c) | - | - | V | b 1931-40 | d 268 | d 268 | | May 23, 1932 | d 0 | at times during 1931 | - | 0 | - |
| 728 | Canadian River at Cowdrey, Colo. | 174 | 12 | (c) | f 32 | 4.8 | K | b 1904-5 b 1925-31 b 1937- | d 600 | d 600 | | June 10, 1905 | d 0 | Aug. 26, 27, 1939 | 1930 | 1 | 39 |
| 741 | Big Creek near Big Creek (Hawington), Wyo. | 123 | 4 | - | - | - | KO | b 1909 1912-24 | (g) | (g) | | - | 5 | Sept. 2, 1915 | 1913-24 | 12 | 99 |
| 742 | French Creek near French, Wyo. | 60 | 11 | - | - | - | KO | b 1909-24 | (g) | (g) | | - | d 6 | Apr. 1, 1915 | 1912-24 | 13 | 88 |
| 743 | Brush Creek near Saratoga, Wyo. (upper station) | 77.5 | 10 | (c) | - | - | - | b 1941- | 989 | 989 | | June 1, 1943 | d 5.1 | Sept. 25-28, 1944 | - | 0 | - |
| 744 | Brush Creek near Saratoga, Wyo. (lower station) | 98 | 17 | - | - | - | 0 | b 1909-15 | d 2,120 | d 2,120 | | June 9, 1912 | d 1.0 | Aug. 23, 1913 | - | 0 | - |
| 746 | Encampment River above Encampment, Wyo. | 205 | 4 | (c) | - | - | - | 1940-44 | 3,920 | 3,920 | | June 1, 1943 | d 22 | Feb. 28, 1942 Mar. 1, 1942 | 1941-44 | 4 | 236 |
| 747 | Encampment River at Encampment (Ferryman's ranch), Wyo. | 219 | 8 | - | - | - | KO | b 1900 b 1909-24 1928-32 | (g) | (g) | | - | d 3 | July 24, 1919 | 1912-24 1929-31 | 16 | 299 |
| 748 | Encampment River at mouth, near Encampment, Wyo. | 260 | 9 | (c) | - | - | - | 1940- | 4,510 | 4,510 | | June 1, 1943 | d 5.2 | Aug. 15, 16, 1940 | 1941, 43 1944 | 3 | 224 |
| 752 | Jack Creek at Matheson ranch, near Saratoga, Wyo. | 32 | 0 | - | - | - | K | b 1913-17 1918-24 | 330 | 330 | | June 10, 1921 | d 0 | Aug. 18-23, 1919 | 1914, 16, 17 1919-24 | 9 | 24 |
| 757 | Medicine Bow River near Medicine Bow, Wyo. | 178 | 17 | - | - | - | K | b 1911-17 1919-24 | d 2,810 | d 2,810 | | June 23, 1917 | d 0 | at times | 1912-17 1920-24 | 11 | 129 |
| 759 | Medicine Bow River above Seminole Reservoir, near Hanna, Wyo. | 2,380 | 68 | 9 | f 180 | 1.7 | - | 1939- | 6,990 | 6,990 | | Mar. 29, 1943 | d 2 | Aug. 22, 23, 1939 | 1940-44 | 5 | 162 |
| 760 | Rock Creek at (near) Arlington, Wyo. | 70 | 5 | (c) | f 83 | 1.8 | 0 | b 1909-18 b 1939- | (g) | (g) | | - | d 1 | Jan. 5, 6, 1915 | 1914-18 1940-41 | 7 | t 79 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | Average discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | Annual discharge | |
|----------------------|--|---------------------|---|-------|---|---------------------------------|-------------------------------------|--|---|---|-------------------|--------------------------------|------------------------------------|-----------------------|------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Years | | | | | Maximum discharge | | Minimum discharge | | Years | Number of years (cfs) | |
| | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | | | |
| 761 | Rock Creek near Rock River, Wyo. | 184 | 30 | - | - | - | 0 | b 1909-12 1928-33 | (g) | - | d 0 | at times | 1929-32 | 4 | 4.5 |
| 763 | Deep Creek near Arlington, Wyo. | 347 | 0 | - | - | - | - | b 1914-18 | 116 | June 29, 1917 | d 0.2 | at times | 1916-18 | 3 | 5.8 |
| 765 | Sage Creek above Pathfinder Reservoir, Wyo. | 182 | 1 | - | - | - | K | 1915-25 | 1,180 | Apr. 7, 1924 | d 0 | July 6-8, 1921 | 1916-25 | 10 | 18.5 |
| 766 | Dewese Creek near Alcoa, Wyo. | 41 | 0 | - | - | - | K | 1916-24 | d 38 | June 2, 1917 May 30, 1920 June 18, 1920 | (g) | - | 1917-24 | 8 | 3.3 |
| 767 | Sand Creek near (above) Alcoa, Wyo. | 70 | 1.3 | - | - | - | K | 1915-24 | d 101 | Apr. 16, 1924 May 29, 1924 June 1, 1924 | d 0 | at times | 1916-24 | 9 | 4.0 |
| 769 | Sweetwater River near Alcoa, Wyo. | 2,270 | 15 | 3 | 0.7 | f 91 | K | 1913-24 1928- | d 4,290 | Apr. 13, 1924 | d 0.5 | July 30, 1940 to Aug. 12, 1940 | 1914-24 | 17 | 146 |
| 770 | Horse Creek near Alcoa, Wyo. | 119 | 0.8 | - | - | - | K | 1915-24 | d 505 | Apr. 6, 1924 | d 0 | at times | 1916-24 | 9 | 5.4 |
| 771 | Canyon Creek near Alcoa, Wyo. | 54 | 0.3 | - | - | - | K | 1915-24 | d 530 | Apr. 7, 8, 1924 | (g) | - | 1916-24 | 9 | 6.5 |
| 773 | Bates Creek near Alcoa (Gasper), Wyo. | 377 | 3.5 | 3 | 0.8 | 16.3 | K | 1916-24 1935- | d 4,000 | Apr. 15, 1924 | d 0 | at times | 1917-24 1936-44 | 17 | 36 |
| 774 | Deer Creek at Glenrock, Wyo. | 216 | 8 | (c) | 4.2 | 57 | K | b 1916-24 1927-33 1935- | 2,840 | Apr. 15, 1924 | d 0 | at times | 1917, 1919-24, 1928, 29 1936-44 | 18 | 68 |
| 775 | Running Dutchman Canal near Careyhurst, Wyo. | - | - | - | - | 4.6 | - | 1935- | d 54 | July 25, 1942 | d 0 | at times | 1936-44 | 9 | 4.4 |

BASE DATA FOR GAGING STATIONS

73

| | | | | | | | | | | | | | | | |
|-----|--|-----|------|-----|-------|------|----|---|--------|---------------------|-----|----------------------|---|----|------|
| 776 | Boxelder Creek near Careyhurst, Wyo. | 202 | 2.5 | (c) | 45 | 3.3 | K | 1911 1915-24 b 1928-33 1935- | 2,360 | May 23, 1933 | d 0 | at times | 1916-24 1929 1936-44 | 19 | 52 |
| 777 | Douglas (Morton) Canal near Orpha, Wyo. | - | - | - | - | - | - | b 1935- | 112 | Aug. 6, 1941 | d 0 | at times | 1936, 37 1940-44 | 7 | 13.1 |
| 778 | La Poudre Creek near Douglas, Wyo. | 146 | 2.3 | (c) | 37 | 3.7 | - | 1919- | 1,220 | May 11, 1920 | d 0 | at times | 1920-44 | 25 | 42.3 |
| 779 | La Poudre Creek near Orpha (Fetterman), Wyo. | 227 | 10.7 | 20 | 12.4 | 2.4 | K | 1916, 17-18, 1922-24 b 1927-33 1935- | 1,140 | May 23, 1933 | d 0 | at times | 1918, 23, 24, 1928, 29 1936-44 | 14 | 17.6 |
| 780 | Wagonhound Creek near La Bonte, Wyo. | 125 | 2.3 | (c) | f 6.4 | 1.1 | K | 1916-24 b 1929-32 b 1937- | 2,000 | July 12, 1937 | d 0 | at times | 1917-24 1940-44 | 13 | 16.5 |
| 781 | La Bonte Creek near La Bonte, Wyo. | 302 | 4.3 | (c) | 48 | 2.5 | K | 1916-24 b 1928-33 1935- | 2,750 | May 22, 23, 1923 | d 0 | at times | 1917-24 1929 1936-44 | 18 | 67 |
| 782 | Horseshoe Creek near Glendo, Wyo. | 203 | 3.4 | (c) | 27 | 2.2 | KO | b 1909-10 1915-19 1920-24 b 1929-33 1935- | 11,900 | May 30, 1935 | d 0 | at times | 1916-19 1921-24 1928, 29 1936-44 | 19 | 34 |
| 783 | Gottonwood Creek at (near) Wendover, Wyo. | 159 | 1.2 | (c) | f 5.0 | 0.6 | KO | b 1909-10 1915-24 b 1929-33 1935-42 | 4,140 | Sept. 23, 1940 | d 0 | July 12-15, 1932 | 1916-24 1936-42 | 16 | 9.6 |
| 784 | Fort Laramie Canal at Whalen, Wyo. | - | - | - | 340 | - | S | 1918-28 1932- | - | - | d 0 | at times | 1918-28 1933-44 | 23 | 318 |
| 785 | King's Power Waste from Fort Laramie Canal | - | - | - | - | - | S | 1925-27 1930-31 | d 482 | Aug. 8, 1927 | d 0 | Nov. 9, 16, 1930 | 1926, 27 1931 | 3 | 180 |
| 787 | Interstate Canal at Whalen, Wyo. | - | - | - | 572 | - | S | b 1909-28 1930-31 1932- | - | - | d 0 | at times | 1911 1917-28 1931 1933-44 | 26 | 606 |
| 790 | Laramie River near Glendevy, Colo. | 101 | 0.7 | (c) | f 66 | 12.2 | KV | 1904-5 b 1910- | 2,240 | June 9, 1923 | d 5 | Feb. 14, 15, 1911 | 1905 1911-29 | 20 | 87 |

See footnotes at end of table, page 146

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | | | |
|----------------------|--|---------------------|---|---|---------------------------------|-------------------------------------|--|---|-----------------|-------------------|-----------------|---|---------------------------------------|-----------------|---------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | | Maximum discharge | | Minimum discharge | | Annual discharge | | | |
| | | | | | | | | Years | Discharge (cfs) | Date | Discharge (cfs) | Date | Years | Number of years | Average (cfs) |
| 791 | Laramie River near Jelm, Wyo. | 297 | 4 | 1 | 144 | 8.1 | K | 1904-5 b 1910- | 4,200 | June 9, 1923 | 5.6 | Dec. 2, 1933 | 1905 1911-44 | 35 | 168 |
| 792 | Laramie River at (near) Woods Landing, Wyo. | 375 | 5 | - | - | - | K | b 1890-92 1896-1900 b 1911-18 | d 4,500 | June 25, 1899 | (g) | - | 1891 1897-1900 1913 1915-18 | 10 | 237 |
| 793 | Laramie River and Pioneer Canal near Woods, Wyo. | 418 | 6 | 2 | f 171 | 6.7 | K | 1912-24 1927 b 1932- | 5,060 | June 10, 1923 | (g) | - | 1913-24 | 12 | 226 |
| 794 | Laramie River at Laramie, Wyo. | a 1,140 | 35 | 59 | - | - | - | b 1933- | 1,810 | June 15, 1942 | d 0.6 | Aug. 23, 1939 26-28, 1939 Sept. 5, 1939 | - | 0 | - |
| 795 | Laramie River at Two Rivers, Wyo. | 1,290 | 37 | 59 | 101 | 2.2 | K | 1908-27 b 1933- | 3,930 | June 13, 1923 | d 0 | at times | 1909-27 1935 1937-44 | 28 | 138 |
| 796 | Laramie River near Lookout, Wyo. | 2,100 | 99 | 117 | 120 | 2.1 | KO | b 1912-17 1921-27 b 1932- | d 3,100 | June 26, 1917 | d 0 | at times | 1914-17 1922-27 1935 1938-44 | 18 | 156 |
| 797 | Laramie River below (at) Merrill, Wyo. | 2,250 | 143 | - | - | - | - | b 1912-17 | d 2,860 | June 26-30, 1917 | (g) | - | - | 0 | - |
| 798 | Laramie River near Wheatland, Wyo. | 2,480 | 146 | - | - | - | - | b 1912-16 b 1929-33 | d 1,660 | June 8, 1914 | d 0 | at times | - | 0 | - |
| 799 | Laramie River at Uva, Wyo. | K 3,712 | 162 | - | - | - | - | b 1895-99 1905 | d 3,600 | June 27, 1899 | d 0 | at times | - | 0 | - |

BASE DATA FOR GAGING STATIONS

75

| | 4,600 | 175 | 327 | n 107 | 1.3 | K | 1914- | d 4,280 | June 6, 1917 | d 2 | Aug. 30, 1922 to Sept. 5, 1922 Sept. 27-30, 1934 | 1915-44 | 30 | n 185 |
|---|---------|-----|-----|-------|-----|-----|--------------------------------|---------|---------------|-------|--|---------------------------------|----|-------|
| 800 Laramie River near (at) Fort Laramie, Wyo. | | | | | | | | | | | | | | |
| 801 Laramie River at Siphon, Wyo. | a 4,600 | 175 | - | - | - | K | 1925-29 | (g) | - | d 0 | at times | 1926-29 | 4 | 244 |
| 802 Laramie River diversions to Cache La Poudre River | - | - | - | - | - | V | - | - | - | - | - | 1927-44 | 8 | 33 |
| 811 Pioneer Canal near Woods, Wyo. | - | - | - | - | - | - | b 1912-24 1927 b 1932- | d 818 | June 19, 1917 | d 0 | June 26-30, 1915 | 1913-17 1922, 23 | 7 | 52 |
| 813 Little Laramie River near Filmore (Hutton), Wyo. | 155 | 10 | (c) | 93 | 9.8 | K O | 1902-3 b 1911-26 b 1933- | d 2,400 | June 1, 1914 | d 1 | Sept. 19, 20, 1913 | 1903 1912-26 1934-44 | 27 | 106 |
| 814 Little Laramie River at Two Rivers (near Laramie), Wyo. | 310 | 54 | 55 | 33 | 5.4 | K | b 1909-27 b 1933- | (g) | - | d 0 | at times | 1910-26 1935 1937-44 | 26 | 48 |
| 815 Sybille Creek above Bluegrass Creek, near Wheatland, Wyo. | 265 | 3.5 | (c) | - | - | - | b 1941- | 864 | July 9, 1943 | d 1.1 | Mar. 17, 18, 1941 | 1943, 44 | 2 | 29 |
| 816 Sybille Creek near Wheatland, Wyo. | 568 | 9 | - | - | - | K O | b 1912-16 | (g) | - | d 0 | at times | - | 0 | - |
| 817 North Laramie River near (at) Wheatland, Wyo. (Upper station) | 366 | 4 | 7 | f 41 | 1.8 | K | b 1914-23 b 1933- | 4,100 | Mar. 28, 1943 | d 0 | at times | 1915-22 1940, 41 1943, 44 | 12 | 51 |
| 820 Cingwater Creek at Cingwater, Wyo. | 359 | 3.5 | (c) | - | - | K | 1911-21 1938-40 | 350 | Sept. 4, 1945 | d 0 | at times | 1912-21 1939 | 11 | 20.5 |
| 821 Diversion Laramie River to Gering-Fort Laramie Canal Lingle, Wyo. | - | - | - | - | - | - | 1939- | - | - | d 0 | at times | 1940-44 | 5 | 50 |
| 822 Rawhide Creek near (east of) Lingle, Wyo. | 510 | 0.3 | 1 | 20.8 | 0.6 | S | 1923-25 b 1928- | 3,860 | July 12, 1941 | d 0.7 | Aug. 2, 1934 | 1924, 25 1931-44 | 16 | 23 |
| 823 Cherry Creek drain near Torrington, Wyo. | - | 0 | (c) | 16.6 | - | S | 1926-29 1935- | 1,040 | June 10, 1941 | d 0 | Feb. 1-10, 1927 | 1927-29 1936-44 | 12 | 17.8 |
| 824 Arnold drain near Torrington, Wyo. | - | (g) | (c) | - | - | S | 1924-29 b 1939-42 | 46 | July 28, 1940 | d 0 | at times | 1928-29 | 5 | 10.5 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual runoff 1938-43 (in.) | Sources of record not published in Water-Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | Annual discharge | | | | |
|-------------------------|--|---------------------|---|--|-------------------------------------|--|---|------------------------------------|-------------------|--------------|-------------------|-------|-------------------------------------|-----------------|---------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoir in 1960 (thousand acre-feet) | | | Average annual discharge 1938-43 (cfs) | Years | Maximum discharge | | Minimum discharge | | | | |
| | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | Years | Number of years | Average (cfs) |
| 827 | Katax drain near Henry, Nebr. | - | 0 | (c) | 15.9 | - | S | b 1926- | 1,230 | May 19, 1938 | Jan. 4, 1937 | d 0.5 | 1927-29 1932-44 | 16 | 14.7 |
| 828 | Mitchell Canal at Wyoming-Nebraska State line | - | - | - | 51 | - | OS | 1915-19 1920- | - | - | at times | d 0 | 1916-19 1921-44 | 28 | 60 |
| 829 | Spring Creek near Henry, Nebr. | (g) | (g) | (c) | - | - | S | 1931-42 | (g) | - | at times | d 0 | 1932-42 | 11 | 9.5 |
| 830 | Gering Canal near Henry, Nebr. | - | - | - | 46 | - | S | 1916- | - | - | at times | d 0 | 1916-44 | 29 | 55 |
| 832 | Tri-State Canal near Henry, Nebr. | - | - | - | 289 | - | S | 1916 1919 1921- | - | - | at times | d 0 | 1916, 19 1921-44 | 46 | 331 |
| 833 | Tri-State Canal diversion from Sheep Creek, Nebr. | - | - | - | - | - | S | 1915 1919 1921-42 | - | - | at times | d 0 | 1915, 19 1921-42 | 24 | 25 |
| 834 | Tri-State Canal diversion from Akers Draw, Nebr. | - | - | - | - | - | S | 1929-42 | - | - | at times | d 0 | 1929-42 | 14 | 4.7 |
| 835 | Tri-State Canal diversion from Dry Spotted Tail Creek, Nebr. | - | - | - | - | - | S | 1914-15 1931-42 | - | - | at times | d 0 | 1914, 15 1931-41 | 13 | 4.3 |
| 836 | Tri-State Canal diversion from Wet Spotted Tail Creek, Nebr. | - | - | - | - | - | S | 1915 1919 1921 1923-42 | - | - | at times | d 0 | 1915, 19, 21, 1923-42 | 23 | 6.5 |
| 838 | Tri-State Canal diversion from Tub Springs, Nebr. | - | - | - | - | - | S | 1915 1922-26 1928 1931-42 | - | - | at times | d 0 | 1915, 1922-26 1928 1931-42 | 19 | 6.4 |

| BASE DATA FOR GAGING STATIONS | | | | | | | | | | |
|-------------------------------|---|-------|-----|-----|------|-------|--------------------------------|---------------|-----------------|------|
| | 683 | 9 | - | - | - | (g) | - | 5.5 | 4 | 37 |
| 844 | Horse Creek near La Grange, Wyo. | | | | | | | July 12, 1916 | 1916-19 | |
| 845 | Horse Creek near Ioder, Wyo. | 1,320 | 23 | 30 | - | 455 | June 8, 1929 | d 0 | 1929-33 | 22.4 |
| 846 | Horse Creek near Lyman, Nebr. | 1,860 | 24 | 30 | 44 | 1,970 | May 19, 1938 | d 1 | 1921-44 | 65 |
| 850 | Sheep Creek near Morrill, Nebr. | a 70 | a 8 | (c) | 42 | (g) | - | d 0 | 1920-44 | 50 |
| 851 | Enterprise Canal near Morrill, Nebr. | - | - | - | 30 | - | - | d 0 | 1916-1919-44 | 26 |
| 854 | Enterprise Canal diversion from Wet Spotted Tail Creek, Nebr. | - | - | - | 3.4 | - | - | d 0 | 1925-44 | 3.7 |
| 855 | Enterprise Canal diversion from Tub Springs, Nebr. | - | - | - | 6.7 | - | - | d 0 | 1919-27-1929-44 | 5.8 |
| 859 | Toohay Spillway from Tri-State Canal, Nebr. | - | - | - | - | d 220 | May 10, 1923 May 4, 1933 | d 0 | 1926-38 | 9.8 |
| 864 | Mitchell Spillway from Tri-State Canal, Nebr. | - | - | - | - | d 500 | July 15, 1923 June 29, 1928 | d 0 | 1920-29-1931-38 | 21 |
| 871 | Winter(s) Creek Canal near Scottsbluff, Nebr. | - | - | - | 7.0 | - | - | d 0 | 1916-1918-44 | 9.9 |
| 872 | Winter(s) Creek Canal diversion from Winter(s) Creek, Nebr. | - | - | - | 12.1 | - | - | d 0 | 1919-44 | 12.8 |
| 873 | Central Canal near Gering, Nebr. | - | - | - | 7.5 | - | - | d 0 | 1919-44 | 7.7 |
| 875 | Winter Creek near Scottsbluff, Nebr. | a 130 | v 5 | (c) | 53 | 590 | June 5, 1940 | d 1 | 1921-44 | 57 |
| 877 | Minatare Canal near Minatare, Nebr. | - | - | - | 20 | - | - | d 0 | 1919-44 | 20.6 |
| 878 | Gering drain near Gering, Nebr. | - | 0 | (c) | 34 | 3,000 | June 30, 1935 | d 0.5 | 1924-44 | 32 |
| 880 | Castle Rock Canal near Gering, Nebr. | - | - | - | 23.8 | - | - | d 0 | 1916-1918-44 | 22.4 |
| 883 | Nine Mile Canal near Minatare, Nebr. | - | - | - | 17.3 | - | - | d 0 | 1919-1921-44 | 15.4 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | | Annual discharge | | |
|-------------------------|---|---------------------|------------------------------------|---|--|-------------------------------------|--|---|---------------|-----------------|-------------------|-----------------|---------------------------------|------------------|-----------------|---------------|
| | | Area (square miles) | Irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | | Maximum discharge | | | Minimum discharge | | | Years | Number of years | Average (cfs) |
| | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | Discharge (cfs) | Date | | | |
| 889 | Ninemile drain near McGrew (Minatare), Nebr. | - | 0 | (c) | 107 | - | S | 630 | June 8, 1936 | d 51 | July 25, 1934 | | 1931-44 | 14 | 117 | |
| 892 | Chimney Rock Canal near McGrew, Nebr. | - | - | - | 13.6 | - | S | - | - | d 0 | at times | | 1917-44 | 28 | 13.6 | |
| 894 | Alliance Canal near Bayard, Nebr. | - | - | - | - | - | S | - | - | d 0 | at times | | 1919 1921-23 | 4 | 5.8 | |
| 896 | Alliance Canal diversion from Red Willow Creek, Nebr. | - | - | - | 9.5 | - | S | - | - | d 0 | at times | | 1918-26 1928-44 | 26 | 9.5 | |
| 900 | Bayard Sugar Factory drain near Bayard, Nebr. | - | 7.2 | (c) | 32 | - | - | 383 | June 10, 1941 | d 0 | at times | | 1932-44 | 13 | 33.8 | |
| 901 | Belmont Canal near Yockey, Nebr. | - | - | - | 32 | - | S | - | - | d 0 | at times | | 1917-44 | 28 | 38 | |
| 903 | Belmont Canal diversion from Cedar Creek, Nebr. | - | - | - | 2.1 | - | S | - | - | d 0 | at times | | 1919, 22, 1923, 26 1927 1929-43 | 20 | 2.9 | |
| 904 | Red Willow Creek near Bridgeport, Nebr. | a 100 | 7.4 | - | - | - | S | d 1,316 | June 15, 1926 | d 0 | Apr. 1, 2, 1919 | | 1921-31 | 11 | 66 | |
| 905 | Red Willow Creek near Bayard, Nebr. | a 120 | 7.5 | (c) | 76 | - | S | 1,640 | May 10, 1942 | d 15 | Apr. 23, 1935 | | 1932-44 | 13 | 75 | |
| 910 | Indian Creek at (near) Northport, Nebr. | a 35 | 0 | (c) | - | - | S | d 85 | July 17, 1943 | d 0 | at times | | 1923-42 | 20 | 9.9 | |
| 911 | Upper Dugout Creek at Northport, Nebr. | a 42 | 0 | (c) | - | - | S | d 300 | July 19, 1938 | d 0 | at times | | 1931-42 | 12 | 4.8 | |
| 912 | Brown(s) Creek Canal near Bridgeport, Nebr. | - | - | - | 12.9 | - | S | - | - | d 0 | at times | | 1917-44 | 28 | 15.6 | |

BASE DATA FOR GAGING STATIONS

79

| | | | | | | | | | | | | | | | |
|-----|---|---------|-----|-----|------|-----|----|---|--|-------|---------------|-------|--|----|-----|
| 913 | Pumpkin (Pumpkinseed) Creek near Harrisburg, Nebr. | a 350 | 0.3 | - | - | - | - | S | b 1923-28 1925-29 | (g) | - | (g) | 1928 | 1 | 7.4 |
| 914 | Pumpkin (Pumpkinseed) Creek above Greenwood Creek, near Bridgeport, Nebr. | a 1,000 | 1.5 | - | - | - | - | S | b 1925-29 | (g) | - | (g) | 1928 | 1 | 30 |
| 915 | Pumpkin Creek near Bridgeport, Nebr. | 1,080 | 5.0 | (c) | 30 | 0.3 | SW | S | 1921-27 1930-41 | 864 | Mar. 9, 1939 | d 0.4 | 1922-44 | 23 | 37 |
| 922 | Court House Rock Canal diversion from Pumpkin Creek, Nebr. | - | - | - | 6.8 | - | - | S | 1917-27 1930-41 | - | - | d 0 | 1917-27 1930-44 | 26 | 6.6 |
| 928 | Flum Creek near Bridgeport, Nebr. | a 27 | 0 | (c) | - | - | - | S | b 1930-41 | d 100 | July 20, 1938 | d 0 | 1931-40 | 10 | 3.3 |
| 933 | Cedar Creek near Broadwater, Nebr. | a 25 | 0 | (c) | - | - | - | S | b 1922-27 1931-44 | d 300 | Sept. 6, 1937 | d 1 | 1923-29 1931-42 | 19 | 12 |
| 935 | North River Canal near Lisco, Nebr. | - | - | - | - | - | - | S | 1922-37 1941 | - | - | d 0 | 1922-37 1941 | 17 | 7.2 |
| 936 | Lisco Canal near Lisco, Nebr. | - | - | - | 6.4 | - | - | S | 1918-27 1929-44 | - | - | d 0 | 1925-27 1929-32 1935-44 | 17 | 8.8 |
| 938 | Coldwater Creek near Lisco, Nebr. | a 10 | 0.7 | (c) | - | - | - | S | b 1922-42 | d 50 | June 3, 1939 | d 0 | 1923-26 1928-40 | 17 | 1.8 |
| 946 | Lost Creek near Oakkosh, Nebr. | a 40 | 0 | (c) | - | - | - | S | b 1930-41 | d 55 | May 3, 1933 | d 0 | 1931-40 | 10 | 2.2 |
| 950 | Blue Creek near Jewell, Nebr. | 267 | 6 | 7 | 71 | 4.6 | SW | S | b 1919-21 1921-23 1923-27 1931-44 | - | - | d 0 | 1921-44 | 24 | 78 |
| 951 | Falsley Canal diversion from Blue Creek, Nebr. | - | - | - | 2.0 | - | - | S | 1917-19 1921-23 1925-27 1931-44 | - | - | d 0 | 1917-19 1921-23 1925-27 1931-44 | 22 | 2.8 |
| 952 | Blue Creek Canal diversion from Blue Creek, Nebr. | - | - | - | 10.1 | - | - | S | 1918-19 1921-28 1931-44 | - | - | d 0 | 1918, 19 1921-28 1931-44 | 24 | 9.8 |
| 953 | Hooper Canal diversion from Blue Creek, Nebr. | - | - | - | 3.8 | - | - | S | 1919-23 1925-27 1931-44 | - | - | d 0 | 1919 1921-23 1925-27 1931-44 | 21 | 4.0 |

See footnotes at end of table, page 106

GAGING-STATION RECORDS IN THE MISSOURI RIVER BASIN

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | Annual discharge | | | |
|----------------------|--|---------------------|------------------------------------|---|--|-------------------------------------|--|---|-----------------|--------------|-----------------------------------|--------------------------------------|--------------------------------|-----------------|---------------|
| | | Area (square miles) | Irrigated in 1939 (thousand acres) | Approximate capacity (thousand acre-feet) | | | | Years | Discharge (cfs) | Date | Minimum discharge Discharge (cfs) | Date | Years | Number of years | Average (cfs) |
| | | | | | | | | | | | | | | | |
| 954 | Union Canal diversion from Blue Creek, Nebr. | - | - | - | 3.4 | - | S | 1918-19 1921-27 1930- | - | - | d 0 | at times | 1918, 19 1921-27 1930-44 | 24 | 3.6 |
| 955 | Graf Canal diversion from Blue Creek, Nebr. | - | - | - | 5.0 | - | S | 1917-19 1921-25, 27 1930- | - | - | d 0 | at times | 1917-19 1921-27 1930-44 | 25 | 5.1 |
| 957 | Alfalfa Canal near Lowellton, Nebr. | - | - | - | - | - | S | 1919 1921-41 | - | - | d 0 | at times | 1919 1921-41 | 22 | 7.2 |
| 958 | Clear Creek near Lowellton, Nebr. | a 26 | 0.6 | (c) | - | - | S | 1922-42 | d 33 | May 11, 1936 | d 0 | at times | 1923-42 | 20 | 7.5 |
| 964 | Otter Creek near Lemoyne, Nebr. | a 50 | 0.5 | (c) | - | - | S | 1920 1922-42 | (g) | - | d 0 | June 21, 1926 to July 31, 1926 | 1923-42 | 20 | 22 |
| 966 | Sand Creek near Belmar, Nebr. | a 7 | 0.2 | (c) | - | - | S | 1922-42 | (g) | - | d 0 | at times | 1923-26 1928-38 1940-42 | 18 | 3.7 |
| 969 | Lonegan Creek near Lemoyne, Nebr. | a 30 | 0.3 | (c) | - | - | S | 1924-42 | (g) | - | d 0 | at times | 1925-38 1941, 42 | 16 | 5.7 |
| 972 | Sutherland Reservoir Supply Canal near Keystone, Nebr. | - | - | - | 537 | - | S | 1935- | - | - | d 0 | at times | 1936-44 | 9 | 537 |
| 973 | Sutherland Reservoir (offstream North Platte River), Nebr. | 830,000 | 1,000 | 3,019 | - | - | S | 1935 | - | - | - | - | - | - | - |
| 974 | Sutherland Project Power Return, Nebr. | - | - | - | - | - | S | 1938- | - | - | d 0 | at times | 1939-44 | 6 | 433 |

| | a 27 | 0.3 | (c) | - | - | S | b 1922-42 | d 61 | May 7, 1933 | (g) | - | 1923-26 1928-42 | 19 | 28 |
|--|--------|------|-----|------|-----|----|----------------------|-------|---------------|-----|-------------------|----------------------------|----|-------|
| 975 White Tail Creek near Keystone, Nebr. | - | - | - | 20.6 | - | S | 1918- | - | - | d 0 | at times | 1918-44 | 27 | 24.4 |
| 979 Keith-Lincoln County Canal near Keystone, Nebr. | a 24 | 0 | - | - | - | S | b 1928-39 | (g) | - | d 0 | Aug. 1-5, 1930 | 1930 1932-39 | 9 | 2.2 |
| 980 Skunk Creek near Paxton, Nebr. | a 2 | 0 | - | - | - | S | b 1928-38 | (g) | - | d 0 | at times | 1928, 29 1931-38 | 10 | 3 2.7 |
| 982 Gravel Creek near Paxton, Nebr. | a 3 | 0 | - | - | - | S | 1928-38 | (g) | - | (g) | - | 1929, 30 1932-38 | 9 | 2.2 |
| 983 Cedar Branch Creek near Paxton, Nebr. | - | - | - | 54 | - | S | 1919- | - | - | d 0 | at times | 1919-44 | 26 | 56 |
| 987 North Platte Canal near Sutherland, Nebr. | - | - | - | 21.0 | - | S | b 1916 1918- | - | - | d 0 | at times | 1918-44 | 27 | 22.0 |
| 991 Paxton-Hershey Canal near Sutherland, Nebr. | - | - | - | - | - | S | 1920 1921- | d 850 | Oct. 12, 1930 | 30 | Jan. 19, 1935 | 1922-44 | 23 | 170 |
| 993 Birchwood Creek near Hershey, Nebr. | 286 | 6 | (c) | 146 | 7.3 | SW | 1921- | - | - | d 0 | at times | 1921-28 1930-44 | 23 | 6.9 |
| 994 Birchwood Canal diversion from Birchwood Creek, Nebr. | - | - | - | 9.0 | - | S | 1919 1921- | - | - | d 0 | at times | 1919 1921-44 | 25 | 17.0 |
| 996 Suburban Canal near Sutherland, Nebr. | - | - | - | 16.6 | - | S | 1919 1921- | - | - | d 0 | at times | 1919 1921-28 1930-44 | 24 | 6.5 |
| 997 Cody-Millon Canal near North Platte, Nebr. | - | - | - | 6.3 | - | S | 1916-17 b 1923-38 | (g) | - | (g) | - | - | 0 | - |
| 1,002 South Fork South Platte River at Twin Bridges (near Fairplay), Colo. | T 87 | 0.1 | - | - | - | T | 1916 b 1923-38 | (g) | - | (g) | - | - | 0 | - |
| 1,004 South Fork South Platte River below Antero Reservoir, Colo. | Ts 200 | 1.2 | - | - | - | T | 1916 b 1923-38 | (g) | - | (g) | - | - | 0 | - |
| 1,008 South Platte River above Elevenmile Canyon Reservoir, near Hartesel, Colo. | 861 | 24 | 33 | ± 65 | 1.7 | T | b 1923- | (g) | - | (g) | - | 1944 | 1 | 73 |
| 1,010 Elevenmile Canyon Reservoir | a 925 | 24.5 | 115 | - | - | - | 1928- | - | - | - | - | - | - | - |
| 1,011 (South Fork) South Platte River near (at) Lake George, Colo. | 929 | 929 | 115 | 54 | 1.6 | KV | b 1921- | (g) | - | d 0 | at times | 1911-28 1930-44 | 33 | 86.1 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | | Average annual runoff 1938-43 ("cu. ft.) | Average annual runoff 1938-43 ("cu. ft.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | Annual discharge |
|----------------------|--|---------------------|---|---|-------|--|--|--|---|-----------------|--|---------------------------------------|-----------------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | Years | Discharge (cfs) | Date | Discharge (cfs) | Date | Discharge (cfs) | Date | Years | Number of years (cfs) |
| | | | | | | | | | | | | | |
| 1,012 | South Platte River above Lake Cheesman, Colo. | 1,680 | 39.0 | 118 | f 110 | 1.6 | KV | 1908-24 b 1924-43 | - | (g) | - | 1909-30 1934, 40, 41 | 25 |
| 1,013 | Lake Cheesman Reservoir | 1,766 | 39.2 | 197 | - | - | - | 1938- | - | - | - | - | - |
| 1,014 | South Platte River below (at) Lake Cheesman, Colo. | 1,766 | 39.2 | 197 | 1.8 | 1.8 | KV | 1899-1910 w 1910-24 1924- | - | (g) | - | 1900-44 | 45 |
| 1,015 | (South Fork) South Platte River above North Fork, at South Platte, Colo. | 2,060 | 39.5 | - | - | - | K | 1905-12 w 1912-38 | July 29, 1907 | d 1,800 | Nov. 8, 1908 | 1906-12 | 7 |
| 1,016 | (South Fork) South Platte River at South Platte (near Deansbury, Platte Canyon), Colo. | 2,550 | 42 | 203 | 2.6 | 2.6 | K | b 1887-92 1895-97 b 1898- | June 8, 1921 | 6,320 | Dec. 5, 1899 | 1888-91 1896-97 1899 1901-44 | 51 |
| 1,017 | South Platte River at Waterton, Colo. | 2,620 | 80 | 219 | 2.6 | 2.6 | KV | 1925- | Apr. 23, 1942 | 5,700 | Feb. 28, 1938 to Mar. 2, 1938 Apr. 20, 1938 | 1926-44 | 19 |
| 1,018 | South Platte River at Littleton, Colo. | 3,090 | 85 | 221 | - | - | - | 1941- | Apr. 23, 1942 | 9,720 | Oct. 40, 1943 | 1942-44 | 3 |
| 1,019 | South Platte River at Denver, Colo. | 3,840 | 104 | 242 | 2.6 | 2.6 | KV | b 1889-90 b 1895- | Sept. 10, 1933 | 22,000 | Apr. 15, 1925 | 1896-1901 1903-6 1910-44 | 47 |
| 1,020 | South Platte River at Henderson, Colo. | 4,740 | 280 | 367 | 3.0 | 3.0 | V | 1926- | Apr. 26, 1942 | 10,700 | Apr. 4, 7, 1935 | 1927-44 | 18 |

| | | | | | | | | | | | | | | | |
|-------|--|--------|-------|-------|-------|-----|----|--------------------------|----------|---------------|-------|--------------------------------|---------------------|----|-------|
| 1,021 | South Platte River at Fort Lupton, Colo. | 5,070 | 290 | 369 | 480 | 2.9 | V | 1906 1929- | 9,000 | Apr. 26, 1942 | d 10 | Oct. 14, 15, 1940 | 1930-44 | 15 | 354 |
| 1,023 | South Platte River near Keresey, Colo. | 9,500 | 855 | 810 | 790 | 3.3 | KV | 1901-3 1905 | d 31,000 | June 7, 1921 | d 35 | Apr. 23, 24, 1935 | 1902, 3, 1906-44 | 41 | 743 |
| 1,024 | South Platte River at Sublette, Colo. | 12,900 | 920 | 990 | - | - | V | 1926-42 1943- | 10,700 | Sept. 5, 1938 | d 29 | Feb. 3, 1941 | 1927-41 1944 | 16 | 281 |
| 1,025 | South Platte River at Orchard, Colo. | 13,000 | 940 | - | - | - | KT | b 1895-1900 b 1903-6 | d 11,200 | May 2, 1900 | d 10 | Apr. 28, 1898 June 12, 1899 | 1897-1900 1906 | 5 | 1,040 |
| 1,027 | South Platte River at Balsas, Colo. | 17,700 | 1,050 | 1,070 | 457 | 1.8 | KV | 1916- | (g) | May 31, 1935 | d 4.6 | Jan. 6, 1936 | 1917-44 | 28 | 383 |
| 1,028 | South Platte River at Julesburg (Ovid), Colo. | 22,800 | 1,140 | 1,185 | 507 | 1.6 | VW | 1901- | 31,300 | June 2, 1935 | d 0 | Aug. 18-20, 1902 | 1902-44 | 43 | 484 |
| 1,030 | South Platte River at Paxton (Ogallala), Nebr. | 23,700 | 1,160 | 1,185 | f 540 | 1.6 | S | 1923 1931-33 1937- | 17,400 | May 7, 1942 | d 0 | at times | 1932, 33 1940-44 | 7 | 438 |
| 1,031 | South Platte River at North Platte, Nebr. | 24,300 | 1,163 | 1,185 | 511 | 1.5 | SW | b 1897 b 1914- | 37,100 | June 3, 1935 | d 0 | at times | 1918-44 | 27 | 443 |
| 1,036 | Four Mile Creek at Nelson's Ranch, Colo. | Ta 38 | 240 | - | - | - | T | b 1933-38 | (g) | - | (g) | - | - | 0 | - |
| 1,037 | Four Mile Creek at Mouth, Colo. | - | 243 | - | - | - | T | b 1933-38 | (g) | - | (g) | - | - | 0 | - |
| 1,040 | Middle Fork South Platte River below Fairplay, Colo. | Ta 110 | 240 | - | - | - | T | b 1933-38 | (g) | - | (g) | - | - | 0 | - |
| 1,041 | Middle Fork South Platte River near Hartzel (at mouth), Colo. | Ta 225 | 14 | - | - | - | T | b 1916 b 1933-38 | (g) | - | (g) | - | - | 0 | - |
| 1,042 | West and East Hoosier Pass diversions from Blue River to Middle Fork South Platte River, Colo. | - | - | - | - | - | V | - | - | - | - | - | 1937-44 | 8 | 0.3 |
| 1,044 | Tarryall Creek above Como, Colo. | Ta 37 | 245 | - | - | - | T | b 1934-38 | (g) | - | (g) | - | - | 0 | - |
| 1,045 | Tarryall Creek near Jefferson, Colo. | 223 | 11.5 | - | - | - | - | b 1912-17 | d 1,320 | July 9, 1917 | (g) | - | - | 0 | - |
| 1,046 | Tarryall Creek below Rock Creek, Colo. | Ta 242 | 12 | - | - | - | T | b 1934-38 | (g) | - | (g) | - | - | 0 | - |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual runoff 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | Annual discharge | | |
|-------------------------|---|---------------------|---|--|-------------------------------------|-------------------------------------|--|---|-------|-------------------|------|-----------------|---------------------------------|-----------------|---------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoir in 1940 (thousand acre-feet) | | | | Maximum discharge | | Minimum discharge | | | Years | Number of years | Average (cfs) |
| | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | Discharge (cfs) | | | |
| 1,047 | Tarryall Creek near Lake George (Hayman), Colo. | 460 | 13 | 3 | f 42 | 2.0 | V | 1910-12, 16 b 1925- | 795 | July 29, 1929 | 0 | Feb. 23, 1944 | 1944 | 1 | 25 |
| 1,048 | Boreas Pass diversion from Blue River to Tarryall Creek, Colo. | - | - | - | - | - | V | - | - | - | - | - | 1937-44 | 8 | 0.1 |
| 1,049 | Michigan Creek above Jefferson, Colo. | Ta 19 | 3.0 | - | - | - | T | b 1934-38 | (g) | - | (g) | - | - | 0 | - |
| 1,050 | Jefferson Creek above Jefferson, Colo. | Ta 12 | 3.5 | - | - | - | T | b 1934-38 | (g) | - | (g) | - | - | 0 | - |
| 1,052 | Goose Creek above Lake Cheesman, Colo. | 86 | 0.1 (e) | - | f 37 | 5.9 | TV | 1899 w 1908-24 b 1924- | (g) | - | (g) | - | 1909-30 1936, 40 1941, 44 | 26 | 37 |
| 1,053 | North Fork South Platte River at Grant, Colo. | 51 | 0.1 | - | - | - | - | b 1910-18 | 525 | June 1, 1914 | (g) | - | 1911, 14 | 2 | 40 |
| 1,054 | North Fork South Platte River below Geneva Creek, at Grant (at Cassella's), Colo. | 130 | 0.2 | (e) | - | - | T | b 1908-13 1942- | d 860 | June 8, 1912 | (g) | - | 1910-12 1943, 44 | 5 | 80 |
| 1,056 | North Fork South Platte River at South Platte, Colo. | 484 | 2.0 | 6 | 164 | 4.7 | T | 1909-10 b 1913- | 1,910 | June 8, 1921 | 4 | Dec. 8, 1932 | 1910 1911-22 1925-44 | 30 | 166 |
| 1,059 | Geneva Creek at Grant (at Sullivan's ranch), Colo. | 74 | 0.1 | - | - | - | - | b 1908-18 | 1,700 | June 1, 1914 | (g) | - | 1909-11 1914-17 | 7 | 71 |
| 1,063 | Denver City Pipeline Conduit No. 8 near South Platte, Colo. | - | - | - | - | - | U | 1926-38 | - | - | - | - | 1927-38 | 12 | 94 |

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | Annual discharge | | | | |
|-------------------------|--|---------------------|---|---|---------------------------------|-------------------------------------|--|---|-----------------|------|-----------------|------------------|---------------------|-----------------|---------------|------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | Average discharge 1938-43 (cfs) | | | Years | Discharge (cfs) | Date | Discharge (cfs) | Date | Years | Number of years | Average (cfs) | |
| | | | | | | | | | | | | | | | | |
| 1,1,107 | Jones Pass tunnel diversion from Williams River to West Fork Clear Creek, Colo. | - | - | - | - | - | - | - | 1940- | - | - | d 0 | at times | 1940-44 | 5 | 7.5 |
| 1,1,108 | Berthoud Pass ditch diversion from Williams River to West Fork Clear Creek, Colo. | - | - | - | - | - | A | - | - | - | - | - | - | 1938-44 | 7 | 0.8 |
| 1,1,109 | Fall River near Idaho Springs, Colo. | 23.6 | 0 | - | - | - | V | b 1930-38 | June 29, 1938 | 325 | (g) | - | - | 1931-36 1938 | 7 | 20.7 |
| 1,1,110 | Golden (Welch) ditch diversion from Clear Creek, Colo. | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 6.3 | |
| 1,1,111 | Golden City and Ralston Creek (Church) ditches, diversions from Clear Creek, Colo. | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 19 | |
| 1,1,112 | Agricultural ditch diversion from Clear Creek, Colo. | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 16 | |
| 1,1,113 | Golden (Farmer's Highline) Canal diversion from Clear Creek, Colo. | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 55 | |
| 1,1,114 | Wannemaker ditch diversion from Clear Creek, Colo. | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 6.0 | |
| 1,1,116 | Rocky Mountain ditch diversion from Clear Creek, Colo. | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 19 | |
| 1,1,117 | Crooke Canal diversion from Clear, Ralston, and Leyden Creeks, Colo. | - | - | - | - | - | U | 1930-32 1933-38 | - | - | d 0 | at times | 1931, 32 1935-38 | 6 | 8.8 | |

| | | | | | | | | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|---------|---|---|-----|----------|---------|----|-----|
| 1,120 | Diversions reported from Slough North Branch of Clear Creek, Colo. | - | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 8.4 |
| 1,124 | Aggregate diversions 18 to 20 small ditches from Ralston Creek, Colo. | - | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 4.1 |
| 1,127 | Fisher ditch diversion from Clear Creek, Colo. | - | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 11 |
| 1,128 | Colorado Agricultural ditch diversion from Clear Creek, Colo. | - | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 11 |
| 1,129 | Clear Creek and Platte River ditch diversion from Clear Creek, Colo. | - | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 13 |
| 1,130 | Fulton ditch near Brighton, Colo. | - | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 40 |
| 1,131 | Brutner ditch near Brighton, Colo. | - | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 19 |
| 1,132 | Brighton ditch near Brighton, Colo. | - | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 13 |
| 1,134 | Lupton Bottom and Ellwood ditches near Fort Lupton, Colo. | - | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 26 |
| 1,135 | Platteville Irrigating and Milling Co. ditch near Fort Lupton, Colo. | - | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 26 |
| 1,136 | Side Hill and Meadow Island No. 1 ditches near Fort Lupton, Colo. | - | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 7.0 |
| 1,137 | Evans No. 2 ditch near Fort Lupton, Colo. | - | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 36 |
| 1,138 | Meadow Island No. 2 and Beaman ditches near Platteville, Colo. | - | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 13 |
| 1,140 | Farmers Independent ditch near Platteville, Colo. | - | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 37 |
| 1,141 | Hewes and Cook and Western ditches near Platteville, Colo. | - | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 29 |

