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HAROLD L. ICKES, Secretary

GEOLOGICAL SURVEY

W. C. MENDENHALL, Director

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Water-Supply Paper 786

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# **SURFACE WATER SUPPLY** *of the* **UNITED STATES** **1935**

## **PART 6** **MISSOURI RIVER BASIN**

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# CONTENTS

	Page
Scope of work.....	9
Definition of terms.....	9
Explanation of data.....	9
Accuracy of field data and computed results.....	10
Publications.....	11
Records of discharge collected by agencies other than the Geological Survey.....	15
Cooperation.....	15
Division of work.....	15
Gaging-station records.....	17
Missouri River proper.....	17
Red Rock River near Lakeview, Mont.....	17
Red Rock River below Red Rock Reservoir, near Monida, Mont.....	18
Beaverhead River at Barratts, Mont.....	19
Jefferson River near Silverstar, Mont.....	20
Missouri River below Hauser Lake Dam, near Helena, Mont.....	21
Missouri River at Fort Benton, Mont.....	22
Missouri River at Loma, Mont.....	23
Missouri River at power-plant ferry near Zortman, Mont.....	24
Missouri River below Fort Peck Dam, Mont.....	25
Missouri River near Wolf Point, Mont.....	26
Missouri River near Williston, N. Dak.....	27
Missouri River at Bismarck, N. Dak.....	28
Missouri River near Mobridge, S. Dak.....	29
Missouri River at Pierre, S. Dak.....	30
Missouri River at Yankton, S. Dak.....	31
Missouri River at Omaha, Nebr.....	32
Missouri River at Nebraska City, Nebr.....	33
Missouri River at St. Joseph, Mo.....	34
Missouri River at Kansas City, Mo.....	35
Missouri River at Waverly, Mo.....	36
Missouri River at Booneville, Mo.....	37
Missouri River near Bonnota Mill, Mo.....	38
Missouri River at Hermann, Mo.....	39
Missouri River at Ruegg, Mo.....	40
Ruby River Basin.....	41
Ruby River at dam site near Alder, Mont.....	41
Ruby River near Alder, Mont.....	42
Big Hole River Basin.....	43
Big Hole River near Melrose, Mont.....	43
Boulder River Basin.....	44
Boulder River near Boulder, Mont.....	44
Madison River Basin.....	45
Madison River near West Yellowstone, Mont.....	45
Gallatin River Basin.....	46
Gallatin River near Gallatin Gateway, Mont.....	46
Gallatin River at Logan, Mont.....	47
Hyalite Creek at Hyalite ranger station, near Bozeman, Mont.....	48
Prickly Pear Creek Basin.....	49
Temble Creek near Rimini, Mont.....	49
Temble Creek near Helena, Mont.....	50
Dearborn River Basin.....	51
Dearborn River near Clemons, Mont.....	51
Smith River Basin.....	52
Smith River near White Sulphur Springs, Mont.....	52
Smith River above Fivemile Creek, near White Sulphur Springs, Mont.....	53
Sun River Basin.....	54
Sun River near Vaughn, Mont.....	54
Muddy Creek near Power, Mont.....	56
Muddy Creek at Vaughn, Mont.....	57
Marias River Basin.....	58
Marias River near Shelby, Mont.....	58
Marias River near Brinkman, Mont.....	59
Judith River Basin.....	60
Judith River near Utica, Mont.....	60
Big Spring Creek near Lewistown, Mont.....	61
Musselshell River Basin.....	62
Musselshell River at Harlowton, Mont.....	62
Musselshell River at Morby, Mont.....	63
Careless Creek at Wallum, Mont.....	64
Box Elder Creek near Winnett, Mont.....	66
McDonald Creek at Winnett, Mont.....	67
Milk River Basin.....	68
South Fork of Milk River near international boundary.....	68
Milk River at Milk River, Alberta.....	69
Milk River at eastern crossing of international boundary.....	70
Milk River at Lohman, Mont.....	71
Milk River near Vandalia, Mont.....	72
North Fork of Milk River above St. Mary Canal, near Browning, Mont.....	73

## Gaging-station records—Continued.

Milk River Basin—Continued.	Page
North Fork of Milk River near international boundary.....	74
Big Sandy Creek near Box Elder, Mont.....	75
Lodge Creek at international boundary.....	76
McRea Coulee at international boundary.....	77
North Chinook Canal near Havre, Mont.....	78
Battle Creek at international boundary.....	79
Woodpile Coulee near international boundary.....	80
East Fork of Battle Creek near international boundary.....	81
Lyons Coulee at international boundary.....	82
Matheson Canal near Chinook, Mont.....	83
Whitewater Creek near international boundary.....	84
Frenchman River at international boundary.....	85
Frenchman Canal near Saco, Mont.....	86
Rock Creek at international boundary.....	87
Horse Creek at international boundary.....	88
McEachern Creek at international boundary.....	89
Poplar River Basin.....	90
Middle Fork of Poplar River at international boundary.....	91
Poplar River near Bredette, Mont.....	91
East Fork of Poplar River at international boundary.....	92
East Fork of Poplar River near Scooby, Mont.....	93
West Fork of Poplar River at international boundary.....	94
West Fork of Poplar River near Richland, Mont.....	95
Yellowstone River Basin.....	96
Yellowstone Lake at Lake Hotel, Yellowstone National Park.....	96
Yellowstone River at Yellowstone Lake outlet, Yellowstone National Park.....	97
Yellowstone River near Canyon Hotel, Yellowstone National Park.....	98
Yellowstone River at Corwin Springs, Mont.....	99
Yellowstone River at Billings, Mont.....	100
Yellowstone River at Miles City, Mont.....	101
Yellowstone River near Sidney, Mont.....	102
Tower Creek at Tower Falls, Yellowstone National Park.....	103
Lamar River near Tower Falls ranger station, Yellowstone National Park.....	104
Gardiner River at Mammoth Hotel, Yellowstone National Park.....	105
Shields River near Wilsall, Mont.....	106
Shields River at Clyde Park, Mont.....	107
Brackett Creek near Clyde Park, Mont.....	108
Stillwater River near Absarokee, Mont.....	109
Rosebud Creek near Absarokee, Mont.....	110
Clarks Fork at Chance, Mont.....	111
Clarks Fork at Edgar, Mont.....	112
Rock Creek near Red Lodge, Mont.....	113
Rock Creek at Rockvale, Mont.....	114
West Fork of Rock Creek near Red Lodge, Mont.....	115
Red Lodge Creek near Boyd, Mont.....	116
Wild River at Riverton, Wyo.....	117
Big Horn River at Thermopolis, Wyo.....	118
Big Horn River at Kane, Wyo.....	119
Big Horn River near St. Xavier, Mont.....	120
Dry Creek near Burris, Wyo.....	121
Willow Creek near Crowheart, Wyo.....	122
Bull Lake Creek near Lenore, Wyo.....	123
Little Wind River near Fort Washakie, Wyo.....	124
North Fork of Little Wind River at Fort Washakie, Wyo.....	125
Greybull River at Meeteetse, Wyo.....	126
Greybull River near Basin, Wyo.....	128
Wood River near Meeteetse, Wyo.....	129
Bench Canal near Burlington, Wyo.....	131
Shoshone River below Shoshone Reservoir, Wyo.....	132
Shoshone River at Byron, Wyo.....	133
Pass Creek near Wyola, Mont.....	134
Tongue River near Decker, Mont.....	135
Goose Creek near Sheridan, Wyo.....	136
Powder River at Arvada, Wyo.....	137
Powder River at Moorhead, Mont.....	138
Little Missouri River Basin.....	139
Little Missouri River near Alzada, Mont.....	139
Little Missouri River near Watford City, N. Dak.....	140
Cannonball River Basin.....	141
Cannonball River at Breien, N. Dak.....	141
Grand River Basin.....	142
Grand River near Wakpala, S. Dak.....	142
Moreau River Basin.....	143
Moreau River at Promise, S. Dak.....	143
Cheyenne River Basin.....	144
Cheyenne River near Wasta, S. Dak.....	144
Cheyenne River near Eagle Butte, S. Dak.....	145
Rapid Creek at Big Bend, S. Dak.....	146
Belle Fourche River near Belle Fourche, S. Dak.....	147
Belle Fourche River near Elm Springs, S. Dak.....	148
Bad River Basin.....	149
Bad River near Fort Pierre, S. Dak.....	149
White River Basin.....	150
White River at Crawford, Nebr.....	150
White River near Chadron, Nebr.....	151
White River near Oacoma, S. Dak.....	152
Niobrara River Basin.....	153
Niobrara River at Dunlap, Nebr.....	153
Niobrara River near Spencer, Nebr.....	154



Gaging-station records—Continued.	Page
James River Basin.....	155
James River near Scotland, S. Dak.....	155
Big Sioux River Basin.....	156
Big Sioux River at Akron, Iowa.....	156
Floyd River Basin.....	157
Floyd River at James, Iowa.....	157
Little Sioux River Basin.....	158
Spirit Lake at Orleans, Iowa.....	158
Okoboji Lake at Arnolds Park, Iowa.....	159
Platte River Basin.....	160
Grizzly Creek near Walden, Colo.....	160
North Platte River near Walden, Colo.....	161
North Platte River near Northgate, Colo.....	162
North Platte River at Saratoga, Wyo.....	163
North Platte River above Pathfinder Reservoir, Wyo.....	164
North Platte River below Pathfinder Reservoir, Wyo.....	165
North Platte River at Alcova, Wyo.....	167
North Platte River below Casper, Wyo.....	168
North Platte River below Guernsey Reservoir, Wyo.....	169
North Platte River below Whalen, Wyo.....	170
North Platte River at Torrington, Wyo.....	171
North Platte River at Wyoming-Nebraska State line.....	172
North Platte River at Mitchell, Nebr.....	173
North Platte River near Minatare, Nebr.....	174
North Platte River at Bridgeport, Nebr.....	175
North Platte River at Lisco, Nebr.....	176
North Platte River at Oshkosh, Nebr.....	177
North Platte River at Martin, Nebr.....	178
North Platte River at North Platte, Nebr.....	179
Platte River near Overton, Nebr.....	180
Platte River near Grand Island, Nebr.....	181
Platte River near Duncan, Nebr.....	182
Platte River near Ashland, Nebr.....	183
Little Grizzly Creek near Hebron, Colo.....	184
Roaring Fork near Walden, Colo.....	185
Michigan River near Lindland, Colo.....	186
Michigan River at Walden, Colo.....	187
Illinois Creek at Walden, Colo.....	188
Willow Creek near Rand, Colo.....	189
Bates Creek near Alcova, Wyo.....	190
Deer Creek at Glenrock, Wyo.....	191
Running Dutchman Canal near Careyhurst, Wyo.....	192
Boxelder Creek near Careyhurst, Wyo.....	193
La Prele Creek near Douglas, Wyo.....	194
La Prele Creek near Orpha, Wyo.....	195
Morton Canal near Orpha, Wyo.....	196
La Bonte Creek near La Bonte, Wyo.....	197
Horseshoe Creek near Glendo, Wyo.....	198
Cottonwood Creek at Wendover, Wyo.....	199
Laramie River near Glendevy, Colo.....	200
Laramie River near Jelm, Wyo.....	201
Laramie River and Pioneer Canal near Woods, Wyo.....	202
Laramie River at Laramie, Wyo.....	204
Laramie River at Two Rivers, Wyo.....	205
Laramie River near Lookout, Wyo.....	206
Laramie River near Fort Laramie, Wyo.....	208
Little Laramie River near Pilmore, Wyo.....	208
Little Laramie River at Two Rivers, Wyo.....	209
Rawhide Creek near Lingle, Wyo.....	210
Cherry Creek Drain near Torrington, Wyo.....	211
Katzer Drain near Henry, Nebr.....	212
Horse Creek near Lyman, Nebr.....	213
Sheep Creek near Morrill, Nebr.....	214
Winter Creek near Scottsbluff, Nebr.....	215
Gering Drain near Gering, Nebr.....	216
Ninemile Drain near McGrew, Nebr.....	217
Bayard sugar-factory drain near Bayard, Nebr.....	218
Red Willow Creek near Bayard, Nebr.....	219
Pumpkin Creek near Bridgeport, Nebr.....	220
Blue Creek near Lewellen, Nebr.....	221
Otter Creek near Lemoyne, Nebr.....	222
Birdwood Creek near Hershey, Nebr.....	223
South Platte River near Lake George, Colo.....	224
South Platte River above Lake Cheesman, Colo.....	225
South Platte River below Lake Cheesman, Colo.....	226
South Platte River at South Platte, Colo.....	227
South Platte River at Waterton, Colo.....	228
South Platte River at Denver, Colo.....	229
South Platte River at Henderson, Colo.....	230
South Platte River at Fort Lupton, Colo.....	231
South Platte River near Kersey, Colo.....	232
South Platte River at Sublette, Colo.....	233
South Platte River at Balzac, Colo.....	234
South Platte River at Julesburg, Colo.....	235
South Platte River at North Platte, Nebr.....	236
Tarryall Creek near Lake George, Colo.....	237
Goose Creek above Lake Cheesman, Colo.....	238
North Fork of South Platte River at South Platte, Colo.....	239
Bear Creek at Morrison, Colo.....	240

## Gaging-station records--Continued.

Platte River Basin--Continued.	Page
Bear Creek at mouth, at Sheridan Junction, Colo.....	241
Clear Creek near Golden, Colo.....	242
Clear Creek at mouth, near Derby, Colo.....	243
Fall River near Idaho Springs, Colo.....	244
North St. Vrain Creek at Longmont Dam, near Lyons, Colo.....	245
St. Vrain Creek at Lyons, Colo.....	246
St. Vrain Creek at mouth, near Platteville, Colo.....	247
Lefthand Creek at mouth, at Longmont, Colo.....	248
Boulder Creek near Orocell, Colo.....	249
Boulder Creek at mouth, near Longmont, Colo.....	250
Middle Boulder Creek at Nederland, Colo.....	251
South Boulder Creek near Eldorado Springs, Colo.....	252
Thompson River near Estes Park, Colo.....	253
Thompson River below power house near Drake, Colo.....	254
Thompson River at mouth, near La Salle, Colo.....	255
Cache la Poudre River at mouth of canyon near Fort Collins, Colo.....	256
Cache la Poudre River near Greeley, Colo.....	257
Lonetree Creek near Granite Canyon, Wyo.....	258
Middle Fork of Crow Creek near Hecla, Wyo.....	259
South Fork of Crow Creek near Hecla, Wyo.....	260
North Fork of Crow Creek near Hecla, Wyo.....	261
Lodgepole Creek near Federal, Wyo.....	262
Lodgepole Creek at Bushnell, Nebr.....	263
South Fork of Lodgepole Creek near Federal, Wyo.....	264
Middle Loup River at St. Paul, Nebr.....	265
Loup River at Columbus, Nebr.....	266
North Loup River near St. Paul, Nebr.....	267
Elkhorn River at Neligh, Nebr.....	268
Elkhorn River at Waterloo, Nebr.....	269
Nishnabotna River Basin.....	270
Nishnabotna River above Hamburg, Iowa.....	270
Tarkio River Basin.....	272
East Tarkio Creek at Blanchard, Iowa.....	272
Tarkio River at Fairfax, Mo.....	273
West Tarkio Creek near Westboro, Mo.....	274
Nodaway River Basin.....	275
Nodaway River near Burlington Junction, Mo.....	275
Platte River Basin (Iowa-Missouri).....	276
Platte River near Agency, Mo.....	276
One Hundred and Two River near Maryville, Mo.....	277
Kansas River Basin.....	278
Arikaree River at Haigler, Nebr.....	278
Republican River at Max, Nebr.....	279
Republican River at Culbertson, Nebr.....	280
Republican River near Bloomington, Nebr.....	281
Republican River near Hardy, Nebr.....	282
Republican River at Scandia, Kans.....	283
Republican River at Clay Center, Kans.....	284
Kansas River at Ogden, Kans.....	285
Kansas River at Wamego, Kans.....	286
Kansas River at Topeka, Kans.....	287
Kansas River at Bonner Springs, Kans.....	288
North Fork of Republican River at Colorado-Nebraska State line.....	289
Frenchman Creek near Champion, Nebr.....	290
Frenchman Creek below Champion, Nebr.....	291
Frenchman Creek near Hamlet, Nebr.....	292
Frenchman Creek at Culbertson, Nebr.....	293
West Buffalo Creek near Jewell, Kans.....	294
West Buffalo Creek at Jewell, Kans.....	295
Smoky Hill River at Ellsworth, Kans.....	296
Smoky Hill River at Lindsborg, Kans.....	297
Smoky Hill River at Enterprise, Kans.....	298
Saline River near Wilson, Kans.....	299
Saline River at Tescott, Kans.....	300
Solomon River at Beloit, Kans.....	301
Solomon River at Niles, Kans.....	302
East Limestone Creek near Ionla, Kans.....	303
East Limestone Creek at Ionla, Kans.....	304
Elm Creek near Ionla, Kans.....	305
Big Blue River at Barnston, Nebr.....	306
Big Blue River at Hull, Kans.....	307
Big Blue River at Randolph, Kans.....	308
Little Blue River near Endicott, Nebr.....	309
Little Blue River at Waterville, Kans.....	310
Soldier Creek at Topeka, Kans.....	311
Delaware River at Valley Falls, Kans.....	312
Wakarusa River near Lawrence, Kans.....	313
Stranger Creek near Tonganoxie, Kans.....	314
Grand River Basin.....	315
Grand River near Gallatin, Mo.....	315
Grand River near Sumner, Mo.....	318
East Fork of Big Creek near Bethany, Mo.....	319
Thompson River at Trenton, Mo.....	320
Weldon River at Mill Grove, Mo.....	321
Medicine Creek near Galt, Mo.....	322
Locust Creek near Linneus, Mo.....	323
Chariton River Basin.....	324
Chariton River at Novinger, Mo.....	324
Chariton River near Keytesville, Mo.....	325

Gaging-station records—Continued.	Page
Lamine River Basin.....	326
Lamine River at Clifton City, Mo.....	326
Osage (Marais des Cygnes) River Basin.....	327
Osage River near Quenemo, Kans.....	327
Osage River near Ottawa, Kans.....	328
Osage River at Trading Post, Kans.....	329
Osage River at Osceola, Mo.....	330
Osage River near Bagnell, Mo.....	331
Osage River near St. Thomas, Mo.....	332
Marmaton River near Fort Scott, Kans.....	333
Sac River near Stockton, Mo.....	334
Pomme de Terre River at Hermitage, Mo.....	335
South Grand River near Brownington, Mo.....	336
Niangua River near Decaturville, Mo.....	337
Bennett Spring at Brice, Mo.....	338
Gasconade River Basin.....	339
Gasconade River near Hazlegreen, Mo.....	339
Gasconade River near Waynesville, Mo.....	340
Gasconade River at Jerome, Mo.....	341
Gasconade River near Rich Fountain, Mo.....	342
Piney Creek near Big Piney, Mo.....	343
Little Piney Creek at Newburg, Mo.....	344
Miscellaneous discharge measurements.....	345
Index.....	349

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ILLUSTRATION

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Plate 1. Typical gaging stations.....	Page
	10



## SURFACE WATER SUPPLY OF MISSOURI RIVER BASIN, 1935

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### SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of flow made on streams in the United States during the year ending September 30, 1935. The work was begun in 1888 in connection with special studies relating to irrigation. In the execution of the work, measurements of stream flow have been made at about 7,020 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July 1935, 3,020 gaging stations were being maintained by the Geological Survey and the cooperating organizations. Many miscellaneous discharge measurements were made at other points.

### DEFINITION OF TERMS

The Units in which stream-flow data are presented in this report and other terms used herein are defined as follows:

"Second-feet" is an abbreviation for "cubic feet per second." A second-foot is the rate of discharge of water flowing in a channel when the cross-sectional area is 1 square foot and the average velocity is 1 foot per second.

"Second-feet per square mile" is the average number of cubic feet of water flowing per second from each square mile of area drained, on the assumption that the run-off is distributed uniformly both as regards time and area.

"Run-off in inches" is the depth to which an area would be covered if all the water flowing from it in a given period were uniformly distributed on the surface. It is used for comparing run-off with rainfall, which is usually expressed in inches.

An "acre-foot", equivalent to 43,560 cubic feet, is the quantity required to cover an acre to the depth of 1 foot. The term is commonly used in connection with storage for irrigation.

"Second-foot-day" is the volume of water represented by a flow of 1 second-foot for 24 hours.

"Stage-discharge relation" is an abbreviation for the term "relation of gage height to discharge."

"Control" is a term used to designate the natural section or reach of the channel or artificial structure below the gage which determines the stage-discharge relation at the gage.

### EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the gage heights and discharge measurements in determining the daily flow. The records of stage are obtained either from direct readings on a nonrecording gage or from a water-stage recorder that gives a continuous record of the fluctuations. Measurements of discharge are made with a current meter by the general methods outlined in standard textbooks on the measurement of river discharge.

Typical gaging stations, equipped with water-stage recorder and measuring cable and car, are shown on plate 1.

Rating tables giving the discharge for any stage are prepared from the discharge measurements. The application of the daily gage height to these rating tables gives the daily discharge from which the monthly and yearly mean discharge is computed.

The data presented for each gaging station in the area covered by this report usually comprise a description of the station, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and run-off. Skeleton rating tables are published except for those stations whose daily discharge for the greater part of the year was determined by shifting-control method or by use of slope or other special methods.

The description of the station gives information in regard to the location and type of gage, diversions that decrease the flow at the gage, artificial regulation from pondage or storage, and the accuracy of the records. Under "Average discharge" is given the average discharge for the number of years indicated. It is given only for stations for which there are 10 or more complete years of record. Information under "Extremes" gives the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation, and also the minimum discharge if useful; and the minimum gage height except when it is of no importance. Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder or a nonrecording gage read at the time of the crest. Likewise the minimum represents the lowest discharge unless otherwise qualified.

The table of daily discharge gives, for stations equipped with nonrecording gages, the discharge in second-feet corresponding to once-daily or the mean of twice-daily readings of the gage. For stations equipped with water-stage recorders the table gives the discharge corresponding to the mean daily gage height except for stations on streams subject to sudden or rapid fluctuation. For stations subject to such fluctuation the mean daily gage height may not indicate the true mean daily discharge, which must be obtained by averaging the discharge for intervals of the day or by using the discharge integrator, an instrument for obtaining the mean daily discharge from a continuous gage-height graph and containing as an essential element the rating curve of the station.

In the table of monthly discharge the column headed "Second-root-days" gives the sum for each month of the discharge given in the table of daily discharge. The column headed "Maximum" gives the maximum daily discharge and not the discharge when the water-surface was at crest height. Likewise, in the column headed "Minimum" the quantity given is the minimum daily discharge. The column headed "Mean" is the average flow in cubic feet per second during the month.

#### ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of stream-flow data depends primarily (1) on the permanency of the stage-discharge relation and (2) on the accuracy of observation of stage, measurements of flow, and interpretation of records.

The station description gives a statement in regard to the general accuracy of the records. "Excellent" indicates that, in general, the daily records are accurate within 5 percent; "good", within 10 percent; "fair", within 15 percent; and "poor", within 20 percent or more.

The monthly means for any station may represent with high accuracy the quantity of



A. ARTIFICIAL CONTROL, RECORDER HOUSE, AND MEASURING CABLE ON OLENTANGY RIVER, DELAWARE, OHIO.



B. RECORDER HOUSE AND MEASURING CABLE ON KAWEAH RIVER, THREE RIVERS, CALIF.

TYPICAL RIVER-MEASUREMENT STATIONS.





water flowing past the gage, but the figures showing discharge per square mile and depth in inches may be subject to gross errors caused by the inclusion of large noncontributing districts in the measured drainage area, by lack of information concerning water diverted for irrigation or other use, or by inability to interpret the effect of artificial regulation of the flow of the river above the station. "Second-feet per square mile" and "run-off in inches" are therefore not computed if such errors appear probable. The computations are also omitted for stations on streams draining areas in which the annual rainfall is less than 20 inches.

Many gaging stations on streams in the irrigated areas of the United States are situated above most of the diversions from those streams, and the discharge recorded does not show the water supply available for further development, as prior appropriations below the station must first be satisfied.

The table of monthly discharge gives a general idea of the flow at the station. The table of daily discharge allows more detailed studies of the variation in flow. It should be borne in mind, however, that the observations in each succeeding year may be expected to throw new light on data previously published, and that greater degrees of refinement in computations and records may be warranted with increased data and use of improved equipment.

In order to permit greater refinement in analysis and comparison of records for adjacent stations, the following changes in computation procedure were followed in preparing some of the records published in the series of reports for 1934 and all the records for 1935: (a) Mean monthly discharge above 1,000 second-feet and monthly run-off above 10,000 acre-feet are expressed to four significant figures instead of three significant figures, as formerly; (b) monthly run-off in acre-feet is computed from the total second-foot-days for the month and not from the mean discharge for the month; (c) drainage areas above 1,000 square miles, if measured on topographic maps, or if otherwise warranted, are expressed to four significant figures instead of three as formerly.

#### PUBLICATIONS

The results of stream-flow measurements are now published annually in 14 parts (parts 12, 13, and 14 were formerly 12-A, 12-B, and 12-C), each part covering an area whose boundaries coincide with natural drainage features as indicated below:

- Part 1. North Atlantic slope basins (St. John River to York River).  
2. South Atlantic slope and eastern Gulf of Mexico basins (James River to Mississippi River).  
3. Ohio River Basin.  
4. St. Lawrence River Basin.  
5. Hudson Bay and upper Mississippi River Basins.  
6. Missouri River Basin.  
7. Lower Mississippi River Basin.  
8. Western Gulf of Mexico basins.  
9. Colorado River Basin.  
10. The Great Basin.  
11. Pacific slope basins in California.  
12. Pacific slope basins in Washington and upper Columbia River Basin.  
13. Snake River Basin.  
14. Pacific slope basins in Oregon and lower Columbia River Basin.

Water-supply papers and other publications of the United States Geological Survey containing data in regard to the water resources of the United States may be obtained or consulted as indicated below.

1. Copies may be purchased at nominal cost from the Superintendent of Documents, Government Printing Office, Washington, D. C., who will, on application, furnish lists giving prices.

2. Sets of the reports may be consulted in the libraries of the principal cities in the United States.

3. Sets are available for consultation in the local offices of the water-resources branch of the Geological Survey as follows:

Augusta, Maine, Statehouse.  
 Boston, Mass., 945 Post Office Building.  
 Hartford, Conn., 203 Federal Building.  
 Albany, N. Y., 526 Federal Building.  
 Trenton, N. J., 228 Federal Building.  
 Harrisburg, Pa., 490 Education Building.  
 Charlottesville, Va., University of Virginia.  
 South Charleston, W. Va., Naval Ordnance Plant.  
 Asheville, N. C., 220 Post Office Building.  
 Columbia, S. C., 119 Federal Court House.  
 Ocala, Fla., Post Office Building.  
 Montgomery, Ala., Post Office Building.  
 Chattanooga, Tenn., 217 Post Office Building.  
 Columbus, Ohio, Engineering Experiment Station, Ohio State University.  
 Indianapolis, Ind., 319 Federal Building.  
 Urbana, Ill., 14 Post Office Annex.  
 Madison, Wis., 337N State Capitol.  
 St. Paul, Minn., 808 New Post Office Building.  
 Iowa City, Iowa, 402 Hydraulic Laboratory, University of Iowa.  
 St. Louis, Mo., 906 Customhouse, 1114 Market Street.  
 Rolla, Mo., Missouri Geological Survey Building, Missouri School of Mines and Metallurgy.  
 Topeka, Kans., 305 Federal Building.  
 Fort Smith, Ark., Post Office Building.  
 Austin, Tex., State Highway Building.  
 Santa Fe, N. Mex., 3 United States Courthouse.  
 Tucson, Ariz., 210 Post Office Building.  
 Denver, Colo., 403 Post Office Building.  
 Salt Lake City, Utah, 303 Federal Building.  
 Idaho Falls, Idaho, 228 Federal Building.  
 Boise, Idaho, 429 Federal Building.  
 Helena, Mont., 421 Federal Building.  
 Tacoma, Wash., 406 Federal Building.  
 Portland, Oreg., 606 Post Office Building.  
 San Francisco, Calif., 303 Customhouse.  
 Los Angeles, Calif., 512 Eighth and Figueroa Building.  
 Honolulu, Hawaii, 225 Federal Building.

A list of the Geological Survey publications may be obtained by applying to the Director, United States Geological Survey, Washington, D. C.

Records of flow of streams in the United States have been published in the reports tabulated as follows:

Stream-flow data in reports of the United States Geological Survey

(A = Annual Report; B = Bulletin; W = Water-Supply Paper)

Report	Character of data	Year
10th A, pt. 2	Descriptive information only.....	
11th A, pt. 2	Monthly discharge and descriptive information.....	1884 to Sept. 1890.
12th A, pt. 2	.....do .....	1884 to June 30, 1891.
13th A, pt. 3	.....do .....	1884 to Dec. 31, 1892.
14th A, pt. 2	Monthly discharge (long-time records, 1871-93)....	1888 to Dec. 31, 1893.
B 131.....	Descriptions, measurements, gage heights, and ratings.	1893-94.
16th A, pt. 2	Descriptive information only.....	
B 140.....	Descriptions, measurements, gage heights, ratings, and monthly discharge (also many data covering earlier years).	1895.
W 11.....	Gage heights (also gage heights for earlier years).	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also similar data for some earlier years).	1895-96.
W 15.....	Descriptions, measurements, and gage heights, eastern United States, eastern Mississippi River, and Missouri River above junction with Kansas River.	1897.
W 16.....	Descriptions, measurements, and gage heights, western Mississippi River below junction of Missouri and Platte Rivers, and western United States.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).	1897.
W 27.....	Measurements, ratings, and gage heights, eastern United States, eastern Mississippi River, and Missouri River.	1898.
W 28.....	Measurements, ratings, and gage heights, Arkansas River and western United States.	1898.
20th A, pt. 4	Monthly discharge (also for many earlier years).	1898.

## Stream-flow data in reports of the United States Geological Survey--Continued

(A = Annual Report; B = Bulletin; W = Water-Supply Paper)

Report	Character of data	Year
W 35 to 39...	Descriptions, measurements, gage heights, and ratings	1899.
21st A, pt. 4	Monthly discharge.....	1899.
W 47 to 52...	Descriptions, measurements, gage heights, and ratings	1900.
22d A, pt. 4	Monthly discharge.....	1900.
W 65, 66.....	Descriptions, measurements, gage heights, and ratings	1901.
W 75.....	Monthly discharge.....	1901.

Note.— The reports which contain records after 1901 are given in the table on page 11.

The records at most of the stations discussed in these reports extend over a series of years. Miscellaneous measurements at many points other than regular gaging stations have been made each year and are published under "Miscellaneous discharge measurements" at the end of each report in the same relative order as the regular gaging stations. An index of the reports containing records obtained prior to 1904 has been published in Water-Supply Paper 119.

The following table gives, by years and drainage basins, the numbers of the papers on surface-water supply published from 1899 to 1935. The data for any particular station will, in general, be found in the reports covering the years during which the station was maintained. For example, data from 1910 to 1920 for any station in the area covered by part 3 are published in Water-Supply Papers 283, 303, 323, 353, 383, 403, 433, 453, 473, and 503, which contain records for the Ohio River Basin for those years. Special papers containing compilation of records previously published and also records not contained in the annual series of water-supply papers have been published for some States and drainage basins. For example, stream-flow records for the New-Kanawha River Basin in part 3 from 1895 to 1920 are contained in Water-Supply Paper 536.

Numbers of water-supply papers containing results of stream measurements, 1899-1935

(For basins included see p. 11)

Year	1	2	3	4	5	6	7	8	9	10	11	12 (12-A)	13 (12-B)	14 (12-C)
1899 a...	36	b 35, 36	36	36	c 36, 37	37	37	37	d 37, 38	38, e 39	38, f 39	38	38	38
1900 g...	47, h 48	85	49	49	49	50	50	50	50	51	51	51	51	51
1901 i...	66, 67	b 65, 66	66	66	66	66	66	66	66	66	66	66	66	66
1902 j...	87	b 87, 88	88	88	88	88	88	88	88	88	88	88	88	88
1903 k...	97	b 97, 98	98	98	98	98	98	98	98	98	98	98	98	98
1904 l...	126	q 126, 127	127	127	127	127	127	127	127	127	127	127	127	127
1905 m...	166, p 166, q 167	q 167, 168	168	168	168	168	168	168	168	168	168	168	168	168
1906 n...	203	q 203, 204	204	204	204	204	204	204	204	204	204	204	204	204
1907 o...	241	241	241	241	241	241	241	241	241	241	241	241	241	241
1908 p...	281	281	281	281	281	281	281	281	281	281	281	281	281	281
1909 q...	321	321	321	321	321	321	321	321	321	321	321	321	321	321
1910 r...	361	361	361	361	361	361	361	361	361	361	361	361	361	361
1911 s...	401	401	401	401	401	401	401	401	401	401	401	401	401	401
1912 t...	441	441	441	441	441	441	441	441	441	441	441	441	441	441
1913 u...	481	481	481	481	481	481	481	481	481	481	481	481	481	481
1914 v...	521	521	521	521	521	521	521	521	521	521	521	521	521	521
1915 w...	561	561	561	561	561	561	561	561	561	561	561	561	561	561
1916 x...	601	601	601	601	601	601	601	601	601	601	601	601	601	601
1917 y...	641	641	641	641	641	641	641	641	641	641	641	641	641	641
1918 z...	681	681	681	681	681	681	681	681	681	681	681	681	681	681
1919 a...	721	721	721	721	721	721	721	721	721	721	721	721	721	721
1920 b...	761	761	761	761	761	761	761	761	761	761	761	761	761	761
1921 c...	801	801	801	801	801	801	801	801	801	801	801	801	801	801
1922 d...	841	841	841	841	841	841	841	841	841	841	841	841	841	841
1923 e...	881	881	881	881	881	881	881	881	881	881	881	881	881	881
1924 f...	921	921	921	921	921	921	921	921	921	921	921	921	921	921
1925 g...	961	961	961	961	961	961	961	961	961	961	961	961	961	961
1926 h...	1001	1001	1001	1001	1001	1001	1001	1001	1001	1001	1001	1001	1001	1001
1927 i...	1041	1041	1041	1041	1041	1041	1041	1041	1041	1041	1041	1041	1041	1041
1928 j...	1081	1081	1081	1081	1081	1081	1081	1081	1081	1081	1081	1081	1081	1081
1929 k...	1121	1121	1121	1121	1121	1121	1121	1121	1121	1121	1121	1121	1121	1121
1930 l...	1161	1161	1161	1161	1161	1161	1161	1161	1161	1161	1161	1161	1161	1161
1931 m...	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201
1932 n...	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241
1933 o...	1281	1281	1281	1281	1281	1281	1281	1281	1281	1281	1281	1281	1281	1281
1934 p...	1321	1321	1321	1321	1321	1321	1321	1321	1321	1321	1321	1321	1321	1321
1935 q...	1361	1361	1361	1361	1361	1361	1361	1361	1361	1361	1361	1361	1361	1361

a Rating tables and index to Water-Supply Papers 35-39 contained in Water-Supply Paper 35-39, monthly discharge for 1899 in 21st Annual Report, part 4.

b James River only.

c Galatin River.

d Green and Gunnison Rivers and Colorado River above Gunnison River.

e Mojave River only.

f Kings and Kern Rivers and south Pacific slope basins.

g Rating tables and index to Water-Supply Papers 41-42 and data on precipitation, with monthly discharge for 1900 in 22d Annual Report, part 4.

h Wisconsin and Schuykill Rivers to James River.

i Siletz River.

j Long, Platte, and Elkhorn Rivers and tributaries below Platte River.

k Territory of Massachusetts, River and Lake Ontario, and tributaries to St. Lawrence River proper.

m Hudson Bay only.

n New England rivers only.

o Hudson River to Delaware River, inclusive.

p Susquehanna River to Yakin River, inclusive.

q The Great Basin in California, except Truckee and Carson River Basins.

r Below junction with Gila River.

s Rogue, Umpqua, and Siletz Rivers only.

t Below junction with Gila River.

u Rogue, Umpqua, and Siletz Rivers only.

RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN  
THE GEOLOGICAL SURVEY

Records of discharge of Wind River at diversion dam near Pavillion, Wyo., for the period 1924-35 were collected by U. S. Bureau of Reclamation and have not been published.

## COOPERATION

The work in the several States was done under cooperative agreements as follows: In Colorado with the office of the State engineer, M. C. Hinderlider. In Iowa with the Iowa Institute of Hydraulic Research, Prof. F. T. Mavis, associate director; the Iowa Geological Survey, A. C. Trowbridge, director; the State Conservation Commission, M. L. Hutton, director; the State Planning Board, R. H. Matson, director; and the State Department of Health, A. H. Wieters, director, division of engineering. In Kansas with the water resources division of the State Board of Agriculture, George S. Knapp, chief engineer. In Missouri with the Missouri Geological Survey, H. A. Buehler, State geologist; the Missouri Highway Department, T. H. Cutler, chief highway engineer; and the Missouri Game and Fish Department, W. C. Buford, commissioner. In Montana with the office of the State engineer, J. S. James. In Nebraska with the Department of Public Works, A. T. Lobdell, acting State engineer, succeeded by A. C. Tilley, State engineer, through R. H. Willis, chief, Bureau of Irrigation, Water Power, and Drainage. In Wyoming with the office of the State engineer, E. W. Burritt.

Acknowledgment of financial assistance in collecting records published herein is due also the Corps of Engineers, United States Army, and the United States Department of State.

Full cooperation exists between the United States Geological Survey and the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada. On waters adjacent to the international boundary certain stations are maintained jointly by the United States and Canada under the terms of the Boundary Waters Treaty of 1909, and others are maintained under a subsequent agreement between the two Governments. The records from all these stations are obtained in such a manner as to be equally acceptable and available in either country. These stations are herein designated "international gaging stations."

Assistance in collecting records in Missouri was also rendered by the Union Electric Light & Power Co., the Gasconade River Power Co., and the Missouri Electric Power Co.

Prior to June 30, 1935, funds for the rehabilitation of gaging stations, repairs, replacement of equipment, and improvement of records were allocated by the Public Works Administration from funds made available by the National Industrial Recovery Act.

## DIVISION OF WORK

The data for the stations in the several States were collected and prepared for publication under supervision of district engineers as follows: In Colorado, Robert Follansbee, the work being done in collaboration with M. C. Hinderlider, State engineer, and L. T. Burgess, State chief hydrographer; in Iowa, H. C. Beckman (Big Sioux and

Nishnabotna Rivers and East Tarkio Creek) and R. G. Kasel; in Kansas, J. B. Spiegel; in Missouri, H. C. Beckman; in Montana (except Madison River near West Yellowstone and Tongue River near Decker) and Missouri River at Williston, N. Dak., W. A. Lamb; in Nebraska (except the two stations on Missouri River), Robert Follansbee; in North Dakota (except Missouri River at Williston), South Dakota (except Rapid Creek at Big Bend), and the two stations on Missouri River in Nebraska, H. C. Beckman; in Wyoming and Tongue River at Decker, Mont., Robert Follansbee; and in Yellowstone National Park (including Madison River near West Yellowstone, Mont.), Thomas R. Newell.

## MISSOURI RIVER PROPER

Red Rock River near Lakeview, Mont.

Location.- Water-stage recorder, lat. 44°39'30", long. 111°52', in NE¼ sec. 6, T. 14 S., R. 2 W., at dam on Lower Red Rock Lake, 5 miles northwest of Lakeview.

Records available.- May 1933 to September 1935 (fragmentary).

Extremes.- Maximum discharge during year, 663 second-feet Apr. 20 (gage height, 2.57 feet); no flow at various times.

1933-35: Maximum discharge, 1,010 second-feet May 1, 1934 (gage height, 2.94 feet); no flow at various times.

Remarks.- Records fair. Natural storage in the Red Rock Lakes.

Rating table, May 12, 1933, to Sept. 30, 1935 (gage height, in feet, and discharge, in second-feet)

1.5	0.8	2.0	170
1.6	9	2.2	330
1.7	23	2.4	510
1.8	56	2.6	690

Discharge, in second-feet, 1933-35

Day	1933			1934			1935							
	May	June	July		May		Apr.	May	June	July	Aug.	Sept.		
1	-	134	53		-		0	447	46	85	6.6	0		
2	-	144	66		-		0	411	55	80	5.1	0		
3	-	144	46		-		0	375	65	85	6.6	0		
4	-	131	40		-		0	339	74	85	5.8	1.0		
5	-	130	40		-		0	316	84	61	7.3	1.5		
6	-	135	46		-		0	293	93	53	5.1	2.0		
7	-	135	46		-		0	270	103	49	4.4	3.0		
8	-	130	30		-		0	247	112	43	4.4	2.7		
9	-	76	46		-		0	224	116	46	5.1	2.3		
10	-	76	36		-		0	201	121	40	1.5	2.0		
11	-	95	23		-		0	178	125	33	1.5	1.7		
12	322	135	17		-		0	174	129	26	1.5	1.4		
13	279	135	11		-		0	170	133	22	.8	1.0		
14	245	135	5.1		-		0	166	137	22	.5	.7		
15	215	95	12		-		0	162	142	22	1.5	1.0		
16	230	130	-	12			0	158	146	20	.5	1.4		
17	222	90	-	5.8			166	154	150	20	.4	1.7		
18	222	76	-	3.7			332	150	164	18	3.0	2.1		
19	192	76	-	2.2			496	134	144	18	.5	2.4		
20	200	71	-	2.2			663	119	124	20	.4	2.7		
21	170	76	-	.7			653	103	157	16	.1	3.1		
22	112	53	-	.4			643	87	144	16	.1	3.4		
23	105	56	-	.7			633	71	138	16	.4	3.3		
24	157	49	-	2.2			622	56	61	14	0	4.1		
25	157	43	-	2.2			612	40	80	16	0	4.4		
26	164	36	-	2.2			602	41	100	14	0	7.3		
27	144	49	-	.8			591	42	100	16	0	6.6		
28	164	40	-	.1			555	43	90	11	0	5.8		
29	131	56	-	0			619	44	71	14	0	5.8		
30	105	53	-	0			483	45	61	7.3	0	5.8		
31	105	-	-	0			-	46	-	5.8	0	-		
Month				Second-foot-days			Maximum		Minimum		Mean		Run-off in acre-feet	
1933														
May 12-31.....				3,641			322		105		182		7,220	
June.....				2,534			144		36		84.5		5,030	
July 1-15.....				517.1			66		5.1		34.5		1,030	
The period.....													13,280	
1934														
May 16-31.....				35.2			12		0		2.20		70	
June.....				0			0		0		0		0	
July.....				0			0		0		0		0	
August.....				0			0		0		0		0	
September.....				0			0		0		0		0	
The period.....													70	
1934-35														
October.....				0			0		0		0		0	
November.....				0			0		0		0		0	
December.....				0			0		0		0		0	
January.....				0			0		0		0		0	
February.....				0			0		0		0		0	
March.....				0			0		0		0		0	
April.....				7,572			663		0		252		15,020	
May.....				5,306			447		40		171		10,520	
June.....				3,265			164		46		109		6,480	
July.....				994.1			85		5.8		32.1		1,970	
August.....				63.1			7.3		0		2.04		125	
September.....				80.7			7.3		0		2.69		160	
Water year 1934-35.....				17,280.9			663		0		47.3		34,280	

## Red Rock River below Red Rock Reservoir, near Monida, Mont.

Location.— Staff gage, lat. 44°39'30", long. 112°21', in SW $\frac{1}{4}$  sec. 32, T. 13 S., R. 6 W., just below Red Rock Reservoir and 8 miles northwest of Monida. Temporary gage at independent datum, at upstream face of dam, used Apr. 1 to Oct. 21, 1934.

Drainage area.— 560 square miles.

Records available.— July 1911 to September 1918, May 1925 to September 1935.

Extremes.— Maximum discharge during year, 414 second-feet at various times during July 14-17 (gage height, 2.06 feet); no flow at times.  
1911-18, 1925-35: Maximum discharge, 2,500 second-feet May 15, 1933 (gage height, 5.40 feet); no flow at various times.

Remarks.—Records good except those for estimated period Oct. 2-5, which are poor. Flow regulated by operation of reservoir. Some small diversions from tributaries above reservoir.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Oct. 1-20				Oct. 21 to Sept. 30			
0.0	0	1.2	77	0.0	0	1.2	183
.2	5	1.4	97	.2	16	1.4	236
.4	15	1.6	118	.4	38	1.6	290
.6	28	1.8	141	.6	64	1.8	344
.8	42	2.0	165	.8	92	2.0	400
1.0	58	2.2	190	1.0	132		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	8.8					0	120	183	213	17	7.9
2	0	0					0	133	186	178	16	7.9
3	0	7.0					0	183	183	178	15	7.0
4	0	7.0					0	183	183	178	13	7.0
5	20	2.8					0	183	196	174	12	7.0
6							0	183	196	162	12	7.0
7	5.6	1.4					0	183	196	205	12	7.0
8	6.0	1.4					0	133	196	330	9.7	6.3
9	6.5	1.4					0	183	196	330	8.6	6.3
10	7.0	.7					0	157	196	330	8.8	6.3
11	7.0	.7					0	167	196	330	7.0	7.0
12	7.6	.7					0	167	196	317	7.0	7.0
13	8.0	1.4					0	167	202	317	7.0	7.0
14	8.0	.7					0	167	236	414	7.0	7.9
15	7.5	0					0	167	236	414	7.0	7.9
16	7.5	0					0	167	236	414	5.6	7.9
17	7.5	0					0	167	236	400	5.6	8.8
18	9.5	0					0	183	236	400	5.6	8.8
19	9.5	0					0	225	294	336	7.0	7.0
20	9.6	0					0	236	330	400	7.0	7.0
21	8.8	0					0	254	330	400	7.0	7.0
22	8.8	0					0	263	330	400	7.0	7.0
23	7.9	0					0	263	330	400	7.0	7.0
24	9.7	0					0	233	330	178	7.0	7.9
25	8.8	0					0	236	313	98	7.0	7.9
26	7.9	0					0	209	250	79	7.9	7.9
27	8.8	0					0	196	214	26	7.9	7.9
28	9.7	0					0	196	209	23	7.0	8.8
29	8.8	0					45	196	210	21	7.9	8.8
30	8.8	0					99	196	222	18	7.0	8.8
31	8.8	-					-	196	-	16	7.0	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						234.8	9.7	5.0	7.57	466		
November.....						35.4	9.8	0	1.13	70		
December.....						0	0	0	0	0		
Calendar year .....												
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						0	0	0	0	0		
April.....						142	99	0	4.73	282		
May.....						6,957	263	120	192	11,820		
June.....						7,057	330	183	235	14,000		
July.....						7,720	414	16	249	16,310		
August.....						269.8	17	5.6	8.70	535		
September.....						225.0	8.8	6.3	7.50	446		
Water year 1934-35 .....						21,641.0	414	0	59.3	42,930		



## Beaverhead River at Barratts, Mont.

Location.— Water-stage recorder, lat. 45°8', long. 112°48'30", in SE $\frac{1}{4}$  sec. 19, T. 8 S., R. 9 W., 1 mile south of Barratts and 10 miles southwest of Dillon. Prior to Oct. 19, 1934, chain gage at same site and datum.

Drainage area.— 2,850 square miles.

Records available.— August 1907 to September 1935.

Extremes.— Maximum discharge during year, 1,110 second-feet June 2 (gage height, 1.92 feet); minimum, 101 second-feet Sept. 12 (gage height, 0.30 foot).  
1907-35: Maximum discharge, 3,640 second-feet June 19, 20, 1908 (gage height, 6.0 feet); minimum, 81 second-feet Sept. 12-17, 1934 (gage height, 0.28 foot).

Remarks.— Records good. Numerous diversions above station. Storage and release of Flood waters of Red Rock River near Monida affect the flow at this station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	105	186	173	173	165	182	175	211	965	216	158	124
2	105	186	173	173	165	186	182	195	1,040	216	154	124
3	105	190	173	173	165	197	190	182	577	182	154	121
4	103	192	173	173	185	197	190	175	615	173	147	118
5	105	190	173	173	165	181	203	172	476	186	138	118
6	105	190	189	173	165	173	190	176	414	182	138	118
7	105	190	181	173	165	173	191	172	420	186	135	111
8	105	182	181	173	181	173	192	164	501	190	130	106
9	105	176	165	173	182	173	211	161	527	190	127	104
10	105	176	165	173	182	173	230	161	534	234	121	104
11	105	176	165	151	154	173	249	154	601	224	116	104
12	105	176	173	151	154	173	268	154	615	216	116	104
13	105	176	173	144	164	173	286	154	634	211	116	104
14	105	176	181	137	186	215	280	161	783	211	111	104
15	120	176	181	130	173	215	274	161	841	216	116	104
16	125	178	181	120	199	215	268	164	733	211	118	108
17	125	182	181	110	186	215	263	168	574	199	118	108
18	165	190	181	110	186	205	268	195	469	186	121	106
19	199	199	181	110	182	205	244	258	389	195	124	106
20	190	189	181	110	182	224	258	253	332	199	121	108
21	186	189	173	118	182	203	273	216	273	203	124	108
22	182	189	173	118	186	203	258	190	216	211	121	108
23	182	173	165	148	190	199	239	207	190	220	138	111
24	182	173	165	165	190	199	234	220	175	234	124	113
25	182	181	165	165	186	195	216	216	164	216	118	113
26	182	197	165	165	182	190	211	203	150	186	113	113
27	182	173	165	165	199	190	211	220	144	182	116	113
28	182	173	165	165	190	182	190	253	144	168	118	113
29	182	173	165	165	-	195	182	273	147	164	118	113
30	186	173	165	173	-	182	195	310	172	164	118	113
31	186	-	173	165	-	190	-	567	-	161	121	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						4,408	199	105	142	8,740		
November.....						5,478	199	173	183	10,870		
December.....						5,363	189	165	173	10,640		
Calendar year .....												
January.....						4,715	173	110	152	9,350		
February.....						4,976	199	154	178	9,870		
March.....						5,949	224	173	192	11,800		
April.....						6,811	286	175	227	13,510		
May.....						6,468	587	154	209	12,630		
June.....						14,165	1,040	144	472	28,100		
July.....						6,137	234	161	198	12,170		
August.....						3,908	158	111	126	7,750		
September.....						3,322	124	104	111	6,590		
Water year 1934-35.....						71,700	1,040	104	196	142,200		

## MISSOURI RIVER PROPER

## Jefferson River near Silverstar, Mont.

Location.- Cable gage, lat. 45°39', long. 112°18'30", in SE $\frac{1}{4}$  sec. 23, T. 2 S., R. 6 W., at highway bridge 5 miles southwest of Silverstar and 5 miles below junction of Beaverhead and Big Hole rivers.

Drainage area.- 7,840 square miles.

Records available.- August 1910 to September 1916, July 1920 to September 1935.

Average discharge.- 13 years (1920-31, 1933-35), 1,632 second-feet.

Extremes.- Maximum discharge during year, 4,960 second-feet June 14 (gage height, 4.70 feet); minimum, 87 second-feet Aug. 27 (gage height, 0.92 foot).  
1910-16, 1920-35: Maximum discharge, 4,960 second-feet June 15, 1927 (gage height, 9.85 feet); minimum, 55 second-feet Sept. 10, 14, 1931 (gage height, 0.87 foot).

Remarks.- Records good except those for ice period Nov. 29 to Mar. 10, which are poor. Numerous diversions. Flow partly regulated by operation of two reservoirs.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	262	665					510	1,790	3,620	1,140	148	116
2	276	665					610	1,720	3,840	1,140	125	130
3	293	665	590	580	850	495	610	1,650	4,060	1,080	134	159
4	317	665					610	1,680	5,640	1,020	139	144
5	351	710					660	1,580	5,410	1,020	144	148
6	344	710					860	1,580	5,200	1,200	144	148
7	364	710					810	1,720	5,410	1,200	134	144
8	393	710	610	670	925	610	610	1,790	5,410	1,200	130	159
9	452	710					650	1,790	5,840	1,140	130	159
10	468	710					660	1,790	5,840	1,080	120	156
11	516	710				810	860	1,650	5,840	910	116	144
12	532	665				810	910	1,720	5,840	910	116	156
13	550	665	620	565	850	860	910	1,580	4,280	810	113	156
14	492	620				965	1,260	1,520	4,960	760	116	154
15	532	620				1,020	2,090	1,580		710	101	127
16	567	665				965	2,790	1,580	4,280	585	99	125
17	585	665				910	2,790	1,390	5,840	500	101	125
18	620	665	780	445	1,260	965	2,600	1,390	5,410	424	99	123
19	620	710				965	2,250	1,520	2,990	358	99	121
20	665	710				910	2,250	1,520	2,600	321	99	125
21	710	760				910	2,250	1,580	2,250	321	99	120
22	710	760				910	2,790	1,650	1,860	311	99	120
23	710	810	750	570	750	910	2,420	1,860	1,790	285	96	120
24	760	810				910	2,250	2,600	1,390	251	94	123
25	760	760				965	1,940	2,990	1,260	256	93	120
26	710	810				910	1,860	5,410	1,080	251	93	116
27	710	760			620	760	1,860	5,410	965	234	87	113
28	710	710	540	785		860	1,940	5,200	860	225	90	116
29	710	665				610	1,790	2,990	810	195	90	123
30	665	620				810	1,860	2,990	965	176	93	127
31	-	-				760	-	5,410	-	165	251	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						17,084	760	276	551	35,890		
November.....						21,080	810	630	703	41,910		
December.....						19,990	-	-	645	39,650		
Calendar year 1934.....						337,760	3,420	71	925	670,000		
January.....						18,860	-	-	608	37,410		
February.....						25,035	-	-	894	49,660		
March.....						24,220	1,020	-	781	48,040		
April.....						47,970	2,790	910	1,599	95,150		
May.....						62,530	3,410	1,390	2,017	124,000		
June.....						88,470	4,960	810	2,949	175,500		
July.....						20,166	1,200	153	651	40,000		
August.....						3,590	251	97	116	7,121		
September.....						5,877	148	113	129	7,690		
Water year 1934-35.....						352,872	4,960	87	967	699,900		

## Missouri River below Hauser Lake Dam, near Helena, Mont.

Location.- Water-stage recorder, lat. 46°46', long. 111°53'30", in SW $\frac{1}{4}$  sec. 29, T. 12 N., R. 2 W., at Hauser Lake power plant, about 15 miles northeast of Helena.

Drainage area.- 16,600 square miles.

Records available.- December 1922 to September 1935.

Average discharge.- 12 years, 1923-35, 4,261 second-feet.

Extremes.- Maximum discharge during year, 11,100 second-feet June 13 (gage height, 72.46 feet); minimum, 570 second-feet Oct. 7 (gage height, 65.87 feet).  
1923-35: Maximum discharge, 33,300 second-feet June 14, 15, 18, 1927 (gage height, 78.80 feet); minimum, 345 second-feet July 15, 1934 (gage height, 65.49 feet).

Remarks.- Records good. Numerous diversions. Flow partly regulated by operation of reservoirs and power plants above station. Records furnished by Montana Power Co.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,180	1,870	2,140	2,390	2,680	2,650	2,680	3,800	4,500	2,440	2,280	2,340
2	2,690	2,260	1,460	2,400	2,620	2,920	2,720	3,720	4,360	2,090	2,390	2,300
3	2,740	2,070	1,650	2,060	1,360	2,620	2,490	3,360	5,150	1,540	2,800	2,300
4	2,780	1,900	950	1,940	2,100	2,800	2,160	3,020	6,540	2,160	2,660	2,380
5	2,840	2,300	925	1,840	2,880	3,020	2,400	2,520	6,190	1,840	2,480	2,520
6	1,070	1,570	1,470	960	2,940	3,000	2,440	3,220	5,950	2,340	1,920	2,660
7	570	1,780	1,750	1,020	2,990	2,960	2,240	3,300	6,120	2,380	1,890	2,260
8	745	1,490	1,680	1,310	2,990	2,340	2,200	3,120	5,890	2,400	2,300	1,580
9	1,960	1,410	1,140	2,400	2,890	1,940	2,440	3,020	6,360	2,490	2,120	2,360
10	2,180	1,520	1,840	2,390	2,870	2,780	2,510	3,220	8,560	2,690	1,880	2,860
11	1,640	1,340	2,240	2,520	2,860	2,300	2,300	3,160	8,840	3,040	2,240	2,490
12	1,820	1,630	1,660	2,840	2,820	2,490	2,680	3,220	9,950	3,040	2,190	2,500
13	2,410	2,140	2,140	2,880	2,770	3,160	3,140	3,260	11,100	2,600	2,180	2,680
14	2,020	2,180	2,240	2,680	2,820	3,640	2,570	3,220	10,100	2,090	2,160	1,960
15	1,200	2,000	1,870	2,410	2,900	3,590	2,550	3,260	10,400	2,120	2,140	2,860
16	1,290	2,000	950	2,350	2,840	3,420	2,850	3,290	10,700	2,160	2,170	2,700
17	1,810	2,000	1,860	2,560	2,530	3,240	3,070	3,340	10,900	2,020	2,620	2,740
18	2,540	1,480	2,680	2,460	2,500	3,360	3,070	3,290	10,000	1,960	2,290	2,740
19	2,660	1,860	2,640	2,600	2,720	4,620	4,420	2,660	8,150	2,350	1,560	2,960
20	2,190	1,960	2,660	2,890	2,820	5,090	5,490	3,100	6,300	2,560	2,240	3,570
21	1,540	2,480	2,560	2,390	2,860	6,290	4,660	3,290	5,560	2,220	2,600	3,570
22	1,690	2,870	2,560	1,620	2,970	4,240	4,280	3,280	5,580	2,860	2,540	3,570
23	1,730	2,750	2,820	1,050	2,880	2,630	4,240	3,290	4,970	2,700	2,690	3,520
24	1,600	2,390	2,790	1,040	2,880	2,660	4,240	3,280	4,420	2,560	3,190	3,520
25	2,470	1,630	2,760	1,060	2,950	3,070	4,520	3,320	4,290	2,180	3,420	3,140
26	2,040	2,080	2,780	1,160	2,920	3,080	4,850	3,320	3,760	1,980	2,760	3,140
27	2,060	2,580	2,010	1,100	2,400	2,930	4,540	4,720	3,650	2,350	2,580	3,680
28	2,130	2,560	1,210	1,680	2,160	2,800	3,880	5,340	3,380	1,500	2,920	3,420
29	1,890	1,950	1,060	1,680	-	2,500	3,900	6,230	2,360	1,480	2,640	3,410
30	2,040	1,900	1,260	2,120	-	2,770	3,840	5,620	2,460	2,200	2,610	3,400
31	1,760	-	2,250	2,600	-	2,460	-	5,180	-	2,140	2,360	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-foot	
October.....						60,275	2,840	570	1,944		119,600	
November.....						58,840	2,870	1,340	1,998		118,900	
December.....						58,985	2,820	925	1,935		119,000	
Calendar year 1934.....						806,270	5,500	345	2,209		1,599,000	
January.....						62,390	2,880	960	2,013		123,700	
February.....						75,810	2,960	1,360	2,711		150,600	
March.....						97,370	6,290	1,940	3,141		193,100	
April.....						99,390	5,480	2,160	3,513		197,100	
May.....						111,370	6,230	2,520	3,593		221,000	
June.....						196,490	11,100	2,360	6,550		389,700	
July.....						70,390	3,040	1,480	2,270		139,600	
August.....						74,720	3,420	1,560	2,410		148,200	
September.....						64,830	3,690	1,380	2,528		166,300	
Water year 1934-35 .....						1,053,050	11,100	570	2,885		2,089,000	

## Missouri River at Fort Benton, Mont.

Location.- Water-stage recorder, lat. 47°49'30", long. 110°39', in NE¼ sec. 28, T. 24 N., R. 8 E., at highway bridge at Fort Benton.

Drainage area.- 24,600 square miles.