See footnotes at end of table, page 100

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | Annual discharge | | | |
|----------------------|--|---------------------|---|---|-------------------------------------|--|---|---|-------------------|--------|-------------------|------------------|---|-----------------|---------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | Average discharge 1938-43 (cfs) | Years | Maximum discharge | | Minimum discharge | | Years | Number of years | Average (cfs) |
| | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | | | |
| 1,143 | North St. Vrain Creek near Allens Park, Colo. | 33 | 0 | - | - | - | b 1925-30 | June 9, 1929 | e 1,000 | (g) | - | - | 1926, 27 1929, 30 | 4 | 62 |
| 1,145 | North St. Vrain Creek at Longmont Dam, near Lyons, Colo. | 109 | 0.3 | 2 | 88 | 11.0 | KTV | 1912-13 b 1914-17 1922-23 b 1925 | June 22, 1941 | 1,210 | d 3.3 | Dec. 19, 1939 | 1926-44 | 19 | 87.7 |
| 1,147 | St. Vrain Creek at Lyons, Colo. | 226 | 40 | 20 | 126 | 11.0 | KV | 1887-91 b 1895- | June 22, 1941 | 10,500 | d 0 | at times | 1888-91 1896-1908 1905 1908-44 | 50 | 133 |
| 1,148 | St. Vrain Creek at mouth near Platteville, Colo. | 1,000 | 160 | 87 | 221 | 6.3 | V | 1904-6, 15 1927- | Sept. 3, 1938 | 11,300 | d 12 | Apr. 23, 1935 | 1928-44 | 17 | 174 |
| 1,149 | South St. Vrain Creek near Ward, Colo. | 15 | 0 | - | - | - | - | b 1926-27 1929-31 | June 7, 1926 | 313 | d 1 | Mar. 20, 1930 | 1930, 31 | 2 | 25 |
| 1,151 | Middle St. Vrain Creek near Allens Park, Colo. | 28 | 0 | - | - | - | - | 1926-30 | June 6, 1926 | 322 | 3.1 | Mar. 5, 1929 | 1927-30 | 4 | 42 |
| 1,154 | Left-hand Creek at mouth, at (near) Longmont, Colo. | 74 | 12 | 1 | - | - | V | 1927-42 | Sept. 2, 1938 | 812 | d 0.4 | Sept. 20, 1939 | 1928-42 | 15 | 13.9 |
| 1,155 | Middle Boulder Creek above Cardinal Creek, Colo. | T 32.3 | 0 | - | - | - | T | 1907 | - | (g) | (g) | - | 1914-16 | 3 | 57 |
| 1,156 | Middle Boulder Creek at Nederland, Colo. | 38 | 0 | (c) | - | - | TV | 1908-10 b 1917-40 | - | (g) | (g) | - | 1909, 10 1918-40 | 25 | 53.1 |
| 1,157 | Boulder Creek near (at) Ordeell, Colo. | 105 | 0.1 | 16 | 87 | 11.3 | KV | b 1887-90 1907-14 1916- | June 6, 1921 | 2,500 | d 1.4 | Feb. 7, 1943 | 1907-14 1917-44 | 36 | 93.9 |

| | | | | | | | | | | | | | | | | | |
|-------|---|-----|-----|-----|------|-----|----|-------------------------------------|-------------------------------------|--------------------------------------|---------------|-------------------|---------------|----------------------------|--------------------|----|------|
| 1,158 | (North) Boulder Creek near (above) Boulder, Colo. | 129 | 0.3 | - | - | - | - | - | V | b 1888-92 b 1895-1901 b 1904-8 | d 1,200 | Aug. 4, 1890 | (g) | - | - | 0 | - |
| 1,159 | Boulder Creek at mouth, near Longmont, Colo. | 512 | 81 | 45 | 80 | 5.4 | - | - | V | 1927- | 4,410 | Sept. 3, 1938 | d 0 | at times | 1928-44 | 17 | 56.4 |
| 1,160 | North Boulder Creek at Silver Lake, Colo. | 8.7 | 0 | - | - | - | - | - | K | b 1913-29 | d 294 | July 27, 28, 1920 | d 1.2 | May 11, 1916 | 1924-29 1925-28 | 13 | 29.0 |
| 1,165 | Fanner's ditch diversion from Boulder Creek, Colo. | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 12 |
| 1,166 | Anderson ditch diversion from Boulder Creek, Colo. | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 4.6 |
| 1,167 | Boulder and White Rock ditch diversion from Boulder Creek, Colo. | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 26 |
| 1,177 | South Boulder Creek near Rollinsville, Colo. | 39 | 0 | - | - | - | - | - | - | b 1910-18 | d 542 | June 2, 1914 | (g) | - | 1912, 14, 1916 | 3 | 68 |
| 1,178 | South Boulder Creek near (at) Eldorado Springs (Marshall), Colo. | 114 | 0.5 | (e) | 77 | 9.3 | KV | b 1888-92 b 1895-1901 b 1904- | b 1888-92 b 1895-1901 b 1904- | 7,390 | Sept. 2, 1938 | d 1.2 | Oct. 28, 1939 | 1896-99 1905 1907-44 | 43 | 77 | |
| 1,179 | Moffat Tunnel diversion from Fraser River to South Boulder Creek, Colo. | - | - | - | 25.6 | - | - | - | V | 1936- | - | - | d 0 | at times | 1936-44 | 9 | 36 |
| 1,181 | Community Canal diversion from South Boulder Creek (near Marshall), Colo. | - | - | - | - | - | - | - | U | 1909 1926-38 | - | - | d 0 | at times | 1909 1927-38 | 13 | 12 |
| 1,183 | Davidson ditch diversion from South Boulder Creek, Colo. | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 7.7 |
| 1,184 | Goodhue and Rock Creek ditch diversion from South Boulder Creek, Colo. | - | - | - | - | - | - | - | U | 1925-38 | - | - | d 0 | at times | 1926-38 | 13 | 6.0 |
| 1,189 | South Boulder Canon ditch diversion from South Boulder Creek, Colo. | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 5.7 |
| 1,192 | Howard ditch diversion from South Boulder Creek, Colo. | - | - | - | - | - | - | - | U | 1926-38 | - | - | d 0 | at times | 1927-38 | 12 | 4.3 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | Annual discharge | | | |
|----------------------|--|---------------------|---|---|-------------------------------------|--|---|---------------|-------------------|----------|-------------------|-------------------------------------|-------|-----------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | Average discharge 1938-43 (cfs) | Years | Maximum discharge | | Minimum discharge | | | |
| | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | Years | Number of years |
| 1,196 | Leggett (Charity) ditch diversion Boulder Creek, Colo. | - | - | - | - | U | - | - | d 0 | at times | 1926-38 | 1927-38 | 12 | 8.5 |
| 1,201 | Lerner and Cottonwood No. 1 ditches, diversion from Dry Creek, Colo. | - | - | - | - | U | - | - | d 0 | at times | 1926-38 | 1927-38 | 12 | 6.2 |
| 1,203 | Lower Boulder ditch diversion from Boulder Creek, Colo. | - | - | - | - | U | - | - | d 0 | at times | 1926-38 | 1927-38 | 12 | 20 |
| 1,204 | Boulder and Weld County ditch diversion from Boulder Creek, Colo. | - | - | - | - | U | - | - | d 0 | at times | 1926-38 | 1927-38 | 12 | 3.8 |
| 1,227 | Highland (Goddard) ditch diversion from Boulder Creek, Colo. | - | - | - | - | U | - | - | d 0 | at times | 1926-38 | 1927-38 | 12 | 4.1 |
| 1,229 | Rural ditch diversion from Boulder Creek, Colo. | - | - | - | - | U | - | - | d 0 | at times | 1926-38 | 1927-38 | 12 | 6.0 |
| 1,231 | Union ditch near Plattville, Colo. | - | - | - | - | U | - | - | d 0 | at times | 1926-38 | 1927-38 | 12 | 39 |
| 1,232 | Section No. 3 ditch near La Salle, Colo. | - | - | - | - | U | - | - | d 0 | at times | 1926-38 | 1927-38 | 12 | 11 |
| 1,233 | Thompson River near Estes Park, Colo. | 158 | 0.5 | (c) | 125 | V | 10.7 | June 16, 1935 | 1,590 | d 4.4 | 1930- | 1931-44 | 14 | 124 |
| 1,234 | Thompson River (below power house) near Drake, Colo. | 277 | 1.0 | (c) | 159 | K | 7.8 | July 13, 1919 | 8,000 | d 4.9 | 1917-26 1928- | 1918-26 1929-44 | 25 | 178 |
| 1,235 | Thompson River at mouth of canyon, near Drake, Colo. | 302 | 1.0 | (c) | f 178 | V | 8.1 | Sept. 1, 1938 | 5,600 | d 7 | 1926-33 1938- | 1927, 28, 29, 1939 33 Dec. 12, 1940 | 9 | 173 |

| | 305 | 12 | - | - | - | - | - | - | - | July 7, 1906 | (g) | - | 1910 | 1 | 108 |
|---|-------|-----|-----|-------|-----|---|------------------------------|---------|----------------------|--------------|--------------------------------|---|--------------------|----|------|
| 1,216 (Big) Thompson River (Creek) near Arkins, Colo. | 818 | 78 | 97 | 48 | 2.9 | V | b 1887-92 b 1895-1911 | d 2,600 | Sept. 3, 1938 | d 0 | at times | - | 1928-44 | 17 | 40.2 |
| 1,217 Thompson River at mouth near La Salle, Colo. | - | - | - | - | - | V | 1914 1927- | - | - | - | - | - | 1940-44 | 5 | 0.1 |
| 1,218 Baraka ditch diversion from Colorado River to Thompson River, Colo. | - | - | - | - | - | V | - | - | - | - | - | - | 1927-38 | 12 | 52 |
| 1,241 Lower Latham ditch near Evans, Colo. | - | - | - | - | - | V | 1926-38 | - | - | - | - | - | 1884-1944 | 61 | 420 |
| 1,248 Cache la Poudre River at mouth of canyon, near Fort Collins, Colo. | 1,048 | 50 | 80 | 374 | 5.0 | V | 1881 1884- | (g) | May 20, 1904 | d 2.9 | Dec. 30, 1942 | - | 1911-19 1925-44 | 27 | 104 |
| 1,249 Cache la Poudre River near Greeley, Colo. | 1,840 | 225 | 190 | 72 | 3.5 | V | b 1903-4 1911-19 1924- | 4,240 | June 24, 26, 1917 | d 2.3 | Aug. 31, 1940 Sept. 2, 1940 | - | 1937-44 | 8 | 26 |
| 1,250 Colorado River diversion to Cache la Poudre River, Colo. | - | - | - | - | - | V | 1943-44 | - | - | - | - | - | 1937-44 | 8 | 3.5 |
| 1,251 Michigan River diversions to Cache la Poudre River, Colo. | - | - | - | - | - | V | - | - | - | - | - | - | 1937-44 | 8 | 33 |
| 802 Laramie River diversions to Cache la Poudre River | - | - | - | - | - | V | - | - | - | - | - | - | 1937-44 | 2 | 2.6 |
| 1,254 Lostoses Creek near Granite Canyon, Wyo. | 23 | 0.7 | - | - | - | V | b 1933-38 | (g) | Sept. 8, 1933 | d 0 | at times | - | 1934, 35 | 2 | 3.5 |
| 1,255 Middle Fork Crow Creek near Hecla, Wyo. | 23 | 0.1 | (c) | f 6.5 | 3.8 | - | b 1902-3 b 1933- | 495 | Sept. 8, 1933 | d 0 | at times | - | 1934, 35 | 2 | 1.3 |
| 1,258 South Fork Crow Creek near Hecla, Wyo. | 16 | 0.1 | (c) | f 2.7 | 2.3 | - | b 1933- | 91 | July 19, 1944 | d 0 | at times | - | 1934, 35 | 2 | 2.3 |
| 1,259 North Fork Crow Creek near Hecla, Wyo. | 27 | 0.1 | 1 | f 4.7 | 2.4 | - | b 1933- | (g) | Sept. 8, 1933 | d 0 | at times | - | 1934, 35 | 2 | 2.4 |
| 1,261 Lodgepole Creek near Federal, Wyo. | 25 | 0.2 | - | - | - | - | b 1933-38 | 89 | May 31, 1935 | d 0 | at times | - | 1928-31 | 4 | 8.3 |
| 1,262 Lodgepole Creek at Wyoming-Nebraska State line | a 950 | 6 | - | - | - | S | b 1925-31 | (g) | - | (g) | - | - | 1925-44 | 20 | 14.2 |
| 1,264 Lodgepole Creek at Bushnell (above Oliver Reservoir), Nebr. | 1,090 | 6 | 2 | 12.7 | 0.3 | S | 1924- | b 620 | Aug. 27, 1933 | d 2 | Apr. 11, 1935 | - | - | - | - |

See footnotes at end of table, page 106

GAGING-STATION RECORDS IN THE MISSOURI RIVER BASIN

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | Annual discharge | | |
|-------------------------|--|---------------------|---|---|--|-------------------------------------|--|---|-----------------|---------------|-----------------|-------------------|------------------|--------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | | Maximum discharge | | | | Minimum discharge | Number of years | |
| | | | | | | | | Years | Discharge (cfs) | Date | Discharge (cfs) | | | Date |
| 1,265 | Kimball (Oliver) Reservoir | a 1,110 | 7 | - | - | - | S | b 1933- | - | - | - | - | - | - |
| 1,266 | Lodgepole Creek below Kimball (Oliver) Reservoir, Nebr. | a 1,110 | 7 | - | - | - | S | 1924-31, 1933, 35 b 1936- | d 32 | June 18, 1935 | d 0 | at times | 1925-31, 1937-39 | 11 3.5 |
| 1,267 | Lodgepole Creek near (north of) Kimball, Nebr. | a 1,210 | 12 | - | - | - | S | b 1925-31 | hd 3,500 | June 29, 1928 | d 0 | at times | 1927-31 | 5 14.6 |
| 1,270 | Lodgepole Creek at (near) (south of) Sidney, Nebr. | 2,190 | 16 | - | - | - | S | b 1924-32 | (g) | - | d 0 | at times | 1925 1927-30 | 5 2.9 |
| 1,271 | Lodgepole Creek at (one mile west of) Lodgepole, Nebr. | a 2,580 | 17.5 | - | - | - | S | b 1924-31 | (g) | - | d 0 | at times | 1925, 26 1928-31 | 6 6.5 |
| 1,272 | Lodgepole Creek at Chappell, Nebr. | a 2,750 | 18 | - | - | - | S | b 1926-31 | (g) | - | (g) | - | 1928, 31 | 2 8.9 |
| 1,273 | Lodgepole Creek at Colorado-Nebraska State line (at Ralton, interstate station), Nebr. | 2,800 | 19 | - | - | - | S | b 1925-31 | (g) | - | d 0 | Mar. 6, 1931 | 1928-30 | 3 11.5 |
| 1,274 | Lodgepole Creek at Ovid, Colo. | a 2,900 | 19 | - | - | - | ST | b 1922-26 | (g) | - | (g) | - | 1924, 25 | 2 17.0 |
| 1,275 | South Fork Lodgepole Creek near Federal, Wyo. | 16 | 0.1 | - | - | - | - | b 1933-38 | (g) | Sept. 8, 1933 | d 0 | at times | 1934, 35 | 2 1.7 |
| 1,278 | Kimball Reservoir Canals diversion from Lodgepole Creek, Nebr. | - | - | - | 6.6 | - | S | 1923 1927 1933- | - | - | d 0 | at times | 1923, 27 1933-44 | 14 7.3 |
| 1,289 | Western Canal near Big Springs, Nebr. | - | - | - | 33 | - | S | 1918- | - | - | d 0 | at times | 1918-44 | 27 29 |

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | | Average annual discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | | |
|----------------------|---|---------------------|---|--|--|--|-------------------------------------|--|---|-------------------|--------|-------------------|------------------------------|------|-------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoir in 1940 (thousand acre-feet) | Average annual discharge 1938-43 (cfs) | | | | Years | Maximum discharge | | Minimum discharge | Annual discharge | | |
| | | | | | | | | | | Discharge (cfs) | Date | | Discharge (cfs) | Date | Years |
| 1,324 | Kearney Canal diversion from Elm Creek, Nebr. | - | - | - | - | - | S | 1935-42 | - | - | d 0 | at times | 1935-42 | 8 | 5.3 |
| 1,325 | Kearney Power Return near Kearney, Nebr. | - | - | - | 178 | - | S | 1937- | - | - | d 0 | at times | 1938-44 | 7 | 172 |
| 1,326 | Buffalo Creek near Elm Creek, Nebr. | a 240 | 0.1 | (c) | - | - | S | 1925 b 1927-28 b 1931- | d 346 | July 5, 1943 | d 0 | at times | 1932-35 1937-42 | 8 | 17 |
| 1,327 | Elm Creek near Elm Creek, Nebr. | a 95 | 0.2 | (c) | - | - | S | 1931-34 b 1935- | d 430 | July 12, 1940 | d 0 | at times | 1932-34 1936-42 | 10 | 5.6 |
| 1,330 | Middle Loup River at Walworth (Sargent), Nebr. | 4,040 | 0.4 | (c) | - | - | S | 1936-38 b 1940- | d 4,360 | Mar. 4, 1942 | d 135 | Dec. 7, 1937 | 1938; 41 1942, 44 | 4 | 803 |
| 1,332 | Middle Loup River at Arcadia, Nebr. | 4,430 | 3.7 | (c) | 776 | 2.5 | - | 1937- | 6,600 | June 25, 1939 | d 92 | Dec. 11, 1941 | 1938-44 | 7 | 787 |
| 1,335 | Middle Loup River at St. Paul, Nebr. | 7,300 | 7.3 | 3 | 1,050 | 2.0 | W | 1894-99 w 1900-15 1928- | 36,000 | June 15, 1943 | d 102 | Jan. 8, 1937 | 1895-1915 1929-44 | 37 | 1,310 |
| 1,336 | Loup River near Genoa, Nebr. | 13,400 | 24.5 | - | - | - | - | 1928-32 | 29,200 | May 31, 1932 | de 490 | Mar. 10, 1932 | 1929-31 | 3 | 2,660 |
| 1,337 | Loup River at (near) Columbus, Nebr. | 14,330 | 25 | - | - | - | W | 1894-1915 1910-31 1932-36 | 70,000 | June 6, 7, 1896 | 185 | Feb. 24, 1934 | 1895-1915 1931 1933-36 | 26 | 2,990 |
| 1,338 | Loup River at Columbus, Nebr. (excluding power diversion) | 14,330 | 25 | 10 | 1,120 | 2.2 | - | 1936- | 33,800 | June 15, 1943 | d 31 | Sept. 1, 1941 | 1937-44 | 8 | 1,220 |
| 1,340 | Middle Loup Canal No. 1 diversion from Middle Loup River, Nebr. | - | - | - | 8.6 | - | S | 1938-43 | - | - | d 0 | at times | 1938-43 | 6 | 8.6 |

| | | | | | | | | | | | | | | |
|-------|---|---------|------|------|-----|---|---------------------------------|----------|--------------------------------|-------|--|----------------------|----|-------|
| 1,341 | Middle Loup Canal No. 2 diversion from Middle Loup River, Nebr. | - | - | 9.6 | - | S | 1938-43 | - | - | d 0 | at times | 1938-43 | 6 | 9.6 |
| 1,342 | Middle Loup Canal No. 4 diversion from Middle Loup River, Nebr. | - | - | 18.1 | - | S | 1938-43 | - | - | d 0 | at times | 1938-43 | 6 | 18.1 |
| 1,343 | Middle Loup Canal No. 3 diversion from Middle Loup River, Nebr. | - | - | 17.1 | - | S | 1938-43 | - | - | d 0 | at times | 1938-43 | 6 | 17.1 |
| 1,344 | Boelus Power Canal diversion from Middle Loup River, Nebr. | - | - | - | - | S | b 1933-34 1935-38 1939-42 | - | - | d 0 | at times | 1936-38 1940-42 | 6 | 9.2 |
| 1,345 | South Loup River at Callaway, Nebr. | a 800 | 0.1 | (e) | - | S | 1937-40 | d 350 | May 11, 1938 | h 0 | July 23, 1940 Sept. 10, 15, 17, 1940 | 1938-40 | 3 | 64 |
| 1,346 | South Loup River at Ravenna, Nebr. | 1,660 | 4.8 | (c) | 1.7 | - | 1940- | (g) | June 14, 1943 | d 45 | Dec. 16, 1943 | 1941-44 | 4 | 209 |
| 1,351 | North Loup River at Taylor, Nebr. | 1,910 | 4.0 | (c) | 3.1 | - | 1936- | 2,480 | Sept. 2, 1942 | d 45 | July 26, 1941 | 1938-44 | 7 | 423 |
| 1,354 | North Loup River at Scotia, Nebr. | 3,770 | 16.3 | (c) | 2.8 | - | 1936- | 7,560 | June 20, 1942 Sept. 2, 1942 | d 105 | Aug. 7, 1941 | 1938-44 | 7 | 747 |
| 1,355 | North Loup River near St. Paul, Nebr. | 4,120 | 16.4 | (c) | 2.6 | W | 1894-99 1900-15 1928- | e 90,000 | June 6, 1896 | d 85 | Aug. 8, 1941 | 1895-1915 1929-44 | 37 | 999 |
| 1,358 | Taylor-Ord Canal diversion from North Loup River, Nebr. | - | - | - | - | S | 1939-43 | - | - | d 0 | at times | 1939-43 | 5 | 45 |
| 1,360 | Callamus River near Burwell, Nebr. | 1,210 | 0.1 | (e) | 2.8 | - | 1940- | d 770 | Mar. 20, 1943 | d 160 | in 1943, 44 | 1941-44 | 4 | 262 |
| 1,361 | Burwell-Sumpter Canal diversion from North Loup River, Nebr. | - | - | - | - | S | 1939-43 | - | - | d 0 | at times | 1939-43 | 5 | 20.7 |
| 1,362 | Ord-North Loup Canal diversion from North Loup River, Nebr. | - | - | - | - | S | 1939-43 | - | - | d 0 | at times | 1939-43 | 5 | 19.6 |
| 1,363 | Cedar River near Fullerton, Nebr. | 1,180 | 0.8 | (c) | 2.2 | - | 1931-32 1940- | 6,500 | June 22, 1941 | d 40 | Mar. 16, 17, 20, 1943 | 1941-44 | 4 | 206 |
| 1,364 | Loup River Power Canal near Genoa, Nebr. | - | - | - | - | - | 1936- | d 3,410 | Apr. 27, 1944 | yd 30 | Jan. 4, 1937 | 1937-44 | 8 | 1,080 |
| 1,365 | Beaver Creek at Genoa, Nebr. | 603 | 0.5 | (c) | 2.4 | - | 1940- | 3,930 | June 21, 1942 | 21 | July 29, 1941 Aug. 15, 1941 | 1941-44 | 4 | 120 |
| 1,367 | Elkhorn River at Neligh, Nebr. | 2,200 | 0.3 | (c) | 1.3 | W | 1930- | 4,610 | June 3, 1935 | d 12 | July 2, 1932 | 1931-44 | 14 | 181 |
| 1,368 | Elkhorn River at Norfolk, Nebr. | a 2,900 | 0.6 | - | - | - | b 1896-1903 | d 8,000 | May 30, 1903 | (g) | - | - | 0 | - |

See footnotes at end of table, page 108

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart.) | Gaging station | Drainage basin | | | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | Annual discharge | | | |
|--------------------------|---|---------------------|---|---|-------------------------------------|--|---|---------------|-------------------|--------------------------------|---------------------|------|-----------------|---------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | Average discharge 1938-43 (cfs) | Years | Maximum discharge | | Minimum discharge | | Number of years | Average (cfs) |
| | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | | |
| 1,369 | Elkhorn River at Arlington, Nebr. | 6,500 | 2.2 | - | - | S | 12,700 | July 17, 1915 | (g) | - | 1900-3 1914, 15 | 6 | 1,250 | |
| 1,370 | Elkhorn River at Waterloo, Nebr. | 6,900 | 3.0 | (c) | 642 | K | 100,000 | June 12, 1944 | 50 | Nov. 12, 1940 | 1912, 13 1929-44 | 18 | 807 | |
| 1,371 | Logan Creek near Uehling, Nebr. | 1,090 | 0.5 | - | - | - | 13,700 | June 11, 1944 | d 14 | Dec. 28, 1911 Nov. 27, 1912 | 1912-44 | 3 | 139 | |
| 1,372 | West Mishabotna River at White Cloud, Iowa | 920 | 0 | - | - | B | 12,000 | Apr. 19, 1920 | d 9 | Sept. 15-18, 1918 | 1919-23 | 5 | 373 | |
| 1,373 | Mishabotna River above (near) Hamburg, Iowa | 2,800 | 0 | (c) | 675 | B | 24,600 | Mar. 12, 1939 | d 4.5 | Aug. 30, 1934 | 1923 1929-44 | 17 | 713 | |
| 1,374 | East Mishabotna River at Red Oak, Iowa | 890 | 0 | (c) | 225 | B | 9,600 | Mar. 4, 1937 | de 6 | Aug. 18, 1936 | 1919-25 1937-44 | 15 | 290 | |
| 1,376 | Tarkio (East Tarkio) River at Blanchard, Iowa | 200 | 0 | (c) | - | - | 9,980 | Mar. 12, 1939 | d 0 | at times | 1935-39 | 5 | 43 | |
| 1,377 | Tarkio River at Fairfax, Mo. | 508 | 0 | (c) | 163 | - | 16,300 | June 20, 1942 | d 0 | at times | 1923-44 | 22 | 152 | |
| 1,378 | West Tarkio Creek near Westboro, Mo. | 105 | 0 | (c) | - | - | 8,720 | July 29, 1937 | d 0 | at times | 1935-39 | 5 | 23.4 | |
| 1,379 | Modaway River at Clarinda, Iowa | 740 | 0 | (c) | 250 | B | 14,000 | May 21, 1937 | 0 | Aug. 25, 1919 | 1921-25 1937-44 | 13 | 228 | |
| 1,380 | Modaway River near Burlington Junction, Mo. | 1,240 | 0 | (c) | 466 | B | 22,100 | June 9, 1941 | d 1.1 | Aug. 7, 1934 | 1922-44 | 23 | 415 | |
| 1,381 | West Modaway River at Villisca, Iowa | 360 | 0 | - | - | B | e 6,200 | June 9, 1924 | de 1 | at times | 1919-24 | 6 | 111 | |

| | | | | | | | | | | | | | | |
|-------|--|----------|------|-----|-------|-----|----|------------------------------|-----------|---------------|---|---------------------------|----|-------|
| 1,383 | Platte River at Conception Junction, Mo. | 492 | 0 | - | - | - | - | 1921-23 1928-32 | 12,200 | July 6, 1929 | d 0.1 Sept. 19, 1931 | 1922-23 1929-32 | 6 | 219 |
| 1,385 | Platte River near (at) Agency, Mo. | 1,760 | 0 | (c) | 604 | 4.7 | B | 1924-30 1932- | 38,300 | May 5, 1944 | d 0 at times | 1925-30 1933-44 | 18 | 721 |
| 1,386 | One Hundred and Two River near Maryville, Mo. | 500 | 0 | (c) | 199 | 5.4 | - | 1934- | 12,600 | Mar. 13, 1939 | d 0 July 25, 26, 1940 | 1935-44 | 10 | 181 |
| 1,388 | Arkansas River at (near) Haigler, Nebr. | 1,600 | 0.1 | (c) | 29 | 0.3 | SW | 1923- | 50,000 | May 31, 1935 | d 0 at times | 1924-44 | 21 | 29 |
| 1,389 | (North Fork) Republican River at (near) Benkelman, Nebr. | a 5,100 | 6.2 | - | - | - | LS | 1894-95 1902-6 1923-31 | d 830 | June 11, 1895 | d 0 at times | 1895 1903-6 1924-31 | 13 | 81 |
| 1,390 | Republican River at (near) Max, Nebr. | 7,740 | 7.7 | (c) | 156 | 0.3 | - | 1928- | 190,000 | May 31, 1935 | d 0 at times | 1929-44 | 16 | 188 |
| 1,391 | Republican River at (near) Culbertson, Nebr. | 10,600 | 8 | (c) | 194 | 0.3 | SW | b 1921- | a 200,000 | May 31, 1935 | d 0 at times | 1922-29 1931-44 | 22 | 203 |
| 1,392 | Republican River at (near) McCook, Nebr. | a 14,200 | 26 | - | - | - | S | b 1924-32 | d 8,830 | July 29, 1928 | d 0 at times | 1931 | 1 | 276 |
| 1,396 | Republican River near Bloomington, Nebr. | 20,900 | 29 | 4 | 680 | 0.5 | W | 1928- | 260,000 | June 1, 1935 | d 6.8 Oct. 6, 7, 1937 | 1929-44 | 16 | 689 |
| 1,398 | Republican River near Hardy (near Superior, at Boetwick), Nebr. | 22,400 | 31.3 | 5 | 790 | 0.5 | W | 1896-1915 1929- | 225,000 | June 2, 1935 | d 0 Aug. 9-19, 1934 | 1897-1915 1950-44 | 34 | 798 |
| 1,399 | Republican River at Scandia, Kans. | 22,950 | 31.5 | 5 | 914 | 0.6 | L | 1919-25 1928-44 | 215,000 | June 2, 1935 | d 0 Aug. 9-21, 1934 | 1920-25 1929-44 | 22 | 826 |
| 1,402 | Republican River at Clay Center (Waverfield), Kans. | 24,570 | 31.7 | 6 | 1,120 | 0.7 | - | 1917- | 195,000 | June 3, 1935 | d 0 Aug. 6, 7, 1934 Aug. 9, 1934 Sept. 6, 1934 | 1918-44 | 27 | 1,023 |
| 1,403 | Republican River at Junction (Junction City), Kans. | 24,960 | 31.7 | - | - | - | LX | 1895-1908 | 71,000 | May 30, 1908 | (g) - | 1896-1905 | 10 | 1,460 |
| 1,404 | Kansas River at Ogden, Kans. | 45,240 | 34.0 | 8 | 2,830 | 0.9 | - | b 1917- | 170,000 | June 3, 1935 | 51 Aug. 20, 1934 | 1918-26 1928-44 | 26 | 2,268 |
| 1,406 | Kansas River at Wamego, Kans. | 55,240 | 38.4 | 8 | 4,360 | 1.1 | - | 1919- | 177,000 | June 4, 1935 | 73 Dec. 14, 1940 | 1920-44 | 25 | 3,787 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | Annual discharge | | | |
|----------------------|---|---------------------|---|---|-------------------------------------|--|---|-------------------|---------------|-------------------|-------------------|--------------------------------------|-----------------|---------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | Average annual discharge 1938-43 (cfs) | Maximum discharge | | Minimum discharge | | Years | Number of years | Average (cfs) |
| | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | | | |
| 1,407 | Kansas River at Topeka, Kans. | 56,710 | 38.5 | 12 | 4,890 | L | 1917- | 154,000 | June 5, 1935 | 112 | Dec. 16, 1940 | 1918-44 | 27 | 4,285 |
| 1,408 | Kansas River at Leecompton (near Lawrence), Kans. | 58,420 | 39.0 | 22 | 5,520 | L | b 1886-1905 1936- | 280,000 | May 31, 1903 | (g) | - | 1887-98 1900-5 1937-44 | 26 | 6,140 |
| 1,409 | Kansas River at Bonner Springs, Kans. | 59,890 | 39.0 | 31 | 6,110 | L | 1917- | 147,000 | June 18, 1943 | 260 | Feb. 20, 1939 | 1918-44 | 27 | 5,422 |
| 1,411 | North Fork Republican River near Wray, Colo. | a 650 | 0.4 | (c) | 22 | - | 1937- | 270 | July 13, 1938 | d 6.9 | Apr. 4, 1938 | 1938-44 | 7 | 21.7 |
| 1,412 | North Fork Republican River (North Fork Arkansas) River at Colorado-Nebraska State line | a 1,600 | 5 | (c) | 46 | SW | 1915 1926- | 1,220 | Sept. 3, 1940 | d 0 | Aug. 25, 26, 1932 | 1926-44 | 19 | 48 |
| 1,413 | North Fork Republican River near Sunborn (Halgler), Nebr. | a 1,650 | 5 | - | - | LS | 1923-30 | (g) | - | (g) | - | 1924-30 | 7 | 52 |
| 1,415 | Buffalo Creek, near Halgler, Nebr. | (g) | 0.2 | (c) | - | S | 1922 b 1924-31 1940- | (g) | - | d 0 | at times | 1925, 1928-31 1941-44 | 9 | 10.6 |
| 1,418 | Rock Creek at (near) Parks, Nebr. | (g) | 0.2 | (c) | - | S | b 1925-31 1932-33 1940- | (g) | - | d 3.1 | Feb. 19-23, 1943 | 1926 1928-31 1933 1941-44 | 10 | 16.8 |
| 1,420 | Horse Creek near Parks, Nebr. | (g) | 0 | - | - | S | 1925 | (g) | - | d 0 | at times | 1929-31 | 3 | 1.5 |
| 1,422 | South Fork Republican River near (at) Benkelman, Nebr. | 2,550 | 0.5 | (c) | 65 | SW | 1894-95 1902-6 1923-33 1937- | 13,100 | July 12, 1941 | d 0 | at times | 1895 1903-6 1924-33 1938-44 | 22 | 60 |

| | | | | | | | | | | | | | | | | | | |
|-------|--|---------|------|---|-----|-----|---|---|----|--|----------|---------------|-------|--|-----------------------------|-----------------|------|-----|
| 1,425 | Frenchman Creek (River) above Marauville Reservoir, Nebr. | a 920 | 0.2 | - | - | - | - | - | S | 1926-31 1932-33 | (g) | - | (g) | - | - | 1927-31 1933 | 6 | 4.5 |
| 1,426 | Frenchman Creek (River) below Marauville Reservoir, Nebr. | a 930 | 0.2 | - | - | - | - | - | S | b 1924-31 1932-33 | (g) | - | d 0 | at times | 1925, 26 1928-31 1933 | 7 | 4.4 | |
| 1,427 | Frenchman Creek (River) below Iman Diversion, Nebr. | a 950 | 0.2 | - | - | - | - | - | S | 1923-25 b 1927-31 | (g) | - | (g) | - | 1924, 25 1928-30 | 5 | 14 | |
| 1,428 | Frenchman Creek (River) above Champion Diversion Lake, Nebr. | a 970 | 2.2 | - | - | - | - | - | S | 1925 b 1927-31 | (g) | - | (g) | - | 1928-30 | 3 | 22 | |
| 1,429 | Frenchman Creek (River) below Champion Reservoir (Kilpatrick's diversion), Nebr. | a 980 | 2.2 | - | - | - | - | - | S | 1925-30 | (g) | - | (g) | - | 1926-30 | 5 | 15 | |
| 1,430 | Frenchman Creek near Champion, Nebr. | a 1,000 | 2.2 | 2 | - | - | - | - | S | 1932-40 | 7,220 | June 6, 1940 | d 6.5 | June 11, 12, 1939 | 1933-39 | 7 | 26.3 | |
| 1,431 | Frenchman Creek below (near) Champion, Nebr. | S 1,020 | 2.2 | 2 | 43 | 0.7 | - | - | S | b 1924-29 1935- | 11,600 | June 7, 1940 | d 5 | Mar. 27, 29, 1938 Apr. 3, 1938 July 3, 1938 | 1927-29 | 12 | 41 | |
| 1,432 | Frenchman Creek near (south of) Imperial (near Harvey dam site), Nebr. | a 1,240 | 2.3 | 4 | - | - | - | - | S | 1924-30 1940- | 1,860 | June 14, 1943 | (g) | - | 1925-30 1941-44 | 10 | 64 | |
| 1,433 | Frenchman Creek (River) near Mandeta, Nebr. | a 1,360 | 2.4 | - | - | - | - | - | S | 1924-30 | (g) | - | (g) | - | 1925-30 | 6 | 100 | |
| 1,434 | Frenchman Creek near Hamlet, Nebr. | S 1,420 | 2.5 | 4 | 100 | 0.8 | - | - | L | 1928- | 2,400 | June 7, 1940 | d 49 | Nov. 21, 1931 | 1929-44 | 16 | 99.9 | |
| 1,435 | Frenchman Creek (River) near (north of) Palisade, Nebr. | a 1,470 | 14 | - | - | - | - | - | LS | 1894-96 1925 1927-30 | (g) | - | (g) | - | 1895, 96 1928-30 | 5 | 109 | |
| 1,436 | Frenchman Creek at Gilbertson, Nebr. | S 2,800 | 14.5 | 4 | 123 | 0.8 | - | - | SW | 1921- | e 15,000 | May 31, 1935 | d 0 | at times | 1922-44 | 23 | 129 | |
| 1,439 | Champion Canal diversion from Frenchman Creek, Nebr. | - | - | - | - | - | - | - | S | 1923 1925 1927-28 1933 b 1937-41 | - | - | d 0 | at times | 1923, 25 1928, 33 | 4 | 4.8 | |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | | Annual discharge | | |
|----------------------|---|---------------------|---|--|-------------------------------------|--|---|--------|-------------------|--------|-------------------|------------------------------|------------------|-----------------|---------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoir in 1940 (thousand acre-feet) | | | Average discharge 1938-43 (cfs) | Years | Maximum discharge | | Minimum discharge | | Years | Number of years | Average (cfs) |
| | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | | | |
| 1,442 | Pellet-Kroetter Canal diversion from Frenchman Creek, Nebr. | - | - | - | - | S | 1921 1924-27 b 1926-41 | - | - | d 0 | at times | 1921, 26 1927 | 3 | 7.7 | |
| 1,444 | Stinking Water Creek near Wauneta, Nebr. | a 1,080 | 0.7 | (c) | - | - | 1940- | 447 | June 13, 1943 | d 5.5 | Sept. 3, 1943 | 1941-44 | 4 | 24 | |
| 1,445 | Stinking Water Creek near Fallsdale, Nebr. | a 1,230 | 0.7 | - | - | S | b 1924-25 1928-31 1932-33 | (g) | - | (g) | - | 1929-31 1933 | 4 | 40 | |
| 1,446 | Culbertson Canal diversion from Frenchman Creek, Nebr. | - | - | - | 36 | S | 1920-29 1931- | - | - | d 0 | at times | 1920-29 1931-44 | 24 | 36 | |
| 1,447 | Riverside Canal diversion from Frenchman Creek, Nebr. | - | - | - | - | S | 1920 1923 1925 1927 b 1937-41 | - | - | d 0 | at times | 1920, 23 1925, 27 1937 | 5 | 44.2 | |
| 1,449 | Meeker Canal near Culbertson, Nebr. | - | - | - | - | S | b 1920-42 | - | - | d 0 | at times | 1920-39 1941 | 21 | 9.8 | |
| 1,450 | Red Willow Creek near McCook, Nebr. | a 730 | 0.1 | (c) | - | - | 1940- | 1,790 | Apr. 19, 1942 | d 44.2 | Sept. 4, 1943 | 1941-44 | 4 | 33 | |
| 1,451 | Red Willow Creek near Red Willow, Nebr. | 880 | 0.1 | (c) | - | S | b 1925-31 1939- | 4,610 | June 2, 1941 | (g) | - | 1928-31 1940-44 | 9 | 36 | |
| 1,452 | Medicine Creek at (near) Cambridge, Nebr. | S 880 | 0.1 | (c) | 86 | SW | 1922-31 b 1936- | 15,000 | Apr. 19, 1942 | (g) | - | 1923-31 1937-43 | 16 | 72 | |
| 1,454 | Muddy Creek near Arapahoe, Nebr. | a 250 | 0 | - | - | S | 1924 b 1926-31 | (g) | - | d 0 | Aug. 16-31, 1929 | 1928-31 | 4 | 3.6 | |

BASE DATA FOR GAGING STATIONS

101

| | | | | | | | | | | | | | | |
|-------|---|---------|-----|-----|-------|-----|----|-------------------------------|----------|---------------|---------------------------|---------------------------------|----|-------|
| 1,455 | Sappa Creek near Oberlin, Kans. | 1,050 | 0.2 | - | - | - | 1 | 1928-32 1944- | 1,380 | June 19, 1930 | d 0.1 at times | 1929-31 | 3 | 16 |
| 1,456 | Sappa Creek near Beaver City, Nebr. | S 1,560 | 0.4 | (c) | 44 | 0.4 | - | 1937- | 5,500 | July 17, 1944 | d 0 at times | 1938-44 | 7 | 51 |
| 1,457 | Beaver Creek at Ludell, Kans. | 1,460 | 0.2 | - | - | - | 1 | 1928-32 | (g) | Sept. 8, 1930 | d 0.1 Sept., Nov. 1931 | 1929-31 | 3 | 63 |
| 1,458 | Beaver Creek near Beaver City, Nebr. | 1,960 | 0.5 | (c) | 28 | 0.2 | - | 1937- | 3,800 | July 19, 1944 | d 0 at times | 1938-44 | 7 | 33 |
| 1,460 | Prairie Dog Creek near Woodruff, Kans. | 900 | 0.4 | - | - | - | 1 | 1928-32 | 2,830 | July 25, 1929 | d 4 at times | 1929-31 | 3 | 45 |
| 1,461 | West Buffalo Creek near Jewell, Kans. | 15.2 | 0 | - | - | - | - | 1934-38 | 3,520 | Sept. 1, 1935 | d 0 at times | 1935-37 | 3 | 3.3 |
| 1,462 | West Buffalo Creek at Jewell, Kans. | 16.8 | 0 | - | - | - | - | 1934-38 | 3,560 | Sept. 1, 1935 | d 0 at times | 1935-37 | 3 | 3.8 |
| 1,463 | Smoky Hill River at Elkader, Kans. | 3,555 | 0.3 | (c) | - | - | - | 1939- | 7,270 | July 2, 1941 | d 0 at times | 1940-44 | 5 | 36 |
| 1,464 | Smoky Hill River at Jerome, Kans. | 3,900 | 0.6 | - | - | - | - | 1928-32 | d 5,500 | June 4, 1930 | d 0.2 Sept., Oct. 1931 | 1929-31 | 3 | 35 |
| 1,467 | Smoky Hill River near Russell, Kans. | 6,965 | 0.9 | (c) | - | - | - | 1939- | 22,300 | June 18, 1942 | d 0 at times | 1942-44 | 4 | 223 |
| 1,468 | Smoky Hill River at Ellsworth, Kans. | 7,580 | 0.9 | (c) | 267 | 0.5 | 1 | 1895-1904 1918-25 1927- | 61,000 | June 1, 1938 | 1.5 Jan. 26, 1937 | 1896-1904 1919-25 1928-44 | 33 | 216 |
| 1,469 | Smoky Hill River near Langley, Kans. | 7,857 | 0.9 | (c) | - | - | - | 1940- | 17,200 | Oct. 20, 1941 | d 8 | 1942-44 | 4 | 362 |
| 1,470 | Smoky Hill River at Lindsborg, Kans. | 8,110 | 1.0 | (c) | 345 | 0.6 | IX | b 1905-23 1929- | 26,000 | June 3, 1938 | (g) | 1930-44 | 15 | 299 |
| 1,471 | Smoky Hill River near Raton, Kans. | 8,210 | 1.0 | - | - | - | L | b 1923-32 | d 7,450 | Aug. 17, 1927 | d 12 | 1924-30 | 7 | 322 |
| | | | | | | | | | | | | Aug. 12-18, 20, 31, 1926 | | |
| 1,472 | Smoky Hill at (near) Solomon (near Abilene), Kans. | 18,700 | 2.2 | - | - | - | X | 1904-21 b 1922-34 | d 18,400 | Aug. 10, 1928 | (g) | 1905-21 1924-34 | 28 | 900 |
| 1,473 | Smoky Hill River at Enterprise, Kans. | 19,200 | 2.2 | 2 | 1,340 | 1.0 | - | 1934- | 37,800 | Oct. 20, 1941 | 0 | 1935-44 | 10 | 1,324 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | | | |
|-------------------------|---|---------------------|---|---|--|-------------------------------------|--|---|-------------------|------------------|-------------------|-------------------------------|--------------------------------|-----------------|---------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | | Years | Maximum discharge | | Minimum discharge | | Annual discharge | | |
| | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | Years | Number of years | Average (cfs) |
| 1,475 | Saline River near Wilson, Kans. | 1,900 | 0.05 | 1 | 122 | 0.9 | - | 1929- | 21,900 | June 2, 1935 | d 1 | at times | 1930-44 | 15 | 120 |
| 1,477 | Saline River at Tecott, Kans. | 2,820 | 0.1 | 1 | 202 | 1.0 | L | 1919- | 6,850 | June 3, 1935 | d 0 | at times | 1920-44 | 25 | 171 |
| 1,478 | Saline River near Salina, Kans. | 3,400 | 0.1 | - | - | - | L | 1897-1903 | ed 21,000 | May 29, 30, 1903 | (g) | - | 1898-1903 | 6 | 341 |
| 1,479 | South Fork Solomon River at Alton, Kans. | 1,720 | 0.1 | (c) | - | - | L | 1919-25 1928-32 1942- | 11,500 | June 16, 1943 | d 0.1 | Sept. 7, 1922 | 1920-25 1929-31 1943, 44 | 11 | 68 |
| 1,480 | Solomon River at Beloit, Kans. | 5,430 | 0.8 | (c) | 355 | 0.9 | L | 1895-97 1929- | 37,800 | June 3, 1935 | d 0 | at times | 1896, 97 1930-44 | 17 | 315 |
| 1,481 | Solomon River at Miles (near Bennington), Kans. | 6,770 | 0.9 | 1 | 555 | 1.1 | L | 1897-1903 1917- | e 41,000 | June 3, 1903 | d 1 | Sept. 4, 1926 | 1898-1903 1918-44 | 33 | 492 |
| 1,482 | North Fork Solomon River at Kiredin, Kans. | 1,290 | 0.5 | (c) | - | - | L | 1919-25 1928-32 1941- | 15,500 | Sept. 18, 1939 | d 0 | at times | 1920-25 1929-31 1943, 44 | 11 | 70 |
| 1,483 | East Limestone Creek near Ionia, Kans. | 27.3 | 0 | - | - | - | - | 1934-38 | 3,920 | May 28, 1935 | d 0 | at times | 1935-37 | 3 | 4.9 |
| 1,485 | Elm Creek near Ionia, Kans. | 22.7 | 0 | - | - | - | - | 1934-38 | 4,490 | Sept. 1, 1935 | d 0 | at times | 1935-37 | 3 | 4.6 |
| 1,486 | Big Blue River at Beatrice, Nebr. | 3,363 | 2.9 | - | - | - | L | 1910-15 | d 22,400 | July 23, 1911 | d 5 | Sept. 3, 1913 | 1911-15 | 5 | 628 |
| 1,487 | Big Blue River at Barnston, Nebr. | 4,680 | 3.0 | (c) | 564 | 1.8 | - | 1932- | 57,700 | June 9, 1941 | d 8 | Aug. 5, 1934 Oct. 17, 1934 | 1933-44 | 12 | 498 |
| 1,488 | Big Blue River at Hall, Kans. | a 4,840 | 3.0 | (c) | - | - | L | 1919-25 1928-40 | 15,500 | June 2, 1935 | d 2 | Sept. 8, 1944 1922 | 1920-25 1929-39 | 17 | 490 |
| 1,490 | Big Blue River at Randolph, Kans. | 9,100 | 4.4 | (c) | 1,420 | 2.1 | L | 1917- | 98,000 | June 10, 1941 | 31 | Aug. 10, 1934 | 1918-44 | 27 | 1,254 |

| Station No. | Station Name | 9,490 | 4+4 | - | - | 1 | 1895-1905 | 98,000 | May 31, 1903 | (g) | 1896-1905 | 2,330 |
|-------------|---|-------|-----|-------|-----|---|--------------------|---------|---------------|-------|---|-------|
| 1,491 | Big Blue River near Manhattan, Kans. | 2,340 | 1.0 | 296 | 1.6 | I | 1908-15 1928- | 26,800 | June 9, 1941 | d 14 | Nov. 22, 1929 1929-44 | 24 |
| 1,493 | Little Blue River near Endicott (Fairbury), Nebr. | 3,440 | 1.3 | 527 | 2.1 | L | 1921-25 1928- | 50,400 | June 10, 1941 | d 28 | Aug. 12, 1934 1929-44 | 20 |
| 1,494 | Little Blue River at Waterville, Kans. | 228 | 0 | 60 | 3.6 | - | 1916- | 23,500 | Oct. 9, 1941 | d 0 | at times 1937-44 | 8 |
| 1,495 | (Red) Vermillion Creek near Wamego, Kans. | 268 | 0.3 | 100 | 5.1 | - | 1929- | 9,910 | Apr. 23, 1944 | d 0 | at times 1930-44 | 15 |
| 1,496 | Soldier Creek near (at) Topeka, Kans. | 922 | 0 | 338 | 5.0 | L | 1922- | 44,000 | May 3, 1944 | d 0.1 | at times 1934 | 22 |
| 1,497 | Delaware River at Valley Falls, Kans. | 458 | 0 | 140 | 4.2 | - | 1929- | 18,500 | Apr. 23, 1944 | d 0 | at times 1930-44 | 15 |
| 1,498 | Wakarusa River near Lawrence, Kans. | 406 | 0 | 186 | 6.2 | - | 1929- | 13,000 | Oct. 10, 1941 | d 0 | at times 1930-44 | 15 |
| 1,499 | Strenger Creek near Tonganoxie, Kans. | 188 | 0 | 102 | 7.4 | - | 1939- | 26,400 | Apr. 23, 1944 | d 0 | at times 1940-44 | 5 |
| 1,500 | Blue River near Kansas City, Mo. | 2,250 | 0 | 761 | 4.6 | - | 1921- | 56,800 | June 2, 1929 | 2.4 | Oct. 24, 25, 1938 | 23 |
| 1,501 | Grand River near Gallatin, Mo. | 6,880 | 0 | 2,620 | 5.2 | - | 1924- | 115,000 | Apr. 25, 1944 | d 10 | Aug. 12, 1934 1925-44 | 20 |
| 1,502 | Grand River near Sumner, Mo. | 95 | 0 | 35 | 4.9 | - | 1934- | 6,600 | June 26, 1942 | d 0 | at times 1935-44 | 10 |
| 1,503 | East Fork Big Creek near Bethany, Mo. | 702 | 0 | - | - | - | b 1918-25 1941- | 16,700 | July 18, 1922 | d 1 | at times 1918 | 6 |
| 1,504 | Thompson (Grand) River at Davis City, Iowa | 1,680 | 0 | 683 | 5.5 | - | 1928-* | 35,400 | June 27, 1942 | d 1.1 | Aug. 10, 1934 1929-44 | 16 |
| 1,505 | Thompson River at Trenton, Mo. | 246 | 0 | - | - | - | 1939- | (g) | June 20, 1942 | d 0 | at times 1940-44 | 5 |
| 1,506 | Weidon River near Mercer, Mo. | 494 | 0 | 197 | 5.4 | - | 1929- | 18,000 | June 21, 1942 | d 0.2 | Aug. 29, 1936 Dec. 11-15, 1937 | 15 |
| 1,507 | Weidon River at Mill Grove, Mo. | 225 | 0 | 90 | 5.4 | - | b 1921- | 12,400 | June 26, 1942 | d 0 | at times 1922-24 1926-28 1930-44 | 21 |
| 1,508 | Medicine Creek near Galt, Mo. | | | | | | | | | | | |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Discharge records prior to Oct. 1, 1944 | | | | | Annual discharge | | | |
|-------------------------|---------------------------------------|---------------------|---|---|-------------------------------------|--|---|----------|-------------------|-------|-------------------------------------|------------------|------|-----------------|---------------|
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoirs in 1940 (thousand acre-feet) | | | Average discharge 1938-43 (cfs) | Years | Maximum discharge | | Minimum discharge | | Year | Number of years | Average (cfs) |
| | | | | | | | | | Discharge (cfs) | Date | Discharge (cfs) | Date | | | |
| 1,515 | Medicine Creek near Sturges, Mo. | 368 | 0 | - | - | - | 1929-33 | 10,400 | Apr. 21, 1929 | d 2.5 | Jan. 9-20, 1931 | 1930-33 | 4 | 238 | |
| 1,516 | Locust Creek near Milan, Mo. | 225 | 0 | - | - | - | 1921-33 | d 3,880 | Nov. 18, 1928 | d 0.1 | Aug. 8, 1930 | 1922-33 | 12 | 152 | |
| 1,517 | Locust Creek near Linneus, Mo. | 550 | 0 | (c) | 5.7 | - | 1929- | 20,100 | Apr. 23, 1944 | 0 | July 17, 1934 to Aug. 11, 1934 | 1930-44 | 15 | 281 | |
| 1,519 | Chariton River near Centerville, Iowa | 727 | 0 | (c) | 4.5 | - | 1938- | 16,500 | Mar. 13, 1939 | d 0.1 | Oct. 11, 1938 to Sept. 30, 1940 | 1939-44 | 6 | 309 | |
| 1,520 | Chariton River at Nowinger, Mo. | 1,370 | 0 | (c) | 5.1 | - | 1931- | 15,400 | Nov. 25, 1931 | d 0.1 | Aug. 31, 1936 to Sept. 1, 1936 | 1932-44 | 13 | 627 | |
| 1,521 | Chariton River at Elmer, Mo. | 1,660 | 0 | - | - | B | 1921-30 | d 22,500 | Nov. 17, 1928 | d 14 | Sept. 26, 1927 to Sept. 25-30, 1930 | 1922-30 | 9 | 1,080 | |
| 1,522 | Chariton River near Keytesville, Mo. | 1,950 | 0 | (c) | 785 | 5.5 | 1929- | 21,000 | June 26, 1942 | d 4.6 | Aug. 7, 9, 10, 1934 | 1930-44 | 15 | 907 | |
| 1,523 | Lamine River at Clifton City, Mo. | 598 | 0 | (c) | 490 | 11.1 | 1922- | 60,000 | May 18, 1943 | 0 | at times | 1923-44 | 22 | 481 | |
| 1,524 | Blackwater River at Blue Lick, Mo. | 1,120 | 0 | (c) | 599 | 7.3 | 1922-33 1938- | 54,000 | Nov. 18, 1928 | d 0.5 | Nov. 13, 1928 to Aug. 13, 1931 | 1923-33 1939-44 | 17 | 663 | |
| 1,525 | Oage River at Melvern, Kans. | 369 | 0 | 2 | 180 | 6.9 | 1939- | 29,000 | Apr. 23, 1944 | d 0 | at times | 1940-44 | 5 | 212 | |
| 1,526 | Oage River near Quenemo, Kans. | 1,030 | 0 | - | - | - | 1922-38 | 90,000 | Nov. 17, 1928 | d 0 | at times | 1923-37 | 15 | 320 | |
| 1,527 | Oage River near (at) Ottawa, Kans. | 1,260 | 0 | 2 | 599 | 6.5 | 1902-5 1911-14 1918- | 75,000 | Nov. 17, 1928 | d 0 | at times | 1905-5 1920-44 | 28 | 565 | |

BASE DATA FOR GAGING STATIONS

106

| | | | | | | | | | | | | | | |
|-------|---|--------|---|-------|--------|------|---|--------------------|---------------|-------|--------------------|---------------------|----|--------|
| 1,528 | Ozage River at Trading Post, Kans. | 2,910 | 0 | 10 | 1,590 | 7.4 | - | 1921-23 1928- | Nov. 18, 1928 | d 0 | at times | 1922, 23 1929-44 | 18 | 1,446 |
| 1,529 | Ozage River at Osceola, Mo. | 8,220 | 0 | 13 | 5,250 | 8.7 | - | 1921-28 1930- | May 21, 1943 | 4.0 | July 13, 1936 | 1922-28 1932-44 | 20 | 5,375 |
| 1,530 | Ozage River at Warsaw, Mo. | 11,500 | 0 | - | - | - | - | 1925-31 | May 19, 1929 | 42 | Aug. 18, 1930 | 1928-30 | 5 | 10,500 |
| 1,531 | Lake of the Ozarks near Bagnell, Mo. | 14,000 | 0 | 1,248 | - | - | Y | 1931- | - | - | - | - | - | - |
| 1,532 | Ozage River near Bagnell, Mo. | 14,000 | 0 | 1,248 | 9,840 | 9.5 | Y | 1880- | May 19, 1943 | 220 | June 12, 1932 | 1881-1944 | 64 | 9,505 |
| 1,534 | Ozage River near St. Thomas, Mo. | 14,500 | 0 | 1,248 | 10,260 | 9.6 | - | 1931- | May 20, 1943 | d 420 | Aug. 27, 1931 | 1932-44 | 13 | 9,402 |
| 1,535 | Salt Creek near Lyndon, Kans. | 111 | 0 | (c) | f 48 | 5.9 | - | 1939- | Apr. 22, 1944 | d 0 | at times | 1940-44 | 5 | 63 |
| 1,536 | Hundred and Ten Mile (Dragon) Creek near Quenemo, Kans. | 321 | 0 | - | - | - | - | 1939-42 | Oct. 20, 1941 | d 0 | at times | 1940-42 | 3 | 150 |
| 1,537 | Pottawatomie Creek near Garnett, Kans. | 334 | 0 | (c) | f 200 | 8.1 | - | 1939- | Apr. 23, 1944 | d 0 | at times | 1940-44 | 5 | 269 |
| 1,542 | Marmaton River near Fort Scott, Kans. | 411 | 0 | (c) | 341 | 11.3 | - | 1921-25 1929- | May 18, 1943 | 0 | at times | 1922-24 1930-44 | 18 | 290 |
| 1,543 | Sac River near Stockton, Mo. | 1,160 | 0 | (c) | 996 | 11.7 | - | 1921- | May 19, 1943 | d 0.8 | Aug. 30, 1936 | 1922-44 | 23 | 1,095 |
| 1,545 | Little Sac River near Springfield, Mo. | 40 | 0 | - | - | - | - | 1927-31 | June 28, 1928 | d 0.1 | at times | 1928-30 | 3 | 44 |
| 1,546 | Cedar Creek near Fleasant View, Mo. | 411 | 0 | - | - | - | - | 1923-26 | July 12, 1924 | d 0.3 | Aug. 9-11, 1926 | 1924-26 | 3 | 316 |
| 1,547 | Pomme de Terre River at Hermitage, Mo. | 655 | 0 | (c) | 609 | 12.6 | - | 1921- | Aug. 8, 1927 | d 0 | at times | 1922-44 | 23 | 632 |
| 1,548 | South Grand River near Brownington, Mo. | 1,660 | 0 | (c) | 963 | 7.9 | - | 1921- | Nov. 19, 1928 | d 0 | at times | 1922-44 | 23 | 940 |
| 1,549 | Mingus River near DeCATurville, Mo. | 627 | 0 | (c) | 716 | 15.5 | - | 1930- | Apr. 20, 1941 | 9 | Nov. 28, 1932 | 1931-44 | 14 | 694 |
| 1,550 | Mingus River near Roach, Mo. | a 698 | 0 | - | - | - | - | 1922-30 | Aug. 9, 1927 | d 68 | Oct. 6, 1930 | 1924-30 | 7 | 1,013 |
| 1,551 | Bennett Spring at Bennett Springs (Brice), Mo. | - | 0 | - | - | - | Y | 1916-20 1928-39 | June 20, 1935 | da 55 | Nov. 13, 1934 | 1917-19 1929-39 | 14 | 145 |

See footnotes at end of table, page 106

Table 3.—Base data for gaging stations in Missouri River Basin—Continued

| Discharge records prior to Oct. 1, 1944 | | | | | | | | | | | | | | | |
|---|---|---------------------|---|--|--|-------------------------------------|--|-------------------|-----------------|------|-------------------|-------------------|-------|------------------|---------------|
| Ref. No. (see chart) | Gaging station | Drainage basin | | | Average annual discharge 1938-43 (cfs) | Average annual runoff 1938-43 (in.) | Sources of record not published in Water Supply Papers | Maximum discharge | | | | Minimum discharge | | Annual discharge | |
| | | Area (square miles) | Approximate area irrigated in 1939 (thousand acres) | Approximate capacity of reservoir in 1940 (thousand acre-feet) | | | | Years | Discharge (cfs) | Date | Discharge (cfs) | Date | Years | Number of years | Average (cfs) |
| 1,553 | Gasconade River near Hartsburg, Mo. | 1,250 | 0 | (c) | 1,110 | 12.0 | M | 68,700 | Mar. 12, 1935 | 18 | Aug. 1, 1936 | 1929-44 | 16 | 930 | |
| 1,554 | Gasconade River near Waynesville, Mo. | 1,680 | 0 | (c) | 1,450 | 11.7 | Y | 69,000 | Mar. 13, 1935 | d 50 | Aug. 30, 31, 1936 | 1915-44 | 30 | 1,390 | |
| 1,555 | Gasconade River at Jerome (Arlington), Mo. | 2,840 | 0 | (c) | 2,600 | 12.4 | M | 76,800 | Mar. 13, 1935 | (g) | - | 1904, 5 1916-44 | 31 | 2,553 | |
| 1,556 | Gasconade River near Rich Fountain, Mo. | 3,180 | 0 | (c) | 2,950 | 12.6 | M | 86,000 | Mar. 14, 1935 | (g) | - | 1916-44 | 29 | 2,845 | |
| 1,558 | Big Piney River (Piney Creek) near Big Piney, Mo. | 560 | 0 | (c) | 550 | 13.3 | M | 32,700 | Dec. 26, 1942 | d 75 | Aug. 6, 7, 1934 | 1922-44 | 23 | 523 | |
| 1,560 | Little Piney Creek at Newburg, Mo. | 200 | 0 | (c) | 160 | 10.9 | M | 28,000 | June 26, 1935 | d 24 | Aug. 22-31, 1936 | 1929-44 | 16 | 144 | |

a Approximate figure.

b Records incomplete for parts of period.

c Only a small amount of usable storage; probably less than 1,000 acre-feet

d Daily discharge.

e Estimated.

f Partly estimated.

g Not determined.

h Figure or records of doubtful accuracy.

i Records excluding flow into Fishkun Canal available 1936-38

j Includes appreciable return flow from irrigation.

k Peak discharge not determined for larger flood in 1908 during period of no record.

m Since June 1917, flow has been increased by water from St. Mary Canal.

n Includes estimates of irrigated acreages in Canada.

p Records for two periods equivalent if discharge of Woodbine Creek is added to discharge at station for 1924-27.

q Does not include flow of about 7 second-feet diverted around station.

r Includes drainage area of Monona-Harrison ditch near Turin, Iowa.

s May have been exceeded during 1912 or 1914.

t Includes flow of King Canyon Canal for 1940, 41.

u Includes diversion to Gering-Fort Laramie Canal.

v Diversions for irrigation were partly from return flow.

w Estimates of discharge by months.

x Probably too high owing to backwater from ice.

y Minimum daily after flow in canal began.

Chart 1.- Duration of records at gaging stations in Missouri River Basin

Sources of records are indicated as follows

- A - Annual Reports, Bulletins, and Water-Supply Papers, U. S. Department of Interior, Geological Survey
- B - Water Resources of Montana and Their Use, vols. I-IV, Montana Agriculture Experiment Station
- C - H. Doc. 193, 72d Cong., 1st sess., Jefferson, Madison, and Gallatin Rivers, Mont.
- D - H. Doc. 238, 73d Cong., 2d sess., Missouri River
- E - Daily River Stages, vols. I-XL, U. S. Department of Commerce, Weather Bureau
- F - Biennial Reports, State Engineer of North Dakota
- G - Biennial Reports, State Engineer of South Dakota
- H - Stream Flow Records of Iowa 1873-1932, Water-Supply Bulletins No. 1 and No. 2, Iowa State Planning Board, Iowa Geological Survey
- I - Water Resources of Nebraska, Nebraska State Planning Board
- J - Water Resources of Missouri 1857-1926, Surface Waters of Missouri 1927-39, Missouri Bureau of Geology and Mines, Missouri Geological Survey and Water Resources
- K - H. Doc. 146, 72d Cong., 1st sess., Musselshell River, Mont.
- L - H. Doc. 191, 72d Cong., 1st sess., Marias River, Mont.
- M - H. Doc. 88, 73d Cong., 1st sess., Milk River, Mont.
- N - Water Resources Papers, Dominion Water and Power Bureau, Department of Mines and Resources, Canada
- O - Biennial Reports, State Engineer of Wyoming, including special report on Diversions from the Wind and Bighorn Rivers
- P - H. Doc. 64, 73d Cong., 1st sess., Little Missouri River, Wyo., Mont., S. Dak., and N. Dak.
- Q - H. Doc. 76, 73d Cong., 1st sess., Cannonball, Grand, and Moreau Rivers, N. Dak. and S. Dak.
- R - H. Doc. 190, 72d Cong., 1st sess., Cheyenne River, S. Dak. and Wyo.
- S - Special Report No. 8, U. S. Department of Agriculture, Soil Conservation Service
- T - Biennial and Special Reports, Department of Roads and Irrigation, State of Nebraska
- U - H. Doc. 90, 73d Cong., 1st sess., Niobrara River, Nebr. and Wyo.
- V - H. Doc. 83, 73d Cong., 1st sess., James River, N. Dak. and S. Dak.
- W - H. Doc. 189, 72d Cong., 1st sess., Big and Little Sioux Rivers, Iowa and South Dakota
- X - H. Doc. 197, 73d Cong., 2d sess., Platte River, Colo., Wyo., and Nebr.
- Y - Water Resources of Colorado, Appendices 3 and 4, Colorado State Planning Commission, Water Conservation Board, State Engineer
- Z - Biennial Reports, State Engineer of Colorado
- AA - H. Doc. 195, 73d Cong., 2d sess., Kansas River, Colo., Nebr., and Kans.
- AB - Surface Waters of Kansas, Stream Flow Data of Kansas, Kansas Water Commission, Kansas State Board of Agriculture
- AC - H. Doc. 192, 72d Cong., 1st sess., Gasconade River, Mo.
- AD - Stages of the Missouri River, Missouri River Commission

Explanation of bars







| | | | |
|---|------------------------|---|--|
|  | Gage heights or stages |  | Daily discharge not continuous |
|  | Annual discharge |  | Daily discharge not continuous, monthly discharge continuous |
|  | Monthly discharge |  | Daily discharge continuous |

Chart 1.- Duration of records at gaging stations in Missouri River Basin

| Refer- ence No. | Water years ending September 30 | | | | | | Gaging station |
|-----------------------|---------------------------------|---------|-----------|---------|---------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 1 | | | | | | | Red Rock River near Lakeview, Mont. |
| 2 | | | | | | | Red Rock River at Metzel Ford, near Monida, Mont. |
| 3 | | | | | | | Red Rock at Kennedy Ranch, near Lakeview, Mont. |
| 4 | | | | | | | Red Rock River above Red Rock Reser- voir, near Monida, Mont. |
| 5 | | | | | | | Red Rock River (Creek) below Red Rock Reservoir, near Monida, Mont. |
| 6 | | | | | | | Red Rock River at Lima, Mont. |
| 7 | | | | | | | Red Rock River near Dell, Mont. |
| 8 | | | | | | | Red Rock River at Red Rock, Mont. |
| 9 | | | | | | | Beaverhead River at Tarratza, Mont. |
| 10 | | | | | | | Beaverhead River at Dillon, Mont. |
| 11 | | | | | | | Beaverhead River at Blaine, Mont. |
| 12 | | | | | | | Jefferson River near Twin Bridges, Mont. |
| 13 | | | | | | | Jefferson River near Silverstar, Mont. |

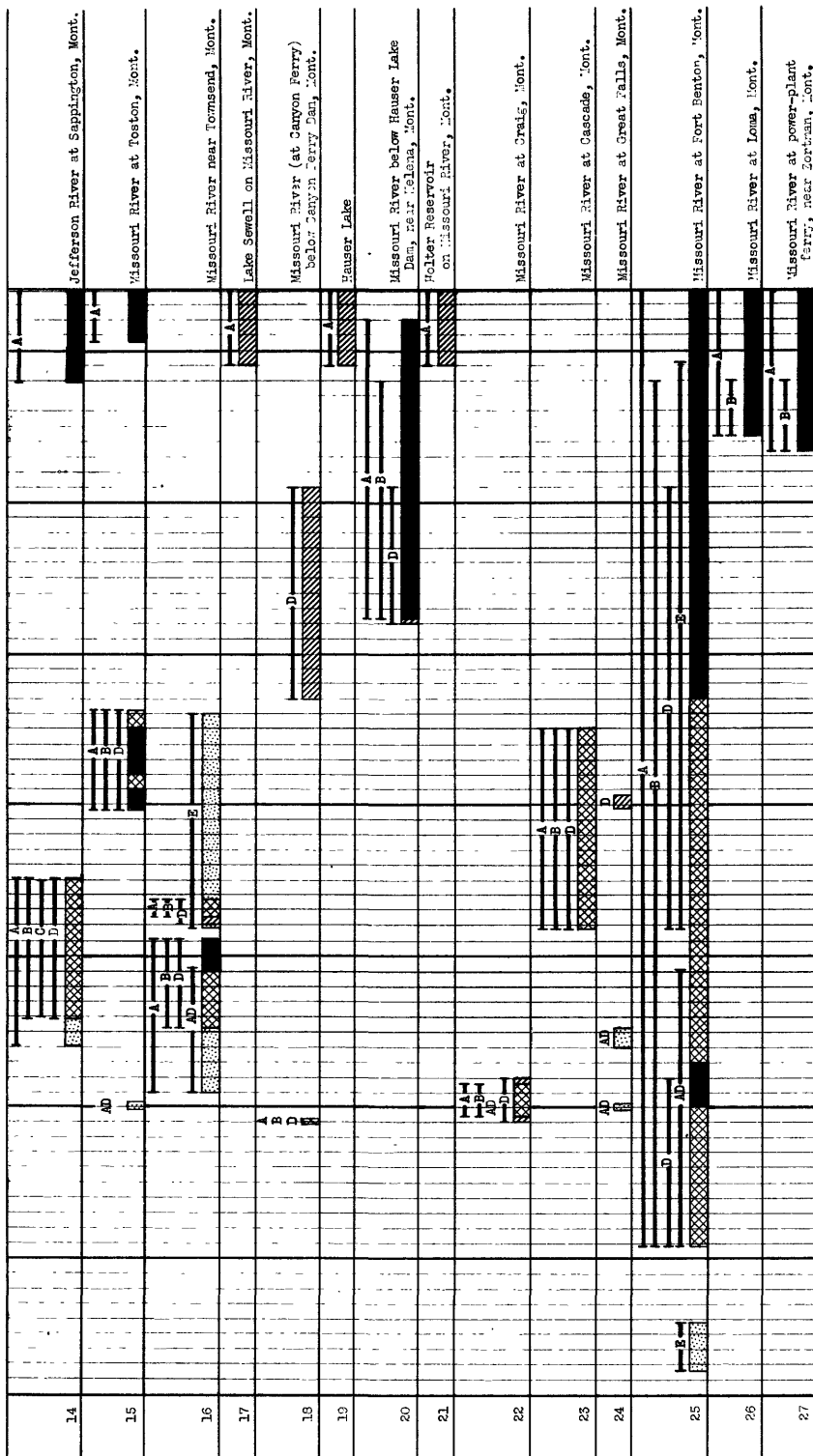


Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference No. | Water years ending September 30 | | | | | | | | Gaging station |
|------------------|---------------------------------|---------|-----------|---------|---------|---------|---------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | 1931-40 | 1941-44 | |
| 28 | | | | | | | | | Fort Peck Reservoir at Fort Peck, Mont. |
| 29 | | | | | | | | | Missouri River below Fort Peck Dam, Mont. |
| 30 | | | | | | | | | Missouri River near Wolf Point, Mont. |
| 31 | | | | | | | | | Missouri River near Culbertson, Mont. |
| 32 | | | | | | | | | Missouri River at Fort Buford, N.Dak. |
| 33 | | | | | | | | | Missouri River near Williston, N.Dak. |
| 34 | | | | | | | | | Missouri River at Sanish, N.Dak. |
| 35 | | | | | | | | | Missouri River near Elbowoods, N.Dak. |
| 36 | | | | | | | | | Missouri River at Ree, N.Dak. |
| 37 | | | | | | | | | Missouri River at Hanksville, N.Dak. |
| 38 | | | | | | | | | Missouri River at Ashburn, N.Dak. |
| 39 | | | | | | | | | Missouri River at Bismarck, N.Dak. |
| 40 | | | | | | | | | Missouri River near Mobridge, S.Dak. |



Chart 1.- Duration of records at gaging stations in Missouri River Basin—Continued

| Reference No. | Water years ending September 30 | | | | | | | | Gaging station |
|---------------|---------------------------------|---------|-----------|---------|---------|---------|---------|---------|---|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | 1931-40 | 1941-44 | |
| 56 | | | | | | | | | Missouri River at Atchison, Kans. |
| 57 | | | | | | | | | Missouri River at Fort Leavenworth, Kans. |
| 58 | | | | | | | | | Missouri River at Leavenworth, Kans. |
| 59 | | | | | | | | | Missouri River at Kansas City, Mo. |
| 60 | | | | | | | | | Missouri River at Avondale, Mo. |
| 61 | | | | | | | | | Missouri River at Sibley, Mo. |
| 62 | | | | | | | | | Missouri River at Lexington, Mo. |
| 63 | | | | | | | | | Missouri River at Waverly, Mo. |
| 64 | | | | | | | | | Missouri River at Dewitt, Mo. |
| 65 | | | | | | | | | Missouri River at Brunswick, Mo. |
| 66 | | | | | | | | | Missouri River at Glasgow, Mo. |
| 67 | | | | | | | | | Missouri River at Boonville, Mo. |
| 68 | | | | | | | | | Missouri River at Jefferson City, Mo. |
| 69 | | | | | | | | | Missouri River at Ewing's Landing, Mo. |

Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference No. | Water years ending September 30 | | | | | | | | Gaging station |
|------------------|---------------------------------|---------|-----------|---------|---------|---------|---------|---------|---|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | 1931-40 | 1941-44 | |
| 86 | | | | | | | | | Wolf Creek near Waterloo, Mont. |
| 87 | | | | A B | | | | | Big Lostone Creek near Hitehall, Mont. |
| 88 | | | | | | | A B | | Little Lostone Creek near Hitehall, Mont. |
| 89 | | | | A B | | | | | Hitehall Creek at Hitehall, Mont. |
| 90 | | | | A B | | | | | Little Hitehall Creek near Hitehall, Mont. |
| 91 | | | | | | | A B | | Boulder River at CCC Camp near Bernice, Mont. |
| 92 | | | | | | A B | | | Boulder River at Basin, Mont. |
| 93 | | | | | A B | | | | Boulder River near Basin, Mont. |
| 94 | | | | | | | A B | | Boulder River near Boulder, Mont. |
| 95 | | | | | | | A B | | Rock Creek at CCC Camp near Bernice, Mont. |
| 96 | | | | A B | | | | | Mudflat Creek near Boulder, Mont. |
| 97 | | | | | | A B | | | North Fork of Little Boulder River near Boulder, Mont. |
| 98 | | | | | | | A B | | South Boulder Creek near Jefferson Island, Mont. |

Chart 1.- Duration of records at gaging stations in Missouri River Basin—Continued

| Reference No. | Water years ending September 30 | | | | | | Gaging station |
|------------------|---------------------------------|---------|---------|---------|---------|---------|---|
| | 1872-80 | 1881-90 | 1901-10 | 1911-20 | 1921-30 | 1931-40 | |
| 115 | | | | | | | Gallatin (West Gallatin) River Near Salesville, Mont. |
| 116 | | | | | | | Gallatin River at Logan, Mont. |
| 117 | | | | | | | East Gallatin River at Bozeman, Mont. Hyalite Creek (Middle Creek near Bozeman) at Hyalite ranger station, near Bozeman, Mont. |
| 118 | | | | | | | Broadwater East Canal near Toston, Mont. |
| 119 | | | | | | | Broadwater West Canal near Toston, Mont. |
| 120 | | | | | | | Toston, Mont. |
| 121 | | | | | | | Crow Creek near Townsend, Mont. |
| 122 | | | | | | | Crow Creek near Radersburg, Mont. (upper station) |
| 123 | | | | | | | Crow Creek near Radersburg, Mont. (lower station) |
| 124 | | | | | | | Deep Creek near Townsend, Mont. |
| 125 | | | | | | | Prickly Pear Creek near Clancy, Mont. |
| 126 | | | | | | | Prickly Pear Creek at East Helena, Mont. |
| 127 | | | | | | | Dutchman Creek near Alhambra, Mont. |

Chart 1.-Duration of records at gaging stations in Missouri River Basin--Continued

| Reference No. | Water years ending September 30 | | | | | | Gaging station | |
|---------------|---------------------------------|---------|-----------|---------|---------|---------|----------------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | | |
| | | | | | | | 1941-44 | Deadman Creek near Marysville, Mont. |
| 140 | | | | | | | | |
| 141 | | | | | | | | Marsh Creek near Marysville, Mont. |
| 142 | | | | | | | | Canyon Creek near Canyon Creek, Mont. |
| 143 | | | | | | | | Cottonwood Creek near Canyon Creek, Mont. |
| 144 | | | | | | | | Dearborn River near Clemens, Mont. |
| 145 | | | | | | | | Falls Creek near Clemens, Mont. |
| 146 | | | | | | | | Smith River near White Sulphur Springs, Mont. |
| 147 | | | | | | | | Smith River Reservoir |
| 148 | | | | | | | | Smith River above Fivemile Creek near White Sulphur Springs, Mont. |
| 149 | | | | | | | | Smith River at Truly, Mont. |
| 150 | | | | | | | | Sheep Creek near White Sulphur Springs, Mont. |
| 151 | | | | | | | | North Fork of North Fork Sun River near Augusta, Mont. |

[illegible]

3 Does not contain diversion to Pishkun Canal for water years 1937, 38.

4 Daily diversions to Pishkun Canal for the water years 1924, 1925, 1926, and 1927 are published with the records for this station in water-supply papers.

Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued.

| Reference No. | Water years ending September 30 | | | | | | Gaging station |
|---------------|---------------------------------|---------|-------------|---------|-------------|---------|--|
| | 1872-80 | 1881-90 | 1901-10 | 1911-20 | 1921-30 | 1931-40 | 1941-44 |
| 166 | | | | A B | | | Crown Butte Canal at Riebeling, Mont. |
| 167 | | | | A B | | | Crown Butte Canal near Simms, Mont. |
| 168 | | | | A B | | | Sun River Canal near Sun River, Mont. |
| 169 | | | | A B | | | Sun River Canal at Vaughn, Mont. |
| 170 | | | | | | A B | Muddy Creek near Power, Mont. |
| 171 | | | | | A B D | A B | Muddy Creek at Vaughn, Mont. |
| 172 | | | A B D | | | | Belt Creek near Bolt, Mont. |
| 173 | | | A B D | | | | Highwood Creek near Highwood, Mont. |
| 174 | | | | | | | [Lower] Two Medicine Lake on Two Medicine River, Mont. |
| 175 | | | | | A B D | | Two Medicine River near Glacier Park, Mont. |
| 176 | | A | | | | | Two Medicine River at Minwale, Mont. |
| 177 | | | | | | | Two Medicine River at Family, Mont. |

121

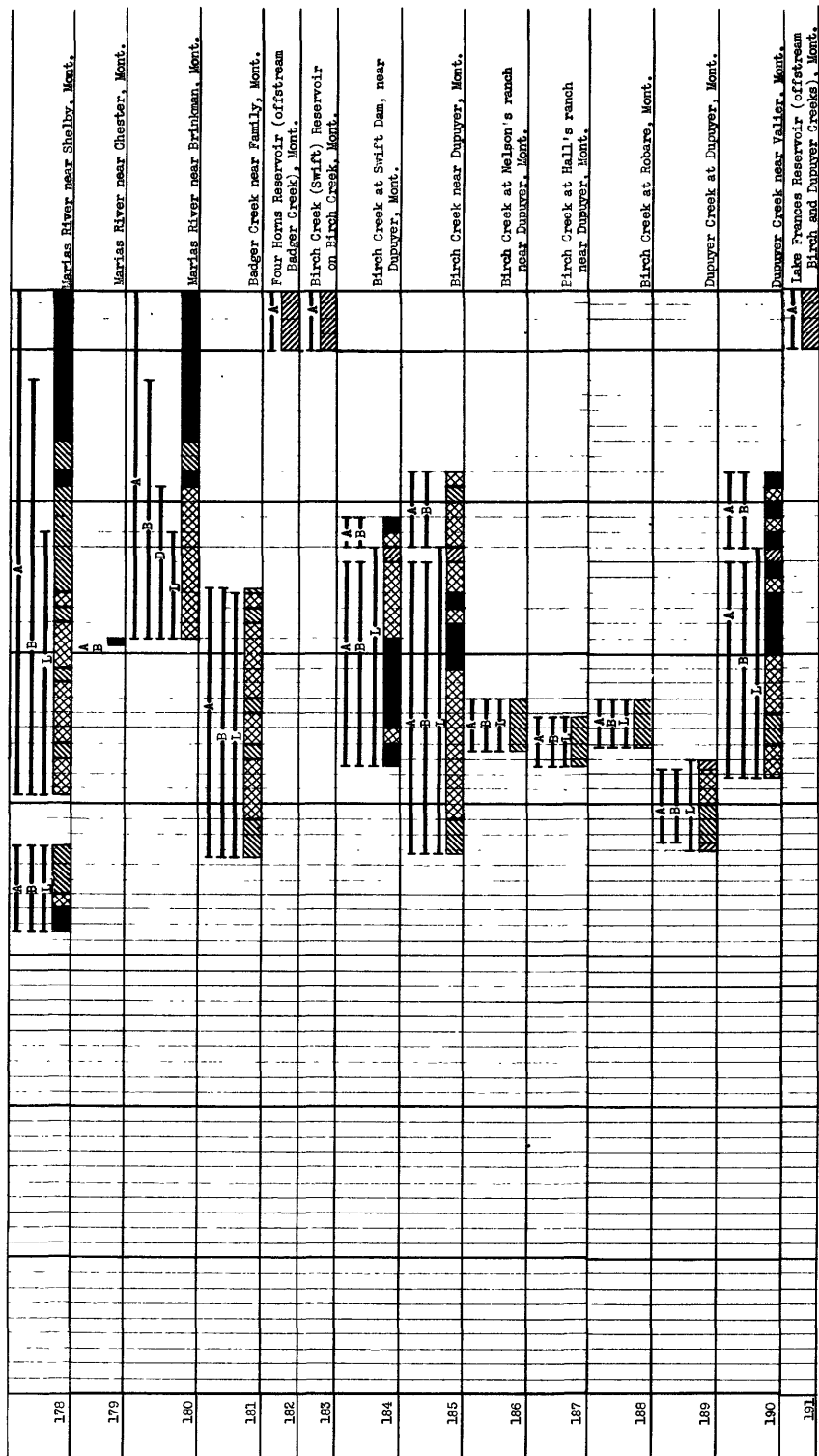


Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Refer- ence No. | Water years ending September 30 | | | | | | | Gaging station. | |
|-----------------------|---------------------------------|---------|-----------|---------|---------|---------|---------|-----------------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | 1931-40 | | 1941-44 |
| 192 | | | | | | | | | Cut Bank Creek near Browning, Mont. |
| 193 | | | | | | | | | Cut Bank Creek at Cut Bank, Mont. |
| 194 | | | | | | | | | Dry Fork of Marias River near Valier, Mont. |
| 195 | | | | | | | | | Dry Fork of Marias River at Fowler, Mont. |
| 196 | | | | | | | | | Yellow Creek near Devan, Mont. |
| 197 | | | | | | | | | Teton River at Strabane (near Bellevue), Mont. |
| 198 | | | | | | | | | Teton River near Choteau, Mont. |
| 199 | | | | | | | | | Teton River near Fort Benton, Mont. |
| 200 | | | | | | | | | Spring Creek near Strabane, Mont. |
| 201 | | | | | | | | | Spring Creek near Choteau, Mont. |
| 202 | | | | | | | | | Deep Creek at Frazier's ranch, near Choteau, Mont. |

| | | |
|-----|---|--|
| 203 | Dead Creek near Choteau, Mont. | |
| 204 | Willow Creek near Choteau, Mont. | |
| 205 | Muddy Creek near Bynum, Mont. | |
| 206 | Muddy Creek near Agawan, Mont. | |
| 207 | Blackleaf Creek near Bynum, Mont. | |
| 208 | Judith River near Utica, Mont. | |
| 209 | Judith River near Lewistown, Mont. | |
| 210 | Judith River near Winfred, Mont. | |
| 211 | Ackley Lake (offstream Judith River), Mont. | |
| 212 | Big Spring Creek near Lewistown, Mont. | |
| 213 | Sage Creek at Windham, Mont. | |
| 214 | Wolf Creek near Stanford, Mont. | |
| 215 | North Fork Musselshell River near Deling, Mont. | |
| 216 | North Fork Musselshell River at Deling, Mont. | |

Chart 1.—Duration of records at gaging stations in Missouri River basin—Continued

| Reference No. | Major years ending September 30 | | | | | | Gaging station | | |
|---------------|---------------------------------|---------|-----------|---------|---------|---------|----------------|---------|---|
| | 1872-86 | 1887-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | | 1931-40 | 1941-44 |
| 217 | | | | | | | | | North Fork Musselshell River near Martinsdale, Mont. |
| 218 | | | | | | | | | Musselshell River at Harlowton, Mont. |
| 219 | | | | | | | | | Musselshell River at Shawmut, Mont. |
| 220 | | | | | | | | | Musselshell River at Lava, Mont. |
| 221 | | | | | | | | | Musselshell River at Musselshell, Mont. |
| 222 | | | | | | | | | Musselshell River at Cosby, Mont. |
| 223 | | | | | | | | | Durand Reservoir on North Fork Musselshell River, offstream Checkerboard Creek, Mont. |
| 224 | | | | | | | | | Checkerboard Creek at Delphie, Mont. |
| 225 | | | | | | | | | Spring Creek near Martinsdale, Mont. |
| 226 | | | | | | | | | South Fork Musselshell River above Martinsdale, Mont. |
| 227 | | | | | | | | | South Fork Musselshell River near Martinsdale, Mont. |
| 228 | | | | | | | | | Martinsdale Reservoir (offstream South Fork Musselshell River), Mont. |

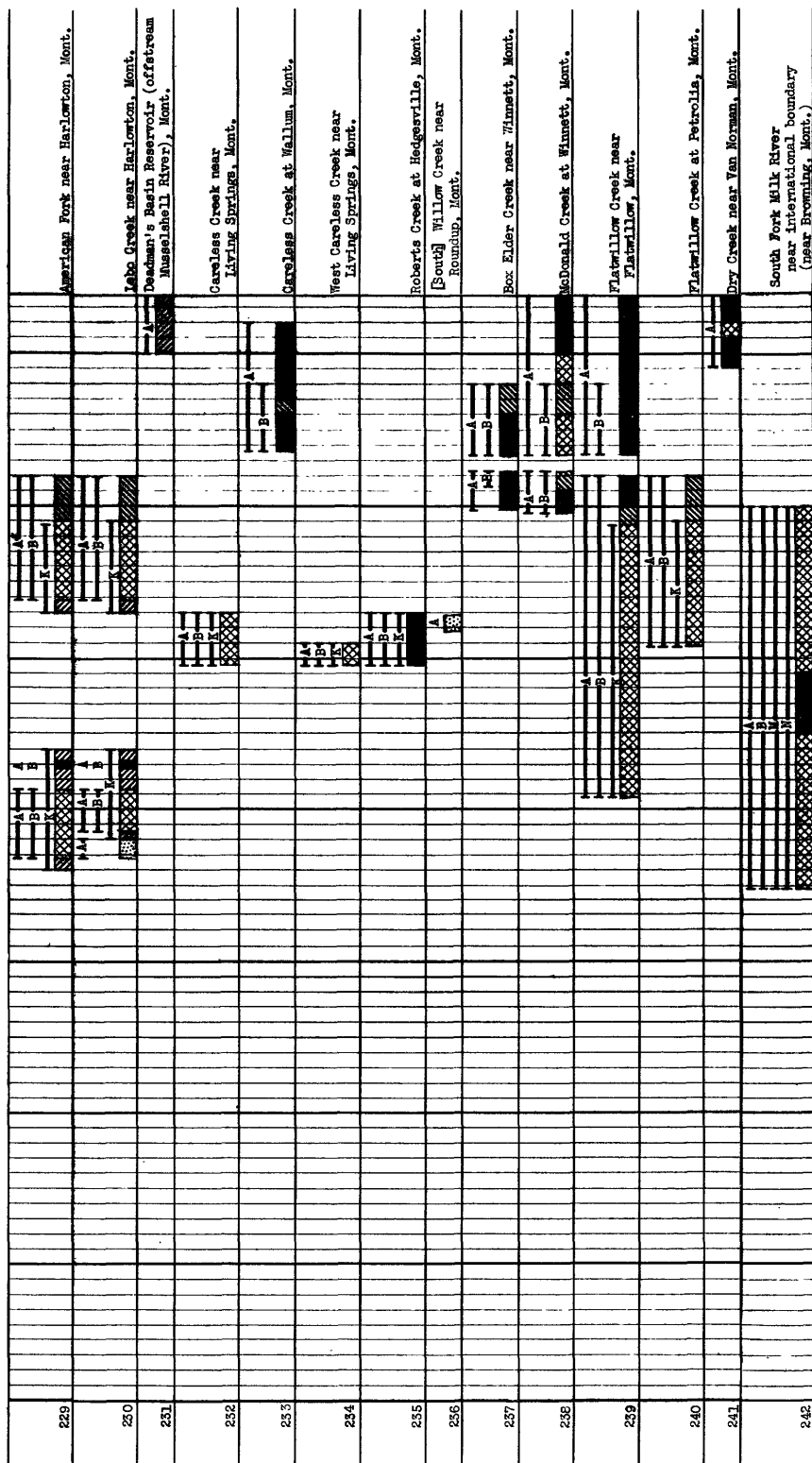


Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference No. | Water years ending September 30 | | | | | | Gaging station |
|---------------|---------------------------------|---------|-----------|---------|---------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| | | | | | | | |
| 243 | | | | | | | South Fork Milk River near international boundary |
| 244 | | | | | | | Milk River at Milk River, Alberta |
| 245 | | | | | | | Milk River at eastern crossing of international boundary |
| 246 | | | | | | | Fresno Reservoir on Milk River, Mont. |
| 247 | | | | | | | Milk River above Havre, Mont. |
| 248 | | | | | | | Milk River at Havre, Mont. |
| 249 | | | | | | | Milk River at Lohman, Mont. |
| 250 | | | | | | | Milk River at Chinook, Mont. |
| 251 | | | | | | | Milk River at Malta, Mont. |
| 252 | | | | | | | Milk River near Vandellia (Hinsdale), Mont. |
| 253 | | | | | | | Milk River at Nashua, Mont. |
| 254 | | | | | | | North Fork Milk River near expanding, Mont. |