Records available.- July 1881 to September 1935 (1881-89 published in Water-Supply Paper 548; 1890-1918 published in Water-Supply Paper 761)

Extremes.- Maximum discharge during year, 17,200 second-feet June 15 (gauge height, 5.14 feet); minimum discharge, 830 second-feet Dec. 26 (ice on control).  
1881-1935: Maximum discharge, about 140,000 second-feet (revised) June 7, 1908 (gauge height, 18.5 feet, present datum); minimum discharge, 830 second-feet Dec. 26, 1934 (ice present).

Remarks.- Records good except those for winter period, which are fair. Numerous diversions from tributaries. Flow partly regulated by storage in reservoirs. Discharge determined from flow through Morony power plant for periods of ice effect, Dec. 26 to Feb. 10, Mar. 28 to Apr. 3.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	2,540	3,170	3,070	2,560	2,350	2,310	3,270	7,220	11,400	3,140	3,140	3,490	
2	2,880	3,170	2,450	2,810	2,270	2,910	3,100	6,660	11,800	3,850	3,850	2,010	
3	2,210	3,050	2,310	2,980	2,860	2,930	3,420	6,960	11,400	3,610	3,490	3,370	
4	1,900	2,960	3,420	3,000	3,290	2,740	3,250	6,820	10,200	2,550	3,260	4,100	
5	1,850	2,830	3,100	2,840	3,450	3,500	3,610	6,340	9,830	3,260	2,130	4,100	
6	1,900	3,120	3,100	2,850	3,110	4,310	3,610	5,980	10,600	3,850	3,140	4,610	
7	2,470	2,810	3,000	3,160	3,240	3,540	3,490	5,730	10,600	3,020	3,370	4,100	
8	2,570	2,930	2,930	3,320	3,130	1,730	3,610	6,030	10,200	2,870	4,100	3,140	
9	2,710	2,830	2,740	3,130	3,390	3,670	3,730	6,340	10,600	3,260	4,100	3,610	
10	2,680	2,780	2,930	2,870	2,520	4,580	3,570	6,180	10,600	4,100	3,850	3,730	
11	2,610	2,550	3,050	3,090	2,400	3,920	3,490	5,440	11,000	3,610	3,490	3,610	
12	2,610	2,690	3,540	2,500	3,300	3,670	4,900	5,580	12,200	3,730	3,810	3,980	
13	3,050	3,050	3,100	2,110	3,420	3,920	3,370	5,580	12,200	3,610	3,610	4,100	
14	2,780	3,120	3,420	2,800	3,300	4,050	3,140	5,730	14,300	3,730	3,370	4,480	
15	2,030	3,170	2,760	2,730	2,810	5,150	4,220	5,730	16,200	3,980	2,730	4,610	
16	3,540	3,030	2,930	3,150	2,550	5,300	4,100	5,440	16,700	4,220	2,210	2,870	
17	3,540	3,070	3,100	2,870	2,120	5,300	4,480	5,880	15,700	2,540	2,690	3,370	
18	3,670	2,930	3,300	3,240	2,280	5,150	4,750	5,880	14,800	2,730	2,910	4,100	
19	3,120	2,790	3,300	3,840	3,070	5,000	4,480	6,030	14,300	3,370	3,370	4,220	
20	3,170	3,540	3,420	2,170	3,300	6,230	4,240	6,660	13,900	3,850	3,850	3,370	
21	2,690	3,100	3,600	3,220	3,100	6,230	4,110	6,980	11,800	3,370	3,610	4,100	
22	2,500	2,230	3,540	3,620	2,980	6,900	4,240	7,140	9,260	3,850	3,730	3,140	
23	2,880	3,070	2,740	3,700	3,300	6,560	4,360	8,180	8,900	2,870	3,850	3,140	
24	4,180	3,000	3,800	3,290	3,120	6,560	5,320	9,450	8,350	1,820	3,850	4,100	
25	3,670	2,520	2,640	3,130	2,760	4,750	6,240	10,200	6,180	3,020	3,140	4,220	
26	2,400	2,640	830	3,650	3,540	3,960	6,240	9,830	7,650	3,370	2,670	4,220	
27	2,500	2,740	1,400	3,680	2,760	3,490	6,730	9,260	5,440	3,140	3,980	3,980	
28	2,400	3,050	1,750	3,470	2,350	3,230	7,400	9,260	3,850	2,870	3,610	3,610	
29	3,050	2,980	3,200	3,410	-	3,340	7,050	9,080	3,370	3,140	4,350	3,370	
30	2,810	2,690	3,490	3,070	-	3,370	7,400	9,830	3,260	3,370	4,100	3,850	
31	2,930	-	2,560	2,690	-	3,230	-	11,400	-	3,140	4,230	-	
Month						Second-foot-days		Maximum		Minimum		Mean	Run-off in acre-feet
October.....						86,250		4,180		1,850		2,782	171,100
November.....						87,640		3,540		2,230		2,921	173,800
December.....						90,820		3,800		830		2,930	180,100
Calendar year 1934.....						1,679,750		16,200		830		4,602	3,334,000
January.....						94,950		3,840		2,110		3,063	168,300
February.....						82,070		3,540		2,120		2,931	162,800
March.....						131,350		6,900		1,730		4,237	260,500
April.....						134,920		7,400		3,100		4,497	267,600
May.....						222,740		11,400		5,440		7,185	441,800
June.....						318,590		16,700		3,260		10,620	631,900
July.....						102,740		4,220		1,820		3,314	203,800
August.....						107,390		4,350		2,130		3,464	213,000
September.....						112,700		4,610		2,010		3,757	223,500
Water year 1934-35.....						1,572,160		16,700		830		4,307	3,118,000

## Missouri River at Loma, Mont.

Location.- Water-stage recorder, lat. 47°56'30", long. 110°27'30", in lot 6, SE¼ sec. 8, T. 25 N., R. 10 E., half a mile below mouth of Marias River at Loma.

Records available.- February to September 1935.

Extremes.- Maximum discharge for period, 19,800 second-feet June 18 (gage height, 6.89 feet); minimum, 1,040 second-feet Sept. 16 (gage height, 2.09 feet).

Remarks.- Records good. Period of ice effect Feb. 20-28. Numerous diversions from tributaries. Flow partly regulated by storage in reservoirs.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					-	3,000	4,150	9,160	14,800	4,360	3,420	4,520
2					-	3,300	4,010	8,560	15,120	4,320	4,160	2,180
3					-	3,500	3,790	8,960	15,650	4,980	4,050	2,680
4					-	3,650	4,050	8,960	15,120	4,240	4,050	4,580
5					-	3,750	4,090	8,360	13,020	3,910	2,450	4,160
6					-	4,370	4,250	7,680	13,550	4,820	3,190	4,820
7					-	4,470	4,440	7,680	14,070	3,920	3,650	4,640
8					-	2,650	4,410	8,360	13,550	3,520	4,120	3,110
9					-	3,920	4,580	8,760	12,620	4,120	4,640	3,980
10					-	5,300	4,100	8,360	13,020	4,820	4,470	3,510
11					-	4,640	4,300	7,680	13,550	4,620	4,300	3,620
12					-	4,400	5,710	7,680	13,490	4,400	3,460	3,980
13					-	4,640	4,640	7,680	15,120	4,800	4,360	3,980
14					-	5,180	4,230	7,780	16,800	4,440	3,650	4,470
15					-	5,720	4,580	7,680	19,010	4,190	3,390	5,910
16					-	5,360	5,970	7,390	19,530	5,340	2,540	2,390
17					-	6,100	6,500	7,780	19,000	3,510	2,710	3,360
18					-	6,260	8,330	8,170	16,720	3,140	2,750	3,880
19					-	6,100	10,070	8,760	16,800	3,980	3,520	4,160
20					4,500	6,400	9,490	9,980	16,170	4,360	3,680	3,620
21					4,600	6,600	8,520	10,200	14,070	4,620	4,120	4,050
22					4,470	7,400	8,140	10,600	11,550	5,360	3,780	3,450
23					4,400	7,400	8,360	11,900	10,260	4,980	4,190	2,940
24					4,100	7,400	7,950	13,400	10,260	3,030	4,440	3,920
25					4,000	6,420	8,710	14,400	9,830	3,390	3,550	4,120
26					4,000	4,930	8,520	13,800	9,410	3,750	2,910	4,400
27					3,350	4,580	8,710	13,800	7,770	3,850	3,730	4,470
28					3,350	4,410	9,220	12,400	6,010	3,510	3,850	3,520
29					-	4,580	9,490	12,400	4,870	3,230	4,300	3,520
30					-	4,090	9,220	12,400	5,060	3,920	4,330	3,550
31					-	4,050	-	13,800	-	3,430	5,070	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year .....												
January.....						-	-	-	-			
February 20-28.....						36,770	4,600	3,350	4,086	72,930		
March.....						154,870	7,400	2,650	4,986	305,600		
April.....						192,870	10,070	3,790	6,422	382,200		
May.....						304,550	14,400	7,590	9,523	604,000		
June.....						395,800	19,530	4,870	13,190	785,100		
July.....						129,160	5,360	3,030	4,166	256,200		
August.....						116,870	5,070	2,450	3,770	231,800		
September.....						115,470	5,910	2,180	3,849	229,000		
The period .....										2,868,000		

## Missouri River at power-plant ferry, near Zortman, Mont.

Location.— Water-stage recorder, lat. 47°41', long. 108°55', in NW¼ sec. 29, T. 23 N., R. 22 E., at power-plant ferry about 30 miles southwest of Zortman.

Records available.— February 1934 to September 1935.

Extremes.— Maximum discharge during year, 20,100 second-feet June 17 (gage height, 7.40 feet); maximum stage, 14.49 feet Mar. 16 (ice jam); minimum discharge, 1,230 second-feet Jan. 21 and 23 (ice present).  
1934-35: Maximum discharge, 31,900 second-feet June 12, 1934 (gage height, 9.37 feet); maximum stage, that of Mar. 16, 1935; minimum discharge, 1,230 second-feet Jan. 21, 23, 1935 (ice present).

Remarks.— Records good except those for period of ice effect, Nov. 25, 29-30, Dec. 1-5, Dec. 18 to Mar. 18, which are poor. Numerous diversions from tributaries. Flow partly regulated by storage in reservoirs. Operation of power plants above station causes considerable fluctuations at medium and low stages.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,930	3,720	3,100	2,690	4,350	4,300	4,970	9,830	13,500	5,500	3,970	4,580
2	2,420	3,920	3,100	2,890	3,700	4,050	5,240	9,660	14,400	4,970	4,090	4,340
3	2,550	4,150	3,100	2,600	3,600	3,930	4,840	9,150	14,200	4,870	4,090	3,200
4	3,360	4,190	3,100	3,100	4,000	4,810	4,710	9,540	14,900	5,520	3,470	2,300
5	2,870	4,740	3,310	3,200	4,300	4,810	4,710	9,540	14,900	4,850	3,030	3,310
6	2,730	4,460	4,710	3,100	4,540	3,930	4,580	9,120	13,000	4,110	3,370	4,090
7	2,500	3,920	4,970	3,300	4,310	2,940	4,970	8,430	13,400	4,970	3,710	4,210
8	2,410	3,920	4,970	3,500	4,290	3,040	4,970	8,430	13,500	6,010	3,860	4,710
9	2,970	4,120	4,580	3,600	4,410	3,040	5,100	8,740	13,200	6,450	3,740	3,740
10	2,970	3,860	4,580	3,500	4,290	2,840	4,970	8,900	12,900	4,480	4,340	3,860
11	3,210	4,740	4,330	3,400	4,170	2,840	5,100	8,740	13,000	4,970	4,210	3,740
12	3,070	4,840	4,210	3,300	4,540	3,360	4,740	8,600	13,300	5,060	4,090	3,740
13	3,210	4,740	4,330	3,000	3,940	3,360	5,670	8,430	14,200	4,810	3,920	4,090
14	3,210	4,840	4,330	2,500	4,060	3,580	6,490	7,960	14,700	5,060	3,810	4,090
15	3,360	4,840	4,330	2,700	4,060	4,420	5,250	7,860	16,900	4,580	3,860	4,090
16	3,110	4,750	4,580	2,900	4,170	5,360	5,280	7,690	19,000	4,600	3,600	5,660
17	2,510	4,740	3,860	3,000	4,410	5,220	6,110	7,690	19,500	5,550	3,360	3,570
18	3,720	4,460	3,860	3,400	4,540	5,220	7,040	7,900	19,200	5,520	3,300	3,100
19	3,790	4,190	3,740	3,600	4,410	7,200	8,270	7,890	18,400	3,560	3,290	3,740
20	4,060	4,190	3,860	3,100	3,520	6,720	11,660	8,670	17,900	3,970	3,750	4,210
21	4,060	4,390	3,740	2,600	4,860	6,570	10,450	8,720	16,800	4,790	4,490	4,090
22	3,710	4,390	3,740	3,600	4,970	7,530	9,340	9,450	15,330	4,970	4,450	3,740
23	3,480	4,190	3,630	3,800	4,940	7,700	8,880	9,830	12,450	4,840	3,780	4,090
24	2,830	4,190	3,520	3,300	4,540	7,870	8,820	11,000	11,130	6,100	3,980	3,420
25	3,720	4,190	3,200	3,100	4,290	7,870	8,540	11,900	11,130	4,480	4,060	3,630
26	4,450	4,190	2,080	3,100	4,290	7,360	9,080	14,200	10,320	4,140	3,620	4,340
27	3,950	3,860	1,960	3,400	3,620	5,950	9,830	13,500	10,040	3,970	3,360	4,210
28	3,480	4,120	2,190	4,000	4,540	5,220	9,080	13,440	8,780	3,920	3,830	4,580
29	3,260	4,120	1,840	4,500	-	4,810	9,450	12,100	7,720	4,160	4,090	4,090
30	3,480	4,120	2,080	4,550	-	4,940	9,830	12,070	6,250	4,160	3,860	3,740
31	3,720	-	2,690	4,600	-	4,810	-	12,490	-	3,920	4,340	-
Month	Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet			
October	101,370		4,450		2,410		3,270		201,100			
November	129,130		4,840		3,720		4,304		256,100			
December	111,670		4,970		1,640		3,609		221,900			
Calendar year												
January	102,930		4,600		2,500		3,320		204,200			
February	120,260		4,970		3,600		4,295		238,500			
March	155,600		7,870		2,840		5,019		308,600			
April	207,770		11,660		4,580		6,926		412,100			
May	301,270		14,200		7,690		9,718		597,600			
June	413,850		19,500		6,250		13,800		820,900			
July	149,250		6,450		3,560		4,815		296,000			
August	118,710		4,490		3,030		3,829		235,500			
September	118,300		5,660		2,300		3,943		234,600			
Water year 1934-35	2,030,310		19,500		1,840		5,562		4,027,000			

## Missouri River below Fort Peck Dam, Mont.

Location.- Water-stage recorder, lat. 48°3', long. 106°22', in SE¼ sec. 36, T. 27 N., R. 41 E., 4 miles below Fort Peck Dam and 6 miles south of Nashua.

Records available.- March 1934 to September 1935.

Extremes.- Maximum discharge during year, 19,300 second-feet June 19 (gage height, 7.71 feet); minimum, 935 second-feet Jan. 3 (gage height, 3.83 feet; ice present).  
1934-35: Maximum discharge, 31,800 second-feet June 14, 1934 (gage height, 10.0 feet); minimum, 935 second-feet Jan. 3, 1935 (gage height, 3.83 feet; ice present).

Remarks.- Records good except those for ice period, Nov. 29 to Apr. 2, which are fair. Numerous diversions from tributaries. Flow partly regulated by storage reservoirs.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,940	3,410	3,890	1,790	4,560	4,260	5,480	9,630	12,500	7,840	4,070	3,340
2	2,930	3,500	3,990	1,660	4,460	4,560	5,700	9,630	12,600	6,830	3,960	3,690
3	2,790	3,590	3,990	1,650	4,370	4,060	6,200	9,940	13,500	6,140	3,510	3,690
4	3,010	3,690	3,900	1,790	4,160	4,270	6,020	9,940	14,600	6,240	3,690	3,970
5	2,930	3,880	3,310	1,840	4,060	4,370	6,070	9,370	14,200	5,460	3,600	4,360
6	2,930	3,970	2,790	2,050	4,060	4,060	6,190	9,090	14,700	5,220	3,510	4,060
7	3,090	4,160	2,650	2,960	4,160	3,960	6,060	9,090	14,300	5,410	3,690	3,160
8	3,250	4,060	2,790	3,330	4,360	3,860	5,940	9,090	13,100	12,300	3,880	2,700
9	3,020	4,160	2,520	3,330	4,970	3,770	5,740	9,290	12,600	11,800	3,880	3,420
10	2,930	3,970	2,550	3,360	4,620	3,400	5,540	8,500	13,200	13,500	3,090	3,690
11	2,780	4,160	3,160	3,360	4,570	3,070	5,720	7,980	13,200	9,660	2,860	3,880
12	2,660	4,260	4,460	3,600	4,270	3,120	5,220	8,250	12,800	10,200	3,420	4,160
13	3,010	4,060	4,270	3,750	4,170	4,720	5,340	8,810	12,800	6,920	3,690	3,890
14	3,170	4,260	3,990	3,950	4,050	6,530	5,340	8,810	12,800	5,640	4,060	3,810
15	3,460	4,770	3,900	3,960	4,040	5,830	5,340	8,250	13,900	5,640	4,060	3,780
16	3,460	4,880	3,810	3,870	4,020	5,480	6,050	7,710	16,600	5,220	3,880	3,780
17	3,420	4,770	4,270	3,690	3,860	5,010	7,330	7,710	16,200	5,120	3,600	3,880
18	3,420	4,880	4,860	3,660	4,170	4,730	6,380	7,710	16,500	4,870	3,690	3,970
19	3,600	4,880	4,960	3,510	4,950	5,090	6,610	7,980	18,900	4,650	3,690	4,160
20	3,240	4,880	4,760	3,020	4,890	5,170	6,150	9,090	18,500	5,620	3,510	4,980
21	3,410	4,770	4,360	2,780	4,310	4,430	7,220	9,570	17,500	6,400	3,780	3,960
22	4,160	4,660	3,810	3,100	4,200	4,430	9,760	8,020	16,600	5,650	4,650	3,780
23	4,060	4,560	3,720	3,260	4,080	4,970	11,500	9,460	15,400	5,200	4,560	3,970
24	3,780	4,560	3,390	3,210	3,960	5,450	12,500	8,530	14,300	6,400	3,780	4,160
25	3,600	5,090	3,080	3,030	3,970	6,300	10,100	9,650	13,200	6,400	3,780	3,970
26	3,690	4,880	2,930	3,640	4,180	7,000	9,250	11,000	10,600	5,650	3,690	3,970
27	3,320	4,060	2,280	3,600	3,980	8,430	8,950	12,700	9,450	6,400	3,690	3,780
28	3,320	4,160	2,220	3,050	3,770	7,420	9,010	13,500	9,300	5,870	3,690	3,420
29	3,690	4,160	1,900	3,970	-	6,690	9,630	13,900	9,640	5,080	3,880	3,780
30	3,960	4,060	1,700	4,650	-	5,920	9,940	13,500	8,640	4,760	3,510	4,160
31	3,690	-	1,620	4,680	-	6,000	-	12,800	-	4,370	3,170	-
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	102,920					4,160	2,780	3,320	204,100			
November.....	122,150					5,090	3,410	4,305	256,200			
December.....	105,960					4,960	1,820	3,418	210,200			
Calendar year .....												
January.....	99,610					4,680	1,650	3,213	197,600			
February.....	116,290					4,980	3,770	4,260	236,600			
March.....	156,560					8,430	3,070	5,050	310,500			
April.....	215,510					12,500	5,280	7,184	427,500			
May.....	297,790					13,900	7,710	9,606	590,700			
June.....	413,330					18,900	8,640	13,780	819,800			
July.....	206,390					13,500	4,370	6,658	409,400			
August.....	115,520					4,650	2,860	3,726	229,100			
September.....	115,320					4,980	2,700	3,844	228,700			
Water year 1934-35.....	2,077,540					18,900	1,620	5,691	4,120,000			

## Missouri River near Wolf Point, Mont.

Location.— Water-stage recorder, lat. 48°4', long. 105°32'30", in NW¼ sec. 28, T. 27 N., R. 48 E., at highway bridge 6 miles southeast of Wolf Point.

Drainage area.— 82,400 square miles.

Records available.— April 1930 to September 1935. September 1928 to April 1930, comparable record at ferry crossing at Wolf Point, 6 miles upstream.

Extremes.— Maximum discharge during year, 21,500 second-feet June 20 (gage height, 9.65 feet); minimum, 1,630 second-feet Dec. 31 (gage height, 4.20 feet, ice present).  
1928-35: Maximum discharge, 41,000 second-feet May 23, 1932; maximum gage height, 17.45 feet Mar. 30, 1930; minimum discharge, 1,630 second-feet Dec. 31, 1935.

Remarks.— Records good except those for period of ice effect, Nov. 27 to Mar. 30, which are fair. Numerous diversions from tributaries. Flow partly regulated by storage reservoirs above power plants.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,640	3,900	3,610	1,920	4,310	4,970	9,200	10,930	13,200	8,670	5,890	3,530
2	2,710	3,510	3,690	1,920	4,010	4,970	7,750	10,550	12,800	7,870	5,320	3,300
3	2,920	3,430	3,370	1,970	3,910	4,390	7,250	10,260	13,200	6,650	4,940	3,140
4	3,000	3,690	3,220	1,920	3,910	4,310	8,010	10,000	13,400	7,050	4,190	3,850
5	3,070	3,850	3,220	1,970	4,310	4,590	7,750	9,840	14,800	6,530	3,850	4,020
6	3,140	3,940	3,220	1,870	4,490	4,590	7,250	9,070	15,100	6,180	4,160	4,280
7	3,140	4,020	2,510	1,870	4,510	4,490	7,120	9,430	14,800	6,180	4,020	4,530
8	3,140	4,190	2,320	2,030	4,310	4,290	7,000	9,350	14,500	6,610	4,100	3,610
9	3,140	4,190	2,500	2,710	4,130	4,010	7,000	9,380	13,200	14,500	4,280	2,710
10	3,430	4,190	2,320	2,700	4,510	4,800	7,000	9,450	12,290	15,400	4,280	3,140
11	3,210	4,190	2,600	2,650	4,020	4,890	6,760	8,620	12,400	16,200	3,850	3,370
12	3,000	4,280	3,400	2,800	4,260	4,860	8,130	13,100	15,100	3,140	3,290	3,290
13	2,920	4,360	4,200	3,310	4,190	4,190	6,090	8,070	12,700	13,100	3,000	3,600
14	3,070	4,360	4,000	3,560	4,460	4,890	6,190	8,800	12,400	8,530	3,070	4,100
15	3,140	4,530	3,850	3,940	4,060	4,890	6,300	8,800	12,700	6,760	4,190	4,020
16	3,430	5,070	3,140	3,610	4,060	5,760	6,530	8,270	13,900	6,300	4,100	3,770
17	3,560	4,690	3,850	4,020	4,180	5,930	7,810	7,750	16,600	5,760	4,190	4,020
18	3,590	5,160	3,610	4,020	4,410	5,900	8,620	7,750	13,300	5,730	3,820	3,850
19	3,590	5,160	4,020	3,690	4,410	6,670	7,860	7,750	18,400	5,730	3,770	3,940
20	3,750	5,060	4,530	3,690	4,290	8,400	7,610	8,010	18,900	5,320	3,850	4,020
21	3,430	4,820	4,430	3,690	4,460	8,700	7,860	8,800	18,500	5,520	3,850	4,530
22	3,280	4,650	4,200	3,940	4,860	10,000	8,110	10,000	17,300	7,060	3,690	4,360
23	3,900	4,480	4,050	3,530	4,760	10,300	10,550	6,380	16,600	6,600	4,890	4,190
24	4,150	4,480	4,020	3,530	4,690	11,800	13,680	6,330	15,400	6,370	4,890	3,610
25	4,150	4,650	3,610	3,000	4,420	13,100	14,060	9,070	14,400	8,530	4,150	3,370
26	4,070	5,340	2,510	2,850	4,410	15,000	14,340	9,910	13,200	9,350	4,080	4,100
27	4,090	5,220	2,320	2,950	4,410	13,300	11,780	11,100	10,600	8,270	4,100	3,850
28	3,590	4,650	2,140	3,000	4,590	12,400	11,210	12,600	9,700	6,010	4,020	3,940
29	3,430	4,330	2,140	3,220	-	11,700	10,900	14,400	9,420	6,270	4,020	4,100
30	3,750	3,690	1,930	3,370	-	11,100	10,830	14,600	6,670	6,010	4,100	3,610
31	4,150	-	1,630	4,710	-	9,600	-	13,800	-	6,860	4,020	-
Month	Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet			
October.....	105,580		4,150		2,640		3,406		209,400			
November.....	132,280		5,340		3,430		4,409		262,400			
December.....	100,160		4,530		1,630		3,231		198,700			
Calendar year 1934.....	2,698,640		31,800		1,880		7,394		5,353,000			
January.....	93,630		4,710		1,820		3,020		186,700			
February.....	121,340		4,860		3,910		4,334		240,700			
March.....	228,210		15,000		4,010		7,362		452,600			
April.....	259,080		14,340		6,080		6,636		513,900			
May.....	301,080		14,500		7,750		9,712		597,200			
June.....	415,480		18,900		8,670		13,850		824,100			
July.....	256,220		16,200		5,320		8,265		508,200			
August.....	127,820		5,890		3,000		4,123		253,500			
September.....	113,750		4,530		2,710		3,792		225,600			
Water year 1934-35.....	2,254,630		18,900		1,630		6,177		4,502,000			



## Missouri River near Williston, N. Dak.

**Location.**— Water-stage recorder, lat. 48°8', long. 103°44', in sec. 31, T. 154 N., R. 101 W., at Lewis & Clark Highway bridge, 7 miles west of Williston.

**Records available.**— September 1928 to September 1935.

**Extremes.**— Maximum discharge during year, 84,100 second-feet June 19 (gage height, 9.59 feet); maximum gage height, 10.50 feet Mar. 27 (ice present); minimum, 3,520 second-feet Jan. 2 (ice present).

1928-35: Maximum discharge, 231,000 second-feet Apr. 4, 1930 (gage height, 18.0 feet); minimum, about 2,900 second-feet Dec. 28, 1933.

Maximum stage recorded, 18.6 feet, while ice was breaking Apr. 4, 1930.

**Remarks.**— Records good except those for periods of ice effect, Dec. 1 to Apr. 13, which are fair. Numerous diversions above station. Several storage reservoirs on tributary streams.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,720	8,220	7,260	3,800	5,320	8,770	17,900	17,900	35,800	46,500	18,500	7,580
2	7,850	8,670	7,210	3,520	6,080	8,770	18,700	17,300	34,300	46,500	16,700	7,420
3	8,020	8,730	6,640	3,540	6,980	9,130	17,900	17,500	33,800	47,700	15,000	6,940
4	8,370	8,370	5,810	3,570	7,270	9,490	14,900	17,000	38,700	49,000	13,700	6,490
5	8,020	8,020	5,680	3,780	7,430	9,490	15,500	16,200	41,900	44,100	12,900	6,490
6	8,020	8,120	5,210	3,780	7,790	9,650	12,900	15,800	39,700	40,300	12,100	6,940
7	7,850	8,420	4,400	3,870	8,050	9,750	13,900	15,600	36,700	40,700	11,700	8,420
8	8,020	8,420	4,200	4,140	8,500	9,650	14,900	15,000	35,700	41,400	11,300	8,420
9	8,570	8,420	4,600	4,410	8,660	9,650	18,300	14,600	35,700	43,000	10,600	8,420
10	8,750	8,420	4,900	4,500	8,920	9,290	17,600	14,600	39,800	44,100	10,600	8,250
11	8,370	8,420	5,560	4,700	9,190	8,420	16,700	14,100	40,800	66,000	10,200	7,580
12	8,370	8,420	5,680	5,440	9,130	8,420	15,000	14,300	47,500	46,500	9,650	7,420
13	8,020	8,510	6,080	6,790	9,130	8,420	15,100	14,100	55,300	44,100	9,450	7,580
14	8,020	8,420	6,080	7,920	9,130	8,420	12,600	13,800	60,300	36,700	8,420	7,920
15	7,720	8,420	6,080	8,250	9,490	8,770	12,100	13,100	67,400	32,900	8,250	7,920
16	7,750	8,670	6,860	8,250	9,490	9,130	12,100	13,300	69,300	27,900	8,250	7,750
17	7,750	8,770	7,640	8,250	9,490	9,330	12,100	14,100	73,200	28,200	8,080	7,420
18	7,750	8,770	8,420	8,080	9,490	11,100	12,500	14,600	79,300	23,300	8,250	6,940
19	7,720	9,130	8,170	7,410	9,490	11,900	13,700	14,100	83,800	22,800	8,250	6,790
20	7,880	9,450	7,920	6,740	9,490	13,800	15,400	13,700	79,500	22,800	8,250	6,640
21	8,080	9,290	8,250	6,080	9,490	14,200	15,800	14,000	75,200	22,200	10,900	6,790
22	8,220	9,350	8,420	5,810	9,130	15,100	15,400	14,600	67,400	22,200	13,300	6,790
23	8,020	8,890	8,250	4,900	9,130	15,100	14,100	16,200	62,000	21,600	10,600	6,940
24	8,050	8,950	8,080	4,400	9,490	16,600	13,700	21,100	60,300	23,900	9,490	7,260
25	8,250	8,590	7,920	4,600	9,850	17,100	15,400	23,900	58,800	24,500	9,130	7,260
26	8,420	8,330	7,020	4,900	9,850	17,600	18,000	24,500	58,200	23,900	9,850	7,100
27	9,130	8,730	6,110	4,800	9,490	16,700	19,000	25,200	60,100	23,900	9,850	7,100
28	9,290	8,570	5,210	4,900	9,130	17,500	19,000	27,700	87,200	23,900	9,130	7,580
29	9,090	7,420	5,100	4,800	-	17,500	18,500	30,300	53,900	22,200	8,250	7,580
30	8,730	7,260	4,700	4,700	-	18,100	18,500	32,200	49,700	20,500	8,080	7,580
31	8,370	-	4,300	4,800	-	16,500	-	33,900	-	20,000	7,750	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						254,170	9,290	7,720	8,199	504,100		
November.....						256,170	9,450	7,260	8,539	508,100		
December.....						197,760	8,420	4,200	6,979	392,300		
Calendar year 1934.....						4,875,960	47,700	3,320	13,560	9,672,000		
January.....						165,430	8,250	3,520	5,336	328,100		
February.....						244,080	9,850	5,320	8,717	484,100		
March.....						374,450	18,100	8,420	12,080	742,700		
April.....						465,200	19,000	12,100	15,510	922,700		
May.....						564,300	33,900	13,100	18,200	1,119,000		
June.....						1,630,300	83,800	33,800	54,540	3,234,000		
July.....						1,040,300	66,000	20,000	35,560	2,063,000		
August.....						326,680	18,500	7,750	10,540	648,000		
September.....						221,310	8,420	6,490	7,577	439,000		
Water year 1934-35.....						5,740,150	83,800	3,520	15,730	11,390,000		

## Missouri River at Bismarck, N. Dak.

Location.— Water-stage recorder, lat. 46°48'50", long. 100°49'10", in sec. 31, T. 139 N., R. 80 W., at Bismarck city water plant, 1 mile west of Bismarck and about 4 miles above Heart River. Zero of gage was lowered 4.25 feet Oct. 1, 1934. Zero of present gage is 1,618.38 feet (U. S. Coast and Geodetic Survey general adjustment of 1929) above mean sea level.

Drainage area.— 186,400 square miles.

Records available.— September 1904 to December 1905, October 1927 to September 1935.

Extremes.— Maximum discharge during year, 116,000 second-feet July 13 (gage height, 13.15 feet); minimum discharge (estimated because of ice effect), 3,400 second-feet Dec. 6; minimum gage height, 1.95 feet Oct. 1.

1904-5, 1927-35: Maximum discharge, 201,000 second-feet Mar. 24, 1928; maximum gage height, 17.8 feet (former datum) Mar. 27, 1929, during ice gorge; minimum discharge (estimated because of ice effect), 3,300 second-feet Dec. 18, 19, 1933; minimum gage height, 1.35 feet (present datum) Sept. 4, 1934.

Maximum stage known, 30.4 feet (present datum) Mar. 31, 1881, Mar. 14, 1910, during ice gorges.

Remarks.— Records good except those for period of ice effect, Nov. 27 to Apr. 16, which are fair.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	5,620	8,290	7,500	6,500	5,800	9,500	15,700	17,400	39,300	50,200	23,000	9,250	
2	5,620	8,440	6,000	6,400	6,200	9,900	16,800	18,400	42,200	45,000	22,000	8,860	
3	5,620	8,700	4,800	6,300	6,400	9,600	18,200	18,400	42,200	39,800	20,400	8,600	
4	6,020	8,900	4,000	6,100	6,600	9,400	19,500	18,700	36,400	40,400	18,900	8,340	
5	6,550	8,740	3,900	6,000	7,200	9,200	20,800	18,700	34,200	42,600	17,800	8,340	
6	6,550	8,490	3,400	5,900	7,400	9,000	22,500	19,100	37,100	45,000	16,500	8,090	
7	6,990	8,490	4,400	5,700	7,500	8,800	24,200	17,600	43,800	44,400	14,800	7,970	
8	7,240	8,240	5,000	5,600	7,600	8,700	26,000	17,100	42,400	38,700	13,400	7,730	
9	7,440	8,740	5,300	5,400	7,800	8,600	29,000	16,300	38,700	38,200	12,400	7,370	
10	7,910	8,490	5,000	5,300	7,900	8,500	27,000	15,400	34,100	41,400	11,800	7,260	
11	7,930	8,490	4,800	5,100	8,000	8,600	21,000	15,700	32,200	56,400	11,400	7,490	
12	7,720	8,490	5,000	5,000	8,200	9,100	21,000	15,100	33,600	76,100	10,900	7,970	
13	7,960	8,490	5,200	4,900	8,300	9,100	18,000	14,600	36,100	104,000	10,500	8,340	
14	7,960	8,740	5,400	4,800	8,400	9,000	23,000	14,400	39,400	72,400	10,100	8,600	
15	7,960	8,540	5,500	4,600	8,500	9,100	28,000	14,400	53,500	55,700	9,920	8,470	
16	8,200	8,800	5,400	4,600	8,800	9,200	14,500	14,000	63,600	46,200	9,780	8,090	
17	7,760	8,800	5,000	4,300	9,600	9,200	11,300	13,800	72,400	39,700	9,520	7,730	
18	7,910	8,700	4,400	4,500	9,700	9,200	10,900	13,600	80,700	32,600	8,860	7,730	
19	7,980	8,700	4,400	4,500	9,700	11,000	11,200	13,600	76,100	28,200	8,470	7,970	
20	7,980	8,800	4,800	4,400	9,200	11,600	11,400	13,800	78,900	28,900	8,340	8,090	
21	7,980	8,800	5,400	4,300	8,700	11,700	11,800	14,000	82,600	24,800	8,340	8,090	
22	7,720	8,800	5,900	4,200	8,400	11,000	12,200	14,200	80,700	25,400	8,470	7,950	
23	7,980	8,800	6,200	4,100	8,400	11,000	12,600	14,000	74,200	23,000	8,470	7,490	
24	7,980	8,800	6,300	4,000	8,500	11,400	13,200	14,400	66,300	22,600	8,470	7,260	
25	7,960	8,600	6,400	4,000	8,800	11,900	14,000	14,400	63,600	22,000	8,730	7,140	
26	7,950	8,760	6,500	4,200	9,500	11,900	13,800	14,400	61,100	21,000	10,800	7,140	
27	8,090	8,900	6,600	4,500	9,900	12,400	13,400	15,000	58,600	21,700	11,000	7,140	
28	8,090	8,800	6,800	4,600	9,600	12,700	13,200	18,700	57,200	23,400	10,200	7,140	
29	8,090	8,800	7,200	5,100	-	13,100	13,600	22,600	57,200	24,000	9,520	7,370	
30	8,190	8,600	6,800	5,400	-	13,600	15,600	25,800	55,700	23,700	9,380	7,370	
31	8,190	-	6,700	5,500	-	14,900	-	34,100	-	23,400	9,380	-	
Month						Second-foot-days		Maximum		Minimum		Mean	Run-off in acre-feet
October.....						233,140		8,200		5,620		7,521	462,400
November.....						259,730		8,900		8,240		6,658	515,200
December.....						169,900		7,500		3,400		5,481	337,000
Calendar year 1934.....						4,868,110		48,500		3,400		13,340	9,656,000
January.....						155,900		6,500		4,000		5,029	309,200
February.....						230,500		9,900		5,800		8,236	457,400
March.....						321,900		14,900		8,500		10,380	638,500
April.....						523,400		29,000		10,900		17,450	1,038,000
May.....						520,700		34,100		13,600		16,800	1,038,000
June.....						1,614,100		82,600		32,200		53,900	3,202,000
July.....						1,215,300		104,000		21,000		39,200	2,411,000
August.....						371,550		23,000		8,340		11,990	737,000
September.....						236,280		9,250		7,140		7,876	468,700
Water year 1934-35.....						5,852,500		104,000		3,400		16,030	11,609,000

## Missouri River near Mobridge, S. Dak.

Location.- Water-stage recorder, lat. 45°32', long. 100°29', in sec. 7, T. 18 N., R. 30 E., at bridge on U. S. Highway 12, 3 miles west of Mobridge. Zero of gage is 1,527.19 feet (U. S. Coast and Geodetic Survey general adjustment of 1929) above mean sea level.

Drainage area.- 208,700 square miles.

Records available.- August 1928 to September 1935.

Extremes.- Maximum discharge during year, 122,000 second-feet July 13 (gage height, 11.85 feet); minimum discharge (estimated because of ice effect), 3,900 second-feet Jan. 25; minimum gage height, 1.35 feet Oct. 5.  
1928-35: Maximum discharge, 164,000 second-feet Mar. 29, 1929 (gage height, 12.2 feet, present datum); minimum discharge (estimated because of ice effect), 3,600 second-feet Dec. 25, 28, 1933; minimum gage height, 1.00 foot Sept. 6, 7, 1934.

Remarks.- Records good except those for period of ice effect, Nov. 28 to Apr. 1, which are fair.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,080	6,240	8,800	5,600	5,900	9,600	14,500	14,800	27,400	58,000	24,700	9,480
2	5,410	8,240	7,400	5,600	6,200	9,600	15,000	15,700	35,300	51,000	24,700	9,340
3	5,540	8,240	6,100	5,600	6,500	9,300	15,900	17,800	38,500	44,100	24,700	9,240
4	5,540	8,520	5,200	5,600	6,900	9,700	17,300	19,300	39,200	40,600	23,400	8,960
5	5,670	8,900	4,200	5,600	7,100	9,500	19,300	19,600	37,200	40,600	21,100	8,740
6	5,930	8,900	4,100	5,600	7,300	9,400	19,300	19,600	33,600	41,800	19,300	8,360
7	6,060	8,700	4,000	5,600	7,500	9,200	19,600	19,600	39,100	45,300	17,800	8,120
8	6,450	8,700	4,600	5,600	7,700	8,900	19,600	19,400	47,900	47,000	16,600	8,040
9	6,850	8,420	5,200	5,600	7,800	8,800	21,100	18,400	46,100	42,600	15,000	7,840
10	7,120	8,520	5,400	5,600	7,900	8,700	21,400	18,400	39,200	40,500	14,100	7,560
11	7,400	8,700	5,200	5,600	8,000	8,600	23,400	17,800	34,200	47,200	12,900	7,620
12	7,680	8,680	5,000	5,600	8,100	8,700	26,600	17,000	31,500	73,400	12,400	7,540
13	7,680	8,700	5,200	5,500	8,200	9,200	28,200	17,000	32,000	112,000	12,100	7,400
14	7,680	8,520	5,400	5,500	8,200	9,300	32,000	16,500	34,700	105,000	11,600	7,680
15	7,680	8,900	5,600	5,100	8,200	9,600	38,500	16,000	39,800	67,000	11,200	7,960
16	8,040	8,900	5,800	5,000	8,200	9,600	38,500	15,500	57,000	54,000	11,000	8,380
17	7,960	8,900	5,600	4,900	8,200	10,200	25,400	15,100	68,400	44,100	10,800	8,220
18	8,240	8,900	5,600	4,800	8,200	14,000	14,500	14,900	85,500	36,600	10,500	8,180
19	8,240	8,900	5,500	4,700	8,500	12,300	12,600	14,400	67,000	32,000	10,500	7,900
20	8,900	8,900	4,300	4,500	8,500	12,000	12,100	14,200	80,000	27,400	9,780	7,960
21	8,600	8,900	4,500	4,400	8,900	11,600	12,100	13,900	81,400	25,400	9,500	8,100
22	8,400	8,800	4,500	4,300	9,000	11,300	12,100	13,600	82,700	23,700	8,940	8,180
23	7,940	8,800	4,500	4,200	9,100	11,000	12,600	14,000	78,700	24,000	8,800	8,180
24	8,040	8,800	4,500	4,000	9,100	11,000	12,700	14,500	76,000	26,200	8,520	7,700
25	8,090	8,900	4,500	3,900	9,000	11,500	13,200	14,500	64,800	24,400	8,520	7,560
26	7,960	8,520	4,400	4,000	8,900	11,900	14,100	14,600	64,400	23,400	8,520	7,420
27	7,680	8,900	4,400	4,200	9,700	11,900	14,600	14,500	60,300	22,700	8,660	7,240
28	7,680	8,700	4,500	4,300	9,900	11,600	15,000	14,300	58,700	22,400	9,780	7,200
29	7,960	8,900	4,900	4,700	-	13,200	14,800	14,600	57,700	22,700	11,100	7,200
30	7,960	8,900	5,200	5,100	-	13,700	15,000	16,800	57,000	24,400	11,000	7,200
31	8,240	-	5,600	5,600	-	13,800	-	21,800	-	25,000	10,200	-
Month	Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet			
October.....	227,600		8,800		5,080		7,342		451,400			
November.....	260,210		9,800		9,240		9,674		516,100			
December.....	160,200		9,300		4,000		5,168		317,800			
Calendar year 1934.....	4,802,510		49,400		4,000		13,160		9,526,000			
January.....	155,600		5,600		3,900		5,019		308,600			
February.....	226,400		9,900		5,900		9,086		449,100			
March.....	329,200		14,000		9,600		10,620		653,000			
April.....	571,000		38,500		12,100		19,030		1,133,000			
May.....	506,900		21,800		13,600		16,350		1,005,000			
June.....	1,615,200		87,000		27,400		53,940		3,204,000			
July.....	1,314,700		112,000		22,400		42,410		2,608,000			
August.....	417,720		24,700		8,520		13,470		825,500			
September.....	240,540		9,480		7,200		8,011		476,700			
Water year 1934-35.....	6,025,070		112,000		3,900		16,510		11,950,000			

## Missouri River at Pierre, S. Dak.

Location.— Water-stage recorder, lat. 44°22'25", long. 100°22'5", in SW<sup>1</sup> sec. 32, T. 111 N., R. 79 W., at Chicago & Northwestern Railway bridge at Pierre, 1½ miles above Bad River. Zero of gage is 1,414.41 feet (U. S. Coast and Geodetic Survey general adjustment of 1929) above mean sea level.

Drainage area.— 243,500 square miles.

Records available.— October 1929 to September 1935.

Extremes.— Maximum discharge during year, 131,000 second-feet July 14 (gage height, 12.25 feet); minimum discharge (estimated because of ice effect), 3,600 second-feet Dec. 6; minimum gage height, 1.20 feet Dec. 9, 12-14.  
1929-35: Maximum discharge and gage height, those of July 14, 1935; minimum discharge, that of Dec. 6, 1934; minimum gage height, 0.26 foot (present datum) Nov. 27, 1931.

Maximum stage known, 21.0 feet in March 1881 (relation to present datum not known).

Remarks.— Records good except those for period of ice effect, Nov. 30 to Apr. 2, which are fair. Gage heights computed from gage readings furnished by U. S. Weather Bureau, at same site, Dec. 26 to Feb. 3, Aug. 14-16, Sept. 12-18.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,250	8,100	8,300	5,300	5,400	10,600	13,200	17,600	20,700	60,200	23,900	11,000
2	5,250	8,340	8,000	5,600	5,800	10,400	13,500	16,300	38,900	61,200	24,200	10,600
3	5,250	8,250	6,600	6,000	6,800	10,300	18,000	15,900	77,400	55,200	23,900	10,100
4	5,500	8,370	5,400	6,000	7,000	10,100	15,600	16,500	65,500	48,000	23,900	9,600
5	5,500	8,250	4,500	5,900	6,600	10,000	16,000	17,800	60,200	45,400	23,200	9,600
6	5,500	8,550	3,600	5,800	7,100	9,800	17,700	18,400	48,800	43,400	22,500	9,580
7	6,000	8,550	3,800	5,800	7,600	9,700	19,600	20,000	43,400	42,700	20,600	9,120
8	6,000	9,250	4,000	5,800	8,400	9,700	20,200	19,700	40,000	45,600	19,400	8,790
9	5,950	9,250	4,500	5,800	8,500	9,800	21,200	19,600	46,600	49,600	18,600	8,420
10	6,000	9,250	5,200	5,800	7,500	10,000	23,200	20,100	50,500	48,900	17,000	8,350
11	6,450	9,250	5,400	5,800	6,500	10,200	24,000	19,900	44,900	45,400	16,500	8,100
12	6,450	9,250	5,200	5,800	6,000	10,500	24,600	19,400	39,300	46,400	14,600	8,000
13	6,950	9,250	4,400	5,500	5,400	10,700	25,600	18,900	35,200	79,600	13,600	7,750
14	7,250	9,250	4,800	5,300	6,000	11,100	26,600	18,400	33,300	127,000	12,400	7,600
15	7,550	9,250	4,900	5,000	6,500	11,500	34,300	17,900	35,800	100,000	11,800	7,900
16	8,150	9,250	5,100	4,600	7,500	11,800	38,400	16,800	37,000	62,300	11,400	7,800
17	8,450	9,250	5,300	4,500	9,000	12,300	37,400	17,500	54,200	49,600	11,000	7,950
18	8,450	9,250	5,400	4,300	10,300	12,700	30,000	17,300	67,800	42,000	10,600	8,100
19	8,980	9,250	5,500	4,100	11,000	13,700	19,900	16,700	82,400	34,500	10,400	8,400
20	10,200	9,250	6,000	3,900	11,800	14,000	15,600	16,300	89,000	30,600	10,300	8,400
21	10,600	9,250	5,500	3,900	11,600	14,500	14,700	18,100	62,400	28,000	10,100	8,400
22	9,950	9,250	5,500	3,900	11,200	14,300	14,100	22,300	79,800	26,400	9,950	8,100
23	9,900	9,250	5,000	4,000	10,400	13,900	13,700	18,700	82,100	25,000	9,420	7,950
24	9,700	9,250	4,400	4,000	9,800	13,300	13,700	18,400	78,600	24,600	6,900	7,950
25	9,540	9,250	4,300	4,000	10,000	12,600	14,500	17,700	73,700	24,600	8,720	7,950
26	8,970	8,900	4,200	4,000	10,200	12,800	15,200	16,700	64,600	26,000	8,550	7,750
27	8,970	6,900	4,000	4,000	10,400	13,900	19,300	16,100	59,200	25,000	8,550	7,590
28	8,540	6,900	4,200	4,100	10,500	13,700	20,400	15,700	57,200	25,600	8,400	7,500
29	8,340	8,800	4,400	4,400	-	13,400	18,200	15,500	58,200	23,200	8,550	7,350
30	8,340	8,700	4,600	4,600	-	13,400	18,200	15,000	57,200	22,600	8,900	7,200
31	8,340	-	4,900	5,000	-	13,300	-	14,800	-	22,600	10,300	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						235,770	10,600	5,250	7,605	467,600		
November.....						269,110	9,250	6,100	8,970	553,800		
December.....						156,900	8,300	3,600	5,061	311,200		
Calendar year 1934.....						4,891,940	47,600	3,600	13,400	9,704,000		
January.....						152,700	6,000	3,900	4,926	302,900		
February.....						234,600	11,800	5,400	8,386	465,700		
March.....						368,000	14,500	9,700	11,870	729,900		
April.....						616,800	38,400	13,200	20,560	1,223,000		
May.....						550,200	22,300	14,600	17,750	1,091,000		
June.....						1,706,400	89,000	20,700	56,880	3,385,000		
July.....						1,385,200	127,000	22,500	44,680	2,748,000		
August.....						439,240	24,200	6,400	14,170	871,200		
September.....						252,800	11,000	7,200	8,427	501,400		
Water year 1934-35.....						6,367,920	127,000	3,600	17,450	12,630,000		

## Missouri River at Yankton, S. Dak.

Location.— Water-stage recorder, lat. 42°52', long. 97°24', between sec. 18, T. 93 N., R. 55 W., and sec. 13, T. 93 N., R. 56 W., at Meridian Highway bridge in Yankton, 7 miles above James River. Zero of gage is 1,159.75 feet (U. S. Coast and Geodetic Survey general adjustment of 1929) above mean sea level.

Drainage area.— 279,500 square miles.

Records available.— November 1930 to September 1935.

Extremes.— Maximum discharge during year, 130,000 second-feet July 16 (gage height, 8.90 feet); minimum discharge (estimated because of ice effect), 3,500 second-feet Dec. 29; minimum gage height, 0.80 foot Oct. 1-4.  
1930-35: Maximum discharge, that of July 16, 1935; maximum gage height, 10.30 feet, present datum, Mar. 3, 1934; minimum discharge, that of Dec. 29, 1934; minimum gage height, -0.05 foot (revised to present datum) Nov. 30, 1931.  
Maximum stage known, 30.5 feet (present datum) Apr. 5, 1881, during ice gorge.

Remarks.— Records good except those for period of ice effect, Dec. 2 to Apr. 4, which are fair. Gage heights computed from gage readings furnished by U. S. Weather Bureau, at same site, Oct. 15-25, Dec. 16 to Mar. 14.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,200	10,900	10,100	4,400	5,400	10,300	14,700	30,600	28,200	60,600	25,000	10,200
2	6,200	10,900	9,200	4,900	6,000	10,900	13,800	27,600	30,800	57,200	23,800	10,600
3	6,200	10,000	9,000	4,600	6,400	11,800	13,500	24,000	28,000	55,100	23,000	10,600
4	6,200	10,000	8,400	4,800	6,800	12,600	13,300	21,700	44,400	57,200	23,000	10,600
5	6,380	10,000	6,600	5,300	6,800	12,200	14,000	20,600	80,400	58,300	23,800	11,000
6	6,400	9,700	5,300	5,600	7,300	12,000	14,000	20,100	70,000	57,200	24,600	11,400
7	6,450	9,700	4,100	5,600	7,700	11,800	14,600	19,900	59,800	51,800	24,200	11,800
8	6,450	9,700	5,800	5,600	8,300	10,800	15,700	19,600	51,900	50,800	24,200	12,000
9	6,560	10,100	3,800	5,900	8,800	10,300	16,600	19,900	45,100	44,900	23,600	11,600
10	6,550	10,300	4,500	6,000	9,600	10,400	18,800	20,600	40,800	44,000	23,000	11,400
11	6,560	10,300	5,300	6,200	10,300	11,000	22,000	21,300	42,000	44,000	21,600	12,000
12	6,650	10,300	6,100	6,800	10,500	12,600	24,200	22,400	45,800	46,800	20,800	11,400
13	6,460	10,300	6,500	6,500	11,000	14,000	27,000	22,400	47,800	49,800	20,000	11,000
14	6,750	10,300	6,000	6,600	12,100	14,300	30,800	22,000	44,200	45,800	18,800	10,700
15	7,050	10,300	6,100	6,600	13,600	15,200	29,900	21,600	40,300	65,200	17,500	10,300
16	6,750	10,300	6,100	6,600	13,700	15,500	27,600	21,300	40,100	126,000	16,300	10,100
17	6,500	9,800	6,100	6,600	13,700	16,100	30,000	21,000	38,500	98,700	15,400	9,870
18	7,980	10,300	5,800	6,800	13,700	16,700	35,100	20,600	40,100	96,400	14,800	9,680
19	8,760	10,300	5,800	6,500	13,700	17,300	40,600	20,700	51,900	51,800	14,000	9,450
20	10,300	10,300	6,000	6,300	13,500	17,300	44,000	21,000	70,400	45,800	13,800	9,240
21	10,600	10,300	6,100	6,100	13,200	16,700	36,800	22,000	81,400	41,400	13,300	9,000
22	10,800	10,300	6,300	6,000	13,000	16,100	29,000	22,000	81,800	38,300	13,300	9,200
23	10,500	10,300	6,000	5,800	12,800	15,700	24,200	25,800	78,800	35,400	12,600	9,400
24	10,100	10,300	5,800	5,500	12,400	15,300	21,600	30,000	78,300	29,400	11,000	9,000
25	11,800	10,300	5,400	5,100	11,600	14,900	22,400	27,000	91,600	28,200	12,300	9,000
26	12,800	10,400	4,300	4,800	10,800	14,900	23,400	28,300	84,800	25,600	12,300	8,800
27	12,800	10,300	4,200	4,600	10,400	15,000	20,600	28,700	86,500	25,400	11,800	8,800
28	12,600	10,300	4,000	4,400	10,300	15,000	22,400	26,600	73,300	25,000	11,000	8,800
29	12,400	10,300	3,500	4,100	-	14,900	30,400	23,700	62,600	25,000	10,500	8,800
30	12,800	10,300	3,800	4,600	-	14,900	34,800	22,000	61,700	25,000	10,200	8,800
31	11,400	-	4,100	5,000	-	14,800	-	21,000	-	25,000	10,200	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						265,770	12,800	6,200	8,573	527,100		
November.....						306,000	10,900	9,700	10,200	606,900		
December.....						178,000	10,100	3,500	5,742	353,100		
Calendar year 1934.....						5,475,100	70,000	3,500	15,000	10,860,000		
January.....						173,800	6,600	4,100	5,608	344,700		
February.....						293,400	15,700	5,400	10,480	582,000		
March.....						431,100	17,300	10,300	13,910	855,100		
April.....						725,800	44,000	13,300	24,190	1,440,000		
May.....						716,400	30,800	19,600	23,110	1,421,000		
June.....						1,721,500	91,600	28,000	57,380	3,415,000		
July.....						1,805,100	126,000	25,000	48,580	2,985,000		
August.....						540,600	25,000	10,200	17,440	1,072,000		
September.....						304,520	18,000	8,800	10,150	604,000		
Water year 1934-35.....						7,161,990	126,000	3,500	19,620	14,206,000		

## Missouri River at Omaha, Nebr.

Location.— Water-stage recorder, lat. 41°15', long. 95°55', in sec. 23, T. 15 N., R. 14 E., about 1,900 feet (revised) downstream from Douglas Street bridge, at Omaha. Zero of gage is 958.24 feet above mean sea level.

Drainage area.— 322,800 square miles.

Records available.— September 1928 to September 1935.

Extremes.— Maximum discharge during year, 99,800 second-feet July 19 (gage height, 16.85 feet, from graph based on gage readings); minimum discharge (estimated because of ice effect), 3,600 second-feet Dec. 10; minimum gage height, 2.30 feet Jan. 6.  
1928-35: Maximum discharge, 198,000 second-feet June 7, 1929; maximum gage height, that of July 19, 1935; minimum discharge (estimated because of ice effect), 3,500 second-feet Dec. 27-29, 1933; minimum gage height, that of Jan. 6, 1935.  
Maximum stage known, 24.3 feet Apr. 25, 1881.

Remarks.— Records good except those for period of ice effect, Dec. 4 to Mar. 7, which are fair. Gage heights computed from U. S. Weather Bureau gage readings taken at site about 1,900 feet upstream Dec. 4-10, Jan. 23 to Feb. 9, July 17-20.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,080	12,100	10,800	3,800	4,400	14,000	15,200	27,200	27,200	61,000	29,200	12,000
2	8,050	11,400	10,800	4,200	4,700	12,000	15,400	37,100	25,200	57,800	29,200	11,600
3	7,180	11,700	10,200	4,500	5,000	11,600	14,700	32,600	36,200	55,700	26,600	11,100
4	6,980	11,400	9,000	4,900	5,400	12,000	14,400	27,500	41,200	55,700	26,600	10,800
5	6,800	10,800	7,600	4,100	5,800	16,000	14,800	23,300	30,600	56,200	24,400	10,800
6	6,630	10,200	6,600	3,700	6,300	30,000	14,800	21,200	50,700	57,800	24,600	10,800
7	6,630	10,200	5,900	3,800	6,700	17,900	14,600	20,500	77,200	57,800	24,600	10,800
8	6,470	9,800	4,800	4,100	7,200	13,000	14,700	19,800	66,100	54,700	25,900	11,700
9	6,630	9,900	3,600	4,200	7,900	11,300	14,800	19,800	65,600	58,100	25,200	12,900
10	6,800	9,600	3,600	4,200	8,600	11,600	15,400	18,900	49,300	56,600	25,200	13,000
11	6,800	9,900	3,700	4,800	9,600	14,700	16,600	18,900	43,400	50,200	24,600	12,200
12	6,800	9,900	4,800	5,200	10,200	14,700	18,100	19,500	39,100	46,000	22,800	11,700
13	6,800	9,900	5,800	5,600	10,800	15,200	20,000	21,200	38,700	46,000	22,500	11,900
14	6,800	9,900	6,400	6,000	11,600	17,100	24,900	22,600	44,200	47,400	21,700	12,000
15	6,800	9,900	6,700	6,600	12,400	15,900	34,600	23,000	48,300	49,800	21,000	12,000
16	6,800	10,200	6,700	6,800	13,200	15,800	33,700	23,000	44,700	48,300	20,400	11,400
17	6,800	10,200	6,600	7,100	14,200	15,800	31,900	22,300	42,600	61,500	19,300	11,100
18	6,800	10,200	6,400	7,600	14,700	15,800	30,000	21,800	43,400	58,800	18,000	11,000
19	7,180	10,200	6,350	7,900	14,800	15,800	32,200	21,800	42,900	97,100	17,600	10,700
20	6,280	10,500	5,920	8,000	14,100	17,100	40,400	21,500	41,600	68,700	17,200	10,200
21	9,060	10,800	5,920	8,000	13,600	17,900	42,800	21,200	56,100	51,700	16,400	9,800
22	9,060	10,800	6,130	8,000	13,800	17,900	38,500	21,000	72,600	48,000	15,800	9,550
23	9,600	10,800	6,130	7,900	13,700	17,900	33,000	21,800	78,800	43,400	15,400	9,420
24	9,600	10,800	5,920	7,800	13,600	17,100	28,300	23,000	83,600	42,100	14,900	9,180
25	10,800	10,800	5,600	7,600	13,000	16,400	25,600	23,000	80,500	39,500	14,600	9,450
26	11,400	10,800	5,710	7,200	13,000	15,800	25,600	26,800	83,300	34,000	14,100	9,120
27	10,800	10,800	5,500	6,400	12,400	15,200	22,000	34,400	91,200	31,400	13,400	9,120
28	10,800	10,800	4,310	5,700	13,600	15,200	23,900	34,400	88,600	29,600	13,200	9,120
29	11,100	10,600	4,400	5,400	-	15,600	24,900	33,500	75,300	29,200	13,200	9,120
30	11,700	10,600	4,220	4,900	-	15,500	22,600	32,200	65,600	26,900	12,800	9,120
31	12,100	-	3,640	4,600	-	15,200	-	28,700	-	26,600	12,200	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						257,110	12,100	6,470	8,294		510,000	
November.....						316,000	12,100	9,600	10,530		626,800	
December.....						189,750	10,800	3,600	6,121		376,400	
Calendar year 1934.....						5,649,650	85,900	3,600	15,480		11,210,000	
January.....						180,500	8,000	3,700	5,923		358,000	
February.....						294,300	14,800	4,400	10,510		583,700	
March.....						486,800	30,000	11,300	15,700		965,600	
April.....						716,400	42,800	14,400	23,980		1,421,000	
May.....						763,500	37,100	18,900	24,630		1,514,000	
June.....						1,686,100	91,200	25,200	56,540		3,305,000	
July.....						1,577,600	97,100	26,600	50,680		3,129,000	
August.....						622,600	29,200	12,200	20,080		1,235,000	
September.....						322,700	13,000	9,120	10,760		640,100	
Water year 1934-35.....						7,393,360	97,100	3,600	20,260		14,660,000	

## Missouri River at Nebraska City, Nebr.

Location.— Water-stage recorder, lat. 40°40'35", long. 95°50'10", in SW¼ sec. 10, T. 8 N., R. 14 E., at Waubensie Highway bridge at Nebraska City. Zero of gage is 903.94 feet (U. S. Coast and Geodetic Survey 1929 general adjustment) above mean sea level.