Chart 1.- Duration of records at gaging stations in Missouri River Basin

| Refer- ence No. | Water years ending September 30 | | | | | | | Gaging station |
|-----------------------|---------------------------------|---------|-----------|---------|---------|---------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | 1931-40 | 1941-44 |
| 268 | | | | | | | | McRae Coulees at international boundary |
| 269 | | | | | | | | North Chinook Canal near Havre, Mont. |
| 270 | | | | | | | | Reser ditch near Chinook, Mont. |
| 271 | | | | | | | | Test Fork ditch near Chinook, Mont. |
| 272 | | | | | | | | Battle Creek at international boundary |
| 273 | | | | | | | | Battle Creek (North Fork Milk River) near Chinook, Mont. |
| 274 | | | | | | | | Woodpile Coulees near international boundary |
| 275 | | | | | | | | East Fork Battle Creek near international boundary |
| 276 | | | | | | | | Ivins Coulees at international boundary |
| 277 | | | | | | | | Cook Canal near Chinook, Mont. |
| 278 | | | | | | | | Matheson Canal near Chinook, Mont. |

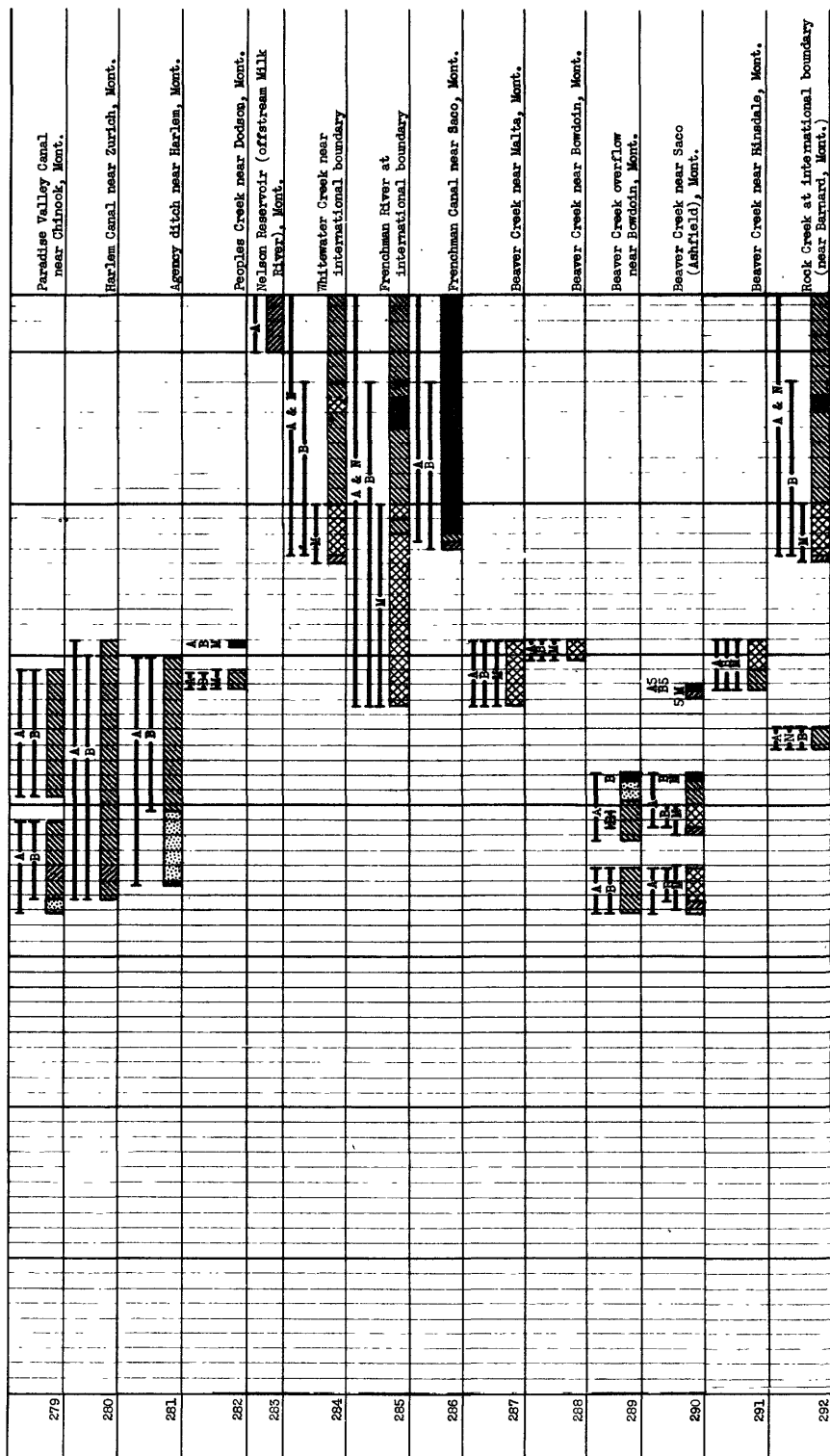


Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference no. No. | Water years ending September 30 | | | | | | Gaging station |
|-------------------------|---------------------------------|---------|-----------|---------|---------|---------|--|
| | 1878-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 293 | | | | | | | Rock Creek below Horse Creek, near international boundary |
| 294 | | | | | | | Rock Creek near Hinsdale, Mont. |
| 295 | | | | | | | Horse Creek (near Barnard, Mont.) at international boundary |
| 296 | | | | | | | McEachern (McEachern) Creek at international boundary |
| 297 | | | | | | | Rock Creek Canal near Hinsdale, Mont. |
| 298 | | | | | | | Porcupine Creek at Nashua, Mont. |
| 299 | | | | | | | Little Porcupine Creek at Fraser, Mont. |
| 300 | | | | | | | Wolf Creek near Wolf Point, Mont. |
| 301 | | | | | | | Wolf Point ditch at Wolf Point, Mont. |
| 302 | | | | | | | Redwater Creek at Circle, Mont. |
| 303 | | | | | | | Middle Fork Poplar River at international boundary |

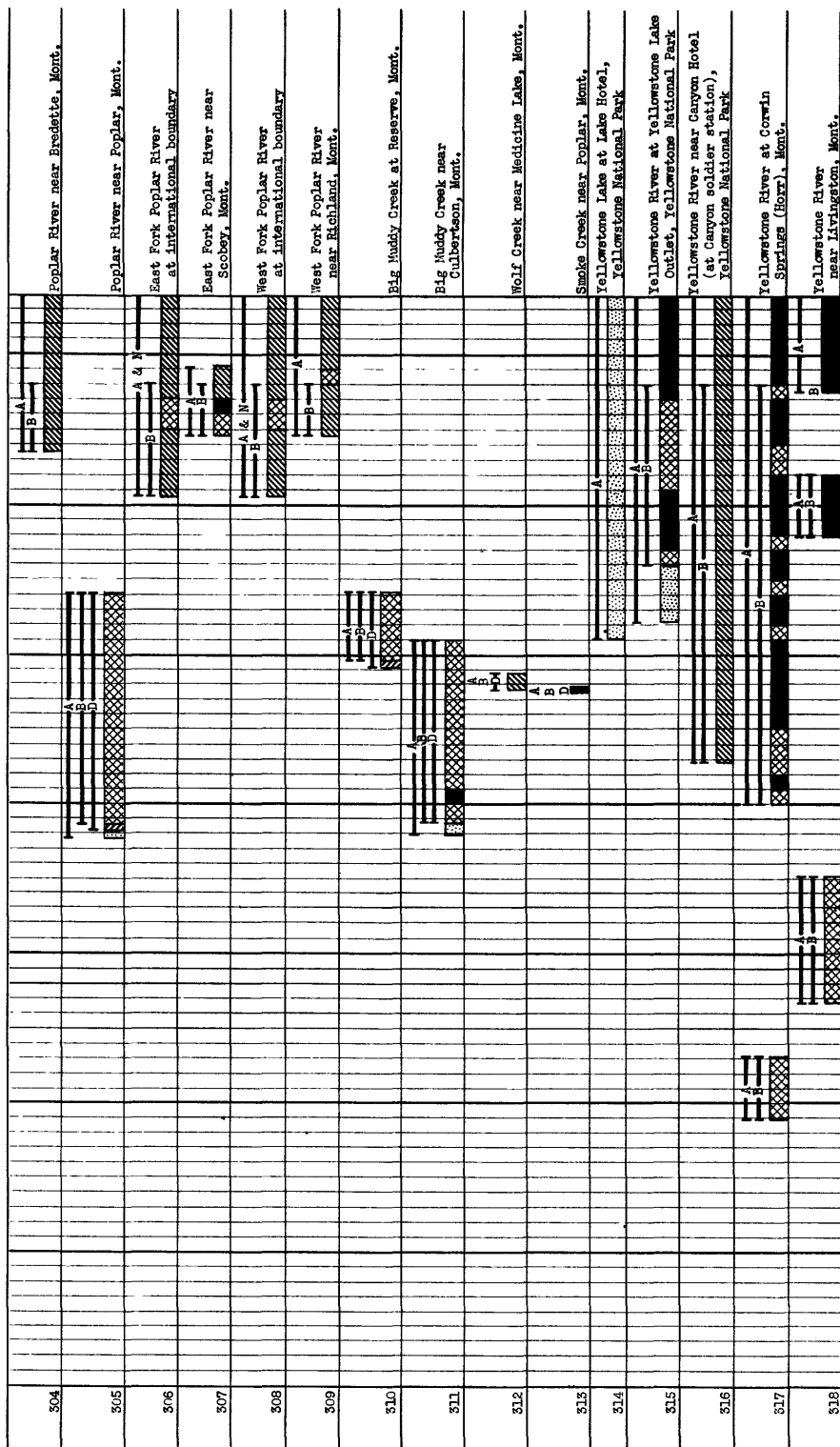


Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued


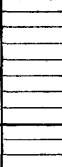


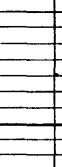
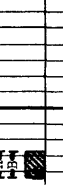
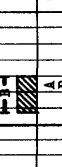
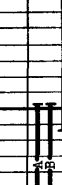
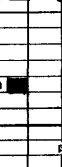





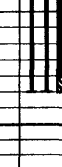



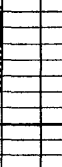
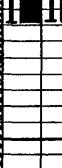
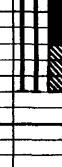





| Reference no. | Water years ending September 30 | | | | | | Gaging station |
|------------------|---------------------------------|---------|-----------|--|---|---|---|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 319 | | | |  |  |  | Yellowstone River at Billings, Mont. |
| 320 | | | |  |  | | Yellowstone River at Huntley, Mont. |
| 321 | | | |  | | | Yellowstone River at Junction, Mont. |
| 322 | | | | |  | | Yellowstone River at Forsyth, Mont. |
| 323 | | | |  |  |  | Yellowstone River at Miles City, Mont. |
| 324 | | | |  |  | | Yellowstone River at Glendive, Mont. |
| 325 | | | |  |  | | Yellowstone River at Intake, Mont. |
| 326 | | | | |  |  | Yellowstone River near Sidney, Mont. |
| 327 | | | | |  |  | Tower Creek at Tower Falls, Yellowstone National Park |
| 328 | | | | |  |  | Tamar River near Tower Falls ranger station, Yellowstone National Park |
| 329 | | | | |  |  | Blacktail Deer Creek near Mammoth, Yellowstone National Park |
| 330 | | | | |  |  | East Fork Blacktail Deer Creek near Mammoth, Yellowstone National Park |
| 331 | | | | |  |  | Gardiner River at Mammoth Hotel, Yellowstone National Park |

Chart 1.- Duration of records at gaging stations in Missouri River Basin-Continued

| Reference ence No. | Water years ending September 30 | | | | | | | Gaging station | |
|--------------------------|---------------------------------|---------|-----------|---------|---------|---------|---------|----------------|---|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | 1931-40 | | 1941-44 |
| 348 | | | | | | | | | Sweetgrass Creek above Melville, Mont. |
| 349 | | | | | | | | | Sweetgrass Creek below Melville, Mont. |
| 350 | | | | | | | | | Sweetgrass Creek near Greycliff, Mont. |
| 351 | | | | | | | | | Stillwater River near Nye, Mont. |
| 352 | | | | | | | | | Stillwater River near Absarokee, Mont. |
| 353 | | | | | | | | | Woodbine Creek near Nye, Mont. |
| 354 | | | | | | | | | East Rosebud Creek near Roscoe, Mont. |
| 355 | | | | | | | | | East Rosebud Creek at Roscoe, Mont. |
| 356 | | | | | | | | | Rosebud Creek near (at) Absarokee, Mont. |
| 357 | | | | | | | | | Hyacinth Lake on West Rosebud Creek, Mont. |
| 358 | | | | | | | | | Clarks Fork below Crandall Creek, Wyo. |
| 359 | | | | | | | | | Clarks Fork near Clark, Wyo. |
| 360 | | | | | | | | | Clarks Fork at Chance, Mont. |

BAR CHARTS OF RECORDS

135

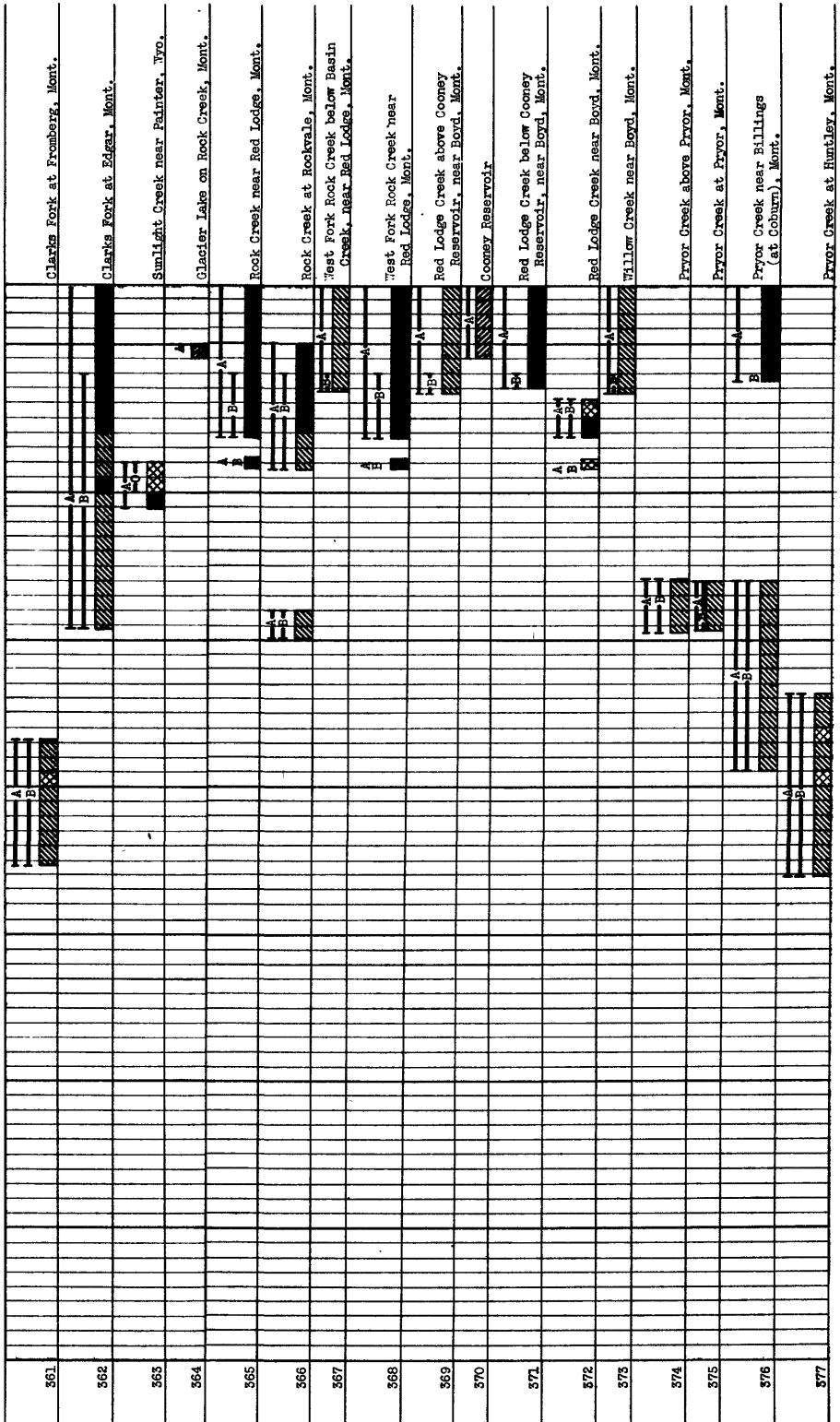


Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Refer- ence No. | Water years ending September 30 | | | | | | Gaging station | | |
|-----------------------|---------------------------------|---------|-----------|---------|---------|---------|----------------|---------|---|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | | 1931-40 | 1941-44 |
| 378 | | | | | | | | | Lost Creek near Pryor, Mont. |
| 379 | | | | | | | | | Wind River at Dubois, Wyo. |
| 380 | | | | | | | | | Wind River at (near) Riverton (near Arapahoe Agency), Wyo. |
| 381 | | | | | | | | | Bighorn River at Thermopolis, Wyo. |
| 382 | | | | | | | | | Bighorn River at Manderson, Wyo. |
| 383 | | | | | | | | | Bighorn River at Kane, Wyo. |
| 384 | | | | | | | | | Bighorn River near St. Xavier, Mont. |
| 385 | | | | | | | | | Bighorn River near Hardin (near Fort Custer), Mont. |
| 386 | | | | | | | | | Warm Spring Creek near Dubois, Wyo. |
| 387 | | | | | | | | | Horse Creek at Dubois, Wyo. |
| 388 | | | | | | | | | Red Creek near Dubois, Wyo. |
| 389 | | | | | | | | | Dirimody Creek near Burris (Crownheart, Lenore), Wyo. |
| 390 | | | | | | | | | Dry Creek near Burris (Crownheart, Lenore), Wyo. |
| 391 | | | | | | | | | Meadow Creek near Lenore (J.K. ranch post office), Wyo. |

Gaging station

Lost Creek near Pryor, Mont.

Wind River at Dubois, Wyo.

Wind River at (near) Riverton
(near Arapahoe Agency), Wyo.

Bighorn River at Thermopolis, Wyo.

Bighorn River at Manderson, Wyo.

Bighorn River at Kane, Wyo.

Bighorn River near St. Xavier, Mont.

Bighorn River near Hardin (near
Fort Custer), Mont.

Warm Spring Creek near Dubois, Wyo.

Horse Creek at Dubois, Wyo.

Red Creek near Dubois, Wyo.

Dimwoody Creek near Burris
(Crowheart, Lenore), Wyo.Dry Creek near Burris (Crowheart,
Lenore), Wyo.Meadow Creek near Lenore (J.K. ranch
post office), Wyo.

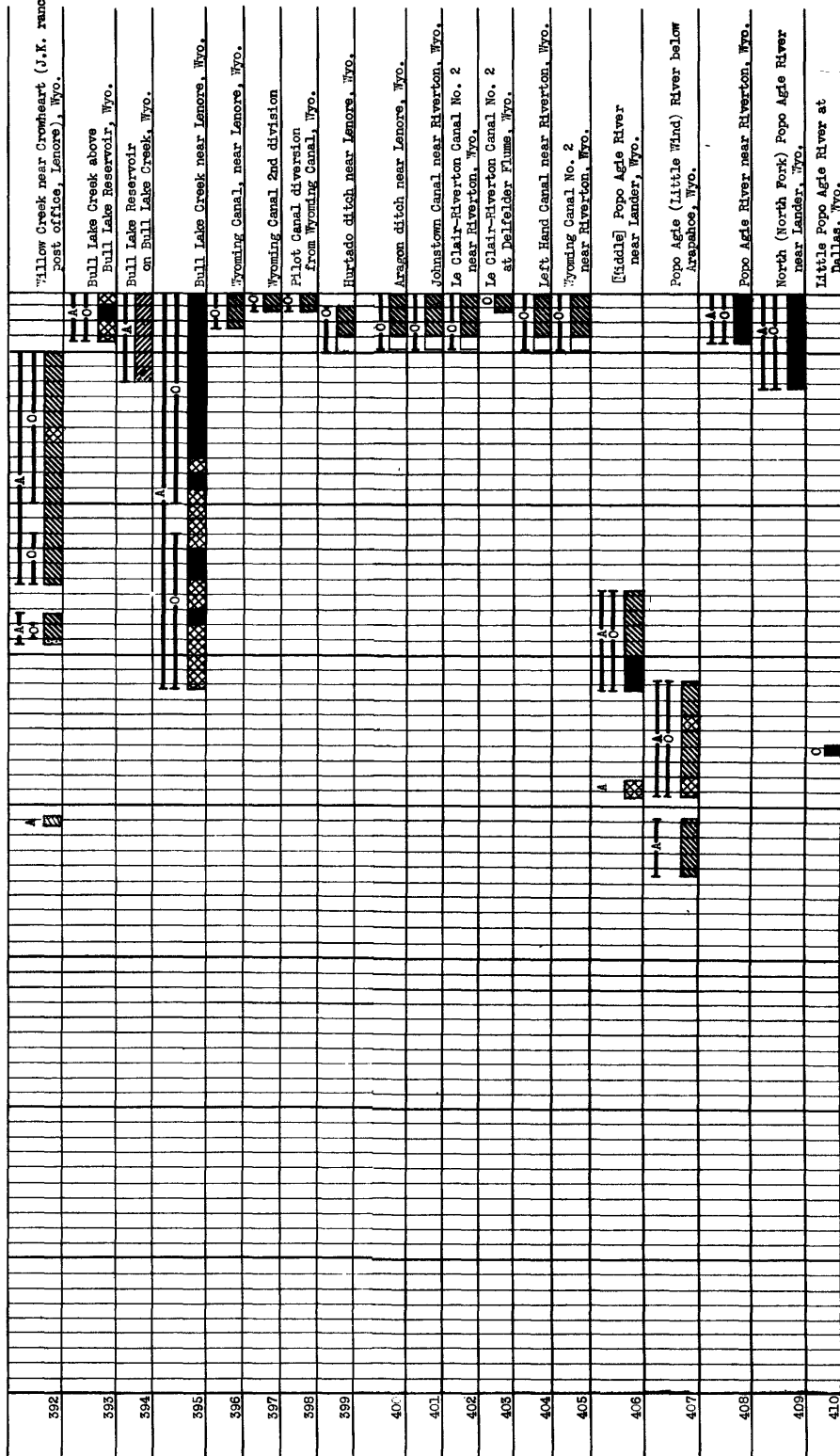


Chart 1.- Duration of records at gaging stations in Missouri River Basin—Continued

| Reference No. | Water years ending September 30 | | | | | | | Gaging station | |
|------------------|---------------------------------|---------|-----------|---------|---------|---------|---------|----------------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | 1931-40 | | 1941-44 |
| 411 | | | | | | | | | Little Popo Agie River at Hudson, Wyo. |
| 412 | | | | | | | | | (South Fork) Little Wind River near Fort Washakie, Wyo. |
| 413 | | | | | | | | | Little Wind River at Fort Washakie, Wyo. |
| 414 | | | | | | | | | Little Wind River above Little Wind River above Arapahoe, Wyo. |
| 415 | | | | | | | | | North Fork Little Wind River at Fort Washakie, Wyo. |
| 416 | | | | | | | | | Trout Creek at Wind River, Wyo. |
| 417 | | | | | | | | | Beaver Creek near Lander, Wyo. |
| 418 | | | | | | | | | Fivemile Creek near Shoshoni |
| 419 | | | | | | | | | Baker ditch near Thermopolis, Wyo. |
| 420 | | | | | | | | | Plummer and Mickelson ditch near Thermopolis, Wyo. |
| 421 | | | | | | | | | Joe Reed Ditch near Thermopolis, Wyo. |
| 422 | | | | | | | | | Leo Romero ditch near Thermopolis, Wyo. |
| 423 | | | | | | | | | Curtis ditch near Thermopolis, Wyo. |
| 424 | | | | | | | | | C.R. Ingle ditch near Thermopolis, Wyo. |
| 425 | | | | | | | | | Jukovich ditch near Thermopolis, Wyo. |
| 426 | | | | | | | | | Kirby ditch near Thermopolis, Wyo. |

Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference No. | Water years ending September 30 | | | | | | Gaging station |
|------------------|---------------------------------|---------|-----------|---------|---------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 445 | | | | | | | Per Hanover Canal near Winchester, Mo. |
| 446 | | | | | | | Cottonwood Creek at Winchester, Mo. |
| 447 | | | | | | | Luff Canal near Winchester, Mo. |
| 448 | | | | | | | Cassberry Creek near Dickie, Mo. |
| 449 | | | | | | | Cassberry Creek at Pullian, Mo. |
| 450 | | | | | | | Whom Canal near Tinsleep, Mo. |
| 451 | | | | | | | Highway Canal near Tinsleep, Mo. |
| 452 | | | | | | | Lower Hanover Canal near Tinsleep, Mo. |
| 453 | | | | | | | Lower Hanover Canal near Tinsleep, Mo. |
| 454 | | | | | | | Water Creek near Tinsleep, Mo. |
| 455 | | | | | | | Water Creek near Tinsleep, Mo. |
| 456 | | | | | | | Slick Creek near Tinsleep, Mo. |
| 457 | | | | | | | Wicks ditch near Tinsleep, Mo. |
| 458 | | | | | | | Wicks Creek near Tinsleep, Mo. |
| 459 | | | | | | | Wood Creek near Tinsleep, Mo. |
| 460 | | | | | | | Wood Creek at Bonanza, Mo. |
| | | | | | | | Tinsleep Creek near Tinsleep, Mo. |

141

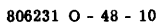


Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Refer- ence No. | Water years ending September 30 | | | | | | Gaging station |
|-----------------------|---------------------------------|---------|-----------|---------|---------|---------|---|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 477 | | | | | | | Shoshone River at Corbett Dam, Wyo. |
| 478 | | | | | | | Shoshone River at Willwood Dam, Wyo. |
| 479 | | | | | | | Shoshone River at Byron, Wyo. |
| 480 | | | | | | | Shoshone River at Lovell, Wyo. |
| 481 | | | | | | | [South Fork] Shoshone River near Ashcroft, Wyo. |
| 482 | | | | | | | [South Fork] Shoshone River above Shoshone Reservoir (at Harquette), Wyo. |
| 483 | | | | | | | Carland Canal (Corbett Tunnel) at Corbett Dam, Wyo. |
| 484 | | | | | | | Soap Creek near St. Xavier, Mont. |
| 485 | | | | | | | Rotengrass Creek near St. Xavier, Mont. |
| 486 | | | | | | | Little Bighorn River at state line, near Wyo., Mont. |
| 487 | | | | | | | Little Bighorn River near Wyo., Mont. |
| 488 | | | | | | | Little Bighorn River below Pass Creek, near Wyo., Mont. |
| 489 | | | | | | | Little Bighorn River near Crow Agency, Mont. |
| 490 | | | | | | | Pass Creek near Wyo., Mont. |

Chart 1.- Duration of records at gaging stations in Missouri River Basin—Continued

| Refer- ence No. | Water years ending September 30 | | | | | | Gaging station | | |
|-----------------------|---------------------------------|---------|-----------|---------|---------|---------|----------------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | | 1931-40 | 1941-44 |
| 508 | | | | | | | | | Goose Creek below Little Goose Creek at Sheridan, Wyo. |
| 509 | | | | | | | | | Goose Creek below Sheridan, Wyo. |
| 510 | | | | | | | | | Little Goose Creek in canyon, near Big Horn, Wyo. |
| 511 | | | | | | | | | Little Goose Creek near Big Horn, Wyo. |
| 512 | | | | | | | | | Little Goose Creek at Sheridan, Wyo. |
| 513 | | | | | | | | | South Fork Powder River, near Kaycee, Wyo. |
| 514 | | | | | | | | | Powder River at Sussex, Wyo. |
| 515 | | | | | | | | | Powder River at (near) Arvada, Wyo. |
| 516 | | | | | | | | | Powder River at Moorhead, Mont. |
| 517 | | | | | | | | | Powder River near Mizpah, Mont. |
| 518 | | | | | | | | | Powder River near Locate, Mont. |
| 519 | | | | | | | | | Middle Fork Powder River at Kaycee, Wyo. |
| 520 | | | | | | | | | Middle Fork Powder River near Kaycee, Wyo. |

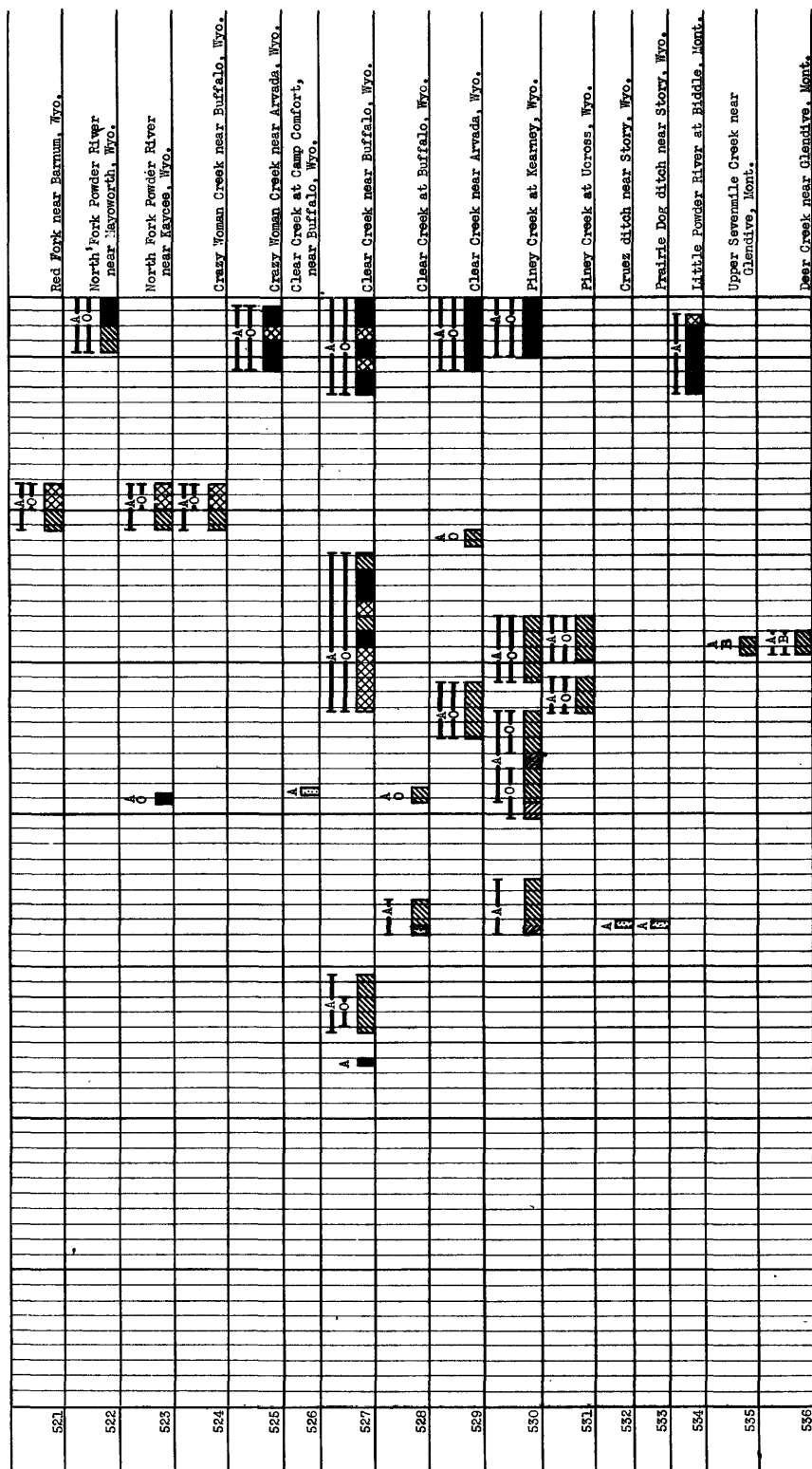


Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Refer- ence No. | Water years ending September 30 | | | | | | Gaging station |
|-----------------------|---------------------------------|---------|-----------|--|--|--|---|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 537 | | | | A B | | | Lower Yellowstone Canal at Lower Yellowstone Dam, at Intake, Mont. |
| 538 | | | | A B C D E F G H I J K L M N O P Q R S T U V W X Y Z | | A B | Little Muddy River near Williston, N. Dak. |
| 539 | | | | | | | Little Missouri River at Alzada, Mont. |
| 540 | | | | | A B C D E F G H I J K L M N O P Q R S T U V W X Y Z | A B C D E F G H I J K L M N O P Q R S T U V W X Y Z | Little Missouri River near Alzada, Mont. |
| 541 | | | | A B C D E F G H I J K L M N O P Q R S T U V W X Y Z | | | Little Missouri River at Camp Crook, S. Dak. |
| 542 | | | | | | | Little Missouri River at Marmarth, N. Dak. |
| 543 | | | | A B C D E F G H I J K L M N O P Q R S T U V W X Y Z | | | Little Missouri River at Medora, N. Dak. |
| 544 | | | | | | | Little Missouri River near Hartford City, N. Dak. |
| 545 | | | | | | | Little Beaver Creek near Marmarth, N. Dak. |
| 546 | | | | | | | Beaver Creek at Vibaux, Mont. |
| 547 | | | | A B C D E F G H I J K L M N O P Q R S T U V W X Y Z | | | Knife River near Golden Valley (at Broncho, near Broncho), N. Dak. |
| 548 | | | | | | | Knife River at Hazen, N. Dak. |

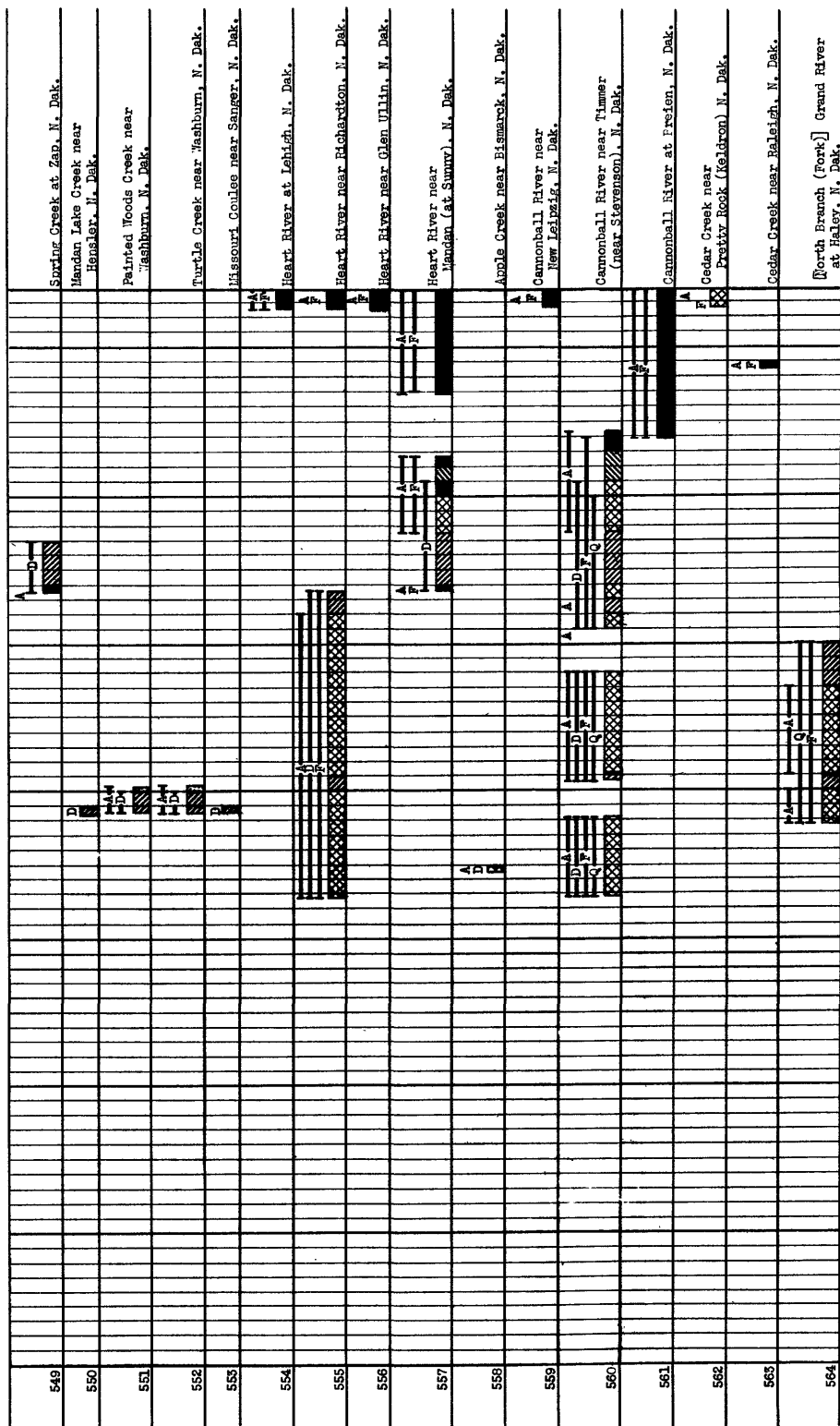














Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Refer- ence No. | Water years ending September 30 | | | | | | Gaging station |
|-----------------------|---------------------------------|---------|-----------|---------|---------|---------|---|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 565 | | | | | | | Grand River at Shadehill (Setm), S. Dak. |
| 566 | | | | | | | Grand River near Wakarusa, S. Dak. |
| 567 | | | | | | | Moreau (Owl) River near Bixby, S. Dak. |
| 568 | | | | | | | Moreau River at Usta, S. Dak. |
| 569 | | | | | | | Moreau River near Eagle Butte, S. Dak. |
| 570 | | | | | | | Moreau River at Promise, S. Dak. |
| 571 | | | | | | | Cheyenne River at Edgemont, S. Dak. |
| 572 | | | | | | | Cheyenne River near Hot Springs (Cascade Springs), S. Dak. |
| 573 | | | | | | | Cheyenne River near Wasta, S. Dak. |
| 574 | | | | | | | Cheyenne River near Eagle Butte (near Carlin, Edwood), S. Dak. |
| 575 | | | | | | | Cheyenne River at Rousseau, S. Dak. |
| 576 | | | | | | | Beaver Creek near Newcastle, Wyo. |
| 577 | | | | | | | Beaver Creek near Burdock (Edgemont), S. Dak. |

Chart 1.- Duration of records at gaging stations in Missouri River Basin—Continued

| Reference No. | Water years ending September 30 | | | | | | | Gaging station |
|---------------|---------------------------------|---------|-----------|---|---|---------|---|---|
| | 1872-80 | 1880-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | 1931-40 | |
| 593 | | | | | | |  | Belle Fourche River at Ruliff, Wyo. |
| 594 | | | |  | | | | Belle Fourche River at Belle Fourche, S. Dak. |
| 595 | | | |  |  | | | Belle Fourche River near Belle Fourche, S. Dak. |
| 596 | | | | | | |  | Belle Fourche River near Elm Springs, S. Dak. |
| 597 | | | | | | |  | Redwater Creek near Beulah, Wyo. |
| 598 | | | |  | | | | Redwater Creek at Minnellska, S. Dak. |
| 599 | | | |  | | | | Redwater Creek at Belle Fourche, S. Dak. |
| 600 | | | |  | | | | Spearfish Creek near Spearfish, S. Dak. |
| 601 | | | |  | | | | Redwater Canal at Minnellska, S. Dak. |
| 602 | | | | | | | | Indian Creek near Belle Fourche, S. Dak. |
| 603 | | | | | | |  | Bad River near Fort Pierre, S. Dak. |
| 604 | | | | | | |  | North Fork Bad River at Philip, S. Dak. |

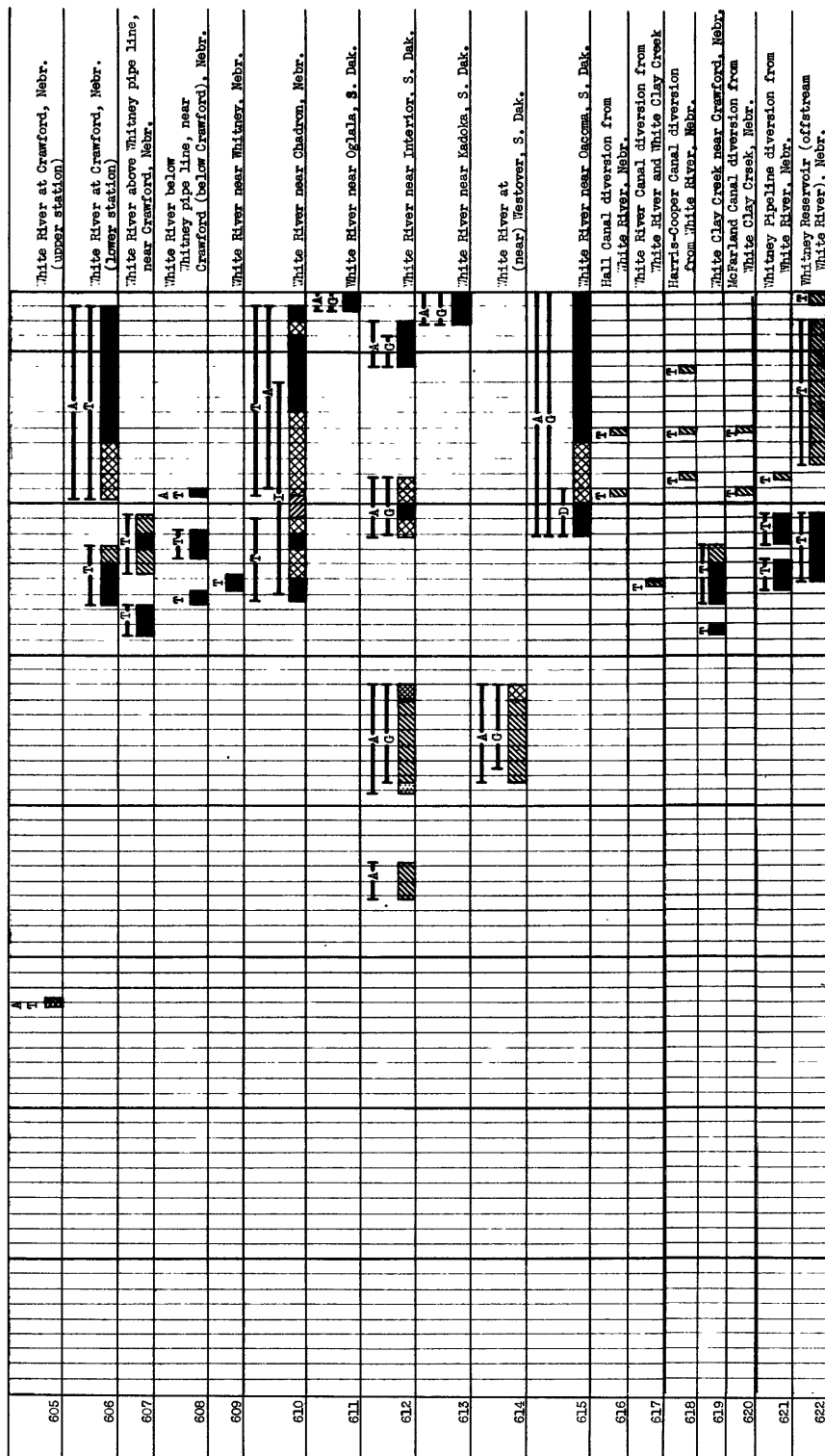




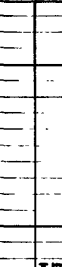






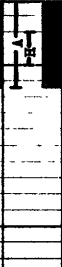





Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference No. | Water years ending September 30 | | | | | | Gaging station |
|---------------|---------------------------------|---------|-----------|---------|---------|---------|---|
| | 1872-80 | 1880-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 623 | | | | | | | Little Cottonwood Creek near Whitney, Nebr. |
| 624 | | | | | | | Ash Creek near Whitney, Nebr. |
| 625 | | | | | | | Chadron Creek above City Reservoir, near Chadron, Nebr. |
| 626 | | | | | | | Chadron Creek below City Reservoir, near Chadron, Nebr. |
| 627 | | | | | | | Chadron Creek near Chadron, Nebr. |
| 628 | | | | | | | Chadron Creek above mouth, near Chadron, Nebr. |
| 629 | | | | | | | South Fork White River near Martin, S. Dak. |
| 630 | | | | | | | South Fork White River near Rosebud, S. Dak. |
| 631 | | | | | | | South Fork (Little White) White River near White River, S. Dak. |
| 632 | | | | | | | South Fork White River at White River, S. Dak. |
| 633 | | | | | | | South Fork (Little White) White River near Vestover, S. Dak. |
| 634 | | | | | | | Lake Creek above refuge, near Tutthill, S. Dak. |
| 635 | | | | | | | Lake Creek below refuge, near Tutthill, S. Dak. |
| 636 | | | | | | | Elm Creek near Tutthill, S. Dak. |
| 637 | | | | | | | Niobrara River near Warland, Nebr. |
| 638 | | | | | | | Niobrara River below Box Butte Dam, near Dunlap, Nebr. |

Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference No. | Water years ending September 30 | | | | | | Gaging station |
|---------------|---------------------------------|---|-----------|--|---------|--|---|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 653 | | | | | |  | Big Sioux River near Flandreau, S. Dak. |
| 654 | |  | | | |  | Big Sioux River at (near) Sioux Falls, S. Dak. |
| 655 | | | | | |  | Big Sioux River at Akron, Iowa |
| 656 | | | | | |  | Split Rock Lake at Thlen, Minn. |
| 657 | | | |  | | | Rock River at Laverne, Minn. |
| 658 | | | |  | |  | Floyd River at Merrill, Iowa |
| 659 | | | | | |  | Floyd River at James, Iowa |
| 660 | | | | | |  | Little Sioux River at Spencer, Iowa |
| 661 | | | | | |  | Little Sioux River at Correctionville, Iowa |
| 662 | | | | | |  | Little Sioux River near Keosau, Iowa |
| 663 | | | | | |  | Little Sioux River near Turin (near Elencoe), Iowa |
| 664 | | | | | |  | Spirit Lake at Orleans, Iowa |
| 665 | | | | | |  | Okoobi Lake at Lakeside Laboratory (Arnolds Park), near Wilford, Iowa |