Drainage area.— 414,400 square miles.

Records available.— August 1929 to September 1935.

Extremes.— Maximum discharge during year, 106,000 second-feet June 23, 24; maximum gage height, 15.25 feet Feb. 16; minimum discharge, 3,520 second-feet Dec. 10, (gage height, 4.23 feet).

1929-35: Maximum discharge, 138,000 second-feet, June 17-19, 1932, Mar. 5, 1934; maximum gage height, that of Feb. 16, 1935; minimum discharge, 3,230 second-feet Dec. 13, 14, 1932; minimum gage height, that of Dec. 10, 1934.  
Maximum stage known, 18.0 feet in April 1881.

Remarks.— Records good except those for periods of ice effect, Dec. 7 to Feb. 19, Feb. 24 to Mar. 8, which are fair. Gage heights computed from gage readings furnished by U. S. Weather Bureau, at same site, July 3, 4, 6-8.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13,700	14,700	15,200	6,740	8,220	12,900	18,900	29,600	49,300	79,400	28,400	17,600
2	12,000	14,700	14,700	6,260	9,600	13,700	18,900	40,100	74,800	71,200	31,700	17,800
3	10,800	15,700	14,200	6,420	9,600	14,700	18,400	46,100	53,600	67,800	30,600	16,200
4	10,000	16,700	12,400	6,900	9,250	17,800	17,900	42,700	84,100	65,600	30,300	15,200
5	9,200	15,200	10,300	6,420	8,900	23,700	17,600	37,200	70,900	66,900	29,600	16,600
6	8,400	13,700	9,100	6,740	9,600	38,100	17,500	32,600	65,200	66,300	27,800	16,300
7	8,400	13,300	6,420	6,900	8,900	30,700	18,100	30,000	99,000	63,100	27,400	15,200
8	8,600	12,900	5,190	7,550	10,400	20,000	18,400	27,800	105,000	60,700	27,100	15,600
9	8,600	12,900	4,690	7,220	12,900	17,800	18,600	26,000	94,700	67,400	26,900	17,600
10	8,600	12,900	3,910	6,900	14,700	21,200	19,200	25,400	80,200	70,400	27,100	17,600
11	8,750	12,900	4,170	7,380	15,700	24,500	20,400	23,700	70,300	60,700	26,800	15,600
12	8,750	12,400	4,900	8,700	16,700	24,000	21,300	23,700	64,000	53,100	26,500	16,600
13	8,800	12,400	4,900	8,900	20,600	24,000	22,600	25,000	55,700	49,900	26,100	15,400
14	8,800	12,900	6,200	9,600	21,200	26,800	24,200	28,300	55,400	49,200	25,500	14,900
15	8,800	12,900	7,000	8,390	21,200	25,900	30,300	29,000	60,900	50,400	24,800	14,700
16	6,800	12,900	8,300	8,900	23,700	38,400	31,400	31,400	60,300	51,000	24,200	14,400
17	8,560	12,900	8,080	8,900	27,800	22,400	37,200	32,200	54,100	50,400	23,300	14,000
18	8,560	13,300	8,420	7,400	27,100	20,700	35,000	30,800	53,300	74,600	22,100	13,300
19	10,000	13,700	9,000	7,240	29,200	20,700	33,700	31,200	56,400	87,800	21,000	13,100
20	11,200	13,700	9,000	7,560	26,400	20,700	37,200	32,600	67,200	85,600	20,400	12,900
21	12,900	14,700	9,600	8,700	21,700	21,900	45,400	40,800	67,200	64,100	19,800	12,200
22	14,700	15,700	9,600	6,420	21,900	23,200	44,000	46,100	96,300	54,800	18,800	11,800
23	16,700	14,700	10,200	6,420	20,900	22,600	37,800	44,000	106,000	50,400	18,600	11,600
24	14,700	14,700	10,500	7,720	20,000	21,900	34,000	44,700	106,000	48,200	19,100	11,200
25	13,700	14,700	9,700	8,400	18,800	20,700	30,300	42,000	99,000	46,200	18,800	11,200
26	13,700	14,700	6,260	8,400	12,000	19,600	37,200	40,800	101,000	40,700	18,600	11,400
27	13,700	14,700	5,900	8,200	10,400	18,900	45,100	46,100	104,000	35,400	17,500	11,000
28	12,900	14,700	6,260	8,600	10,400	18,800	33,500	53,600	101,000	32,600	18,500	11,200
29	12,900	14,700	6,630	8,560	-	18,800	34,000	49,800	94,200	30,700	19,800	11,200
30	13,700	14,700	6,130	8,220	-	19,000	32,600	48,300	88,700	29,800	16,400	11,000
31	13,700	-	5,980	8,220	-	19,000	-	46,800	-	28,300	17,700	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					342,820	16,700	8,400	11,080	879,600			
November.....					420,700	16,700	12,400	14,020	834,480			
December.....					253,040	16,200	3,910	8,168	501,900			
Calendar year 1934.....					6,878,350	78,000	3,910	18,840	13,640,000			
January.....					238,880	9,600	6,260	7,706	473,800			
February.....					487,770	29,200	8,220	16,710	927,800			
March.....					665,400	39,100	12,900	21,460	1,320,000			
April.....					887,700	45,400	17,500	28,590	1,701,000			
May.....					1,128,400	53,600	23,700	36,400	2,238,000			
June.....					2,347,700	106,000	49,300	78,260	4,657,000			
July.....					1,752,600	87,800	28,300	56,540	3,476,000			
August.....					732,800	31,700	17,500	23,640	1,453,000			
September.....					426,700	18,600	11,000	14,220	846,500			
Water year 1934-35.....					9,634,310	106,000	3,910	26,400	19,110,000			

## Missouri River at St. Joseph, Mo.

Location.— Water-stage recorder, lat. 39°45'10", long. 94°51'28", in sec. 17, T. 57 N., R. 35 W., at St. Joseph & Grand Island Railway bridge in St. Joseph. Zero of gage is 788.19 feet (U. S. Coast and Geodetic Survey 1929 general adjustment) above mean sea level.

Drainage area.— 424,300 square miles.

Records available.— August 1928 to September 1935.

Extremes.— Maximum discharge during year, 116,000 second-feet June 29 (gage height, 15.42 feet); minimum discharge, about 4,200 second-feet Dec. 11, 12; minimum gage height, 1.30 feet Dec. 13.

1928-35: Maximum discharge, 196,000 second-feet June 4, 1929 (gage height, 15.6 feet, present datum); minimum discharge, 3,730 second-feet Dec. 15, 16, 1932; minimum gage height, 1.0 foot (present datum) Dec. 30, 1933.  
Maximum stage known; 27.2 feet (present datum) Apr. 29, 1881.

Remarks.— Records good except those for periods of ice effect, Dec. 7-17, Jan. 19-31, Feb. 1-5, 15-26, which are fair. Gage heights computed from gage readings furnished by U. S. Weather Bureau at same site, Dec. 3-14, Jan. 21, 30, 31, Feb. 1, 2, Apr. 25 to May 4.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13,900	13,200	16,000	6,100	8,700	11,400	19,000	32,900	69,700	101,000	30,100	20,000
2	15,300	13,900	15,300	6,840	8,460	11,100	19,000	31,800	89,300	96,400	29,900	20,500
3	15,000	14,300	15,600	6,840	9,740	12,000	19,000	30,600	97,300	92,100	33,300	19,600
4	13,200	16,000	15,500	7,260	10,000	17,200	18,800	41,500	98,000	71,800	34,300	18,000
5	12,000	18,000	13,000	7,240	9,220	20,200	18,400	44,300	88,600	68,400	32,300	16,700
6	10,800	18,400	11,800	7,240	9,220	29,100	17,800	38,900	81,100	68,400	30,800	15,800
7	10,300	16,800	9,540	7,900	9,740	41,300	18,400	35,400	68,700	67,200	29,300	16,700
8	9,720	15,000	7,080	8,140	9,740	35,900	18,600	29,900	77,000	64,900	28,000	16,700
9	9,160	13,900	6,200	8,620	10,300	24,100	18,600	28,200	95,200	62,300	27,200	16,200
10	8,600	13,200	5,100	8,140	11,700	19,300	18,500	26,200	108,000	65,600	27,000	16,700
11	8,600	13,200	4,200	8,140	13,200	20,200	18,400	25,000	104,000	72,600	27,200	17,500
12	8,600	12,900	4,200	8,820	15,300	25,200	19,100	27,900	78,600	67,200	26,500	18,000
13	8,600	12,600	4,800	9,820	18,200	29,700	20,000	31,400	64,900	55,000	26,500	18,600
14	8,600	12,600	5,800	9,300	21,600	29,100	21,000	29,600	56,200	51,100	26,300	16,900
15	8,600	12,600	6,400	7,880	25,200	26,000	22,800	27,000	54,800	49,300	25,700	15,800
16	8,600	12,600	7,400	7,680	22,800	30,400	27,200	29,000	56,600	49,300	25,300	15,100
17	8,600	12,900	8,200	9,620	26,300	27,500	39,200	30,600	58,000	50,400	24,800	14,900
18	9,160	16,800	8,380	9,620	29,700	25,300	41,500	30,700	75,000	50,500	24,300	14,800
19	9,440	17,600	8,700	10,700	30,200	22,100	38,800	35,900	83,300	60,600	24,100	14,000
20	15,300	15,300	9,220	7,240	30,800	22,000	36,100	46,000	75,600	80,400	22,700	13,700
21	20,200	14,600	9,740	5,700	29,700	21,100	36,200	56,200	70,600	88,800	21,600	13,200
22	15,300	16,000	9,740	6,140	24,100	22,000	41,600	45,500	59,400	84,100	20,900	12,900
23	13,900	16,800	10,600	6,580	22,000	23,000	44,500	46,000	72,600	60,300	20,600	12,400
24	15,700	16,400	10,800	6,580	22,000	23,500	40,200	46,000	93,500	51,100	19,200	12,200
25	18,400	16,000	11,000	7,020	21,600	24,100	36,200	43,500	102,000	48,500	19,100	12,000
26	16,400	15,700	10,800	7,680	16,000	23,000	32,800	43,500	107,000	46,600	19,000	12,000
27	14,600	15,700	6,400	10,100	11,100	21,600	30,900	43,000	112,000	42,700	19,100	12,900
28	13,900	17,200	6,400	11,200	10,300	20,200	43,500	52,500	115,000	38,100	17,800	12,400
29	13,900	19,300	6,620	11,200	-	19,300	41,500	59,000	116,000	35,500	17,800	12,000
30	13,900	18,000	5,960	10,400	-	18,400	33,000	71,800	109,000	33,500	18,900	11,800
31	13,600	-	6,100	9,740	-	18,400	-	64,200	-	31,500	20,200	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October						381,880	20,200	8,600	12,320	757,400		
November						457,600	19,300	12,600	15,250	907,400		
December						276,480	16,000	4,200	8,819	548,400		
Calendar year 1934						7,106,690	76,600	4,200	19,470	14,100,000		
January						255,480	11,200	5,700	8,241	506,700		
February						486,920	30,800	8,460	17,390	965,800		
March						713,700	41,300	11,100	28,020	1,416,000		
April						860,600	44,500	17,800	28,350	1,637,000		
May						1,222,000	71,800	25,000	39,420	2,424,000		
June						2,537,000	116,000	54,800	64,570	5,032,000		
July						1,895,400	101,000	31,500	61,140	3,759,000		
August						769,800	34,300	17,800	24,530	1,627,000		
September						460,000	20,500	11,800	16,530	912,400		
Water year 1934-35						10,306,760	116,000	4,200	28,240	20,440,000		



## Missouri River at Kansas City, Mo.

Location.— Water-stage recorder, lat. 39°6'42", long. 94°35'20", in sec. 31, T. 50 N., R. 33 W., at Chicago, Burlington & Quincy Railroad bridge at Kansas City, 1 mile below Kansas River. Zero of gage is 715.79 feet (U. S. Coast and Geodetic Survey 1929 general adjustment) above mean sea level.

Drainage area.— 489,200 square miles.

Records available.— August 1928 to September 1935.

Extremes.— Maximum discharge during year, 230,000 second-feet June 6 (gage height, 23.80 feet); minimum, 4,770 second-feet Dec. 12 (gage height, 0.80 foot).  
1928-35: Maximum discharge, 254,000 second-feet June 5, 1929; maximum gage height, that of June 6, 1935; minimum discharge, that of Dec. 12, 1934; minimum gage height, 0.76 foot Dec. 30, 1933; minimum discharge during navigation season, 9,000 second-feet Oct. 16, 1934, (gage height, 2.70 feet).  
Maximum stage known, 36.0 feet June 16, 1844.

Remarks.— Records good. Gage heights computed from gage readings furnished by U. S. Weather Bureau at same site, Nov. 5-14, 21-24, 31, Dec. 1, 2, 10-13.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19,400	14,900	23,000	7,080	10,800	14,200	19,800	34,600	139,000	159,000	36,200	24,900
2	17,600	14,200	20,200	7,080	10,500	15,400	20,300	37,400	164,000	152,000	34,600	30,200
3	17,800	14,500	18,600	7,880	10,500	15,800	20,000	40,600	176,000	132,000	34,200	48,800
4	17,200	14,600	17,600	7,800	10,900	15,800	20,000	40,600	187,000	110,000	36,100	45,000
5	16,000	16,000	17,600	7,880	11,100	17,600	19,800	46,600	189,000	95,100	38,000	35,600
6	14,200	17,600	16,000	8,160	10,500	22,500	20,300	47,300	216,000	88,300	34,800	29,700
7	12,400	19,400	14,200	8,160	11,100	33,300	20,500	42,300	214,000	88,300	35,400	26,800
8	11,500	18,500	10,500	9,000	10,800	42,700	20,500	36,900	165,000	88,800	32,600	25,900
9	10,800	16,400	8,720	9,900	11,100	38,600	19,800	37,400	132,000	84,600	30,900	26,200
10	10,600	15,200	7,600	9,900	11,500	26,400	19,800	35,600	135,000	81,800	30,200	24,900
11	9,900	14,500	6,060	9,900	13,100	22,100	19,900	33,600	160,000	84,000	29,600	23,600
12	9,600	14,200	5,100	9,300	17,100	21,200	19,600	32,300	169,000	86,100	29,700	22,900
13	9,300	13,900	5,340	9,900	16,800	24,400	20,300	36,400	132,000	77,600	29,700	23,400
14	9,300	13,500	6,060	10,500	18,900	27,900	20,400	41,700	107,000	65,100	29,700	28,900
15	9,300	13,100	6,820	10,800	23,900	29,000	21,600	46,000	84,400	59,500	28,500	26,400
16	9,300	13,100	7,600	9,600	27,400	28,500	22,800	43,600	74,600	56,500	28,300	28,200
17	9,300	13,100	8,720	8,640	24,900	30,000	28,600	43,200	73,600	56,300	28,000	35,600
18	9,900	13,800	9,300	10,200	28,500	29,400	39,800	42,800	79,000	56,600	27,200	25,700
19	10,800	15,200	9,900	11,400	31,700	24,900	40,700	58,900	93,600	59,900	26,700	21,600
20	10,800	23,900	10,200	11,900	31,700	24,000	38,600	75,700	110,000	67,600	27,000	20,100
21	12,600	24,900	10,800	7,380	32,800	24,000	37,000	82,700	110,000	82,600	25,700	18,600
22	21,100	26,900	11,100	6,860	30,600	23,500	37,800	85,800	103,000	92,400	24,200	18,100
23	19,800	26,900	11,800	7,120	28,900	24,000	43,500	85,800	97,000	84,900	23,400	17,900
24	18,000	24,900	12,400	7,120	23,900	24,900	45,900	84,700	110,000	84,600	22,600	17,200
25	18,000	23,900	13,100	7,900	23,900	25,900	41,500	77,100	120,000	57,300	21,900	16,500
26	19,800	22,000	12,800	7,900	23,900	26,400	37,400	68,600	126,000	54,900	22,000	16,200
27	20,200	21,100	11,100	8,460	18,200	26,400	34,000	68,700	135,000	51,300	22,000	15,700
28	18,500	20,200	9,300	10,800	13,100	23,500	33,600	116,000	141,000	46,900	27,000	15,700
29	16,400	20,700	8,160	12,000	-	21,600	45,400	146,000	146,000	42,600	25,400	20,400
30	16,000	23,400	7,880	12,400	-	21,100	41,200	153,000	161,000	40,100	21,900	18,800
31	15,200	-	7,600	11,800	-	20,300	-	136,000	-	35,200	22,600	-
Month						Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet	
October.....						439,800		21,100	9,300	14,190	872,300	
November.....						544,300		26,900	13,100	18,140	1,080,000	
December.....						345,060		23,000	5,100	11,130	684,400	
Calendar year 1934.....						7,771,780		71,000	5,100	21,290	15,420,000	
January.....						284,420		12,400	6,980	9,175	564,100	
February.....						535,000		32,800	10,500	19,110	1,061,000	
March.....						762,300		42,700	14,200	24,590	1,512,000	
April.....						570,100		45,900	19,600	29,000	1,726,000	
May.....						1,957,700		153,000	32,300	65,150	3,883,000	
June.....						4,038,200		216,000	75,600	134,600	8,010,000	
July.....						2,399,800		160,000	38,200	77,410	4,760,000	
August.....						884,400		38,000	21,900	28,530	1,754,000	
September.....						749,500		48,300	15,700	24,980	1,447,000	
Water year 1934-35.....						13,810,580		216,000	5,100	37,840	27,390,000	

## Missouri River at Waverly, Mo.

Location.- Water-stage recorder, lat. 39°12'51", long. 93°30'57", in sec. 14, T. 51 N., R. 24 W., at bridge on U. S. Highway 65 at Waverly. Zero of gage is 645.49 feet (U. S. Coast and Geodetic Survey 1929 general adjustment) above mean sea level.

Drainage area.- 491,200 square miles.

Records available.- March 1929 to September 1935.

Extremes.- Maximum discharge during year, 215,000 second-feet June 8 (gage height, 21.99 feet); minimum discharge, 5,920 second-feet Dec. 15; minimum gage height, 2.04 feet Jan. 2.

1929-35: Maximum discharge, 263,000 second-feet June 5, 1929; maximum gage height, that of June 8, 1935; minimum discharge, 5,720 second-feet Dec. 31, 1933; minimum gage height, 0.4 foot (present datum) Jan. 12, 1930.

Remarks.- Records good except those for period of ice effect Jan. 20 to Feb. 4, which are fair. Gage heights computed from gage readings furnished by U. S. Weather Bureau at same site Oct. 23-31, Nov. 1-4, 8, 9, 21-25, Dec. 9-14, Feb. 12-26, Mar. 7-12, Apr. 8-12.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22,200	16,100	22,900	7,960	12,400	16,000	20,800	41,300	142,000	149,000	37,900	25,400
2	19,500	15,200	22,900	7,800	11,600	13,400	20,500	39,800	152,000	149,000	36,500	27,500
3	17,800	15,200	21,500	7,260	10,800	14,400	20,500	42,300	173,000	148,000	35,000	35,200
4	17,600	14,700	19,500	7,760	11,200	14,300	20,500	41,000	181,000	132,000	33,900	48,800
5	16,900	14,600	18,500	7,240	11,600	14,300	20,500	41,100	185,000	114,000	36,000	39,600
6	16,400	15,100	17,900	7,230	11,600	16,800	21,000	47,600	189,000	98,400	37,800	33,100
7	14,700	16,800	16,500	7,940	11,600	23,400	21,700	47,200	203,000	95,400	34,800	28,600
8	12,900	19,100	15,200	8,840	11,600	41,500	22,200	42,200	212,000	91,700	32,800	26,500
9	12,100	18,600	11,500	10,800	11,600	45,200	21,700	42,300	182,000	89,000	31,700	26,200
10	11,200	16,800	9,360	10,800	11,600	37,100	21,200	43,500	153,000	85,100	30,800	26,200
11	11,100	15,900	7,930	10,800	11,600	27,500	20,700	39,000	147,000	65,100	29,900	25,500
12	9,980	15,100	6,740	9,980	13,300	22,400	20,200	35,300	156,000	88,400	29,700	24,800
13	9,980	14,200	6,910	9,780	17,100	21,400	21,000	36,800	164,000	87,800	29,800	23,400
14	9,780	14,200	6,740	9,780	18,600	24,400	21,500	47,000	139,000	75,500	29,900	24,600
15	9,780	13,700	6,080	9,980	20,000	28,500	22,200	54,700	112,000	64,000	29,900	29,100
16	9,590	13,300	6,240	10,800	24,400	29,100	22,900	49,800	91,000	59,900	29,100	27,000
17	9,590	13,300	7,420	10,400	27,900	28,500	24,200	47,000	83,500	57,700	28,400	30,600
18	9,590	13,700	9,000	9,020	26,000	30,200	31,000	45,000	85,500	57,200	27,500	35,600
19	9,980	14,600	9,900	9,980	29,200	28,600	41,100	51,000	89,000	57,200	26,800	26,000
20	11,600	17,200	10,500	11,600	32,000	25,000	41,100	82,000	106,000	58,400	27,000	21,900
21	10,800	28,800	10,700	9,980	32,100	24,000	38,700	97,100	125,000	76,000	27,000	20,500
22	11,600	34,000	11,100	7,400	33,800	23,900	37,000	94,600	117,000	88,400	25,600	19,100
23	19,500	37,500	12,300	7,060	32,800	23,400	38,400	90,200	107,000	94,400	24,200	18,200
24	21,400	27,600	12,300	7,400	27,500	23,900	44,300	86,800	107,000	81,500	23,600	17,500
25	20,000	25,000	13,100	7,580	25,500	25,400	46,100	82,500	117,000	64,000	22,800	17,000
26	18,200	24,400	13,100	7,740	26,500	26,000	41,100	70,500	123,000	57,700	21,900	16,800
27	18,700	24,400	13,500	8,440	24,400	26,100	37,300	64,500	131,000	55,600	21,900	16,200
28	20,000	21,800	11,800	9,480	20,500	26,500	38,200	90,200	134,000	51,400	22,400	16,200
29	16,700	20,500	9,000	10,000	23,900	23,900	38,300	144,000	141,000	45,800	27,000	17,700
30	16,900	20,500	9,040	11,600	-	21,900	46,800	157,000	145,000	42,000	25,500	20,400
31	16,100	-	8,140	12,400	-	21,500	-	150,000	-	40,300	21,900	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						454,170	22,200	9,590	14,650	900,900		
November.....						572,000	37,500	13,300	19,070	1,135,000		
December.....						378,380	22,900	6,080	12,210	750,500		
Calendar year 1934.....						7,847,430	76,400	6,080	21,500	15,570,000		
January.....						286,430	12,400	7,060	9,240	568,100		
February.....						558,800	35,800	10,800	19,960	1,108,000		
March.....						788,500	45,200	13,400	24,790	1,524,000		
April.....						879,700	46,800	20,200	29,320	1,745,000		
May.....						2,042,300	157,000	35,300	65,880	4,051,000		
June.....						4,190,000	212,000	53,500	139,700	8,311,000		
July.....						2,537,900	149,000	40,300	81,870	5,034,000		
August.....						899,100	37,900	21,900	29,000	1,785,000		
September.....						762,600	46,800	16,200	25,420	1,513,000		
Water year 1934-35.....						14,329,880	212,000	6,080	39,260	28,420,000		

## Missouri River at Boonville, Mo.

Location.- Water-stage recorder, lat. 38°58'40", long. 92°45'15", in sec. 35, T. 49 N., R. 17 W., on Missouri-Kansas-Texas Railroad bridge at Boonville. Zero of gage is 564.95 feet above mean sea level.

Drainage area.- 505,700 square miles.

Records available.- October 1925 to September 1935.

Average discharge.- 10 years, 57,550 second-feet.

Extremes.- Maximum discharge during year, 306,000 second-feet June 4; maximum gage height, 26.73 feet June 5; minimum discharge, about 5,980 second-feet Jan. 27; minimum gage height, 0.80 foot Jan. 25.  
1925-35: Maximum discharge, 381,000 second-feet Apr. 23, 1927; maximum gage height, that of June 5, 1935; minimum discharge, that of Jan. 27, 1935; minimum gage height, that of Jan. 25, 1935.  
Maximum stage known, 32.7 feet June 21, 1844.

Remarks.- Records good except those for period of ice effect, Jan. 20 to Feb. 2, which are fair. Gage heights computed from gage readings furnished by U. S. Weather Bureau at same site, Dec. 8-15, Jan. 15-30, Feb. 5, 6, 21, 22.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46,900	17,000	42,100	15,200	12,600	32,100	23,700	50,800	256,000	163,000	44,200	24,800
2	34,700	16,200	38,600	14,100	14,100	25,100	22,700	57,000	270,000	165,000	42,100	24,500
3	27,700	16,200	40,900	13,400	18,500	20,400	21,800	70,200	284,000	169,000	40,400	28,000
4	22,700	19,300	46,900	12,600	17,700	18,800	21,800	76,900	298,000	174,000	38,900	34,800
5	19,300	20,900	48,900	12,600	19,500	24,100	22,000	76,900	301,000	172,000	37,600	48,600
6	18,500	20,900	42,100	12,600	19,500	31,100	22,300	69,600	290,000	152,000	37,800	43,900
7	17,700	19,700	35,300	12,200	15,200	36,600	22,900	63,800	277,000	127,000	39,500	37,200
8	16,200	19,700	28,800	12,900	15,200	40,700	24,600	61,000	277,000	114,000	37,300	32,600
9	14,800	20,100	22,500	33,800	17,900	53,800	27,700	60,200	277,000	107,000	34,800	29,700
10	13,400	20,500	18,100	34,400	19,500	59,600	27,000	69,300	260,000	100,000	33,400	28,000
11	12,600	19,300	14,100	26,800	17,700	52,200	28,000	75,800	247,000	95,200	32,100	29,000
12	11,900	17,700	11,900	21,700	17,300	45,600	30,700	64,800	217,000	96,200	30,800	27,400
13	11,200	16,600	10,500	18,500	18,100	40,100	32,300	69,300	195,000	101,000	30,400	26,100
14	11,200	15,900	9,840	17,300	21,400	36,400	30,700	83,600	179,000	97,000	30,700	24,800
15	10,900	15,500	10,500	17,500	27,500	32,800	28,000	97,600	163,000	82,000	30,900	24,300
16	10,500	14,800	11,900	18,100	32,700	34,900	25,400	107,000	132,000	70,800	30,400	27,500
17	10,500	14,800	14,800	18,100	40,500	34,700	24,300	100,000	109,000	65,800	29,900	29,600
18	10,500	14,800	17,700	18,100	42,300	33,100	25,400	91,800	110,000	62,100	35,600	29,900
19	10,900	16,200	18,500	16,100	38,100	33,600	32,000	93,800	118,000	60,700	30,800	38,200
20	16,200	21,800	19,500	18,500	36,400	35,100	46,300	111,000	127,000	80,300	28,300	32,000
21	19,300	37,600	19,500	21,700	38,100	29,900	47,900	145,000	155,000	62,100	27,400	24,600
22	21,800	60,000	20,500	15,700	36,100	27,700	43,300	168,000	176,000	76,800	27,000	21,800
23	19,300	76,900	23,700	10,900	38,100	26,700	39,200	157,000	169,000	90,200	26,300	20,700
24	19,300	83,100	23,200	8,540	37,000	26,100	39,200	151,000	148,000	102,000	25,400	19,700
25	25,600	65,800	21,400	7,450	34,800	25,600	48,600	147,000	133,000	90,200	24,600	19,100
26	28,800	55,000	20,100	6,850	41,600	26,100	52,200	138,000	136,000	73,300	24,400	18,700
27	23,200	44,800	18,500	5,980	46,400	32,000	47,200	120,000	152,000	63,900	23,400	17,700
28	19,700	38,600	17,700	6,850	39,300	33,100	41,500	131,000	169,000	61,600	23,000	17,500
29	20,100	40,300	17,000	9,180	-	32,000	38,300	171,000	187,000	57,400	23,200	17,400
30	19,700	44,500	16,200	10,500	-	29,300	41,200	212,000	163,000	52,000	25,400	17,700
31	18,500	-	16,200	11,200	-	26,600	-	235,000	-	47,400	27,400	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						583,600	46,900	10,500	18,530	1,158,000		
November.....						904,100	83,100	14,800	30,140	1,795,000		
December.....						716,840	46,900	9,840	25,120	1,422,000		
Calendar year 1934.....						8,990,900	83,100	8,680	24,530	17,530,000		
January.....						491,150	34,400	5,980	15,840	974,200		
February.....						774,300	46,400	12,600	27,650	1,536,000		
March.....						1,032,100	59,800	18,600	33,230	2,047,000		
April.....						978,200	52,200	21,800	32,610	1,940,000		
May.....						3,315,400	235,000	50,600	106,900	6,576,000		
June.....						5,955,000	301,000	109,000	198,500	11,810,000		
July.....						3,011,000	174,000	47,400	97,130	5,972,000		
August.....						973,400	44,200	23,000	31,400	1,931,000		
September.....						815,300	48,600	17,300	27,180	1,617,000		
Water year 1934-35.....						19,550,390	301,000	5,980	53,560	38,780,000		

## Missouri River near Bonnots Mill, Mo.

Location.- Water-stage recorder, lat. 38°35'44", long. 91°56'31", in SE¼ sec. 5, T. 44 N., R. 9 W., about 0.5 mile below Osage River and 1½ miles east of Bonnots Mill. Zero of gage is 511.25 feet (U. S. Coast and Geodetic Survey 1929 general adjustment) above mean sea level.

Drainage area.- 523,400 square miles.

Records available.- October 1931 to September 1935; December 1928 to September 1931 at Isbell, 2 miles downstream.

Extremes.- Maximum discharge during year, 417,000 second-feet June 6 (gage height, 27.05 feet); minimum, 12,400 second-feet Oct. 16 (gage height, 0.50 foot).  
1928-35: Maximum discharge, that of June 6, 1935; minimum, 10,000 second-feet Dec. 20, 1932 (gage height, -1.2 feet).

Remarks.- Records good.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61,100	22,700	77,000	30,400	27,800	55,100	33,100	48,600	320,000	213,000	52,400	30,000
2	55,100	20,200	64,100	26,300	29,800	44,100	35,400	63,600	358,000	217,000	48,600	28,400
3	44,000	19,800	54,900	26,800	29,800	33,700	39,200	85,000	392,000	211,000	45,400	27,300
4	34,200	26,700	70,000	28,900	28,800	28,800	37,900	93,500	409,000	205,000	43,400	30,000
5	28,800	28,800	83,400	27,700	29,800	41,200	36,600	86,200	413,000	194,000	41,400	33,600
6	26,700	25,700	79,600	21,700	33,100	45,600	37,200	84,500	417,000	186,000	40,600	52,400
7	24,200	25,700	67,000	17,300	33,000	63,200	39,300	81,900	411,000	165,000	43,000	48,200
8	21,700	22,700	53,400	31,000	29,900	69,000	40,900	78,600	398,000	146,000	45,800	40,600
9	19,800	22,700	51,600	53,400	29,900	65,000	44,100	77,600	383,000	134,000	43,400	36,000
10	19,800	24,200	33,700	56,800	31,000	87,700	46,900	77,600	368,000	124,000	41,000	33,400
11	17,900	24,200	31,000	53,400	29,300	94,400	47,200	80,800	357,000	116,000	38,600	33,400
12	17,000	22,200	28,800	42,700	29,900	96,600	48,300	81,900	353,000	109,000	36,300	34,400
13	16,100	20,700	26,700	35,400	31,000	80,000	49,600	81,400	328,000	114,000	34,400	34,100
14	14,400	21,300	25,200	28,800	35,400	66,600	46,600	101,000	290,000	108,000	34,400	32,700
15	13,300	19,500	24,700	32,000	37,900	55,800	37,500	115,000	260,000	96,200	34,400	30,700
16	12,900	19,500	23,700	34,800	41,200	52,000	39,200	115,000	246,000	83,900	34,400	28,000
17	14,400	20,200	21,700	37,900	43,400	49,900	42,400	119,000	234,000	75,700	33,800	30,200
18	15,900	19,300	27,800	36,600	45,600	41,900	44,800	113,000	216,000	71,800	34,100	33,600
19	15,900	18,200	33,100	38,500	61,400	46,600	45,500	110,000	205,000	69,300	39,000	34,200
20	22,200	17,800	33,700	38,500	50,600	50,800	49,400	128,000	192,000	68,800	35,600	41,700
21	24,200	25,700	34,200	35,400	48,900	49,900	61,500	162,000	208,000	68,300	33,000	37,100
22	23,700	48,900	35,400	40,300	50,600	46,600	56,200	174,000	238,000	72,800	31,800	30,400
23	24,700	82,300	39,200	38,900	51,900	48,200	53,500	171,000	244,000	91,300	30,700	26,700
24	27,800	97,800	35,400	31,900	49,100	39,200	50,000	169,000	208,000	106,000	29,600	24,600
25	37,200	92,700	34,800	27,700	46,600	34,200	49,200	164,000	176,000	123,000	28,400	24,900
26	39,900	75,400	31,000	26,200	51,600	40,500	51,500	157,000	181,000	100,000	27,300	25,700
27	37,000	69,500	31,000	24,700	60,500	44,900	63,700	146,000	217,000	81,300	26,700	25,200
28	31,000	60,900	33,700	20,300	64,200	49,100	54,900	167,000	230,000	72,800	27,300	23,500
29	24,200	55,800	33,700	23,700	-	50,800	45,600	221,000	235,000	68,800	26,700	22,100
30	22,700	68,000	37,200	27,200	-	49,800	42,700	260,000	228,000	63,600	26,400	20,600
31	23,700	-	31,500	28,200	-	44,900	-	292,000	-	58,000	28,000	-
Month						Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet	
October.....						812,500		61,100	12,900	26,210	1,612,000	
November.....						1,119,100		97,800	17,800	37,300	2,220,000	
December.....						1,288,200		83,400	21,700	41,560	2,555,000	
Calendar year 1934.....						11,052,800		97,800	10,900	30,280	21,920,000	
January.....						1,023,400		56,800	17,300	33,010	2,030,000	
February.....						1,122,000		64,200	27,800	40,070	2,225,000	
March.....						1,666,200		96,600	28,600	53,760	3,306,000	
April.....						1,369,500		63,700	33,100	45,650	2,716,000	
May.....						3,803,200		292,000	48,600	125,900	7,742,000	
June.....						8,715,000		417,000	176,000	290,500	17,290,000	
July.....						3,613,600		217,000	58,000	116,600	7,167,000	
August.....						1,115,900		52,400	26,400	36,000	2,213,000	
September.....						958,700		52,400	20,600	31,960	1,902,000	
Water year 1934-35.....						26,707,300		417,000	12,900	73,170	52,980,000	

## Missouri River at Hermann, Mo.

Location.- Water-stage recorder, lat. 38°42'36", long. 91°26'21", in SW $\frac{1}{4}$  sec. 25, T. 48 N., R. 5 W., at bridge on State Highway 19 at Hermann. Zero of gage is 481.49 feet (U. S. Coast and Geodetic Survey 1929 general adjustment) above mean sea level.

Drainage area.- 528,200 square miles.

Records available.- August 1928 to September 1935.

Extremes.- Maximum discharge during year, 473,000 second-feet June 7 (gage height, 29.15 feet); minimum discharge, 14,000 second-feet Oct. 17 (gage height, 1.20 feet). 1928-35: Maximum discharge, that of June 7, 1935; minimum, 10,700 second-feet Dec. 21, 1932; minimum gage height, 0.4 foot Dec. 22, 1932, Jan. 2, 14, 15, 1934. Maximum stage known, 35.7 feet in June, 1844.

Remarks.- Records good. Gage heights computed from gage readings furnished by U. S. Weather Bureau at same site, Dec. 10-12, 15-18, Jan. 21-31, Feb. 5-7, 12-21, Aug. 25-31, Sept. 1-4, 16, 17, 23-29.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.			
1	61,000	24,300	86,500	35,100	30,400	60,700	46,200	49,500	316,000	238,000	54,800	31,200			
2	58,100	23,200	73,600	35,100	31,000	51,600	38,200	63,800	361,000	236,000	51,100	31,000			
3	48,200	23,200	65,900	30,100	31,100	40,700	43,500	55,500	407,000	234,000	48,300	28,700			
4	37,700	33,000	69,200	31,900	33,100	35,300	43,500	98,300	436,000	220,000	45,800	29,200			
5	30,700	34,700	85,000	31,300	30,000	46,600	42,100	94,400	454,000	211,000	43,800	35,000			
6	27,400	30,700	84,000	27,100	33,100	50,600	42,300	96,100	450,000	198,000	42,600	49,400			
7	26,300	30,200	73,100	23,800	35,800	62,500	44,100	94,500	447,000	180,000	43,200	53,000			
8	23,200	28,500	59,600	32,300	33,700	74,900	51,100	89,100	439,000	154,000	46,300	45,100			
9	21,200	26,400	49,600	51,400	32,500	73,600	49,100	88,600	404,000	138,000	45,900	38,700			
10	20,200	26,400	41,400	59,800	33,100	90,000	53,700	85,000	396,000	129,000	42,900	35,100			
11	19,300	26,900	34,600	57,300	32,500	111,000	55,800	85,000	396,000	122,000	41,000	33,700			
12	18,400	26,400	33,500	50,900	29,400	117,000	55,000	88,600	372,000	117,000	38,400	34,100			
13	17,500	24,300	30,100	43,500	33,700	117,000	55,300	96,700	352,000	122,000	36,000	34,900			
14	16,600	23,700	28,000	36,900	35,700	118,000	55,500	113,000	323,000	115,000	35,800	33,900			
15	15,700	23,200	26,900	33,600	41,500	127,000	47,800	128,000	286,000	106,000	36,400	31,900			
16	14,400	22,200	26,400	37,900	42,100	109,000	41,500	126,000	273,000	91,800	36,400	29,100			
17	14,800	22,200	26,300	41,800	44,200	80,000	45,600	127,000	269,000	82,500	36,000	29,000			
18	16,600	21,700	26,300	42,600	46,200	59,300	49,700	122,000	252,000	76,600	35,500	33,900			
19	17,500	20,700	32,900	42,100	50,400	53,300	47,700	118,000	239,000	75,600	35,300	35,100			
20	20,200	20,200	34,600	45,500	52,600	57,000	47,600	136,000	235,000	72,600	40,000	41,100			
21	24,800	22,700	35,600	43,500	49,800	57,000	57,200	165,000	237,000	72,600	35,500	42,200			
22	25,300	34,100	36,900	42,100	51,100	54,800	60,700	187,000	265,000	73,500	33,800	34,400			
23	24,800	66,900	41,600	49,000	51,900	51,100	57,200	188,000	284,000	87,500	32,500	28,600			
24	27,400	94,600	42,400	39,400	51,900	47,600	55,700	184,000	273,000	108,000	32,000	26,800			
25	42,100	99,000	39,700	34,100	54,800	44,800	53,100	177,000	231,000	127,000	30,400	26,300			
26	45,500	84,000	38,500	29,500	51,900	46,200	57,200	169,000	206,000	115,000	29,200	26,400			
27	40,100	72,400	35,000	28,700	56,300	51,900	63,900	156,000	232,000	88,600	28,600	26,400			
28	35,900	65,400	37,300	27,000	64,100	54,800	63,300	164,000	264,000	76,200	27,700	24,800			
29	28,500	58,400	36,900	23,700	-	58,600	54,000	218,000	268,000	70,400	27,700	23,000			
30	24,800	70,800	39,900	29,300	-	57,000	47,800	258,000	254,000	65,300	27,100	21,300			
31	24,300	-	40,800	30,300	-	54,800	-	284,000	-	60,100	27,100	-			
Month						Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet	
October						867,500		61,000		14,400		27,980		1,721,000	
November						1,180,400		99,000		20,200		39,350		2,341,000	
December						1,412,100		86,500		26,300		45,550		2,801,000	
Calendar year 1934						11,887,300		99,000		12,400		32,570		23,560,000	
January						1,166,600		59,800		23,700		37,630		2,314,000	
February						1,163,900		64,100		29,400		41,570		2,309,000	
March						2,113,700		127,000		35,300		68,180		4,192,000	
April						1,524,400		63,900		38,200		50,810		3,024,000	
May						4,132,100		284,000		49,500		133,300		8,196,000	
June						9,619,000		454,000		206,000		320,600		19,080,000	
July						3,861,200		238,000		60,100		124,600		7,659,000	
August						1,171,100		54,800		27,100		37,780		2,323,000	
September						995,300		53,000		21,300		33,110		1,970,000	
Water year 1934-35						29,205,300		454,000		14,400		80,010		57,930,000	

## Missouri River at Ruegg, Mo.

Location.- Wire gage, lat. 38°50'31", long. 90°14'14", in T. 47 N., R. 7 E., at highway bridge 50 feet below Chicago, Burlington & Quincy Railroad bridge, a quarter of a mile northeast of Ruegg, and 8 miles above confluence with Mississippi River. Zero of gage is 399.23 feet above mean sea level (U. S. Coast and Geodetic Survey 1929 general adjustment).

Drainage area.- 529,300 square miles (revised).

Records available.- March 1933 to October 1935 (discontinued).

Extremes.- Maximum discharge observed during year, 436,000 second-feet June 8 (gage height, 29.7 feet); minimum, 14,500 second-feet (discharge measurement) Oct. 18 (gage height, 2.35 feet).  
1933-35: Maximum observed discharge, that of June 8, 1935; minimum, 12,600 second-feet (discharge measurement) Jan. 16, 1934 (gage height, 2.27 feet).  
Maximum stage known, 58.4 feet in June 1844.

Remarks.- Records good. Gage-height record furnished by Corps of Engineers, U. S. Army. Stage-discharge relation affected by shifting channel and at times by backwater from Mississippi River.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62,700	25,000	75,900	44,200	29,400	63,300	54,800	49,500	273,000	253,000	62,100	27,600
2	62,200	25,000	81,600	37,800	30,500	64,300	49,700	50,800	298,000	254,000	57,200	29,900
3	60,400	24,000	73,900	36,200	31,100	56,500	39,200	66,900	326,000	247,000	52,800	31,300
4	53,000	24,000	65,100	31,900	32,200	45,700	41,200	83,700	352,000	247,000	48,500	29,900
5	43,600	33,600	64,000	32,200	32,200	40,600	43,300	97,200	389,000	236,000	46,600	28,500
6	35,000	35,200	82,500	32,600	32,200	47,800	43,200	97,400	416,000	223,000	44,700	32,000
7	26,800	32,200	87,000	30,500	33,600	51,900	43,500	103,000	430,000	208,000	43,600	44,500
8	28,200	29,600	74,000	26,700	36,500	58,500	45,300	97,500	456,000	185,000	43,300	53,000
9	25,000	29,300	63,300	*34,500	35,800	73,200	51,500	88,700	430,000	158,000	46,500	47,700
10	22,800	26,800	51,800	49,700	33,600	74,100	50,100	88,700	419,000	139,000	45,700	40,300
11	21,000	27,800	*43,100	58,200	32,900	104,000	54,400	86,000	413,000	136,000	43,100	36,000
12	20,300	26,700	36,000	58,200	31,500	119,000	56,900	84,200	400,000	124,000	41,300	34,100
13	19,200	25,500	34,800	53,000	*30,800	120,000	57,200	88,500	386,000	134,000	39,500	33,600
14	18,000	25,000	31,200	*45,100	*32,900	119,000	*55,300	101,000	370,000	121,000	38,000	36,300
15	17,000	23,100	29,100	41,000	37,200	120,000	*54,000	121,000	349,000	112,000	36,200	34,100
16	16,000	23,100	27,500	35,500	40,200	127,000	50,700	128,000	315,000	101,000	36,500	33,600
17	15,000	22,500	27,000	*37,500	41,900	106,000	*44,200	124,000	290,000	91,000	36,700	30,800
18	14,600	22,000	27,000	40,200	*45,600	79,000	48,100	123,000	275,000	*82,000	36,500	29,200
19	16,200	22,000	26,800	43,600	*44,900	57,700	55,200	123,000	256,000	77,000	36,000	33,000
20	17,500	21,000	29,300	43,100	48,100	51,800	50,700	125,000	250,000	74,300	37,500	35,300
21	19,000	20,500	35,500	44,100	53,900	54,600	48,800	144,000	245,000	73,400	40,500	37,500
22	23,800	20,500	37,300	*43,000	51,400	55,300	54,800	155,000	250,000	78,000	36,000	41,500
23	25,600	27,400	37,800	40,200	50,500	53,500	60,900	174,000	271,000	79,000	34,200	35,800
24	24,400	65,800	42,600	45,200	52,200	49,600	57,700	181,000	*288,000	85,000	*33,000	30,100
25	28,400	94,800	45,300	43,400	52,200	48,200	56,000	177,000	292,000	107,000	32,400	27,400
26	42,600	99,700	42,600	38,500	54,900	47,600	53,000	174,000	250,000	124,000	31,000	26,800
27	43,900	85,000	41,800	33,100	53,900	56,000	53,700	163,000	214,000	112,000	30,100	28,400
28	41,000	76,300	37,800	29,400	53,900	56,000	63,300	159,000	216,000	*90,000	28,700	28,800
29	37,000	66,100	37,800	27,400	-	52,700	64,900	160,000	254,000	78,000	28,000	26,000
30	31,000	61,600	38,500	24,400	-	56,500	56,600	206,000	266,000	71,600	28,000	24,400
31	25,400	-	40,300	26,800	-	57,900	-	243,000	-	68,000	27,400	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						939,200	62,700	14,600	30,300	1,863,000		
November.....						1,143,100	99,700	20,500	38,100	2,267,000		
December.....						1,467,500	87,000	26,600	47,340	2,911,000		
Calendar year 1934.....						11,993,800	99,700	13,000	32,860	23,790,000		
January.....						1,210,200	56,200	24,400	39,400	2,400,000		
February.....						1,132,800	54,900	29,400	40,460	2,247,000		
March.....						2,151,300	127,000	40,600	69,400	4,267,000		
April.....						1,560,500	64,900	39,200	52,010	3,095,000		
May.....						3,865,100	243,000	49,500	124,700	7,666,000		
June.....						9,619,000	436,000	214,000	320,600	19,080,000		
July.....						4,179,300	263,000	68,000	134,900	8,288,000		
August.....						1,221,600	62,100	27,400	39,410	2,423,000		
September.....						1,002,700	53,000	24,400	35,420	1,969,000		
Water year 1934-35.....						29,491,100	436,000	14,600	80,800	58,490,000		

\*Estimated.

Discharge, in second-feet, October 1935

Oct. 1	22,600	Oct. 6	23,300	Oct. 11	24,200	Oct. 16	18,400	Oct. 21	22,500	Oct. 26	27,500
2	22,000	7	22,600	12	25,600	17	18,900	22	21,400	27	34,800
3	22,000	8	22,000	15	24,300	18	20,400	23	19,900	28	32,200
4	24,000	9	22,500	14	22,500	19	22,500	24	19,400	29	29,400
5	25,600	10	22,600	15	21,000	20	22,500	25	23,100	31	23,700

Note.- Mean discharge for October 1935, 23,500 second-feet; run-off, 1,445,000 acre-feet.

## Ruby River at dam site near Alder, Mont.

Location.- Wire-weight gage, lat. 45°14', long. 112°6'30", in SE $\frac{1}{4}$  sec. 8, T. 7 S., R. 4 W., 1,500 feet above dam site and 6 miles south of Alder.

Records available.- June to September 1935.

Discharge.- Maximum discharge during period, 740 second-feet June 9 (gage height, 3.02 feet); minimum, 44 second-feet Aug. 7 (gage height, 1.40 feet).

Remarks.- Records good. Numerous diversions above and below gage.

Rating table, June 6 to Sept. 30, 1935 (gage height, in feet, and discharge, in second-feet)

1.3	23	2.2	324
1.5	68	2.4	422
1.7	125	2.6	526
1.9	195	2.8	632
2.0	235	3.0	740

Discharge, in second-feet, June to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									-	191	54	54
2									-	163	54	54
3									-	146	54	54
4									-	142	49	54
5									-	152	49	49
6									578	142	49	54
7									578	129	46	54
8									632	126	49	54
9									686	120	49	54
10									632	111	49	54
11									632	102	49	54
12									632	93	49	54
13									686	82	49	54
14									578	79	49	54
15									500	79	49	56
16									422	74	49	58
17									348	74	49	58
18									310	74	49	58
19									301	74	54	58
20									278	74	56	58
21									256	93	54	58
22									231	96	58	58
23									244	96	58	63
24									223	90	58	63
25									211	88	58	63
26									184	82	54	63
27									170	74	49	63
28									173	66	56	63
29									159	63	58	63
30									219	63	58	63
31									-	58	58	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year .....												
January.....												
February.....												
March.....												
April.....												
May.....												
June 6-30 .....						9,863	686	159	394	19,560		
July.....						3,096	191	58	99.9	6,140		
August.....						1,623	58	46	52.4	3,220		
September.....						1,717	63	49	57.2	3,410		
The period.....											32,330	

## RUBY RIVER BASIN

Ruby River near Alder, Mont.

Location.- Staff gage, lat.  $45^{\circ}18'30''$ , long.  $112^{\circ}5'30''$ , in SW $\frac{1}{4}$  sec. 21, T. 6 S., R. 4 W., 1,000 feet below highway bridge  $\frac{1}{2}$  miles south of Alder.

Records available.- April 1929 to September 1935.

Extremes.- Maximum discharge during year, 530 second-feet June 9 (gage height, 2.58 feet); minimum, 5 second-feet (estimated) Dec. 26-31, Jan. 6-20.  
1929-35: Maximum discharge, 745 second-feet May 25, 1929 (gage height, 3.53 feet); minimum, 3.2 second-feet July 23, Aug. 11, 1934 (gage height, 0.36 foot).

Remarks.- Records good except those for period of ice effect, Nov. 21 to Mar. 14, which are poor. Numerous diversions. No storage.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	15	8	10	50	25	72	104	313	151	12	19
2	29	16					57	89	266	125	9.5	21
3	30	15					60	85	250	102	10	19
4	28	12					66	78	250	71	9.5	18
5	29	12					60	80	234	75	14	18
6	35	13	9	35	35		57	84	330	71	22	19
7	37	15				57	87	346	58	19	22	
8	39	13				63	78	470	54	22	21	
9	37	16				75	58	530	23	20	12	
10	35	24				63	85	415	15	26	17	
11	35	24	11	5		25	47	60	67	398	14	28
12	35	29			60		75	62	415	14	28	14
13	42	11			75		89	59	450	14	30	15
14	37	10			80		128	56	346	12	28	18
15	39	10			93		114	56	313	9.5	26	17
16	33	10	12	40	40		89	119	58	281	9.5	26
17	31	11				86	128	104	219	10	25	24
18	31	11				82	101	123	183	17	25	22
19	33	12				79	106	128	161	12	26	27
20	24	12				75	111	100	140	14	32	31
21	27	10	20	30		86	125	156	125	16	30	31
22	21				82	161	250	111	17	31	31	
23	22				75	128	234	102	19	30	34	
24	21				79	113	313	93	23	27	40	
25	19				75	96	363	78	23	22	32	
26	21	5	40		-	75	111	330	66	16	19	42
27	24			79		125	313	63	12	19	48	
28	21			89		116	250	68	12	19	44	
29	22			66		87	250	61	12	21	42	
30	19			60		100	250	116	15	20	40	
31	16	-	-	-		63	-	380	-	10	22	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						699	42	16	29.0	1,780		
November.....						391	29	-	13.0	776		
December.....						290	-	-	9.4	575		
Calendar year .....												
January.....						465	-	-	15.0	922		
February.....						990	-	-	35.4	1,960		
March.....						1,845	93	-	59.5	3,660		
April.....						2,823	161	57	94.1	5,600		
May.....						4,730	380	56	163	9,380		
June.....						7,243	530	61	241	14,370		
July.....						1,046	151	9.5	33.7	2,070		
August.....						698	32	9.5	22.5	1,380		
September.....						773	48	12	25.8	1,530		
Water year 1934-35.....						22,193	530	-	60.8	44,000		



## Big Hole River near Melrose, Mont.

Location.—Water-stage recorder, lat. 45°31'30", long. 112°41'30", in SE¼ sec. 3, T. 4 S., R. 9 W., at highway bridge 8 miles south of Melrose.

Records available.—October 1931 to September 1935. Comparable records 1½ miles upstream March 1924 to September 1931.

Extremes.—Maximum discharge during year, 4,520 second-feet June 13 (gage height, 4.47 feet); minimum, 112 second-feet at various times (gage height, 1.01 feet).  
1924-35: Maximum discharge, 9,230 second-feet May 28, 27, 1928 (gage height, 7.60 feet, former site and datum; minimum, 49 second-feet Aug. 17, 1931 (gage height, 0.70 foot, former site and datum).  
Maximum stage, 14.0 feet at former site and datum (from high-water mark) June 10, 1927 (discharge not determined).

Remarks.—Records good except those for cold-weather period, Dec. 1 to Mar. 20, which are fair. Several diversions above station. Flow partly regulated by power plant operation. Periods of ice effect, Dec. 5-7, Dec. 26 to Jan. 2, Jan. 11 to Feb. 20, Mar. 4-13.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	252	477	379	333	452	290	544	1,530	3,700	1,090	301	158
2	252	504	344	356	433	290	333	1,490	3,810	1,060	295	161
3	271	510	333	464	433	301	361	1,370	3,810	980	285	164
4	290	504	361	414	427	285	356	1,300	3,490	920	276	158
5	266	497	350	477	390	252	361	1,330	3,280	1,050	271	161
6	261	504	333	452	350	238	350	1,520	3,280	1,020	252	155
7	266	517	328	445	322	242	367	1,680	3,390	970	242	152
8	312	510	317	433	301	252	379	1,720	3,490	990	229	150
9	385	497	276	396	290	256	408	1,650	3,700	970	217	150
10	350	490	295	390	301	247	445	1,600	3,700	902	208	147
11	328	484	271	414	276	256	477	1,660	3,700	814	193	147
12	306	477	276	390	266	295	544	1,620	3,700	766	189	147
13	317	455	312	361	261	317	742	1,520	4,150	712	175	144
14	356	445	317	361	242	452	1,440	1,510	4,270	660	164	138
15	361	445	344	356	271	464	2,080	1,460	4,150	600	155	138
16	402	445	322	350	295	427	2,770	1,370	3,600	558	152	135
17	427	445	356	373	285	445	2,480	1,370	3,070	530	152	125
18	445	452	361	306	322	452	1,950	1,510	2,480	504	147	128
19	477	471	396	266	328	421	1,760	1,560	2,150	477	144	128
20	517	477	390	266	317	464	2,000	1,590	1,890	452	141	130
21	504	484	356	266	312	445	2,300	1,660	1,700	439	138	132
22	504	452	361	402	301	452	2,580	1,840	1,520	421	130	128
23	523	433	356	477	312	402	2,220	2,220	1,390	396	128	118
24	530	433	373	385	312	414	1,860	3,070	1,500	402	130	118
25	537	421	356	452	306	402	1,460	3,390	1,170	390	138	120
26	551	396	350	497	328	379	1,560	3,380	1,010	379	138	122
27	544	322	339	510	333	390	1,720	3,280	940	373	132	125
28	517	317	328	484	306	367	1,720	3,180	902	361	128	122
29	504	339	280	537	-	395	1,580	2,970	911	333	125	125
30	490	356	333	530	-	344	1,520	2,870	1,020	322	130	130
31	477	-	322	510	-	373	-	3,070	-	312	155	-
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	12,512					551	252	404	24,820			
November.....	13,562					517	317	452	26,900			
December.....	10,415					396	271	336	20,660			
Calendar year												
January.....	12,653					537	266	408	25,100			
February.....	9,072					452	242	324	17,990			
March.....	10,989					464	238	354	21,800			
April.....	38,467					2,770	333	1,282	76,300			
May.....	61,280					3,380	1,300	1,977	121,500			
June.....	80,643					4,270	902	2,698	160,000			
July.....	20,153					1,060	312	560	39,970			
August.....	5,660					301	125	183	11,230			
September.....	4,156					164	118	139	8,240			
Water year 1934-35.....	279,562					4,270	118	765	554,500			

## Boulder River near Boulder, Mont.

Location.— Chain gage, lat. 46°13', long. 112°5', in sec. 32, T. 6 N., R. 4 W., at Highway bridge 2 miles east of Boulder.

Records available.— April 1929 to September 1931, March 1934 to September 1935.

Extremes.— Maximum discharge during year, 488 second-feet May 24 (gage height, 8.12 feet); minimum, 5.3 second-feet September 21-30; minimum gage height, 5.74 feet Aug. 4 to Sept. 5, Sept. 7-30.

1929-1931, 1934-35: Maximum discharge, 1,480 second-feet May 25, 1929 (gage height, 9.90 feet); no flow Mar. 5, July 15-17, 21, 1931.

Remarks.— Records fair. Numerous diversions above station.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.			
1	6.1	23	18	22	21	23	23	106	447	42	9.9	6.1			
2	6.1	26	17	22	21	21	21	98	389	35	9.9	6.1			
3	6.1	26	17	22	26	24	28	78	320	31	9.9	6.1			
4	6.1	23	16	22	26	23	26	84	320	30	7.8	6.1			
5	7.2	23	20	22	26	23	26	98	248	35	7.8	6.1			
6	7.2	23	23	22	26	23	26	161	246	56	7.8	6.7			
7	7.2	23	21	22	26	23	24	161	236	35	7.8	6.1			
8	7.2	23	21	24	21	23	28	136	200	46	7.8	6.1			
9	8.5	21	20	24	20	23	28	128	180	46	7.8	6.1			
10	8.5	21	20	24	20	21	28	144	161	42	7.8	6.1			
11	8.3	20	20	22	23	21	28	136	144	35	7.8	5.6			
12	9.4	20	20	22	23	21	37	128	152	30	7.8	5.6			
13	9.4	20	20	22	23	26	48	120	152	21	7.8	5.6			
14	10	20	20	22	23	35	46	113	152	20	7.8	5.6			
15	10	20	20	22	23	37	144	113	144	15	7.8	5.6			
16	10	20	20	23	23	31	200	144	144	12	7.8	5.6			
17	12	20	20	23	24	31	144	200	113	11	7.8	5.6			
18	13	24	20	23	21	31	170	180	98	9.9	7.8	5.6			
19	14	24	20	23	23	28	136	200	90	9.9	7.8	5.6			
20	17	16	20	23	23	30	161	212	78	9.9	7.8	5.6			
21	17	20	21	23	26	23	161	275	70	9.9	7.2	5.3			
22	19	13	21	23	26	31	161	389	63	12	7.2	5.3			
23	22	13	24	23	24	23	144	488	58	11	7.2	5.3			
24	25	20	24	24	24	35	144	488	42	9.9	7.2	5.3			
25	25	20	24	24	26	30	95	488	33	9.9	7.2	5.3			
26	22	13	23	28	24	28	113	389	26	9.9	6.7	5.3			
27	22	14	21	21	23	21	161	389	26	9.9	6.7	5.3			
28	20	16	21	21	23	20	84	320	26	9.9	6.7	5.3			
29	19	16	21	21	-	20	65	320	26	9.9	6.7	5.3			
30	19	17	21	21	-	20	120	320	35	9.9	6.7	5.3			
31	19	-	21	21	-	28	-	352	-	9.9	6.7	-			
Month						Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet	
October.....						411.9		25		6.1		13.3		617	
November.....						598		26		13		19.9		1,190	
December.....						637		24		17		20.5		1,260	
Calendar year .....															
January.....						701		28		21		22.6		1,390	
February.....						658		26		20		23.5		1,310	
March.....						797		37		20		25.7		1,580	
April.....						2,620		200		21		87.3		5,200	
May.....						6,958		488		78		224		13,600	
June.....						4,421		447		26		147		8,770	
July.....						683.8		56		9.9		22.1		1,360	
August.....						238.5		9.9		6.7		7.69		473	
September.....						170.6		6.7		5.3		5.69		338	
Water year 1934-35.....						18,894.8		488		5.3		51.8		37,490	

## Madison River near West Yellowstone, Mont.

Location.- Water-stage recorder, lat. 44°39', long. 111°4', a quarter of a mile upstream from Riverside ranger station and 1½ miles east of West Yellowstone and west boundary of Yellowstone National Park.