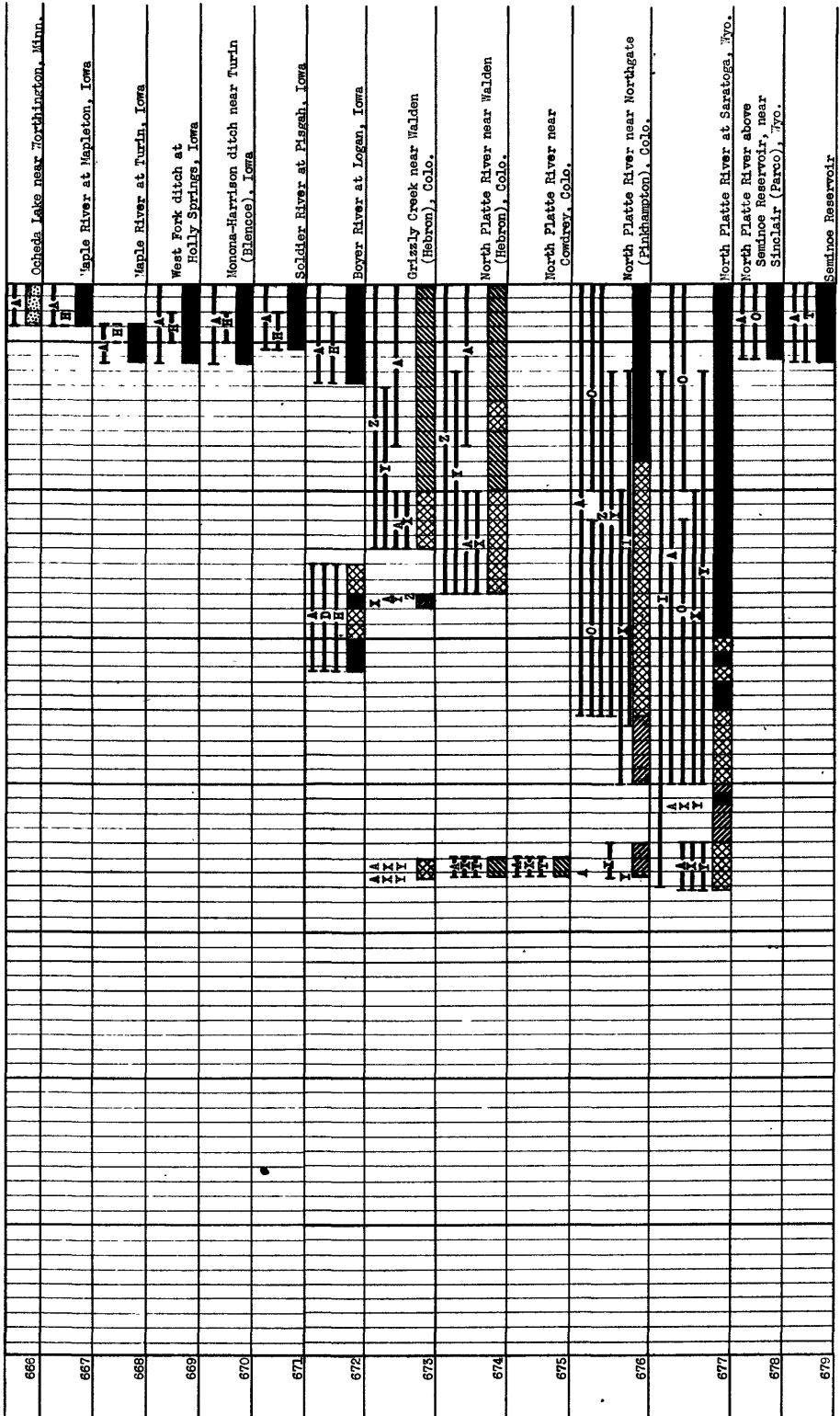




Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Refer- ence No. | Water years ending September 30 | | | | | | Gaging station | |
|-----------------------|---------------------------------|---------|-----------|---------|---------|---------|----------------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | | |
| | | | | | | | 1941-44 | |
| 703 | | | | | | | | North Platte River at Broadwater, Nebr. |
| 704 | | | | | | | | North Platte River at Lasco, Nebr. |
| 705 | | | | | | | | North Platte River at Oakbrook, Nebr. |
| 706 | | | | | | | | North Platte River at Jewell, Nebr. |
| 707 | | | | | | | | North Platte River at Delmar, Nebr. |
| 708 | | | | | | | | North Platte River at Lemons, Nebr. |
| 709 | | | | | | | | North Platte River at Martin, Nebr. |
| 710 | | | | | | | | McConaughy Lake on North Platte River, near Kearney, Nebr. |
| 711 | | | | | | | | North Platte River near Kearney, Nebr. |
| 712 | | | | | | | | North Platte River near Sutherland, Nebr. |
| 713 | | | | | | | | North Platte River at North Platte, Nebr. |
| 714 | | | | | | | | Platte River at Brady, Nebr. |

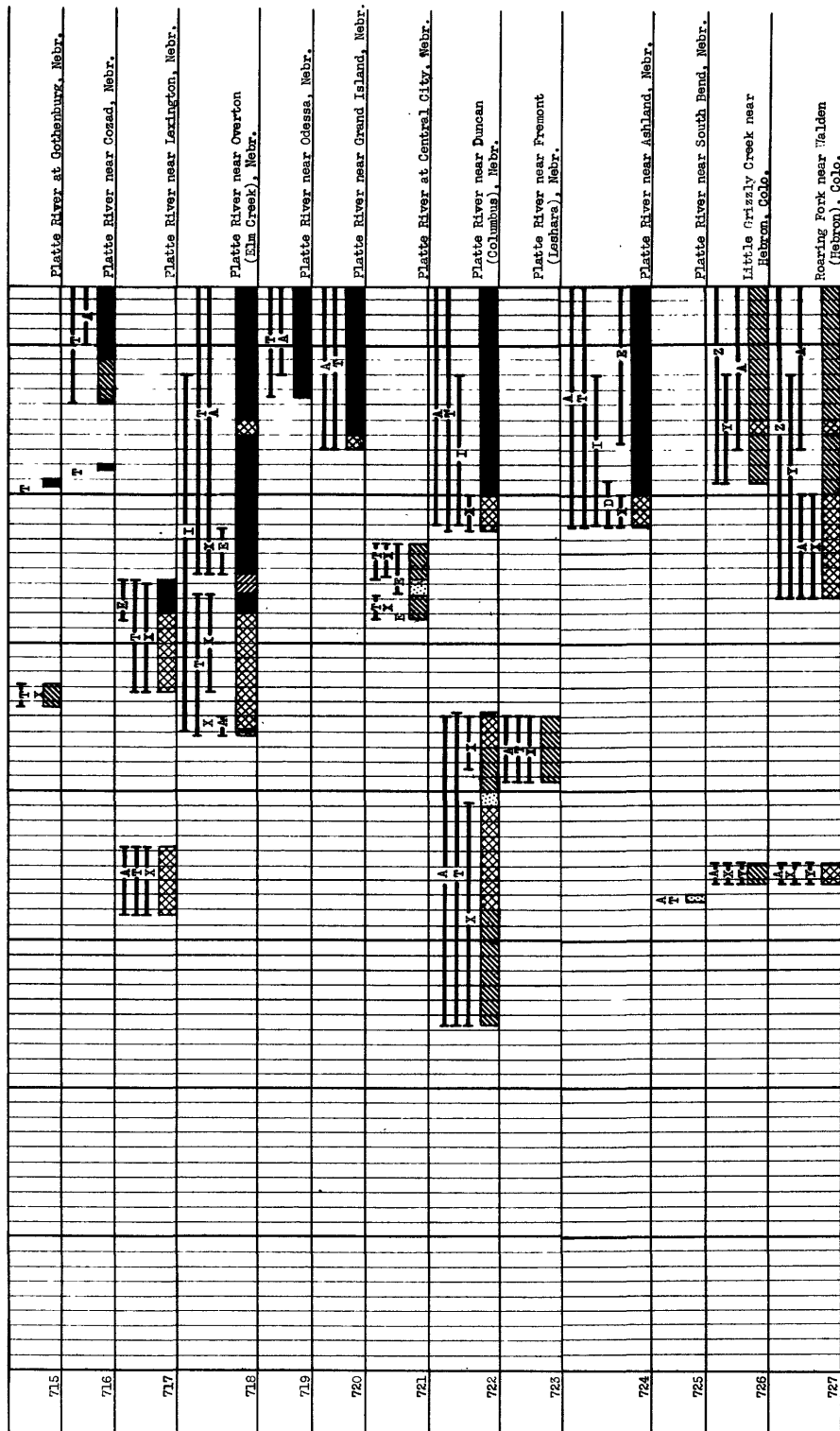

















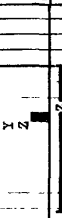
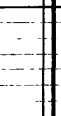









Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference no. | Later years ending September 30 | | | | | | | Gaging station | |
|------------------|---------------------------------|---------|-----------|---|--|---|--|--|---|
| | 1872-80 | 1880-90 | 1901-1900 | 1901-10 | 1911-20 | 1921-30 | 1931-40 | | 1941-44 |
| 728 | | | |  | | | | | North Fork North Platte River at Hiko, Colo. |
| 729 | | | | | |  |  A Z Y |  A Z Y | North Fork North Platte River near Walden, Colo. |
| 730 | | | | | | |  Z Y |  A Z Y | Michigan River near Hindland, Colo. |
| 731 | | | | | | |  A Z Y |  A Z Y | Michigan River at Hawthorth School, near Hindland, Colo. |
| 732 | | | |  |  Y |  |  A Z Y |  A Z Y | Michigan River at (near) Walden, Colo. |
| 733 | | | |  | | |  A Z Y |  A Z Y | Michigan River near Cordrey, Colo. |
| 734 | | | | | | |  A Z Y |  A Z Y | Old Creek near Hindland, Colo. |
| 735 | | | | | | |  A Z Y |  A Z Y | Illinois Creek near Rand, Colo. |
| 736 | | | | |  Y |  |  A Z Y |  A Z Y | Illinois Creek at Walden, Colo. |
| 737 | | | | | | |  A Z Y |  A Z Y | Willow Creek near Rand, Colo. |

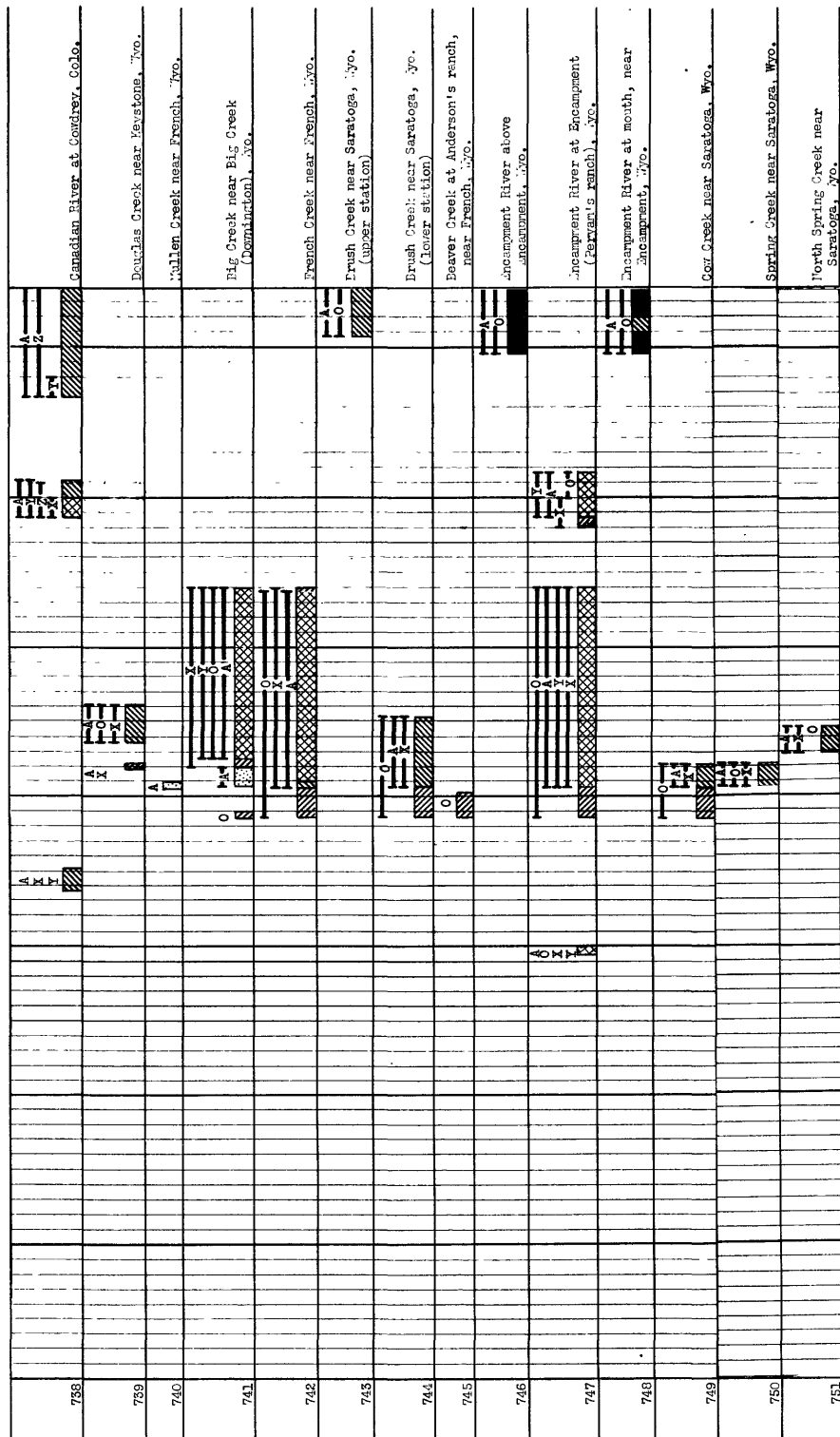
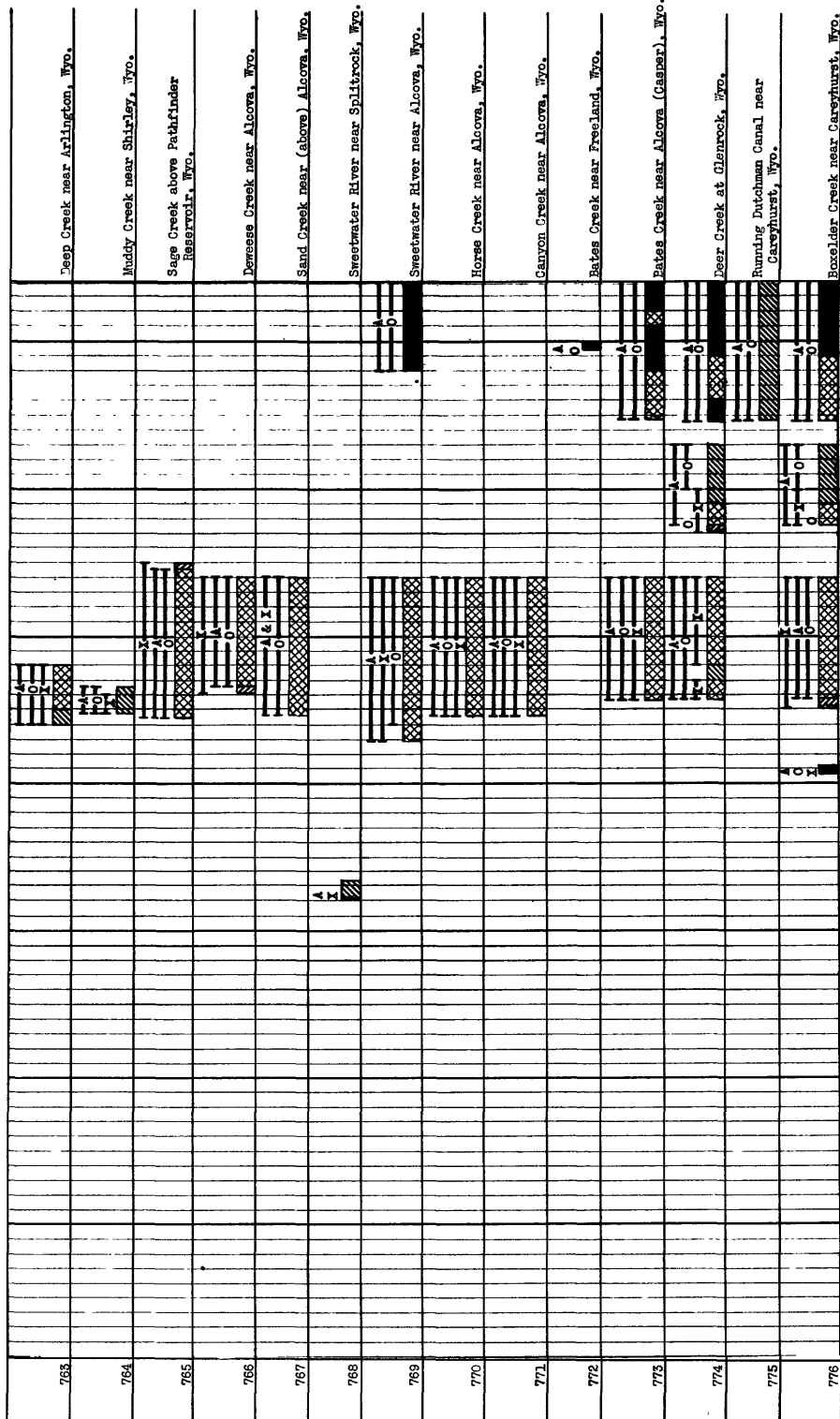


Chart 1.- Duration of records at gaging stations in Missouri River Basin—Continued

| Reference No. | Later years ending September 30 | | | | | | Gaging station | | |
|---------------|---------------------------------|---------|-----------|---------|---------|---------|----------------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | | 1931-40 | 1941-44 |
| 752 | | | | | | | | | Jack Creek at Iatheson ranch, near Saratoga, Wyo. |
| 753 | | | | | | | | | Jack Creek at Blydenburg's ranch, near Saratoga, Wyo. |
| 754 | | | | | | | | | Jack Creek at Burdick's ranch, near Saratoga, Wyo. |
| 755 | | | | | | | | | Pass Creek near Saratoga, Wyo. |
| 756 | | | | | | | | | Pass Creek near Walcott, Wyo. |
| 757 | | | | | | | | | Medicine Bow River near Medicine Bow, Wyo. |
| 758 | | | | | | | | | Medicine Bow River at Medicine Bow, Wyo. |
| 759 | | | | | | | | | Medicine Bow River above Seminoe Reservoir, near Hanna, Wyo. |
| 760 | | | | | | | | | Rock Creek at (near) Arlington, Wyo. |
| 761 | | | | | | | | | Rock Creek near Rock River, Wyo. |
| 762 | | | | | | | | | Rock Creek below Rock River, Wyo. |

BAR CHARTS OF RECORDS

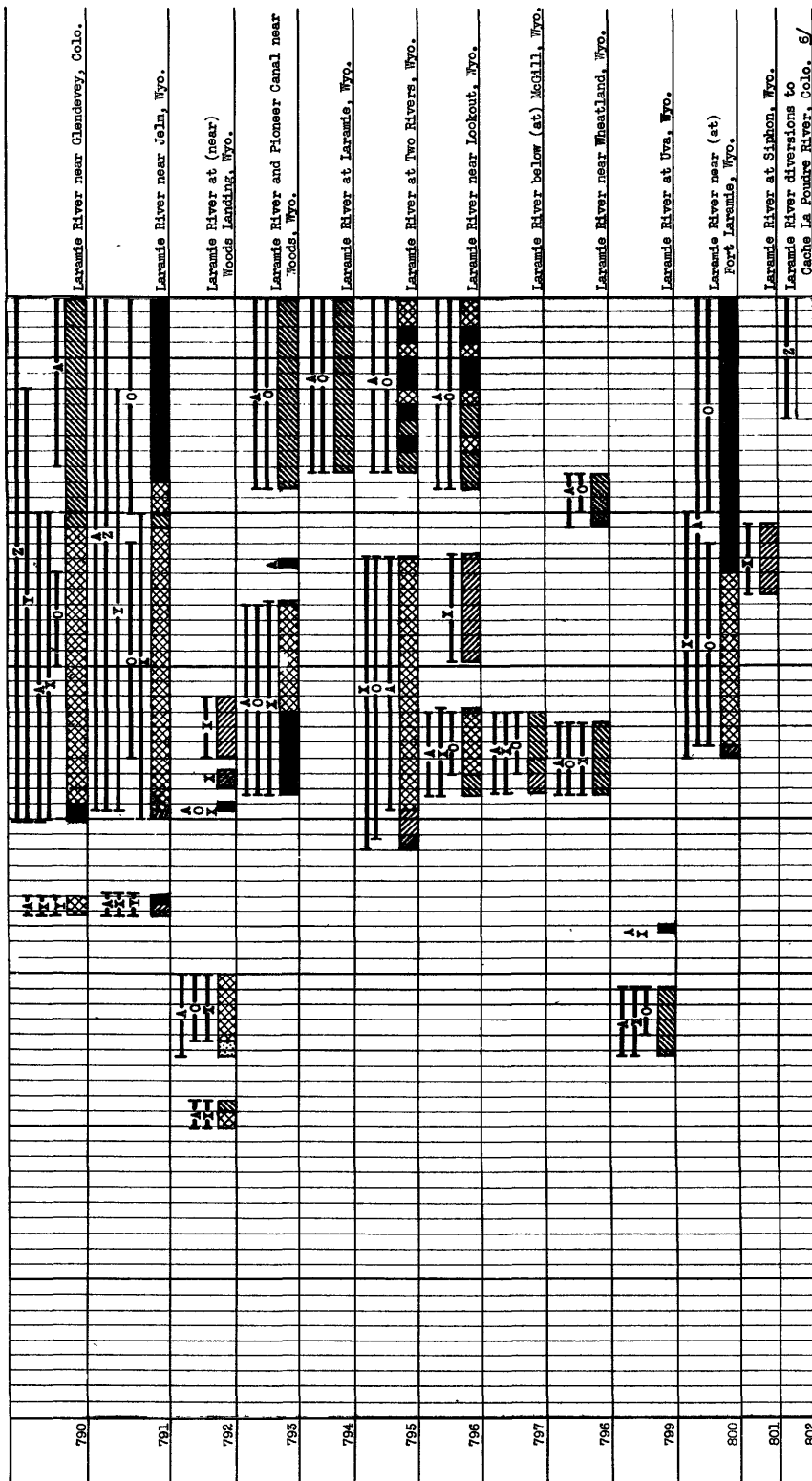
163



GAGING-STATION RECORDS IN THE MISSOURI RIVER BASIN



























Chart 1.- Duration of records at gaging stations in Missouri River Basin—Continued

| Refer- ence No. | Water years ending September 30 | | | | | | Gaging station | |
|-----------------------|---------------------------------|---------|-----------|---------|---------|---------|----------------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | | 1931-40 |
| 777 | | | | | | | | Douglas (Morton) Canal near Orpha, Wyo. |
| 778 | | | | | | | | La Prele Creek near Douglas, Wyo. |
| 779 | | | | | | | | La Prele Creek near Orpha (Fettiman), Wyo. |
| 780 | | | | | | | | Tagonhound Creek near La Bonte, Wyo. |
| 781 | | | | | | | | La Bonte Creek near La Bonte, Wyo. |
| 782 | | | | | | | | Horseshoe Creek near Glendo, Wyo. |
| 783 | | | | | | | | Cottonwood Creek at (near) Wendover, Wyo. |
| 784 | | | | | | | | Fort Laramie Canal at Whalen, Wyo. |
| 785 | | | | | | | | Kingle Power Waste near Kingle, Wyo. |
| 786 | | | | | | | | Horse Creek Lateral of Fort Laramie Canal at Wyoming-Nebraska State line |
| 787 | | | | | | | | Interstate Canal at Whalen, Wyo. |
| 788 | | | | | | | | Lateral No. 1 of Interstate Canal at Wyoming-Nebraska State line |
| 789 | | | | | | | | Laramie River below Laramie Foudres Tunnel, Colo. |



6 Combined diversions thru following ditches: Laramie-Poudre Tunnel, Skyline ditch, Lost Lake ditch, Columbine ditch, Bob Creek ditch, Sand Creek ditch.

Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Refer- ence No. | Later years ending September 30 | | | | | | Gaging station |
|-----------------------|---------------------------------|---------|---|---|---|---|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 803 | | | | |  | | Barah Creek near mouth, Colo. |
| 804 | | | | |  | | Stub Creek at mouth near Glendevy, Colo. |
| 805 | | | |  |  | | McIntyre Creek near Glendevy (Glendevy), Colo. |
| 806 | | | | |  | | McIntyre Creek at Glendevy, Colo. |
| 807 | | | | |  | | La Garde Creek at mouth, Colo. |
| 808 | | | | |  | | Grass Creek at mouth, Colo. |
| 809 | | | | |  | | Stuck Creek at mouth, Colo. |
| 810 | | | | |  |  | Johnson Creek at mouth, Wyo. |
| 811 | | | | |  |  | Pioneer Canal near Woods, Wyo. |
| 812 | | | | |  | | Soldier Creek at State Fish Hatchery, Wyo. |
| 813 | | |  |  |  |  | Little Laramie River near Falmore (Hutton), Wyo. |
| 814 | | | |  |  |  | Little Laramie River at Two Rivers (near Laramie), Wyo. |
| 815 | | | | |  |  | Sybilie Creek above Bluegrass Creek, near Wheatland, Wyo. |
| 816 | | | | |  |  | Sybilie Creek near Wheatland, Wyo. |
| 817 | | | | |  |  | North Laramie River (upper station) near (at) Wheatland, Wyo. |

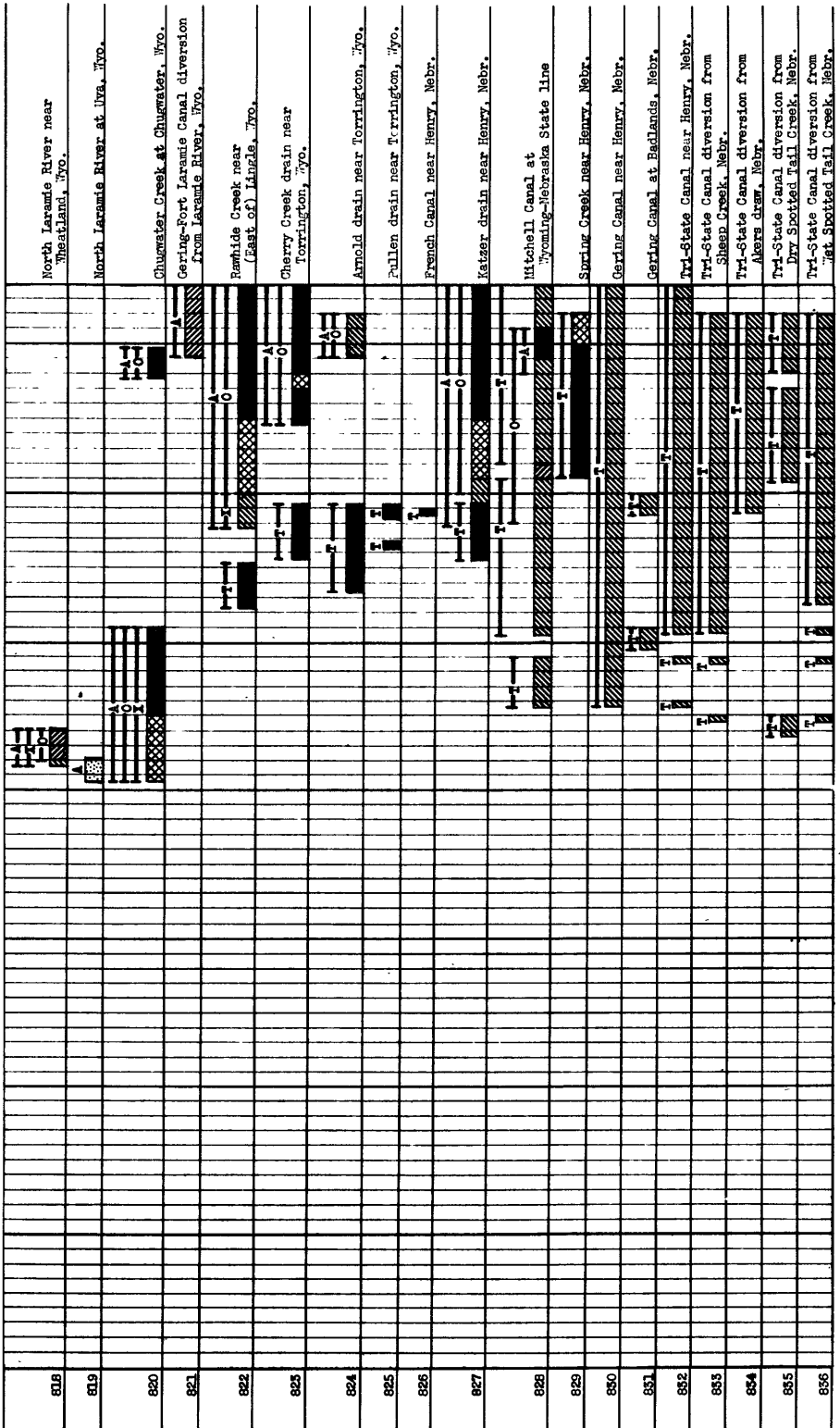


Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Refer- ence No. | Water years ending September 30 | | | | | | Gaging station |
|-----------------------|---------------------------------|---------|---------|---------|---------|---------|--|
| | 1872-80 | 1881-90 | 1901-10 | 1911-20 | 1921-30 | 1931-40 | 1941-44 |
| 837 | | | | | | | Tri-State Canal waste into Mitchell Spillway, Nebr. |
| 838 | | | | | | | Tri-State Canal diversion from Aub Springs, Nebr. |
| 839 | | | | | | | Tri-State Canal diversion from Alliance drain, Nebr. |
| 840 | | | | | | | Tri-State Canal diversion from Moffat drain, Nebr. |
| 841 | | | | | | | Tri-State Canal (Northport Canal) near Baving, Nebr. |
| 842 | | | | | | | Ranshorn Canal near Henry, Nebr. |
| 843 | | | | | | | Horse Creek near Little Horse Creek, Wyo. |
| 844 | | | | | | | Horse Creek near La Grange, Wyo. |
| 845 | | | | | | | Horse Creek near Yoder, Wyo. |
| 846 | | | | | | | Horse Creek near Lyman, Nebr. |
| 847 | | | | | | | Hawk Springs at La Grange, Wyo. |
| 848 | | | | | | | State Line and Gilmore Canal diversion from Horse Creek, Nebr. |
| 849 | | | | | | | Lane drain near Lyman, Nebr. |
| 850 | | | | | | | Sheep Creek near Morrill, Nebr. |
| 851 | | | | | | | Enterprise Canal near Morrill, Nebr. |
| 852 | | | | | | | Enterprise Canal diversion from Stewart drain and Morrill drain, Nebr. |
| 853 | | | | | | | Enterprise Canal diversion from Dry Spotted Tail Creek, Nebr. |

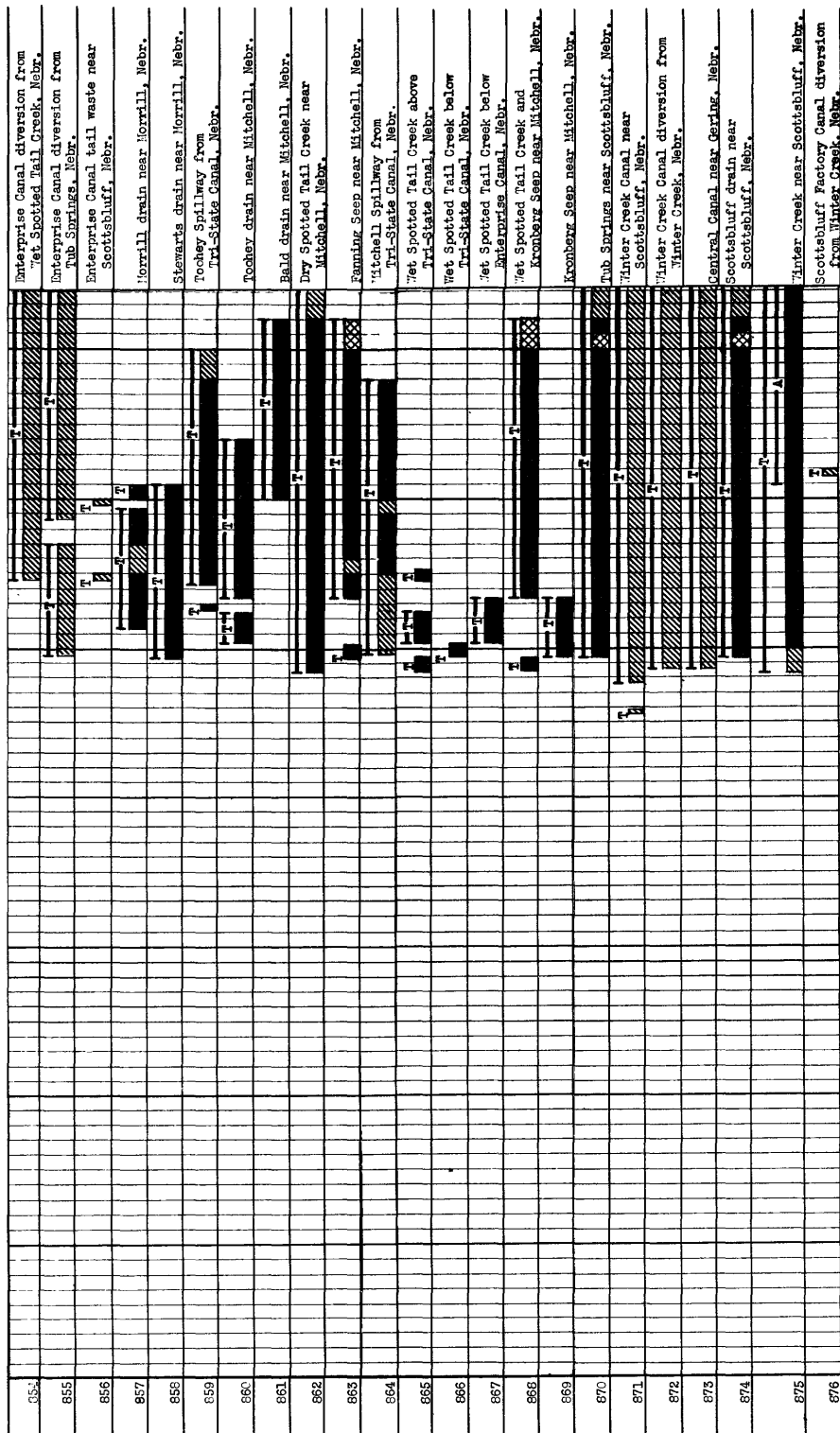


Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Refer- ence No. | Water years ending September 30 | | | | | | Gaging station |
|-----------------------|---------------------------------|---------|-----------|---------|---------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 877 | | | | | | | Minutane Canal near Minutane, Nebr. |
| 878 | | | | | | | Gering drain near Gering, Nebr. |
| 879 | | | | | | | Steamboat Canal near Gering, Nebr. |
| 880 | | | | | | | Castle Rock Canal near Gering, Nebr. |
| 881 | | | | | | | Castle Rock Canal waste No. 1, Nebr. |
| 882 | | | | | | | Scottsbluff drain No. 2 near Scottsbluff, Nebr. |
| 883 | | | | | | | Nine Mile Canal near Minutane, Nebr. |
| 884 | | | | | | | Nine Mile Canal diversion from Nine Mile drain, Nebr. |
| 885 | | | | | | | Melbeta drain near Minutane, Nebr. |
| 886 | | | | | | | Fairfield Seep near Minutane, Nebr. |
| 887 | | | | | | | Snell and Nine Mile drains near Minutane, Nebr. |
| 888 | | | | | | | Nine Mile Drain near Minutane, Nebr. |
| 889 | | | | | | | Nine Mile drain near McDrew (Minutane), Nebr. |
| 890 | | | | | | | Snell drain near Minutane, Nebr. |
| 891 | | | | | | | Short Line Canal near Minutane, Nebr. |
| 892 | | | | | | | Chimney Rock Canal near McDrew, Nebr. |
| 893 | | | | | | | Cleveland drain near Bayard, Nebr. |
| 894 | | | | | | | Alliance Canal near Bayard, Nebr. |

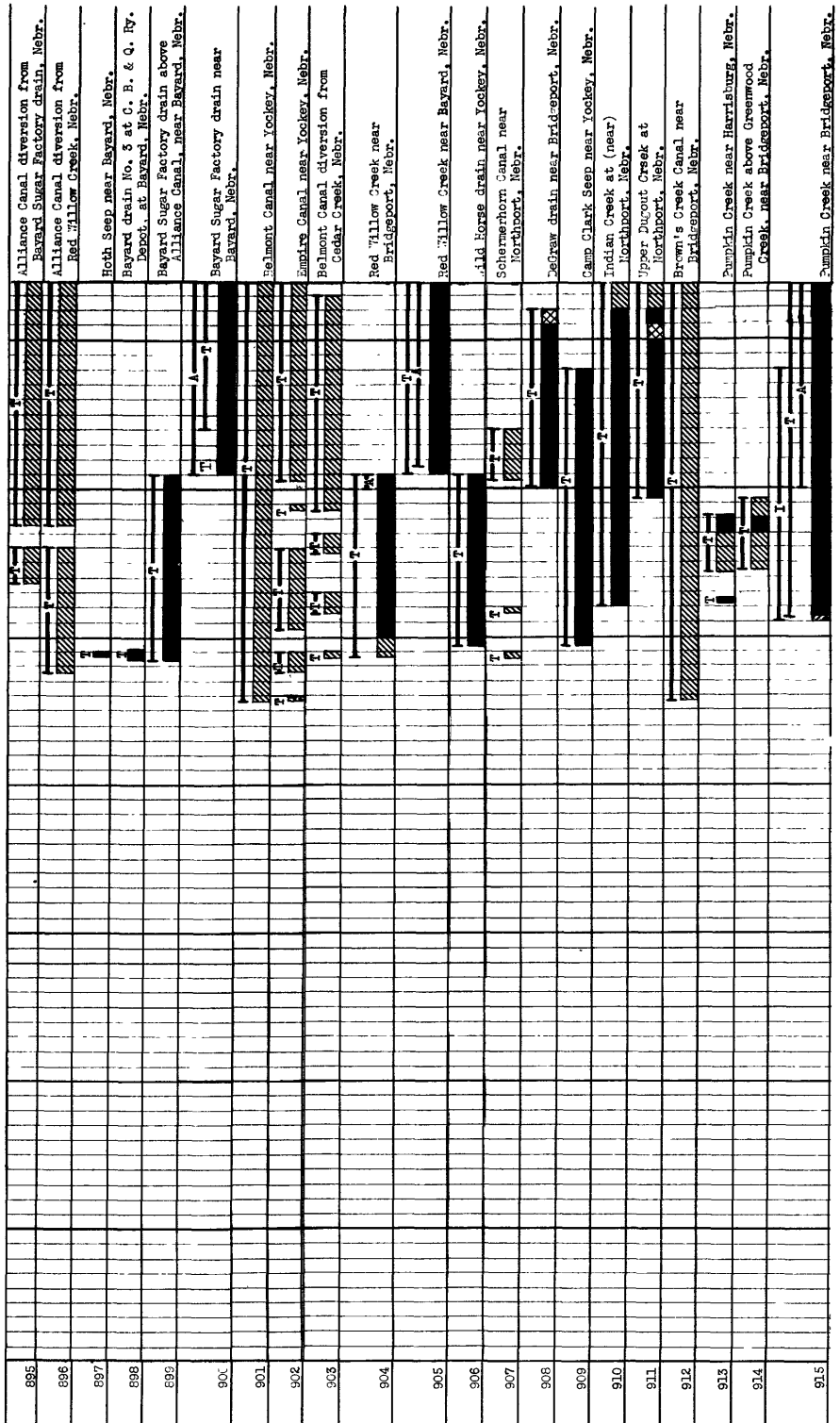


Chart 1.- Duration of records at gaging stations in Missouri River Basin—Continued

| Reference No. | Later years ending September 30 | | | | | | | Gaging station |
|---------------|---------------------------------|---------|-----------|---------|---------|---------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | 1931-40 | 1941-44 |
| 916 | | | | | | | | Logan Canal diversion from Pumpkin Creek, Nebr. |
| 917 | | | | | | | | Mutual Canal diversion from Pumpkin Creek, Nebr. |
| 918 | | | | | | | | King Canal diversion from Lawrence Fork Pumpkin Creek, Nebr. |
| 919 | | | | | | | | Bird Cage-Quinn Canal diversion from Pumpkin Creek, Nebr. |
| 920 | | | | | | | | Round House Rock Canal diversion from Pumpkin Creek, Nebr. |
| 921 | | | | | | | | Smith-Thealer Canal diversion from Pumpkin Creek, Nebr. |
| 922 | | | | | | | | Court House Rock Canal diversion from Pumpkin Creek, Nebr. |
| 923 | | | | | | | | Last Chance Canal diversion from Pumpkin Creek, Nebr. |
| 924 | | | | | | | | Trinder Canal diversion from Greenwood Creek, Nebr. |
| 925 | | | | | | | | Maguire Canal diversion from Greenwood Creek, Nebr. |
| 926 | | | | | | | | Meredith-Inner Canal diversion from Pumpkin Creek, Nebr. |
| 927 | | | | | | | | Silvermill drain near Bridgeport, Nebr. |
| 928 | | | | | | | | Plum Creek near Bridgeport, Nebr. |
| 929 | | | | | | | | Reel-line Canal near Broadwater, Nebr. |
| 930 | | | | | | | | Lower Dugout Creek near Broadwater, Nebr. |
| 931 | | | | | | | | Cooper Canal diversion from Lower Dugout Creek, Nebr. |
| 932 | | | | | | | | Lamore Canal near Broadwater, Nebr. |
| 933 | | | | | | | | Cedar Creek near Broadwater, Nebr. |
| 934 | | | | | | | | Radcliffe Canal diversion from Cedar Creek, Nebr. |

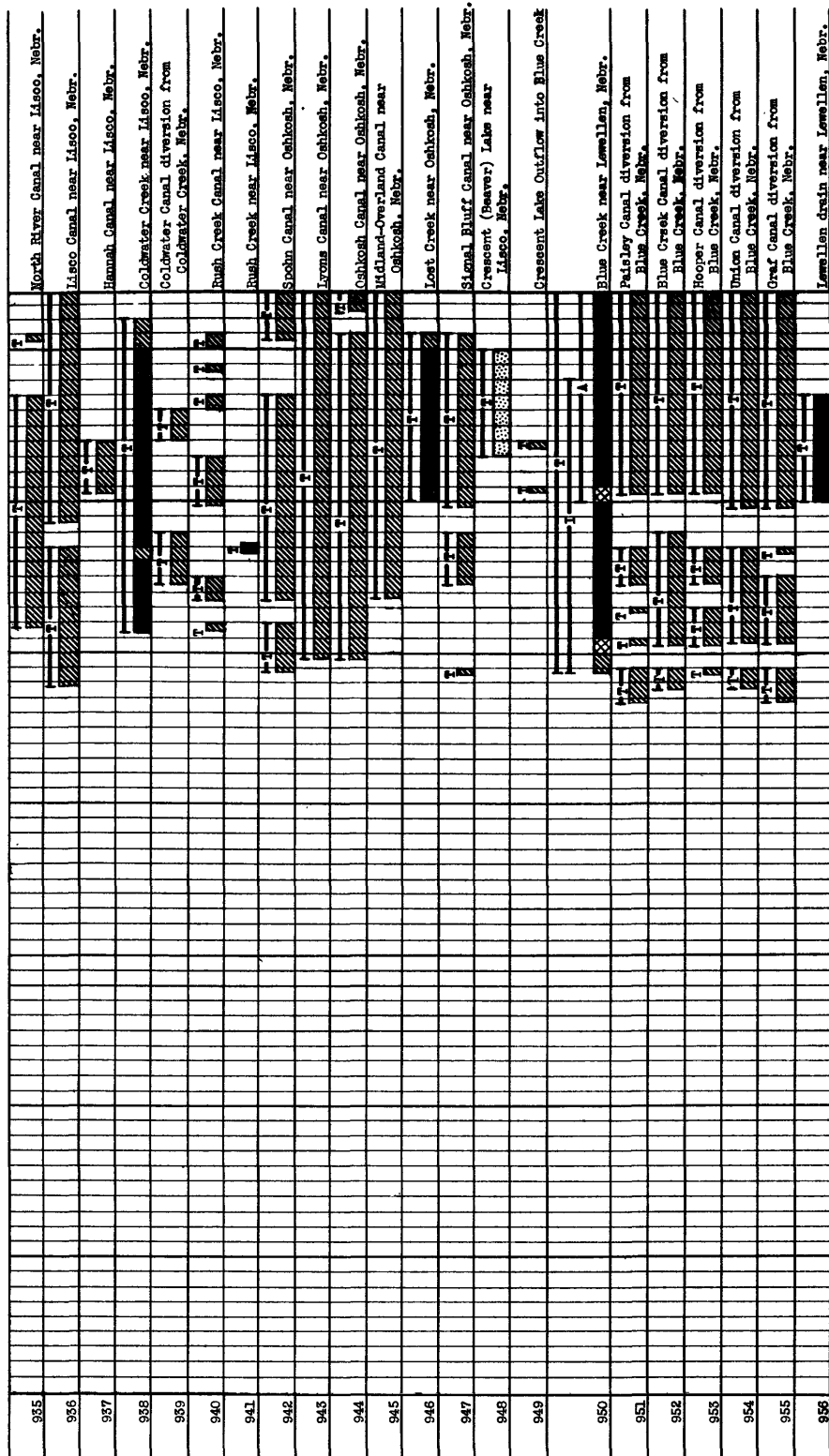


Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference No. | Water years ending September 30 | | | | | | Gaging station |
|---------------|---------------------------------|---------|-----------|---------|---------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 957 | | | | | | | Alfalfa Canal near Jewell, Nebr. |
| 958 | | | | | | | Clear Creek near Jewell, Nebr. |
| 959 | | | | | | | Barber Canal diversion from Clear Creek, Nebr. |
| 960 | | | | | | | Clear Creek Canal diversion from Clear Creek, Nebr. |
| 961 | | | | | | | Scripter Canal diversion from Clear Creek, Nebr. |
| 962 | | | | | | | Harper Canal diversion from Clear Creek, Nebr. |
| 963 | | | | | | | Finch Canal diversion from Clear Creek, Nebr. |
| 964 | | | | | | | Otter Creek near Lamoyne, Nebr. |
| 965 | | | | | | | Otter Creek Canal diversion from Otter Creek, Nebr. |
| 966 | | | | | | | Sand Creek near Belmar, Nebr. |
| 967 | | | | | | | Mason Canal diversion from Sand Creek, Nebr. |
| 968 | | | | | | | Patrick Canal diversion from Sand Creek, Nebr. |
| 969 | | | | | | | Lonezen Creek near Lamoyne, Nebr. |
| 970 | | | | | | | Heavy (Lonezen) Canal diversion from Lonezen Creek, Nebr. |
| 971 | | | | | | | Soehl Canal diversion from Lonezen Creek, Nebr. |
| 972 | | | | | | | Sutherland Reservoir Supply Canal near Kavstone, Nebr. |
| 973 | | | | | | | Sutherland Reservoir (offstream North Platte River), Nebr. |
| 974 | | | | | | | Sutherland Project Power Return, Nebr. |
| 975 | | | | | | | White Tail Creek near Kavstone, Nebr. |