Drainage area.- 419 square miles.

Records available.- June 1913 to September 1935.

Average discharge.- 19 years (1913-17, 1918-21, 1923-35), 484 second-feet.

Extremes.- Maximum discharge during year, 1,060 second-feet May 26 (gage height, 2.54 feet); minimum discharge, 285 second-feet Jan. 20.

1913-35: Maximum discharge, 1,950 second-feet June 10, 1917; minimum (estimated), 100 second-feet Feb. 7, 1933.

Remarks.- Records good. Discharge estimated Nov. 25-30, Dec. 30, 31, Jan. 1, 2, 13-18, 21-23, Feb. 26, Apr. 21-26, interpolated Oct. 7, 8, 14, 28, 29, Mar. 8, Apr. 11, 12, July 14, 21, 22, Aug. 23, Sept. 15. No diversions or regulation. Gage-height record furnished by officials of Yellowstone National Park.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	295	300	310	320	320	300	325	409	973	430	325	325
2	295	310	305	320	330	300	325	409	772	423	320	315
3	295	300	305	315	335	310	335	409	762	416	320	315
4	290	300	305	310	330	310	359	398	791	409	320	310
5	290	305	305	315	325	305	353	393	820	402	320	305
6	290	320	310	320	325	305	341	416	880	395	315	305
7	290	315	305	315	335	305	335	436	931	393	310	305
8	290	305	305	325	330	302	353	423	973	377	310	305
9	290	300	305	320	315	300	359	430	984	377	310	300
10	290	300	305	315	315	315	347	518	952	371	310	300
11	290	300	305	315	320	315	361	549	931	365	305	300
12	290	300	305	320	325	310	375	518	900	365	305	300
13	290	295	305	320	325	320	389	495	900	359	305	300
14	292	300	310	320	325	330	409	479	900	353	305	300
15	295	300	315	320	315	371	430	472	830	347	305	302
16	310	300	320	320	310	341	510	526	724	353	305	305
17	300	300	325	320	310	330	457	583	661	377	305	305
18	295	300	325	320	310	347	430	608	625	359	325	305
19	305	300	330	325	310	330	423	634	617	353	320	305
20	305	300	330	281	315	330	497	625	625	353	315	305
21	295	295	330	300	325	335	600	670	575	347	315	300
22	300	295	310	320	320	335	600	762	566	341	315	295
23	300	295	315	330	325	330	500	890	549	335	328	310
24	305	300	320	330	310	330	460	931	533	330	341	325
25	315	300	325	335	295	325	400	942	495	330	320	315
26	310	300	330	325	300	320	420	984	472	335	310	310
27	300	300	341	325	305	315	430	984	457	330	310	305
28	298	300	347	325	300	315	395	910	464	325	315	305
29	297	300	325	325	-	330	377	830	457	325	310	305
30	295	300	320	320	-	330	409	860	443	320	315	300
31	295	-	310	320	-	335	-	942	-	320	320	-

  

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	9,197	315	290	267	0.709	0.82	19,240
November.....	9,035	320	295	301	.718	.80	17,920
December.....	9,203	347	305	316	.754	.97	19,440
Calendar year 1934.....	120,284	583	265	330	.788	10.68	238,600
January.....	9,891	335	281	319	.761	.98	19,620
February.....	8,805	335	295	318	.759	.79	17,660
March.....	9,976	371	300	322	.769	.99	19,790
April.....	12,284	600	325	409	.976	1.09	24,360
May.....	19,415	984	383	626	1.49	1.72	39,510
June.....	21,562	984	443	719	1.72	1.92	42,770
July.....	11,805	430	320	361	.862	.99	22,220
August.....	9,754	341	305	315	.752	.87	19,350
September.....	9,182	325	295	306	.730	.91	18,210
Water year 1934-35.....	140,209	984	281	384	.916	12.45	278,100

## Gallatin River near Gallatin Gateway, Mont.

Location.- Water-stage recorder, lat. 45°30'30", long. 111°16', in NE¼ sec. 18, T. 4 S., R. 4 E., a quarter of a mile below mouth of Spanish Creek and 8 miles south of Gallatin Gateway.

Drainage area.- 810 square miles.

Records available.- August 1889 to June 1894, June 1930 to September 1935.

Extremes.- Maximum discharge during year, 4,340 second-feet June 13 (gage height, 5.09 feet); minimum, 117 second-feet Jan. 19 (gage height, 0.68 foot).  
1930-35: Maximum discharge, 5,780 second-feet June 16, 1932 (gage height, 4.60 feet, former site and datum); minimum, 117 second-feet Jan. 19, 1935 (gage height, 0.68 foot).

Remarks.- Records good.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	276	280	207	214	211	217	184	406	2,080	1,690	524	439
2	272	286	198	220	211	217	187	386	2,020	1,550	519	391
3	276	284	192	230	217	217	187	365	1,800	1,480	501	386
4	268	284	204	227	220	201	340	1,860	1,480	490	380	
5	260	268	207	237	224	207	204	380	2,190	1,420	484	380
6	253	268	220	224	230	204	201	417	2,550	1,370	472	380
7	249	264	207	224	237	204	198	439	2,670	1,320	461	380
8	280	284	190	224	237	211	207	426	3,120	1,260	450	370
9	284	260	195	211	227	214	224	417	3,380	1,210	444	365
10	253	256	204	201	220	201	207	515	3,660	1,130	439	360
11	249	249	207	220	224	201	217	530	3,660	1,070	422	355
12	249	249	207	214	227	207	249	507	3,920	1,000	417	345
13	253	249	214	201	245	227	360	501	4,200	952	412	340
14	256	256	241	207	241	220	335	487	3,920	918	412	330
15	260	256	237	227	234	237	350	461	3,520	876	401	335
16	280	253	207	224	220	214	401	519	2,990	860	406	335
17	276	253	217	214	217	201	345	611	2,670	934	406	330
18	268	260	224	214	220	214	330	722	2,550	862	439	320
19	272	256	224	195	224	201	340	797	2,650	797	428	320
20	268	260	224	181	227	211	396	782	2,610	782	412	311
21	260	237	224	201	227	204	467	876	2,490	797	396	307
22	272	234	224	207	220	211	542	1,210	2,490	759	391	311
23	272	245	214	245	220	198	439	1,480	2,610	714	386	311
24	272	234	220	249	181	198	380	1,800	2,490	671	406	316
25	276	227	217	234	197	201	340	1,860	2,140	638	391	311
26	276	230	220	227	195	187	370	1,910	1,960	611	380	302
27	268	211	230	220	211	178	428	1,800	1,860	586	375	302
28	272	217	220	220	217	184	391	1,580	1,910	567	380	302
29	268	214	207	211	-	192	355	1,580	1,910	555	375	302
30	268	198	227	211	-	190	401	1,660	1,660	543	330	298
31	276	-	214	211	-	184	-	1,960	-	530	428	-
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	8,242					280	249	266	16,550			
November.....	7,451					265	193	249	14,800			
December.....	6,646					241	190	214	13,180			
Calendar year .....												
January.....	6,745					249	181	218	13,380			
February.....	6,171					245	181	220	12,240			
March.....	6,372					237	178	208	12,540			
April.....	9,436					542	184	315	18,720			
May.....	27,724					1,960	340	894	54,990			
June.....	79,640					4,200	1,800	2,555	158,000			
July.....	29,907					1,690	530	965	59,520			
August.....	13,227					524	376	427	26,240			
September.....	10,214					439	298	340	20,260			
Water year 1934-35 .....	211,785					4,200	178	580	420,100			

## Gallatin River at Logan, Mont.

Location.- Wire gage, lat. 45°53'30", long. 111°27', in sec. 26, T. 2 N., R. 2 E., at Highway bridge half a mile west of Logan.

Records available.- August 1893 to December 1905, August 1928 to September 1935.

Extremes.- Maximum discharge recorded during year, 3,630 second-feet June 14 (gage height, 5.94 feet); minimum, 202 second-feet July 27 (gage height, 2.38 feet).  
1893-1905, 1928-35: Maximum discharge, 4,570 second-feet June 17, 1929 and June 16, 1932; maximum gage height, 6.44 feet June 17, 1929; minimum discharge, 143 second-feet July 21, 1934 (gage height, 2.14 feet).

Remarks.- Records good except those for periods of ice effect, Dec. 24 to Jan. 7, Jan. 10 to Feb. 1, Feb. 10-13, Mar. 8-10, which are fair. Discharge interpolated July 28, Aug. 4, 21, 30. Numerous diversions above station.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

2.0	116	3.4	665	4.8	1,990
2.2	156	3.6	790	5.0	2,250
2.4	208	3.8	945	5.2	2,530
2.6	285	4.0	1,120	5.4	2,820
2.8	370	4.2	1,310	5.6	3,130
3.0	460	4.4	1,520	5.8	3,460
3.2	560	4.6	1,750	6.0	3,810

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	325	325	325		485	510	485	610	1,160	610	212	305
2	325	325	348		485	510	510	610	1,310	535	219	305
3	348	325	348		485	510	510	610	1,120	510	215	305
4	325	325	370		485	510	485	560	1,030	460	217	305
5	325	325	392	480	510	485	560	535	1,120	485	219	305
6	325	305	438		510		510	535	1,520	460	219	325
7	325	305	415		510		510	560	1,330	415	212	348
8	325	325	415	510	510	480	535	560	2,120	415	208	348
9	325	325	510	510	485		610	510	2,670	392	212	348
10	325	305	510				560	510	2,970	370	212	348
11	325	305	560		480	485	560	560	2,970	305	215	348
12	305	325	555			510	610	560	3,130	305	212	348
13	325	325	460			585	828	535	3,200	285	226	348
14	348	325	460		485	828	988	510	3,630	265	212	325
15	325	325	460	410	510	1,030	725	510	3,290	265	212	325
16	370	325	485		510	658	758	460	2,530	265	212	325
17	370	325	485		510	610	725	435	1,990	235	219	325
18	348	325	485		485	585	835	485	1,750	226	234	325
19	348	325	510		510	560	610	585	1,520	215	245	348
20	348	348	510		510	560	610	610	1,520	230	245	325
21	325	348	510		510	535	665	585	1,410	226	243	325
22	348	348	535		510	560	865	610	1,310	230	241	325
23	348	348	485		510	510	790	790	1,410	245	245	325
24	348	325			485	535	695	1,120	1,310	230	265	325
25	325	348			485	535	610	1,310	968	234	265	325
26	325	348		460	485	585	585	1,410	790	219	245	325
27	325	348			485	510	560	1,510	695	202	265	348
28	325	325			510	510	610	1,080	638	204	265	348
29	325	325				535	610	1,030	585	205	265	348
30	325	325			-	510	585	905	610	219	275	348
31	325	-			-	510	-	1,160	-	212	285	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						10,329	370	305	333	20,490		
November.....						9,631	348	305	328	19,500		
December.....						14,391	560	325	464	26,540		
Calendar year .....												
January.....						13,950	510	-	450	27,670		
February.....						13,885	510	-	496	27,540		
March.....						17,151	1,030	-	553	34,020		
April.....						16,902	968	485	630	37,490		
May.....						22,163	1,410	438	715	43,960		
June.....						52,016	3,630	585	1,734	103,200		
July.....						9,677	610	202	512	19,190		
August.....						7,236	285	206	235	14,350		
September.....						9,926	348	305	331	19,690		
Water year 1934-35.....						199,457	3,630	202	546	395,600		

Hyalite Creek at Hyalite ranger station, near Bozeman, Mont.

(Formerly published as Middle Creek near Bozeman, Mont.)

Location.- Water-stage recorder, lat. 45°33'30", long. 111°3'30", in NE¼ sec. 23, T. 3 S., R. 5 E., 7½ miles south of Bozeman.

Records available.- September 1934 to September 1935. Comparable record published as Middle Creek near Bozeman, August 1895 to October 1896, April 1898 to October 1900, May to September 1902, October to November 1904.

Extremes.- Maximum discharge during year, 441 second-feet June 13 (gage height, 2.18 feet); minimum, 9.6 second-feet Jan. 14.  
1895-96, 1896-1900, 1902-3, 1934-35: Maximum discharge, 956 second-feet June 14, 1898; minimum, 9.6 second-feet Jan. 14, 1935.

Remarks.- Records fair.

Discharge, in second-feet, Sept. 13-30, 1934

Sept. 13	15	Sept. 19	14	Sept. 25	16
14	15	20	14	26	16
15	15	21	15	27	17
16	15	22	18	28	20
17	15	23	16	29	20
18	14	24	16	30	20

Note.- Mean discharge, Sept. 13-30, 17.2 second-feet; run-off, .581 acre-feet.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	20	20	15	10	10	10	11	37	311	139	50	34		
2	20	20						32	208	169	50	32		
3	21	19						30	159	164	48	30		
4	19	18						32	148	159	45	28		
5	19	19	11	10	10	10	10	38	175	153	43	27		
6	18	19						45	232	153	40	29		
7	18	18						43	267	139	40	29		
8	20	18						45	330	148	38	27		
9	19	17	11	10	11	12	15	50	350	148	37	26		
10	18	17						70	356	148	35	24		
11	18	17						70	330	148	35	24		
12	18	17						70	350	143	35	24		
13	19	17	11	9	11	12	15	63	421	143	35	24		
14	19	18						58	375	134	35	24		
15	20	18						63	286	134	37	26		
16	21	18						220	134	37	24			
17	20	17	10	8	14	20	20	180	130	40	23	23		
18	20	17						164	116	43	23	23		
19	18	17						180	107	48	22	22		
20	18	16						180	111	43	22	22		
21	18	15	10	9	12	13	26	202	186	116	43	22		
22	20							208	208	102	40	22		
23	19							237	226	91	43	22		
24	19							261	180	88	45	22		
25	20	15	12	12	10	10	30	255	148	80	45	22		
26	19							29	232	139	70	44	22	
27	18							37	202	148	63	42	22	
28	18							30	175	166	58	40	22	
29	18	15	12	12	-	10	-	166	191	58	39	22		
30	18							30	186	191	58	39	22	
31	20							37	202	180	56	38	22	
		-						186			53	36		-
Month						Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....						591		21	18	19.1	1,170			
November.....						507		20	-	16.9	1,010			
December.....						357		-	-	11.5	708			
Calendar year .....														
January.....						302		-	-	9.7	599			
February.....						321		-	-	11.5	637			
March.....						395		-	-	12.4	764			
April.....						553		37	-	18.4	1,100			
May.....						3,324		261	30	107	6,590			
June.....						7,014		421	139	234	13,910			
July.....						3,645		164	53	113	7,230			
August.....						1,269		50	35	40.9	2,520			
September.....						742		34	22	24.7	1,470			
Water year 1934-35.....						19,010	421	-	52.1	37,710				

## Tenmile Creek near Rimini, Mont.

Location.- Water-stage recorder, lat.  $46^{\circ}30'$ , long.  $112^{\circ}14'30''$ , in NE $\frac{1}{4}$  sec. 20, T. 9 N., R. 5 W., at Moose Creek ranger station, 500 feet above mouth of Moose Creek and 3 miles north of Rimini. Prior to Dec. 17, 1934, water-stage recorder at different datum 40 feet downstream from present site.

Drainage area.- 34 square miles.

Records available.- March 1915 to September 1935.

Extremes.- Maximum discharge during year, 81 second-feet May 23 (gage height, 2.20 feet); minimum, no flow at various times during August and September.  
1915-35: Maximum discharge, 948 second-feet May 15, 1917 (gage height, 4.87 feet); no flow at various times during 1928-1929, 1931, 1934, 1935.

Remarks.- Records good except those for ice periods, which are poor. Partly regulated by reservoir on one tributary above station. Some small diversions above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.9			0.4	0.4	0.6	15	49	1.7	0.4	0.7
2	.4	1.2			.4	*.4	1.0	14	44	1.4	.4	.4
3	.5	.8			.4	*.4	.5	13	40	1.4	.4	.4
4	.5	.7			.4	*.4	.5	12	35	1.3	.3	.4
5	.5	.7			.5	*.6	.5	21	34	2.1	.3	.4
6	.4	.7			.5	*.5	.5	26	33	1.5	.3	.5
7	.4	.7			.9	.5	.4	26	28	1.4	.3	.5
8	.6	.7			1.8	.4	.4	20	26	1.5	.2	.4
9	.5	.7			1.3	.3	.4	21	22	1.4	.2	.3
10	.4	.7			1.1	.3	.5	26	19	2.1	.2	.2
11	.4	.6			.8	.3	.7	24	16	1.4	.1	.2
12	.5	.5			.6	.3	1.1	24	15	1.3	.1	.2
13	.7	.5			.5	.5	1.9	23	14	1.2	.1	.2
14	1.0	.5			.5	.5	2.5	26	13	1.1	-	.1
15	1.0	.5			.4	1.0	2.4	29	13	1.1	-	.1
16	1.0	.5			.4	.8	4.4	32	11	.8	-	.1
17	.8	.5			.3	.5	4.6	32	9.6	.8	-	.2
18	.6	.5			.4	.4	4.6	37	8.8	.6	.1	.2
19	1.0	.5			.4	.3	14	44	8.0	.6	.3	.2
20	.9	.5			.4	.3	27	45	7.7	.4	.3	.1
21	.9	.5			4.9	.3	32	55	6.5	.5	.1	-
22	4.2	.5			1.5	.3	32	64	5.2	.3	-	-
23	1.8	.6			.8	.3	22	73	4.1	.4	-	-
24	1.1				.5	.2	27	69	3.5	.4	-	-
25	.9				.4	.5	28	64	2.4	.3	-	.1
26	1.3				.4	.5	30	58	2.1	.3	.1	.2
27	.9	.5			.4	.4	32	54	2.1	.2	.1	.2
28	.9				.4	.4	30	50	2.4	.2	.1	.2
29	.8				.4	.4	30	48	2.4	.2	-	.2
30	.9				-	.5	28	47	2.1	.2	.1	.2
31	.8	-			-	.4	-	47	-	.2	.5	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				27.0		4.2	0.4	0.87	54			
November.....				18.0		1.2	.5	.60	36			
December.....				7.8		-	-	.25	15			
Calendar year .....												
January.....				7.3		-	-	.24	14			
February.....				21.7		4.9	.3	.78	43			
March.....				13.2		1.0	.2	.43	26			
April.....				366.6		32	.4	12.2	727			
May.....				1,145		73	12	36.9	2,270			
June.....				478.9		49	2.1	16.0	950			
July.....				28.3		2.1	.2	.91	56			
August.....				5.0		.5	-	.16	9.9			
September.....				6.9		.7	-	.23	14			
Water year 1934-35.....				2,125.6		73	-	5.82	4,210			

\*Interpolated.

## Tenmile Creek near Helena, Mont.

Location.- Water-stage recorder, lat. 46°32', long. 112°14'30", in SE $\frac{1}{4}$  sec. 22, T. 10 N., R. 4 W., opposite Broadwater Hotel, near Helena.

Drainage area.- 103 square miles.

Records available.- July 1908 to September 1935.

Extremes.- Maximum discharge during year, 106 second-feet May 24 (gage height, 1.95 feet); minimum, 0.2 second-foot July 22.

1908-35: Maximum discharge, 865 second-feet May 28, 1917, June 11, 1927; maximum gage height, 6.58 feet, former datum, June 11, 1927; no flow at times.

Remarks.- Records fair. Diversions for irrigation and Helena city water supply above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	1.8	1.8	1.1	1.8	2.2	1.4	19	63	1.8	0.4	0.6
2	.8	1.8	1.0		1.8	2.2	1.7	15	50	1.1	.5	.6
3	.8	1.8	2.0		1.8	2.2	1.6	10	33	1.0	.8	
4	.6	1.8	2.2		1.8	2.5	1.6	11	36	.8	.8	
5	.7	1.8	2.0		1.8	3.0	1.6	20	32	1.1	.8	
6	.8	1.8	1.8	1.0	1.8	2.5	1.6	28	34	1.6	.6	
7	1.0	1.8			1.8	3.2	1.6	28	32	.6	.6	
8	1.8	1.8			1.8	1.6	1.4	13	25	.5	.8	
9	2.5	1.8			1.8	2.0	1.3	14	21	.5	.8	
10	2.5	1.8	1.6		1.8	2.0	1.2	21	17	.5	.5	
11	2.2	1.8		.9	2.0	2.0	1.4	20	15	.5	.5	.5
12	2.2	1.8			1.8	1.8	1.7	21	14	.5	.5	.5
13	3.2	1.8			1.8	4.3	2.0	21	14	.5	.5	.5
14	3.5	1.8			1.8	3.8	3.8	20	12	.4	.5	
15	3.2	1.8	1.5	.9	1.5	4.1	3.8	26	12	.4	.6	
16	3.5	1.8	1.5	.9	1.8	3.0	5.4	22	11	.4	1.0	
17	3.2	1.8	1.5	1.0	1.8	2.5	6.3	42	9.4	.3	1.1	
18	2.8	1.8	1.5	1.0	2.2	2.0	7.1	38	7.5	.3	1.2	
19	2.2	1.8	1.5	1.0	2.5	2.0	8.1	52	7.1	.3	1.4	
20	1.2	1.8	1.8	1.2	2.5	1.8	34	54	6.3	.3	1.4	.5
21	1.2	1.8	1.5	1.2	2.5	1.7	50	64	5.0	.2	1.1	.5
22	1.5	1.8	1.5	1.2	2.0	1.7	52	81	4.1	.2	1.1	.5
23	1.5	1.8	1.5	1.8	2.2	1.6	39	90	3.0	.2	.8	.5
24	1.5	1.8	1.5	2.2	3.0	1.6	28	96	2.6	.2	.8	.4
25	1.2	1.8	.9	2.2	3.2	1.6	21	83	2.5	.3	.5	.4
26	1.2	1.8	1.5	1.5	2.8	1.4	28	72	2.8	.3	.5	.4
27	1.5	2.0	1.0	1.5	2.5	1.2	44	63	1.7	.3	.4	.4
28	1.8	1.8	1.2	1.5	2.2	1.2	36	54	1.4	.3	.5	.4
29	1.8	1.8	1.2	1.5	-	1.4	30	56	1.4	.5	.5	.5
30	1.8	2.0	1.2	1.5	-	1.2	32	63	1.8	.4	.5	.4
31	1.8	-	1.2	1.8	-	1.2	-	63	-	.4	.5	-
Month				Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet
October.....				56.3		3.5		0.6		1.82		112
November.....				54.4		2.0		1.8		1.81		108
December.....				47.1		2.2		.9		1.52		93
Calendar year .....												
January.....				38.0		2.2		.9		1.23		75
February.....				58.1		3.2		1.5		2.08		115
March.....				66.7		4.3		1.2		2.15		132
April.....				448.6		52		1.2		15.0		890
May.....				1,283		98		10		41.4		2,540
June.....				475.5		63		1.4		15.8		943
July.....				16.5		1.8		.2		.53		33
August.....				22.1		1.4		.4		.71		44
September.....				14.4		.6		.3		.48		29
Water year 1934-35.....				2,580.7		98		.2		7.07		5,110



## Dearborn River near Clemons, Mont.

Location.- Water-stage recorder, lat.  $47^{\circ}17'$ , long.  $112^{\circ}29'$ , in NW $\frac{1}{4}$  sec. 26, T. 18 N., R. 7 W., 300 feet above highway bridge, 2 miles below mouth of Falls Creek, and 5 miles southwest of Clemons.

Drainage area.- 122 square miles.

Records available.- April 1921 to September 1923, July 1929 to September 1932, March 1934 to September 1935. May 1908 to December 1911 at station half a mile above mouth of Falls Creek.

Extremes.- Maximum discharge during year, 655 second-feet May 24 (gage height, 2.86 feet); minimum, 13 second-feet Sept. 12-13 (gage height, 0.72 foot).  
1921-23, 1929-32, 1934-35: Maximum discharge, 2,450 second-feet June 7, 1934 (gage height, 5.58 feet); minimum, 10 second-feet Oct. 17-21, 1922.

Remarks.- Records good except those for estimated periods, Nov. 24-30 and Jan. 1-11, which are fair. No record Dec. 1-31. Several small diversions above gage.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	103			46	46	34	146	432	91	22	15
2	29	112			44	47	29	149	413	83	21	15
3	30	106		35	47	46	34	143	360	78	21	15
4	30	100			47	44	33	141	326	74	20	15
5	29	91			48	38	37	165	330	74	20	15
6	29	89			51	37	36	201	301	70	20	16
7	29	87			53	39	37	201	278	65	20	15
8	29	85		25	43	43	38	191	289	64	19	15
9	28	81			46	43	37	185	309	60	18	15
10	28	78			50	44	32	198	305	57	18	14
11	28	74			48	44	37	194	301	56	18	13
12	31	76		29	47	44	38	191	297	50	18	13
13	48	80		26	50	46	44	188	293	39	18	13
14	48	81		30	46	47	48	182	289	40	17	13
15	51	85		39	40	47	50	182	266	39	17	14
16	59	87		41	43	47	*60	204	234	37	17	14
17	59	87		36	41	47	*70	252	214	33	17	14
18	62	89		33	41	46	61	293	207	31	16	14
19	68	89		33	41	46	85	318	191	29	16	14
20	74	89		34	41	46	100	338	179	28	16	14
21	76	87		34	41	44	128	422	168	27	16	14
22	97	87		34	41	43	131	520	162	26	16	14
23	104	67		36	43	41	126	613	159	26	15	14
24	100			44	43	40	117	607	149	25	15	14
25	106			48	38	41	119	525	136	24	15	14
26	141		45	48	41	39	138	470	124	24	15	14
27	136			47	47	36	154	436	115	24	15	14
28	126			46	47	38	146	404	108	23	15	14
29	119			44	-	38	141	390	108	24	15	14
30	112			46	-	37	149	395	100	23	15	14
31	108	-		44	-	34	-	413	-	23	15	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				2,040		141	26	65.8	4,050			
November.....				2,330		112	-	77.7	4,620			
December.....				-		-	-	-	-			
Calendar year .....												
January.....				1,097		48	-	35.4	2,180			
February.....				1,254		53	38	44.8	2,490			
March.....				1,318		47	34	42.5	2,610			
April.....				2,311		154	29	77.0	4,580			
May.....				9,287		613	141	299	18,360			
June.....				7,143		432	100	238	14,170			
July.....				1,367		91	23	44.1	2,710			
August.....				536		22	15	17.3	1,060			
September.....				426		16	13	14.2	845			
Water year .....												

\*Interpolated.

## Smith River near White Sulphur Springs, Mont.

Location.- Wire gage, lat. 46°40', long. 110°44', in SE¼ sec. 33, T. 11 N., R. 6 E., at Meachen ranch, 14 miles northeast of White Sulphur Springs.

Records available.- September 1922 to September 1931, February 1934 to September 1935.

Extremes.- Maximum discharge recorded during year, 46 second-feet May 31 (gage height, 2.41 feet); minimum, 1.5 second-feet Nov. 26-30 (estimated).  
1922-31, 1934-35: Maximum discharge, 224 second-feet June 21, 1923 (gage height, 3.15 feet); no flow September 8, 12, 1931.

Remarks.- Records good except those for period of ice effect Nov. 21 to Apr. 12, which are poor. A few small diversions above gage.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.					
1	5.1	3.4	2.1	3.2	10.5	2.5	7.0	*8.1	35	12	10	6.2					
2	5.1	3.4						7.4	33	12	8.8	5.1					
3	5.1	3.4						7.8	36	12	7.8	4.0					
4	5.1	3.4						7.4	36	20	7.0	3.0					
5	4.4	3.4	2.5	4.4	6.5	2.6	12	7.4	34	12	8.3	3.0					
6	4.0	3.4						8.8	28	11	7.8	3.7					
7	4.0	3.4						7.8	26	11	6.5	3.7					
8	4.0	3.4						6.5	24	9.2	6.2	2.8					
9	4.0	3.4	3.0	4.3	4.5	4.4	20	8.5	25	11	5.8	2.8					
10	4.0	3.4						7.0	26	12	4.4	2.6					
11	3.7	2.8						14	7.8	24	4.4	2.6					
12	3.7	2.8						17	7.8	26	4.4	2.6					
13	3.7	2.8	3.9	3.6	6.0	6.5	20	7.8	27	11	4.4	2.2					
14	3.7	3.4						20	9.6	24	8.8	3.4	2.4				
15	3.7	3.4						21	8.3	20	7.4	3.0	2.4				
16	4.0	3.4						20	8.8	19	7.0	3.0	2.6				
17	4.4	3.4	4.1	3.8	7.0	5.0	16	9.6	23	7.8	4.0	2.2					
18	4.8	3.4						20	9.6	23	4.8	2.0					
19	4.0	3.4						21	12	20	9.2	2.2					
20	4.0	3.4						20	14	20	9.2	2.2					
21	3.7	2.8	2.8	4.1	3.8	7.0	10	18	12	17	6.5	2.4					
22	3.7	2.8						16	12	16	12	6.2	2.4				
23	4.0	3.4						9.6	17	11	9.6	5.1	2.6				
24	3.7	3.4						9.6	20	18	12	5.4	3.0				
25	4.0	3.4	2.1	8.5	4.5	4.1	11	10	30	20	12	6.5					
26	4.0	3.4						10	32	19	9.6	5.1	3.0				
27	3.4	3.4						10	32	19	11	4.8	2.8				
28	3.4	3.4						11	34	18	8.8	5.4	2.6				
29	3.4	3.4	1.5	2.1	8.5	4.1	10.2	36	16	*7.6	3.7	2.6					
30	3.4	3.4						* 9.5	37	19	6.5	2.6	2.6				
31	3.4	3.4						* 8.8	35	17	7.0	3.0	1.8				
								-	41	-	8.8	6.5	-				
Month								Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet					
October.....								124.6	5.1	3.4	4.03	247					
November.....								87.7	3.4	-	2.92	174					
December.....								90.6	-	-	2.92	180					
Calendar year .....																	
January.....								147.5	-	-	4.76	293					
February.....								186.0	-	-	6.64	359					
March.....								129.6	-	-	4.13	257					
April.....								391.7	21	-	13.1	777					
May.....								498.4	41	6.5	16.1	989					
June.....								696.0	36	11	23.2	1,380					
July.....								322.5	20	6.5	10.4	640					
August.....								170.2	10	2.6	5.49	338					
September.....								86.9	6.2	1.8	2.90	172					
Water year 1934-35.....								2,931.7	41	-	8.03	5,820					

\*Interpolated.

Smith River above Fivemile Creek, near White Sulphur Springs, Mont.

Location.- Water-stage recorder, lat. 46°36'30", long. 110°46'30", in sec. 19, T. 10 N., R. 8 E., a quarter of a mile above mouth of Fivemile Creek and 10 miles northeast of White Sulphur Springs.

Records available.- April 1934 to September 1935.

Extremes.- Maximum discharge during year, 54 second-feet May 31 (gage height, 2.51 feet); minimum, 2.5 second-feet Aug. 15 (gage height, 0.94 foot).  
1934-35: Maximum discharge, 57 second-feet June 7, 1934 (gage height, 2.57 feet); minimum, 1.7 second-feet Aug. 17, 1934 (gage height, 0.86 foot).

Remarks.- Records fair. Some diversions above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.2	5.6					-	9.6	42	16	7.6	7.8
2	4.9	*5.6					-	8.7	36	15	7.3	6.1
3	5.4	*5.6					-	10	36	13	6.8	5.2
4	4.9	5.6					-	11	35	16	5.8	4.0
5	4.6	5.6					-	11	34	15	7.1	5.2
6	4.5	5.0					-	11	32	15	6.4	4.6
7	4.5	5.6					-	11	28	*14	5.6	*4.3
8	4.9	5.6					-	9.8	26	*12	5.4	*4.1
9	4.9	5.6					-	9.6	25	11	5.2	*3.8
10	4.2	5.6					-	10	26	11	4.6	*3.6
11	5.0	5.6					-	10	25	11	3.5	3.3
12	4.9	5.4					-	11	25	11	4.2	3.5
13	4.8	5.5					-	13	29	9.6	4.0	2.8
14	5.0	5.5					-	14	26	8.3	3.1	2.8
15	4.8	5.5					-	13	23	7.3	2.7	*3.0
16	5.2	5.5					-	12	20	6.0	3.0	3.1
17	6.3	5.6					-	*12	26	6.9	3.9	*3.1
18	6.3	5.6					-	*13	24	7.5	4.3	*3.0
19	5.6	5.6					-	*13	23	7.5	7.0	*3.0
20	5.5	6.0						26	14	21	6.8	3.0
21	5.2	5.6						24	14	17	9.6	2.8
22	5.5	-		†5.4				20	17	16	9.1	3.0
23	5.8	-						13	22	19	8.7	2.7
24	5.6	-						12	34	19	11	6.4
25	6.1	-						12	35	19	8.5	3.9
26	5.6	-						12	35	18	9.1	4.9
27	5.5	-						11	36	17	7.0	4.8
28	5.6	-						10	35	16	5.6	4.8
29	5.5	-						9.6	35	18	5.4	3.5
30	5.6	-						9.6	33	16	6.0	3.9
31	5.6	-						†5.8	-	44	6.1	6.0
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						163.7	6.3	4.5	5.28	325		
November 1-21.....						117.6	6.0	5.4	5.60	233		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April 20-30.....						159.2	26	9.6	14.5	316		
May.....						566.7	44	8.7	18.3	1,120		
June.....						737	42	16	24.6	1,460		
July.....						306.9	16	5.4	9.90	609		
August.....						160.4	7.6	2.7	5.17	318		
September.....						115.5	7.8	2.7	3.85	229		
Water year .....												

\*Interpolated.

†Discharge measurement.

## Sun River near Vaughn, Mont.

Location.- Water-stage recorder, lat. 47°32', long. 111°29'30", in SE¼ sec. 33, T. 21 N., R. 2 E., 5 miles southeast of Vaughn.

Records available.- April 1934 to September 1935.

Extremes.- Maximum discharge during year, 4,570 second-feet May 25 (gage height, 4.85 feet); minimum, 73 second-feet Dec. 17 (gage height, 0.80 foot).

1934-35: Maximum observed discharge, 11,000 second-feet June 8, 1934 (gage height, 9.50 feet); minimum, that of Dec. 17, 1934.

Remarks.- Records good except those for periods of ice effect, Dec. 21 to Feb. 17, Feb. 24 to Mar. 1, Mar. 29 to Apr. 11, which are poor. Numerous diversions above station. Storage and release of water at Gibson Dam, on North Fork of Sun River, partly regulate flow.

Discharge, in second-feet, water year October 1933 to September 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	4,830	2,670	1,250	625	338
2							-	4,180	2,740	1,040	625	345
3							-	3,530	2,270	953	559	330
4							-	3,530	1,810	877	693	315
5							-	3,530	1,880	785	693	292
6							-	4,310	1,940	739	693	292
7							-	5,740	2,600	693	670	292
8							-	6,260	8,920	571	637	308
9							-	6,820	8,640	360	626	308
10							-	6,000	5,350	417	615	322
11							-	4,440	4,440	285	571	308
12							-	3,920	4,180	379	522	285
13							-	3,790	3,790	552	476	275
14							-	3,290	3,410	335	497	261
15							-	3,410	2,900	330	508	267
16							-	3,790	2,800	360	456	254
17							-	4,440	2,470	360	456	254
18							-	4,570	2,140	345	417	308
19							2,860	4,310	2,000	322	455	300
20							3,050	4,050	1,810	358	446	315
21							3,530	3,660	1,690	398	456	338
22							4,310	3,950	1,510	436	466	370
23							5,090	2,800	1,570	398	426	370
24							5,740	2,800	1,510	383	455	379
25							6,000	2,990	1,510	455	476	388
26							6,130	3,410	1,570	900	466	379
27							5,870	3,660	2,070	550	476	426
28							5,740	3,660	1,940	486	476	455
29							5,740	3,660	1,600	508	398	417
30							5,740	3,530	1,440	508	338	379
31							-	3,290	-	604	330	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year .....												
January.....							-	-	-	-	-	
February.....							-	-	-	-	-	
March.....							-	-	-	-	-	
April 19-30.....							59,800	6,130	2,860	4,963	118,600	
May.....							125,250	6,020	2,800	4,040	248,400	
June.....							85,350	8,920	1,440	2,845	169,300	
July.....							16,730	1,250	285	540	33,180	
August.....							16,081	693	330	519	31,900	
September.....							9,868	455	254	329	19,570	
The period.....							-	-	-	-	621,000	

Note.- Records in the above table supersede those published in Water-Supply Paper 761.

## Sun River near Vaughn, Mont.

(Continued)

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	345	261	279	254	379	236	108	183	2,740	504	398	417
2	330	248	360	224	360	214	105	193	2,990	497	417	455
3	345	242	285	198	322	224	99	518	2,930	379	455	466
4	330	242	204	209	315	256	95	728	2,400	398	518	466
5	322	242	214	273	273	217	120	608	2,070	446	560	446
6	315	236	309	273	224	198	144	992	2,200	486	592	446
7	292	236	345	300	224	179	144	1,320	2,000	508	571	466
8	285	230	322	300	209	160	165	1,450	1,880	508	455	436
9	370	230	273	300	173	141	163	1,340	2,000	508	455	370
10	436	230	345	345	166	122	161	1,270	2,270	476	417	358
11	426	230	256	300	159	183	173	1,320	2,200	426	358	330
12	322	230	242	279	182	188	224	1,350	2,140	417	330	322
13	379	230	248	173	148	209	300	1,310	2,140	426	338	292
14	550	236	242	144	183	267	285	1,250	2,140	455	285	267
15	604	254	236	126	193	242	285	1,180	2,540	446	267	267
16	550	254	230	140	224	267	345	1,250	2,670	408	254	273
17	560	248	209	132	219	214	398	1,500	2,070	352	285	224
18	550	242	370	113	261	165	522	1,690	1,630	322	330	242
19	466	242	267	100	273	165	273	1,880	1,460	306	456	267
20	370	248	209	100	308	209	236	2,000	1,420	292	508	254
21	322	242	322	150	262	214	236	2,200	1,300	306	518	224
22	300	236	267	240	252	219	248	2,740	1,170	408	486	242
23	279	248	300	300	273	230	224	3,530	1,100	408	455	236
24	279	248	300	360	209	209	198	4,310	1,110	436	445	248
25	279	242	193	409	216	214	193	4,440	1,030	455	455	242
26	279	242	113	637	223	214	193	3,530	820	455	497	254
27	279	236	129	648	230	198	173	3,050	593	446	446	267
28	279	236	161	693	236	193	188	2,860	508	466	426	273
29	273	267	169	582	-	188	193	2,670	417	455	408	267
30	267	285	132	476	-	173	188	2,540	476	446	398	261
31	261	-	214	476	-	113	-	2,540	-	417	398	-
Month	Second-foot-days					Maximum		Minimum		Mean		Run-off in acre-feet
October.....	11,244					604		261		363		22,300
November.....	7,293					285		230		243		14,470
December.....	7,724					370		113		249		15,340
Calendar year .....												
January.....	9,253					693		100		298		18,350
February.....	6,736					379		148		241		13,360
March.....	6,201					267		113		200		12,300
April.....	6,177					398		95		206		12,250
May.....	57,942					4,440		183		1,869		114,900
June.....	52,414					2,990		417		1,747		104,000
July.....	13,352					604		292		431		26,480
August.....	13,112					582		254		423		26,010
September.....	9,558					466		224		319		18,960
Water year 1934-35.....	201,006					4,440		95		551		398,700

## Muddy Creek near Power, Mont.

Location.- Water-stage recorder, lat. 47°43', long. 111°43', in NE¼ sec. 34, T. 23 N., R. 1 W., at highway bridge 1½ miles west of Power.

Records available.- April to September 1935.

Discharge.- Maximum discharge during period, 205 second-feet Apr. 16 (gage height, 3.81 feet); minimum, 6.4 second-feet May 21 (gage height, 1.32 feet).

Remarks.- Records good. Natural flow increased by water from drainage ditch of Sun River project. No record Aug. 11 to Sept. 16.

Rating tables, 1935 (gage height, in feet, and discharge, in second-feet)

Table for Apr. 11-30, 1935

1.5	11	2.8	105
1.7	20	3.0	125
1.9	31	3.2	145
2.0	38	3.4	165
2.2	53	3.6	185
2.4	69	3.8	205
2.6	87		

Table for May 1 to Sept. 30, 1935

1.2	4	2.4	48
1.4	8	2.6	57
1.6	15	2.8	67
1.8	22	3.0	79
2.0	30	3.2	91
2.2	38	3.4	103

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	15	21	39	54	-
2							-	15	21	35	69	-
3							-	15	28	40	103	-
4							-	14	23	54	110	-
5							-	14	17	62	106	-
6							-	14	21	68	97	-
7							-	14	30	56	63	-
8							-	13	34	65	56	-
9							-	13	33	58	63	-
10							-	13	31	36	60	-
11							28	13	28	38	-	-
12							32	13	24	49	-	-
13							59	14	19	52	-	-
14							20	14	19	54	-	-
15							31	14	44	56	-	-
16							135	16	50	54	-	-
17							57	15	68	58	-	25
18							28	15	50	63	-	25
19							19	15	64	51	-	24
20							16	15	64	46	-	24
21							15	11	58	52	-	24
22							16	21	43	64	-	24
23							14	29	38	54	-	24
24							14	33	47	50	-	25
25							13	24	40	56	-	24
26							13	24	30	88	-	24
27							16	22	26	79	-	24
28							17	26	25	74	-	24
29							16	32	28	72	-	25
30							15	28	32	66	-	24
31							-	20	-	56	-	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year .....												
January.....							-	-	-	-		
February.....							-	-	-	-		
March.....							-	-	-	-		
April 11-30.....							574	135	13	28.7	1,140	
May.....							554	33	11	17.9	1,100	
June.....							1,048	64	17	34.9	2,080	
July.....							1,745	88	35	56.3	3,460	
August 1-10.....							781	110	54	78.1	1,550	
September 17-30.....							340	25	24	24.3	674	
Water year .....												

## Muddy Creek at Vaughn, Mont.

Location.- Wire gage, lat. 47°30', long. 111°29'30", in SE¼ sec. 24, T. 21 N., R. 1 E., at old highway bridge at Vaughn.

Records available.- May 1925 to February 1926, April 1934 to September 1935.

Extremes.- Maximum discharge during year, 526 second-feet Aug. 7 (gage height 5.91 feet); minimum, 12 second-feet (estimated) Jan. 14-15.  
1925-26, 1934-35: Maximum discharge, 602 second-feet June 5, 1925, (gage height, 8.90 feet former site); minimum, 8.1 second-feet July 21, 1925 (gage height 1.07 feet former site).

Remarks.- Records good except those for period of ice effect, Dec. 22 to Apr. 12, which are fair. Flow increased by return water from Sun River drainage ditch.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	56	48	46	53	21	21	25	56	86	174	174
2	52	52	48					25	63	86	159	174
3	56	52	63					25	118	72	204	174
4	52	52	56					23	131	98	292	166
5	48	48	56					23	98	159	400	159
6	52	48	52	17	26	43	86	25	81	183	440	152
7	52	48	42					25	92	196	526	159
8	48	48	37					24	131	196	228	152
9	181	48	48					23	111	181	260	138
10	244	48	45					23	111	131	244	131
11	244	48	52	45	26	43	27	23	92	111	181	124
12	59	48	52					37	67	98	159	111
13	166	48	52					39	59	118	181	76
14	326	48	45					39	59	131	138	63
15	440	48	42					35	63	131	131	59
16	362	48	34	26	26	43	27	34	145	111	118	59
17	344	48	59					52	159	104	152	59
18	276	48	63					38	124	98	196	63
19	212	48	67					33	98	86	244	67
20	159	48	63					32	118	81	326	59
21	124	45	45	46	26	26	23	28	104	86	309	56
22	104	39						32	118	92	124	56
23	92	48						26	131	76	118	56
24	86	45						27	124	92	111	56
25	76	45						23	138	86	131	59
26	72	45	26	46	26	26	23	92	81	166	228	59
27	63	45						24	92	67	244	59
28	59	59						28	104	72	292	56
29	56	39						26	86	67	326	56
30	56	52						25	63	76	260	174
31	56	-						-	52	-	204	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	4,265	440	48	138	8,460
November.....	1,442	59	39	48.1	2,860
December.....	1,529	67	-	42.9	2,640
Calendar year .....					
January.....	1,136	-	-	36.6	2,250
February.....	998	-	-	35.6	1,980
March.....	926	-	-	29.9	1,840
April.....	944	86	-	31.5	1,870
May.....	1,631	158	23	52.6	3,240
June.....	2,789	159	56	93.0	5,530
July.....	4,519	326	72	146	8,960
August.....	7,442	526	118	240	14,760
September.....	2,888	174	56	96.3	5,730
Water year 1934-35 .....	30,309	526	-	83.0	60,120

## Marias River near Shelby, Mont.

Location.- Water-stage recorder, lat. 48°26', long. 111°53'30", in sec. 20, T. 31 N., R. 2 W., at highway bridge 7 miles south of Shelby.

Drainage area.- 2,610 square miles.

Records available.- April 1902 to January 1908, April 1911 to September 1935.

Extremes.- Maximum discharge during year, 4,660 second-feet May 25 (gage height, 5.88 feet); minimum, 69 second-feet Sept. 17 (gage height, 1.62 feet).  
1902-07, 1911-35: Maximum discharge, 29,500 second-feet June 24, 1907 (gage height, 14.9 feet); minimum, 10 second-feet Aug. 20, 1919 (gage height, 1.50 feet).

Remarks.- Records good except those for period of ice effect, Dec. 14 to Mar. 28, which are fair. Numerous diversions and some storage above gage.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	339	761	586	346	1,390	455	423	1,690	3,340	1,100	357	83
2	329	862	523	348	1,390	458	399	1,610	3,420	1,050	323	87
3	316	969	454	325	1,340	413	435	1,750	3,420	954	345	87
4	297	920	358	320	1,390	398	491	1,690	2,940	900	340	85
5	275	872	503	377	1,270	316	429	1,750	2,800	892	306	87
6	262	825	609	434	1,010	249	478	2,060	2,870	927	275	92
7	258	1,630	649	445	853	249	478	2,420	2,570	909	260	96
8	275	1,980	571	*406	571	245	435	2,420	2,420	927	228	101
9	279	2,110	516	368	564	237	357	2,130	2,500	884	204	103
10	279	1,980	545	462	691	221	405	2,000	2,570	804	186	98
11	284	1,790	543	344	806	279	405	2,000	2,570	756	159	92
12	288	1,610	543	339	806	368	*436	2,000	2,500	732	150	87
13	368	1,440	632	284	734	536	*467	1,940	2,420	710	144	87
14	484	1,340	594	233	632	872	498	1,810	2,340	665	132	87
15	468	1,250	609	233	549	1,060	429	1,750	2,340	637	120	83
16	429	1,200	479	237	530	708	2,370	1,670	2,200	609	122	76
17	451	1,140	468	245	497	617	4,320	2,200	2,000	588	130	72
18	445	1,080	451	237	571	479	4,490	2,640	1,870	588	153	78
19	413	1,040	429	†225	594	429	3,740	3,020	1,810	576	165	83
20	392	998	392	†225	571	418	2,940	3,340	1,690	562	153	85
21	382	920	397	†225	556	398	2,720	3,500	1,630	820	144	85
22	372	872	353	†225	699	372	2,720	3,820	1,570	828	130	89
23	413	900	275	275	691	372	2,000	4,150	1,460	710	115	92
24	445	881	*285	237	649	334	1,570	4,490	1,460	644	98	94
25	413	797	*296	254	523	329	1,340	4,660	1,400	637	87	98
26	424	770	306	382	434	306	1,460	4,490	1,310	588	83	108
27	1,100	674	358	1,070	392	293	1,810	4,150	1,230	550	79	115
28	872	674	358	1,850	424	302	1,630	3,660	1,140	498	78	118
29	834	716	349	2,110	-	345	1,400	3,260	1,160	453	78	116
30	788	657	344	1,730	-	363	1,400	3,100	1,140	423	80	120
31	770	-	345	1,390	-	417	-	3,100	-	381	80	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						13,744	1,100	258	443	27,260		
November.....						33,658	2,110	657	1,122	66,760		
December.....						14,087	649	275	454	27,940		
Calendar year .....												
January.....						16,181	2,110	225	522	32,090		
February.....						21,127	1,390	392	755	41,910		
March.....						12,649	1,060	221	414	25,490		
April.....						42,475	4,490	357	1,416	84,550		
May.....						84,670	4,660	1,690	2,731	167,900		
June.....						64,090	3,420	1,140	2,136	127,100		
July.....						22,302	1,100	351	719	44,240		
August.....						5,303	357	72	171	10,520		
September.....						2,786	120	72	92.9	5,530		
Water year 1934-35.....						333,272	4,660	72	913	661,000		

\*Interpolated.

†Estimated.



Marias River near Brinkman, Mont.

Location.- Water-stage recorder, lat. 48°16', long. 110°42'30", in NW¼ sec. 21, T. 29 N., R. 8 E., 4 miles southwest of Brinkman post office. Zero of gage is 2,670.26 feet above mean sea level.

Records available.- October 1921 to September 1935.

Extremes.- Maximum discharge during year, 5,330 second-feet Apr. 19 (gage height, 6.53 feet); minimum, 71 second-feet Sept. 16 (gage height, 1.87 feet).  
1921-35: Maximum discharge recorded, 14,500 second-feet June 1, 1927 (gage height, 7.9 feet, present datum); minimum, 45 second-feet Feb. 7-9, 1932.  
Maximum known stage, 16.7 feet(present datum) during 1908 flood.

Remarks.- Records good except those for period of ice effect, Dec. 24 to Mar. 31, which are fair. Numerous diversions. Flow partly regulated by storage on tributaries.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	373	815	606	270	1,200	315	295	1,630	3,060	1,200	422	78	
2	345	777	614	305		310	285	1,560	3,140	1,150	397	80	
3	340	786	480	305		467	340	1,630	3,220	1,110	361	82	
4	330	885	340	361		467	350	1,630	3,220	1,050	335	82	
5	310	945	434	434		480	373	1,570	2,960	965	315	85	
6	295	905	494	403	748	474	373	1,570	2,740	935	310	93	
7	280	865	522	415		748	474	428	1,760	2,740	945	300	95
8	265	1,020	529	355		806	474	441	2,090	2,580	955	290	93
9	246	1,630	515	355		815	*597	385	2,160	2,370	935	260	93
10	250	1,760	522	310		777	720	300	1,950	2,370	925	237	90
11	275	1,880	494	315	768	720	300	1,820	2,370	885	203	92	
12	270	1,760	474	*295	777	711	310	1,820	2,440	815	189	92	
13	260	1,650	529	*275	815	711	448	1,880	2,370	748	182	92	
14	275	1,490	650	255	796	748	415	1,820	2,300	702	167	82	
15	305	1,370	543	250	786	693	325	1,690	2,300	649	146	78	
16	454	1,280	550	*250	786	675	693	1,630	2,230	614	137	78	
17	522	1,210	428	*260	777	882	1,260	1,760	2,160	598	135	77	
18	467	1,160	373	250	806	945	3,810	2,020	2,020	598	130	82	
19	474	1,130	315	250	796	915	5,030	2,370	1,880	582	126	83	
20	480	1,080	330	250	825	845	4,170	2,820	1,760	566	128	83	
21	441	1,060	335		815	845	3,360	3,060	1,690	865	137	85	
22	428	995	340		720	855	3,220	3,300	1,650	2,370	146	86	
23	422	925	355		702	777	2,900	3,640	1,560	1,760	137	92	
24	403	895	385		657	720	2,440	4,080	1,470	1,100	126	90	
25	415	915	315	550	550	693	2,020	4,440	1,410	875	120	85	
26	487	985	315	1,500	494	614	1,760	4,260	1,400	730	112	86	
27	480	925	361		474	558	1,690	3,900	1,350	657	102	88	
28	529	965	415		441	508	1,820	3,560	1,260	582	95	90	
29	955	702	385		-	415	1,880	3,580	1,210	522	90	92	
30	865	758	355		-	206	1,760	3,220	1,210	487	85	106	
31	835	-	330	-	-	295	-	3,060	-	448	78	-	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....						13,076	955	246	422	25,940			
November.....						33,403	1,760	702	1,113	66,250			
December.....						13,613	606	315	439	27,000			
Calendar year .....													
January.....						16,403	434	250	529	32,534			
February.....						23,121	-	441	826	45,860			
March.....						19,109	945	206	616	37,900			
April.....						43,201	5,030	285	1,440	85,690			
May.....						77,080	4,440	1,560	2,486	152,900			
June.....						64,440	3,220	1,210	2,148	127,800			
July.....						27,342	2,370	448	882	54,230			
August.....						5,998	422	78	193	11,900			
September.....						2,610	106	77	87.0	5,180			
Water year 1934-35.....						339,396	5,030	77	930	673,200			

\*Interpolated.

## Judith River near Utica, Mont.

Location.-- Wire gage, lat. 46°53'30", long. 110°14'30", in NW¼ sec. 17, T. 13 N., R. 12 E., at Noel ranch, 10 miles above Utica.

Drainage area.-- 326 square miles.

Records available.-- October 1919 to September 1935.

Extremes.-- Maximum discharge during year, 121 second-feet June 3, 13, 14, 17 (gage height, 2.62 feet); minimum, 0.1 second-foot Apr. 7-10 (gage height, 1.22 feet).  
1919-35: Maximum discharge, 1,070 second-feet June 11, 1927 (gage height, 5.70 feet); no flow Mar. 19-21, 1933.

Remarks.-- Records good. Several diversions above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	2.0	1.5	0.5	0.5	0.3	0.1	0.2	85	36	10	5.3
2	2.5	2.0	1.5	1.0	.4	.3	.2	.2	106	31	10	5.3
3	2.5	2.0	1.5	1.5	.4	.3	.2	.2	121	28	9.0	5.3
4	2.5	2.0	1.5	1.0	.4	.2	.2	.2	114	25	9.0	5.3
5	3.0	2.0	1.5	1.0	.4	.2	.2	.2	106	28	10	5.3
6	3.0	2.0	1.5	1.0	.5	.2	.2	.2	106	27	9.0	5.3
7	3.0	2.0	1.5	1.0	.4	.2	.1	.2	99	22	9.0	5.3
8	3.0	2.0	1.5	1.0	.4	.2	.1	.2	92	22	8.0	5.3
9	3.0	2.0	1.5	.5	.4	.2	.1	.2	92	24	8.0	4.5
10	3.0	2.0	1.5	.4	.4	.2	.1	.2	99	21	7.0	4.5
11	3.0	2.0	1.5	.4	.4	.2	.2	.2	99	20	8.0	4.5
12	2.5	2.0	1.5	.3	.4	.2	1.5	.2	99	16	7.0	3.8
13	2.5	2.0	1.5	.3	.4	.4	1.3	.5	121	15	7.0	3.8
14	2.5	2.0	1.5	.4	.4	.4	.2	.3	121	13	7.0	3.0
15	2.5	1.5	1.5	.3	.4	.4	.2	.3	114	12	7.0	3.0
16	2.5	1.5	1.5	.2	.4	.4	.2	.3	114	12	6.0	3.0
17	2.5	1.5	1.5	.2	.4	.4	.2	.5	121	13	7.0	3.0
18	2.5	1.5	1.0	.2	.4	.3	.2	.7	114	15	7.0	3.0
19	3.0	1.5	1.0	.2	.3	.3	.2	.3	106	14	7.0	3.0
20	2.5	1.5	1.0	.2	.4	.3	.2	.3	99	12	7.0	2.3
21	2.5	1.5	1.0	.3	.4	.2	.2	.3	85	13	7.0	2.3
22	2.5	1.5	1.5	.4	.4	.2	.2	.3	77	19	6.0	2.3
23	2.5	1.5	1.5	.4	.3	.2	.2	.7	72	13	6.0	2.3
24	2.5	1.5	1.0	.5	.4	.2	.2	7.5	66	14	6.0	1.9
25	2.5	1.5	.3	.5	.3	.2	.2	43	59	14	6.0	1.9
26	2.5	1.5	.4	.5	.3	.2	.2	48	54	12	6.0	1.9
27	2.0	1.5	.3	.5	.3	.2	.2	50	49	12	6.0	1.9
28	2.0	1.5	.3	.5	.3	.2	.2	49	40	12	5.3	1.9
29	2.0	1.5	.4	.5	-	.2	.2	48	35	11	5.3	1.9
30	2.0	1.5	.5	.4	-	.2	.2	54	37	11	5.3	1.9
31	2.0	-	.4	.5	-	.2	-	59	-	10	5.3	-
Month												
						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						79.5	3.0	2.0	2.56	159		
November.....						52.0	2.0	1.5	1.75	103		
December.....						36.1	1.5	.3	1.18	72		
Calendar year .....												
January.....						16.6	1.5	.2	.54	33		
February.....						10.8	.5	.3	.39	21		
March.....						7.8	.4	.2	.25	15		
April.....						7.9	1.5	.1	.26	16		
May.....						365.4	59	.2	11.8	725		
June.....						2,702	121	35	90.1	5,360		
July.....						547	36	10	17.6	1,080		
August.....						223.2	10	5.3	7.20	445		
September.....						104.0	5.3	1.9	3.47	206		
Water year 1934-35.....						4,152.3	121	.1	11.4	8,230		

## Big Spring Creek near Lewistown, Mont.

Location.- Staff gage, lat. 46°53'30", long. 110°14'30", in NE¼ sec. 5, T. 14 N., R. 19 E., at highway bridge half a mile below Big Springs and 5 miles southeast of Lewistown.

Records available.- June 1932 to September 1935.

Extremes.- Maximum discharge recorded during year, 126 second-feet Jan. 25; minimum, 87 second-feet Oct. 2.  
1932-35: Maximum discharge recorded, 183 second-feet May 7, 1933; minimum, 87 second-feet Oct. 2, 1934.

Remarks.- Records poor. Discharge interpolated for days of no gage reading.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	90	*92	106	110	*116	110	111	*116	116	112	105	102
2	*87	92	106	110	114	*110	110	116	116	112	105	102
3	88	92	107	*110	112	110	*110	*116	116	112	105	101
4	88	92	*107	110	111	111	110	116	116	111	105	101
5	*89	92	108	111	110	111	110	117	116	111	105	100
6	89	*92	109	111	108	112	*110	117	116	111	105	100
7	89	93	111	111	*107	112	108	118	116	110	105	*100
8	89	94	*113	112	107	*113	*107	*118	*116	110	*105	101
9	*89	96	115	112	107	114	107	118	114	110	105	*102
10	89	*98	117	112	107	115	107	118	*113	*110	*105	101
11	89	98	119	113	107	116	108	117	113	110	105	101
12	90	98	*121	*113	107	117	108	117	113	110	105	*100
13	91	98	122	111	107	119	109	117	113	110	104	100
14	92	98	123	110	107	*121	109	116	113	110	103	100
15	93	98	*124	109	*107	121	109	116	*113	110	102	100
16	94	98	121	108	107	120	110	*116	113	110	*102	*100
17	94	*98	118	*107	108	119	*110	116	113	*110	102	100
18	*94	100	116	109	108	*118	*110	116	113	110	102	100
19	94	*102	114	111	109	118	110	116	113	*110	102	100
20	94	102	112	113	109	119	111	116	113	*110	102	*100
21	94	103	*110	115	110	119	112	116	113	109	102	100
22	94	104	110	117	110	120	*113	116	*113	108	102	100
23	*94	105	110	120	*110	*121	113	116	113	107	102	*100
24	94	*105	110	123	110	119	*113	116	*113	106	*102	100
25	95	105	110	*126	110	117	114	*116	*113	105	102	100
26	92	*105	110	124	110	115	115	116	113	*105	102	100
27	91	105	110	122	110	*113	*116	116	113	105	102	100
28	90	*105	110	120	110	113	116	116	*113	105	102	100
29	89	105	*110	119	-	112	116	116	113	105	102	100
30	*89	106	110	118	-	112	*116	116	113	*105	102	100
31	90	-	110	117	-	111	-	*116	-	105	*102	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						2,822	94	87	91.0	5,600		
November.....						2,971	106	92	99.0	5,890		
December.....						3,499	124	106	113	6,940		
Calendar year 1934.....						42,157	160	87	115	83,620		
January.....						3,534	126	107	114	7,010		
February.....						3,055	116	107	109	6,060		
March.....						3,678	121	110	115	7,100		
April.....						3,328	116	107	111	6,600		
May.....						3,609	118	116	116	7,160		
June.....						3,415	116	113	114	6,770		
July.....						3,374	112	105	109	6,690		
August.....						3,201	105	102	103	6,350		
September.....						3,011	102	100	100	5,970		
Water year 1934-35.....						39,397	126	87	108	78,140		

\*Gage read.

## Musselshell River at Harlowton, Mont.

Location.- Chain gage, lat. 46°26', long. 109°50', in sec. 26, T. 8 N., R. 15 E., at highway bridge 1 mile south of Harlowton.

Drainage area.- 1,130 square miles.

Records available.- July 1907 to September 1935.

Extremes.-Maximum discharge during year, 2,330 second-feet July 21 (gage height, 5.90 feet); minimum, no flow at various times.  
1907-35: Maximum discharge recorded, 4,020 second-feet May 27, 1917 (gage height, 7.3 feet, present datum); no flow at various times.

Remarks.- Records good except those for period of ice effect, Nov. 29 to Apr. 4, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	2.0					33	21	79	11	11	
2	0	1.6					33	19	94	10	9.8	
3	0	1.6					39	18	106	8.6	8.6	
4	0	1.4					40	18	90	8.1	7.5	
5	0	1.6					40	19	70	8.1	6.4	
6	0	1.8	18	18	31	18	36	20	64	17	4.3	
7	0	3.9					46	18	58	9.8	3.0	
8	0	3.5					41	19	48	9.2	2.1	
9	0	3.5					40	11	44	12	1.8	
10	0	3.9					46	9.2	37	13	1.5	
11	0	5.1					40	8.6	37	12	1.2	
12	0	7.0					42	7.5	36	11	1.2	
13	0	8.1					45	11	37	10	1.0	
14	0	7.0					66	11	52	8.1	.6	
15	.2	7.5					124	11	70	7.5	.1	
16	0	8.6	19	16	21	18	97	9.8	55	4.7	0	
17	0	9.8					108	10	54	3.9	0	
18	0	8.1					101	10	55	3.9	0	
19	0	9.2					81	11	49	4.3	.4	
20	.4	13					72	11	50	3.9	.8	
21	.6	16					72	11	49	358	.6	
22	.6	19					70	11	42	288	.6	
23	.8	19					56	13	34	79	0	
24	.8	21			22		48	18	32	60	0	
25	.7	20				22	37	42	26	35	0	
26	1.1	21	16	19			32	58	20	29	0	
27	1.2	24					27	68	17	28	0	
28	7.2	24					25	64	14	24	0	
29	1.1	21			-		25	64	14	20	0	
30	1.3	18			-	37	22	58	13	12	0	
31	1.8	-			-	37	-	60	-	9.8	0	
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							17.8	7.2	0	0.87	35	
November.....							311.2	24	1.4	10.4	617	
December.....							546	-	-	17.6	1,080	
Calendar year .....												
January.....							549	-	-	17.7	1,090	
February.....							696	-	-	24.9	1,380	
March.....							632	-	-	20.4	1,250	
April.....							1,594	124	22	52.8	3,140	
May.....							740.1	68	7.5	23.9	1,470	
June.....							1,446	106	13	48.2	2,870	
July.....							1,118.9	358	3.9	36.1	2,220	
August.....							62.5	11	0	2.02	124	
September.....							0	0	0	0	0	
Water year 1934-35 .....							7,703.5	358	0	21.1	15,280	

## Musselshell River at Mosby, Mont.

Location.- Water-stage recorder, lat. 47°, long. 111°53'30", in NW¼ sec. 11, T. 14 N., R. 30 E., at highway bridge half a mile west of Mosby. Water-stage recorder installed prior to start of flow on Feb. 23, 1935.

Drainage area.- 8,010 square miles.

Records available.- May 1929 to September 1932, February 1934 to September 1935.

Extremes.- Maximum discharge during year, 802 second-feet July 10 (gage height, 4.0 feet); no flow at various times October to February and June to September.  
1929-32, 1934-35: Maximum discharge, 8,630 second-feet June 6, 1934; no flow at various times.

Remarks.- Records good below 80 second-feet and poor above. Numerous diversions.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	28	51	16	0.6	0	17	
2					0	30	39	15	24	0	6.0	
3					0	28	34	10	11	0	6.0	
4					0	25	31	5.5	5.0	0	5.0	
5					0	94	94	2.6	3.2	0	5.0	
6					0	37	65	2.9	2.0	0	4.4	
7					0	17	53	2.6	.6	0	3.8	
8					0	23	62	3.5	.8	0	1.3	
9					0	25	88	2.0	.5	360	.5	
10					0	9	62	1.4	.3	758	0	
11					0	14	32	1.3	0	406	0	
12					0	106	37	1.4	0	88	0	
13					0	149	31	1.2	5.0	42	0	
14					0	155	6	1.0	0	118	0	
15					0	155	5	.9	0	14	0	
16					0	149	39	.7	0	3.8	0	
17					0	155	34	.5	0	1.3	0	
18					0	118	24	.74	0	.5	0	
19					0	130	42	.78	0	.2	0	
20					0	162	68	.39	0	0	0	
21					0	143	65	.37	4.4	329	0	
22					0	82	56	.37	0	315	0	
23					18	71	51	.20	0	315	0	
24					25	100	37	.16	0	574	0	
25					14	76	23	.76	0	478	0	
26					16	65	17	.59	0	295	0	
27					11	48	39	.14	0	207	0	
28					18	65	168	.35	0	149	0	
29					-	45	59	1.9	0	100	0	
30					-	39	17	.4	0	59	0	
31					-	27	-	1.2	-	37	0	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year												
January.....						0	0	0	0	0		
February.....						102	25	0	3.64	202		
March.....						2,370	162	9	76.5	4,700		
April.....						1,539.0	168	5.0	51.3	3,080		
May.....						825.5	78	.4	17.0	1,040		
June.....						57.4	24	0	1.91	114		
July.....						4,649.8	758	0	150	9,220		
August.....						49.0	17	0	1.58	97		
September.....						0	0	0	0	0		
Water year 1934-35.....						9,292.7	758	0	25.5	18,420		

## Careless Creek at Wallum, Mont.

Location.- Staff gage, lat. 46°25', long. 109°23', in SW $\frac{1}{4}$  sec. 32, T. 8 N., R. 19 E., at highway bridge at Wallum, 7 miles north of Barber.

Records available.- April 1934 to September 1935.

Extremes.- Maximum discharge recorded for period ending Sept. 30, 1934, 224 second-feet June 8 (gage height, 6.8 feet); minimum, no flow at various times.  
Maximum discharge recorded for year ending Sept. 30, 1935, 240 second-feet July 10 (gage height, about 7.0 feet); no flow at various times.  
1934-35: Maximum discharge recorded, 240 second-feet July 10, 1935 (gage height, about 7.0 feet); no flow at various times.

Remarks.- Records poor.

Discharge, in second-feet, for period Apr. 10 to Sept. 30, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									0			
2									0			
3									0			
4									24			
5									0			
6									0			
7									160			
8									224			
9									3.4			
10									2.0			
11									1.1			
12									.4			
13									31			
14									3.4			
15									2.0			
16									1.1			
17									.4			
18									.4			
19									52			
20									2.0			
21									1.1			
22									.4			
23									.4			
24									.4			
25									.4			
26									5.0			
27									2.0			
28									1.1			
29									.4			
30									0			
31									-			
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April 10-30 .....						0	0	0	0	0		
May.....						0	0	0	0	0		
June.....						538.4	224	0	17.9	1,070		
July.....						0	0	0	0	0		
August.....						0	0	0	0	0		
September.....						0	0	0	0	0		
The period.....										1,070		

Careless Creek at Wallum, Mont.

(Continued)

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	0		0	0		
2						0	0		0	0		
3						0	0		0	0		
4						0	0		0	0		
5						0	0		0	0		
6						0	0		0	0		
7						0	0		0	0		
8						0	0		0	0		
9						0	0		0	57		
10						0	0		0	240		
11						0	0		0	18		
12						0	0		0	5.0		
13						0	24		0	1.3		
14						0	15		0	1.1		
15						8.6	31		0	.7		
16						0	6.7		0	.4		
17						0	3.4		0	.3		
18						0	1.1		13	.4		
19						0	.4		1.1	0		
20						0	.3		0	21		
21						0	0		0	62		
22						0	0		0	126		
23						0	0		0	8.6		
24						0	0		0	3.4		
25						0	0		0	1.6		
26						0	0		0	2.6		
27						0	0		0	1.1		
28						0	0		0	.7		
29						0	0		0	.4		
30						0	0		0	.2		
31						0	-		-	0		
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year .....												
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						8.6	8.6	0	.28	17		
April.....						81.9	31	0	2.73	162		
May.....						0	0	0	0	0		
June.....						14.1	15	0	.47	28		
July.....						551.8	240	0	17.8	1,090		
August.....						0	0	0	0	0		
September.....						0	0	0	0	0		
Water year 1934-35.....						656.4	240	0	1.80	1,297		

## Box Elder Creek near Winnett, Mont.

Location.-- Wire gage, lat. 47°30", long. 108°9', near north quarter corner of sec. 3, T. 14 N., R. 23 E., on highway bridge a quarter of a mile above mouth of McDonald Creek and 9 miles east of Winnett.

Records available.-- June 1930 to December 1932, February 1934 to September 1935.

Extremes.-- Maximum discharge for year, 578 second-feet May 17 (gage height 3.86 feet); no flow at various times.

1930-32, 1934-35: Maximum discharge, 4,740 second-feet June 8, 1932 (gage height, 9.30 feet); no flow at various times.

Remarks.-- Records fair. Some diversions for storage and irrigation on tributaries.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet).

0.6	0	1.8	51	3.0	272
.8	.3	2.0	73	3.2	330
1.0	2.5	2.2	102	3.4	395
1.2	9.2	2.4	137	3.6	461
1.4	19	2.6	175	3.8	537
1.6	33	2.8	220	4.0	620

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	0.8	*22	37	* 0.3	0	
2						0	.6	14	* 20	0	0	
3						0	* .6	* 9.6	3.6	* 1.2	0	
4						0	* .6	5.2	* 2.3	2.5	0	
5						0	* .7	* 4.1	1.0	* 1.4	0	
6						0	.7	3.0	* .6	.3	0	
7						0	* .8	* 7.0	.1	*99	0	
8						0	1.0	11	* .1	197	0	
9						0	*1.3	* 7.9	.1	186	0	
10						0	*1.6	* 4.7	0	51	0	
11						0	1.9	1.6	0	62	0	
12						0	*4.0	* 1.2	* .3	*33	0	
13						26	6.0	.7	1.6	3.6	0	
14						*18	*7.6	* .4	* .8	* 1.8	0	
15						11	9.2	.2	.1	.1	0	
16						* 7.2	*5.8	*299	0	* .1	0	
17						3.3	2.5	578	*180	.1	0	
18						* 3.0	*2.4	300	361	0	82	
19						* 2.7	*2.3	19	19	0	165	
20						2.4	2.2	21	* 10	0	19	
21						* 2.1	*1.2	* 16	1.0	0	*10	
22						* 1.7	.3	10	* .6	0	.4	
23						1.4	* .3	* 42	.1	0	* .2	
24						* 1.6	.3	73	* .1	0	0	
25						* 1.7	* .2	37	0	0	0	
26						1.8	.1	8.4	0	0	0	
27						* 1.4	.6	* 5.2	0	0	0	
28						.9	28	1.9	* .1	0	0	
29						* 1.0	*29	* 1.2	.2	0	0	
30						1.2	30	* .4	.6	0	0	
31						* 1.0	-	37	-	0	0	
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	0					0	0	0	0	0	0	
November.....	0					0	0	0	0	0	0	
December.....	0					0	0	0	0	0	0	
Calendar year .....												
January.....	0					0	0	0	0	0	0	
February.....	0					0	0	0	0	0	0	
March.....	89.3					26	0	2.88	177			
April.....	142.6					30	.1	4.75	283			
May.....	1,531.7					578	.2	49.4	3,040			
June.....	640.8					361	0	21.4	1,270			
July.....	639.4					197	0	20.6	1,270			
August.....	276.6					165	0	8.92	549			
September.....	0					0	0	0	0			
Water year 1934-35.....	3,320.4					578	0	9.10	6,590			

\*Interpolated.



## McDonald Creek at Winnett, Mont.

Location.-- Wire gage, lat. 46°59'30", long. 108°20'30", in NE¼ sec. 6, T. 14 N., R. 27 E., at Winnett.

Records available.-- April 1930 to December 1932, February 1934 to September 1935.

Extremes.-- Maximum discharge during year, 371 second-feet July 8 (gage height, 18.30 feet); no flow at various times.

1930-32, 1934-35: Maximum discharge, 562 second-feet June 9, 1932 (gage height, 20.40 feet); no flow at various times.

Remarks.-- Records fair. Numerous diversions.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.2	0.1				0	0		0	0.1	
2	.1	.2	.2				0	0		3.5	.1	
3	.1	.2	.3				.1	0		2.4	0	
4	.2	.2	.1				.1	0		.5	0	
5	.1	.2	.1				0	0		.1	0	
6	.1	.3	.1				.1	0		0	0	
7	.1	.2	.1				.1	0		0	0	
8	.1	.2	.3			*0.1	.1	0		132	0	
9	.1	.2	.2				.1	0		124	0	
10	.1	.2	.3				0	0		45	0	
11	.1	.2	.1				0	0		3.8	0	
12	.1	.1	.1				.1	0		1.0	0	
13	.1	.2	.1				.1	0		.4	0	
14	.1	.2	.1				0	0		.3	0	
15	.1	.1	.1				0	0		.2	0	
16	.1	.1	.1			.2	.1	0		.2	0	
17	.1	.2	.1			.2	0	0		.2	0	
18	.2	.2	.1			.3	0	0		.1	0	
19	.2	.2	.1			.3	0	.1		0	0	
20	.2	.2	*.1			.1	0	0		0	0	
21	.2	.2	.1			.1	0	0		0	0	
22	.2	.2	*.1			.1	0	0		0	0	
23	.2	.2	.1			.1	0	0		0	0	
24	.2	.2				.1	0	.1		.2	0	
25	.2	.2				.1	0	.1		0	0	
26	.3	.2	*.1			.1	0	.1		0	0	
27	.3	.2				.1	.1	0		.1	0	
28	.3	.2				.1	.1	0		.1	0	
29	.3	.2				.1	0	0		.1	0	
30	.3	.2				.1	0	0		.1	0	
31	.2	.2				.1	-	0		0	0	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						5.1	0.3	0.1	0.16	10		
November.....						5.3	.3	.1	.19	12		
December.....						3.9	.3	-	.13	7.7		
Calendar year .....												
January.....						3.1	-	-	*.1	6.1		
February.....						2.3	-	-	*.1	5.6		
March.....						3.7	.3	.1	.12	7.3		
April.....						1.1	.1	0	.04	2.2		
May.....						.4	.1	0	.01	.8		
June.....						0	0	0	0	0		
July.....						314.3	132	0	10.1	623		
August.....						.2	.1	0	.01	.4		
September.....						0	0	0	0	0		
Water year 1934-35.....						340.4	132	0	.93	675		

\*Estimated.

## MILK RIVER BASIN

South Fork of Milk River near international boundary  
(International gaging station)

Location.- Water-stage recorder, lat. 49°30", long. 112°32'30", in NW¼ sec. 6, T. 1, R. 19 W. fourth meridian, 1 mile north of international boundary and 20 miles west of Milk River, Alberta.

Drainage area.- 433 square miles.

Records available.- March 1931 to September 1935. April 1905 to October 1930 at site 5 miles south of international boundary.

Extremes.- Maximum discharge during year, 1,290 second-feet Apr. 17 (gage height, 4.05 feet); minimum, 0.6 second-foot Aug. 14 (gage height, 0.64 foot).  
1905-35: Maximum stage, 15.4 feet June 6, 1908, former site and datum (discharge not determined); no flow at times during 1919 and 1931.

Remarks.- Records good except those for period of ice effect, Feb. 1 to Apr. 16, and for high-water period, Apr. 18-23, which are fair. No records Nov. 1 to Jan. 31. This station is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Rating table, Apr. 17 to Sept. 30, 1935, (gage height, in feet, and discharge, in second-feet)

0.6	0	2.0	242	3.4	912
.8	4	2.2	324	3.6	1,020
1.0	13	2.4	414	3.8	1,130
1.2	31	2.6	508	4.0	1,246
1.4	64	2.8	606	4.1	1,304
1.6	109	3.0	706		
1.8	169	3.2	808		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32.2					36		215	122	26.8	5.2	3.6
2	31.0					38		197	136	25.5	5.6	4.4
3	32.2				20	30	9	190	151	23.3	6.4	5.2
4	29.5					24		186	125	22.2	*6.0	5.2
5	26.2					27		194	114	22.2	5.6	5.6
6						27		258	109	23.3	3.6	7.2
7	25.0					20		303	112	25.5	3.4	8.5
8	24.0				30	17	10	227	102	25.5	5.2	9.0
9	23.0					22		200	95	22.2	2.6	12.5
10	22.0					20		183	97	20.0	2.2	12.0
11	21.0					18	10	204	85	18.6	2.6	9.5
12	20.0					43	15	190	81	17.2	2.6	7.2
13	21.0				40	44	26	172	74	16.5	2.2	6.8
14	35.8					43	33	152	74	14.4	1.6	5.2
15	49.0					65	40	149	77	12.0	2.8	4.0
16		52				87	873	176	83	11.0	6.0	3.8
17	46.0					88	1,280	183	90	12.0	9.5	3.6
18	43.0				50	89	1,180	190	85	11.0	9.5	3.4
19	39.5					90	870	204	77	10.0	7.6	3.0
20	40.0					92	676	194	70	9.0	*8.0	4.8
21	44.5					65	* 664	190	66	* 10.5	8.5	5.6
22	41.5				46	60	651	183	60	12.0	*7.8	5.2
23	37.0					65	498	186	53	13.0	6.8	5.2
24	47.5					40	254	197	41.5	13.0	6.0	5.2
25	43.0				40	25	227	190	37.0	12.0	*5.1	6.4
26	37.0					20	274	169	35.5	10.5	*4.2	7.2
27	40.0					13	299	155	32.5	9.0	3.4	7.6
28	50				38		197	146	28.8	*7.9	3.0	9.0
29	44.5						176	136	28.8	6.8	2.6	11.0
30	*44.0						162	151	28.8	5.6	2.4	11.0
31	*45.0							122		4.8	3.2	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,116.7	52	20.0	36.0	2,210		
November.....						-	-	-	-	-		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						1,036	-	-	37.0	2,050		
March.....						1,246	92	-	40.2	2,470		
April.....						9,490	1,290	-	293	16,820		
May.....						5,773	303	122	186	11,450		
June.....						2,340.9	156	28.8	78.0	4,640		
July.....						473.1	26.6	4.8	15.3	938		
August.....						148.0	9.5	1.6	4.77	294		
September.....						197.9	12.5	3.0	6.60	393		
Water year .....												

\*Interpolated.

## Milk River at Milk River, Alberta

(International gaging station)

**Location.**— Water-stage recorder, lat. 49°9', long. 112°5', in SE¼ sec. 28, T. 2., R. 16 W. fourth meridian, at Milk River, Alberta. Zero of gage is 3,402.78 feet above mean sea level.

**Drainage area.**— 1,104 square miles.

**Records available.**— July 1909 to September 1935. Prior to October 1920 station maintained by Department of the Interior, Canada.

**Average discharge.**— 22 years (1913-35), 264 second-feet.

**Extremes.** Maximum discharge during year, 3,640 second-foot April 17 (gage height 6.60 feet); no flow Jan. 15-16.

1909-35: Maximum discharge, 7,460 second-feet May 22, 1927 (gage height, 11.41 feet); no flow at times during 1922, 1923, 1927, 1934, 1935.

**Remarks.**— Records good except those for period of ice effect, Nov. 20 to Apr. 15, which are fair. Flow increased by water from St. Mary Canal during irrigation season. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	63	38	12	489	55	63	236	577	727	704	454
2	52	65	35	10	710	55	67	264	598	727	704	454
3	48.2	63	32	8	609	67	67	239	609	733	704	459
4	44.8	59	38	6	479	55	59	232	598	722	699	454
5	39.7	57	38	4	292	45	59	213	582	733	693	459
6	36.6	55	38	3	122	45	69	318	571	739	693	464
7	33.8	50	38	3	100	46	61	561	552	733	699	464
8	33.8	50	39	3	95	45	63	648	571	733	716	459
9	32.4	75	41	2	88	48	61	626	566	733	722	464
10	31.0	80	41	2	85	45	55	626	561	727	716	459
11	32.4	71	48	2	88	38	55	631	561	727	727	469
12	31.0	65	45	2	90	40	100	648	571	735	489	459
13	38.0	59	43	2	90	73	203	648	648	739	435	454
14	43.1	55	43	2	90	203	440	637	676	739	504	426
15	55	53	43	0	90	223	322	615	704	739	577	402
16	75	53	41	0	90	215	534	626	727	739	615	375
17	78	52	41	2	92	181	2,370	648	750	745	648	335
18	73	52	38	2	95	195	2,230	665	763	750	659	318
19	65	52	31	2	92	180	1,630	670	774	722	670	276
20	57	52	34	2	90	172	1,110	670	739	722	665	236
21	55	35	34	2	90	164	1,070	682	727	739	654	206
22	63	38	25	3	92	139	1,100	682	722	756	642	199
23	59	38	32	8	90	122	556	676	704	739	631	169
24	55	38	31	14	75	88	357	693	704	745	631	134
25	55	38	31	35	65	88	284	637	704	739	499	88
26	57	38	28	50	63	73	280	676	716	727	182	68
27	59	39	28	320	61	71	339	642	716	722	251	51
28	57	38	24	489	59	67	313	620	716	722	394	46.5
29	61	35	21	288	--	63	236	604	722	716	416	44.2
30	61	34	15	292	--	59	224	593	727	710	435	39.6
31	63	--	14	335	--	57	--	588	--	716	450	--
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,596.8	78	31	51.5	3,170		
November.....						1,551	80	34	51.7	3,080		
December.....						1,070	48	14	34.5	2,120		
Calendar year 1934.....						129,995.8	1,630	--	356	257,800		
January.....						2,405	820	0	77.6	4,770		
February.....						4,571	710	59	163	9,070		
March.....						3,027	223	39	97.6	6,000		
April.....						14,277	2,370	55	476	28,320		
May.....						17,564	693	213	567	34,840		
June.....						19,891	774	561	663	39,450		
July.....						22,693	756	710	732	45,010		
August.....						16,204	727	182	597	36,110		
September.....						9,385.3	469	39.6	313	18,620		
Water year 1934-35.....						116,235.1	2,370	0	318	230,600		

Milk River at eastern crossing of international boundary  
(International gaging station)

Location.— Water-stage recorder, lat. 49°, long. 110°32'30", in NE¼ sec. 6, T. 37 N., R. 9 E., at eastern crossing of international boundary, 30 miles north of Rudyard, Mont., and 37 miles south of Many Berries, Alberta. Zero of gage 2,698.92 feet above mean sea level.

Drainage area.— 2,514 square miles.

Records available.— April 1913 to September 1935. From August 1909 to November 1912 maintained by Irrigation Branch, Department of the Interior, Canada.

Extremes.— Maximum discharge during year, 4,590 second-feet Apr. 18 (gage height, 5.68 feet); minimum, no flow Dec. 26 to Jan. 29.  
1909-35: Maximum discharge, 12,000 second-feet May 23, 1927 (gage height, 10.16 feet); no flow at times in 1914, 1922, 1923, 1933, 1935.

Remarks.— Records good except those for periods of ice effect, Nov. 21-22 and Dec. 1 to Apr. 18, which are fair. No diversions. Flow increased by water from St. Mary Canal during irrigation season. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	100	93	60	730	300		14.6	278	670	648	684	404
2	91	69					5.6	286	634	606	707	424
3	86	71					14.6	296	513	634	677	424
4	72	66					19.4	296	542	648	655	414
5	64	66					19.4	306	593	692	655	414
6	62	64	60	730	300		30.5	303	567	699	662	414
7	60	64					32.0	373	519	768	684	414
8	54	59					24.5	454	525	737	692	433
9	49.2	59					11.0	722	567	714	684	438
10	43.1	60					50	815	590	722	677	419
11	39.7	62	0	140	110		89	799	580	662	692	424
12	35.0	66					141	752	561	641	684	424
13	33.5	69					600	714	567	662	677	423
14	30.5	93					202	730	567	670	586	433
15	27.5	87					256	684	567	714	368	433
16	26.0	85	40	140	110		838	626	606	730	278	409
17	41.4	79					2,540	626	655	745	464	386
18	46.5	75					2,870	760	664	783	496	360
19	60	89					3,080	722	714	783	612	340
20	83	57					2,290	714	714	815	655	303
21	85	60	0	140	110		1,510	677	722	962	662	275
22	73	63					1,100	699	714	863	648	243
23	75	66					1,190	692	714	737	662	213
24	70	73					971	677	662	684	677	191
25	64	73					536	684	662	677	641	180
26	69	59	0	988	—		395	670	634	707	626	168
27	68	59	0				360	670	626	722	561	160
28	66	71	0				305	648	665	699	336	132
29	59	79	0				321	612	668	707	222	110
30	66	69	0				332	606	677	596	278	93
31	66	—	0	988	—		—	599	—	619	373	—
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,868.4	100	27.5	80.3	3,710		
November.....						2,105	93	57	70.2	4,160		
December.....						1,300	—	—	41.9	2,580		
Calendar year .....												
January.....						1,976	988	0	63.7	3,920		
February.....						12,770	—	—	468	25,350		
March.....						6,260	—	—	202	12,420		
April.....						20,038.6	3,080	8.6	668	39,750		
May.....						18,460	815	278	596	36,680		
June.....						18,653	722	513	622	37,000		
July.....						22,036	962	586	711	43,710		
August.....						17,975	707	222	580	35,660		
September.....						9,908	433	93	330	19,660		
Water year 1934-35.....						133,370	3,080	0	365	264,600		

## Milk River at Lohman, Mont.

Location.— Water-stage recorder, lat. 48°36', long. 109°23', in SE $\frac{1}{4}$  sec. 20, T. 33 N., R. 18 E., a quarter of a mile below Fort Belknap dam and three-quarters of a mile north of Lohman.

Records available.— March 1934 to September 1935. March 1923 to September 1925 at site half a mile downstream.

Extremes.— Maximum discharge during year, 3,000 second-feet (estimated) Apr. 20; maximum stage recorded, 9.55 feet Mar. 16 (ice present); minimum discharge, 2 second-feet (estimated) Jan. 16-31.  
1923-25, 1934-35: Maximum discharge, 3,290 second-feet Mar. 24, 1925 (gage height, 13.20 feet, former site and datum); minimum, that of Jan. 16-31, 1935.

Remarks.— Records good except those for period of ice effect, Dec. 22 to Mar. 20 and estimated period Apr. 18-22, which are poor. Fort Belknap Canal diverts at dam a quarter of a mile upstream. Flow increased by inflow from St. Mary Canal during irrigation season.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	153	32	33	10	400	227	294	452	528	438	410	147
2	120	30	31			158	329	382	594	452	424	207
3	86	30	30			124	217	329	560	467	452	252
4	68	28	30			101	235	282	512	438	438	294
5	54	30	31			133	178	252	467	424	424	294
6	46	27	32	10	400	93	167	217	560	452	424	305
7	40	28	33			85	169	258	497	467	410	317
8	35	27	34			84	152	329	424	467	396	305
9	31	26	35			77	143	342	396	512	368	305
10	28	25	35			69	107	452	438	497	382	305
11	26	23	35	10	400	61	63	683	410	482	410	305
12	24	21	38			54	108	740	382	482	396	317
13	21	18	39			109	148	702	362	438	396	317
14	20	20	40			725	355	665	329	410	382	342
15	19	19	41			1,580	863	683	305	396	382	342
16	18	19	43	10	400	1,580	1,280	665	329	396	329	382
17	17	18	41			1,060	1,450	612	368	410	294	342
18	17	28	43			706	2,200	665	410	410	282	342
19	17	32	41			632	2,900	760	438	665	294	342
20	16	32	48			548	3,000	702	497	512	342	317
21	14	30	48	2	240	544	2,500	702	544	577	382	282
22	16	24	43			382	2,000	683	560	1,240	410	271
23	17	25	29			544	1,280	647	497	1,070	410	255
24	23	26	38			577	1,280	647	452	683	396	247
25	37	42	35			528	1,040	665	452	528	410	239
26	38	38	30	2	240	424	863	665	452	512	424	221
27	38	36	18			235	683	665	438	497	424	173
28	40	33	16			201	528	665	410	467	424	150
29	37	27	15			252	482	612	424	467	424	147
30	32	30	14			135	467	544	467	467	262	121
31	32	-	14	-	-	205	-	512	-	452	150	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,182	153	14	38.1	2,340		
November.....						823	42	18	27.4	1,630		
December.....						1,033	48	14	33.3	2,050		
Calendar year .....												
January.....						182	-	-	5.9	361		
February.....						9,120	-	-	326	18,090		
March.....						12,231	1,580	54	395	24,260		
April.....						25,451	3,000	63	848	50,480		
May.....						17,199	780	217	555	34,110		
June.....						13,522	594	305	451	26,620		
July.....						16,175	1,240	396	522	32,050		
August.....						11,751	452	150	379	23,310		
September.....						8,186	382	121	273	16,240		
Water year 1934-35.....						116,855	3,000	-	320	231,800		

## Milk River near Vandalia, Mont.

Location.-- Staff gage, lat. 48°23', long. 106°57'30", in NE¼ sec. 7, T. 30 N., R. 37 E., just below Vandalia Dam and 2 miles west of Vandalia.

Drainage area.-- 21,900 square miles.

Records available.-- May 1915 to September 1920, August 1928 to September 1935.

Extremes.-- Maximum discharge during year, 7,920 second-feet Mar. 28 (gage height, 25.2 feet, ice present); minimum, 4 second-feet May 14-17 (gage height, 2.54 feet).  
1915-20, 1928-35: Maximum discharge, 25,200 second-feet Apr. 11, 1917 (gage height, 34.5 feet); no flow Aug. 9-13, 1910, June 5, 1919, Sept. 4, 7-16, 1929.

Remarks.-- Records fair except those for period of ice effect, Feb. 4 to Mar. 31, which are poor. Numerous diversions from river and tributaries above station, including Vandalia Canal, which diverts at dam above gage. Some regulation at Vandalia Dam and some storage in Nelson Reservoir.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	85	45	56	29	40	403	1,880	327	237	35	162	13
2	57	46	90	24	40	346	1,470	38	225	35	100	13
3	58	45	95	29	40	354	820	123	225	35	94	15
4	45	43	95	38		403	595	250	213	36	92	20
5	46	44	87	35		545	690	346	213	63	92	20
6	57	45	82	35		570	778	310	172	142	90	22
7	88	46	77	35		570	570	294	132	114	85	23
8	123	48	69	40		448	545	278	112	213	85	24
9	123	49	69	40		346	595	172	94	2,250	80	24
10	114	225	69	40	40	250	935	114	78	4,170	77	24
11	106	225	60	40		213	472	114	70	860	77	24
12	106	202	56	40		213	520	112	61	778	75	24
13	100	192	53	40		225	1,000	112	60	486	74	24
14	72	609	46	40		472	1,520	34	60	237	25	24
15	53	225	46	40		778	1,490	4	60	192	5	24
16	50	263	56	40		2,920	1,330	4	67	152	5	24
17	50	250	61	43		4,930	820	4	112	102	5	24
18	48	202	64	46	100	5,970	1,470	5	72	106	5	24
19	49	162	64	46		6,100	2,350	46	50	123	5	23
20	49	123	61	46		6,140	1,970	132	50	152	6	23
21	49	112	53	45		5,800	2,000	250	49	1,370	8	24
22	48	70	53	43		5,460	2,380	237	44	1,540	8	24
23	53	114	46	42		5,300	3,030	263	43	3,220	11	25
24	54	90	46	40		5,550	2,750	310	45	2,520	11	26
25	53	90	64	39	250	6,970	2,420	294	40	1,550	11	26
26	53	88	114	44		6,970	2,350	294	36	1,820	13	26
27	53	72	114	48		4,690	1,880	263	35	3,470	13	26
28	50	57	75	43		2,750	1,140	237	36	1,590	13	26
29	46	64	50	40	-	2,160	1,190	237	36	595	13	26
30	44	57	40	40	-	2,220	970	237	37	278	13	26
31	44	-	40	40	-	2,090	-	237	-	278	13	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					2,026	123	44	65.4	4,020			
November.....					3,903	609	43	130	7,740			
December.....					2,051	114	40	66.2	4,070			
Calendar year 1934.....					165,979.6	3,180	4.8	455	329,200			
January.....					1,230	48	24	39.7	2,440			
February.....					3,100	-	-	111	8,150			
March.....					81,166	6,970	213	2,618	161,000			
April.....					41,990	3,030	472	1,400	83,290			
May.....					5,728	346	4	185	11,360			
June.....					2,762	237	35	92.1	5,480			
July.....					28,322	4,170	35	914	56,180			
August.....					1,364	162	5	44.0	2,710			
September.....					691	26	13	23.0	1,370			
Water year 1934-35.....					174,333	6,970	4	478	345,800			

North Fork of Milk River above St. Mary Canal, near Browning, Mont.

(International gaging station)

Location.- Water-stage recorder, lat. 48°58'30", long. 113°3', in SW¼ sec. 16, T. 37 N., R. 11 W., about 1½ miles above outlet of St. Mary Canal, 3 miles south of international boundary, and 30 miles north of Browning.

Drainage area.- 62 square miles.

Records available.- June 1921 to September 1935, May 1911 to July 1912 at site 1 mile below present gage. Records obtained at this station only during period when the St. Mary Canal is in operation.

Extremes.- Maximum discharge during year, 52 second-feet June 17 (gage height, 1.11 feet); minimum, 4.4 second-feet Aug. 23 (gage height, 0.38 foot).  
1911-12, 1921-35: Maximum discharge, 363 second-feet May 29, 1927 (gage height, 4.93 feet); minimum, 2.5 second-feet Aug. 12, 1933 (gage height 0.35 foot).

Remarks.- Records good. No record Oct. 1 to Apr. 30. No diversions or regulation. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								*23.0	13.6	8.5	6.8	6.4
2								*23.0	13.0	8.5	8.0	6.8
3								*23.0	13.6	8.5	8.0	7.2
4								*23.0	13.6	9.0	7.2	6.8
5								24.4	14.7	10.5	6.4	7.2
6								24.4	15.8	10.0	6.4	10.5
7								23.8	16.4	10.5	6.8	9.0
8								24.4	15.8	10.5	6.8	8.0
9								25.8	15.2	9.5	6.8	6.8
10								25.1	14.2	9.5	6.4	7.2
11								24.4	14.2	9.0	6.8	7.6
12								23.8	13.6	8.5	7.2	8.0
13								23.8	13.0	8.5	6.8	8.5
14								23.8	12.0	8.5	6.4	8.5
15								20.6	11.5	8.5	6.4	7.6
16								20.6	11.0	8.0	6.4	7.6
17								20.0	17.0	8.5	7.2	7.6
18								20.0	25.8	8.5	7.6	8.0
19								20.0	13.6	8.5	8.0	8.0
20								20.0	12.0	9.0	7.2	8.0
21								19.4	11.0	10.0	6.8	7.6
22								19.4	10.5	9.5	6.0	7.2
23								19.4	10.0	8.5	5.6	7.2
24								19.4	10.0	8.0	5.6	8.0
25								18.8	9.5	8.5	6.0	7.6
26								18.8	9.0	8.5	6.4	7.2
27								18.4	8.5	8.0	6.0	8.5
28								15.8	8.0	7.2	6.0	8.5
29								15.2	9.0	6.8	6.8	8.5
30								13.6	9.0	6.8	6.4	8.5
31								13.6	-	6.8	7.2	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year .....												
January.....												
February.....												
March.....												
April.....												
May.....							646.7	25.8	13.6	20.9	1,280	
June.....							384.1	26.8	8.0	12.8	782	
July.....							289.1	10.5	6.8	8.68	534	
August.....							208.4	8.0	5.6	6.72	413	
September.....							234.1	10.5	6.4	7.80	464	
The period.....											3,450	

\*Estimated.

North Fork of Milk River near international boundary  
(International gaging station)

Location.— Water-stage recorder, lat. 49°1'30", long. 112°59', in NE¼ sec. 11, T. 1, R. 23 W. fourth meridian, about 2 miles north of international boundary and 18 miles east of Kimball, Alberta.

Drainage area.— 101 square miles.

Records available.— January 1913 to September 1935. July 1909 to December 1912 at station in NE¼ sec. 13, T. 1, R. 23 W. fourth meridian, about 2 miles downstream.

Extremes.— Maximum discharge during year, 745 second-feet July 28 (gage height, 4.24 feet); minimum, 5 second-feet (estimated) Feb. 6-10.  
1909-35: Maximum discharge, 1,070 second-feet May 6, 1920 (gage height, 4.14 feet); minimum, 3.2 second-feet Mar. 1, 1927.

Remarks.— Records good except those for period of ice effect, Feb. 1 to Apr. 17, which are poor. No records Nov. 1 to Jan. 31. No diversions. Flow increased by discharge of St. Mary Canal during irrigation season. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10.6					12.5		30.6	489	681	697	488
2	10.6							29.0	485	687	697	464
3	10.6					13		26.2	485	692	697	464
4	10.0							31.4	485	692	687	490
5	10.0						7	244	481	697	692	480
6	9.4					7		304	481	692	692	484
7	9.4							355	477	687	697	464
8	10.0					5		394	477	681	692	484
9	9.4							421	477	687	697	484
10	9.4					15		437	477	687	697	484
11	9.4							441	477	692	367	484
12	9.4					7		453	513	697	172	473
13	28.0							453	571	697	505	445
14	25.0					22		457	575	702	558	428
15	17.5					10		457	597	702	563	392
16	20.2							157	465	610	707	358
17	18.4					20		289	477	628	713	333
18	16.3							273	477	642	702	295
19	22.0					13		117	485	619	702	249
20	25.0					15		75	497	619	713	224
21	20.2							55	497	614	723	208
22	17.5					14		39.0	505	628	723	187
23	16.6							33.0	513	637	718	68
24	13.9					12		26.2	517	652	707	33.0
25	12.4							26.2	509	671	702	24.1
26	13.9					11		28.3	497	676	707	20.5
27	13.9							26.9	493	676	713	19.6
28	13.9					13		24.3	499	676	718	18.7
29	15.7							26.2	485	676	697	18.7
30	14.8					7		31.4	485	681	707	16.9
31	13.9							-	485	-	707	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						457.6	28.0	9.4	14.8	908		
November.....						-	-	-	-	-		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						265	-	-	9.5	526		
March.....						421.5	-	-	13.6	836		
April.....						1,361.0	289	-	45.4	2,700		
May.....						12,409.2	517	26.2	400	24,610		
June.....						17,252	681	477	575	34,220		
July.....						21,732	723	681	701	43,100		
August.....						17,643	697	136	569	34,990		
September.....						9,111.5	488	16.9	304	18,070		
Water year .....												



## Big Sandy Creek near Box Elder, Mont.

Location.- Staff gage, lat. 48°22', long. 109°59'30", in NE¼ sec. 13, T. 30 N., R. 13 E., at Cowan ranch, 3 miles north of Box Elder.

Records available.- March 1928 to September 1932, March 1934 to September 1935.

Extremes.- Maximum discharge during year, 0.7 second-foot Oct. 25, 26 (gage height, 2.35 feet); no flow Sept. 20-24, 26-30.

1928-32, 1934-35: Maximum discharge, 338 second-feet Mar. 25, 1928 (gage height, 10.96 feet); no flow Mar. 17, 1929, Sept. 20-24, 26-30, 1935.

Remarks.- Records fair. No records Dec. 2, 1934, to Mar. 31, 1935. Flow regulated by storage in Cowan Reservoir. Small diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	0.5	0.4				0.4	0.4	0.1	0.3	0.2	0.3
2	.5	.5					.5	.5	.1	.2	.2	.3
3	.5	.6					.2	.5	.1	.2	.2	.3
4	.5	.6					.2	.5	.2	.3	.2	.3
5	.5	.5					.2	.5	.2	.5	.2	.3
6	.5	.5					.4	.5	.2	.5	.2	.3
7	.5	.4					.4	.5	.2	.5	.2	.3
8	.5	.4					.2	.5	.2	.2	.2	.2
9	.5	.4					.2	.5	.2	.2	.2	.2
10	.4	.4					.1	.5	.5	.2	.2	.2
11	.5	.4					.2	.5	.5	.2	.2	.1
12	.5	.5					.2	.5	.5	.2	.2	.2
13	.5	.4					.2	.5	.5	.2	.2	.1
14	.4	.4					.4	.5	.5	.1	.2	.1
15	.5	.4					.4	.2	.4	.1	.2	.1
16	.5	.4					.4	.2	.4	.1	.2	.1
17	.5	.4					.6	.2	.5	.1	.5	.1
18	.5	.5					.5	.2	.5	.2	.5	.1
19	.4	.4					.5	.2	.5	.1	.5	.1
20	.4	.5					.5	.1	.5	.2	.5	0
21	.5	.4					.5	.2	.4	.2	.5	0
22	.6	.4					.5	.1	.5	.2	.5	0
23	.6	.4					.5	.1	.5	.1	.2	0
24	.6	.4					.5	.1	.5	.1	.2	0
25	.7	.4					.5	.1	.5	.1	.2	.1
26	.7	.4					.5	.1	.5	.5	.2	0
27	.5	.4					.4	.1	.5	.2	.2	0
28	.5	.4					.5	.1	.2	.1	.2	0
29	.5	.4					.5	.1	.5	.2	.2	0
30	.5	.4					.5	.1	.5	.2	.2	0
31	.5	-					-	.1	-	.2	.2	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						15.8	0.7	0.4	0.51	31		
November.....						13.1	.6	.4	.44	26		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April.....						9.2	.6	.1	.31	18		
May.....						6.6	.4	.1	.21	13		
June.....						8.0	.4	.1	.27	16		
July.....						5.9	.5	.1	.19	12		
August.....						6.8	.5	.2	.22	14		
September.....						3.0	.5	0	.13	7.5		
Water year .....												

## MILK RIVER BASIN

Lodge Creek at international boundary  
(International gaging station)

Location.- Water-stage recorder, lat. 49°1', long. 109°43', in SE $\frac{1}{4}$  sec. 12, T. 1, R. 29 W third meridian, in Saskatchewan, 1 mile north of international boundary and 30 miles northwest of Havre, Mont. Zero of gage is at 2721.06 feet above mean sea level.

Drainage area.- 797 square miles.

Records available.- April 1917 to September 1935. April 1910 to October 1916 maintained by Irrigation Branch, Department of the Interior, Canada.

Extremes.- Maximum discharge during year, 913 second-feet Mar. 16 (gage height, 6.63 feet); no flow at various times.  
1917-35: Maximum discharge, 3,680 second-feet May 23, 1927 (gage height, 12.40 feet); no flow at times, usually after July 15 each year.

Remarks.- Records good except those for period of ice effect, Mar. 28 to Apr. 9, which are fair. No records Nov. 1 to Feb. 28. Several diversions above gage. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Rating table for Apr. 10 to Sept. 30, 1935 (gage height, in feet, and discharge in second-feet)

		(Shifting-control method used Apr. 10-18)					
0.95	0	1.8	16	2.8	106	3.8	254
1.0	.05	2.0	27	3.0	134	4.0	297
1.2	.9	2.2	41	3.2	162	4.2	322
1.4	3.3	2.4	60	3.4	192	4.4	361
1.6	7.4	2.6	81	3.6	222	4.6	404
						4.8	450
						5.0	497
						5.2	545
						5.6	646
						6.0	750

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	4.0	11.4	1.0	0	0.1	
2						0	4.0	9.6	.8	0	0	
3						0	4.3	7.2	.5	0	0	
4						0	3.8	6.2	.4	0	0	
5						0	1.0	5.5	.2	0	0	
6						0	1.0	4.5	.1	0	0	
7						0	1.0	4.5	.1	0	0	
8						0	4.0	4.3	.1	0	0	
9						0	4.0	3.3	.1	0	0	
10						0	4.5	3.2	0	0	0	
11						0	7.8	3.0	0	0	0	
12						0	147	3.0	0	0	0	
13						0	413	2.8	0	0	0	
14						0	311	2.6	0	0	0	
15						359	212	2.1	0	0	0	
16						732	186	2.0	0	0	0	
17						481	361	1.9	0	0	0	
18						500	662	2.5	0	0	0	
19						477	662	39.6	0	0	0	
20						489	427	18.5	0	0	0	
21						235	257	9.4	0	4.1	0	
22						113	174	6.0	0	6.9	0	
23						96	114	4.3	0	3.8	0	
24						134	91	4.2	0	1.7	0	
25						195	65	3.8	0	.4	0	
26						70	38.9	3.0	0	6.0	0	
27						30.0	29.1	2.8	0	8.6	0	
28						26.0	19.5	2.4	0	3.8	0	
29						26.0	14.2	2.0	0	1.4	0	
30						12.0	13.2	1.4	0	.5	0	
31						4.0	-	1.1	-	.1	0	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						-	-	-	-	-		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						3,979	732	0	128	7,890		
April.....						4,226.3	662	1.0	141	8,380		
May.....						177.0	39.6	1.1	5.71	351		
June.....						3.3	1.0	0	.11	6.5		
July.....						37.3	8.6	0	1.20	74		
August.....						.1	.1	0	.00	.2		
September.....						0	0	0	0	0		
Water year .....												

McRae Coulee at international boundary  
(International gaging station)

Location.- Water-stage recorder, lat. 49°1', long. 109°40'30", in NW¼, sec. 5, T. 1, R. 28 W. third meridian, a quarter of a mile above mouth and three-quarters of a mile north of international boundary, in Saskatchewan.

Drainage area.- 53 square miles.

Records available.- March 1927 to September 1935.

Extremes.- Maximum discharge during year, 288 second-feet July 21 (gage height, 5.64 feet); no flow during most of year.  
1927-35: Maximum discharge, 486 second-feet May 23, 1927, (gage height 5.74 feet); no flow at various times.

Remarks.- Records fair. No regulation or diversions. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	0			0		
2						0	0			0		
3						0	0			0		
4						0	0			0		
5						0	0			0		
6						0	0			0		
7						0	.1			0		
8						0	.1			0		
9						0	.1			0		
10						0	.1			0		
11						0	2			0		
12						0	56			0		
13						0	73			0		
14						0	9			0		
15						0	3			0		
16						0	3			0		
17						0	1.2			0		
18						0	.5			0		
19						2	.2			0		
20						33	.2			0		
21						22	0			52		
22						12	0			18.6		
23						14	0			2.0		
24						77	0			.3		
25						71	0			0		
26						13	0			1.8		
27						6	0			2.6		
28						0	0			.5		
29						0	0			0		
30						0	0			0		
31						0	-			0		
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year 1934.....						341.4	-	0	.94	676		
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						250	77	0	8.06	496		
April.....						148.5	73	0	4.95	295		
May.....						0	0	0	0	0		
June.....						0	0	0	0	0		
July.....						77.6	52	0	2.51	154		
August.....						0	0	0	0	0		
September.....						0	0	0	0	0		
Water year 1934-35.....						476.3	77	0	1.30	945		

## MILK RIVER BASIN

## North Chinook Canal near Havre, Mont.

Location.- Water-stage recorder, lat. 48°47', long. 109°28', in SE¼ sec. 2, T. 35 N., R. 17 E., 1 mile below headworks of canal and 23 miles northeast of Havre.

Records available.- May 1928 to September 1935.

Remarks.- Records fair except for those periods of ice effect, Mar. 28 to Apr. 11, and estimated period, Mar. 14-23, which are poor. No record Dec. 1 to Mar. 13. Canal diverts flood water from Lodge Creek in sec. 3, T. 35 N., R. 17 E., and stores it in North Chinook Reservoir for irrigation of lands between Lodge Creek and Battle Creek north of Chinook.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						-	38	18	0	0	1.9	
2						-	34	15	0	0	.1	
3						-	27	13	0	0	0	
4						-	8.6	11	3.7	0	0	
5						-	6.6	7.9	0	0	0	
6						-	7.7	7.4	0	0	0	
7						-	5.9	8.4	0	0	0	
8						-	7.7	8.0	0	0	0	
9						-	10	6.4	0	0	0	
10						-	17	3.6	0	0	0	
11						-	13	5.9	0	0	0	
12						-	43	3.2	0	0	0	
13						-	62	2.9	0	0	0	
14							81	1.4	0	0	0	
15							68	3.1	0	0	0	
16							51	.6	0	0	0	
17							37	2.1	0	0	0	
18							38	1.7	0	0	0	
19							41	3.4	0	0	0	
20							58	2.5	0	0	0	
21							40	21	0	5.2	0	
22							46	23	0	18.5	0	
23							78	15	0	55	0	
24							68	10	0	18	0	
25						11	60	5.4	0	7.0	0	
26						11	38	2.7	0	7.4	0	
27						11	31	1.9	0	55	0	
28						11	26	1.2	0	42	0	
29						11	29	.6	0	22	0	
30						33	22	.3	0	11	0	
31						38	-	0	-	4.6	0	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March 14-31.....						242	38	-	13.4	480		
April.....						1,092.7	81	5.9	36.4	2,170		
May.....						206.6	23	0	6.66	410		
June.....						3.7	3.7	0	.12	7.3		
July.....						245.7	55	0	7.93	487		
August.....						2.0	1.9	0	.06	4.0		
September.....						0	0	0	0	0		
Water year .....												

## Battle Creek at international boundary

(International gaging station)

Location.- Water-stage recorder, lat. 49°30", long. 109°25', in SE¼ sec. 4, T. 1, R. 26 W. third meridian, in Saskatchewan, a quarter of a mile above international boundary and 35 miles north of Chinook, Mont. Zero of gage is 2,731.04 feet above mean sea level.

Drainage area.- 726 square miles.

Records available.- April 1917 to September 1935.

Extremes.- Maximum open-channel discharge during year, 740 second-feet Apr. 21 (gage height 5.30 feet); no flow at various times.  
1917-35: Maximum discharge, 3,200 second-feet Apr. 13, 1917 (gage height, 8.50 feet); no flow at various times.

Remarks.- Records good except those for period of ice effect, Mar. 1 to Apr. 15, which are poor. No records Nov. 1 to Feb. 23. Numerous diversions above station. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Rating table for Apr. 15 to Sept. 30, 1935 (gage height, in feet, and discharge, in second-feet)

1.9	0	2.8	66	3.8	301	4.8	586
2.0	.2	3.0	104	4.0	355	5.0	647
2.2	3.2	3.2	148	4.2	411	5.2	709
2.4	13	3.4	197	4.4	468	5.3	740
2.6	35	3.6	248	4.6	526		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	20	66	31.4	0.6	0.3	
2						0	20	64	30.2	.7	.2	
3						0	20	59	26.6	.6	.1	
4						0	20	58	24.2	.6	.1	
5						0	20	59	24.2	.7	0	
6						0	20	56	26.6	.6	0	
7						0	20	61	24.2	.3	0	
8						0	20	56	18.0	.2	0	
9						0	18	52	16.0	.1	0	
10						0	20	54	14.0	0	0	
11						0	17	53	8.8	0	0	
12						0	116	56	7.6	0	0	
13						0	172	58	5.9	0	0	
14						10	80	63	4.3	0	0	
15						15	130	61	4.0	0	0	
16						15	347	53	3.6	0	0	
17						15	369	56	3.0	0	0	
18						58	369	64	2.8	0	0	
19						322	350	63	2.4	0	0	
20						322	491	70	1.5	.1	0	
21						210	712	75	1.3	.90	0	
22						155	512	52	1.0	112	0	
23						155	282	71	.8	10	0	
24						290	207	56	.5	2.8	0	
25						403	162	51	.2	1.1	0	
26						245	127	47.6	.2	17.0	0	
27						245	106	46.2	.1	32.6	0	
28						110	84	44.8	.1	5.1	0	
29						110	80	42.0	0	1.7	0	
30						49	71	35.0	0	.7	0	
31						49	-	33.8	-	.4	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	0	0	0	0	0
November.....	-	-	-	-	-
December.....	-	-	-	-	-
Calendar year .....					
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	2,778	403	0	89.6	5,510
April.....	4,982	712	17	186	9,580
May.....	1,775.4	82	33.8	57.0	3,520
June.....	283.5	31.4	0	9.45	562
July.....	277.9	112	0	8.96	551
August.....	0.7	.3	0	.02	1.4
September.....	0	0	0	0	0
Water year .....					

Woodpile Coulee near international boundary  
(International gaging station)

Location.- Water-stage recorder, lat. 48°58'30", long. 109°31'30", in NW¼ sec. 8, T. 37 N., R. 17 E., just below Antelope Coulee, 1.1 miles south of international boundary.

Drainage area.- 70 square miles.

Records available.- March 1927 to September 1935.

Extremes.- Maximum discharge during year, 450 second-feet Apr. 12 (gage height 6.04 feet); no flow during most of year.

1927-35: Maximum discharge, that of Apr. 12, 1935; no flow at various times.

Remarks.- Records poor. No diversions. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	6.0			0	0.1	
2						0	5.0			0	0	
3						0	4.0			0	0	
4						0	3.0			0	0	
5						0	2.0			0	0	
6						0	1.0			0	0	
7						0	1.0			0	0	
8						0	4.0			0	0	
9						0	7.0			0	0	
10						0	11.6			0	0	
11						0	15.8			0	0	
12						0	146			0	0	
13						0	172			0	0	
14						0	42.8			0	0	
15						0	27.5			0	0	
16						0	29.0			0	0	
17						0	18.0			0	0	
18						1	10.4			0	0	
19						44	5.5			0	0	
20						221	2.5			45.6	0	
21						118	1.1			85	0	
22						39	.2			68	0	
23						17	.1			17.1	0	
24						110	.1			5.5	0	
25						150	0			1.1	0	
26						13	0			69	0	
27						11	0			51	0	
28						10	0			14.1	0	
29						9	0			4.3	0	
30						7	0			1.4	0	
31						8	-			.1	0	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year .....												
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						758	221	0	24.5	1,500		
April.....						515.6	172	0	17.2	1,020		
May.....						0	0	0	0	0		
June.....						0	0	0	0	0		
July.....						362.2	85	0	11.7	718		
August.....						.1	.1	0	.00	.2		
September.....						0	0	0	0	0		
Water year 1934-35.....						1,635.9	221	0	4.48	3,240		

East Fork of Battle Creek near international boundary  
(International gaging station)

Location.- Water-stage recorder, lat. 48°58'30", long. 109°12'30", in the NW $\frac{1}{4}$  sec. 17, T. 37 N., R. 20 E., 2 miles south of international boundary and 6 miles east of Norheim, Mont.

Drainage area.- 98 square miles.

Records available.- March 1927 to September 1935.

Extremes.- Maximum discharge during year, 350 second-feet Apr. 12 (gage height, 5.36 feet); no flow at various times.  
1927-35: Maximum discharge, 432 second-feet Apr. 1, 1928 (gage height, 5.48 feet); no flow at various times.

Remarks.- Records poor. No diversions. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	5.0			0		
2						0	5.0			0		
3						0	5.0			0		
4						0	6.0			0		
5						0	7.0			0		
6						0	10.0			0		
7						0	14.0			0		
8						0	17.0			0		
9						0	21.0			0		
10						0	34.0			0		
11						0	49.2			0		
12						0	164			0		
13						0	104			0		
14						0	16.8			0		
15						0	11.8			0		
16						0	28.2			0		
17						0	10.6			0		
18						0	3.8			0		
19						15	1.8			0		
20						30	1.1			0		
21						30	.8			73		
22						20	.6			61		
23						17	.3			6.6		
24						29	.2			1.2		
25						60	.2			.2		
26						25	.1			.5		
27						17	.1			3.2		
28						7	0			.9		
29						2	0			.1		
30						1	0			0		
31						0	-			0		
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year .....												
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						253	60	0	8.16	502		
April.....						514.6	164	0	17.2	1,020		
May.....						0	0	0	0	0		
June.....						0	0	0	0	0		
July.....						146.7	73	0	4.73	291		
August.....						0	0	0	0	0		
September.....						0	0	0	0	0		
Water year 1934-35 .....						914.3	164	0	2.50	1,810		

## Lyons Coulee at international boundary

(International gaging station)

Location.- Chain gage, lat. 48°59', long. 109°17', in NE¼ sec. 4, T. 37 N., R. 19 E., half a mile south of international boundary at Norheim, Mont.

Drainage area.- 47 square miles.

Records available.- March 1927 to September 1935.

Extremes.- Maximum discharge during year, 452 second-feet Apr. 13 (gage height, 6.80 feet); no flow at various times.  
1927-35: Maximum discharge, 668 second-feet Apr. 3, 1927; (gage height 7.65 feet); no flow at various times.

Remarks.- Records good below 10 second-feet and poor above. Some small diversions above gage when creek flows during irrigation season. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Rating table, water year 1934 (gage height, in feet, and discharge, in second-feet)

2.6	0.0	4.0	31.0	5.4	175
2.8	1.3	4.2	40	5.6	212
3.0	3.2	4.4	51	5.8	252
3.2	5.8	4.6	66	6.0	292
3.4	10.7	4.8	85	6.2	332
3.6	16.5	5.0	110	6.4	412
3.8	23.5	5.2	140	7.0	492

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	0.9			0	0.1	
2						0	.7			0	1.4	
3						0	.2			0	.2	
4						0	.2			0	0	
5						0	0			0	0	
6						0	0			0	0	
7						0	0			0	0	
8						0	3.8			0	0	
9						0	2.6			0	0	
10						0	1.8			0	0	
11						0	26.8			0	0	
12						0	226			0	0	
13						0	248			0	0	
14						0	32.6			0	0	
15						0	31.0			0	0	
16						0	26.8			0	0	
17						0	25.4			0	0	
18						0	6.3			0	0	
19						18.6	4.6			0	0	
20						23.9	2.3			0	0	
21						6.0	1.9			46.4	0	
22						3.0	1.5			12.9	0	
23						5.6	1.2			2.5	0	
24						40.5	.7			.8	0	
25						50	.4			0	0	
26						21.0	.1			19.0	0	
27						9.9	0			5.5	0	
28						8.9	0			1.9	0	
29						4.4	0			.4	0	
30						3.1	0			0	0	
31						2.0	-			0	0	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year .....												
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						196.9	50	0	6.36	380		
April.....						645.8	248	0	21.5	1,280		
May.....						0	0	0	0	0		
June.....						0	0	0	0	0		
July.....						89.4	46.4	0	2.88	177		
August.....						1.7	1.4	0	.05	3.4		
September.....						0	0	0	0	0		
Water year 1934-35.....						933.8	248	0	2.56	1,850		



## Matheson Canal near Chinook, Mont.

Location.- Water-stage recorder, lat. 48°36', long. 109°9', in NW¼ sec. 29, T. 33 N., R. 20 E., at headworks of canal, 3½ miles east of Chinook.