Chart 1.- Duration of records at gaging stations in Missouri River Basin—Continued

| Station No. | Water years ending September 30 | | | | | | Gaging station |
|-------------|---------------------------------|---------|-----------|---------|---------|---------|--|
| | 1872-80 | 1871-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 997 | | | | | | | Cody-Dillon Canal near North Platte, Nebr. |
| 998 | | | | | | | Scout Creek near North Platte, Nebr. |
| 999 | | | | | | | Lincoln County drain No. 1 at North Platte, Nebr. |
| 1,000 | | | | | | | South Fork South Platte River above Tumbling Creek, Colo. |
| 1,001 | | | | | | | South Fork South Platte River at Main Road, Colo. |
| 1,002 | | | | | | | South Fork South Platte (Little South Platte) River at Twin Bridges (near Fairplay), Colo. |
| 1,003 | | | | | | | South Fork South Platte River at Intake of Antero Reservoir, Colo. |
| 1,004 | | | | | | | South Fork South Platte River below Antero Reservoir, Colo. |
| 1,005 | | | | | | | South Fork South Platte River above Fourmile Creek, Colo. |
| 1,006 | | | | | | | South Platte River at Buckley's, Colo. |
| 1,007 | | | | | | | South Platte River at Sidney, Colo. |
| 1,008 | | | | | | | South Platte River above Elevenmile Canyon Reservoir, near Hartsel, Colo. |
| 1,009 | | | | | | | South Platte River at Idlemild, Colo. |
| 1,010 | | | | | | | Elevenmile Canyon Reservoir |
| 1,011 | | | | | | | (South Fork) South Platte River near (at) Lake George, Colo. |
| 1,012 | | | | | | | South Platte River above Lake Cheesman, Colo. |

BAR CHARTS OF RECORDS

177

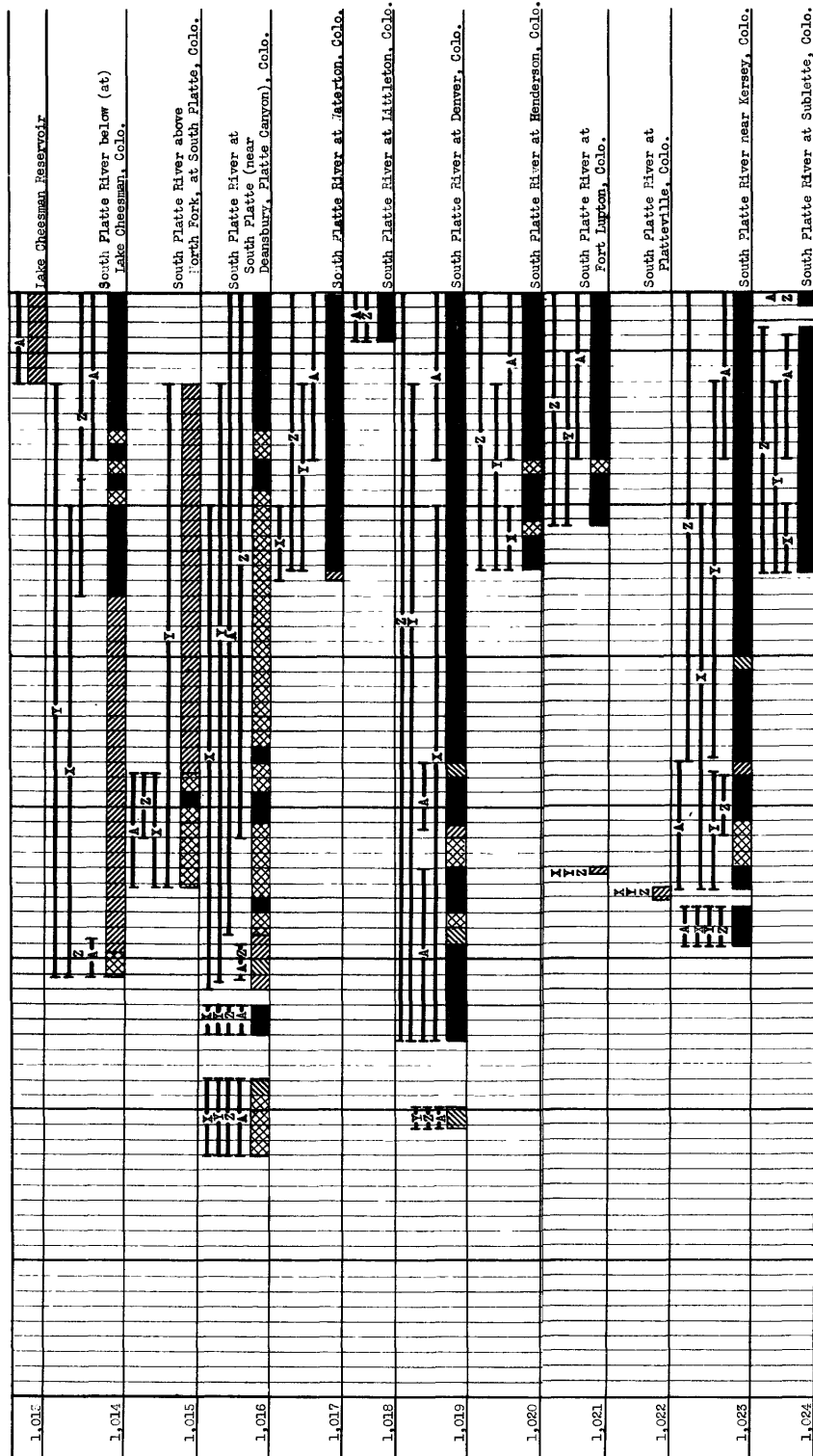


Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference No. | Water years ending September 30 | | | | | | Gaging station | |
|------------------|---------------------------------|---------|-----------|---------|---------|---------|----------------|---------|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | | 1931-40 |
| 1,025 | | | | | | | | |
| 1,026 | | | | | | | | |
| 1,027 | | | | | | | | |
| 1,028 | | | | | | | | |
| 1,029 | | | | | | | | |
| 1,030 | | | | | | | | |
| 1,031 | | | | | | | | |
| 1,032 | | | | | | | | |
| 1,033 | | | | | | | | |
| 1,034 | | | | | | | | |
| 1,035 | | | | | | | | |
| 1,036 | | | | | | | | |
| 1,037 | | | | | | | | |

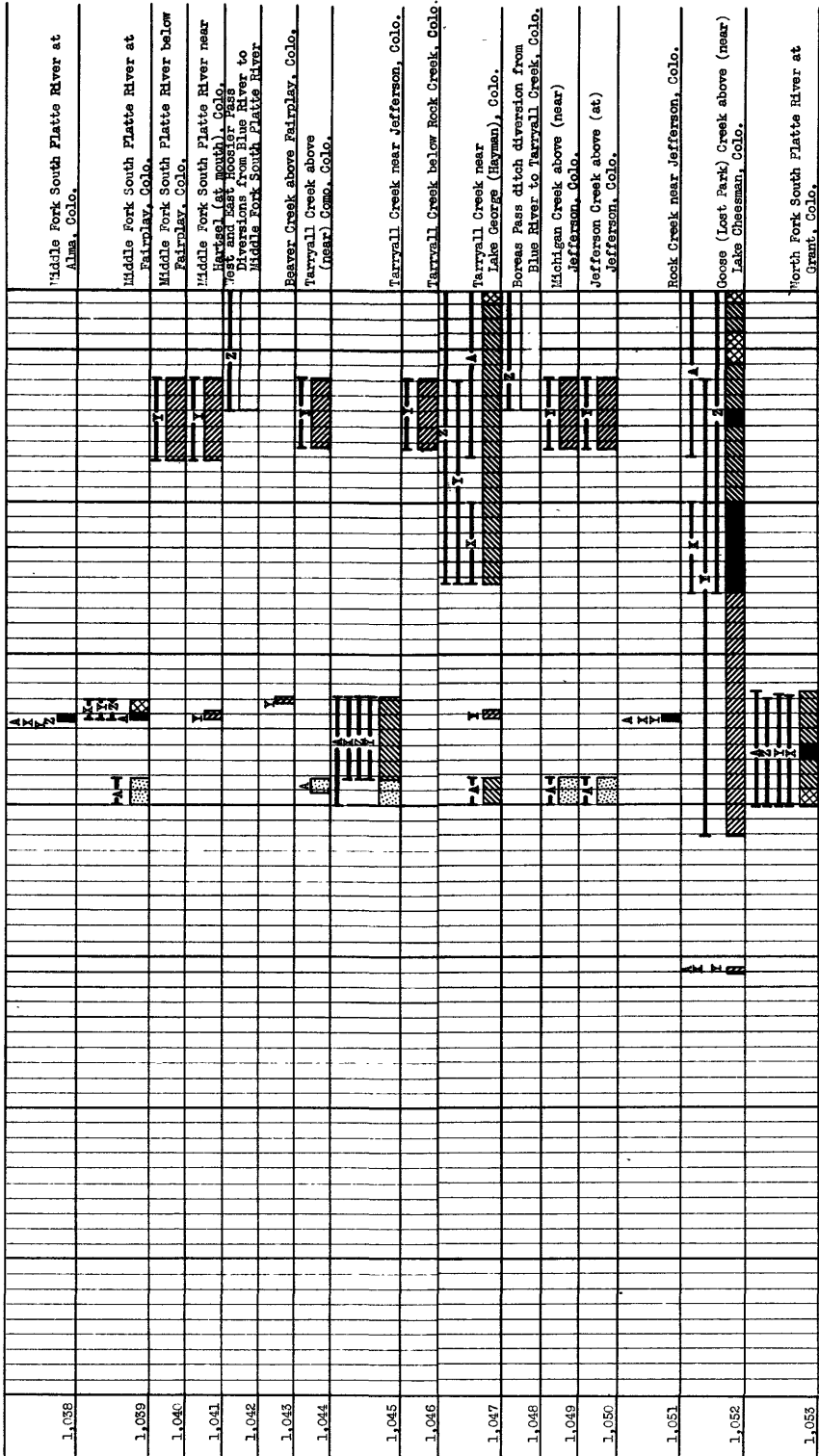





















Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference No. | Water years ending September 30 | | | | | | Gaging station |
|---------------|---------------------------------|---------|-----------|---------|---------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 1,054 | | | | | | 1941-44 | North Fork South Platte River below Geneva Creek, at Grant (Classing), Colo. |
| 1,055 | | | | | | 1941-44 | North Fork South Platte River at Pine, Colo. |
| 1,056 | | | | | | 1941-44 | North Fork South Platte River at South Platte, Colo. |
| 1,057 | | | | | | 1941-44 | Geneva Creek above Jacksonhacker Creek, near Grant, Colo. |
| 1,058 | | | | | | 1941-44 | Geneva Creek at Old Geneva Smelter, near Grant, Colo. |
| 1,059 | | | | | | 1941-44 | Geneva Creek at Grant (Sullivan's ranch), Colo. |
| 1,060 | | | | | | 1941-44 | Smelter Creek at Old Geneva Smelter, near Grant, Colo. |
| 1,061 | | | | | | 1941-44 | Duck Lake Creek near Grant, Colo. |
| 1,062 | | | | | | 1941-44 | Scott Goser Creek at Sullivan's ranch, near Grant, Colo. |
| 1,063 | | | | | | 1941-44 | Denver City Pipeline Conduit No. 8 near South Platte, Colo. |
| 1,064 | | | | | | 1941-44 | Northern Colorado Irrigation Company Canal near South Platte, Colo. |
| 1,065 | | | | | | 1941-44 | Platte Canon ditch near South Platte, Colo. |
| 1,066 | | | | | | 1941-44 | City (Platte Water Co.) ditch near Littleton, Colo. |
| 1,067 | | | | | | 1941-44 | Deer Creek near Littleton, Colo. |

Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference No. | Water years ending September 30 | | | | | | Gaging station |
|---------------|---------------------------------|---|---|---|---------|---|---|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 1,088 | | | | | |  | McBroom ditch diversion from Bear Creek, Colo. |
| 1,089 | | | | | |  | Olsen and Bell ditch diversion from Bear Creek, Colo. |
| 1,090 | | | | | |  | Platte Valley ditch at Denver, Colo. |
| 1,091 | | | | | |  | Farmers and Gardeners ditch at Denver, Colo. |
| 1,092 | | | | | |  | Cherry Creek near Franktown, Colo. |
| 1,093 | | | | | |  | Cherry Creek near Melvin, Colo. |
| 1,094 | | | | | |  | Cherry Creek at Denver, Colo. |
| 1,095 | | | | | |  | Riverside Cemetery Canal at Denver, Colo. |
| 1,096 | | | | | |  | Burlington ditch at Denver, Colo. |
| 1,097 | | | | | |  | Dugan ditch at Denver, Colo. |
| 1,098 | | | | | |  | Denver-Hudson Canal at Denver, Colo. |
| 1,099 | | | | | |  | O'Brien Canal at Denver, Colo. |
| 1,100 | | | | | |  | Gardener's (Heller) ditch near Denver, Colo. |
| 1,101 | |  |  |  | | | Clear Creek at Idaho Springs, Colo. |
| 1,102 | |  |  |  | | | Clear Creek at Forts Creek (above Golden), Colo. |

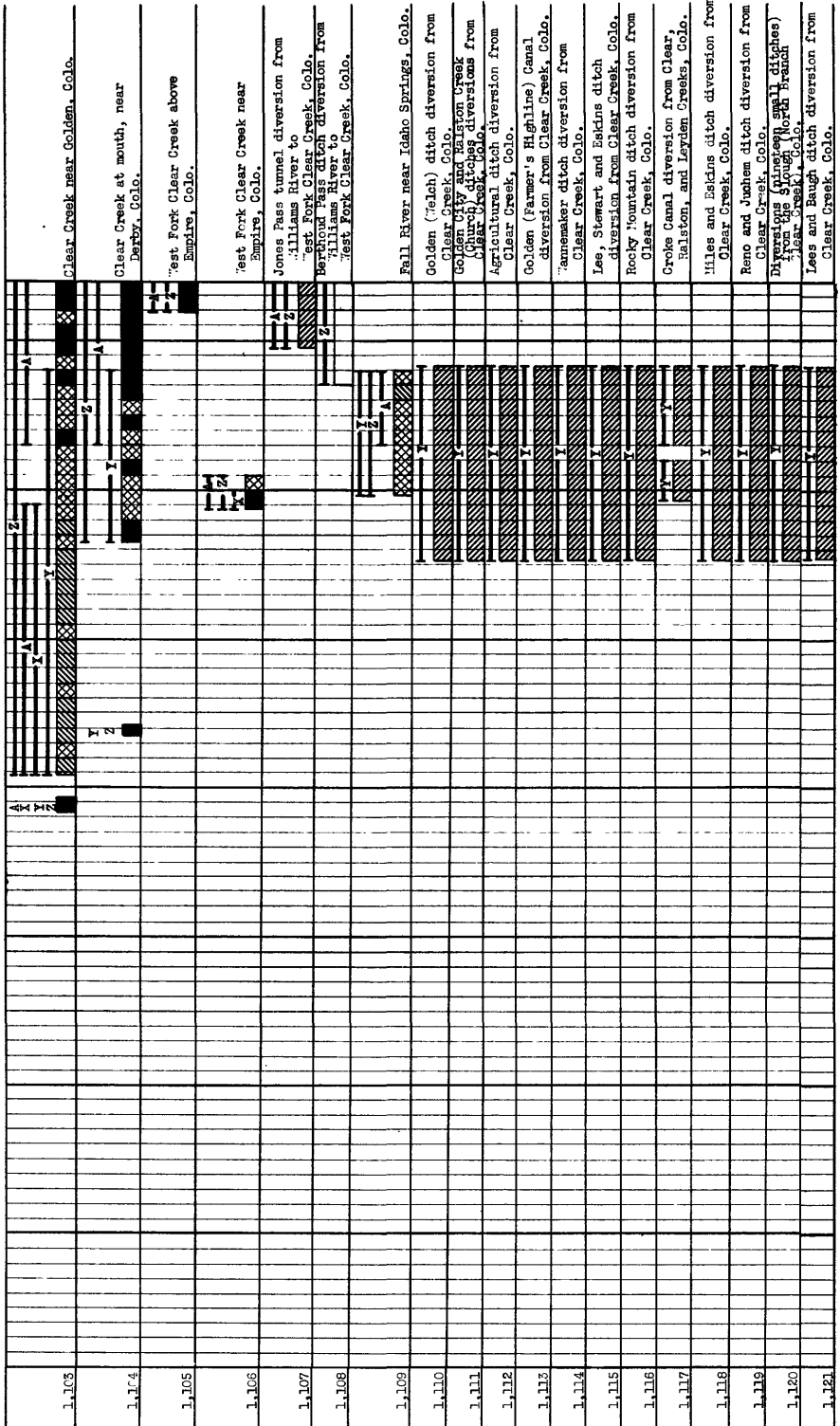


Chart 1.- Duration of records at gaging stations in Missouri River Basin—Continued

| Reference No. | later years ending September 30 | | | | | | | Gaging station |
|---------------|---------------------------------|---------|-----------|---------|---------|---------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | 1931-40 | 1941-44 |
| 1.122 | | | | | | | | Cueltie ditch diversion from Clear Creek, Colo. |
| 1.123 | | | | | | | | Cort, Graves, and Hughes ditch diversion from Clear Creek, Colo. |
| 1.124 | | | | | | | | Diversion (eighteen-twenty small ditches) from Walsion Creek, Colo. |
| 1.125 | | | | | | | | Boyles ditch diversion from Clear Creek, Colo. |
| 1.126 | | | | | | | | Yershaw ditch diversion from Clear Creek, Colo. |
| 1.127 | | | | | | | | Fisher ditch diversion from Clear Creek, Colo. |
| 1.128 | | | | | | | | Colorado Agricultural ditch diversion from Clear Creek, Colo. |
| 1.129 | | | | | | | | Clear Creek and Platte River ditch diversion from Clear Creek, Colo. |
| 1.130 | | | | | | | | Pulton ditch near Brighton, Colo. |
| 1.131 | | | | | | | | Franker ditch near Brighton, Colo. |
| 1.132 | | | | | | | | Brighton Shortline ditch near Brighton, Colo. |
| 1.133 | | | | | | | | Lupton Shortline ditch near Fort Lupton, Colo. |
| 1.134 | | | | | | | | Lupton Bottom and Elwood ditches near Fort Lupton, Colo. |
| 1.135 | | | | | | | | Platteville Irrigating and Milling Co. ditch near Fort Lupton, Colo. |
| 1.136 | | | | | | | | Side Hill and "eader Island No. 1 ditches near Fort Lupton, Colo. |
| 1.137 | | | | | | | | Avans No. 2 ditch near Fort Lupton, Colo. |
| 1.138 | | | | | | | | "eadow Island No. 2 and Beeman ditches near Platteville, Colo. |
| 1.139 | | | | | | | | Bucher's ditch near Platteville, Colo. |
| 1.140 | | | | | | | | Farmers Independent ditch near Platteville, Colo. |

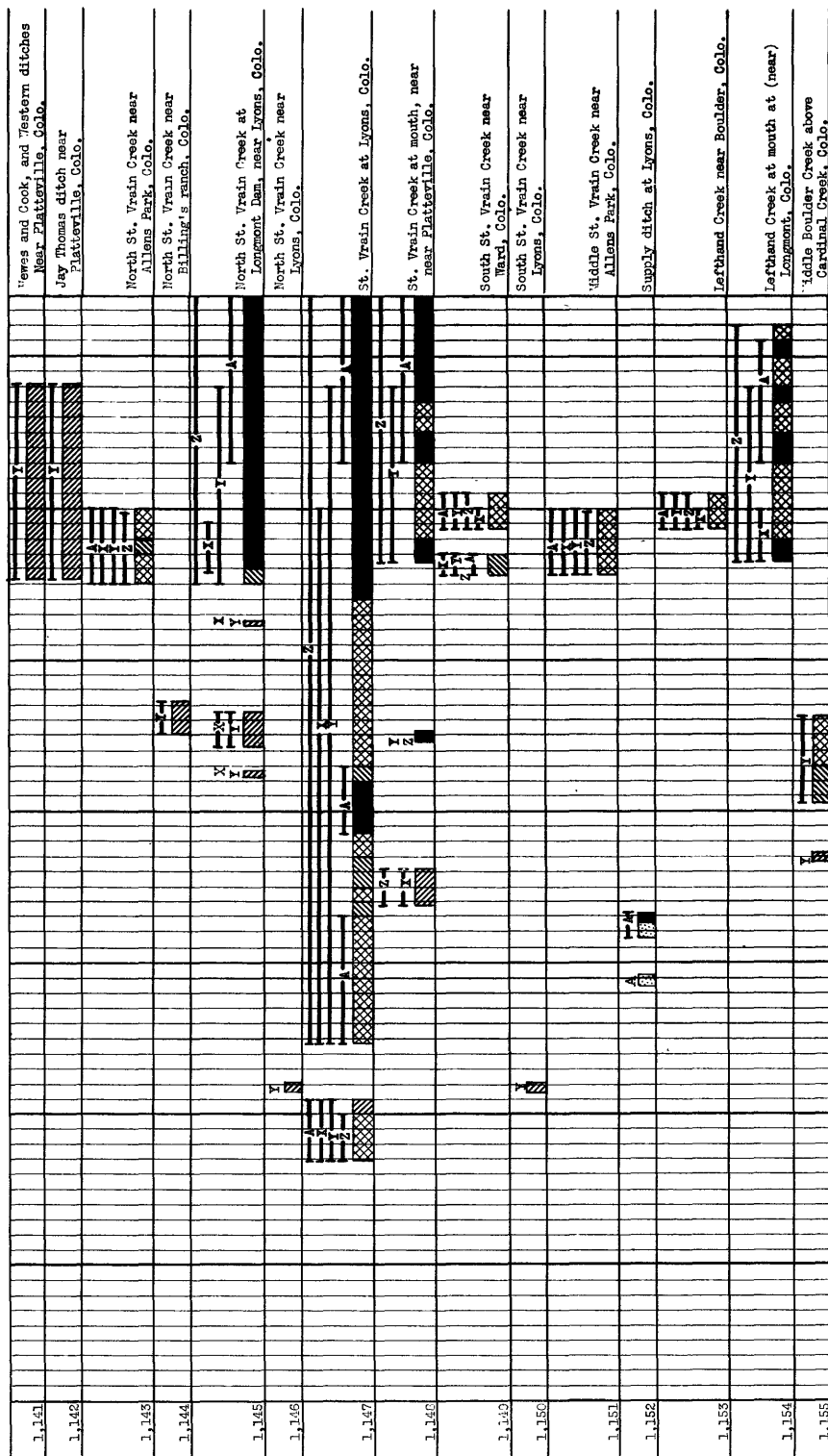


Chart 1.- Duration of records at gaging stations in Missouri River Basin—Continued

| Reference No. | Water years ending September 30 | | | | | | Gaging station |
|---------------|---------------------------------|---------|-----------|---------|---------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 1.156 | | | | | | | Middle Boulder Creek at Nederland, Colo. |
| 1.157 | | | | | | | Boulder Creek near (at) Creedell, Colo. |
| 1.158 | | | | | | | (North) Boulder Creek near (above) Boulder, Colo. |
| 1.159 | | | | | | | Boulder Creek at mouth, near Longmont, Colo. |
| 1.160 | | | | | | | North Boulder Creek at Silver Lake, Colo. |
| 1.161 | | | | | | | North Boulder Creek near Nederland, Colo. |
| 1.162 | | | | | | | Boulder ditch diversion from North Boulder Creek, Colo. |
| 1.163 | | | | | | | Fourmile Creek at mouth, near Creedell, Colo. |
| 1.164 | | | | | | | Silver Lake ditch diversion from Boulder Creek, Colo. |
| 1.165 | | | | | | | Farmer's ditch diversion from Boulder Creek, Colo. |
| 1.166 | | | | | | | Anderson ditch diversion from Boulder Creek, Colo. |
| 1.167 | | | | | | | Boulder and White Rock ditch diversion from Boulder Creek, Colo. |
| 1.168 | | | | | | | McCarthy ditch diversion from Boulder Creek, Colo. |
| 1.169 | | | | | | | Dry Creek ditch diversion from Boulder Creek, Colo. |

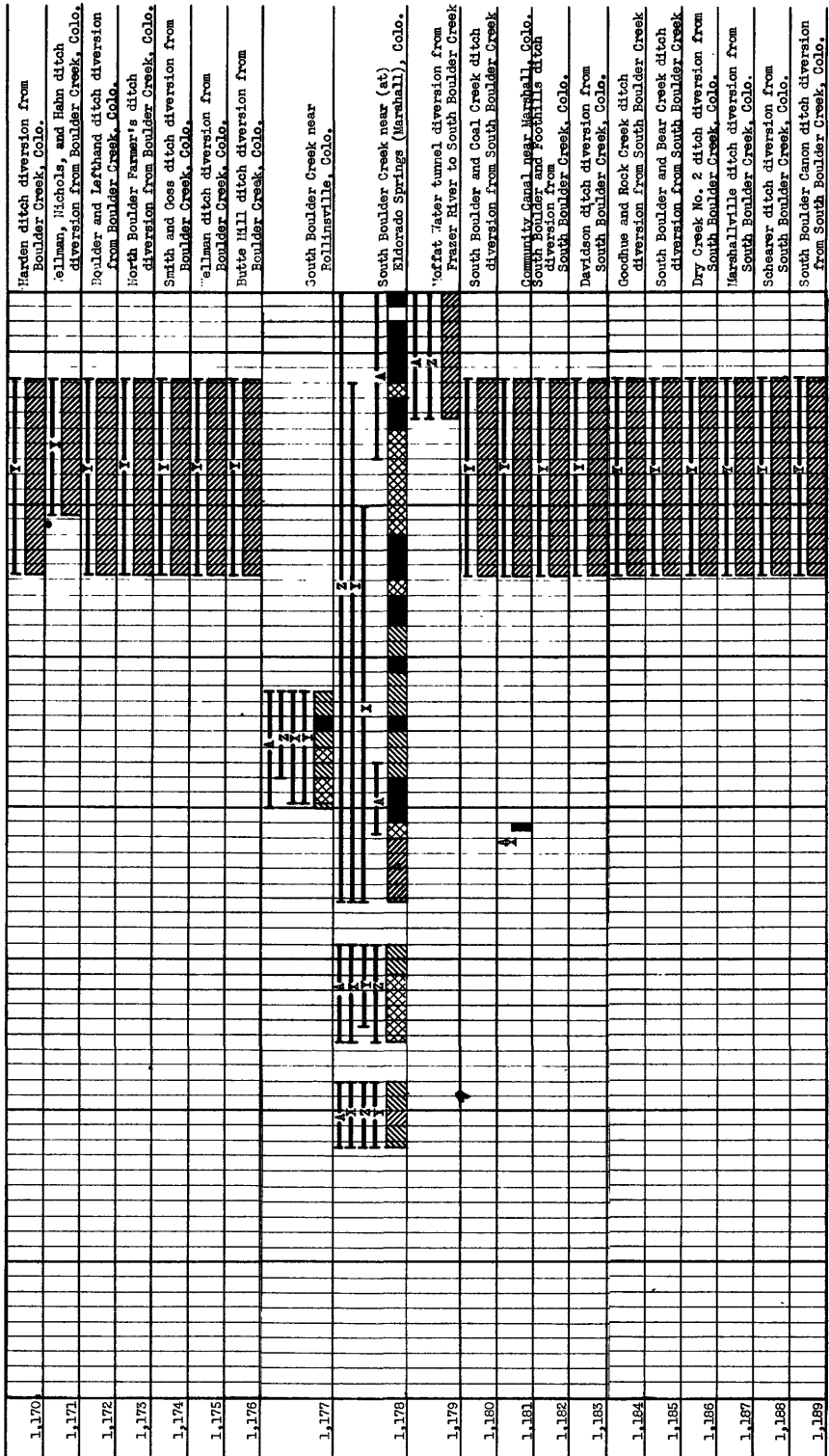


Chart 1.- Duration of records at gaging stations in Missouri River Basin

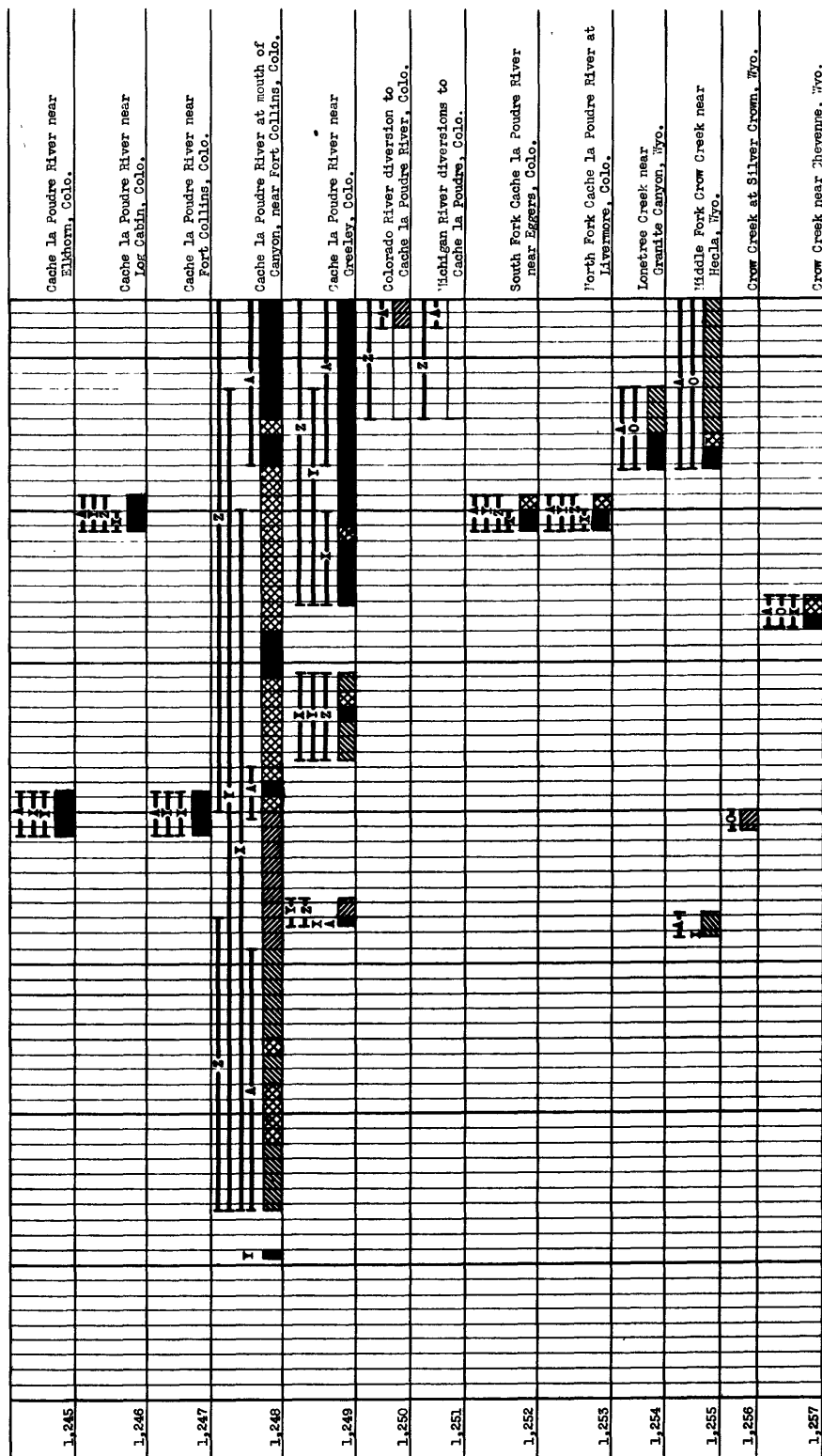
| Refer- ence No. | later years ending September 30 | | | | | | Gaging station |
|-----------------------|---------------------------------|---------|-----------|---------|---------|---------|---|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 1,190 | | | | | | | McDinn ditch diversion from South Boulder Creek, Colo. |
| 1,191 | | | | | | | Central and South ditch diversion from South Boulder Creek, Colo. |
| 1,192 | | | | | | | Howard ditch diversion from South Boulder Creek, Colo. |
| 1,193 | | | | | | | East Boulder ditch diversion from South Boulder Creek, Colo. |
| 1,194 | | | | | | | Jones and Donnelly ditch diversion from South Boulder Creek, Colo. |
| 1,195 | | | | | | | Green ditch diversion from Boulder Creek, Colo. |
| 1,196 | | | | | | | Legget (Charity) ditch diversion from Boulder Creek, Colo. |
| 1,197 | | | | | | | Enterprise ditch diversion from Dry Creek, Colo. |
| 1,198 | | | | | | | Cottonwood No. 2 ditch diversion from Dry Creek, Colo. |
| 1,199 | | | | | | | Dry Creek ditch diversion from Dry Creek, Colo. |
| 1,200 | | | | | | | Andrews and Parwell ditch diversion from Dry Creek, Colo. |
| 1,201 | | | | | | | Leyner and Cottonwood No. 1 ditches diverting from Dry Creek, Colo. |
| 1,202 | | | | | | | Lewis, Home, and Davidson ditch diversion from Dry Creek, Colo. |
| 1,203 | | | | | | | Lower Boulder ditch diversion from Boulder Creek, Colo. |
| 1,204 | | | | | | | Boulder and Weld County ditch diversion from Boulder Creek, Colo. |
| 1,205 | | | | | | | Howell ditch diversion from Boulder Creek, Colo. |
| 1,206 | | | | | | | Plumb ditch diversion from Boulder Creek, Colo. |
| 1,207 | | | | | | | Last Chance ditch diversion from Coal Creek, Colo. |
| 1,208 | | | | | | | Zang ditch diversion from Coal Creek, Colo. |

BAR CHARTS OF RECORDS

[illegible]

Chart 1.- Duration of records at gaging stations in Missouri River Basin—Continued

| Reference No. | Water years ending September 30 | | | | | | Gaging station |
|---------------|---------------------------------|---------|-----------|---------|---------|---------|---|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 1,232 | | | | | | | Section No. 3 ditch near La Salle, Colo. |
| 1,233 | | | | | | | Thompson River near Estes Park, Colo. |
| 1,234 | | | | | | | Thompson River [below power house], near Drake, Colo. |
| 1,235 | | | | | | | Thompson River at mouth of Canyon, near Drake, Colo. |
| 1,236 | | | | | | | (Big) Thompson River (Creek) near Atkins, Colo. |
| 1,237 | | | | | | | Thompson River at mouth, near La Salle, Colo. |
| 1,238 | | | | | | | Eureka ditch diversion from Colorado River to Thompson River, Colo. |
| 1,239 | | | | | | | Handy ditch near Atkins, Colo. |
| 1,240 | | | | | | | Little Thompson River near Portland, Colo. |
| 1,241 | | | | | | | Lower Latham ditch near Evans, Colo. |
| 1,242 | | | | | | | Patterson ditch near Evans, Colo. |
| 1,243 | | | | | | | Highland (Flumb) ditch near Greeley, Colo. |
| 1,244 | | | | | | | Cache la Poudre River above Chambers Lake outlet, Colo. |



GAGING-STATION RECORDS IN THE MISSOURI RIVER BASIN

Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference No. | Water years ending September 30 | | | | | Gaging station |
|---------------|---------------------------------|---------|-----------|---------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | |
| 1,258 | | | | | | South Fork Crow Creek near Hecla, Wyo. |
| 1,259 | | | | | | North Fork Crow Creek near Hecla, Wyo. |
| 1,260 | | | | | | Boxelder Creek near Hudson, Colo. |
| 1,261 | | | | | | Lodgepole Creek near Federal, Wyo. |
| 1,262 | | | | | | Lodgepole Creek at Wyoming-Nebraska State line |
| 1,263 | | | | | | Lodgepole Creek near Rushnell, Nebr. |
| 1,264 | | | | | | Lodgepole Creek at Rushnell (above Oliver Reservoir), Nebr. |
| 1,265 | | | | | | Kimball (Oliver) Reservoir |
| 1,266 | | | | | | Lodgepole Creek below Oliver (Kimball) Reservoir, Nebr. |
| 1,267 | | | | | | Lodgepole Creek near (north of) Kimball, Nebr. |
| 1,268 | | | | | | Lodgepole Creek above Bennett Reservoir, Nebr. |
| 1,269 | | | | | | Lodgepole Creek near Dix, Nebr. |
| 1,270 | | | | | | Lodgepole Creek at (near, south of) Sidney, Nebr. |
| 1,271 | | | | | | Lodgepole Creek at (one mile west of) Lodgepole, Nebr. |
| 1,272 | | | | | | Lodgepole Creek at Chappell, Nebr. |
| 1,273 | | | | | | Lodgepole Creek at Colorado-Nebraska State line (at Paltou, Nebr., interstate station) |

BAR CHARTS OF RECORDS

193

| | | |
|-------|--|---|
| 1.274 | | Lodgepole Creek at Orid, Colo. |
| 1.275 | | South Fork Lodgepole Creek near near Federal, Wyo. |
| 1.276 | | Bushnell Canal diversion from Lodgepole Creek, Nebr. |
| 1.277 | | New Rutner Canal diversion from Lodgepole Creek, Nebr. |
| 1.278 | | Kinnall Reservoir Canal diversion from Lodgepole Creek, Nebr. |
| 1.279 | | Kimsey No. 1 (South, Rutner-Kimney) Canal diversion from Lodgepole Creek, Nebr. |
| 1.280 | | Kimsey Canal, North (No. 2) diversion from Lodgepole Creek, Nebr. |
| 1.281 | | Hurley-Lilly-Polly Canal diversion from Lodgepole Creek, Nebr. |
| 1.282 | | Wilde-Polly Canal diversion from Lodgepole Creek, Nebr. |
| 1.283 | | Pickel Canal diversion from Lodgepole Creek, Nebr. |
| 1.284 | | Owaseo Canal diversion from Lodgepole Creek, Nebr. |
| 1.285 | | McIntosh Canal diversion from Lodgepole Creek, Nebr. |
| 1.286 | | Circle Arrow Canal diversion from Lodgepole Creek, Nebr. |
| 1.287 | | Tromnitz Canal diversion from Lodgepole Creek, Nebr. |
| 1.288 | | Booth Canals, North and South, diverting from Lodgepole Creek, Nebr. |
| 1.289 | | Western Canal near Big Springs, Nebr. |
| 1.290 | | Hollingsworth Canal near Oallala, Nebr. |
| 1.291 | | Parton Canal near Parton, Nebr. |
| 1.292 | | Tri-County Canal near North Platte, Nebr. |
| 1.293 | | Jeffrey Power Return from Tri-County System |
| 1.294 | | Johnson Power Return from Tri-County System |

Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference No. | Water years ending September 30 | | | | | | Gaging station |
|---------------|---------------------------------|---------|-----------|---------|-----------|---------|---|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-1920 | 1921-30 | |
| 1,295 | | | | | | | White Horse Creek near North Platte, Nebr. |
| 1,296 | | | | | | | Freemont Slough near North Platte, Nebr. |
| 1,297 | | | | | | | Full drain near North Platte, Nebr. |
| 1,298 | | | | | | | Pamsee Creek near Brady, Nebr. |
| 1,299 | | | | | | | Kent-Burke Canal diversion from Pamsee Creek, Nebr. |
| 1,300 | | | | | | | Holcombe Canal diversion from Pamsee Creek, Nebr. |
| 1,301 | | | | | | | Thirty Mile Canal near Brady, Nebr. |
| 1,302 | | | | | | | Thirty Mile Canal Waste at Six Foot Weir, Nebr. |
| 1,303 | | | | | | | Thirty Mile Canal Waste at Eight Foot Weir, Nebr. |
| 1,304 | | | | | | | Gothenburg Diversion Canal near Brady, Nebr. |
| 1,305 | | | | | | | Gothenburg Power Return at Gothenburg, Nebr. |
| 1,306 | | | | | | | Gothenburg Irrigation Canal at Gothenburg, Nebr. |
| 1,307 | | | | | | | Gothenburg Canal Waste into Buffalo Creek, Nebr. |
| 1,308 | | | | | | | Six Mile Canal near Brady, Nebr. |
| 1,309 | | | | | | | Cozad Canal near Gothenburg, Nebr. |
| 1,310 | | | | | | | Orchard-Alfalfa Canal near Cozad, Nebr. |
| 1,311 | | | | | | | Dawson County Canal near Cozad, Nebr. |
| 1,312 | | | | | | | Dawson County Canal diversion from Cozad Canal waste, Nebr. |
| 1,313 | | | | | | | Dawson County Canal waste to Strever Creek, Nebr. |

BAR CHARTS OF RECORDS

| | |
|-------|--|
| 1.314 | Dawson County Canal waste to Buffalo Creek, Nebr. |
| 1.315 | Dawson County Canal waste to French Creek, Nebr. |
| 1.316 | Dawson County Canal waste to Elm Creek, Nebr. |
| 1.317 | Dawson County drain No. 2 near Cozad, Nebr. |
| 1.318 | Phelps County Canal near Lexington, Nebr. |
| 1.319 | Dawson County drain No. 1 near Lexington, Nebr. |
| 1.320 | Elm Creek Canal near Overton, Nebr. |
| 1.321 | Strover Creek near Overton, Nebr. |
| 1.322 | Kearney Canal near Kearney, Nebr. |
| 1.323 | Kearney Canal diversion from Buffalo Creek, Nebr. |
| 1.324 | Kearney Canal diversion from Elm Creek, Nebr. |
| 1.325 | Kearney Power waste near Kearney, Nebr. |
| 1.326 | Buffalo Creek near Elm Creek, Nebr. |
| 1.327 | Elm Creek near Elm Creek, Nebr. |
| 1.328 | Tood River near Kearney, Nebr. |
| 1.329 | Tood River near Chapman, Nebr. |
| 1.330 | Middle Loup River at Walworth (Sargeant), Nebr. |
| 1.331 | Middle Loup River near Comstock, Nebr. |
| 1.332 | Middle Loup River at Arcadia, Nebr. |
| 1.333 | Middle Loup River at Loup City, Nebr. |
| 1.334 | Middle Loup River at Boelus, Nebr. |

GAGING-STATION RECORDS IN THE MISSOURI RIVER BASIN

Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Refer- ence No. | Water years ending September 30 | | | | | | Gaging station |
|-----------------------|---------------------------------|---------|-----------|---------|---------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 1.335 | | | | | | | Middle Loup River at St. Paul, Nebr. |
| 1.336 | | | | | | | Loup River near Genoa, Nebr. |
| 1.337 | | | | | | | Loup River at (near) Columbus, Nebr. |
| 1.338 | | | | | | | Loup River at Columbus, Nebr. (excluding power diversion) |
| 1.339 | | | | | | | Missouri River at Dunning, Nebr. |
| 1.340 | | | | | | | Middle Loup Canal No. 1 diversion from Middle Loup River, Nebr. |
| 1.341 | | | | | | | Middle Loup Canal No. 2 diversion from Middle Loup River, Nebr. |
| 1.342 | | | | | | | Middle Loup Canal No. 4 diversion from Middle Loup River, Nebr. |
| 1.343 | | | | | | | Middle Loup Canal No. 5 diversion from Middle Loup River, Nebr. |
| 1.344 | | | | | | | Posolus Power Canal near Posolus, Nebr. |
| 1.345 | | | | | | | South Loup River at Callaway, Nebr. |
| 1.346 | | | | | | | South Loup River at Ravenna, Nebr. |
| 1.347 | | | | | | | South Loup River at St. Michael, Nebr. |
| 1.348 | | | | | | | Mud Creek near Berwyn, Nebr. |
| 1.349 | | | | | | | Mud Creek near Mason City, Nebr. |

BAR CHARTS OF RECORDS

197



7 Does not include flow that by-passes 24 in² station in Loup River power canal.

Chart 1.- Duration of records at gaging stations in Missouri River Basin—Continued

| Reference No. | Water years ending September 30 | | | | | | Gaging station |
|---------------|---------------------------------|---------|-----------|---------|---------|---------|---|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 1,367 | | | | | | | Elkhorn River at Neligh, Nebr. |
| 1,368 | | | | | | | Elkhorn River at Norfolk, Nebr. |
| 1,369 | | | | | | | Elkhorn River at Arlington, Nebr. |
| 1,370 | | | | | | | Elkhorn River at Waterloo, Nebr. |
| 1,371 | | | | | | | Logan Creek near Uehling, Nebr. |
| 1,372 | | | | | | | West Mishnabotna River at White Cloud, Iowa |
| 1,373 | | | | | | | Mishnabotna River above (near) Hamburg, Iowa |
| 1,374 | | | | | | | East Mishnabotna River at Red Oak, Iowa |
| 1,375 | | | | | | | Nebraska River at Falls City, Nebr. |
| 1,376 | | | | | | | Tarkio (East Tarkio Creek) River at Blanchard, Iowa |
| 1,377 | | | | | | | Tarkio River at Pairfax, Mo. |