Records available.- April 1905 to October 1921, May 1928 to September 1935.

Remarks.- Records fair. Canal diverts water from right bank of Battle Creek for irrigation of lands between Battle Creek and Milk River.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	9.3	1.6	1.7	0	
2							0	8.2	1.3	1.5	1.6	
3							0	7.2	1.2	1.3	2.4	
4							0	6.6	1.2	1.2	3.2	
5							0	6.6	1.1	1.2	3.7	
6							0	7.7	1.5	1.0	3.7	
7							0	12	2.2	1.0	3.4	
8							0	9.6	3.7	1.0	3.1	
9							0	8.7	4.8	1.1	2.9	
10							0	8.5	7.0	1.1	2.3	
11							0	9.6	6.5	1.4	1.8	
12							0	8.9	5.0	1.7	1.5	
13							0	9.5	5.9	2.0	1.2	
14							0	8.9	1.1	2.0	1.0	
15							0	8.7	.6	2.0	.7	
16							0	8.9	.4	1.9	.6	
17							0	8.0	.2	1.8	.7	
18							0	8.1	.1	1.5	.8	
19							0	8.0	.2	.9	.9	
20							0	7.7	.6	.6	.9	
21							0	7.1	1.9	.5	.6	
22							0	7.2	2.4	12.6	.3	
23							0	7.2	2.4	9.5	.1	
24							0	7.2	3.0	2.5	0	
25							0	7.7	2.7	.4	0	
26							0	7.3	2.2	0	0	
27							0	6.7	1.8	0	0	
28							3.3	6.3	1.6	1.5	0	
29							6.0	5.4	1.5	.3	0	
30							7.6	3.7	1.8	0	0	
31							-	2.0	-	0	0	
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							0	0	0	0	0	
November.....							0	0	0	0	0	
December.....							0	0	0	0	0	
Calendar year .....												
January.....							0	0	0	0	0	
February.....							0	0	0	0	0	
March.....							0	0	0	0	0	
April.....							16.9	7.6	0	0.56	34	
May.....							237.5	12	2.0	7.66	471	
June.....							67.5	7.0	.1	2.25	134	
July.....							55.2	12.6	0	1.78	109	
August.....							37.4	3.7	0	1.21	74	
September.....							0	0	0	0	0	
Water year 1934-35.....							414.5	-	-	-	822	

Whitewater Creek near international boundary  
(International gaging station)

Location.— Water-stage recorder, lat. 48°52', long. 107°52', in NW¼ sec. 24, T. 37 N., R. 29 E., just below mouth of North Fork of Whitewater Creek, 3½ miles south of international boundary, 5 miles northeast of Lowrane, Mont., and 18 miles south of Roche Plain, Saskatchewan.

Records available.— March 1927 to September 1935.

Extremes.— Maximum discharge observed during year, 50 second-feet Mar. 19 (gage height, 2.94 feet, ice present); no flow at times.  
1927-35: Maximum discharge, 1,140 second-feet Apr. 5, 1927 (gage height, 4.71 feet); no flow at times.

Remarks.— Records fair. No record Nov. 1 to Feb. 23. Stage-discharge relation affected by ice Mar. 1 to Apr. 18. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydro-metric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1					0	5.0	0.2	0.1	0.1	0	0
2	.1					0	5.0	.2	.1	.1	0	0
3	.1					0	3.0	.2	0	.1	0	0
4	.1					0	3.0	.2	0	.1	0	0
5	.1					0	1.0	.2	0	.2	0	0
6	.2					0	.3	.2	.1	.2	0	0
7	.2					0	4.0	.2	.1	.3	0	0
8	.1					0	7.0	.5	.1	.2	0	.1
9	.1					0	7.0	.4	0	.2	0	.1
10	.1					0	7.0	.4	0	.2	0	0
11	.1					0	7.0	.4	0	.2	0	0
12	.1					0	7.0	.3	0	.1	0	.1
13	.1					0	5.0	.2	0	.1	0	.1
14	.1					1	5.0	.2	.1	.1	0	.1
15	.1					2	3.0	.3	.1	.1	0	.1
16	.1					10	2.0	.2	.1	.1	0	0
17	.1					20	2.0	.2	.1	.1	0	0
18	.2					30	2.0	.2	.1	.1	0	0
19	.1					50	1.5	.3	.1	.1	.1	.1
20	.1					30	1.3	.2	.1	.2	.1	.1
21	.1					20	.9	.2	.1	.3	.1	.1
22	.1					10	.9	.2	.1	.3	.1	.1
23	.1					10	.8	.1	.1	.1	.1	.1
24	.1					10	.7	.1	.1	.1	0	.1
25	.1					10	.6	.1	.1	0	0	.1
26	.2					9	.4	.1	.1	0	0	.1
27	.2					9	.2	.1	.1	.1	0	.1
28	.2					3	.2	.1	.1	0	0	.1
29	.1					3	.2	.1	.1	0	0	.1
30	.1					4	.2	.1	.1	0	0	.1
31	.1					4	.1	.1	.1	0	0	.1
								.1		0		
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						5.7	0.2	0.1	0.12	7.3		
November.....						-	-	-	-	-		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						235	50	0	7.58	466		
April.....						83.2	7	.2	2.77	165		
May.....						6.5	.5	.1	.21	13		
June.....						2.2	.1	0	.07	4.4		
July.....						5.0	.3	0	.12	7.5		
August.....						.5	.1	0	.02	1.0		
September.....						1.8	.1	0	.06	3.6		
Water year .....												

## Frenchman River at international boundary

(International gaging station)

Location.- Water-stage recorder, lat. 49°30", long. 107°18', in the SW $\frac{1}{4}$  sec. 4, T. 1, R. 10 W. third meridian, in Saskatchewan, just across international boundary from east side of lot 3, sec. 6, T. 37 N., R. 34 E. Montana meridian. Zero of gage is 2,420.85 feet above mean sea level.

Drainage area.- 1,875 square miles.

Records available.- April 1917 to September 1935.

Extremes.- Maximum discharge during year, 837 second-feet Apr. 24 (gage height, 4.73 feet); no flow at times.  
1917-35: Maximum discharge, 5,440 second-feet Mar. 29, 1925 (gage height, 13.12 feet); no flow at times.

Remarks.- Records good except those for period of ice effect, Mar. 1 to Apr. 16, which are fair. No record Nov. 1 to Feb. 28. Numerous diversions in Canada. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Rating table for Apr. 17 to Sept. 30, 1935 (gage height, in feet, and discharge, in second-feet)

1.4	0	2.2	25	3.0	124	3.8	390	4.6	768
1.6	2	2.4	39	3.2	181	4.0	476	4.8	875
1.8	7	2.6	55	3.4	242	4.2	569		
2.0	14	2.8	79	3.6	312	4.4	666		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	85	158	47.0	18.5	9.1	
2						0	85	144	44.6	17.0	19.0	
3						0	80	127	40.6	15.0	9.1	
4						0	80	113	37.6	15.0	7.0	
5						0	70	102	35.5	47.8	5.5	
6						0	70	90	35.5	65	24.4	
7						0	60	90	35.5	84	70	
8						0	70	84	34.1	79	39.0	
9						0	90	75	32.0	49.4	25.7	
10						0	90	75	30.6	47.0	19.0	
11						0	120	75	29.2	32.0	16.0	
12						0	215	74	27.1	43.0	12.0	
13						0	461	65	27.1	23.2	9.4	
14						0	507	65	25.0	24.4	7.0	
15						0	525	69	24.4	21.4	4.9	
16						30	641	70	22.6	21.4	*4.4	
17						612	66	66	23.2	19.6	*3.8	
18						536	65	65	21.4	63	*3.2	
19						60	569	64	19.0	138	2.6	
20						100	622	63	19.6	83	2.4	
21						100	607	63	76	202	1.9	
22						201	632	59	39.0	398	1.6	
23						280	726	56	36.2	312	1.3	
24						350	816	52	29.2	56	1.0	
25						400	810	50	25.7	30.6	.7	
26						400	666	53	23.2	22.6	.4	
27						362	490	64	20.2	15.5	.1	
28						201	346	60	19.0	11.2	0	
29						150	249	54	32.0	8.5	0	
30						130	187	51	23.2	8.8	0	
31						100	-	47.8	8.5	8.5	0	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						-	-	-	-	-		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						2,954	400	0	95.3	5,860		
April.....						11,117	816	60	371	22,050		
May.....						2,346.8	158	47.8	75.7	4,650		
June.....						935.3	76	19.0	31.2	1,860		
July.....						1,980.4	398	8.5	63.9	3,930		
August.....						300.5	70	0	9.69	596		
September.....						0	0	0	0	0		
Water year .....												

\*Interpolated.

## Frenchman Canal near Saco, Mont.

Location.- Water-stage recorder, lat. 48°36', long. 107°16', in NE¼ sec. 27, T. 33 N., R. 34 E., 14 miles northeast of Saco.

Records available.- May 1928 to September 1935.

Remarks.- Records fair. Canal diverts from Frenchman River about 1 mile above gage for irrigation of land in Frenchman Valley.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	13.3	22.6	24.2	1.5	
2							0	11.9	22.4	21.8	3.1	
3							0	9.6	21.3	18.3	4.4	
4							0	9.3	18.0	17.2	4.3	
5							0	13.2	16.3	13.3	5.4	
6							0	11.7	14.5	14.6	4.4	
7							0	17.3	18.2	20.6	3.5	
8							0	28.2	30.3	26.2	2.6	
9							0	28.2	32.7	15.8	3.0	
10							0	27.6	31.8	0	3.3	
11							0	27.9	32.4	0	4.0	
12							0	28.8	24.6	0	3.7	
13							0	28.5	20.3	1.5	3.8	
14							0	27.0	19.5	20.6	3.8	
15							0	26.7	20.8	16.1	3.1	
16							0	27.0	21.3	15.7	1.6	
17							0	27.0	20.0	16.1	.2	
18							0	27.6	19.0	16.1	0	
19							0	27.6	18.5	23.0	0	
20							0	27.3	19.0	32.2	0	
21							0	27.3	17.6	20.6	.3	
22							0	27.0	16.1	*13.8	0	
23							0	26.7	23.0	7.0	0	
24							0	25.8	18.3	4.2	0	
25							0	25.5	19.4	11.1	0	
26							0	24.9	21.8	10.2	0	
27							4.8	24.3	20.6	4.0	0	
28							6.6	25.2	19.2	2.8	0	
29							12.6	26.4	17.2	2.3	0	
30							16.3	25.2	17.9	1.6	0	
31							-	22.6	-	.4	0	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year .....												
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						0	0	0	0	0		
April.....						40.3	16.3	0	1.34	80		
May.....						726.6	28.8	9.3	23.4	1,440		
June.....						634.6	32.7	14.5	21.2	1,260		
July.....						391.3	32.2	0	12.6	776		
August.....						56.0	5.4	0	1.81	111		
September.....						0	0	0	0	0		
Water year 1934-35.....										3,670		

\*Interpolated.

Rock Creek at international boundary  
(International gaging station)

Location.- Chain gage, lat. 48°59'30", long. 106°56', in SE¼ sec. 1, T. 37 N., R. 37 E., three-quarters of a mile south of international boundary, 2 miles above mouth of Horse Creek, and 5 miles west of Barnard, Mont.

Drainage area.- 242 square miles.

Records available.- March 1927 to September 1935.

Extremes.- Maximum discharge during year, 254 second-feet July 23 (gage height, 5.02 feet); no flow at times.

1927-35: Maximum discharge, 982 second-feet Apr. 6, 1927 (gage height, 10.51 feet); no flow at times.

Remarks.- Records poor. No records November 1 to February 28. Stage-discharge relation affected by ice Mar. 1 to Apr. 16. One small diversion above gage. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0					0	3	*8.9	4.4	3.2	2.3	
2	*1.1					0	3	6.7	*4.2	*3.2	*1.8	
3	*2.2					0	2	*6.6	4.0	*3.2	*1.5	
4	*5.3					0	2	6.4	*4.8	*3.2	*.8	
5	4.4					0	6	*11.7	5.5	3.2	.3	
6	*3.9					0	10	*17.1	5.1	*12.3	*.2	
7	*3.4					0	14	*22.4	5.1	*21.4	0	
8	2.9					0	14	*27.8	4.6	*30.5	0	
9	*2.6					0	37	33.2	*4.4	*39.6	0	
10	*2.2					0	60	25.7	*4.1	48.8	0	
11	*1.8					0	60	*21.1	*3.8	*29.8	0	
12	*1.4					0	130	*16.5	3.6	10.8	0	
13	1.1					0	130	12.0	*5.5	*9.2	0	
14	*.9					0	200	*10.7	*7.5	*7.7	0	
15	*.8					0	70	*9.4	*9.5	*6.2	0	
16	*.7					0	126	*8.2	*11.4	4.6	0	
17	.5					0	121	6.9	13.3	*3.8	0	
18	*.7					0	86	*7.3	*12.4	3.1	0	
19	*.8					0	60	*7.8	*11.6	3.1	*.1	
20	*.9					0	42.0	*6.3	*10.7	3.2	*.1	
21	*1.0					0	37.4	8.7	*9.9	*15.2	*.2	
22	*1.1					0	*38.6	*8.1	9.0	25.2	*.2	
23	*1.2					6	39.7	*7.5	6.9	211	*.3	
24	*1.3					6	*31.0	*6.9	5.3	27.0	*.4	
25	*1.4					6	22.4	*6.3	*4.2	*19.2	*.4	
26	1.6					6	*19.4	*5.7	3.1	*11.4	.5	
27	*1.6					6	16.3	5.1	*3.1	3.6	*.2	
28	*1.7					6	*14.8	*5.0	*3.2	*3.4	0	
29	*1.7					7	13.3	4.9	3.2	3.1	0	
30	*1.8					4	11.1	*4.7	*3.2	*2.8	0	
31	*1.8					4	-	*4.6	-	*2.6	0	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						51.8	4.4	0	1.67	103		
November.....						-	-	-	-	-		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						51	7	0	1.65	101		
April.....						1,419.0	200	2	47.3	2,810		
May.....						342.2	33.2	4.6	11.0	679		
June.....						186.6	13.3	3.1	6.22	370		
July.....						570.6	211	2.6	18.4	1,130		
August.....						9.1	2.3	0	.29	18		
September.....						0	0	0	0	0		
Water year .....												

\*Interpolated.

Horse Creek at International boundary  
(International gaging station)

Location.- Staff gage, lat. 48°59'30", long. 106°47'30", in SE¼ sec. 3, T. 37 N., R. 37 E., three-quarters of a mile south of international boundary.

Drainage area.- 71 square miles.

Records available.- March 1927 to September 1935, May 1914 to October 1926 maintained by Department of the Interior, Canada.

Extremes.- Maximum discharge recorded during year, 226 second-feet Apr. 14 (gage height, 7.84 feet, ice present); no flow at times.  
1914-35: Maximum discharge, 1,040 second-feet Mar. 30, 1925 (gage height, 10.85 feet); no flow at times.

Remarks.- Records poor except those for Apr. 17-30, which are fair. No diversions. Stage-discharge relation affected by ice Apr. 11-16. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	*0.8	0.1	0.1		
2							0	.5	*1.1	*1.1		
3							0	*.2	*0	*1.1		
4							0	0	0	*1		
5							0	*1.4	.1	.1		
6							0	*2.8	.1	*.3		
7							0	*4.1	*1	*.6		
8							0	*5.4	.1	*.9		
9							0	6.8	*1	*1.2		
10							0	1.4	.1	1.4		
11							5	*1.2	*1	.7		
12							43	*1.1	*1	*.6		
13							91	*1.0	*1	*.4		
14							95	.6	.1	.2		
15							34	*.6	*1	*.2		
16							48	*.4	*.2	.2		
17							46.0	*.2	*.2	*.2		
18							40.9	*.2	*.2	*.1		
19							17.8	*.2	*.2	.1		
20							12.0	*.1	*.2	.2		
21							7.1	.1	*.2	*.2		
22							*14.2	*.1	.2	.2		
23							21.2	.1	.2	4.0		
24							*11.2	*.1	*.2	.9		
25							1.3	*0	*.2	1.0		
26							*1.4	*0	*.2	.5		
27							1.4	0	*.1	.2		
28							1.4	*0	*.1	*.2		
29							*1.2	.1	.1	.1		
30							*1.0	*0	*.1	*.1		
31							-	0	-	*0		
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	0					0	0	0	0			
November.....	0					0	0	0	0			
December.....	0					0	0	0	0			
Calendar year .....												
January.....	0					0	0	0	0			
February.....	0					0	0	0	0			
March.....	0					0	0	0	0			
April.....	494.1					95	0	16.5	980			
May.....	29.7					6.8	0	.96	59			
June.....	3.9					.2	0	.13	7.7			
July.....	15.2					4.0	0	.49	30			
August.....	0					0	0	0	0			
September.....	0					0	0	0	0			
Water year 1934-35.....	542.9					95	0	1.49	1,080			

\*Interpolated.

## McEachern Creek at international boundary

(International gaging station)

Location.- Staff gage, lat. 48°59'30", long. 106°49'30", in SW¼ sec. 1, T. 37 N., R. 36 E., half a mile south of international boundary and 7 miles north of Thoeny, Mont.

Drainage area.- 160 square miles.

Records available.- March 1927 to September 1935. March 1924 to October 1926 station above east fork of this stream maintained by Department of the Interior, Canada.

Extremes.- Maximum discharge during year, 66 second-feet Apr. 17 (gage height 4.40 feet); no flow at times.  
1927-35: Maximum discharge, 1,850 second-feet Apr. 9, 1927 (gage height, 10.42 feet); no flow at times.

Remarks.- Records fair. Ice present Mar. 29 to Apr. 18. No diversions. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	3	0.1				
2						0	3	.1				
3						0	3	*.1				
4						0	3	*.1				
5						0	3	0				
6						0	2	*0				
7						0	2	*.1				
8						0	2	*.1				
9						0	2	.1				
10						0	6	.1				
11						0	17	.3				
12						0	33	.5				
13						0	33	*.7				
14						0	33	.9				
15						0	31	.7				
16						0	25	.3				
17						0	66	.3				
18						0	26.9	.2				
19						0	15.8	*.2				
20						0	*11.7	.3				
21						0	7.6	.3				
22						0	7.6	.3				
23						0	9.7	*.2				
24						0	*6.9	0				
25						0	4.1	.3				
26						0	*2.6	.3				
27						0	1.2	*.2				
28						0	*.8	0				
29						13	*.5	0				
30						5	.1	*0				
31						5	-	0				
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year .....												
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						23	13	0	.74	46		
April.....						370.5	66	.1	12.4	735		
May.....						6.8	.9	0	.22	13		
June.....						0	0	0	0	0		
July.....						0	0	0	0	0		
August.....						0	0	8	0	0		
September.....						0	0	0	0	0		
Water year 1934-35.....						400.3	66	0	1.10	794		

\*Interpolated.

Middle Fork of Poplar River at international boundary  
(International gaging station)

Location.- Water-stage recorder, lat. 48°59'30", long. 105°41'30", in SE¼ sec. 6, T. 37 N., R. 48 E., half a mile south of international boundary and 20 miles northwest of Scooby, Mont.

Drainage area.- 381 square miles.

Records available.- March 1931 to September 1935.

Extremes.- Maximum discharge during year, 515 second-feet June 15 (gage height, 6.32 feet); no flow at times.  
1931-35: Maximum discharge, that of June 15, 1935; no flow at times.

Remarks.- Records fair except those for period of ice effect, Mar. 1 to Apr. 11, which are poor. No records Nov. 1 to Feb. 28. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.7					0	1	7.8	7.8	3.5	0.2	0.1
2	.6					0	1	8.6	10.5	3.2	.1	.1
3	.4					0	1	9.0	7.8	19.8	.1	.1
4	.4					0	1	8.2	7.0	105	.2	.2
5	.3					0	2	7.4	6.2	25.2	.2	.2
6	.3					0	2	6.6	6.2	14.5	.2	.2
7	.2					0	2	7.4	6.2	8.2	.1	.2
8	.2					0	2	11.0	5.4	7.4	.1	.2
9	.3					0	14	13.0	4.3	75	.2	.2
10	.3					0	24	15.5	3.5	32.4	.2	.2
11	.4					0	41	15.5	2.8	18.0	.1	.2
12	.5					0	63	20.5	2.8	10.5	.1	.2
13	.7					0	68	19.5	28.8	7.8	.1	.2
14	.7					0	128	16.5	17.0	7.0	.1	.2
15	.7					0	166	13.0	95	4.6	0	.2
16	.8					30	120	12.0	98	2.4	0	.1
17	.9					70	70	10.5	25.2	2.0	.2	.1
18	.9					70	37.2	11.0	17.5	1.3	.2	.1
19	.9					56	26.4	12.0	11.5	1.1	.2	.1
20	1.1					56	22.5	12.5	28.2	1.2	.2	.1
21	1.1					56	21.5	13.5	20.5	1.3	.2	.1
22	1.1					56	17.5	13.0	20.0	1.7	.2	.1
23	1.1					45	16.5	11.5	16.5	2.8	.2	.1
24	1.1					45	13.5	9.0	12.0	2.4	.2	.1
25	1.1					40	12.5	8.2	10.5	1.2	.1	.1
26	1.0					40	11.5	8.2	9.0	.8	.1	.2
27	1.1					40	10.0	7.8	7.0	.7	.1	.2
28	2.0					20	9.5	7.0	5.0	.4	.1	.2
29	1.1					10	9.0	7.0	4.3	.3	.1	.1
30	1.1					5	8.6	5.8	3.5	.2	.1	.2
31	1.2					5	-	5.8	-	.2	.1	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						24.3	2.0	0.2	0.78	48		
November.....						-	-	-	-	-		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	0	-	-		
March.....						644.4	70	0	20.8	1,280		
April.....						922.2	166	1	30.7	1,830		
May.....						337.3	20.5	5.8	10.9	669		
June.....						498.0	98	2.8	16.6	988		
July.....						380.1	105	.2	11.6	714		
August.....						4.3	.2	0	.14	8.5		
September.....						4.6	.2	.1	.16	9.1		
Water year .....												



## Poplar River near Bredette, Mont.

Location.- Wire gage, lat. 48°25', long. 105°12', in SW $\frac{1}{4}$  sec. 27, T. 31 N., R. 50 E., 11 miles southeast of Bredette and 24 miles north of Poplar.

Drainage area.- 2,840 square miles.

Records available.- March 1934 to September 1935.

Extremes.- Maximum discharge during year, 2,650 second-feet July 18 (gage height, 8.40 feet); minimum, 4.3 second-feet Sept. 14 (gage height, 4.91 feet).

1934-35: Maximum discharge, that of July 18, 1935; minimum, 0.2 second-foot July 16-21, Aug. 22, 1934.

Remarks.- Records good except those for periods of ice effect, Nov. 18-30 and Apr. 1-9, which are fair. Some diversions above gage. No storage.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	9.0					80	51	53	48	48	5.9
2	6.0	9.0					78	48	53	42	40	5.2
3	8.4	11					78	55	48	46	29	7.2
4	8.4	10					80	42	35	290	32	8.4
5	9.0	10					80	42	32	53	23	9.7
6		7.8	9.0				104	40	29	44	17	8.4
7		7.8	8.4				83	37	23	44	17	7.2
8		9.0	9.0				92	42	20	53	15	5.9
9		8.4	10				80	46	23	48	12	4.6
10		9.7	11				95	46	20	58	10	5.9
11		9.7	9.0				124	46	16	44	12	7.8
12		12	10				142	60	14	83	10	9.1
13		11	12				165	65	33	134	10	5.2
14		9.7	10				149	65	37	95	9.1	4.3
15		9.0	10				104	70	51	78	7.8	9.1
16		7.8	11				231	70	44	53	9.1	6.5
17		7.8	10				330	55	42	48	10	5.2
18		9.0					330	46	181	543	10	5.2
19		11					222	30	199	794	10	6.5
20		10					242	33	143	114	12	5.9
21		10					169	55	114	93	10	6.5
22		9.7					124	70	72	80	10	6.5
23		10					104	70	62	173	9.1	6.5
24		10	10				92	65	62	86	6.5	6.5
25		9.0					98	51	53	78	7.8	5.2
26		8.4					60	46	46	835	6.5	6.2
27		9.0					70	40	35	268	5.2	6.5
28		9.0					70	37	44	181	6.5	6.5
29		9.0					60	33	32	145	6.5	7.2
30		9.0					51	37	26	58	7.8	7.8
31		9.7	-				-	40	-	58	6.5	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						280.3	12	6.0	9.04	556		
November.....						298.4	12	8.4	9.95	592		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April.....						3,787	330	51	126	7,510		
May.....						1,533	70	30	49.5	3,040		
June.....						1,642	199	14	54.7	3,260		
July.....						4,757	835	42	153	9,440		
August.....						425.4	46	5.2	13.7	844		
September.....						197.6	9.7	4.3	6.59	392		
Water year .....												

## East Fork of Poplar River at international boundary

(International gaging station)

Location.- Water-stage recorder, lat. 49°, long. 105°24', in SW $\frac{1}{4}$  sec. 3, T. 1, R. 26 W. Third meridian, at international boundary, in Saskatchewan, 16 miles north of Scobey, Mont. Zero of gage is 2,411.02 feet above mean sea level.

Drainage area.- 256 square miles.

Records available.- March 1931 to September 1935.

Extremes.- Maximum stage during year, 7.90 feet Mar. 18 (ice present); minimum discharge during year, 1 second-foot Mar. 1-6 (estimated during period of ice effect).  
1931-35: Maximum discharge, 975 second-feet Aug. 13, 1932 (gage height, 10.70 feet); minimum, 0.3 second-foot July 15, 1934.

Remarks.- Records fair. No records Nov. 11 to Feb. 28. Stage-discharge relation affected by ice Mar. 1 to Apr. 19. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6	3.9				1	2	6.1	5.6	5.0	3.3	2.6
2	3.0	4.3				1	2	5.4	6.4	7.9	3.4	2.6
3	3.3	3.9				1	2	5.0	6.9	7.6	3.3	2.6
4	3.4	4.1				1	2	4.9	6.5	7.2	3.1	2.4
5	3.6	3.9				1	2	4.9	7.1	7.1	3.2	2.4
6	2.9	4.1				1	2	4.5	7.1	6.9	2.9	2.4
7	3.2	4.1				2	2	4.8	7.4	6.5	2.9	2.2
8	3.2	4.4				2	2	4.9	7.4	6.5	2.8	2.2
9	3.4	4.5				2	4	5.0	7.4	9.3	2.7	2.1
10	3.4	4.1				4	4	5.2	7.1	12.8	2.3	*2.0
11	3.4	-				4	6	5.7	7.1	13.8	2.9	*2.0
12	3.4	-				4	6	6.0	6.6	10.6	2.7	*2.0
13	3.7	-				8	6	5.8	8.5	8.0	2.7	1.9
14	3.2	-				8	6	5.6	8.1	6.9	2.7	1.7
15	3.3	-				13	6	5.6	8.6	6.1	2.6	1.7
16	3.5	-				13	8	5.4	33.8	5.5	2.6	1.6
17	3.4	-				150	10	4.1	28.6	5.2	2.6	1.4
18	3.4	-				350	12	5.3	18.2	4.5	3.1	1.4
19	3.6	-				200	14	5.5	14.1	4.2	3.1	1.5
20	3.6	-				95	16.1	5.5	13.5	3.8	3.1	1.4
21	3.7	-				95	14.1	5.6	14.7	3.7	3.0	1.6
22	3.6	-				90	15.1	5.5	17.5	4.4	3.0	1.4
23	3.6	-				75	13.3	5.3	14.9	3.9	3.0	1.5
24	3.7	-				75	11.4	5.3	13.2	3.9	2.9	1.5
25	3.5	-				63	10.0	5.1	12.4	4.0	2.8	1.6
26	3.6	-				63	9.2	5.1	10.9	3.9	2.7	1.6
27	3.4	-				63	8.2	4.9	10.0	3.6	2.7	1.4
28	3.7	-				56	7.6	4.7	9.5	3.7	2.7	1.4
29	4.1	-				50	7.0	4.8	8.9	3.6	2.7	1.4
30	4.0	-				30	5.5	4.8	8.2	3.4	2.7	1.4
31	3.7	-				10	-	4.8	-	3.3	2.8	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						108.1	4.1	2.9	3.49	214		
November 1-10.....						41.1	4.4	3.9	4.11	82		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						1,531	-	-	49.4	3,040		
April.....						215.5	-	-	7.13	427		
May.....						162.1	6.1	4.5	5.23	322		
June.....						356.2	33.8	5.6	11.2	667		
July.....						189.7	13.8	3.3	6.12	376		
August.....						89.5	3.4	2.6	2.89	178		
September.....						54.9	2.6	1.4	1.83	109		
Water year .....												

\*Interpolated.

East Fork of Poplar River near Scobey, Mont.

Location.- Wire gage, lat. 48°51'30", long. 105°24', near north line of sec. 27, T. 36 N., R. 48 E., on highway bridge 4 miles north of Scobey.

Records available.- April to September 1935.

Extremes.- Maximum discharge for period, 161 second-feet June 17 (gage height, 2.50 feet); minimum, 1.4 second-feet Aug. 16, 17.

Remarks.- Records fair. Ice on control Apr. 2-14.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	6.4	8.0	5.1	1.8	1.8
2							9.0	6.4	9.0	6.0	1.8	1.9
3							11	7.0	7.7	4.6	2.0	2.1
4							9.8	8.3	6.4	5.7	1.8	1.9
5							9.8	7.7	5.3	4.9	1.8	2.0
6							10	7.0	5.7	4.0	1.8	1.9
7							13	8.3	5.7	3.5	1.7	1.8
8							12	8.3	5.3	3.5	1.8	1.9
9							16	6.4	5.3	6.0	1.8	1.8
10							24	6.4	4.9	5.7	1.7	1.8
11							26	7.7	4.0	7.4	1.9	1.8
12							36	8.3	4.0	12	1.8	1.7
13							43	8.3	4.0	16	1.8	1.8
14							68	8.3	4.9	10	1.6	2.0
15							84	7.7	5.7	8.0	1.6	1.8
16							41	7.0	9.1	7.0	1.4	2.0
17							63	6.4	131	4.9	1.4	2.2
18							68	7.0	48	7.7	1.8	2.0
19							39	7.7	24	6.0	1.8	2.0
20							23	7.7	19	5.1	2.1	2.0
21							22	7.7	17	4.2	2.0	1.8
22							20	7.7	14	12	2.2	1.8
23							18	7.0	18	4.9	2.0	2.0
24							15	5.7	17	3.6	2.2	2.0
25							14	7.0	13	3.3	2.2	2.5
26							12	7.0	10	3.6	2.0	2.5
27							11	6.4	8.7	2.9	1.8	2.2
28							9.0	5.7	6.4	2.6	1.3	2.2
29							8.3	5.7	5.7	2.3	1.3	2.2
30							7.4	5.3	5.3	2.1	1.7	2.5
31							-	5.3	-	2.1	1.7	-
Month	Second-foot-days						Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year .....												
January.....							-	-	-			
February.....							-	-	-			
March.....							-	-	-			
April 1-30.....							742.3	84	7.4	25.6	1,470	
May.....							218.8	8.3	5.3	7.06	434	
June.....							432.1	131	4.0	14.4	857	
July.....							176.7	16	2.1	5.70	350	
August.....							55.6	2.2	1.3	1.79	110	
September.....							59.9	2.5	1.7	2.00	119	
The period.....											3,340	

West Fork of Poplar River at international boundary  
(International gaging station)

Location.- Water-stage recorder, lat. 49°, long. 106°21', in SE¼ sec. 5, T. 1, R. 3 W. third meridian, in Saskatchewan, at West Poplar River Canadian customs post, at international boundary, 11 miles north and three-quarters of a mile east of Opheim, Mont. Zero of gage is 2,854.83 above mean sea level.

Drainage area.- 141 square miles.

Records available.- March 1931 to September 1935.

Extremes.- Maximum discharge during year, 10 second-feet Apr. 18, 19 (ice present); no flow at times.  
1931-35: Maximum discharge, 115 second-feet Mar. 18, 1933 (gage height, 3.36 feet); no flow at times.

Remarks.- Records fair except those for period of ice effect, Mar. 1 to Apr. 19, which are poor. No record Nov. 1 to Feb. 28. This is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. Records collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2					0	0.2	0.3	0.1	0.5		0
2	.2					0	.2	.9	0	.3		0
3	.2					0	.2	.8	0	.3		0
4	.2					0	.2	.6	0	.4		0
5	.2					0	.2	.5	0	.3		.1
6	.1					0	.2	.5	0	.4		.1
7	.1					0	.2	.5	0	.2		.1
8	.2					0	0	.8	0	.3		.1
9	.2					0	0	.9	0	.6		.1
10	.2					0	0	.8	0	.5		.1
11	.2					0	0	1.1	0	.4		0
12	.2					0	0	1.2	0	.3		0
13	.3					0	2	1.0	0	.3		.1
14	.2					0	3	.9	0	.2		.1
15	.2					0	4	.7	.1	.1		.1
16	.3					0	6	.6	.1	.1		0
17	.3					0	8	.5	.1	.1		0
18	.4					0	10	.4	.2	.1		0
19	.4					1	10	.4	.2	.1		0
20	.4					1	8	.5	1.7	.2		0
21	.4					1	6.8	.4	5.6	.2		0
22	.4					1	6.2	.4	4.0	.2		0
23	.4					1	5.0	.2	2.4	.2		0
24	.4					1	3.7	.2	1.8	.1		0
25	.4					1	3.0	.2	1.4	.1		.1
26	.4					1	2.4	.2	1.0	.1		.1
27	.4					1	1.8	.2	.8	0		.1
28	.4					1	1.4	.1	.6	0		.1
29	.4					1	1.2	.1	.6	0		.1
30	.4					1	1.0	.1	.6	0		.1
31	.4					.2	-	0	-	0		-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						9.1	0.4	0.1	0.29	18		
November.....						-	-	-	-	-		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						12.2	1	0	.39	24		
April.....						84.9	10	0	2.53	163		
May.....						16.5	1.2	0	.53	33		
June.....						21.3	5.6	0	.71	42		
July.....						6.5	.6	0	.21	13		
August.....						0	0	0	0	0		
September.....						1.5	.1	0	.05	3.0		
Water year .....												

West Fork of Poplar River near Richland, Mont.

Location.- Wire gage, lat. 48°48'30", long. 106°, 600 feet south of northwest corner Sec. 7, T. 35 N., R. 44 E., on Great Northern Railway bridge  $1\frac{1}{2}$  miles southeast of Richland.

Records available.- April to September 1935.

Extremes.- Maximum discharge during period, 91 second-feet July 9 (gage height, 4.12 feet); no flow at times.

Remarks.- Records good.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							*2.0	5.7	4.7	4.7	1.1	0
2							*4.0	5.3	4.8	4.9	1.0	0
3							5.7	5.5	4.4	2.9	1.7	0
4							5.5	4.8	4.0	3.6	.5	.1
5							5.5	4.5	3.7	3.7	.6	0
6							5.0	4.2	3.6	8.8	.4	0
7							4.7	4.8	3.4	5.5	.1	0
8							5.5	4.7	3.4	4.0	0	0
9							6.2	4.8	3.1	.76	.1	0
10							6.0	5.7	2.9	33	0	0
11							8.3	6.7	2.8	19	0	.1
12							9.8	7.2	2.4	11	0	0
13							23	6.7	3.9	6.9	0	0
14							23	6.9	18	4.7	0	†0
15							23	6.2	31	3.6	0	.1
16							40	5.3	15	3.1	0	.2
17							31	5.3	10	3.3	0	†.2
18							21	6.0	7.2	3.0	0	†.2
19							17	6.5	5.8	2.9	0	†.3
20							15	6.0	10	2.8	0	.3
21							12	6.0	11	2.6	0	.1
22							11	5.7	8.3	3.3	0	.1
23							8.5	5.8	6.5	4.4	0	.2
24							7.8	5.0	4.7	3.3	0	.1
25							7.4	5.0	4.7	2.9	0	.1
26							6.9	4.8	4.5	2.4	0	.3
27							6.9	4.5	4.4	2.4	0	.3
28							6.2	4.0	3.9	2.5	0	.2
29							5.8	4.0	5.2	2.1	0	.2
30							6.4	4.0	5.0	1.9	0	.1
31							-	4.2	-	1.8	0	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year .....												
January.....						-	-	-	-			
February.....						-	-	-	-			
March.....						-	-	-	-			
April.....						340.1	40	2.0	11.3	675		
May.....						165.8	7.2	4.0	5.35	329		
June.....						202.3	31	2.4	6.74	401		
July.....						236.0	76	1.8	7.61	468		
August.....						5.5	1.7	0	.18	11		
September.....						3.2	.3	0	.11	6.3		
The period.....										1,690		

\*Estimated.

† Interpolated.

## Yellowstone Lake at Lake Hotel, Yellowstone National Park

Location.- Staff gage, lat. 44°33', long. 110°24', at boat landing at Lake Hotel, 1½ miles southwest of lake outlet. Zero of gage is 7,729.45 feet above mean sea level.

Drainage area.- 1,010 square miles.

Records available.- October 1921 to September 1935.

Extremes.- Maximum stage observed during year, 4.40 feet July 2, 6; minimum, less than -0.04 foot, Jan. 2.

1921-35: Maximum observed stage, 6.12 feet June 30, 1927; minimum, -0.1 foot Dec. 7, 8, 1931.

Remarks.- Records good. No regulation. Records furnished by officials of Yellowstone National Park.

Gage height, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-						-	-	-	-
2	0.46	-	-						-	4.40	-	-
3	-	-	-						-	-	3.36	2.00
4	-	-	0.10						2.06	-	-	-
5	-	-	-						-	-	-	-
6	.44	0.30	-						-	4.40	3.14	-
7	-	-	-						-	-	-	1.88
8	-	-	-						-	-	-	-
9	-	-	-						-	4.30	-	-
10	.40	-	-						-	-	2.96	1.76
11	-	-	.07						-	-	-	-
12	-	-	-						3.04	-	-	-
13	-	.24	-						-	4.24	2.74	-
14	-	-	-						-	-	-	1.62
15	-	-	-						3.70	-	-	-
16	-	-	-						-	4.14	-	-
17	.39	-	-						-	-	2.58	1.48
18	-	-	.04						3.94	-	-	-
19	-	-	-						-	-	-	-
20	-	.24	-						-	3.98	2.48	-
21	.40	-	-						-	-	-	1.36
22	-	-	-						4.14	-	-	-
23	-	-	-						-	3.88	-	-
24	-	-	-						-	-	2.36	-
25	-	-	-						4.26	-	-	-
26	-	-	-						-	-	-	-
27	-	.25	-						-	3.67	2.26	-
28	-	-	.01						-	-	-	1.26
29	-	-	-						4.38	-	-	-
30	.32	-	-						-	3.58	-	-
31	-	-	-						-	-	2.10	-

## Yellowstone River at Yellowstone Lake outlet, Yellowstone National Park

Location.- Water-stage recorder, lat. 44°34', long. 110°23', 550 feet below Fishing Bridge and a quarter of a mile below outlet of Yellowstone Lake. Staff gage at Fishing Bridge is also used. Zero of gage at recorder site is 7,727.78 feet and staff gage at Fishing Bridge is 7,728.84 feet above mean sea level.

Drainage area.- 1,010 square miles.

Records available.- December 1922 to September 1935. Gage-height records only prior to October 1928.

Extremes.- Maximum discharge during year, 4,520 second-feet July 1 (gage height, 5.62 feet); minimum, 242 second-feet Dec. 28 (gage height, 1.56 feet).  
1922-35: Maximum discharge, 7,420 second-feet June 29, 30, July 1, 1924 (gage height, 6.3 feet at Fishing Bridge site or 7.1 at recorder site); minimum, 220 second-feet Dec. 7, 1931 (gage height, 1.45 feet).

Remarks.- Records excellent except those estimated Dec. 28 to Apr. 19, which are fair. Discharge interpolated Nov. 28 to Dec. 3, Aug. 5, and Sept. 20. Gage-height record furnished by Yellowstone National Park officials. No artificial regulation.

## Discharge, in second-foot, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	452	369	311				400	616	1,400	4,360	2,880	1,460
2	448	373	307				400	616	1,450	4,360	2,880	1,460
3	448	373	302				400	616	1,530	4,360	2,750	1,420
4	448	373	298				425	616	1,570	4,360	2,680	1,360
5	444	373	298				450	622	1,630	4,360	2,620	1,350
6	434	365	294				450	622	1,690	4,360	2,560	1,320
7	434	361	291				450	616	1,800	4,360	2,490	1,290
8	434	357	288				450	604	1,920	4,360	2,420	1,260
9	430	357	284				450	604	2,110	4,360	2,360	1,250
10	426	353	284				450	616	2,300	4,200	2,300	1,230
11	416	353	284				500	616	2,490	4,200	2,240	1,180
12	413	353	284				500	616	2,680	4,200	2,170	1,160
13	403	353	280				500	622	2,950	4,200	2,110	1,140
14	381	353	277				500	622	3,090	4,040	2,110	1,100
15	390	349	277				550	634	3,440	4,040	1,980	1,100
16	403	349	277				600	640	3,590	3,890	1,980	1,090
17	398	349	277				600	646	3,740	3,890	1,980	1,060
18	398	353	277				600	666	3,740	3,890	1,920	1,000
19	403	353	274				600	679	3,890	3,740	1,920	966
20	398	349	270				598	698	3,890	3,740	1,800	940
21	398	341	274				604	724	4,040	3,590	1,800	915
22	398	337	284				610	757	4,040	3,590	1,740	908
23	398	333	270				616	805	4,200	3,520	1,740	916
24	398	329	260				634	862	4,360	3,440	1,690	932
25	394	329	274				629	940	4,360	3,370	1,690	908
26	385	325	252				628	1,010	4,360	3,300	1,630	892
27	385	329	260				616	1,070	4,360	3,230	1,600	862
28	381	325	260				622	1,140	4,360	3,160	1,560	848
29	377	320	260				622	1,200	4,360	3,090	1,530	840
30	373	316	260				616	1,160	4,360	3,020	1,520	812
31	369	-	260				-	1,070	-	2,950	1,490	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-foot
October.....	12,662	452	369	408	0.404	0.47	25,110
November.....	10,452	373	316	348	.345	.38	20,750
December.....	8,648	311	262	279	.276	.32	17,150
Calendar year 1934.....	240,580	1,740	252	659	.652	8.86	477,200
January.....	8,525	-	-	275	.272	.31	16,910
February.....	8,400	-	-	300	.297	.31	16,660
March.....	10,850	-	-	350	.347	.40	21,520
April.....	16,069	634	400	536	.531	.59	31,870
May.....	25,337	1,200	604	753	.746	.86	46,290
June.....	55,740	4,360	1,400	3,125	3.09	3.45	105,900
July.....	119,530	4,360	2,950	3,956	3.92	4.40	237,100
August.....	64,080	2,880	1,490	2,067	2.05	2.36	127,100
September.....	32,958	1,460	812	1,099	1.09	1.22	65,370
Water year 1934-35.....	409,251	4,360	252	1,121	1.11	15.07	811,700

## Yellowstone River near Canyon Hotel, Yellowstone National Park

Location.- Water-stage recorder, lat. 44°43', long. 110°30', half a mile upstream from Upper Falls and Canyon ranger station and  $1\frac{1}{4}$  miles south of Canyon Hotel.

Drainage area.- 1,160 square miles.

Records available.- June 1913 to September 1935 (except winters).

Extremes.- Maximum discharge during year, 4,560 second-feet June 28 to July 3; maximum gage height, 3.12 feet June 30; minimum occurred during winter.  
1913-35: Maximum discharge, 8,550 second-feet June 27, 1918 (gage height, 4.50 feet); minimum usually occurs during winter.

Remarks.- Records good except those estimated for May 22 to June 14, which are fair. Discharge interpolated Oct. 1-12, 14, 15. No artificial regulation or diversions. Gage observations furnished by officials of Yellowstone National Park.

Rating table,  
water year 1934-35 (gage height, in feet, and discharge, in second-feet)

1.0	825	2.0	2,195
1.2	1,020	2.2	2,600
1.4	1,250	2.4	3,020
1.6	1,520	2.6	3,440
1.8	1,830	3.0	4,330

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	533							-	1,800	4,560	2,960	1,510
2	529							-	1,800	4,560	2,970	1,490
3	524							-	1,800	4,560	2,790	1,460
4	520							-	1,850	4,440	2,730	1,420
5	515							-	1,950	4,440	2,660	1,420
6								-	2,000	4,440	2,560	1,360
7	511							-	2,150	4,440	2,490	1,350
8	506							-	2,300	4,440	2,440	1,340
9	502							-	2,500	4,440	2,360	1,320
10	497							-	2,760	4,330	2,300	1,300
11	493							-				
12	488							-	3,000	4,330	2,240	1,290
13	484							-	3,250	4,220	2,140	1,250
14	479							-	3,400	4,220	2,100	1,240
15	485							-	3,450	4,100	2,060	1,200
16	492							-	3,660	4,100	2,000	1,190
17								-				
18	498							-	3,660	3,990	1,970	1,170
19	-							-	3,770	3,990	1,920	1,140
20	-							-	3,880	3,880	1,900	1,120
21	-							-	1,050	3,990	3,880	1,090
22	-							-	1,190	4,100	3,770	1,060
23	-							-				
24	-							-	1,300	4,100	3,770	1,000
25	-							-	1,300	4,220	3,660	1,030
26	-							-	1,400	4,330	3,550	1,030
27	-							-	1,500	4,330	3,550	1,040
28	-							-	1,500	4,440	3,440	1,020
29	-							-				
30	-							-	1,550	4,440	3,340	1,000
31	-							-	1,550	4,440	3,240	970
								-	1,550	4,560	3,230	960
								-	1,550	4,560	3,150	960
								-	1,550	4,560	3,080	950
								-	1,500	4,020	1,540	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October 1-16.....	8,056	533	479	504	0.434	0.26	15,980
November.....	-	-	-	-	-	-	-
December.....	-	-	-	-	-	-	-
Calendar year .....							
January.....							
February.....							
March.....							
April.....							
May 19-31.....	18,490	1,550	1,050	1,422	1.23	.59	36,670
June.....	101,040	4,560	1,800	3,368	2.90	3.24	200,400
July.....	122,260	4,560	3,020	3,944	3.40	3.92	242,500
August.....	64,460	2,960	1,540	2,079	1.79	2.06	127,900
September.....	36,730	1,510	950	1,191	1.03	1.15	70,870
Water year .....							



## Yellowstone River at Corwin Springs, Mont.

Location.- Water-stage recorder, lat. 45°7', long. 110°48', in NW¼ sec. 30, T. 8 S., R. 8 E., at highway bridge at Corwin Springs, 8 miles north of Gardiner. Dec. 5, 1934, to Apr. 20, 1935, wire-weight gage at same site and datum. Prior to Dec. 5, 1934, chain gage at same site and datum.

Drainage area.- 2,630 square miles.

Records available.- September 1910 to September 1935.

Average discharge.- 25 years, 3,067 second-feet.

Extremes.- Maximum discharge during year 17,700 second-feet June 14 (gage height, 8.08 feet); minimum, 475 second-feet Apr. 2 (gage height, 0.22 foot).  
1910-35: Maximum discharge, 26,500 second-feet June 14, 15, 1918 (gage height, 11.5 feet); minimum, 475 second-feet Apr. 2, 1935 (gage height, 0.22 foot).

Remarks.- Records fair Oct. 1 to Apr. 20 and good thereafter. Natural storage in Yellowstone Lake.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	970	910	855	715	520	520	*480	1,700	7,680	9,130	3,750	2,100
2	1,040	910	760	715	520	520	475	1,640	7,680	8,830	3,660	2,040
3	970	910	760	715	520	490	490	1,520	6,700	8,830	3,490	1,960
4	970	970	760	715	520	490	490	1,520	7,120	8,830	3,410	1,920
5	970	970	805	715	520	490	490	1,640	6,530	6,240	3,410	1,920
6	910	910	805	715	520	490	490	1,770	9,130	8,240	3,330	1,860
7	910	910	805	715	520	490	490	2,030	9,430	7,960	3,180	1,860
8	910	910	805	715	520	490	490	2,030	10,900	7,680	3,100	1,810
9	910	910	760	715	520	490	520	2,030	12,700	7,400	3,030	1,910
10	910	910	760	715	520	490	490	2,640	12,700	7,120	2,960	1,760
11	910	910	760	715	520	490	490	2,610	13,700	6,980	2,890	1,700
12	910	910	760	715	520	490	520	2,810	14,300	6,700	2,820	1,700
13	910	910	805	675	520	490	570	2,640	15,300	6,440	2,750	1,640
14	910	910	805	675	520	490	570	2,480	16,100	6,300	2,680	1,640
15	910	855	805	675	520	520	710	2,810	14,600	6,170	2,620	1,590
16	1,040	855	760	675	520	520	1,020	2,980	12,700	5,910	2,550	1,590
17	970	855	760	675	520	520	650	3,350	11,800	5,910	2,550	1,540
18	970	855	805		520	520	930	3,990	11,200	5,650	2,550	1,540
19	970	855	805		520	490	930	4,290	11,500	5,520	2,550	1,480
20	970	855	760	600	520	490	1,280	4,500	11,800	5,400	2,480	1,430
21	970	855	805		520	490	1,590	4,920	11,800	5,270	2,420	1,430
22	970	855	760		520	490	1,760	6,640	11,800	5,150	2,360	1,430
23	970	805	760		520	490	1,890	7,520	12,400	4,920	2,290	1,430
24	970	805	760	520	*520	490	1,430	8,560	12,100	4,680	2,360	1,540
25	970	805	715	520	*520	490	1,380	9,100	10,900	4,570	2,290	1,480
26	970	855	675	520	520	490	1,540	9,100	10,000	4,460	2,220	1,430
27	970	805	675	520	520	490	1,810	7,120	9,730	4,240	2,160	1,380
28	970	760	715	520	520	490	1,700	6,440	10,500	4,150	2,100	1,380
29	910	760	715	520	-	490	1,540	5,650	10,500	4,040	2,100	1,380
30	910	760	715	520	-	490	1,640	6,570	10,000	3,940	2,040	1,330
31	910	-	715	520	-	485	-	7,120	-	3,840	2,100	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acre-feet		
October.....				29,430	1,040	910	949	0.361	0.42	58,370		
November.....				26,055	970	760	868	.350	.37	51,680		
December.....				23,710	855	675	765	.291	.34	47,030		
Calendar year												
January.....				19,715	715	520	520	.636	.242	39,100		
February.....				14,560	520	520	520	.520	.198	28,880		
March.....				15,365	520	485	496	.496	.189	30,480		
April.....				28,755	1,810	475	958	.958	.364	57,050		
May.....				129,600	9,100	1,520	4,181	1.59	1.83	287,100		
June.....				335,490	16,100	6,700	11,180	4.25	4.74	665,300		
July.....				192,480	9,130	3,840	6,209	2.36	2.72	391,800		
August.....				84,200	3,750	2,040	2,716	1.03	1.19	167,000		
September.....				49,120	2,100	1,330	1,637	.622	.69	97,430		
Water year 1934-35.....				948,390	16,100	475	2,598	.988	13.42	1,881,000		

\*Interpolated.

## Yellowstone River at Billings, Mont.

Location.— Water-stage recorder, lat. 45°47', long. 108°28'30", in NE¼ sec. 2, T. 1 S., R. 28 E., at Billings.

Records available.— May 1904 to December 1905, August 1928 to September 1935.

Extremes.— Maximum discharge for year, 38,300 second-feet June 15 (gage height, 8.70 feet); minimum, 970 second-feet Jan. 23 (ice on control).  
1904-5, 1928-35: Maximum for period, 38,300 second-feet June 14, 1933 and June 15, 1935; maximum gage height, 8.70 feet June 15, 1935; minimum discharge, 430 second-feet Dec. 12, 1932 (ice present).

Remarks.— Records good except those for period of ice effect, Dec. 27 to Feb. 24, which are fair. Numerous diversions above station.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,570	2,570	2,150	1,530	3,730	2,310	1,670	3,390	12,600	19,700	5,990	3,620
2	2,480	2,480	2,150	1,590	3,500	2,480	1,610	3,500	14,200	16,900	5,860	3,840
3	2,570	2,480	2,150	1,670	3,170	2,480	1,730	3,390	13,600	16,300	5,720	3,500
4	2,660	2,480	2,310	1,930	2,960	2,400	1,800	3,390	12,100	17,400	5,590	3,170
5	2,660	2,480	2,400	2,480	2,650	2,400	1,930	3,170	11,600	16,000	5,330	3,170
6	2,570	2,480	2,400	2,660	2,660	2,000	1,930	3,050	13,600	19,100	5,070	3,060
7	2,480	2,480	2,400	2,660	2,570	1,610	1,660	3,280	14,700	18,000	4,620	3,170
8	2,400	2,480	2,310	2,850	2,460	1,860	1,860	3,390	15,800	16,900	4,560	3,170
9	2,310	2,480	2,310	3,000	2,400	1,860	2,000	3,390	22,100	15,800	4,200	3,170
10	2,310	2,480	2,230	2,650	2,310	2,000	2,080	3,390	26,400	14,700	4,080	2,850
11	2,310	2,480	2,150	2,850	2,310	2,150	2,000	3,500	26,400	13,600	3,960	2,760
12	2,400	2,400	2,150	2,660	2,310	2,480	2,000	4,080	28,500	13,100	3,940	2,570
13	2,230	2,400	2,230	2,480	2,400	2,230	2,080	4,440	31,500	12,300	3,620	2,400
14	2,150	2,310	2,230	1,860	2,150	2,080	2,310	4,690	34,200	11,800	3,500	2,310
15	2,310	2,230	2,230	1,380	2,150	2,310	2,760	4,320	36,900	11,100	3,280	2,310
16	2,400	2,230	2,230	1,350	1,930	2,480	2,760	4,080	32,200	10,500	3,170	2,400
17	2,570	2,230	2,230	1,340	2,000	2,310	2,760	4,080	27,600	10,500	3,280	2,150
18	2,660	2,230	2,080	1,220	2,570	2,150	2,760	4,940	24,500	11,600	3,500	2,080
19	2,660	2,230	2,080	1,070	2,760	2,000	2,760	6,670	22,100	10,900	3,730	2,080
20	2,660	2,230	2,060	1,090	2,660	1,930	2,760	9,440	23,300	10,200	3,730	2,080
21	2,660	2,310	2,150	1,040	2,480	1,930	2,760	9,060	23,900	11,100	3,500	2,000
22	2,660	2,310	2,230	1,000	2,310	1,930	3,170	8,380	23,900	13,300	3,280	2,150
23	2,570	2,230	2,310	970	2,230	1,930	3,840	10,000	25,100	10,700	3,060	2,080
24	2,570	2,230	2,150	1,090	2,150	1,860	3,960	13,100	27,000	10,000	2,850	2,000
25	2,570	2,230	1,570	1,330	1,930	1,600	3,620	14,700	26,400	9,060	2,960	2,150
26	2,660	2,230	1,470	2,760	1,860	1,860	3,220	15,200	21,500	6,360	2,850	2,230
27	2,570	2,150	1,490	3,170	1,730	1,730	3,170	16,200	19,100	8,200	2,660	2,400
28	2,570	2,230	1,510	3,170	2,000	1,670	3,390	13,600	18,000	7,560	2,570	2,570
29	2,660	2,310	1,530	3,390	-	1,670	3,730	12,100	19,700	7,100	2,480	2,570
30	2,570	2,230	1,490	3,500	-	1,670	3,530	10,700	22,000	6,530	2,400	2,400
31	2,570	-	1,490	3,500	-	1,750	-	12,100	-	6,260	2,480	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						77,990	2,660	2,150	2,516	154,700		
November.....						70,320	2,570	2,150	2,344	139,500		
December.....						63,890	2,400	1,470	2,061	126,700		
Calendar year .....												
January.....						65,440	3,500	970	2,111	129,800		
February.....						68,560	3,730	1,730	2,449	136,000		
March.....						63,320	2,480	1,610	2,043	125,600		
April.....						77,840	3,960	1,610	2,595	154,400		
May.....						217,710	16,200	3,060	7,023	431,800		
June.....						669,200	36,900	11,800	22,310	1,327,000		
July.....						386,070	19,700	6,260	12,450	765,800		
August.....						117,920	6,990	2,400	3,604	233,900		
September.....						78,490	3,840	2,000	2,616	155,700		
Water year 1934-35.....						1,956,750	36,900	970	5,361	3,881,000		

## Yellowstone River at Miles City, Mont.

Location.- Water-stage recorder, lat. 46°26', long. 105°49'30", at highway bridge just below mouth of Tongue River, at Miles City.

Records available.- September 1922 to August 1923, August 1928 to September 1935.

Extremes.- Maximum discharge during year, 66,400 second-feet June 17 (gage height, 12.22 feet); minimum, 1,600 second-feet Dec. 31, Jan. 31, Jan. 26 (ice present).  
1922-23, 1928-35: Maximum discharge, 66,400 second-feet June 17, 1935 (gage height, 12.22 feet); minimum, 996 second-feet Dec. 14, 1932 (ice present).

Remarks.- Records good except those for periods of ice effect, Nov. 23 to Dec. 10, Dec. 24 to Mar. 18, which are fair. Numerous diversions from stream and tributaries above gage. Some storage on tributary streams.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,680	4,340	3,600	1,810	5,280	4,560	3,420	5,660	20,700	37,300	8,000	3,260
2	4,450	4,450	3,600	2,300	4,800	4,800	3,340	5,410	22,400	36,600	7,520	3,340
3	4,450	4,450	3,510	3,010	4,450	4,680	3,420	5,160	27,400	33,900	7,220	4,220
4	4,340	4,450	3,510	3,260	4,340	4,340	3,420	5,160	25,500	31,900	7,060	5,410
5	4,800	4,340	3,540	4,030	4,340	4,130	3,420	5,040	22,400	31,900	6,910	4,680
6	4,680	4,340	3,260	4,130	4,340	3,760	3,680	4,800	20,700	33,300	6,760	4,450
7	5,280	4,450	3,090	4,800	4,340	3,170	3,760	4,560	21,300	33,900	6,470	4,450
8	4,680	4,340	3,170	5,040	4,230	3,340	3,760	4,450	24,200	31,900	6,060	4,450
9	4,340	4,560	3,260	5,540	4,030	3,170	3,850	4,680	25,500	29,900	5,660	4,450
10	4,450	4,450	3,340	5,540	4,030	3,510	3,940	4,680	29,900	28,600	5,280	4,560
11	4,680	4,450	3,510	5,160	3,940	3,340	4,130	4,680	36,600	31,300	4,800	4,450
12	4,340	4,450	3,510	4,920	4,030	3,600	4,130	4,680	40,100	28,000	4,560	4,450
13	4,230	4,450	3,510	4,450	3,940	7,440	4,130	4,560	48,500	24,200	4,450	3,940
14	4,340	4,560	3,850	4,030	4,030	8,000	4,340	5,540	59,200	21,800	4,130	3,680
15	4,230	4,340	3,850	3,340	4,130	6,910	4,560	6,060	61,400	20,100	3,940	3,600
16	4,130	4,450	4,130	2,780	4,130	6,760	5,540	6,190	65,700	19,000	3,680	3,420
17	4,030	4,340	4,030	2,430	4,450	6,190	5,920	5,920	66,400	17,300	3,600	3,340
18	4,340	4,340	4,230	2,110	4,560	6,330	5,280	5,660	63,600	15,800	3,760	3,340
19	4,450	4,340	4,340	2,110	4,340	5,160	4,920	6,060	58,500	16,300	4,380	3,090
20	4,230	4,340	4,030	2,110	4,450	4,450	4,920	5,000	53,500	17,800	6,060	3,010
21	4,450	4,340	4,030	2,170	4,450	4,230	4,680	10,400	47,800	17,800	5,160	3,090
22	4,800	4,340	4,030	2,110	4,560	4,130	4,560	13,300	45,700	19,000	4,680	3,170
23	4,560	4,030	3,600	1,990	4,560	4,030	4,800	14,800	45,000	19,500	4,680	3,260
24	4,450	3,940	3,340	1,810	4,340	3,940	5,280	14,300	45,700	18,400	4,680	3,340
25	4,450	3,940	1,870	1,650	4,230	3,850	6,060	16,500	48,500	17,800	4,340	3,420
26	4,450	3,850	2,050	1,600	4,340	3,760	6,190	19,000	50,000	14,800	4,340	3,420
27	4,340	3,760	1,760	1,650	4,680	3,760	6,060	22,400	45,700	13,300	4,340	3,420
28	4,230	3,510	1,650	2,360	4,560	3,680	5,660	25,600	41,500	11,900	4,030	3,680
29	4,230	3,510	1,870	2,930	-	3,680	5,280	22,400	36,600	10,800	3,850	3,760
30	4,230	3,600	1,700	4,130	-	3,600	5,160	21,300	35,300	9,940	3,510	3,940
31	4,340	-	1,600	5,280	-	3,510	-	19,500	-	8,660	3,340	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						137,680	5,280	4,030	4,441	273,100		
November.....						127,050	4,560	3,510	4,235	252,000		
December.....						100,170	4,340	1,600	3,231	198,700		
Calendar year 1934.....						2,167,390	20,100	1,600	5,938	4,299,000		
January.....						100,580	5,540	1,600	3,245	199,500		
February.....						121,900	5,280	3,940	4,354	241,800		
March.....						139,810	8,000	3,170	4,510	277,300		
April.....						137,610	6,190	3,340	4,587	272,900		
May.....						304,750	23,600	4,450	9,831	604,500		
June.....						1,235,300	66,400	20,700	41,180	2,450,000		
July.....						702,700	37,300	8,660	22,670	1,394,000		
August.....						157,250	8,000	3,340	5,073	311,900		
September.....						113,670	5,410	3,010	3,789	225,500		
Water year 1934-35.....						3,378,470	66,400	1,600	9,256	6,701,000		

## Yellowstone River near Sidney, Mont.

Location.- Water-stage recorder, lat. 47°41', long. 104°8'30", in SW $\frac{1}{4}$  sec. 9, T. 22 N., R. 59 E., at highway bridge 2 miles south of Sidney.

Drainage area.- 69,450 square miles (revised).

Records available.- April 1934 to September 1935.

Discharge.- Maximum discharge during year, 77,800 second-feet June 18 (gage height, 10.6 feet); minimum, 880 second-feet Dec. 31 (gage height, 1.98 feet, ice present).  
1934-35: Maximum discharge, 77,800 second-feet June 18, 1935 (gage height, 10.6 feet); minimum, 880 second-feet Dec. 31, 1934 (gage height, 1.98 feet, ice present).

Remarks.- Records good except those for period of ice effect, Nov. 23 to Apr. 8, which are fair. Numerous diversions above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,840	4,500	3,230	1,180	3,200	4,330	4,840	6,430	21,600	33,400	10,300	3,060
2	5,020	4,500	3,090	1,130	3,640	4,500	4,670	6,610	20,300	35,600	9,070	2,870
3	5,370	4,670	3,090	1,200	5,020	4,330	4,670	6,980	21,600	36,600	8,280	2,740
4	5,370	4,670	2,740	1,260	5,370	4,330	3,770	6,430	27,400	33,400	7,720	2,700
5	5,200	4,570	2,670	1,340	5,200	4,330	3,860	5,900	28,400	25,600	7,160	3,370
6	5,020	4,600	3,200	1,950	5,020	3,990	3,770	5,720	23,900	31,400	6,790	4,670
7	5,020	4,440	2,700	2,260	4,840	3,670	3,730	5,720	20,900	32,400	6,430	4,090
8	5,270	4,440	2,980	3,010	4,640	3,370	5,540	5,720	20,300	33,400	6,250	3,830
9	5,700	4,400	3,230	3,990	4,840	3,130	4,840	5,370	22,400	31,400	5,900	3,770
10	5,170	4,280	3,090	4,090	4,840	2,500	4,840	5,020	23,900	53,000	5,540	3,890
11	4,700	4,280	3,490	5,020	4,500	3,010	4,840	5,020	26,500	49,600	5,200	3,860
12	4,640	4,280	5,020	5,540	4,230	3,040	4,840	5,200	32,400	37,700	4,840	3,960
13	4,920	4,280	4,840	5,540	3,830	3,490	5,200	5,020	40,000	27,400	4,500	3,890
14	4,670	4,280	4,500	4,670	3,830	3,960	5,020	5,020	47,200	23,100	4,330	3,610
15	4,570	4,280	4,130	4,670	3,770	5,200	5,020	5,020	64,500	20,300	4,190	3,430
16	4,240	4,400	4,500	4,670	3,860	5,720	5,200	5,900	68,400	18,400	3,960	3,200
17	4,280	4,280	4,840	4,500	3,700	8,480	5,540	6,610	71,000	17,300	3,890	3,010
18	4,400	4,280	4,060	3,960	3,730	7,530	6,790	6,980	75,100	16,200	3,860	2,870
19	4,280	4,280	3,960	3,520	3,990	7,160	7,340	6,980	71,000	15,200	4,090	2,600
20	4,440	4,180	4,020	2,340	4,500	7,340	6,790	6,980	64,500	15,200	6,980	2,800
21	4,440	4,090	4,190	2,210	4,500	7,340	5,900	7,720	56,200	15,700	9,070	2,670
22	4,440	4,160	4,500	1,700	4,330	7,530	5,540	11,100	46,400	15,700	6,610	2,600
23	4,570	4,090	3,520	1,390	4,840	7,160	5,370	12,900	44,700	17,300	5,720	2,640
24	4,770	3,900	3,400	1,650	4,840	7,160	5,370	14,700	43,500	16,700	5,200	3,170
25	4,770	3,860	1,640	1,580	5,020	7,340	5,370	15,700	44,700	17,300	5,020	3,310
26	4,770	3,730	1,090	1,650	4,670	6,250	6,250	18,700	47,200	16,700	4,670	3,370
27	4,920	3,370	1,140	1,700	4,500	5,540	7,340	18,400	49,600	15,200	4,090	3,460
28	4,770	3,400	1,120	1,670	4,500	5,900	7,900	20,300	45,900	14,200	3,800	3,460
29	4,570	3,700	1,140	1,700	-	5,900	7,160	21,600	40,000	12,900	3,670	3,490
30	4,670	3,670	1,140	1,670	-	4,840	6,430	22,400	35,600	12,400	3,550	3,730
31	4,500	-	860	2,770	-	4,330	-	22,400	-	11,100	3,260	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						148,310	5,700	4,240	4,784		294,200	
November.....						125,860	4,670	3,370	4,195		249,600	
December.....						97,120	5,020	860	3,133		192,600	
Calendar year .....												
January.....						85,510	5,540	1,130	2,758		169,600	
February.....						123,950	5,370	3,200	4,427		245,900	
March.....						162,700	8,480	2,500	5,248		322,700	
April.....						163,740	7,900	3,730	5,458		324,800	
May.....						302,550	22,400	5,020	9,760		600,100	
June.....						1,245,700	75,100	20,300	40,220		2,475,000	
July.....						751,800	53,000	11,100	24,250		1,491,000	
August.....						173,940	10,300	3,260	5,611		345,000	
September.....						100,320	4,670	2,600	3,344		199,000	
Water year 1934-35 .....						3,482,500	75,100	860	9,541		6,908,000	

## Tower Creek at Tower Falls, Yellowstone National Park

Location.- Staff gage, lat. 44°54', long. 110°23', a short distance above Tower Falls, a quarter of a mile above mouth, and 2 miles southeast of Camp Roosevelt.

Drainage area.- 51 square miles.

Records available.- September 1922 to September 1935.

Extremes.- Maximum observed discharge, 425 second-feet June 12 (gage height, 5.60 feet); minimum not determined.

1922-35: Maximum discharge, 642 second-feet May 30, 1925 (gage height, 6.16 feet); maximum gage height, 6.27 feet May 28, 1928: minimum discharge, 5.6 second-feet, discharge measurement, Mar. 17, 1934.

Remarks.- Records fair. No diversions or regulation. Gage observations furnished by officials of Yellowstone National Park.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	* 18	* 19						* 20	97	110	* 36	* 27
2	* 18	* 19						* 20	* 95	110	* 35	* 26
3	* 18	19						* 20	* 95	100	* 34	25
4	* 18	* 19						* 20	* 110	100	33	* 25
5	* 18	* 19						* 20	* 130	92	33	* 25
6	* 18	* 19						* 25	* 150	92	32	* 25
7	18	* 18						* 25	* 170	84	32	25
8	* 18	* 18						26	* 200	84	31	* 25
9	* 18	* 18						* 30	232	77	31	* 25
10	* 18	18						* 35	* 296	70	30	* 24
11	* 18	-						* 35	* 361	70	* 30	* 24
12	* 18	-						* 30	425	64	* 30	* 24
13	18	-						* 30	385	63	* 30	* 23
14	18	-						* 25	* 365	64	30	* 23
15	* 18	-						* 25	345	62	* 30	* 23
16	* 18	-						* 30	287	60	* 30	* 22
17	* 18	-						38	* 269	59	* 30	* 22
18	* 18	-						* 40	* 250	58	* 30	* 22
19	* 18	-						* 45	232	58	* 30	* 22
20	18	-						* 50	* 241	56	* 29	* 22
21	* 18	-						* 60	250	54	* 27	* 22
22	* 18	-						* 60	232	51	26	22
23	* 18	-						* 75	216	49	26	* 23
24	* 18	-						* 85	* 192	47	28	* 25
25	* 18	-						* 85	169	45	26	* 25
26	* 18	-						* 85	142	43	26	* 23
27	* 19	-						* 90	130	41	25	22
28	* 19	-						* 70	130	* 40	25	* 22
29	* 19	-						* 70	130	* 39	* 25	* 22
30	* 19	-						* 80	119	* 38	* 25	* 22
31	* 19	-						* 90	-	* 37	25	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches      Acre-feet			
October.....				563	19	18	18.2	0.357	0.41	1,120		
November 1-10.....				186	19	18	18.6	.365	.14	369		
December.....				-	-	-	-	-	-	-		
Calendar year .....												
January.....												
February.....												
March.....												
April.....												
May.....				1,429	90	20	46.1	.904	1.04	2,830		
June.....				6,445	425	95	215	4.22	4.71	12,780		
July.....				2,017	110	37	65.1	1.28	1.48	4,000		
August.....				910	36	25	29.4	.576	.66	1,800		
September.....				707	27	22	23.6	.463	.52	1,400		
Water year .....												

\* Estimated or interpolated.

## Lamar River near Tower Falls ranger station, Yellowstone National Park

Location.—Water-stage recorder, lat. 44°56', long. 110°22', half a mile north of Cooke City Road, three-quarters of a mile above mouth, and 2 miles northeast of Tower Falls ranger station.

Drainage area.—640 square miles.

Records available.—September 1922 to September 1935.

Average discharge.—10 years (1925-35), 793 second-feet.

Extremes.—Maximum discharge during year, 10,300 second-feet June 13 (gage height, 8.36 feet); minimum, 110 second-feet (estimated) Feb. 1-28.  
1922-35: Maximum discharge, 13,600 second-feet May 25, 1928 (gage height, 9.75 feet); minimum, 95 second-feet (discharge measurement) Mar. 25, 1933.

Remarks.—Records good except those estimated because of ice effect or missing gage-height record, Nov. 25-30, Apr. 1 to May 7, which are fair, and Dec. 1 to Mar. 31, which are poor. No regulation or diversions. Gage observations furnished by officials of Yellowstone National Park.

Rating table, water year 1934-35 except period of ice effect  
(gage height, in feet, and discharge, in second-feet)

0.8	74	2.8	940	4.8	3,040	6.8	6,560	8.8	11,230
1.2	156	3.2	1,270	5.2	3,630	7.2	7,530	9.2	12,190
1.6	277	3.6	1,640	5.6	4,290	7.6	8,420	9.6	13,190
2.0	445	4.0	2,050	6.0	5,030	8.0	9,340		
2.4	669	4.4	2,510	6.4	5,820	8.4	10,270		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	221	180						250	3,040	2,390	398	224
2	189	186						250	2,840	2,390	367	195
3	183	151						250	2,450	2,590	342	175
4	164	154						250	2,840	2,220	330	161
5	148	161						300	3,480	2,056	326	156
6	138	172						400	3,790	2,000	299	148
7	138	189						450	4,120	1,890	281	148
8	154	198						545	5,820	1,740	265	146
9	189	183						596	6,240	1,640	253	144
10	170	172						814	6,240	1,500	240	136
11	161	159						835	6,660	1,400	231	131
12	148	151						800	7,510	1,270	228	131
13	144	151						727	8,420	1,180	218	129
14	141	154						663	8,190	1,100	209	124
15	144	151						645	6,560	1,080	209	127
16	170	146						870	5,030	980	206	127
17	167	144						1,100	4,200	972	203	122
18	161	154						1,270	3,950	898	240	120
19	172	156						1,360	4,040	821	240	118
20	186	151						1,360	4,290	760	218	118
21	170	138						1,690	4,120	746	198	118
22	170	136						2,390	4,290	707	189	118
23	164	136						2,840	4,650	651	192	124
24	156	131						3,560	4,290	591	221	154
25	156	130						3,630	3,530	562	206	156
26	186	130						3,330	2,900	523	180	141
27	198	130						2,900	2,770	486	170	134
28	198	130						2,270	3,110	465	167	129
29	186	128						1,940	3,110	440	164	124
30	175	120						2,330	2,840	422	161	122
31	172	-						2,770	-	407	195	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	5,219	221	138	168	0.262	0.30	10,350
November.....	4,560	189	120	152	.238	.27	9,040
December.....	3,720	-	-	120	.188	.22	7,380
Calendar year 1934.....	196,128	3,950	-	537	.839	11.40	389,000
January.....	3,720	-	-	120	.188	.22	7,380
February.....	3,080	-	-	110	.172	.18	6,110
March.....	3,720	-	-	120	.188	.22	7,380
April.....	6,000	-	-	200	.312	.35	11,900
May.....	43,385	3,630	250	1,400	2.19	2.62	86,050
June.....	134,420	8,420	2,450	4,481	7.00	7.81	266,600
July.....	36,671	2,590	407	1,135	1.86	2.13	72,740
August.....	7,344	398	161	237	.370	.43	14,570
September.....	4,200	224	118	140	.219	.24	8,330
Water year 1934-35.....	256,039	8,420	-	701	1.10	14.89	507,800

## Gardiner River at Mammoth Hotel, Yellowstone National Park

Location.- Water-stage recorder, lat.  $44^{\circ}59'$ , long.  $110^{\circ}41'$ , a quarter of a mile below foot bridge on Mount Everts trail, three-eighths of a mile below Mammoth Hot Springs, and 0.9 mile east of Mammoth Hotel.

Drainage area.- 201 square miles.

Records available.- September 1922 to September 1935.

Average discharge.- 10 years (1925-35), 161 second-feet.

Extremes.- Maximum discharge during year, 1,200 second-feet about June 12 (gage height, 2.98 feet, from high-water mark); minimum recorded discharge, 40 second-feet Mar. 26 (gage height, 0.56 foot).  
1922-35: Maximum discharge, 1,790 second-feet May 28, 1928 (gage height, 3.59 feet); minimum discharge, 31 second-feet Apr. 7, 1928; minimum gage height, 0.51 foot Apr. 3, 1931.

Remarks.- Records good except those estimated for Dec. 8-17, 31, Jan. 1 to Mar. 15, Mar. 27, 28, 31, Apr. 1, 2, 11-30, May 1, 2, June 9-14, Sept. 25-28, 30, which are fair. No regulation or diversions. Gage observations furnished by officials of Yellowstone National Park.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74	76	63			50	55	105	602	383	126	98
2	71	74	55			50	55	105	547	361	126	92
3	71	65	56			50	60	104	524	352	120	90
4	71	73	61			50	58	113	553	343	117	88
5	68	74	61			50	58	126	628	331	113	86
6	67	78	65			50	58	136	640	318	108	86
7	67	74	60			50	57	136	730	302	106	85
8	70	71	56			50	65	161	808	290	102	85
9	70	70	52			50	60	241	900	271	98	85
10	68	68	50			50	57	275	1,000	269	98	83
11	68	67	50			50	60	248	1,100	245	96	83
12	67	67	52			55	65	216	1,200	230	96	81
13	67	67	54			55	70	206	1,100	227	96	81
14	67	64	56			55	75	196	1,000	220	94	80
15	70	64	56			60	85	216	860	213	94	83
16	83	64	58			57	100	290	786	209	94	81
17	78	64	58			56	90	323	702	206	96	80
18	78	67	60			55	85	352	640	196	102	80
19	78	65	58			55	85	374	628	186	100	80
20	73	65	61			51	100	402	634	186	98	80
21	71	60	63			55	120	450	802	186	92	80
22	76	58	63			53	130	445	595	183	90	80
23	74	63	65			52	120	559	621	177	94	85
24	70	56	61			52	110	628	595	170	100	104
25	86	61	63			44	105	602	508	164	94	105
26	85	58	63			47	100	589	465	155	88	90
27	81	58	64			50	110	530	450	150	88	85
28	78	63	64			52	100	465	465	139	88	85
29	76	61	67			53	100	450	455	139	85	85
30	74	61	64			56	100	508	435	134	88	85
31	74	-	60			55	-	577	-	134	96	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	2,271	86	67	73.3	0.365	0.42	4,500
November.....	1,966	78	53	65.5	.326	.36	3,900
December.....	1,839	67	50	59.5	.295	.34	3,650
Calendar year 1934.....	38,041	486	50	104	.517	7.03	75,450
January.....	1,705	-	-	55	.274	.32	3,380
February.....	1,400	-	-	50	.249	.26	2,780
March.....	1,618	60	44	52.2	.260	.30	3,210
April.....	2,495	130	55	53.1	.415	.46	4,940
May.....	10,128	628	104	327	1.63	1.88	20,080
June.....	20,775	1,200	435	692	3.44	3.84	41,200
July.....	7,059	383	134	228	1.13	1.30	14,000
August.....	3,083	126	85	99.5	.495	.57	6,120
September.....	2,571	105	80	85.7	.426	.48	5,100
Water year 1934-35.....	56,906	1,200	44	156	.776	10.53	112,900

## YELLOWSTONE RIVER BASIN

Shields River near Wilsall, Mont.

Location.- Staff gage, lat. 46°9', long. 110°33'30", in SW¼ sec. 34, T. 5 N., R. 9 E., at county bridge about 13 miles northeast of Wilsall:

Records available.- May to September 1935.

Extremes.- Maximum discharge for period, 129 second-feet June 13, 14 (gage height, 1.50 feet); minimum, 3.7 second-feet Aug. 14, 15 (gage height, 0.58 foot).

Remarks.- Records fair. Several small diversions for irrigation above gage.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								-	101	54	15	8.8
2								-	101	47	13	8.8
3								-	92	44	12	9.7
4								-	83	45	10	9.7
5								-	81	47	12	9.7
6								-	75	45	10	9.7
7								-	75	49	9.7	10
8								-	71	45	6.3	6.8
9								-	101	42	5.9	7.1
10								49	117	45	5.9	6.3
11								52	122	39	5.9	6.3
12								49	122	28	4.1	6.3
13								54	129	24	4.1	6.3
14								47	129	29	4.1	5.9
15								28	117	29	3.7	5.9
16								28	103	24	3.7	5.9
17								42	90	18	4.1	5.4
18								42	81	18	6.3	5.4
19								77	73	18	6.3	5.4
20								77	67	20	8.0	5.4
21								75	59	20	8.8	5.4
22								77	56	20	8.8	5.4
23								101	52	20	8.8	5.4
24								97	47	22	8.8	5.4
25								94	41	22	8.8	5.4
26								94	35	20	8.8	5.4
27								94	33	20	6.3	5.4
28								79	33	18	6.3	5.4
29								79	41	10	5.9	5.4
30								79	63	10	5.9	5.4
31								90	-	10	5.4	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year .....												
January.....												
February.....												
March.....												
April.....												
May 10-31.....						1,504	101	28	68.4	2,980		
June.....						2,390	129	33	79.7	4,740		
July.....						902	54	10	29.1	1,790		
August.....						232.7	15	3.7	7.51	462		
September.....						200.8	10	5.4	6.69	398		
The period.....										10,370		



## Shields River at Clyde Park, Mont.

Location.- Wire gage, lat. 45°53', long. 110°36'30", in NW¼ sec. 33, T. 2 N., R. 9 E., at highway bridge a quarter of a mile northwest of Clyde Park, 2 miles above mouth of Brackett Creek.

Drainage area.- 544 square miles.

Records available.- March 1921 to September 1923, April 1929 to December 1932, February 1934 to September 1935.

Extremes.- Maximum discharge during year, 364 second-feet Mar. 14 (gage height, 2.56 feet); minimum, 1.8 second-feet Aug. 29 (gage height, 0.72 foot).  
1921-23, 1929-32, 1934-35: Maximum discharge, 1,880 second-feet May 26, 1923; minimum, 1.8 second-feet Aug. 29, 1935 (gage height, 0.72 foot).

Remarks.- Records good. Numerous diversions above and below station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	30	14	25	27	29	24	119	169	44	4.8	3.4
2	12	30			27	28	26	117	169	44	4.8	5.3
3	14	29			32	30	21	122	132	44	4.6	6.7
4	15	28			30	28	19	112	99	44	4.4	6.4
5	15	28	11	26	34	22	23	110	92	44	4.2	5.9
6	15	28			32	23	33	110	101	41	3.8	5.3
7	15	28			31	17	37	112	101	37	3.2	6.4
8	15	30			28	22	38	107	117	36	3.0	6.7
9	18	30	12	17	25	26	36	99	143	36	2.7	5.9
10	19	30			27	26	37	110	184	32	2.6	5.1
11	19	30			22	28	62	112	200	28	2.4	5.3
12	19	30			27	31	86	107	216	25	2.2	5.1
13	19	30	19	20	28	63	269	101	233	24	2.2	5.1
14	19	30			30	268	166	94	233	23	2.2	4.6
15	19	30			28	194	157	90	216	21	2.4	4.4
16	22	29			27	94	163	90	184	16	2.8	4.2
17	22	27	19	20	31	75	163	92	166	17	3.4	4.2
18	24	26			29	73	157	96	132	15	4.4	3.2
19	24	26			26	67	157	112	112	13	4.8	2.8
20	24	24			29	56	152	114	112	12	4.0	2.6
21	24	22	25	28	30	51	181	112	94	11	3.8	2.4
22	25	21			30	54	194	117	82	56	2.7	2.4
23	26	19			28	29	184	135	73	34	2.7	2.4
24	28	18			30	41	152	149	75	18	2.6	2.6
25	28	18	20	36	27	51	140	149	68	11	2.4	2.7
26	28	18			23	52	135	146	62	6.4	2.3	3.0
27	28	15			25	51	154	135	54	8.0	2.1	3.4
28	28	15			31	52	154	135	50	7.0	2.1	3.8
29	28	15	-	-	-	44	135	114	50	7.0	2.1	3.8
30	28	17			-	35	122	107	46	6.4	2.3	3.5
31	30	-			-	29	-	117	-	5.1	3.0	-
Month					Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet		
October.....					662	28	12	21.4		1,310		
November.....					751	30	15	25.0		1,490		
December.....					525	-	-	16.5		1,040		
Calendar year .....												
January.....					796	-	-	25.7		1,580		
February.....					794	34	22	28.4		1,570		
March.....					1,690	268	17	54.5		3,550		
April.....					3,376	268	19	113		6,700		
May.....					3,542	149	90	114		7,030		
June.....					3,765	233	46	126		7,470		
July.....					767.9	56	5.1	24.8		1,520		
August.....					97.0	4.8	2.1	3.13		192		
September.....					128.9	6.7	2.4	4.30		256		
Water year 1934-35.....					16,894.8	268	2.1	46.3		35,510		

## Brackett Creek near Clyde Park, Mont.

Location.- Staff gage, lat. 45°52'30", long. 110°40'30", near center of NE $\frac{1}{4}$  sec. 1, T. 1 N., R. 8 E., 4 miles southwest of Clyde Park.

Records available.- April 1934 to September 1935. March 1921 to September 1923 at station three-quarters of a mile upstream.

Extremes.- Maximum discharge recorded during year, 56 second-feet May 23 (gage height, 2.59 feet); minimum, 1.1 second-feet Sept. 25, 28 (gage height, 1.54 feet).  
1921-23, 1934-35: Maximum discharge, 370 second-feet June 22, 1923; minimum, 1.0 second-foot Aug. 21, 22, 1934.

Remarks.- Records good except those for period of ice effect, Nov. 22 to Apr. 7, which are poor. Numerous small diversions above and below gage.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							3.4	30	54	9.6	3.2	3.3
2	6.4	2.0					1.6	28	52	8.2	3.3	3.5
3	6.4	2.4					2.6	28	46	6.9	3.2	3.5
4	6.4	2.4					3.4	25	44	6.6	3.0	3.3
5	5.9	2.4					4.1	28	41	12	2.8	3.2
6												
7	5.9	2.4					3.4	31	45	14	2.6	2.8
8	5.9	2.0					5.1	33	39	10	2.5	2.5
9	5.6	2.0					4.8	27	37	11	2.5	2.1
10	5.6	2.0					5.0	22	36	10	2.5	2.1
							4.2	28	34	9.2	2.3	2.0
11	5.6	2.0					4.6	33	32	*9.3	2.0	2.0
12	5.6	2.0					5.2	30	32	*9.5	2.0	1.3
13	5.6	2.0					22	31	32	9.6	2.0	1.6
14	5.6	2.0					23	30	30	6.9	2.0	1.7
15	5.4	2.0					18	20	28	6.9	2.0	1.7
16												
17	6.4	2.0					19	19	25	6.9	2.0	1.7
18	6.4	2.0					18	22	24	6.9	2.0	*1.7
19	5.9	2.0					22	41	19	6.3	2.3	*1.6
20	5.9	2.0					22	54	21	6.3	2.8	1.8
							33	50	25	4.8	2.5	1.7
21	*6.0	2.0					40	47	24	4.8	2.5	1.8
22	*6.2	2.2					43	48	22	8.8	2.5	1.8
23	*6.3	2.2					31	54	19	6.9	2.3	1.8
24	*6.5	2.2					25	54	22	4.8	2.3	1.6
25	*6.6	2.4					23	54	17	4.8	2.3	1.1
26												
27	6.7	2.0					25	48	16	4.4	2.3	1.4
28	6.1	2.0					33	39	13	4.2	2.5	2.1
29	3.2	2.0					25	38	9.6	5.9	2.6	2.1
30	2.4	2.4					21	40	8.8	2.8	2.8	2.3
31	2.4	-					-	41	9.6	3.2	2.8	2.1
										2.8	3.3	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							173.4	6.7	2.4	5.60	344	
November.....							63.8	2.4	2.0	2.13	127	
December.....							74.4	-	-	12.4	148	
Calendar year .....												
January.....							77.5	-	-	12.5	154	
February.....							72.8	-	-	12.6	144	
March.....							80.6	-	-	12.6	160	
April.....							520.6	43	1.8	17.4	1,030	
May.....							1,119	54	19	36.1	2,220	
June.....							857.0	54	8.8	28.6	1,700	
July.....							222.3	14	2.8	7.17	441	
August.....							77.7	3.3	2.0	2.51	154	
September.....							64.1	3.5	1.1	2.14	127	
Water year 1934-35.....							3,403.2	54	1.1	9.32	6,750	

\*Interpolated.

†Estimated.

## Stillwater River near Absarokee, Mont.

Location.- Wire gage, lat. 45°32', long. 109°25'30", in SE $\frac{1}{4}$  sec. 30, T. 3 S., R. 19 E., at highway bridge 1.7 miles northeast of Absarokee and half a mile below mouth of Rosebud Creek.

Records available.- July 1910 to November 1914, and March to September 1935.

Extremes.- Maximum discharge during period, 7,140 second-feet June 14 (gage height, 5.28 feet); minimum, 150 second-feet Apr. 2 (gage height, 1.42 feet).  
1910-14, 1935: Maximum discharge, 7,140 second-feet June 14, 1935 (gage height, 5.28 feet); minimum, 150 second-feet Apr. 2, 1935 (gage height, 1.42 feet).

Remarks.- Records fair. Numerous diversions for irrigation above gage. Flow partly regulated by power plant at Mystic Lake.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

1.4	140	2.4	1,040	3.4	2,710	4.4	4,950
1.6	262	2.6	1,310	3.6	3,130	4.6	5,430
1.8	420	2.8	1,620	3.8	3,570	4.8	5,910
2.0	594	3.0	1,950	4.0	4,050	5.0	6,390
2.2	800	3.2	2,320	4.2	4,490	5.2	6,890

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							182	380	1,310	2,920	1,240	462
2							150	380	1,540	2,920	1,170	479
3							234	462	1,310	2,920	1,040	496
4							220	445	1,310	2,920	920	531
5							220	396	1,460	3,130	920	479
6							220	428	1,950	3,130	920	479
7							182	479	1,950	3,130	860	479
8							192	396	2,710	2,510	594	479
9							262	396	3,570	2,920	558	462
10							262	412	4,030	2,710	504	462
11							278	479	4,720	2,710	470	445
12							248	479	5,190	2,710	540	412
13							248	567	6,150	2,920	540	445
14							340	604	7,140	2,710	470	445
15							356	604	5,670	2,920	454	396
16							293	624	4,260	2,510	437	380
17							293	585	3,350	2,510	504	364
18							234	644	3,130	2,510	470	364
19							234	1,380	2,710	2,320	420	332
20							234	2,510	3,350	1,950	404	364
21							293	1,240	3,350	3,130	324	388
22							404	1,240	3,570	2,320	340	388
23							388	1,240	4,260	1,950	324	372
24							404	1,240	4,950	1,620	454	404
25							674	1,950	4,720	1,540	420	372
26						*167	576	1,950	5,430	1,380	470	356
27						*166	694	1,380	2,920	1,380	487	372
28						*199	262	1,310	2,920	1,310	540	340
29						*227	454	1,240	3,800	1,310	576	324
30						*176	464	1,310	3,550	1,310	487	372
31						*179	-	1,380	-	1,310	487	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March 26-31.....						1,134	227	166	169	2,250		
April.....						9,485	694	150	316	18,610		
May.....						28,150	2,510	380	907	55,800		
June.....						106,080	7,140	1,310	3,536	210,400		
July.....						73,540	3,130	1,310	2,372	145,900		
August.....						18,344	1,240	324	592	36,380		
September.....						12,443	531	324	415	24,680		
The period.....										494,200		

\*Corrected for ice effect.

## Rosebud Creek near Absarokee, Mont.

Location.- Staff gage, lat. 45°29'30", long. 109°27'30", in NW¼ sec. 13, T. 4 S., R. 18 E., 2 miles south of Absarokee.

Records available.- April to September 1935. July 1910 to September 1914 at site 2½ miles downstream. Records not comparable, owing to diversion between sites.

Extremes.- Maximum discharge for period, 1,750 second-feet June 14 (gage height, 4.57 feet); minimum, 70 second-feet Apr. 2 (gage height, 1.81 feet).

Remarks.- Records fair. Numerous diversions for irrigation above gage. Flow partly regulated by power plant at Mystic Lake.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							94	286	525	918	554	348
2							79	240	525	882	554	328
3							132	247	525	882	498	306
4							117	247	525	966	418	348
5							117	244	498	1,320	418	348
6							122	247	554	1,320	370	348
7							102	256	583	1,320	370	348
8							92	233	544	1,230	326	328
9							127	256	993	1,150	306	306
10							117	256	1,150	1,070	285	306
11							124	286	1,320	993	286	247
12							127	247	1,320	993	286	222
13							148	326	1,570	993	285	266
14							171	306	1,660	918	285	256
15							132	285	1,400	882	285	247
16							165	286	1,230	910	285	247
17							143	285	956	918	285	247
18							154	348	918	956	285	266
19							138	845	882	918	253	266
20							138	708	993	882	186	247
21							138	554	993	956	151	247
22							202	525	1,070	956	143	230
23							216	525	1,230	882	174	196
24							209	583	1,230	882	219	196
25							202	583	1,070	876	244	212
26							196	583	956	583	233	247
27							206	554	882	583	236	266
28							212	525	810	614	256	247
29							206	498	918	614	219	247
30							212	470	1,230	614	226	166
31							-	444	-	583	226	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year .....												
January.....							-	-	-	-	-	
February.....							-	-	-	-	-	
March.....							-	-	-	-	-	
April.....							4,536	216	79	151	9,000	
May.....							12,188	845	253	392	24,120	
June.....							29,160	1,660	498	972	57,840	
July.....							29,254	1,320	583	911	56,040	
August.....							9,087	554	143	292	17,980	
September.....							8,055	348	166	258	15,980	
The period.....											181,000	

## Clarks Fork at Chance, Mont.

Location.- Water-stage recorder, lat. 45°30", long. 109°4'30", in NW¼ sec. 32, T. 9 S., R. 22 E., on highway bridge at Chance, just above mouth of Sand Coulee and half a mile north of Wyoming-Montana State line. Prior to Nov. 14, 1934, staff gage at same site and datum.

Records available.- July 1921 to September 1935.

Extremes.- Maximum discharge during year, 8,490 second-feet June 24 (gage height, 5.62 feet); minimum, 77 second-feet Feb. 26 (gage height, -0.10 foot).  
1921-35: Maximum discharge, 10,900 second-feet May 26, 1928, (gage height 6.5 feet); minimum, 72 second-feet March 19, 1927.

Remarks.- Records good. Numerous diversions. Periods of ice effect, Dec. 26 to Jan. 1, Jan. 14-28, Feb. 24-28, Mar. 4-7, Apr. 1-4.

Rating table, for period Nov. 14, 1934 to Sept. 30, 1935 except periods of ice effect (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Nov. 14 to Dec. 26)

0	90	2.0	905	4.0	4,230
.4	165	2.4	1,280	4.4	5,200
.8	260	2.8	1,800	4.8	6,230
1.2	390	3.2	2,480	5.2	7,310
1.6	595	3.6	3,320	5.6	8,490

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	218	286	255	202	248	220	160	406	2,390	3,540	1,170	402
2	250	286	272	260	240	205	160	402	2,130	3,430	1,020	380
3	234	286	222	266	242	200	180	390	1,960	3,660	896	366
4	218	268	230	281	242	192	220	362	1,880	3,880	804	362
5	204	268	252	299	240	171	200	376	2,220	4,120	756	356
6	204	286	272	305	242	165	222	410	2,480	3,880	688	355
7	204	306	284	287	238	181	218	430	2,580	3,660	616	376
8	189	326	252	278	226	210	230	422	2,890	3,540	577	369
9	204	306	280	275	218	190	266	402	3,880	3,320	559	352
10	204	306	260	263	202	185	220	470	4,350	3,000	524	354
11	204	286	252	284	192	185	212	559	4,330	3,000	513	324
12	204	286	260	250	205	202	252	518	5,450	2,740	502	317
13	189	286	248	210	215	195	296	480	6,360	2,580	486	305
14	189	278	252	200	218	198	275	450	7,310	2,480	475	296
15	204	281	263	200	208	210	245	426	6,750	2,390	440	287
16	204	272	248	195	200	220	314	470	5,840	2,390	430	281
17	234	272	225	175	210	195	355	666	5,800	2,300	422	272
18	234	266	232	163	225	200	380	888	4,590	2,480	435	268
19	268	290	225	185	215	205	394	1,050	4,350	2,390	450	248
20	250	293	250	212	218	185	445	1,060	4,350	2,130	418	240
21	234	296	252	232	220	192	595	959	4,590	2,040	376	228
22	250	278	255	278	210	190	637	1,280	4,950	2,040	358	222
23	250	275	202	281	205	177	502	1,580	5,710	1,800	341	222
24	234	275	242	287	163	179	410	2,040	7,890	1,650	334	222
25	250	245	200	296	161	181	355	2,680	6,750	1,510	341	228
26	268	275	202	296	161	183	372	2,390	5,090	1,380	320	*226
27	286	248	173	299	179	177	513	2,220	5,210	1,350	311	*224
28	303	260	169	302	200	159	486	1,880	3,770	1,270	317	*223
29	326	245	171	269	-	175	383	1,510	4,230	1,260	314	*221
30	306	252	177	250	-	175	386	1,510	4,350	1,220	317	*219
31	286	-	175	248	-	165	-	1,720	-	1,180	369	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						7,305	326	189	236	14,490		
November.....						8,385	326	245	279	16,630		
December.....						7,232	284	169	233	14,340		
Calendar year .....												
January.....						7,828	305	163	253	15,530		
February.....						5,945	248	161	212	11,790		
March.....						5,867	220	159	189	11,640		
April.....						9,853	637	160	329	19,600		
May.....						30,305	2,580	362	978	60,110		
June.....						132,320	7,890	1,880	4,411	262,500		
July.....						77,560	4,120	1,150	2,502	153,800		
August.....						15,879	1,170	311	512	31,500		
September.....						8,714	402	219	290	17,280		
Water year 1934-35.....						317,221	7,890	159	869	629,200		

\*Interpolated.

## YELLOWSTONE RIVER BASIN

Clarks Fork at Edgar, Mont.

Location.- Wire gage, lat. 45°28', long. 109°4'30", in the SW¼ sec. 24, T. 4 S., R. 23 E., at highway bridge half a mile east of Edgar.

Records available.- July 1921 to September 1935.

Extremes.- Maximum discharge during year, 8,450 second-feet June 14 (gage height, 7.64 feet); minimum, 215 second-feet Dec. 26, 27 (ice on control).

1921-35: Maximum discharge, 10,600 second-feet May 26, 1928 (gage height, 8.25 feet); minimum, 41 second-feet July 25, 1931 (gage height, 1.55 feet).

Remarks.- Records good except those for periods of ice effect, Dec. 26 to Feb. 17, Feb. 26 to Mar. 2, Mar. 7-13, Mar. 29 to Apr. 9, which are fair. Numerous diversions.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Oct. 1-28)

1.6	187	3.0	700	4.4	2,110	5.8	4,520
1.8	208	3.2	852	4.6	2,400	6.0	4,920
2.0	240	3.4	1,015	4.8	2,720	6.2	5,350
2.2	268	3.6	1,190	5.0	3,050	6.4	5,750
2.4	354	3.8	1,380	5.2	3,410	6.6	6,180
2.6	445	4.0	1,600	5.4	3,770	7.6	8,450
2.8	560	4.2	1,840	5.6	4,140		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	376	472	421	222	421	275	262	594	3,050	4,330	1,020	1,380
2	421	472	421	222	397	303	262	530	2,560	3,850	892	560
3	445	445	421	240	354	336	262	530	2,250	3,410	813	472
4	421	445	397	262	397	336	262	472	2,110	3,950	774	421
5	421	421	397	356	397	318	275	472	2,250	4,330	737	472
6	421	445	445	354	354	262	262	530	2,880	4,140	627	445
7	397	445	421	421	354	262	275	530	2,880	3,770	560	421
8	397	445	421	421	397	262	318	530	3,410	3,590	500	421
9	397	472	445	421	336	240	376	530	4,920	3,230	445	445
10	397	445	421	472	222	262	397	500	5,960	3,050	397	421
11	421	445	421	472	231	262	354	664	6,400	2,960	397	354
12	397	445	421	421	240	240	376	664	6,620	2,720	376	318
13	397	472	421	318	275	303	421	700	7,530	2,560	354	318
14	397	421	421	303	336	336	445	594	8,450	2,560	336	288
15	397	445	421	303	303	397	421	530	7,990	2,400	318	303
16	421	421	421	303	336	336	421	500	7,070	2,250	303	288
17	421	397	397	303	354	354	472	594	5,540	2,250	318	275
18	421	397	376	288	397	354	530	892	4,520	2,400	354	275
19	445	421	397	261	376	336	530	1,100	4,330	2,560	397	275
20	445	445	397	275	376	318	530	1,380	4,520	2,400	397	275
21	445	421	397	288	376	318	594	1,100	4,920	2,250	397	275
22	445	421	421	303	354	318	774	1,100	5,120	2,720	354	275
23	445	397	421	354	354	318	813	1,970	5,750	2,110	376	275
24	421	421	354	376	318	318	664	2,720	6,400	1,970	354	275
25	421	421	222	397	262	318	530	3,050	5,330	1,720	336	275
26	421	397	215	376	261	336	472	3,050	3,950	1,600	318	288
27	421	397	215	397	240	336	530	2,720	3,590	1,380	318	288
28	445	397	222	421	262	318	737	2,400	3,590	1,230	303	268
29	472	421	222	421	-	303	594	1,970	4,330	1,190	288	268
30	472	397	222	421	-	288	530	1,720	4,920	1,140	288	268
31	472	-	222	421	-	275	-	1,840	-	1,020	318	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				13,135		472	376	424	26,050			
November.....				12,906		472	397	430	25,600			
December.....				11,436		445	215	369	22,680			
Calendar year												
January.....				10,763		472	222	348	21,390			
February.....				9,270		421	222	331	18,390			
March.....				9,538		397	240	308	18,920			
April.....				13,689		813	262	456	27,150			
May.....				36,476		3,050	472	1,177	72,350			
June.....				143,140		8,450	2,110	4,771	283,900			
July.....				81,110		4,330	1,020	2,616	160,900			
August.....				13,965		1,020	288	450	27,700			
September.....				11,242		1,380	275	375	22,300			
Water year 1934-35.....				366,690		8,450	215	1,005	727,300			

## Rock Creek near Red Lodge, Mont.

Location.— Staff gage, lat. 45°7'30", long. 109°17'30", in SW¼ sec. 17, T. 8 S., R. 20 E., at highway bridge at U. S. ranger station, 4 miles southwest of Red Lodge.

Records available.— April to December 1932, May 1934 to September 1935.

Extremes.— Maximum discharge during year, 1,490 second-feet June 12 (gage height, 4.40 feet); minimum, 27 second-feet Mar. 31 (ice present).  
1932, 1934-35: Maximum discharge, 1,490 second-feet June 12, 1935 (gage height, 4.40 feet); minimum, 27 second-feet Mar. 31, 1935.

Remarks.— Records fair. Several diversions above gage. Periods of ice effect, Dec. 24 to Jan. 2, Jan. 18-27, Mar. 7-10, 25-31, Apr. 2-7.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used June 23 to July 11)

1.2	31	2.0	136	2.8	394	3.6	674
1.4	45	2.2	181	3.0	498	3.8	1,012
1.6	66	2.4	237	3.2	614	4.0	1,160
1.8	97	2.6	306	3.4	740	4.2	1,320
						4.4	1,490

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	73	55	34	31	34	29	29	37	158	676	444	170
2	73	52	34	37	34	29	29	37	207	740	444	170
3	73	52	34	45	34	29	29	37	207	840	419	158
4	66	55	34	45	34	29	29	37	222	942	394	158
5	66	55	37	45	34	29	29	37	327	674	394	158
6	66	55	41	37	34	29	29	41	371	674	371	158
7	66	55	41	37	37	29	29	45	394	471	348	158
8	66	50	37	34	37	29	29	45	444	498	348	158
9	66	50	41	34	37	29	31	45	640	471	327	158
10	66	50	41	31	37	29	31	50	1,010	444	306	147
11	66	50	41	31	37	29	31	50	1,090	614	270	147
12	66	50	41	37	37	29	31	45	1,490	498	270	136
13	66	45	41	37	34	31	31	50	1,320	371	270	136
14	66	45	37	34	34	34	31	50	1,320	306	254	136
15	66	45	37	34	34	34	31	55	1,160	394	254	136
16	73	45	37	31	34	31	34	55	1,010	498	254	136
17	73	45	37	31	34	31	34	60	806	614	237	126
18	66	50	37	31	34	31	34	66	942	740	222	126
19	66	45	37	31	31	31	37	116	740	614	194	126
20	60	45	41	31	31	29	37	116	708	614	181	116
21	60	41	37	31	31	29	37	126	740	554	161	116
22	60	41	37	31	31	29	37	126	708	554	158	116
23	66	37	37	31	31	29	37	136	740	554	158	116
24	60	37	37	31	31	29	37	147	708	498	158	116
25	60	37	34	31	31	29	41	181	676	444	158	106
26	60	37	34	29	31	29	41	161	676	444	158	106
27	60	37	31	29	31	29	41	170	554	444	158	97
28	60	34	31	31	29	29	41	158	840	444	158	97
29	60	34	31	31	-	29	37	158	840	444	158	88
30	55	34	31	31	-	29	41	147	840	444	170	88
31	55	-	31	31	-	28	-	158	-	471	181	-
Month						Second-foot-days		Maximum	Minimum	Mean		Run-off in acre-feet
October.....						2,005		73	55	64.7		3,980
November.....						1,363		55	34	45.4		2,700
December.....						1,131		41	31	36.5		2,240
Calendar year .....												
January.....						1,041		45	29	33.6		2,060
February.....						938		37	29	33.5		1,860
March.....						918		34	28	29.6		1,620
April.....						1,015		41	29	33.8		2,010
May.....						2,762		181	37	89.1		5,480
June.....						22,088		1,490	158	736		43,810
July.....						17,388		942	306	561		34,490
August.....						7,997		444	158	258		15,860
September.....						3,960		170	88	132		7,850
Water year 1934-35.....						62,606		1,490	28	172		124,200

## YELLOWSTONE RIVER BASIN

Rock Creek at Rockvale, Mont.

Location.- Wire gage, lat. 45°38'30", long. 108°50'30", in NW¼ sec. 2, T. 4 S., R. 23 E., at highway bridge half a mile south of Rockvale.

Records available.- October 1920 to September 1922, April 1932 to September 1935.

Extremes.- Maximum discharge during year, 1,280 second-feet July 22 (gage height, 3.50 feet); minimum, no flow July 14-18.

1920-22, 1932-35: Maximum discharge, 2,310 second-feet June 8, 1932; no flow July 14-18, 1935.

Remarks.- Records fair. Records corrected for ice effect Nov. 26, 28-30, Dec. 1 to Feb. 2, Feb. 9-18, 24-26, Mar. 7, 8, 15. Numerous diversions.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	174	48	112	73	169	126	88	132	132	162	12	55
2	158	48	102	93	180	102	72	132	142	88	11	90
3	152	58	100	102	158	96	92	109	124	43	20	76
4	142	64	91	107	158	121	95	109	72	106	46	93
5	142	71	80	121	136	80	95	102	34	400	36	76
6	147	82	104	112	126	69	92	109	34	354	21	73
7	136	82	98	98	116	80	97	113	36	313	4.0	61
8	107	82	102	80	98	90	102	106	28	261	2.0	93
9	98	60	119	80	98	102	132	92	354	194	1.0	83
10	98	60	112	84	80	116	117	85	504	113	3.0	73
11	78	80	116	89	89	131	102	81	800	59	86	70
12	64	73	102	95	93	107	128	81	800	26	42	67
13	60	69	98	95	102	116	261	106	920	3	24	44
14	46	69	104	95	98	136	75	151	1,100	0	9.8	40
15	52	73	109	84	93	128	206	124	920	0	6.2	37
16	46	62	84	78	93	121	334	72	650	0	10	33
17	60	47	91	73	98	93	277	56	400	65	58	33
18	58	53	80	66	102	116	245	68	277	109	54	14
19	54	42	87	62	116	69	194	194	206	88	72	12
20	58	73	91	69	152	95	172	680	313	59	37	14
21	62	56	87	62	126	99	183	425	295	354	10	12
22	62	62	93	76	116	99	194	334	313	1,160	11	19
23	62	66	69	80	102	92	172	313	477	590	41	17
24	69	98	67	131	66	92	161	400	590	504	20	16
25	62	98	46	102	48	121	142	400	460	425	22	17
26	53	92	46	112	76	128	121	400	245	354	36	16
27	56	84	60	134	102	117	109	354	172	277	38	25
28	56	91	66	163	136	85	128	334	99	232	47	56
29	59	98	69	169	-	99	117	232	109	151	37	52
30	50	105	73	163	-	92	99	194	232	68	17	55
31	56	-	82	163	-	75	-	162	-	34	27	-
Month	Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet			
October.....	2,567		174		46		82.8		5,090			
November.....	2,146		105		42		71.5		4,260			
December.....	2,742		119		46		88.5		5,440			
Calendar year .....												
January.....	3,111		169		62		100		6,170			
February.....	3,127		130		45		112		6,200			
March.....	3,215		136		69		104		6,380			
April.....	4,392		334		72		146		8,710			
May.....	6,250		680		56		202		12,400			
June.....	10,828		1,100		28		361		21,480			
July.....	6,592		1,160		0		213		13,080			
August.....	861		86		1.0		27.8		1,710			
September.....	1,421		93		12		47.4		2,820			
Water year 1934-35 .....	47,252		1,160		0		129		93,740			



## West Fork of Rock Creek near Red Lodge, Mont.

Location.- Wire gage, lat. 45°9'30", long. 106°18'30", in SE¼ sec. 6, T. 8 S., R. 20 E., at highway bridge at U. S. ranger station 3 miles southwest of Red Lodge.

Records available.- April to December 1932, May 1934 to September 1935.

Extremes.- Maximum discharge during year, 582 second-feet June 13 (gage height, 3.70 feet); minimum, 4.8 second-feet Nov. 12 (gage height, 0.94 foot).  
1932, 1934-35: Maximum discharge, 861 second-feet June 24, 25, 1932 (gage height, 3.96 feet); minimum, 4.8 second-feet Nov. 12, 1935 (gage height, 0.94 foot).

Remarks.- Records fair. Several small diversions above gage.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	7.0	14	14	14	15	11	19	92	180	82	20
2	15	7.6	16	14	14	14	15	19	106	160	82	26
3	17	11	*16	14	14	14	14	19	73	206	68	29
4	20	12	*15	13	17	14	13	16	75	206	60	27
5	22	11	15	13	15	14	13	15	83	284	57	28
6	22	10	16	13	14	14	13	17	106	234	37	24
7	18	10	16	13	14	14	13	17	114	206	38	25
8	20	12	15	14	12	13	12	16	160	206	40	22
9	20	11	16	14	13	14	12	16	250	160	38	22
10	14	7.6	16	14	9.9	14	12	18	284	171	38	19
11	14	5.4	15	14	8.7	14	13	23	407	160	44	19
12	12	6.6	15	14	14	13	13	19	426	160	47	15
13	14	7.3	15	14	13	13	13	17	562	160	38	17
14	13	6.8	16	14	12	13	13	18	464	160	40	17
15	14	9.0	15	14	14	13	*14	20	523	150	40	17
16	13	8.7	15	14	14	14	*15	24	284	171	36	16
17	18	7.8	16	14	15	10	*15	28	300	171	35	15
18	13	8.4	17	10	15	14	*16	39	182	182	31	16
19	13	6.4	17	11	14	15	17	53	114	150	28	15
20	15	10	17	11	14	13	18	43	370	160	28	15
21	13	8.1	17	11	14	13	21	43	206	140	25	14
22	14	7.8	16	13	14	13	23	65	206	140	25	14
23	14	*13	17	14	14	*13	19	79	300	171	25	14
24	17	18	17	13	13	*13	17	99	352	131	23	15
25	13	13	17	12	13	13	15	*97	267	131	23	15
26	12	15	17	12	13	13	19	*94	171	122	24	14
27	*10	12	15	12	14	14	19	*91	160	122	23	14
28	8.2	14	15	14	15	9.9	19	88	194	106	23	13
29	7.9	17	15	14	-	12	15	75	284	114	21	11
30	7.3	15	14	14	-	12	17	74	206	99	19	9
31	7.3	-	14	14	-	10	-	83	-	99	21	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	438.7	22	7.3	14.2	870
November.....	310.5	18	5.4	10.4	618
December.....	487	17	14	15.7	966
Calendar year .....					
January.....	409	14	10	13.2	811
February.....	380.6	17	8.7	13.6	755
March.....	408.9	15	9.9	13.2	811
April.....	453.9	23	9.9	15.1	900
May.....	1,342	99	15	43.3	2,660
June.....	7,321	562	73	244	14,820
July.....	4,932	284	99	161	9,800
August.....	1,157	82	19	37.3	2,290
September.....	536	29	9.0	17.9	1,060
Water year 1934-35 .....	18,226.6	562	5.4	49.9	36,140

\*Interpolated.

## Red Lodge Creek near Boyd, Mont.

Location.— Wire gage, lat. 45°28', long. 109°5'30", in SW $\frac{1}{4}$  sec. 26, T. 4 S., R. 21 E.,  $\frac{1}{4}$  miles west of Boyd.

Records available.— April 1932 to March 1933, May 1934 to September 1935.

Extremes.— Maximum discharge during year, 500 second-feet July 22 (gage height, 3.58 feet); minimum, 9.8 second-feet Dec. 23, 24 (gage height, 1.64 feet).  
1932-33, 1934-35: Maximum, 1,400 second-feet June 8, 1932 (gage height, 7.34 feet, former datum); minimum, 3.0 second-feet May 11, 1934 (gage height, 1.40 feet).

Remarks.— Records good except those for periods of ice effect, Nov. 28 to Dec. 16 and Dec. 25 to Feb. 23, which are fair. Flow increased by water diverted from East Rosebud Creek into Red Lodge Creek during irrigation season. Numerous diversions above gage.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	35	15	20	22	26	20	69	105	92	60	158
2	65	36	14	26	23	21	24	81	109	87	63	130
3	64	38	16	29	23	22	25	66	107	78	67	126
4	63	34	17	30	21	22	25	61	89	89	63	136
5	63	36	13	28	21	23	24	58	87	138	63	121
6	61	38	11	26	23	16	28	57	92	128	60	121
7	59	39	12	26	21	18	28	60	100	123	45	123
8	57	39	12	27	18	23	27	58	87	126	41	123
9	58	38	13	23	16	24	34	51	83	118	33	118
10	58	36	12	23	17	24	32	49	96	112	29	109
11	51	32	15	22	15	24	28	46	100	102	29	96
12	46	30	18	25	16	29	36	46	98	98	30	89
13	40	29	18	23	17	28	78	64	112	83	38	87
14	38	30	28	21	18	41	102	87	138	78	38	83
15	35	29	28	30	18	64	72	78	143	71	38	71
16	41	26	26	31	18	34	94	64	133	71	50	67
17	48	28	20	31	20	33	98	66	121	63	63	63
18	45	30	23	32	22	33	98	66	121	61	71	64
19	39	31	19	24	24	36	79	166	102	66	78	64
20	35	32	21	20	24	23	83	364	128	67	78	64
21	34	31	22	18	25	34	81	232	123	171	67	63
22	34	24	23	18	23	24	78	194	128	378	67	58
23	32	19	14	18	22	23	64	174	126	196	66	58
24	32	22	12	20	22	22	57	171	133	177	61	60
25	32	18	13	14	17	26	50	158	126	161	71	58
26	33	19	12	15	18	33	47	153	102	123	81	58
27	33	14	13	15	20	17	47	143	94	106	79	71
28	34	15	13	20	26	20	50	138	90	94	83	78
29	33	15	18	25	-	28	50	133	92	83	79	72
30	33	15	23	20	-	18	47	121	94	76	81	74
31	34	-	19	23	-	16	-	116	-	64	89	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						1,398	68	32	45.1		2,770	
November.....						857	39	14	28.6		1,700	
December.....						532	28	11	17.2		1,060	
Calendar year .....												
January.....						723	32	14	23.3		1,430	
February.....						570	26	15	20.4		1,130	
March.....						825	64	16	26.6		1,640	
April.....						1,604	102	20	53.5		3,180	
May.....						3,390	364	46	109		6,780	
June.....						3,259	143	83	109		6,460	
July.....						3,469	378	61	112		6,880	
August.....						1,861	89	29	60.0		3,690	
September.....						2,663	158	58	88.8		5,280	
Water year 1934-35.....						21,151	378	11	57.9		41,940	

## Wind River at Riverton, Wyo.

Location.- Water-stage recorder, lat. 43°, long. 108°22', in sec. 2, T. 1 S., R. 4 E., three-quarters of a mile southeast (revised) of Riverton. Zero of gage is 4,844.38 feet above mean sea level.

Drainage area.- 2,320 square miles.

Records available.- May 1906 to November 1908, May 1911 to September 1927, October 1928 to September 1935.

Average discharge.- 25 years (1907-8, 1910-27, 1928-35), 1,198 second-feet.

Extremes.- Maximum discharge during year, 10,800 second-feet June 15 (gage height, 8.15 feet); minimum mean daily discharge, 110 second-feet Dec. 21 (estimated).  
1906-8, 1911-27, 1928-35: Maximum discharge, 12,300 second-feet June 14, 1906; minimum, that of Dec. 21, 1934.

Remarks.- Records good except those estimated, Dec. 2 to Feb. 15, on the basis of two discharge measurements, temperature records and comparison with Big Horn River at Thermopolls. Several irrigation diversions above station. Gage-height record furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	458	426	273	186	205	333	226	301	2,130	3,580	1,020	366
2	474	450	270	188	204	356	230	341	2,020	3,160	980	394
3	516	434	270	190	198	364	230	364	2,070	3,300	908	386
4	482	394	273	190	195	371	230	348	1,890	3,700	905	379
5	458	379	273	194	196	341	234	290	2,130	3,560	750	366
6	434	410	260	200	200	326	234	296	2,770	3,280	680	379
7	410	410	264	208	205	296	234	386	3,280	3,130	632	366
8	410	418	266	214	215	279	234	402	3,950	3,040	576	379
9	416	416	266	220	225	279	230	326	5,050	2,970	508	318
10	394	410	264	230	218	234	246	290	6,170	2,840	474	262
11	410	410	264	215	210	230	250	318	7,220	2,700	402	238
12	386	394	262	205	208	258	246	442	7,640	2,560	356	226
13	386	386	280	194	192	386	242	558	8,560	2,390	426	226
14	371	371	285	186	210	371	284	550	9,600	2,340	410	222
15	482	364	260	180	230	348	326	586	9,310	2,410	341	222
16	533	364	240	174	254	279	442	516	8,140	2,410	499	222
17	524	371	230	170	268	258	508	524	6,250	2,370	541	219
18	516	364	230	150	333	238	474	586	4,870	2,340	567	215
19	524	371	234	135	366	234	356	700	4,550	2,360	595	219
20	426	386	234	120	394	234	434	783	4,750	2,060	641	215
21	450	386	250	110	364	230	622	720	4,870	1,600	641	219
22	442	371	225	130	318	230	761	730	4,930	1,800	595	234
23	474	341	200	130	301	230	670	1,310	5,230	1,660	550	219
24	426	312	180	150	262	222	499	1,920	5,570	1,610	491	219
25	434	326	190	160	238	215	318	2,290	5,190	1,480	460	222
26	434	312	200	166	212	215	318	2,320	4,250	1,340	426	219
27	450	279	210	174	242	212	307	2,480	3,520	1,180	426	230
28	442	273	220	185	254	205	458	2,460	3,490	1,100	410	238
29	434	254	220	195	-	208	442	2,260	3,750	1,040	394	238
30	434	234	200	205	-	215	290	1,990	3,970	1,020	402	226
31	426	-	180	205	-	219	-	2,180	-	1,010	402	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						13,858	533	371	447	27,490		
November.....						11,018	450	234	367	21,850		
December.....						7,473	285	180	241	14,620		
Calendar year 1934.....						169,609	2,500	180	520	376,500		
January.....						5,561	230	110	179	11,080		
February.....						6,967	394	192	249	13,820		
March.....						8,416	386	205	271	16,690		
April.....						10,575	761	226	352	20,980		
May.....						29,587	2,480	290	954	58,680		
June.....						147,120	9,600	1,890	4,904	291,800		
July.....						71,580	3,700	1,010	2,309	142,000		
August.....						17,298	1,020	341	558	34,310		
September.....						8,147	394	215	272	16,160		
Water year 1934-35.....						337,600	9,600	110	925	669,600		

## Big Horn River at Thermopolis, Wyo.

Location.— Water-stage recorder, lat. 43°39', long. 108°12', in sec. 36, T. 43 N., R. 95 W., at Thermopolis. Prior to Oct. 25, 1934, chain gage on highway bridge half a mile upstream.