GAGING-STATION RECORDS IN THE MISSOURI RIVER BASIN

Chart 1.- Duration of records at gaging stations in Missouri River Basin—Continued

| Refer- ence No. | Water years ending September 30 | | | | | | Gaging station | | |
|-----------------------|---------------------------------|---------|-----------|---------|---------|---------|----------------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | | 1931-40 | 1941-44 |
| 1,391 | | | | | | | | | Republican River at (near) Culbertson, Nebr. |
| 1,392 | | | | | | | | | Republican River at (near) McCook, Nebr. |
| 1,393 | | | | | | | | | Republican River near Arapahoe, Nebr. |
| 1,394 | | | | | | | | | Republican River below Huddy Creek, near Arapahoe, Nebr. |
| 1,395 | | | | | | | | | Republican River near Oxford, Nebr. |
| 1,396 | | | | | | | | | Republican River near Bloomington, Nebr. |
| 1,397 | | | | | | | | | Republican River at Guide Rock, Nebr. |
| 1,398 | | | | | | | | | Republican River near Hardy (near Superior, at Bostwick), Nebr. |
| 1,399 | | | | | | | | | Republican River at Scandia, Kans. |
| 1,400 | | | | | | | | | Republican River at Concordia, Kans. |
| 1,401 | | | | | | | | | Republican River at Clyde, Kans. |
| 1,402 | | | | | | | | | Republican River at Clay Center (Wakefield), Kans. |
| 1,403 | | | | | | | | | Republican River at Junction (Junction City), Kans. |

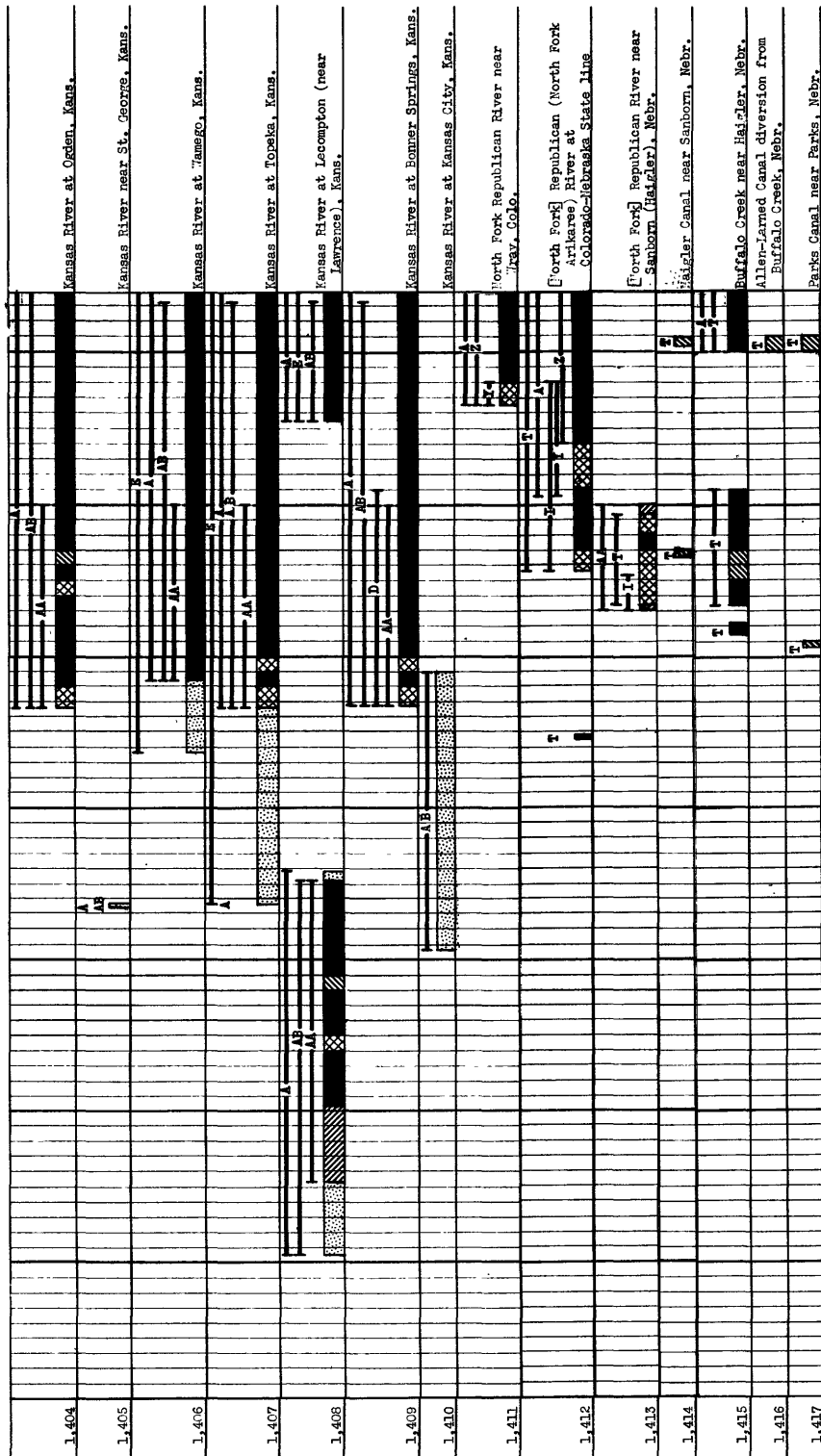


Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference No. | Other years in which gaged | | | | | | Gaging station |
|---------------|----------------------------|---------|-----------|---------|---------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 1,418 | | | | | | | Rock Creek at (near) Parks, Nebr. |
| 1,419 | | | | | | | Phelan Canal diversion from Rock Creek, Nebr. |
| 1,420 | | | | | | | Horse Creek near Parks, Nebr. |
| 1,421 | | | | | | | Purdy County Canal near Parks, Nebr. |
| 1,422 | | | | | | | [South Fork] Republican River near (at) Penkelman, Nebr. |
| 1,423 | | | | | | | Delaware-Hickman Canal near Penkelman, Nebr. |
| 1,424 | | | | | | | Indian Creek near Max, Nebr. |
| 1,425 | | | | | | | Frenchman Creek (river) above Fairville Reservoir, Nebr. |
| 1,426 | | | | | | | Frenchman Creek (River) below Fairville Reservoir, Nebr. |
| 1,427 | | | | | | | Frenchman Creek (River) below Indian Diversion, Nebr. |
| 1,428 | | | | | | | Frenchman Creek (River) above Champion Diversion Lake, Nebr. |
| 1,429 | | | | | | | Frenchman Creek (River) below Champion Reservoir (Alpastrick's Diversion), Nebr. |
| 1,430 | | | | | | | Frenchman Creek near (above) Champion, Nebr. |
| 1,431 | | | | | | | Frenchman Creek below (near) Champion, Nebr. |
| 1,432 | | | | | | | Frenchman Creek near (south of) Fairville (near Harvey Dam Site), Nebr. |

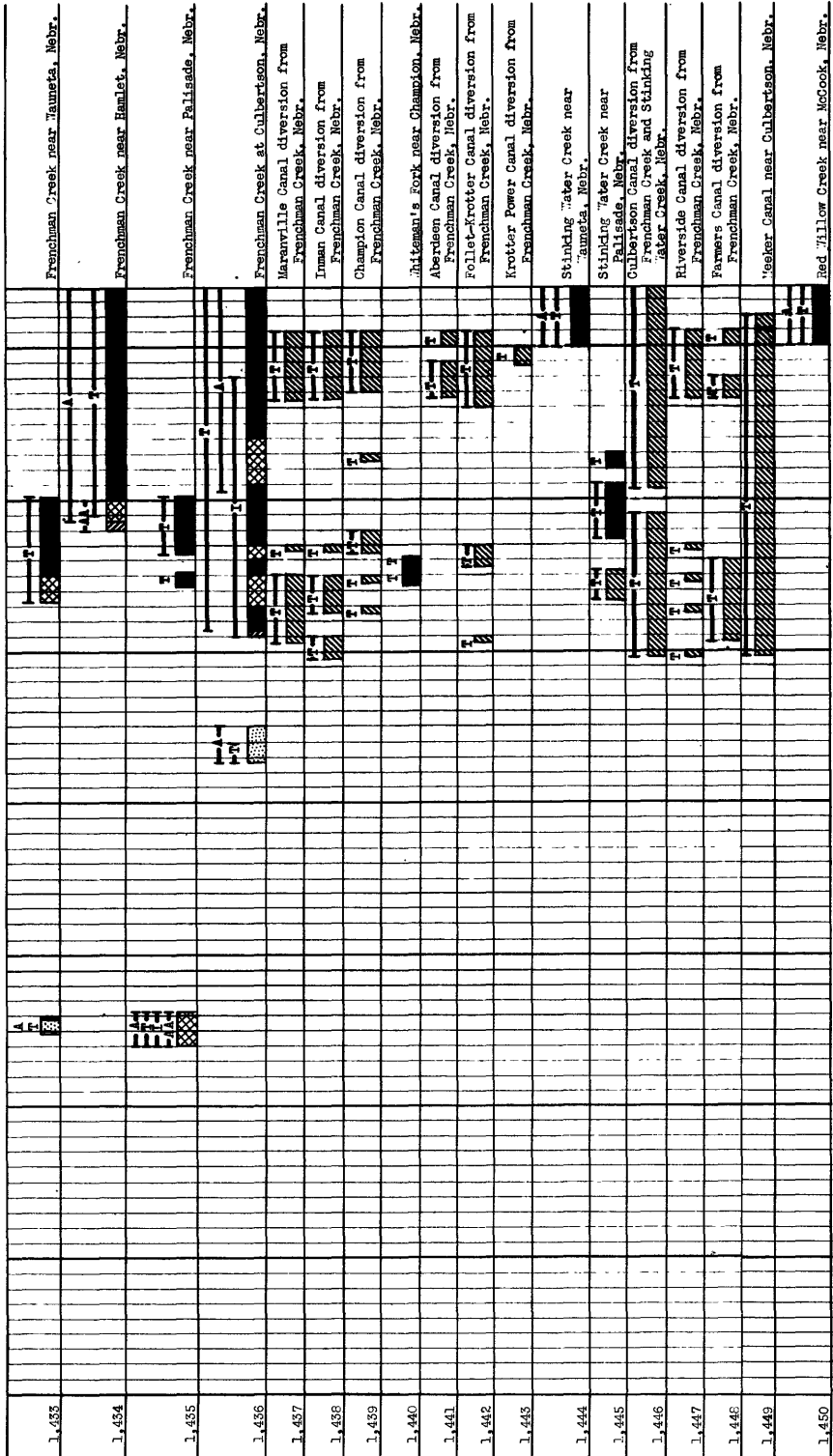


Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference No. | Water years ending September 30 | | | | | Gaging station |
|---------------|---------------------------------|---------|-----------|---------|---------|---|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | |
| 1.451 | | | | | | Red Willow Creek near Red Willow, Nebr. |
| 1.452 | | | | | | Medicine Creek at (near) Cambridge, Nebr. |
| 1.453 | | | | | | Arapahoe Mill Waste at Arapahoe, Nebr. |
| 1.454 | | | | | | Muddy Creek near Arapahoe, Nebr. |
| 1.455 | | | | | | Sandy Creek near Clarlin, Kans. |
| 1.456 | | | | | | Sandy Creek near Beaver City, Nebr. |
| 1.457 | | | | | | Beaver Creek at Iudell, Kans. |
| 1.458 | | | | | | Beaver Creek near Beaver City, Nebr. |
| 1.459 | | | | | | Prairie Dog Creek at Horton, Kans. |
| 1.460 | | | | | | Prairie Dog Creek near Goodruff, Kans. |
| 1.461 | | | | | | Test Buffalo Creek near Jewell, Kans. |
| 1.462 | | | | | | Test Buffalo Creek at Jewell, Kans. |

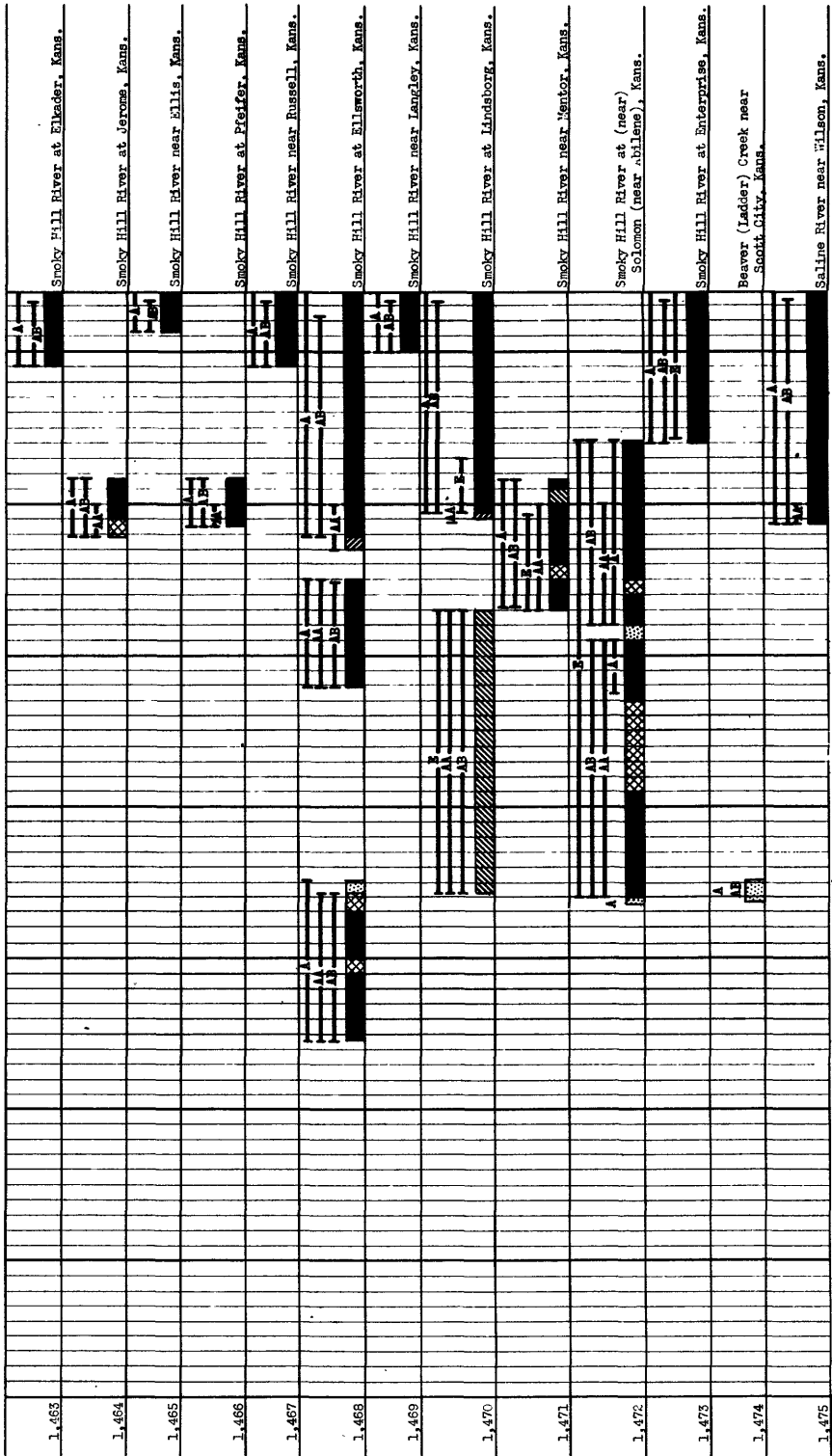


Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Refer- ence No. | Water years ending September 30 | | | | | | Gaging station |
|-----------------------|---------------------------------|---------|-----------|---------|---------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 1.476 | | | | | | | Saline River near Beverly, Kans. |
| 1.477 | | | | | | | Saline River at Tescott, Kans. |
| 1.478 | | | | | | | Saline River near Salina, Kans. |
| 1.479 | | | | | | | South Fork Solomon River at Alton, Kans. |
| 1.480 | | | | | | | Solomon River at Beloit, Kans. |
| 1.481 | | | | | | | Solomon River at Miles (near Remington), Kans. |
| 1.482 | | | | | | | North Fork Solomon River at Kiowa, Kans. |
| 1.483 | | | | | | | East Limestone Creek near Ionia, Kans. |
| 1.484 | | | | | | | East Limestone Creek at Ionia, Kans. |
| 1.485 | | | | | | | Elm Creek near Ionia, Kans. |
| 1.486 | | | | | | | Big Blue River at Beatrice, Nebr. |

Chart 1.- Duration of records at gaging stations in Missouri River Basin—Continued

| Refer- ence No. | Water years ending September 30 | | | | | | | Gaging station |
|-----------------------|---------------------------------|---------|-----------|---------|---------|---------|---------|--|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | 1931-40 | 1941-44 |
| 1.500 | | | | | | | | Blue River near Kansas City, Mo. |
| 1.501 | | | | | | | | Grand River near Darlington, Mo. |
| 1.502 | | | | | | | | Grand River near Pattonsburg, Mo. |
| 1.503 | | | | | | | | Grand River near Gallatin, Mo. |
| 1.504 | | | | | | | | Grand River near Chillicothe, Mo. |
| 1.505 | | | | | | | | Grand River near Sumner, Mo. |
| 1.506 | | | | | | | | Grand River at Brunswick, Mo. |
| 1.507 | | | | | | | | East Fork Big Creek near Bethany, Mo. |
| 1.508 | | | | | | | | Thompson (Grand) River at Davis City, Iowa |
| 1.509 | | | | | | | | Thompson River at Trenton, Mo. |
| 1.510 | | | | | | | | Thompson River near Hickory, Mo. |
| 1.511 | | | | | | | | Thompson River at Gee Bridge near Hickory, Mo. |
| 1.512 | | | | | | | | Teldon River near Merer, Mo. |

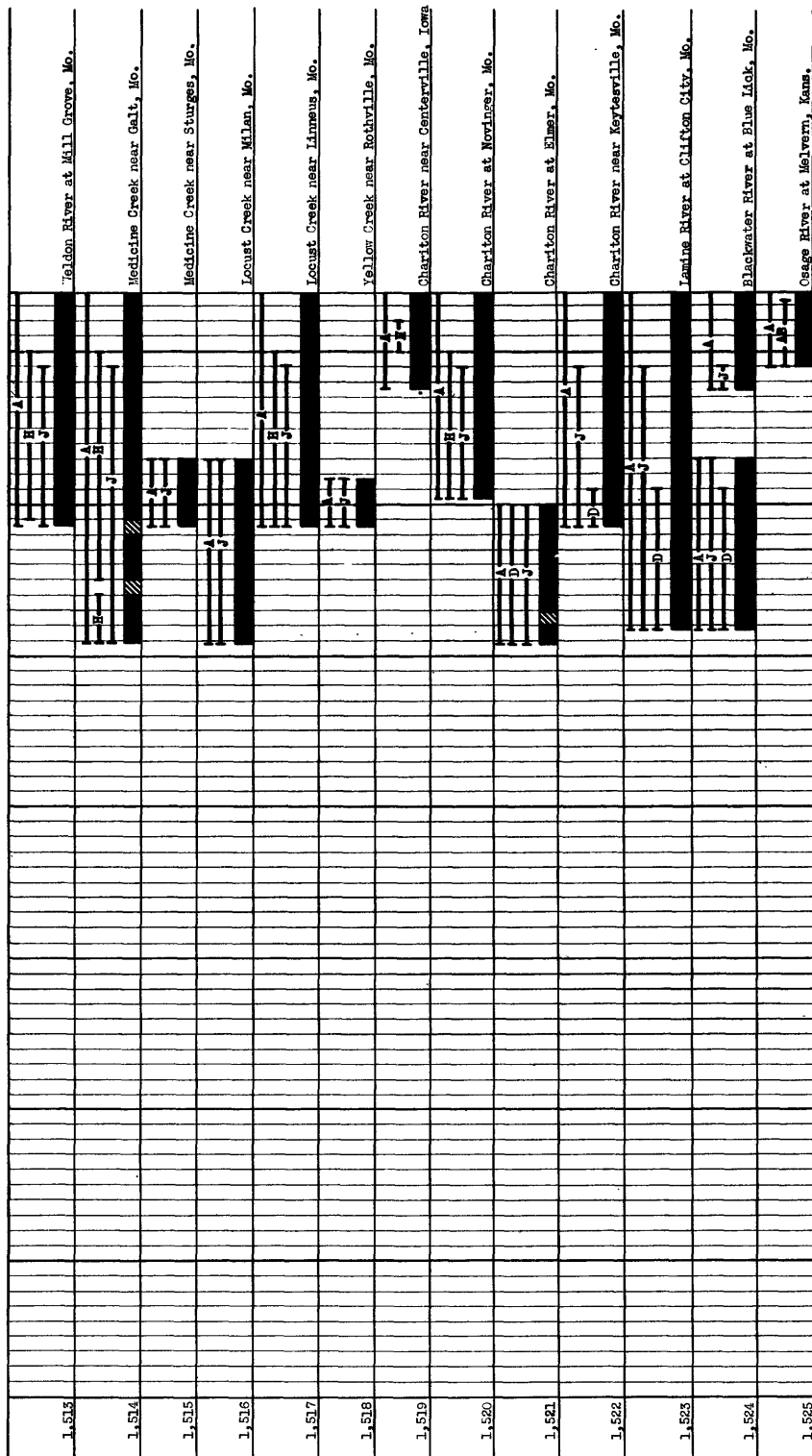


Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| Reference No. | Water years ending September 30 | | | | | | Gaging station | |
|---------------|---------------------------------|---------|-----------|---------|---------|---------|----------------|---|
| | 1872-80 | 1881-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | | |
| 1.526 | | | | | | | | Osage River near Quenemo, Kans. |
| 1.527 | | | | | | | | Osage River near (at) Ottawa, Kans. |
| 1.528 | | | | | | | | Osage River at Treading Post, Kans. |
| 1.529 | | | | | | | | Osage River at Osceola, Mo. |
| 1.530 | | | | | | | | Osage River at Warsaw, Mo. |
| 1.531 | | | | | | | | Lake of the Osage near Bagnell, Mo. S |
| 1.532 | | | | | | | | Osage River near Bagnell, Mo. |
| 1.533 | | | | | | | | Osage River at Tuscombia, Mo. |
| 1.534 | | | | | | | | Osage River near St. Thomas, Mo. |
| 1.535 | | | | | | | | Salt Creek near Lyndon, Kans. |
| 1.536 | | | | | | | | Hundred and Ten Mile (Dragon) Creek near Quenemo, Kans. |
| 1.537 | | | | | | | | Pottawatomie Creek near Garnett, Kans. |

Osage River near Quenemo, Kans.

Osage River near (at) Ottawa, Kans.

Osage River at Trading Post, Kans.

Osage River at Osceola, Mo.

Osage River at Warsaw, Mo.

Lake of the Osages near Bagnell, Mo. 8

Osage River near Bagnell, Mo.

Osage River at Tuscombia, Mo.

Osage River near St. Thomas, Mo.

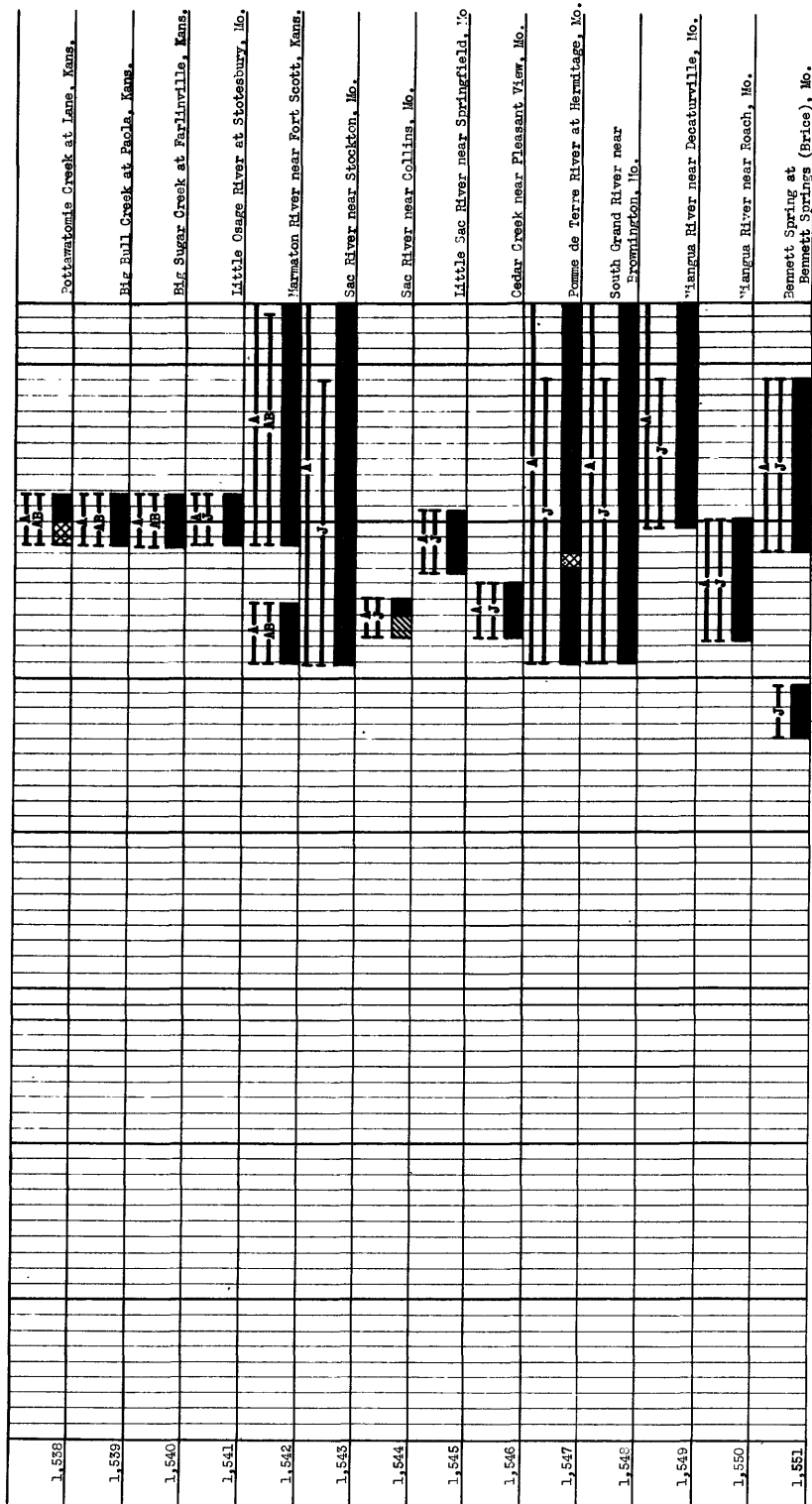
Salt Creek near Lyndon, Kans.

Hundred and Ten Mile (Dragon) Creek near Quenemo, Kans.

Pottawatomie Creek near Garnett, Kans.

BAR CHARTS OF RECORDS

211



Published as Osage River at Lakeside, Mo. in Daily River Stages.

Chart 1.- Duration of records at gaging stations in Missouri River Basin--Continued

| | later years ending September 30 | | | | | | gaging station |
|-------|---------------------------------|---------|-----------|---------|---------|---------|---|
| | 1872-80 | 1880-90 | 1891-1900 | 1901-10 | 1911-20 | 1921-30 | |
| 1,552 | | | | | | | Wahatanka Spring at Wahatanka, Mo. |
| 1,553 | | | | | | | Gasconade River near Hazelgreen, Mo. |
| 1,554 | | | | | | | Gasconade River near Waynesville, Mo. |
| 1,555 | | | | | | | Gasconade River at Jaroma (Arlington), Mo. |
| 1,556 | | | | | | | Gasconade River near Rich Fountain, Mo. |
| 1,557 | | | | | | | Big Piney River (Piney Creek) near Houston, Mo. |
| 1,558 | | | | | | | Big Piney River (Piney Creek) near Big Piney, Mo. |
| 1,559 | | | | | | | Big Piney River (Piney Creek) near Hooker, Mo. |
| 1,560 | | | | | | | Little Piney Creek at Newburg, Mo. |
| 1,561 | | | | | | | Little Piney Creek near Arlington, Mo. |

INDEX

[Numbers in parentheses refer to table 3, chart 1, and plate 1]

| | Page | | Page |
|--|------------|---|-----------------|
| Aberdeen Canal, Nebr. (1,441)..... | 203 | Belt Creek, Mont. (172)..... | 120 |
| Ackley Lake Reservoir, Mont. (211).... | 44,123 | Bench Canal, Wyo. (470)..... | 58,141 |
| Agency ditch, Mont. (281)..... | 49,129 | Bennett Spring, Mo. (1,551)..... | 105,211 |
| Agricultural ditch, Colo. (1,112).... | 86,183 | Bergen ditch, Colo. (1,083)..... | 181 |
| Alcova Reservoir, Wyo. (683)..... | 67,156 | Berthoud Pass ditch, Colo. (1,108).... | 86,183 |
| Alfalfa Canal, Nebr. (957)..... | 80,174 | Bibliography..... | 27 |
| Allen-Larned Canal, Nebr. (1,416).... | 201 | Bickel Canal, Nebr. (1,283)..... | 193 |
| Alliance Canal, Nebr. (894)..... | 78,170,171 | Big Bend ditch, Colo. (1,230)..... | 189 |
| Almeria Canal, Nebr. (1,357)..... | 197 | Big Blue River, | |
| American Fork, Mont. (229)..... | 45,125 | Kans.-Nebr. (1,486).... | 102,103,206,207 |
| Anderson ditch, Colo. (1,166)..... | 89,186 | Big Bull Creek, Kans. (1,539)..... | 211 |
| Anderson ditch, Wyo. (444)..... | 139 | Big Creek, Wyo. (741)..... | 71,161 |
| Andrews and Farwell | | Big Creek, East Fork, Mo. (1,507).... | 103,208 |
| ditch, Colo. (1,200)..... | 188 | Big Hole River, Mont. (84)..... | 37,113 |
| Annual discharge records..... | 26 | Big Muddy Creek, Mont. (310)..... | 50,131 |
| Apple Creek, N. Dak. (558)..... | 147 | Big Piney River, Mo. (1,557)..... | 106,212 |
| Approximate areas irrigated..... | 20 | Big Pipestone Creek, Mont. (87)..... | 114 |
| Approximate usable capacity | | Big Sandy Creek, Mont. (258)..... | 47,127 |
| of reservoirs..... | 21 | Big Sioux River, | |
| Aragon ditch, Wyo. (400)..... | 55,137 | Iowa-S. Dak. (652)..... | 66,153,154 |
| Arapahoe Mill waste, Nebr. (1,453).... | 204 | Big Spring Creek, Mont. (212)..... | 44,123 |
| Aricaree River, Nebr. (1,388)..... | 97,199 | Big Sugar Creek, Kans. (1,540)..... | 211 |
| Arnett and Robert Lewis | | Big Timber Creek, Mont. (341)..... | 52,133 |
| ditches, Colo. (1,074)..... | 85,181 | Big Timber Creek, North Fork, | |
| Arnold drain, Wyo. (824)..... | 75,167 | Mont. (340)..... | 52,133 |
| Ash Creek, Nebr. (624)..... | 152 | Big Timber Creek, South Fork, | |
| Atkins-Polly Canal, Nebr. (1,282).... | 193 | Mont. (342)..... | 52,133 |
| Autrey and Eggleston | | Bighorn Canal, Wyo. (450)..... | 57,140 |
| ditch, Colo. (1,212)..... | 189 | Bighorn River, Mont.-Wyo. (381).... | 54,55,136 |
| Average discharge..... | 27 | Birch Creek, Mont. (tributary to | |
| Average discharge for water | | Marias River) (184)..... | 42,121 |
| years 1938-43..... | 22 | Birch Creek Reservoir, Mont. (183).... | 42,121 |
| Average runoff for water | | Bird Cage-Quinn Canal, Nebr. (919).... | 172 |
| years 1938-43..... | 24 | Birdwood Canal, Nebr. (994)..... | 81,175 |
| Bad River, S. Dak. (603)..... | 64,150 | Birdwood Creek, Nebr. (992)..... | 81,175 |
| Bad River, North | | Blackleaf Creek, Mont. (207)..... | 44,123 |
| Fork, S. Dak. (604)..... | 64,150 | Blacktail Deer Creek (Yellowstone | |
| Badger Creek, Mont. (181)..... | 42,121 | National Park) (329)..... | 51,132 |
| Baker ditch, Wyo. (419)..... | 138 | Blacktail Deer Creek, East Fork (Yellow- | |
| Bald drain, Nebr. (861)..... | 169 | stone National Park) (330)..... | 51,132 |
| Bangtail Creek, Mont. (338)..... | 133 | Blackwater River, Mo. (1,524)..... | 104,209 |
| Bar charts of records..... | 4 | Blue Creek, Nebr. (950)..... | 79,173 |
| Barber Canal, Nebr. (959)..... | 174 | Blue Creek Canal, Nebr. (952)..... | 79,173 |
| Base data for gaging stations..... | 19 | Blue River, Mo. (1,500)..... | 103,208 |
| Bates Creek, Wyo. (772)..... | 72,163 | Bluff Canal, Wyo. (447)..... | 140 |
| Battle Creek, Mont. (272)..... | 48,128 | Boelus Power Canal, Nebr. (1,344).... | 95,196 |
| Battle Creek, S. Dak. (581)..... | 149 | Booth Canals, Nebr. (1,288)..... | 193 |
| Battle Creek, | | Boreas Pass diversion, Colo. (1,048).... | 84,179 |
| East Fork, Mont. (275)..... | 48,128 | Boulder and Lefthand | |
| Bayard drain No. 3, Nebr. (898)..... | 171 | ditch, Colo. (1,172)..... | 187 |
| Bayard Sugar Factory | | Boulder and Weld County | |
| drain, Nebr. (899)..... | 78,171 | ditch, Colo. (1,204)..... | 90,188 |
| Bazille Creek, Nebr. (647)..... | 153 | Boulder and White Rock | |
| Bean Lake, Mo. (1,382)..... | 199 | ditch, Colo. (1,167)..... | 89,186 |
| Bear Creek, Colo. (1,072)..... | 85,181 | Boulder Creek, Colo. (1,157)..... | 88,89,186 |
| Beaver Creek, Colo. (1,043)..... | 179 | Boulder ditch, Colo. (1,162)..... | 186 |
| Beaver Creek, Kans. (tributary to | | Boulder River, Mont. (tributary to | |
| Smoky Hill River) (1,474)..... | 205 | Missouri River) (91)..... | 37,114 |
| Beaver Creek, Kans.-Nebr. (tributary | | Boulder River, Mont. (tributary to | |
| to Sappa Creek) (1,457)..... | 101,204 | Yellowstone River) (343)..... | 52,133 |
| Beaver Creek, Mont. (tributary to | | Boulder River, East Fork, Mont. (345).... | 133 |
| Milk River near Havre) (280)..... | 47,127 | Boulder River, | |
| Beaver Creek, Mont. (tributary to Milk | | West Fork, Mont. (346)..... | 52,53,133 |
| River near Bowdoin) (287)..... | 49,129 | Box Elder Creek, Mont. (237)..... | 46,125 |
| Beaver Creek, Mont. (tributary to | | Boxelder Creek, Colo. (1,260)..... | 192 |
| Little Missouri River) (546).... | 62,146 | Boxelder Creek, S. Dak. (589)..... | 149 |
| Beaver Creek, Nebr. (1,365)..... | 95,197 | Boxelder Creek, Wyo. (776)..... | 73,163 |
| Beaver Creek, S. Dak. (tributary to | | Boyer River, Iowa (672)..... | 67,155 |
| Cheyenne River) (580)..... | 63,149 | Boyles ditch, Colo. (1,125)..... | 184 |
| Beaver Creek, S. Dak.-Wyo. (tributary | | Brackett Creek, Mont. (336)..... | 52,133 |
| to Cheyenne River) (576)..... | 63,148 | Brantner ditch, Colo. (1,131)..... | 87,184 |
| Beaver Creek, Wyo. (tributary to | | Brighton ditch, Colo. (1,132)..... | 87,184 |
| North Platte River) (745)..... | 161 | Broadwater East Canal, Mont. (119).... | 39,116 |
| Beaver Creek, Wyo. (tributary to | | Broadwater West Canal, Mont. (120).... | 39,116 |
| Popo Agie River) (417)..... | 56,138 | Brown ditch, Colo. (1,070)..... | 181 |
| Beaver Creek overflow, Mont. (289).... | 49,129 | Brown's Creek Canal, Nebr. (912)..... | 78,171 |
| Beaverhead River, Mont. (9)..... | 34,108 | Brush Creek, Wyo. (743)..... | 71,161 |
| Beerline Canal, Nebr. (929)..... | 172 | Bucker's ditch, Colo. (1,139)..... | 184 |
| Bell Creek, Mont. (86)..... | 114 | Buffalo Bill (Shoshone) | |
| Belle Fourche River, | | Reservoir, Wyo. (474)..... | 58,141 |
| S. Dak.-Wyo. (591)..... | 63,149,150 | Buffalo Creek, Nebr. (tributary to | |
| Belmont Canal, Nebr. (901)..... | 78,171 | Platte River) (1,326)..... | 94,195 |
| | | Buffalo Creek, Nebr. (1,415)..... | 98,201 |

| | Page | | Page |
|--|-------------|--|---------------|
| Buffalo Springs Branch, Colo. (1,033)..... | 178 | Crow Creek, Mont. (121)..... | 39,116 |
| Bull drain, Nebr. (1,297)..... | 194 | Crow Creek, Wyo. (1,256)..... | 191 |
| Bull Lake Creek, Wyo. (393)..... | 55,137 | Crow Creek, Middle Fork, Wyo. (1,255)..... | 91,191 |
| Bull Lake Reservoir, Wyo. (394)..... | 55,137 | Crow Creek, North Fork, Wyo. (1,259)..... | 91,192 |
| Burlington ditch, Colo. (1,096)..... | 85,182 | Crow Creek, South Fork, Wyo. (1,258)..... | 91,192 |
| Burwell-Sumpter Canal, Nebr. (1,361)..... | 95,197 | Crown Butte Canal, Mont. (166)..... | 120 |
| Bushnell Canal, Nebr. (1,276)..... | 193 | Cruze ditch, Wyo. (532)..... | 145 |
| Butte Mill ditch, Colo. (1,176)..... | 187 | Culbertson Canal, Nebr. (1,446)..... | 100,203 |
| Cache la Poudre River, Colo. (1,244)..... | 91, 190,191 | Curtis ditch, Wyo. (423)..... | 138 |
| Cache la Poudre River, North Fork, Colo. (1,253)..... | 191 | Cut Bank Creek, Mont. (192)..... | 43,122 |
| Cache la Poudre River, South Fork, Colo. (1,252)..... | 191 | Cyclone ditch, Wyo. (429)..... | 139 |
| Calamus River, Nebr. (1,359)..... | 95,197 | Davidson ditch, Colo. (1,183)..... | 89,187 |
| Camp Clark seep, Nebr. (909)..... | 171 | Dawson County Canal, Nebr. (1,311)..... | 93, 194,195 |
| Canadian River, Colo. (738)..... | 71,161 | Dawson County drain No.1, Nebr. (1,319)..... | 195 |
| Cannonball River, N. Dak. (559)..... | 62,147 | Dawson County drain No.2, Nebr. (1,317)..... | 195 |
| Canyon Creek, Mont. (tributary to Little Prickly Pear Creek) (142)..... | 118 | Deadman Creek, Mont. (140)..... | 118 |
| Canyon Creek, Mont. (tributary to Shields River) (337)..... | 133 | Deadman's Basin Reservoir, Mont. (231)..... | 45,125 |
| Canyon Creek, Wyo. (tributary to North Platte River) (771)..... | 72,163 | Dearborn River, Mont. (144)..... | 40,118 |
| Canyon Creek, Wyo. (tributary to Tensleep Creek) (461)..... | 57,141 | Deep Creek, Mont. (tributary to Missouri River) (124)..... | 116 |
| Careless Creek, Mont. (232)..... | 45,125 | Deep Creek, Mont. (tributary to Teton River) (202)..... | 43,122,123 |
| Carr and Tyler ditch, Colo. (1,224)..... | 189 | Deep Creek, Wyo. (763)..... | 72,163 |
| Castle Rock Canal, Nebr. (880)..... | 77,170 | Deer Creek, Colo. (1,067)..... | 180 |
| Castle Rock Canal waste, Nebr. (881)..... | 170 | Deer Creek, Mont. (536)..... | 145 |
| Cedar Branch Creek, Nebr. (983)..... | 175 | Deer Creek, Wyo. (774)..... | 72,163 |
| Cedar Creek, Mo. (1,546)..... | 105,211 | DeGraw drain, Nebr. (908)..... | 171 |
| Cedar Creek, Nebr. (933)..... | 79,172 | Delaware River, Kans. (1,497)..... | 103,207 |
| Cedar Creek, N. Dak. (562)..... | 147 | Delaware-Hickman Canal, Nebr. (1,423)..... | 202 |
| Cedar River, Nebr. (1,363)..... | 95,197 | Delephant ditch, Colo. (1,226)..... | 189 |
| Central Canal, Nebr. (873)..... | 77,169 | Denver City Pipeline, Colo. (1,063)..... | 84,189 |
| Central and South ditch, Colo. (1,191)..... | 188 | Denver-Hudson Canal, Colo. (1,098)..... | 182 |
| Chadron Creek, Nebr. (625)..... | 65,152 | Deweese Creek, Wyo. (766)..... | 72,163 |
| Champion Canal, Nebr. (1,439)..... | 99,203 | Dinwoody Creek, Wyo. (389)..... | 55,136 |
| Charlton River, Iowa-Mo. (1,519)..... | 104,209 | Dismal River, Nebr. (1,339)..... | 196 |
| Checkerboard Creek, Mont. (224)..... | 45,124 | Douglas Canal, Wyo. (777)..... | 73,164 |
| Cherry Creek, Colo. (1,092)..... | 85,182 | Douglas Creek, Wyo. | 161 |
| Cherry Creek drain, Wyo. (823)..... | 75,167 | Drainage areas..... | 19 |
| Cheyenne River, S. Dak. (571)..... | 63,148 | Dry Creek, Mont. (241)..... | 46,125 |
| Chimney Rock Canal, Nebr. (892)..... | 78,170 | Dry Creek, Wyo. (390)..... | 55,136 |
| Chugwater Creek, Wyo. (820)..... | 75,167 | Dry Creek ditch, Colo. (diversion from Boulder Creek) (1,169).... | 186 |
| Church ditch, Colo. (1,209)..... | 189 | Dry Creek ditch, Colo. (diversion from Dry Creek) (1,199)..... | 188 |
| Churn ditch, Colo. (1,078)..... | 181 | Dry Creek No. 2 ditch, Colo. (1,186)..... | 187 |
| Circle Arrow Canal, Nebr. (1,286)..... | 193 | Dry Fork Marias River, Mont. (194)..... | 43,122 |
| City ditch, Colo. (1,086)..... | 85,180 | Dry Spotted Tail Creek, Nebr. (862)..... | 169 |
| Clancy Creek, Mont. (129)..... | 117 | Duck Lake Creek, Colo. (1,061)..... | 180 |
| Clarks Fork, Mont.-Wyo. (358)..... | 53,134,135 | Dugan ditch, Colo. (1,097)..... | 182 |
| Clear Creek, Colo. (1,101)..... | 85,182,183 | Dundy County Canal, Nebr. (1,421)..... | 202 |
| Clear Creek, Mont. (263)..... | 127 | Dupuyer Creek, Mont. (189)..... | 42,121 |
| Clear Creek, Nebr. (958)..... | 80,174 | Durand Reservoir, Mont. (223)..... | 45,124 |
| Clear Creek, Wyo. (526)..... | 61,145 | Dutchman Creek, Mont. (127)..... | 39,116 |
| Clear Creek and Platte River ditch, Colo. (1,129)..... | 87,184 | East Boulder ditch, Colo. (1,193)..... | 188 |
| Clear Creek Canal, Nebr. (960)..... | 174 | East Gallatin River, Mont. (117)..... | 39,116 |
| Cleveland drain, Nebr. (893)..... | 170 | East Limestone Creek, Kans. (1,483)..... | 102,206 |
| Cody-Dillon Canal, Nebr. (997)..... | 81,176 | East Nishnabotna River, Iowa (1,374)..... | 96,198 |
| Coldwater Canal, Nebr. (939)..... | 173 | East Rosebud Creek, Mont. (354)..... | 134 |
| Coldwater Creek, Nebr. (938)..... | 79,173 | East Tarkio Creek, Iowa (See Tarkio River) | |
| Colorado Agricultural ditch, Colo. (1,128)..... | 87,184 | Eggleston No. 1 ditch, Colo. (1,213)..... | 189 |
| Colorado River diversions to Cache la Poudre River, Colo. (1,250)..... | 91,191 | Eggleston No. 2 ditch, Colo. (1,214)..... | 189 |
| Community Canal, Colo. (1,181)..... | 89,187 | Elevenmile Canyon Reservoir, Colo. (1,010)..... | 81,176 |
| Cook Canal, Mont. (277)..... | 48,128 | Elk Creek, S. Dak. (590)..... | 149 |
| Cooney Reservoir, Mont. (370)..... | 54,135 | Elkhorn River, Nebr. (1,366)..... | 95,96,197,198 |
| Cooper Canal, Nebr. (931)..... | 172 | Elm Creek, Kans. (1,485)..... | 102,206 |
| Corbin-Morse ditch, S. Dak. (588)..... | 149 | Elm Creek, Nebr. (1,327)..... | 94,195 |
| Cort, Graves, and Hewes ditch, Colo. (1,123)..... | 184 | Elm Creek, S. Dak. (326)..... | 152 |
| Cottonwood Creek, Mont. (tributary to Little Prickly Pear Creek) (143)..... | 118 | Elm Creek Canal, Nebr. (1,320)..... | 93,195 |
| Cottonwood Creek, Nebr. (645)..... | 153 | Empire Canal, Nebr. (902)..... | 171 |
| Cottonwood Creek, Wyo. (tributary to Big Horn River) (446)..... | 57,140 | Encampment River, Wyo. (746)..... | 71,161 |
| Cottonwood Creek, Wyo. (tributary to North Platte River) (783)..... | 73,164 | Enterprise Canal, Nebr. (851)..... | 77,168,169 |
| Cottonwood No. 2 ditch, Colo. (1,198)..... | 188 | Enterprise ditch, Colo. (1,197)..... | 188 |
| Court House Rock Canal, Nebr. (922)..... | 79,172 | Erie-Coal Creek ditch, Colo. (1,221)..... | 189 |
| Cow Creek, Wyo. (749)..... | 161 | Eureka ditch, Colo. (1,238)..... | 91,190 |
| Cozad Canal, Nebr. (1,309)..... | 93,194 | Evans No. 2 ditch, Colo. (1,137)..... | 87,184 |
| Crazy Woman Creek, Wyo. (524)..... | 61,145 | Fairfield seep, Nebr. (886)..... | 170 |
| Crescent Lake, Nebr. (948)..... | 173 | Fall River, Colo. (1,109)..... | 86,183 |
| Crescent Lake outflow, Nebr. (949)..... | 173 | Fall River, S. Dak. (579)..... | 63,149 |
| Croke Canal, Colo. (1,117)..... | 86,183 | Falls Creek, Mont. (145)..... | 40,118 |
| | | Fanning seep, Nebr. (863)..... | 169 |
| | | Farmers Canal, Nebr. (1,448)..... | 203 |
| | | Farmer's ditch, Colo. (1,165)..... | 89,186 |
| | | Farmers and Gardeners ditch, Colo. (1,091)..... | 182 |
| | | Farmers Independent ditch, Colo. (1,140)..... | 87,184 |

| | Page | | Page |
|---|---------------|--|-----------|
| Fifteenmile Creek, Wyo. (454)..... | 57,140 | Hewes and Cook, and Western | |
| Finch Canal, Nebr. (963)..... | 174 | ditches, Colo. (1,141)..... | 87,185 |
| Fisher ditch, Colo. (1,127)..... | 87,184 | Highland ditch, Colo. (diversion | |
| Fivemile Creek, Wyo. (near | | from Boulder Creek) (1,227)..... | 90,189 |
| Manderson) (457)..... | 57,140 | Highland ditch, Colo. (diversion | |
| Fivemile Creek, Wyo. (near | | from South Platte River) (1,243)..... | 190 |
| Shoshoni) (418)..... | 138 | Highline ditch, Wyo. (505)..... | 143 |
| Flatwillow Creek, Mont. (239)..... | 46,125 | Highwood Creek, Mont. (173)..... | 120 |
| Floyd River, Iowa (658)..... | 66,154 | Hindry ditch, Colo. (1,076)..... | 181 |
| Floweree Big Canal, Mont. (160)..... | 119 | Hodgson ditch, Colo. (1,086)..... | 181 |
| Follet-Krotter Canal, Nebr. (1,442)..... | 100,203 | Holcombe Canal, Nebr. (1,300)..... | 194 |
| Ford Creek, Mont. (165)..... | 41,119 | Hollingsworth Canal, Nebr. (1,290)..... | 193 |
| Fort Belknap Canal, Mont. (262)..... | 47,127 | Holloway-Phelps Canal, Nebr. (977)..... | 175 |
| Fort Laramie Canal, Wyo. (784)..... | 73,164 | Holter Reservoir, Mont. (21)..... | 35,109 |
| Fort Peck Reservoir, Mont. (28)..... | 35,110 | Hooper Canal, Nebr. (953)..... | 79,173 |
| Four Horns Reservoir, Mont. (182)..... | 42,121 | Horse Creek, Mont. (295)..... | 49,130 |
| Four Mile Creek, Colo. (tributary to | | Horse Creek, Nebr.-Wyo. (843)..... | 77,168 |
| South Fork South Platte River) | | Horse Creek, Nebr. (1,420)..... | 98,202 |
| (1,036)..... | 83,178 | Horse Creek, Wyo. (387)..... | 136 |
| Fourmile Creek, Colo. (tributary to | | Horse Creek, Wyo. (tributary to | |
| Boulder Creek) (1,163)..... | 186 | Sweetwater River) (770)..... | 72,163 |
| Fremont Slough, Nebr. (1,296)..... | 194 | Horse Creek Lateral, Wyo. (786)..... | 164 |
| French Canal, Nebr. (826)..... | 167 | Horseshoe Creek, Wyo. (782)..... | 73,164 |
| French Creek, Wyo. (742)..... | 71,161 | Both seep, Nebr. (897)..... | 171 |
| Frenchman Canal, Mont. (286)..... | 49,129 | Houck No. 2 ditch, Colo. (1,223)..... | 189 |
| Frenchman Creek, Nebr. (1,425)..... | 99,202,203 | Howard ditch, Colo. (1,192)..... | 89,188 |
| Frenchman River, Mont.-Sask. (285)..... | 49,129 | Howell ditch, Colo. (1,205)..... | 188 |
| Fresno Reservoir, Mont. (246)..... | 46,126 | Hundred and Ten Mile | |
| Fritz ditch, Wyo. (456)..... | 140 | Creek, Kans. (1,536)..... | 105,210 |
| Fulton ditch, Colo. (1,130)..... | 87,184 | Hurley-Lilly-Polly Canal, Nebr. (1,281)..... | 193 |
| Gaging-station names..... | 2 | Hurtado ditch, Wyo. (399)..... | 137 |
| Gallatin River, Mont. (114)..... | 38,39,115,116 | Hyalite Creek, Mont. (118)..... | 39,116 |
| Gardener's ditch, Colo. (1,100)..... | 182 | Illinois Creek, Colo. (735)..... | 71,160 |
| Gardiner River (Yellowstone | | Independent Highline | |
| National Park) (331)..... | 52,132,133 | ditch, Colo. (1,082)..... | 181 |
| Garland Canal, Wyo. (483)..... | 58,142 | Indian Creek, Nebr. (tributary to | |
| Gasconade River, Mo. (1,553)..... | 106,212 | North Platte River) (910)..... | 78,171 |
| Geneva Creek, Colo. (1,057)..... | 84,180 | Indian Creek, Nebr. (tributary to | |
| Gering Canal, Nebr. (830)..... | 76,167 | Republican River) (1,424)..... | 202 |
| Gering drain, Nebr. (878)..... | 77,170 | Indian Creek, S. Dak. (602)..... | 150 |
| Gering-Fort Laramie Canal diversion | | Ingle, C. R. ditch, Wyo. (424)..... | 138 |
| from Laramie River, Wyo. (821)..... | 75,167 | Inman Canal, Nebr. (1,438)..... | 203 |
| Gibbon River, Mont. (103)..... | 115 | Interstate Canal, Wyo. (787)..... | 73,164 |
| Gibson Reservoir, Mont. (152)..... | 41,119 | Introduction..... | 1 |
| Glacier Lake Reservoir, Mont. (364)..... | 53,135 | Jack Creek, Wyo. (752)..... | 71,162 |
| Golden Canal, Colo. (1,113)..... | 86,183 | James River, N. Dak.-S. Dak. (648)..... | 65,66,153 |
| Golden City and Ralston Creek | | Jay Thomas ditch, Colo. (1,142)..... | 185 |
| ditches, Colo. (1,111)..... | 86,183 | Jefferson Creek, Colo. (1,050)..... | 84,179 |
| Golden ditch, Colo. (1,110)..... | 86,183 | Jefferson River, Mont. (12)..... | 34,108 |
| Goodhue and Rock Creek | | Jeffrey Power Return, Nebr. (1,293)..... | 93,193 |
| ditch, Colo. (1,184)..... | 89,187 | Johnson Creek, Wyo. (810)..... | 166 |
| Gooding, Daily, and Plumb | | Johnson Power Return, Nebr. (1,294)..... | 93,193 |
| ditch, Colo. (1,222)..... | 189 | Johnstown Canal, Wyo. (401)..... | 137 |
| Goose Creek, Colo. (1,052)..... | 84,179 | Jones and Donelly ditch, Colo. (1,194)..... | 188 |
| Goose Creek, Wyo. (506)..... | 60,143,144 | Jones Pass tunnel, Colo. (1,107)..... | 86,183 |
| Gooseberry Creek, Wyo. (448)..... | 57,140 | Jones, Paul, ditch, Wyo. (442)..... | 139 |
| Gothenburg Canal, Nebr. (1,304)..... | 93,194 | Judith River, Mont. (208)..... | 44,123 |
| Grace Creek, Colo. (808)..... | 166 | Jukmovich ditch, Wyo. (425)..... | 138 |
| Graf Canal, Nebr. (955)..... | 80,173 | Kansas River, Kans. (1,404)..... | 97,98,201 |
| Grand River, Mo. (1,501)..... | 103,208 | Katzner drain, Nebr. (827)..... | 76,167 |
| Grand River, S. Dak. (565)..... | 62,148 | Kearney Canal, Nebr. (1,322)..... | 93,94,195 |
| Grand River, North Fork, | | Keith-Lincoln County | |
| N. Dak.-S. Dak. (564)..... | 62,147 | Canal, Nebr. (979)..... | 81,175 |
| Grasshopper Creek, Mont. (78)..... | 37,113 | Keith-Lincoln County drain, Nebr. (986)..... | 175 |
| Gravel Creek, Nebr. (981)..... | 81,175 | Kent-Burke Canal, Nebr. (1,299)..... | 194 |
| Gravel ditch, Colo. (1,195)..... | 188 | Kerr No. 1 and No. 2 | |
| Greybull River, Wyo. (466)..... | 57,141 | ditch, Colo. (1,218)..... | 189 |
| Grizzly Creek, Colo. (673)..... | 67,155 | Kershaw ditch, Colo. (1,126)..... | 184 |
| Guernsey Reservoir, Wyo. (691)..... | 68,157 | Keya Paha River, S. Dak. (646)..... | 153 |
| Gwynn ditch, Wyo. (428)..... | 139 | Keystone Canal, Nebr. (976)..... | 175 |
| Hahatonka Spring, Mo. (1,552)..... | 212 | Kimball Reservoir, Nebr. (1,265)..... | 92,192 |
| Haigler Canal, Nebr. (1,414)..... | 201 | Kimball Reservoir | |
| Hake ditch, Colo. (1,216)..... | 189 | Canals, Nebr. (1,278)..... | 92,193 |
| Hall Canal, Nebr. (616)..... | 151 | King Canal, Nebr. (918)..... | 172 |
| Handy ditch, Colo. (1,239)..... | 190 | Kinnear ditch, Colo. (1,210)..... | 189 |
| Haney Canal, Nebr. (970)..... | 174 | Kinney Canal, North, Nebr. (1,280)..... | 193 |
| Hannah Canal, Nebr. (937)..... | 173 | Kinney No. 1 Canal, Nebr. (1,279)..... | 193 |
| Harden ditch, Colo. (1,170)..... | 187 | Kirby Creek, Wyo. (439)..... | 56,139 |
| Harlem Canal, Mont. (280)..... | 48,129 | Kirby ditch, Wyo. (426)..... | 138 |
| Harper Canal, Nebr. (962)..... | 174 | Knife River, N. Dak. (547)..... | 62,146 |
| Harris ditch, Colo. (1,220)..... | 189 | Kronberg seep, Nebr. (869)..... | 189 |
| Harris-Cooper Canal, Nebr. (618)..... | 151 | Krotter Power Canal (1,443)..... | 203 |
| Harrison Lake Reservoir, Mont. (100)..... | 37,115 | La Bonte Creek, Wyo. (781)..... | 73,164 |
| Hat Creek, S. Dak. (578)..... | 149 | La Garde Creek, Colo. (807)..... | 166 |
| Hauser Lake Reservoir, Mont. (19)..... | 35,109 | La Pree Creek, Wyo. (778)..... | 73,164 |
| Hawk Springs, Wyo. (847)..... | 168 | Lake Cheesman Reservoir, Colo. (1,013)..... | 82,177 |
| Heart River, N. Dak. (554)..... | 62,147 | | |
| Hebgen Reservoir, Mont. (105)..... | 38,118 | | |

| | Page | | Page |
|---|---------|--|---------------|
| Lake Creek, S. Dak. (634)..... | 162 | Lupton Bottom and Killwood ditches, Colo. (1,134)..... | 87,184 |
| Lake Frances Reservoir, Mont. (191).... | 43,121 | Lupton Shortline ditch, Colo. (1,133) | 184 |
| Lake of the Ozarks, Mo. (1,631)..... | 106,210 | Lyons Canal, Nebr. (943)..... | 173 |
| Lake Sewall Reservoir, Mont. (17)..... | 36,109 | Lyons Coulee, Mont. (276)..... | 48,128 |
| Lamar River (Yellowstone National Park) (328)..... | 51,132 | McBroom ditch, Colo. (1,088)..... | 182 |
| Lamine River, Mo. (1,523)..... | 104,209 | McCarthy Canal, Nebr. (978)..... | 175 |
| Lamora Canal, Nebr. (932)..... | 172 | McCarty ditch, Colo. (1,168)..... | 186 |
| Lane drain, Nebr. (849)..... | 168 | McConaughy Lake, Nebr. (710)..... | 69,158 |
| Laramie River, Colo.-Wyo. (789)73-75,164,165 | | McDonald Creek, Mont. (238)..... | 46,125 |
| Laramie River diversions to Cache la Poudre River (802)..... | 75,165 | McEachern Creek, Mont. (296)..... | 49,130 |
| Last Chance Canal, Nebr. (923)..... | 172 | McFarland Canal, Nebr. (820)..... | 161 |
| Last Chance ditch, Colo. (1,207)..... | 188 | McGinn ditch, Colo. (1,190)..... | 188 |
| Lebo Creek, Mont. (230)..... | 45,125 | McIntosh Canal, Nebr. (1,285)..... | 193 |
| Le Clair-Riverton Canal No. 2, Wyo. (402)..... | 55,137 | McIntyre Creek, Colo. (805)..... | 166 |
| Lee, Stewart, and Eskins ditch, Colo. (1,115)..... | 183 | McKenzie ditch, Colo. (1,211)..... | 189 |
| Lees and Baugh ditch, Colo. (1,121).... | 183 | McRae Coulee, Mont. (268)..... | 47,128 |
| Left Hand Canal, Wyo. (404)..... | 137 | Madison Reservoir, Mont. (108)..... | 38,115 |
| Left Hand Creek, Colo. (1,153)..... | 88,186 | Madison River, Mont. (104)..... | 38,115 |
| Leggett ditch, Colo. (1,196)..... | 90,188 | Madison River, West Fork, Mont. (113) | 115 |
| Levellon drain, Nebr. (956)..... | 173 | Mandan Lake Creek, N. Dak. (560)..... | 147 |
| Lewis and Strouse ditch, Colo. (1,077) | 181 | Map showing gaging stations..... | 3 |
| Lewis, Home, and Davidson ditch, Colo. (1,202)..... | 188 | Maple River, Iowa (667)..... | 66,155 |
| Leyner and Cottonwood No.1 ditches, Colo. (1,201)..... | 90,188 | Maranville Canal, Nebr. (1,437)..... | 203 |
| Lincoln County drain No. 1, Nebr. (999)..... | 176 | Marias des Cygnes. (See Osage River) | |
| Lincoln County drain No. 2, Nebr. (995)..... | 175 | Marias River, Mont. (178)..... | 42,121 |
| Lingle power waste, Wyo. (785)..... | 73,164 | Marmaton River, Kans. (1,542)..... | 105,211 |
| Lisco Canal, Nebr. (936)..... | 79,173 | Marsh Creek, Mont. (141)..... | 118 |
| Little Beaver Creek, N. Dak. (545)..... | 61,146 | Marshallville ditch, Colo. (1,187).... | 187 |
| Little Bighorn River, Mont. (486)..... | 59,142 | Martinsdale Reservoir, Mont. (228).... | 45,124 |
| Little Blue River, Kans.-Nebr. (1,492) | 103,207 | Matheson Canal, Mont. (278)..... | 48,128 |
| Little Boulder River, North Fork, Mont. (97)..... | 114 | Maximum discharge..... | 26 |
| Little Boxelder Creek, Mont. (261).... | 127 | Meadow Creek, Wyo. (391)..... | 55,136 |
| Little Cottonwood Creek, Nebr. (623).... | 152 | Meadow Island No. 2 and Beeman ditches, Colo. (1,138)..... | 87,184 |
| Little Goose Creek, Wyo. (510)..... | 60,144 | Medicine Bow River, Wyo. (757)..... | 71,162 |
| Little Grizzly Creek, Colo. (728)..... | 70,169 | Medicine Creek, Mo. (1,514)..... | 103,104,209 |
| Little Laramie River, Wyo. (813)..... | 76,165 | Medicine Creek, Nebr. (1,452)..... | 100,204 |
| Little Missouri River, Mont.-N. Dak.-S. Dak. (539)..... | 61,146 | Medicine Lodge Creek, Wyo. (465).... | 141 |
| Little Muddy (Creek) River, N. Dak. (538)..... | 61,146 | Meeker Canal, Nebr. (1,449)..... | 100,203 |
| Little Osage River, Mo. (1,541)..... | 211 | Meglemre Canal, Nebr. (925)..... | 172 |
| Little Piney Creek, Mo. (1,560)..... | 106,212 | Melbeta drain, Nebr. (885)..... | 170 |
| Little Pipestone Creek, Mont. (88)..... | 37,114 | Meredith-Ammer Canal, Nebr. (926).... | 172 |
| Little Popo Agie River, Wyo. (410)55,137,138 | | Michigan Creek, Colo. (tributary to Tarryall Creek) (1,049)..... | 84,179 |
| Little Porcupine Creek, Mont. (298).... | 49,130 | Michigan River, Colo. (tributary to North Platte River) (730).... | 70,71,160 |
| Little Powder River, Mont. (534)..... | 61,145 | Michigan River diversions to Cache la Poudre River (1,251).... | 91,191 |
| Little Prickly Pear Creek, Mont. (136)40,117 | | Middle Boulder Creek, Colo. (1,155)88,185,186 | |
| Little Sac River, Mo. (1,545)..... | 105,211 | Middle Loup Canal, Nebr. (1,340).... | 94,95,196 |
| Little Sioux River, Iowa (660)..... | 66,154 | Middle Loup River, Nebr. (1,330)94,195,196 | |
| Little Thompson River, Colo. (1,240).... | 190 | Middle Popo Agie River, Wyo. (406).... | 55,137 |
| Little Whitetail Creek, Mont. (90)..... | 114 | Middle St. Vrain Creek, Colo. (1,151)88,185 | |
| Little Wind River, Wyo. (412)..... | 56,138 | Midland-Overland Canal, Nebr. (945).... | 173 |
| Little Wind River, North Fork, Wyo. (415)..... | 56,138 | Miles and Eskins ditch, Colo. (1,118) | 183 |
| Locust Creek, Mo. (1,516)..... | 104,209 | Milk River, Alta.-Mont. (244)..... | 46,47,126 |
| Lodge Creek, Mont. (266)..... | 47,127 | Milk River, North Fork, Mont. (254)..... | 47,126,127 |
| Lodgegrass Creek, Mont. (492)..... | 59,143 | Milk River, South Fork, Mont. (242)..... | 46,125,126 |
| Lodgepole Creek, Colo.-Nebr.-Wyo. (1,261)91,92,192,193 | | Minatare Canal, Nebr. (877)..... | 77,170 |
| Lodgepole Creek, South Fork, Wyo. (1,275)..... | 92,193 | Minimum discharge..... | 26 |
| Logan Canal, Nebr. (916)..... | 172 | Minks and Autrey ditch, Colo. (1,215) | 189 |
| Logan Creek, Nebr. (1,371)..... | 96,198 | Missouri Coulee, N. Dak. (553)..... | 147 |
| Loneraker Canal, Nebr. (969)..... | 80,174 | Missouri River (15)..... | 34-37,109-113 |
| Lonetree Creek, Wyo. (1,254)..... | 91,191 | Mitchell Canal, Nebr.-Wyo. (828)..... | 76,167 |
| Lost Creek, Mont. (378)..... | 136 | Mitchell Spillway, Nebr. (864)..... | 77,169 |
| Lost Creek, Nebr. (946)..... | 79,173 | Moffat water tunnel, Colo. (1,179).... | 89,187 |
| Lost Horse Creek, Mont. (139)..... | 117 | Monona-Harrison ditch, Iowa (670).... | 66,155 |
| Loup River, Nebr. (1,336)..... | 94,196 | Moreau River, S. Dak. (567)..... | 82,148 |
| Loup River power canal, Nebr. (1,364)95,197 | | Morrill drain, Nebr. (857)..... | 169 |
| Lower Boulder ditch, Colo. (1,203)..... | 90,188 | Mud Creek, Nebr. (1,348)..... | 196,197 |
| Lower Dugout Creek, Nebr. (930)..... | 172 | Mud Creek, Wyo. (438)..... | 139 |
| Lower Hanover Canal, Wyo. (452)..... | 140 | Muddy Creek, Mont. (tributary to Sun River) (170)..... | 41,120 |
| Lower Lapham ditch, Colo. (1,241)..... | 91,190 | Muddy Creek, Mont. (tributary to Teton River) (205)..... | 43,123 |
| Lower Two Medicine Lake, Mont. (174).... | 41,120 | Muddy Creek, Nebr. (1,454)..... | 100,204 |
| Lower Yellowstone Canal, Mont. (537).... | 146 | Muddy Creek, Wyo. (764)..... | 163 |
| Lump Gulch Creek, Mont. (130)..... | 39,117 | Mullen Creek, Wyo. (740)..... | 161 |
| Lupine Creek, (Yellowstone National Park) (333)..... | 52,133 | Muskrat Creek, Mont. (96)..... | 114 |
| | | Musselshell River, Mont. (218).... | 44,46,124 |
| | | Musselshell River, North Fork, Mont. (215)..... | 44,123,124 |
| | | Musselshell River, South Fork, Mont. (226)..... | 45,124 |
| | | Mutual Canal, Nebr. (917)..... | 172 |

| | Page | | Page |
|---|--------------------|---|----------------|
| Mystic Lake Reservoir, Mont. (357)..... | 53,134 | Platteville Irrigating and Milling Co. ditch, Colo. (1,135)..... | 87,184 |
| Nakamura ditch, Wyo. (441)..... | 139 | Plum Creek, Colo. (1,068)..... | 181 |
| Nelson ditch, Wyo. (443)..... | 139 | Plum Creek, Nebr. (928)..... | 79,172 |
| Nelson Reservoir, Mont. (283)..... | 49,129 | Plumb ditch, Colo. (1,206)..... | 188 |
| Nemaha River, Nebr. (1,375)..... | 198 | Plummer and Nickelson ditch, Wyo. (420)..... | 138 |
| Nevada ditch, Colo. (1,069)..... | 85,181 | Pomme de Terre River, Mo. (1,547)..... | 105,211 |
| New Paradise Valley Canal, Mont. (264)..... | 127 | Poney Creek, Colo. (1,034)..... | 178 |
| New Ruttner Canal, Nebr. (1,277)..... | 193 | Poplar River, Mont. (304)..... | 50,131 |
| Newton Canal, Nebr. (1,356)..... | 197 | Poplar River, East Fork, Mont. (306)..... | 50,131 |
| Niangua River, Mo. (1,549)..... | 105,211 | Poplar River, Middle Fork, Mont. (303)..... | 50,130 |
| Nine Mile Canal, Nebr. (883)..... | 77,170 | Poplar River, West Fork, Mont. (308)..... | 50,131 |
| Ninemile (Nine Mile) drain, Nebr. (888)..... | 78,170 | Popo Agie River, Wyo. (407)..... | 55,137 |
| Niobrara River, Nebr. (637)..... | 65,152,153 | Porcupine Creek, Mont. (298)..... | 49,130 |
| Nishnabotna River, Iowa (1,373)..... | 96,198 | Pottawatomie Creek, Kans. (1,537)..... | 105 210,211 |
| Nissen Canal, Nebr. (967)..... | 174 | Powder River, Mont.-Wyo. (514)..... | 60,144 |
| Nodaway River, Iowa-Mo. (1,379)..... | 96,199 | Powder River, Middle Fork, Wyo. (519)..... | 60,144 |
| Noll, Jacob, ditch, Wyo. (440)..... | 139 | Powder River, North Fork, Wyo. (522)..... | 61,145 |
| North Boulder Creek, Colo. (1,160)..... | 89,186 | Powder River South Fork, Wyo. (513)..... | 144 |
| North Boulder Farmer's ditch, Colo. (1,173)..... | 187 | Prairie Dog Creek, Kans. (1,459)..... | 101,204 |
| North Chinook Canal, Mont. (266)..... | 47,128 | Prairie Dog ditch, Wyo. (533)..... | 145 |
| North Laramie River, Wyo. (817)..... | 75,166,167 | Prickly Pear Creek, Mont. (125)..... | 39,116 |
| North Loup River, Nebr. (1,351)..... | 95,197 | Pryor Creek, Mont. (374)..... | 54,135 |
| North Platte Canal, Nebr. (987)..... | 81,178 | Pullen drain, Wyo. (825)..... | 167 |
| North Platte River, Colo.-Nebr.-Wyo. (674,...67-69,155-158 Colo. (728)..... | 70,160 | Pumpkin Creek, Nebr. (913)..... | 79,171 |
| North Popo Agie River, Wyo. (409)..... | 55,137 | Raddcliffe Canal, Nebr. (934)..... | 172 |
| North River Canal, Nebr. (935)..... | 79,173 | Ralston Creek diversions from, Colo. (1,124)..... | 87,184 |
| North St. Vrain Creek, Colo. (1,143)..... | 88,185 | Ramshorn Canal, Nebr. (842)..... | 168 |
| North Spring Creek, Wyo. (751)..... | 161 | Rapid Creek, S. Dak. (584)..... | 63,149 |
| Northern Colorado Irrigation Co. Canal, Colo. (1,064)..... | 85,180 | Rawah Creek, Colo. (803)..... | 166 |
| Norwegian Creek, Mont. (102)..... | 38,115 | Rawhide Creek, Wyo. (822)..... | 75,167 |
| Nowater Creek, Wyo. (453)..... | 57,140 | Red Creek, Wyo. (388)..... | 136 |
| Nowood Creek, Wyo. (458)..... | 57,140 | Red Fork, Wyo. (521)..... | 145 |
| O'Brian Canal, Colo. (1,099)..... | 182 | Red Lodge Creek, Mont. (369)..... | 54,135 |
| Ocheda Lake, Minn. (666)..... | 155 | Red Rock River, Mont. (1)..... | 34,108 |
| Okoboji Lake, Iowa (665)..... | 154 | Red Willow Creek, Nebr. (tributary to North Platte River) (904)..... | 78,171 |
| Olson and Bell ditch, Colo. (1,069)..... | 182 | Red Willow Creek, Nebr. (tributary to Republican River) (1,450)..... | 100,203,204 |
| One Hundred and Two River, Mo. (1,386)..... | 97,199 | Redwater Canal, S. Dak. (601)..... | 150 |
| Orchard-Alfalfa Canal, Nebr. (1,310)..... | 93,194 | Redwater Creek, Mont. (302)..... | 50,130 |
| Ord-North Loup Canal, Nebr. (1,352)..... | 95,197 | Redwater Creek, S. Dak.-Wyo. (597)..... | 64,150 |
| Osage River, Kans.-Mo. (1,525)..... | 104,105 209,210 | Reno and Juchem ditch, Colo. (1,119)..... | 183 |
| Oshkosh Canal, Nebr. (944)..... | 173 | Republican River, Kans.-Nebr. (1,389)..... | 97,199,200 |
| Otter Creek, Nebr. (984)..... | 80,174 | Republican River, North Fork, Colo.-Nebr. (1,411)..... | 98,201 |
| Otter Creek Canal, Nebr. (965)..... | 174 | Republican River, South Fork, Colo.-Kans.-Nebr. (1,422)..... | 98,202 |
| Ouellette ditch, Colo. (1,122)..... | 184 | Reser ditch, Mont. (270)..... | 128 |
| Owaco Canal Nebr. (1,284)..... | 193 | Riedl, Joe, ditch, Wyo. (421)..... | 138 |
| Owl Creek, Colo. (734)..... | 160 | Riverside Canal, Nebr. (1,447)..... | 100,203 |
| Owl Creek, Mont. (491)..... | 59,143 | Riverside Cemetery Canal, Colo. (1,095)..... | 182 |
| Owl Creek, Wyo. (434)..... | 56,139 | Roaring Fork, Colo. (727)..... | 70,159 |
| Owl Creek ditch, Wyo. (430)..... | 139 | Roberts Creek, Mont. (235)..... | 45,125 |
| Owl Creek, North Fork, Wyo. (436)..... | 56,139 | Rock Creek, Colo. (1,051)..... | 179 |
| Owl Creek, South Fork, Wyo. (431)..... | 56,139 | Rock Creek, Mont. (tributary to Boulder River) (95)..... | 114 |
| Owl River, S. Dak. See Moreau River | | Rock Creek, Mont. (tributary to Clarks Fork) (365)..... | 53,135 |
| Painted Woods Creek, N. Dak. (551)..... | 147 | Rock Creek, Mont. (tributary to Medicine Bow River) (760)..... | 71,72,162 |
| Painitrock Creek, Wyo. (462)..... | 57,141 | Rock Creek, West Fork, Mont. (367)..... | 53,54,135 |
| Paisley Canal, Nebr. (951)..... | 79,173 | Rock Creek Canal, Mont. (297)..... | 130 |
| Paradise Valley Canal, Mont. (279)..... | 48,129 | Rock River, Minn. (657)..... | 154 |
| Parks Canal, Nebr. (1,417)..... | 201 | Rocky Mountain ditch, Colo. (1,116)..... | 86,183 |
| Pass Creek, Mont. (490)..... | 59,142 | Ronco, Leo, ditch, Wyo. (422)..... | 138 |
| Pass Creek, Wyo. (755)..... | 71,162 | Rosebud Creek, Mont. (tributary to Stillwater River) (356)..... | 53,134 |
| Passamari River, Mont. (See Ruby River) | | Rosebud Creek, Mont. (tributary to Yellowstone River) (496)..... | 59,143 |
| Pathfinder Reservoir, Wyo. (681)..... | 67,156 | Rottengrass Creek, Mont. (485)..... | 59,142 |
| Patrick Canal, Nebr. (968)..... | 174 | Round House Rock Canal, Nebr. (920)..... | 172 |
| Patterson ditch, Colo. (1,242)..... | 190 | Ruby River, Mont. (79)..... | 37,113 |
| Pawnee Creek, Nebr. (1,298)..... | 93,194 | Ruby River Reservoir, Mont. (80)..... | 37,113 |
| Paxton Canal, Nebr. (1,291)..... | 193 | Running Dutchman Canal, Wyo. (775)..... | 72,163 |
| Paxton-Hershey Canal, Nebr. (991)..... | 81,175 | | |
| Peoples Creek, Mont. (282)..... | 129 | | |
| Period of discharge record..... | 25 | | |
| Petersburg Company ditch, Colo. (1,071)..... | 181 | | |
| Phelan Canal, Nebr. (1,419)..... | 202 | | |
| Phelps County Canal, Nebr. (1,318)..... | 93,195 | | |
| Pilot Canal, Wyo. (398)..... | 137 | | |
| Piney Creek, Wyo. (530)..... | 61,145 | | |
| Pioneer Canal, Wyo. (811)..... | 75,166 | | |
| Pioneer-Union ditch, Colo. (1,085)..... | 85,181 | | |
| Pishkun Reservoir, Mont. (159)..... | 41,119 | | |
| Platte Canon ditch, Colo. (1,065)..... | 85,180 | | |
| Platte River (Iowa-Mo.), Mo. (1,383)..... | 97,199 | | |
| Platte River, Nebr. (714)..... | 69,70,158,159 | | |
| Platte Valley ditch, Colo. (1,900)..... | 182 | | |

| | Page | | Page |
|---|-------------|---|---------------|
| Rural ditch, Colo. (1,229)..... | 90,189 | South Platte River, | |
| Rush Creek, Nebr. (941)..... | 173 | Colo.-Nebr. (1,006)..... | 81-83,176-178 |
| Rush Creek Canal, Nebr. (940)..... | 173 | South Platte River, Middle Fork, | |
| | | Colo. (1,038)..... | 83,179 |
| Sac River, Mo. (1,543)..... | 105,211 | South Platte River, North Fork, | |
| Sage Creek, Mont. (tributary to | | Colo. (1,035)..... | 84,179,180 |
| Judith River) (213)..... | 123 | South Platte River, South Fork, | |
| Sage Creek, Wyo. (765)..... | 72,163 | Colo. (1,000)..... | 81,176 |
| St. Mary Canal, Mont. (257)..... | 47,127 | South St. Vrain Creek, Colo. (1,149)..... | 88,185 |
| St. Vrain Creek, Colo. (1,147)..... | 88,185 | South Willow Creek, Mont. (236)..... | 125 |
| Salt Creek, Colo. (1,035)..... | 178 | Spears Creek, S. Dak. (600)..... | 64,150 |
| Salt Creek, Kans. (1,535)..... | 105,210 | Spickerman ditch, Colo. (1,084)..... | 181 |
| Saline River, Kans. (1,475)..... | 102,205,206 | Spirit Lake, Iowa (664)..... | 154 |
| Sand Creek, Nebr. (966)..... | 80,174 | Split Rock Lake, Minn. (556)..... | 154 |
| Sand Creek, Wyo. (767)..... | 72,163 | Spohn Canal, Nebr. (942)..... | 173 |
| Sappa Creek, Kans.-Nebr. (1,455)..... | 101,204 | Spohn Creek, Mont. (tributary to | |
| Sarben Slough, Nebr. (984)..... | 175 | Musselshell River) (225)..... | 45,124 |
| Scheerer ditch, Colo. (1,188)..... | 187 | Spring Creek, Mont. (tributary to | |
| Schermerhorn Canal, Nebr. (907)..... | 171 | Teton River) (200)..... | 43,122 |
| Scott Gomer Creek, Colo. (1,062)..... | 180 | Spring Creek, Nebr. (829)..... | 76,167 |
| Scottsbluff drain, Nebr. (874)..... | 169 | Spring Creek, N. Dak. (549)..... | 147 |
| Scottsbluff drain No. 2, Nebr. (882)..... | 169 | Spring Creek, S. Dak. (582)..... | 63,149 |
| Scottsbluff Factory Canal, Nebr. (876)..... | 169 | Spring Creek, Wyo. (750)..... | 161 |
| Scout Creek, Nebr. (998)..... | 178 | State Line and Gilmore Canal, | |
| Scripter Canal, Nebr. (961)..... | 174 | Nebr. (848)..... | 168 |
| Section No. 3 ditch, Colo. (1,232)..... | 90,190 | Steamboat Canal, Nebr. (879)..... | 170 |
| Seminole Reservoir, Wyo. (679)..... | 67,155 | Stewarts drain, Nebr. (858)..... | 169 |
| Sevenmile Creek, Mont. (134)..... | 40,117 | Stillwater River, Mont. (351)..... | 53,134 |
| Sheep Creek, Mont. (tributary to | | Stinking Water Creek, Nebr. (1,444)..... | 100,203 |
| Red Rock River) (77)..... | 113 | Stranger Creek, Kans. (1,499)..... | 103,207 |
| Sheep Creek, Mont. (tributary to | | Strover Creek, Nebr. (1,321)..... | 195 |
| Smith River) (150)..... | 41,118 | Strover ditch, Colo. (1,079)..... | 181 |
| Sheep Creek, Nebr. (850)..... | 77,168 | Stub Creek, Colo. (804)..... | 166 |
| Shell Creek, Wyo. (471)..... | 58,141 | Struck Creek, Colo. (809)..... | 166 |
| Sheridan-Wilson Canal, Nebr. (982)..... | 175 | Suburban Canal, Nebr. (996)..... | 81,175 |
| Shields River, Mont. (334)..... | 52,133 | Summary of records by basins..... | 17 |
| Short Line Canal, Nebr. (891)..... | 70 | Sun River, Mont. (154)..... | 41,119 |
| Shoshone River, Wyo. (475)..... | 58,141,142 | Sun River, North Fork, Mont. (153)..... | 41,119 |
| Shoshone River, North Fork, Wyo. (473)..... | 58,141 | Sun River, North Fork of | |
| Shoshone River, South Fork, Wyo. (481)..... | 58,142 | North Fork, Mont. (151)..... | 118 |
| Side Hill and Meadow Island | | Sun River, South Fork, Mont. (163)..... | 41,119 |
| No. 1 ditches, Colo. (1,136)..... | 87,184 | Sun River, South Fork of | |
| Signal Bluff Canal, Nebr. (947)..... | 173 | North Fork, Mont. (158)..... | 119 |
| Silver Lake ditch, Colo. (1,164)..... | 186 | Sun River Canal, Mont. (168)..... | 120 |
| Silvermalt drain, Nebr. (927)..... | 172 | Sunlight Creek, Wyo. (363)..... | 53,135 |
| Slomont ditch, Colo. (1,087)..... | 181 | Sutherland Reservoir, Nebr. (973)..... | 80,174 |
| Six Mile Canal, Nebr. (1,308)..... | 194 | Sutherland Reservoir Supply Canal, | |
| Skunk Creek, Nebr. (980)..... | 81,175 | Nebr. (972)..... | 80,174 |
| Slack Creek, Wyo. (455)..... | 140 | Supply ditch, Colo. (1,152)..... | 185 |
| Slough (North Branch Clear Creek) | | Sweetgrass Creek, Mont. (348)..... | 53,134 |
| diversions from, Colo. (1,120)..... | 87,183 | Sweetwater River, Wyo. (768)..... | 72,163 |
| Smeiter Creek, Colo. (1,050)..... | 180 | Sybilie Creek, Wyo. (815)..... | 75,166 |
| Smith and Emons ditch, Colo. (1,228)..... | 188 | | |
| Smith and Goss ditch, Colo. (1,174)..... | 187 | Tarkio River, Iowa-Mo. (1,376)..... | 96,198 |
| Smith and Tyler ditch, Colo. (1,225)..... | 189 | Tarryall Creek, Colo. (1,044)..... | 83,84,179 |
| Smith Creek, Mont. (164)..... | 41,119 | Taylor-Ord Canal, Nebr. (1,358)..... | 95,197 |
| Smith River, Mont. (146)..... | 40,118 | Tennille Creek, Mont. (132)..... | 40,117 |
| Smith River Reservoir, Mont. (147)..... | 40,118 | Tensleep Creek, Wyo. (460)..... | 57,140 |
| Smith-Wheeler Canal, Nebr. (921)..... | 172 | Teton River, Mont. (197)..... | 43,122 |
| Smoke Creek, Mont. (313)..... | 131 | Thirty Mile Canal, Nebr. (1,301)..... | 93,194 |
| Smoky Hill River, Kans. (1,463)..... | 101,205 | Thompson River, Colo. (1,233)..... | 90,91,190 |
| Snell and Nine Mile drains, | | Thompson River, Iowa-Mo. (1,508)..... | 103,208 |
| Nebr. (887)..... | 170 | Tongue River, Mont.-Wyo. (497)..... | 59,60,143 |
| Snell drain, Nebr. (890)..... | 170 | Tongue River Reservoir, Mont. (502)..... | 60,143 |
| Soap Creek, Mont. (484)..... | 59,142 | Toohy drain, Nebr. (860)..... | 169 |
| Soehl Canal, Nebr. (971)..... | 174 | Toohy Spillway, Nebr. (859)..... | 77,169 |
| Soldier Creek, Kans. (1,496)..... | 103,207 | Tower Creek (Yellowstone | |
| Soldier Creek, Wyo. (812)..... | 166 | National Park) (327)..... | 51,132 |
| Soldier River, Iowa (671)..... | 66,155 | Tri-County Canal, Nebr. (1,292)..... | 93,193 |
| Solomon River, Kans. (1,480)..... | 102,206 | Trinnier Canal, Nebr. (924)..... | 172 |
| Solomon River, North Fork, | | Tri-State Canal, Nebr. (832)..... | 76,167,168 |
| Kans. (1,482)..... | 102,206 | Trognitz Canal, Nebr. (1,287)..... | 193 |
| Solomon River, South Fork, | | Trout Creek, Wyo. (416)..... | 138 |
| Kans. (1,479)..... | 102,206 | Tub Springs, Nebr. (870)..... | 169 |
| Sources of gaging station data..... | 3 | Turkey Creek, Colo. (1,081)..... | 181 |
| Sources of records..... | 25 | Turtle Creek, N. Dak. (552)..... | 147 |
| South Boulder and Bear Creek ditch, | | Twelve Mile Creek, Colo. (1,032)..... | 178 |
| Colo. (1,185)..... | 187 | Two Medicine River, Mont. (175)..... | 41,120 |
| South Boulder and Coal Creek ditch, | | | |
| Colo. (1,180)..... | 187 | Union Canal, Nebr. (954)..... | 80,173 |
| South Boulder and Pothills ditch, | | Union ditch, Colo. (1,231)..... | 90,189 |
| Colo. (1,182)..... | 187 | Upper Dugout Creek, Nebr. (911)..... | 78,171 |
| South Boulder Canon ditch, | | Upper Hanover Canal, Wyo. (445)..... | 140 |
| Colo. (1,189)..... | 89,187 | Upper Sevenmile Creek, Mont. (535)..... | 145 |
| South Boulder Creek, Colo. (1,177)..... | 89,187 | | |
| South Boulder Creek, Mont. (98)..... | 37,114 | Vermillion Creek, Kans. (1,495)..... | 103,207 |
| South Grand River, Mo. (1,548)..... | 105,211 | Wagonhound Creek, Wyo. (780)..... | 73,164 |
| South Loup River, Nebr. (1,345)..... | 95,196 | | |

| | Page | | Page |
|--|-------------|---|---------------|
| Wakarusa River, Kans. (1,498)..... | 103,207 | Willow Creek, Mont. (tributary to Marias River) (196)..... | 43,122 |
| Wallace ditch, Colo. (1,217)..... | 189 | Willow Creek, Mont. (tributary to Jefferson River) (99)..... | 37,115 |
| Wannemaker ditch, Colo. (1,114)..... | 86,183 | Willow Creek, Mont. (tributary to Red Lodge Creek) (373)..... | 54,135 |
| Ward ditch, Colo. (1,075)..... | 181 | Willow Creek, Mont. (tributary to Shields River) (339)..... | 133 |
| Warm Spring Creek, Wyo. (386)..... | 136 | Willow Creek, Mont. (tributary to Sun River) (161)..... | 41,119 |
| Warm Springs Creek, Mont. (128)..... | 39,117 | Willow Creek, Nebr. (985)..... | 175 |
| Warrior ditch, Colo. (1,080)..... | 85,181 | Willow Creek, Wyo. (392)..... | 55,137 |
| Weldon River, Mo. (1,512)..... | 103,208,209 | Willow Creek Reservoir, Mont. (162)..... | 41,119 |
| Wellman ditch, Colo. (1,175)..... | 187 | Wind River, Wyo. (379)..... | 54,136 |
| Wellman, Nichols, and Hahn ditch, Colo. (1,171)..... | 187 | Winter Creek, Nebr. (875)..... | 77,169 |
| West and east Hoosier Pass diversions, Colo. (1,042)..... | 83,179 | Winter Creek Canal, Nebr. (871)..... | 77,169 |
| West Buffalo Creek, Kans. (1,461)..... | 101,204 | Winter-Anderson Canal, Mont. (265)..... | 127 |
| West Careless Creek, Mont. (234)..... | 125 | Wolf Creek, Mont. (tributary to Big Muddy Creek) (312)..... | 131 |
| West Fork ditch, Iowa (669)..... | 66,155 | Wolf Creek, Mont. (tributary to Judith River) (214)..... | 44,123 |
| West Fork ditch, Mont. (271)..... | 128 | Wolf Creek, Mont. (tributary to Missouri River) (300)..... | 49,130 |
| West Nishnabotna River, Iowa (1,372)..... | 96,198 | Wolf Point ditch, Mont. (301)..... | 130 |
| West Nodaway River, Iowa (1,381)..... | 96,199 | Wood River, Nebr. (1,328)..... | 195 |
| West Tarkio Creek, Mo. (1,378)..... | 96,199 | Wood River, Wyo. (469)..... | 57,141 |
| Western Canal, Nebr. (1,289)..... | 92,193 | Woodbine Creek, Mont. (353)..... | 134 |
| Wet Spotted Tail Creek, Nebr. (865)..... | 169 | Woodpile Coulees, Mont. (274)..... | 48,128 |
| White Clay Creek, Nebr. (619)..... | 65,151 | Wortham, George, ditch, Wyo. (427)..... | 139 |
| White Horse Creek, Nebr. (1,295)..... | 194 | Wyoming Canal, Wyo. (396)..... | 137 |
| White River, Nebr.-S. Dak. (605)..... | 64,151 | Wyoming Canal No. 2, Wyo. (405)..... | 137 |
| White River, South Fork, S. Dak. (629)..... | 65,152 | Yellow Creek, Mo. (1,518)..... | 209 |
| White River Canal, Nebr. (617)..... | 151 | Yellowstone Lake (Yellowstone National Park) (314)..... | 50,131 |
| White Tail Creek, Nebr. (975)..... | 81,174 | Yellowstone River, Mont. (Yellowstone National Park) (315)..... | 50,51,131,132 |
| Whiteman's Fork, Nebr. (1,440)..... | 203 | Zang ditch, Colo. (1,208)..... | 188 |
| Whitetail Creek, Mont. (89)..... | 114 | | |
| Whitewater Creek, Mont. (284)..... | 49,129 | | |
| Whitney, pipeline diversion, Nebr. (621)..... | 65,151 | | |
| Whitney Reservoir, Nebr. (622)..... | 65,151 | | |
| Wild Horse drain, Nebr. (906)..... | 171 | | |
| Willis ditch, Colo. (1,219)..... | 189 | | |
| Willow Creek, Colo. (737)..... | 71,160 | | |
| Willow Creek, Mont. (tributary to Deep Creek and Teton River) (204)..... | 43,123 | | |