Drainage area.— 8,080 square miles.

Records available.— May 1900 to December 1905, June 1910 to September 1935.

Average discharge.— 30 years (1900-5, 1910-35), 2,035 second-feet.

Extremes.— Maximum discharge during year, 18,700 second-feet June 16 (gage height, 11.75 feet); minimum, 246 second-feet Jan. 23 (gage height, 0.27 foot).  
1900-5. 1910-35: Maximum discharge, 29,800 second-feet July 24, 1923 (gage height, 16.2 feet, former site and datum); minimum, 180 second-feet Apr. 5, 1904.

Remarks.— Records fair. Discharge estimated Dec. 4-9, 11-13, Feb. 2-4, Sept. 3-8, 10-15, 17-22, 24-29. Practically no diversions between Thermopolis and junction of Wind and Popo Agie Rivers. Hot springs entering canyon below station flow about 50 second-feet.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	532	601	444	382	458	424	430	715	3,950	7,350	1,200	560
2	620	596	444	357	455	462	424	698	3,280	6,030	1,230	590
3	644	606	462	364	455	500	420	733	3,220	5,490	1,220	590
4	660	592	460	364	455	541	434	775	3,120	5,860	1,100	585
5	592	570	450	398	455	553	434	757	3,090	6,040	1,020	590
6	544	549	440	402	438	549	438	676	3,770	5,410	958	585
7	564	574	430	416	452	525	434	635	5,200	4,920	867	590
8	520	583	420	424	458	504	430	721	5,180	4,620	773	590
9	550	583	430	434	466	494	444	614	6,630	4,400	718	595
10	571	592	434	441	476	486	448	745	9,140	4,020	645	540
11	544	592	436	438	469	476	466	655	10,700	3,680	595	480
12	496	588	438	424	455	448	483	693	12,200	3,350	575	440
13	490	574	438	406	448	518	469	1,030	13,200	2,960	560	420
14	526	561	438	396	438	769	462	1,320	14,500	2,730	580	410
15	460	563	472	360	438	868	497	1,270	16,400	2,660	570	410
16	668	549	480	354	444	682	601	1,260	18,300	2,590	536	404
17	732	557	416	364	424	578	625	1,090	18,000	2,500	615	404
18	740	553	413	367	424	549	808	1,110	13,300	2,850	667	400
19	756	549	413	364	441	522	794	2,090	10,600	2,500	678	404
20	740	553	416	329	494	557	676	2,400	9,760	2,340	694	400
21	664	570	416	323	549	537	682	2,180	10,300	2,210	712	404
22	644	574	434	254	574	570	948	1,870	10,200	2,210	706	416
23	620	545	444	246	551	514	1,150	1,990	10,100	2,210	687	408
24	592	508	420	269	518	469	1,120	2,480	10,500	2,040	625	408
25	610	518	399	302	458	444	918	3,130	11,000	1,930	560	415
26	625	497	371	317	416	441	745	3,320	9,960	1,780	560	408
27	606	514	374	357	385	434	671	3,770	7,860	1,600	560	425
28	640	458	385	392	399	420	676	4,160	7,140	1,470	560	435
29	630	438	402	406	-	410	840	3,920	7,070	1,340	560	435
30	620	472	416	452	-	413	875	3,450	7,280	1,300	565	425
31	615	-	420	480	-	424	-	4,760	-	1,200	565	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						18,835	756	460	608		37,360	
November.....						16,569	606	438	552		32,860	
December.....						13,255	480	371	428		26,290	
Calendar year 1934.....						294,192	3,790	350	806		583,500	
January.....						11,552	480	246	373		22,910	
February.....						12,903	574	385	461		25,590	
March.....						16,061	868	410	519		31,900	
April.....						18,842	1,150	420	628		37,370	
May.....						56,227	4,760	635	1,782		109,600	
June.....						274,950	18,300	3,090	9,165		545,400	
July.....						101,590	7,350	1,200	3,277		201,500	
August.....						22,441	1,230	560	724		44,510	
September.....						14,166	595	400	472		28,100	
Water year 1934-35.....						676,411	18,300	246	1,579		1,143,000	

## Big Horn River at Kane, Wyo.

Location.-- Water-stage recorder, lat. 44°51', long. 108°12', in sec. 4, T. 56 N., R. 94 W., half a mile east of Kane. Zero of gage is 3,610.23 feet above mean sea level.

Drainage area.-- 15,900 square miles.

Records available.-- August 1928 to September 1935.

Extremes.-- Maximum discharge during year, 25,200 second-feet June 16 (gage height, 11.10 feet); minimum mean daily discharge, 250 second-feet Jan. 24 (estimated).

1928-35: Maximum discharge, that of June 16, 1935; minimum mean daily discharge, 179 second-feet July 22, 1934.

Remarks.-- Records excellent May 21 to Sept. 30, good Oct. 1 to May 20 except those estimated for Dec. 18, 19, Dec. 23 to Mar. 2. Estimates based on two discharge measurements, temperature records, and comparison with Big Horn River at St. Xavier, Mont. Diversions for irrigation above station.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	760	1,030	826	550	900	840	846	911	9,510	9,130	948	318
2	754	1,050	892	540	850	910	852	924	9,480	8,490	960	338
3	833	1,060	833	590	890	999	872	926	7,090	7,730	884	434
4	1,490	1,030	820	660	920	1,080	885	749	6,120	7,340	924	429
5	1,320	1,030	846	730	950	1,060	892	772	5,620	7,400	948	438
6	1,210	1,010	732	770	1,040	937	911	760	5,670	7,140	932	429
7	1,210	992	700	940	1,000	898	924	784	6,300	6,610	845	429
8	1,360	957	663	1,000	970	904	784	673	7,340	6,070	682	425
9	1,100	971	540	940	940	992	808	628	9,480	5,650	587	465
10	1,080	971	760	1,060	920	1,020	885	595	15,200	5,200	503	493
11	1,080	978	820	940	890	955	1,020	599	17,400	4,740	429	493
12	1,080	955	760	800	900	1,030	1,020	549	20,100	4,270	355	498
13	1,040	964	790	770	950	1,160	1,540	501	21,100	3,540	348	456
14	1,020	955	820	680	990	1,270	1,850	527	23,600	3,330	318	417
15	1,030	1,010	950	600	1,020	1,690	1,640	623	24,800	2,970	287	404
16	1,010	978	971	650	1,070	1,410	1,190	1,020	24,700	2,700	266	373
17	999	964	964	710	1,060	1,280	1,130	937	25,600	2,620	288	408
18	1,040	964	876	610	1,050	1,140	1,090	1,010	22,600	2,550	263	359
19	1,180	964	908	520	1,040	1,060	1,080	985	17,500	2,710	263	355
20	1,300	971	760	450	1,040	1,030	1,220	1,790	14,600	2,400	309	345
21	1,260	944	790	360	1,060	971	1,380	3,120	13,900	2,320	316	322
22	1,160	930	744	330	1,100	992	1,560	2,910	13,700	2,350	309	312
23	1,110	944	790	290	1,000	964	1,640	2,220	13,700	2,920	325	315
24	1,100	978	859	250	940	964	1,540	2,080	14,000	2,370	338	318
25	1,060	937	826	480	900	924	1,530	3,620	14,700	2,190	342	312
26	1,080	892	590	650	850	878	1,280	4,910	13,800	2,020	315	306
27	1,060	918	590	700	850	878	1,090	5,280	12,700	1,680	269	306
28	1,030	878	590	800	790	833	978	6,970	10,200	1,500	293	326
29	1,040	904	590	870	-	814	957	5,460	9,320	1,350	278	377
30	1,060	872	600	900	-	790	918	5,420	9,160	1,120	269	400
31	1,070	-	580	940	-	859	-	6,010	-	1,000	261	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	33,906	1,490	754	1,094	67,250
November.....	29,051	1,050	872	968	57,620
December.....	23,580	971	540	761	46,770
Calendar year 1934.....	380,402	5,020	179	1,042	754,500
January.....	21,080	1,060	250	680	41,810
February.....	26,860	1,100	790	959	53,280
March.....	31,562	1,690	790	1,016	62,600
April.....	34,332	1,850	784	1,144	68,100
May.....	63,963	6,970	601	2,063	126,900
June.....	414,790	24,900	5,620	13,830	822,700
July.....	123,550	9,180	1,000	3,966	245,100
August.....	14,576	948	258	470	28,910
September.....	11,589	493	306	386	22,990
Water year 1934-35.....	828,839	24,900	250	2,271	1,644,000

## Big Horn River near St. Xavier, Mont.

Location.— Water-stage recorder, lat. 45°19', long. 107°57', in NE¼ sec. 17, T. 6 S., R. 31 E., 22 miles southwest of St. Xavier, and 50 feet above diversion dam of Crow Agency irrigation ditch.

Records available.— October 1934 to September 1935.

Extremes.— Maximum discharge during year, 37,400 second-feet June 16; minimum, 391 second-feet Dec. 28.

Remarks.— Records are good. Discharge is sum of flow of river over diversion dam and that of canal diverting above gage.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,480	1,580	1,140	960	1,330	1,080	1,200	1,490	5,940	14,600	2,070	2,120
2	1,480	1,560	1,140	956	1,180	1,270	1,270	1,540	6,750	13,600	1,990	2,010
3	1,530	1,560	1,310	1,090	1,310	1,540	1,350	1,330	6,750	13,000	1,960	1,660
4	1,580	1,560	1,230	1,210	1,280	1,610	1,330	1,240	6,240	12,200	1,900	1,440
5	1,710	1,510	1,230	1,230	1,460	1,360	1,360	1,320	6,250	12,200	2,020	1,550
6	1,600	1,480	1,360	1,330	1,510	1,360	1,360	1,060	6,580	12,900	2,020	1,550
7	1,660	1,510	1,210	1,380	1,430	1,270	1,430	1,320	6,900	12,000	1,820	1,510
8	1,680	1,430	1,140	1,460	1,330	1,460	1,430	1,230	7,320	11,700	1,660	1,510
9	1,660	1,400	982	1,450	1,310	1,430	1,360	1,100	8,630	10,500	1,520	1,460
10	1,600	1,360	1,090	1,430	1,310	1,410	1,280	1,060	11,000	9,980	1,430	1,420
11	1,660	1,380	998	1,460	1,230	1,430	1,220	1,100	12,300	9,530	1,440	1,380
12	1,660	1,460	1,210	1,430	1,280	1,380	1,330	1,120	19,100	8,730	1,360	1,300
13	1,630	1,430	1,160	1,120	1,400	1,430	1,660	1,180	23,900	7,930	1,360	1,260
14	1,600	1,380	1,310	982	1,380	1,470	2,260	1,160	33,200	7,290	1,310	1,180
15	1,560	1,330	1,400	1,070	1,330	1,510	2,070	1,340	33,300	6,640	1,290	1,090
16	1,510	1,280	1,510	1,120	1,310	1,550	1,900	1,410	37,400	6,010	1,220	1,080
17	1,410	1,230	1,460	1,070	1,280	1,590	1,730	2,290	32,300	5,750	1,220	1,020
18	1,320	1,230	1,460	918	1,360	1,630	1,550	2,710	31,400	6,170	1,220	1,040
19	1,410	1,260	1,360	778	1,260	1,580	1,460	3,250	29,500	5,740	1,420	1,130
20	1,710	1,280	1,260	650	1,310	1,510	1,460	3,790	21,900	5,650	1,770	1,250
21	1,660	1,260	1,230	597	1,280	1,460	1,550	4,180	20,700	5,200	1,890	1,260
22	1,600	1,210	1,310	632	1,250	1,410	1,960	3,650	20,300	4,870	1,730	1,220
23	1,630	1,280	1,000	562	1,220	1,430	2,220	4,590	21,400	5,650	1,710	1,240
24	1,600	1,310	938	750	1,180	1,390	1,770	4,590	22,300	4,620	1,680	1,260
25	1,600	1,310	798	938	1,150	1,410	2,140	4,550	20,600	4,020	1,600	1,380
26	1,600	1,260	562	1,020	1,120	1,310	2,340	5,190	19,400	3,480	1,470	1,380
27	1,460	1,230	562	1,110	960	1,270	1,720	5,590	18,300	3,220	1,380	1,540
28	1,380	1,260	515	1,190	798	1,220	1,750	5,590	17,500	2,880	1,330	1,400
29	1,410	1,210	580	1,280	-	1,160	1,670	5,550	15,000	2,610	1,200	1,480
30	1,530	1,210	798	1,300	-	1,150	1,640	5,830	14,600	2,360	1,140	1,530
31	1,600	-	778	1,350	-	1,200	-	5,790	-	2,170	1,150	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						48,720	1,860	1,320	1,572		96,630	
November.....						49,750	1,580	1,210	1,358		80,830	
December.....						33,951	1,510	515	1,095		67,340	
Calendar year .....												
January.....						33,805	1,480	562	1,090		67,050	
February.....						35,548	1,510	798	1,270		70,510	
March.....						43,310	1,630	1,080	1,397		85,900	
April.....						48,850	2,340	1,200	1,628		96,690	
May.....						87,140	5,830	1,060	2,811		172,800	
June.....						536,990	37,400	5,940	17,900		1,065,000	
July.....						233,120	14,600	2,170	7,520		462,400	
August.....						48,280	2,070	1,140	1,557		95,760	
September.....						41,460	2,120	1,020	1,362		82,230	
Water year 1934-35.....						1,231,894	37,400	515	3,375		2,443,000	

## Dry Creek near Burris, Wyo.

Location.- Water-stage recorder, lat. 43°20', long. 109°18', in SW¼ sec. 12, T. 4 N., R. 5 W., 2 miles south of Burris. Prior to Nov. 6, 1934, water-stage recorder 50 feet downstream at different datum.

Drainage area.- 57 square miles.

Records available.- May 1921 to September 1935.

Average discharge.- 10 years (1924-32, 1933-35), 44.7 second feet.

Extremes.- Maximum discharge during year, 776 second-feet June 14, (gage height, 5.01 feet, new datum); minimum not determined.

1921-35: Maximum discharge, 1,100 second-feet June 12, 1921, (gage height, 3.9 feet, former site and datum); no flow Mar. 1 to Apr. 11, 1934.

Remarks.- Records good except those estimated, Nov. 7-9, Dec. 23 to Apr. 9, which are fair. Dry Creek ditch diverts water for irrigation above station. Gage-height record furnished by U. S. Indian Service.

Rating table, Nov. 6, 1934, to Sept. 30, 1935 (gage height, in feet, and discharge, in second-feet)

1.8	0.5	2.5	17	3.8	218
1.9	1.0	2.6	22	4.0	290
2.0	2.0	2.8	35	4.2	368
2.1	3.5	3.0	53	4.4	455
2.2	6.5	3.2	81	4.6	555
2.3	9.6	3.4	117	4.8	660
2.4	13	3.6	162	5.0	770

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.6	5.0	3.0				0.6	5.3	58	160	51	22
2	7.8	4.7	3.4				.6	5.0	75	160	47	21
3	6.6	3.8	3.2				.6	4.7	96	170	43	21
4	6.6	3.2	2.9				.6	5.3	98	178	40	21
5	6.6	3.8	3.0				.6	7.4	136	165	38	20
6	6.2	9.3	2.6				.6	9.3	203	145	36	19
7	6.2	8.0	2.3				.6	10	197	148	35	18
8	6.2	7.4	1.8				.7	10	260	160	32	18
9	6.2	7.2	1.8				.7	10	372	150	30	18
10	5.4	6.8	2.0				.6	11	414	140	29	18
11	5.0	6.5	2.0				.6	13	490	132	29	16
12	4.7	6.2	2.0				.6	13	555	128	29	15
13	4.7	6.2	2.0				.6	14	671	119	27	15
14	7.0	5.3	2.0				.8	15	671	115	27	14
15	8.2	4.7	2.0				.9	16	545	115	27	14
16	10	4.7	2.0				1.7	18	356	117	26	14
17	11	5.3	2.0				2.3	18	271	121	26	13
18	11	5.0	1.6				2.3	19	242	117	26	12
19	11	3.8	1.5				2.8	20	260	106	26	11
20	11	4.7	1.7				3.0	34	301	98	26	10
21	10	3.2	1.5				5.6	34	263	95	24	9.9
22	9.0	2.8	1.5				6.5	36	267	93	24	9.9
23	7.8	3.2	1.5				6.2	40	305	83	24	9.6
24	7.4	5.3	1.4				4.1	47	323	72	24	9.6
25	7.4	5.3	1.4				3.8	49	252	65	24	9.6
26	7.0	5.6	1.4				3.5	69	185	60	23	9.9
27	6.2	5.0	1.4				3.4	90	178	54	23	9.9
28	6.2	5.3	1.3				4.4	84	188	50	22	9.9
29	6.2	3.8	1.3				3.4	61	218	50	22	9.9
30	5.8	3.0	1.4				5.6	70	212	51	22	9.9
31	6.2	-	1.4				-	76	-	51	22	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	280.2	11	4.7	7.43	457
November.....	154.1	9.3	2.8	5.14	306
December.....	60.3	3.4	1.3	1.95	120
Calendar year 1934.....	7,906.8	120	0	21.7	15,680
January.....	43.4	-	-	1.4	86
February.....	35.6	-	-	1.2	67
March.....	31.0	-	-	1.0	61
April.....	68.3	6.5	.6	2.28	135
May.....	914.0	90	4.7	29.5	1,810
June.....	8,657	671	58	289	17,170
July.....	3,470	178	50	112	6,880
August.....	904	51	22	29.2	1,790
September.....	428.1	22	9.6	14.3	849
Water year 1934-35.....	14,994.0	671	.6	41.1	29,730

## Willow Creek near Crowheart, Wyo.

Location.- Water-stage recorder, lat. 43°17', long. 109°12', in SW $\frac{1}{4}$  sec. 35, T. 4 N., R. 4 W., 2 miles southwest of Crowheart.

Drainage area.- 50 square miles.

Records available.- May to October 1909, May 1921 to June 1923, April 1925 to September 1935.

Extremes.- Maximum discharge during year, 259 second-feet June 15 (gage height, 2.86 feet); minimum not determined but probably occurred during winter.  
1921-23, 1925-35: Maximum discharge, 750 second-feet July 26, 1923; minimum not determined.

Remarks.- Records fair. Small diversion for irrigation above station. Gage-height record furnished by U. S. Indian Service.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used July 5 to Sept. 30)

0.4	2	0.9	16	1.4	49	2.2	153
.5	3	1.0	21	1.5	60	2.4	183
.6	5	1.1	27	1.6	72	2.6	215
.7	8	1.2	33	1.8	97	2.8	249
.8	12	1.3	40	2.0	124	3.0	284
						3.1	302

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.3	*5.3					*4.0	5.0	9.6	*60	14	5.9
2	5.3	*5.6					*4.0	*4.8	*9.8	49	13	5.3
3	5.3	5.9					*4.0	*4.7	10	60	11	5.3
4	*5.6	*5.6					*4.0	5.3	10	*53	*12	5.6
5	5.3	*5.3					*4.0	*5.4	10	46	12	5.6
6	5.3	*5.3					*4.2	5.6	27	43	10	5.6
7	*5.5	*5.3					*4.2	*5.6	27	*42	8.8	5.3
8	*6.0	*5.3					*4.2	*5.6	52	41	8.0	5.0
9	*5.6	*5.3					*4.2	*5.6	*110	36	7.7	4.8
10	*5.3	5.3					*4.2	*5.6	128	29	7.4	4.6
11	*5.3	*5.3					*4.2	*5.8	162	32	*6.8	4.6
12	*5.3	*5.3					*4.2	*6.0	183	30	6.2	4.6
13	5.3	*5.3					*4.3	6.2	229	29	6.2	4.6
14	*4.5	*5.3					4.2	*6.6	246	*26	5.0	4.4
15	*6.2	*5.3					*4.4	7.1	259	22	5.9	4.0
16	*6.2	*5.3					*4.2	6.5	*190	22	6.8	4.0
17	*6.2	5.3					*4.2	6.2	147	25	7.4	4.0
18	*6.2	*5.3					*4.4	6.2	141	25	6.8	4.8
19	*5.7	*5.3					*4.4	*6.4	147	23	6.5	4.6
20	5.3	*5.3					4.6	7.1	158	22	5.6	4.4
21	*5.3	*5.3					*5.3	6.8	117	*22	5.3	4.4
22	*5.3	*5.3					5.6	6.5	153	21	4.9	3.6
23	*5.2	*5.3					5.9	7.7	*135	18	5.3	3.6
24	*5.1	5.3					5.6	7.4	117	15	5.3	3.8
25	*5.0	*5.3					*5.7	5.0	89	14	5.6	3.8
26	*5.3	*5.3					5.9	*9.2	76	15	5.3	4.2
27	5.3	*5.3					5.6	*10	92	14	4.8	4.8
28	*5.3	*5.3					*5.3	*10	82	*13	5.0	5.3
29	*5.3	*5.3					*5.0	9.6	88	12	5.3	5.0
30	*4.5	*5.3					5.0	10	*74	14	5.3	4.6
31	*5.3	-					-	10	-	13	5.3	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						167.6	6.2	4.5	5.41	532		
November.....						160.2	5.9	5.3	5.34	513		
December.....						155	-	-	*5	307		
Calendar year .....												
January.....						139.5	-	-	*4.5	277		
February.....						117.8	-	-	*4	222		
March.....						139.0	5.9	4.0	*3.8	276		
April.....						212.5	10	4.7	6.85	421		
May.....						3,278.4	259	9.6	109	6,500		
June.....						886	60	12	28.6	1,760		
July.....						225.3	14	4.8	7.27	447		
August.....						140.1	5.9	3.6	4.87	278		
September.....												
Water year 1934-35.....						5,733.4	259	-	15.7	11,370		

\*Estimated.



## Bull Lake Creek near Lenore, Wyo.

Location.- Water-stage recorder, lat. 43°15', long. 109°1', near north line of sec. 17, T. 3 N., R. 2 W., a quarter of a mile above mouth, and 14 miles southeast of Lenore. Datum raised 2 feet Oct. 4, 1934.

Drainage area.- 222 square miles.

Records available.- 1909 (discharge measurements only), May 1918 to September 1935.

Average discharge.- 17 years, 308 second-feet.

Extremes.- Maximum discharge during year, 3,220 second-feet June 15 (gage height, 4.95 feet); minimum, 16 second-feet Apr. 1 (gage height, 1.30 feet).

1918-35: Maximum discharge, 3,990 second-feet June 16, 1918; minimum, 8.6 second-feet Dec. 17, 1933.

Remarks.- Records excellent except those estimated, Oct. 1-3, and those for period of ice effect, Nov. 27 to Mar. 17, which are good. Discharge for period of ice effect estimated on basis of infrequent gage readings and weather records. Two small ditches divert above station. Natural storage at Bull Lake. Gage-height record furnished by U. S. Bureau of Reclamation.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

1.3	16	1.8	62	2.6	360	3.4	940	4.2	1,970
1.4	22	2.0	128	2.8	465	3.6	1,150	4.4	2,290
1.5	34	2.2	188	3.0	590	3.8	1,400	4.6	2,620
1.6	47	2.4	262	3.2	750	4.0	1,670	4.8	2,960
								5.0	3,300

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	70	62	35	24	24	27	18	66	400	1,350	538	272
2	66	61	34	24	23	26	19	69	375	1,170	513	258
3	62	57	34	23	23	24	18	73	360	1,130	495	246
4	59	57	34	23	22	21	18	73	370	1,140	460	230
5	59	56	34	24	22	22	19	71	416	1,120	438	215
6	57	56	35	26	22	22	20	71	525	1,050	416	202
7	56	56	36	27	22	22	20	73	598	1,010	400	185
8	56	56	37	28	22	21	20	60	742	1,020	390	172
9	52	57	38	26	22	21	20	82	1,050	1,030	375	156
10	50	57	39	25	22	20	21	66	1,460	1,000	375	145
11	50	57	39	25	22	19	22	68	1,060	940	355	136
12	50	56	39	25	22	20	23	100	2,160	910	350	131
13	50	56	39	25	22	20	23	115	2,390	870	350	131
14	59	56	41	26	21	21	23	125	3,030	631	345	131
15	61	56	42	27	21	21	23	125	3,150	622	335	131
16	61	54	40	27	21	21	24	125	2,690	850	335	128
17	61	50	38	29	21	21	32	125	1,960	850	350	123
18	62	50	38	30	21	21	37	131	1,640	850	350	125
19	64	49	37	24	21	21	32	156	1,530	831	365	125
20	64	49	37	20	22	20	39	195	1,630	795	370	123
21	61	49	34	20	22	20	42	195	1,730	742	355	120
22	61	49	32	24	22	20	47	206	1,730	682	330	115
23	61	49	30	26	22	20	49	250	1,790	628	320	110
24	62	47	28	26	21	20	52	305	1,970	605	310	112
25	61	47	25	26	19	19	56	340	1,940	564	305	112
26	61	46	27	26	20	16	57	360	1,560	532	300	105
27	59	42	28	26	24	18	56	410	1,310	513	296	102
28	61	38	25	26	27	18	64	465	1,270	513	286	94
29	62	36	24	26	-	18	68	448	1,540	501	281	92
30	62	32	25	26	-	16	68	410	1,460	519	276	66
31	61	-	26	26	-	17	-	421	-	525	276	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,841	70	50	59.4	3,660
November.....	1,545	62	32	51.4	3,060
December.....	1,050	42	24	33.9	2,080
Calendar year 1934.....	65,678	714	-	180	130,700
January.....	785	30	20	25.3	1,560
February.....	615	27	19	22.0	1,220
March.....	637	27	17	20.5	1,260
April.....	1,036	68	18	34.5	2,050
May.....	5,838	465	66	168	11,580
June.....	44,356	3,150	360	1,475	87,940
July.....	25,893	1,350	501	835	51,360
August.....	11,240	538	276	363	22,290
September.....	4,413	272	86	147	8,750
Water year 1934-35.....	99,227	3,150	17	272	196,800

## Little Wind River near Fort Washakie, Wyo.

Location.- Water-stage recorder, lat. 43°, long. 108°54', in SE $\frac{1}{4}$  sec. 1, T. 1 S., R. 2 W., above Ray Ditch and 6 miles above mouth of North Fork, at Fort Washakie.

Drainage area.- 118 square miles.

Records available.- May 1921 to September 1935.

Average discharge.- 14 years, 129 second-feet.

Extremes.- Maximum discharge during year, 1,310 second-feet June 14 (gage height, 4.46 feet); minimum not determined.

1921-35: Maximum discharge, 5,220 second-feet July 9, 1926 (gage height, 7.59 feet); minimum, 9 second-feet Dec. 5, 15, 1933.

Remarks.- Records good except those estimated, Oct. 1-5, Nov. 22 to Apr. 7, which are fair. Water diverted for irrigation above station. Gage-height record furnished by the U. S. Indian Service.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Oct. 6 to Nov. 21)

0.8	12	1.8	100	3.2	502
.9	16	2.0	130	3.4	610
1.0	21	2.2	168	3.6	723
1.1	26	2.4	212	3.8	855
1.2	33	2.6	268	4.0	985
1.4	50	2.8	334	4.2	1,120
1.6	72	3.0	410	4.4	1,265

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	30					12	51	220	1,000	166	67
2	29	30					12	50	247	914	162	65
3	28	29					12	49	250	881	182	62
4	28	30					12	48	183	865	154	57
5	28	32					13	47	166	803	164	51
6	27	35					13	47	281	740	152	45
7	27	34					14	47	331	686	150	38
8	27	34					14	47	410	659	146	39
9	26	32					14	47	796	568	152	39
10	26	29					24	70	1,010	571	150	39
11	26	26					32	92	1,050	281	144	36
12	25	27					31	99	1,130	217	143	36
13	26	27					29	99	1,150	212	143	36
14	30	28					25	94	1,240	210	137	36
15	32	26					24	85	1,210	208	135	35
16	39	26					22	82	1,130	205	132	32
17	37	27					24	144	1,110	208	130	32
18	36	26					23	217	1,100	203	125	32
19	35	25					26	192	1,090	205	119	29
20	36	26					30	119	1,110	206	110	27
21	35	28				*15	29	85	1,130	208	103	24
22	34	28					31	86	1,130	203	96	24
23	32	28					54	76	1,150	197	90	24
24	28	27					57	71	1,180	190	90	24
25	31	27					56	172	1,200	185	90	25
26	34	25					55	217	1,190	179	86	25
27	35	23					53	225	1,120	179	86	25
28	33	21					54	230	1,040	179	80	25
29	32	20					54	199	1,010	179	75	25
30	32	20					53	179	1,060	177	72	25
31	30	-					-	168	-	175	70	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							953	39	25	30.7	1,890	
November.....							825	55	20	27.5	1,640	
December.....							620	-	-	20	1,250	
Calendar year .....												
January.....							465	-	-	15	922	
February.....							392	-	-	14	778	
March.....							454	-	-	14	861	
April.....							902	87	12	30.1	1,790	
May.....							3,454	230	47	111	6,810	
June.....							26,414	1,240	166	880	52,390	
July.....							11,880	1,000	175	383	23,560	
August.....							3,794	166	70	122	7,530	
September.....							1,079	67	24	36.0	2,140	
Water year 1934-35.....							51,192	1,240	-	140	101,500	

\*Discharge measurement.

## North Fork of Little Wind River at Fort Washakie, Wyo.

Location.— Water-stage recorder, lat.  $43^{\circ}1'$ , long.  $108^{\circ}53'$ , in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 33, T. 1 N., R. 1 W., at Fort Washakie, a quarter of a mile above mouth.

Drainage area.— 127 square miles.

Records available.— May 1921 to September 1935.

Average discharge.— 14 years, 124 second-feet.

Extremes.— Maximum discharge during year, 2,130 second-feet June 14 (gage height, 4.78 feet); minimum, 13 second-feet Mar. 21 (discharge measurement).  
1921-35: Maximum discharge, 2,640 second-feet July 9, 1926 (gage height, 4.85 feet); minimum, that of Mar. 21, 1935.

Remarks.— Records good except those estimated, Dec. 1 to Apr. 7, which are fair.  
Estimates based on one discharge measurement and temperature records. Water diverted for irrigation above station. Gage-height record furnished by U. S. Indian Service.

Rating table, April to September 1935 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used July 1 to Sept. 30)

0.3	11	1.2	112	2.2	460	3.5	1,245
.4	14	1.4	158	2.4	565	4.0	1,550
.6	26	1.6	220	2.6	680	4.5	1,930
.8	51	1.8	290	2.8	800	4.8	2,140
1.0	78	2.0	368	3.0	920		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	29					15	51	201	614	110	51
2	29	29					15	52	234	543	107	50
3	29	29					15	48	223	516	99	47
4	29	30					15	43	247	516	98	46
5	29	29					15	48	294	475	98	46
6	29	30					14	55	348	441	91	43
7	29	30					14	61	340	412	88	43
8	29	30					15	60	490	408	84	42
9	29	30					15	51	644	394	81	37
10	29	29					17	70	896	372	78	34
11	29	29					20	77	1,170	344	75	33
12	29	29					19	92	1,440	320	72	30
13	29	29					18	89	1,730	301	65	26
14	31	29					20	98	1,090	286	63	25
15	34	29					24	84	1,000	279	61	24
16	33	29					36	89	1,460	268	64	22
17	32	29					56	91	1,310	261	64	20
18	31	29					41	105	1,040	258	63	18
19	31	29					46	191	1,090	251	59	17
20	30	29					48	137	1,290	234	59	16
21	30	29					61	112	1,210	234	59	16
22	30	29					67	161	1,130	217	59	16
23	30	30					54	217	1,200	201	59	16
24	30	28					42	227	1,230	188	59	16
25	29	28					42	220	1,060	167	59	17
26	29	29					45	240	830	150	58	17
27	29	28					51	244	746	130	56	18
28	29	28					56	230	758	126	56	18
29	29	29					47	198	752	120	55	18
30	29	28					52	223	734	116	64	18
31	29	-					-	204	-	114	52	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							922	34	29	29.7	1,830	
November.....							871	30	28	29.0	1,730	
December.....							744	-	-	24	1,480	
Calendar year .....												
January.....							620	-	-	20	1,230	
February.....							448	-	-	16	889	
March.....							434	-	-	14	861	
April.....							995	67	14	33.2	1,980	
May.....							3,565	244	45	125	7,670	
June.....							27,987	1,990	201	933	55,510	
July.....							9,256	614	114	299	18,360	
August.....							2,205	110	52	71.1	4,370	
September.....							840	51	16	28.0	1,670	
Water year 1934-35.....							49,191	1,990	-	135	97,580	

## Greybull River at Mesteetse, Wyo.

Location.- Water-stage recorder, lat. 44°9', long. 106°53', in sec. 4, T. 48 N., R. 100 W., at Mesteetse. Prior to July 30, 1934 water-stage recorder 100 yards downstream, at different datum. Zero of gage is 5,725.5 feet above mean sea level.

Drainage area.- 690 square miles.

Records available.- June to September 1897, April to October 1903, July 1920 to September 1935.

Average discharge.- 15 years (1920-35), 378 second-feet.

Extremes.- Maximum discharge during water year 1933-34, 1,690 second-feet May 7 (gage height, 5.17 feet, former datum); minimum, not determined, occurred during winter.

Maximum discharge during water year 1934-35, 9,000 second-feet June 12 (gage

height, 6.90 feet); minimum, not determined, occurred during winter.

1897, 1903, 1920-35: Maximum discharge, that of June 12, 1935; minimum, 11 second-feet March 26, 1931.

Remarks.- Records for water year 1933-34 good except those estimated, which are fair.

Discharge estimated Dec. 10 to Apr. 4 on basis of two discharge measurements and temperature records, and Oct. 1, 5-9, 11, 12, 15, 17. Records for water year 1934-35 excellent except those estimated, Dec. 19 to Mar. 18, which are fair. Estimated records based on three discharge measurements and temperature records. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1933 to September 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	145	124	124				80	479	446	193	212	103
2	150	126	124				75	431	283	188	196	136
3	150	128	124				70	332	288	183	189	122
4	150	131	124				100	438	313	178	178	103
5	140	126	124				124	610	271	188	165	92
6	138	124	126				126	825	315	174	156	84
7	137	124	122				126	1,090	338	174	146	82
8	136	126	122				126	897	283	164	132	98
9	130	126	122				133	495	237	164	148	122
10	133	128	120				128	210	242	169	250	109
11	135	126					135	210	332	174	163	107
12	135	124	120				226	394	364	178	136	105
13	135	128					294	188	401	178	130	93
14	135	126					248	131	319	178	130	100
15	154	126					174	138	345	174	140	98
16	131	124					138	332	368	169	142	85
17	131	126					135	446	358	138	138	82
18	131	124		80			135	504	358	135	132	76
19	131	124					138	463	338	135	132	61
20	128	126					145	580	271	135	130	68
21	128	124					188	550	248	135	132	82
22	131	126			*57	*53	271	580	204	199	132	112
23	131	124					277	723	215	135	130	144
24	131	124	90				231	838	215	133	132	160
25	124	126					495	760	193	423	128	156
26	124	124						812	688	210	306	154
27	124	124					416	700	193	237	122	184
28	122	124	80				431	723	188	230	111	167
29	122	126					438	734	188	226	102	158
30	122	124					471	654	199	222	130	158
31	122	-					70	454	-	234	102	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						4,116	150	122	133	8,160		
November.....						3,763	131	124	125	7,460		
December.....						3,162	126	-	102	6,270		
Calendar year 1933.....						133,627	3,590	-	366	266,200		
January.....						2,170	-	-	70	4,300		
February.....						1,540	-	-	55	3,050		
March.....						2,015	-	-	65	4,000		
April.....						6,886	812	70	230	13,660		
May.....						16,607	1,090	131	536	32,940		
June.....						8,511	446	188	284	16,880		
July.....						5,836	423	133	188	11,580		
August.....						4,492	250	102	145	8,910		
September.....						3,371	167	61	112	6,690		
Water year 1933-34.....						62,472	1,090	-	171	125,900		

\*Discharge measurement.

## Greybull River at Meeteetse, Wyo.

(Continued)

Rating tables, July 1934 to September 1935 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used July 30 to Sept. 27, 1934)

Table for July 30, 1934 to July 19, 1935

0.4	52	1.8	358
.5	60	2.0	402
.6	70	2.5	592
.7	82	3.0	950
.8	98	3.5	1,540
.9	116	4.0	2,390
1.0	136	4.5	3,400
1.2	176	5.0	4,480
1.4	224	5.5	5,620
1.6	273	6.0	6,800

Table for July 20, 1935 to Sept. 30, 1935

0.7	32	1.7	264	4.0	2,390
.8	44	1.8	296	4.5	3,400
.9	58	1.9	330	5.0	4,480
1.0	75	2.0	366	5.5	5,620
1.1	96	2.2	442	6.0	6,800
1.2	122	2.4	530		
1.3	148	2.6	644		
1.4	174	2.8	786		
1.5	202	3.0	950		
1.6	232	3.5	1,540		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	165	116	102	100	80	85	55	132	786	1,100	434	214
2	158	118	98				63	134	794	1,150	402	194
3	146	93	74				66	126	712	1,130	380	191
4	138	96	78				61	111	779	1,020	366	191
5	130	111	88	90	68	80	61	142	1,110	977	355	185
6	128	112	126				64	167	1,300	1,060	337	185
7	128	111	144				63	174	1,500	1,040	323	199
8	134	111	140				75	156	2,980	1,010	306	185
9	140	111	165	80	64	90	78	142	4,240	950	296	171
10	138	107	160				62	169	4,570	903	290	153
11	138	103	165				65	207	4,790	834	280	143
12	134	93	156				85	205	5,870	742	264	130
13	138	82	160	80	64	90	163	191	5,160	742	248	112
14	144	82	171				150	193	3,530	749	232	94
15	150	93	140				120	185	3,230	734	242	94
16	152	90	112				229	210	2,280	850	254	88
17	142	90	102	55	78	90	98	178	272	1,710	802	248
18	132	103	87				110	128	320	1,430	756	254
19	134	92	65				130	142	416	1,620	719	267
20	124	106	50				112	219	351	1,940	698	248
21	105	92	60	49	51	70	76	302	287	1,710	664	235
22	109	62	65				68	302	465	2,180	673	226
23	118	65	70				74	237	796	2,820	588	220
24	114	93	70				109	193	1,060	2,000	572	214
25	120	78	75	70	72	80	80	140	916	1,300	530	211
26	116	85	85				67	126	883	1,050	498	199
27	120	75	90				54	167	891	1,160	471	194
28	120	80	90				59	142	734	1,400	476	185
29	118	72	95	-	-	-	65	103	630	1,500	480	185
30	118	68	95				59	148	925	1,470	459	194
31	118	-	95				56	-	866	-	442	220
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						4,069	165	105	131	8,070		
November.....						2,769	118	62	93.0	5,530		
December.....						3,263	171	50	105	6,470		
Calendar year 1934.....						61,552	1,090	-	169	122,100		
January.....						2,325	-	-	75	4,610		
February.....						2,016	-	-	72	4,000		
March.....						2,582	130	54	83.3	5,120		
April.....						3,987	302	55	133	7,910		
May.....						12,446	1,060	111	401	24,690		
June.....						66,321	5,870	712	2,211	131,500		
July.....						23,829	1,150	442	769	47,260		
August.....						8,309	454	185	268	16,480		
September.....						3,922	214	66	131	7,780		
Water year 1934-35 .....						135,858	5,870	-	372	269,400		

## Greybull River near Basin, Wyo.

Location.- Water-stage recorder, lat. 44°23', long. 108°11', in sec. 17, T. 51 N., R. 94 W., 8 miles west of Basin. Prior to Oct. 1, 1934, chain gage at same site and datum.

Drainage area.- 1,130 square miles.

Records available.- April 1930 to September 1935.

Extremes.- Maximum discharge during year, 5,270 second-feet June 13 (gage height, 5.58 feet); no flow during several days in October and November.

1930-35: Maximum discharge, that of June 13, 1935; no flow during several days in July 1931, July 23, 1932, October 1933, June to September, October and November 1934.

Remarks.- Records good except those for Dec. 5 to Mar. 16, which are fair and were estimated on the basis of two discharge measurements and temperature records. Numerous diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	0	93	100	100	95	63	24	1,170	716	3.2	37
2	1.1	0	102				66	11	642	650	2.7	25
3	3.0	0	100				78	2.1	572	766	2.3	13
4	2.6	1.6	97				88	8.5	514	741	1.9	9.5
5	2.6	1.1	93				61	8.5	698	724	1.4	4.0
6	3.0	1.1	100	95	80	85	99	7.8	1,240	610	1.2	3.4
7	3.5	0					75	2.6	1,090	634	1.0	3.4
8	4.5	0					69	2.1	1,600	562	1.0	3.2
9	2.6	0					69	.6	2,620	436	.8	6.4
10	2.6	0					83	.1	3,280	354	1.6	10
11	4.0	0	160	85	75	100	99	13	3,600	270	7.7	8.5
12	2.1	0					134	16	3,980	192	2.3	5.8
13	1.1	0					210	23	4,570	168	1.9	3.4
14	0	0					237	14	3,610	123	1.4	2.7
15	0	0					117	9.9	5,410	103	1.2	2.7
16	0	0	140	60	85	110	93	8.5	2,310	51	1.2	2.5
17	0	0				111	102	14	1,730	32	8.9	2.3
18	1.1	0				119	75	13	1,380	20	3.2	2.1
19	.6	0				124	55	19	1,270	11	15	1.4
20	.6	.1				86	53	48	1,630	8.9	19	1.4
21	.6	.1	100	65	80	85	100	11	1,530	5.8	2.7	1.2
22	.6	.1				83	134	3.5	1,560	56	2.7	1.4
23	.1	.1				63	104	56	1,830	47	2.1	10
24	.1	4.0				58	37	182	2,350	27	1.6	7.7
25	.1	9.2				68	18	394	1,240	3.4	1.2	6.4
26	.1	58	70	85	70	70	4.0	334	758	3.2	1.1	5.8
27	.1	95				63	1.1	382	658	2.7	1.1	8.9
28	.6	104				51	25	329	766	7.7	1.0	12
29	.6	102				54	13	258	995	3.2	.9	13
30	.6	97				56	1.1	197	1,090	2.7	.8	16
31	.1	-	-	-	-	64	-	766	-	4.6	21	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						37.7	4.5	0	1.22	75		
November.....						471.4	104	0	15.7	935		
December.....						3,405	-	-	110	6,750		
Calendar year 1934.....						13,737.9	610	0	37.6	27,240		
January.....						2,482	-	-	80.1	4,920		
February.....						2,314	-	-	82.6	4,590		
March.....						2,665	124	81	85.0	5,390		
April.....						2,383.2	237	1.1	79.4	4,730		
May.....						3,158.2	766	.1	102	6,260		
June.....						54,061	4,570	514	1,802	107,200		
July.....						7,325.2	766	2.7	236	14,530		
August.....						119.1	21	1.8	3.84	236		
September.....						229.9	37	1.2	7.66	456		
Water year 1934-35.....						78,651.7	4,570	0	215	156,000		

## Wood River near Meeteetse, Wyo.

Location.- Water-stage recorder, lat.  $44^{\circ}6'$ , long.  $108^{\circ}58'$ , in sec. 22, T. 48 N., R. 101 W., 500 feet above mouth and 7 miles southwest of Meeteetse. Prior to Aug. 2, 1934, chain gage at different datum 700 feet upstream.

Drainage area.- 218 square miles.

Records available.- September 1910 to October 1912, May 1915 to September 1917, April 1930 to September 1935.

Extremes.- Maximum discharge during water year 1933-34, not determined; minimum, not determined, occurred during winter.

Maximum discharge during water year 1934-35, 1,550 second-feet June 14 (gage height, 6.17 feet); minimum, 18 second-feet Jan. 22 (discharge measurement).  
1910-12, 1915-17, 1930-35: Maximum discharge (estimated), 1,700 second-feet June 6, 1912; minimum, that of Jan. 22, 1935.

Remarks.- Records good except those estimated. Discharge estimated Dec. 1, 1933, to Mar. 31, 1934, on the basis of two discharge measurements and temperature records; Aug. 1, Sept. 9-21, 27, 28, 1934, by comparison with Greybull River near Meeteetse; Nov. 28, 1934, to Mar. 19, 1935, on the basis of two discharge measurements and temperature records; Apr. 1-5, 1935, by comparison with the Greybull River near Meeteetse. No record Apr. 1 to July 31, 1934. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1933 to September 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	54	55									80	25
2	57	52									75	39
3	55	49									70	41
4	55	49									66	37
5	48	54									64	53
6	47	57									60	30
7	47	55									54	30
8	47	67									54	34
9	46	71									57	42
10	48	70									96	58
11	47	71									70	56
12	44	68									57	55
13	44	70									55	52
14	47	68									56	55
15	44	58									58	55
16	50	55									66	32
17	50	54									57	30
18	46	55									55	28
19	44	54									56	25
20	46	55									55	26
21	47	55									56	30
22	42	54		*53	*26						55	47
23	41	55									55	58
24	40	58									57	64
25	41	54									57	58
26	42	55									51	59
27	47	55									51	59
28	42	52									46	62
29	44	65									35	60
30	47	67									37	64
31	54	-				*57					30	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,451	57	40	46.8	2,880		
November.....						1,751	71	49	58.4	3,470		
December.....						1,612	-	-	52	3,200		
Calendar year .....												
January.....						1,085	-	-	35	2,150		
February.....						756	-	-	27	1,500		
March.....						1,023	-	-	53	2,030		
April.....						-	-	-	-	-		
May.....						-	-	-	-	-		
June.....						-	-	-	-	-		
July.....						-	-	-	-	-		
August.....						1,781	96	30	57.5	3,530		
September.....						1,224	64	25	40.8	2,430		
Water year .....												

\*Discharge measurement.

## Wood River near Meeteetse, Wyo.

(Continued)

Rating tables, August 1934 to September 1935 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Apr. 13-25, June 11-14)

Table for Aug. 2, 1934, to June 14, 1935

2.0	20	3.5	300
2.2	31	4.0	500
2.4	50	4.5	740
2.6	78	5.0	1,020
2.8	114	5.5	1,320
3.0	156	6.0	1,630

Table for June 15 to Sept. 30, 1935

2.5	28	3.8	246
2.6	33	4.0	312
2.8	49	4.5	520
3.0	69	5.0	770
3.2	99	5.5	1,040
3.4	137	6.0	1,350
3.6	186		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	50					32	66	355	309	133	75
2	60	50					30	66	363	337	129	73
3	60	44				44	32	59	355	337	124	72
4	59	44					32	58	366	350	124	72
5	58	48					34	76	466	309	122	69
6	58	48					34	85	522	309	113	68
7	57	48					33	89	478	302	108	69
8	57	47				38	36	76	658	298	102	68
9	57	48					37	78	937	278	99	65
10	57	46					32	101	1,010	265	99	59
11	56	46					33	114	1,000	233	94	55
12	54	46					41	110	1,180	227	93	54
13	54	43				47	64	100	1,270	214	91	52
14	53	39					57	100	1,310	208	86	50
15	53	42					61	94	1,050	197	88	48
16	56	43					85	118	750	189	94	45
17	56	43				45	66	138	535	183	91	44
18	52	47			*39	48	163	511	511	178	86	43
19	59	44				68	206	520	520	170	82	42
20	57	48				43	96	161	575	160	77	44
21	51	49				39	122	149	515	155	75	45
22	48	41		*18		56	114	253	525	165	73	45
23	47	44				41	80	382	600	158	73	48
24	50	50				39	56	448	585	146	72	50
25	52	49				42	53	452	430	142	70	46
26	51	48				35	60	418	348	135	70	45
27	51	48				33	85	406	312	133	67	45
28	50	45				34	63	329	352	142	67	45
29	49	42				35	52	286	396	146	66	46
30	48	40				34	73	329	401	144	69	44
31	49	-				33	-	374	-	133	72	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,682	61	47	54.3	3,340		
November.....						1,370	50	39	45.7	2,720		
December.....						1,240	-	-	40	2,460		
Calendar year .....												
January.....						1,085	-	-	35	2,150		
February.....						1,036	-	-	37	2,050		
March.....						1,269	-	33	40.9	2,520		
April.....						1,709	122	30	57.0	3,390		
May.....						5,884	452	58	190	11,670		
June.....						18,665	1,310	312	622	37,020		
July.....						6,632	337	133	214	13,150		
August.....						2,809	133	66	90.6	5,870		
September.....						1,625	75	42	54.2	3,220		
Water year 1934-35.....						45,006	1,310	-	123	89,260		

\*Discharge measurement.



## Bench Canal near Burlington, Wyo.

Location.- Staff gage, lat. 44°24', long. 108°33', in sec. 8, T. 51 N., R. 97 W., 200 yards below head gate and 7 miles southwest of Burlington.

Records available.- April 1930 to September 1935.

Extremes- Maximum mean daily discharge during year, 237 second-feet July 19; no flow during winter.  
1930-35: Maximum mean daily discharge, that of July 19, 1935.

Remarks.- Records fair. Discharge estimated Aug. 25 to Sept. 30. No record Oct. 1 to Apr. 21. Complete regulation at head gate. Gage-height record furnished by Bench Canal Co. Canal diverts water from Graybull River for irrigation of 10,000 to 15,000 acres around Burlington.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	28	65	130	48	30
2							-	30	75	140	46	28
3							-	32	64	137	47	20
4							-	32	63	111	30	18
5							-	32	62	123	29	15
6							-	31	62	172	30	14
7							-	47	59	172	32	12
8							-	37	62	206	34	12
9							-	31	59	223	27	12
10							-	23	88	221	8	15
11							-	23	114	225	26	14
12							-	25	143	228	26	12
13							-	57	145	221	26	11
14							-	45	177	223	26	10
15							-	31	174	232	27	9
16							-	32	199	230	17	9
17							-	31	194	230	17	9
18							-	47	190	230	18	9
19							-	106	202	237	31	8
20							-	143	180	199	32	8
21							-	52	183	146	31	8
22							48	93	182	132	32	8
23							95	199	185	137	27	12
24							89	195	166	184	27	10
25							110	199	151	124	25	9
26							110	207	129	117	26	10
27							67	212	106	48	23	12
28							32	207	85	87	20	14
29							28	199	106	88	18	16
30							24	157	110	65	17	18
31							-	130	-	47	35	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....					
November.....					
December.....					
Calendar year.....					
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April 22-30.....	591	110	24	65.7	1,170
May.....	2,691	212	23	66.8	5,340
June.....	3,788	202	59	126	7,510
July.....	5,035	237	47	182	9,990
August.....	860	48	8	27.7	1,710
September.....	359	30	6	13.0	772
The period.....					26,490

## Shoshone River below Shoshone Reservoir, Wyo.

Location.- Water-stage recorder, lat. 44°31', long. 109°9', in lot 76, T. 52 N., R. 102 W., about 4½ miles west of Cody.

Drainage area.- 1,470 square miles.

Records available.- January 1921 to September 1935.

Average discharge.- 14 years (1921-35), 1,277 second-feet.

Extremes.- Maximum discharge during year, 12,600 second-feet June 15; minimum mean daily discharge, 184 second-feet Mar. 10, 14, 17.

Remarks.- No diversions between station and Shoshone Dam. Flow completely regulated by storage in Shoshone Reservoir; capacity, 456,000 acre-feet. Records furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	673	464	206	203	203	209	212	1,020	1,220	6,070	1,950	956
2	673	464	194	203	197	216	219	1,030	1,200	5,880	1,900	941
3	505	464	203	203	190	206	223	1,030	1,280	5,980	1,840	941
4	401	454	216	203	203	190	223	1,020	1,340	6,080	1,780	920
5	383	464	216	203	200	194	216	1,010	1,400	5,870	1,720	913
6	370	459	216	206	200	194	216	1,030	1,200	5,680	1,680	886
7	348	459	216	209	209	194	216	1,050	1,170	5,670	1,610	868
8	357	459	216	209	212	194	216	1,040	1,370	5,620	1,570	818
9	361	454	209	209	203	197	216	1,050	1,490	5,410	1,530	818
10	365	344	216	209	200	184	209	1,050	1,820	5,250	1,480	811
11	370	276	216	209	216	197	209	1,040	2,370	5,010	1,520	792
12	374	268	212	209	209	194	212	1,030	4,410	4,700	1,490	779
13	379	197	209	209	200	194	209	1,030	6,680	4,440	1,580	760
14	379	203	209	209	203	184	203	1,040	9,350	4,230	1,530	747
15	323	200	209	209	203	194	209	1,040	11,700	4,180	1,480	734
16	280	200	200	209	206	190	206	1,040	16,400	4,060	1,430	825
17	280	203	212	209	203	184	203	1,040	8,900	4,020	1,380	1,040
18	280	190	209	209	200	190	280	1,030	8,230	3,960	1,340	1,130
19	280	200	209	209	203	197	387	1,010	8,390	3,860	1,310	1,100
20	280	206	209	206	200	200	495	1,030	8,660	3,680	1,290	1,070
21	280	212	209	209	209	200	798	1,080	9,020	3,290	1,190	1,040
22	285	209	212	212	209	200	798	1,090	8,770	3,210	1,110	999
23	284	209	203	212	209	197	798	1,090	8,770	3,100	1,100	984
24	276	209	203	216	209	190	798	1,070	8,820	2,880	1,070	977
25	280	203	206	216	209	209	798	1,050	8,370	2,650	1,010	963
26	280	209	203	216	209	209	948	1,080	7,930	2,470	999	948
27	319	212	203	209	209	209	984	1,150	7,490	2,330	970	927
28	425	212	203	216	209	209	984	1,200	7,070	2,200	934	913
29	425	203	206	216	-	206	984	1,240	6,660	2,120	906	608
30	425	209	206	209	-	203	984	1,260	6,330	2,070	879	1,160
31	454	-	212	203	-	203	-	1,280	-	2,000	922	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						11,397	673	276	368	22,610		
November.....						8,705	464	190	290	17,270		
December.....						6,468	216	194	209	12,530		
Calendar year 1934.....						274,020	2,030	155	751	543,500		
January.....						6,478	216	203	209	12,850		
February.....						5,732	216	190	205	11,370		
March.....						6,137	216	184	198	12,170		
April.....						13,653	984	203	455	27,080		
May.....						33,200	1,260	1,010	1,071	65,850		
June.....						171,810	11,700	1,170	5,727	340,800		
July.....						127,860	6,090	2,000	4,125	253,600		
August.....						42,570	1,950	879	1,373	84,440		
September.....						27,358	1,160	608	912	54,260		
Water year 1934-35.....						461,488	11,700	184	1,264	915,300		

## Shoshone River at Byron, Wyo.

Location.- Water-stage recorder, lat. 44°47', long. 108°31', in sec. 34, T. 56 N., R. 97 W., at Byron.

Drainage area.- 2,300 square miles.

Records available.- January 1929 to September 1935.

Extremes.- Maximum discharge during year, 9,720 second-feet June 14 (gage height, 5.45 feet); minimum (estimated), 98 second-feet Jan. 19.

1929-35: Maximum discharge, about 13,900 second-feet June 25, 1932 (gage height, 6.45 feet); minimum, 29 second-feet Feb. 14, 1932 (discharge measurement).

Remarks.- Records excellent except those estimated Oct. 21-26 and those corrected for ice effect Dec. 4-6, Dec. 23 to Feb. 10, Feb. 25-28, on basis of one discharge measurement and temperature records, which are good. Water diverted for irrigation above station. Flow regulated by Shoshone Reservoir.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and

(Shifting-control method used Feb. 11 to Apr. 14)

1.3	98	2.6	1,090	4.4	6,030
1.4	124	2.8	1,390	4.7	7,080
1.6	186	3.0	1,800	5.1	8,450
1.8	290	3.2	2,300	5.4	9,530
2.0	438	3.4	2,860	5.7	10,640
2.2	635	4.1	5,050	6.0	11,780
2.4	855	4.2	5,370	6.2	12,560

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	625	324	290	324	317	324	244	317	1,250	4,400	701	970
2	646	331	278	331	317	324	273	317	633	3,900	679	657
3	646	338	267	338	324	324	244	331	701	3,810	646	476
4	390	331	290	338	324	324	244	317	712	3,960	635	542
5	358	351	305	338	324	317	238	338	723	4,120	646	523
6	344	398	320	317	324	344	331	382	799	3,840	573	532
7	338	382	324	261	324	338	304	317	523	3,720	504	504
8	414	356	331	249	310	324	317	310	635	3,660	457	485
9	382	331	324	261	304	317	238	304	811	3,530	414	398
10	398	358	317	290	304	310	187	317	799	3,310	398	374
11	438	406	331	275	310	310	244	324	1,250	3,130	390	331
12	430	358	331	261	324	331	344	331	3,750	2,940	438	331
13	447	317	324	195	310	331	614	422	6,570	2,670	430	331
14	422	264	338	223	304	338	594	457	9,030	2,440	494	290
15	430	209	374	255	304	324	344	414	8,560	2,380	430	290
16	374	204	351	232	324	317	351	382	7,680	2,300	430	297
17	338	191	351	191	317	310	223	390	6,370	2,270	414	317
18	331	200	344	142	310	297	186	553	5,240	2,300	542	414
19	338	209	358	98	310	304	176	646	4,710	2,200	712	466
20	317	186	351	108	331	297	142	866	4,710	2,070	822	447
21	290	191	351	139	331	267	232	584	4,860	1,940	712	414
22	278	290	351	166	324	273	338	504	5,080	1,800	712	414
23	276	310	338	214	324	267	304	523	5,310	1,670	646	408
24	260	297	324	244	324	267	382	476	5,700	1,580	604	466
25	250	264	186	278	305	255	374	398	5,440	1,410	504	447
26	230	290	195	304	310	261	317	382	4,710	1,190	476	447
27	227	304	204	324	315	232	414	430	4,120	1,070	390	494
28	251	304	209	324	320	227	466	494	3,950	958	338	513
29	331	304	232	324	-	238	382	563	4,120	844	324	513
30	338	264	261	331	-	238	317	563	4,650	745	331	310
31	358	-	278	324	-	238	-	573	-	712	414	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	11,501	646	227	371	22,610
November.....	6,904	406	166	297	17,660
December.....	9,428	374	166	304	16,700
Calendar year 1934.....	162,931	1,780	123	446	323,200
January.....	8,017	338	98	289	15,900
February.....	8,869	331	304	317	17,590
March.....	9,168	344	227	296	18,180
April.....	9,344	614	142	311	18,530
May.....	13,525	866	304	436	26,830
June.....	113,586	9,030	523	3,786	225,500
July.....	76,869	4,400	712	2,480	152,500
August.....	16,206	882	324	523	32,140
September.....	13,399	970	290	447	26,580
Water year 1934-35.....	298,816	9,030	98	819	592,700

## Pass Creek near Wyola, Mont.

Location.- Wire gage, lat. 47°2', long. 107°26'30", in sec. 13, T. 9 S., R. 35 E., at highway bridge 5 miles south of Wyola.

Records available.- June to September 1935.

Discharge.- Maximum discharge during period, 182 second-feet June 7 (gage height, 2.18 feet); minimum, no flow Aug. 3, 9-10 (pool stage).

Remarks.- Records good. Several diversions above gage.

Rating table for period June 4 to Sept. 30, 1935 (gage height, in feet, and discharge, in second-feet)

0.2	0	0.8	3.2	1.4	39
.4	.3	1.0	8.5	1.6	66
.6	1.3	1.2	18	1.8	100
				2.0	139

Discharge, in second-feet, for period June to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									-	13	0.2	2.4
2									-	11	.1	2.4
3									-	9.7	0	1.9
4									55	7.2	.4	1.9
5									60	6.5	1.0	1.5
6									65	6.8	.9	1.5
7									111	6.2	.8	1.8
8									104	5.9	.2	1.8
9									60	5.9	0	1.7
10									72	9.3	0	1.6
11									74	5.9	.6	1.6
12									69	3.2	.2	1.5
13									52	2.5	2.6	1.4
14									52	1.6	2.8	1.2
15									51	1.4	2.4	1.2
16									47	1.3	4.2	1.0
17									46	1.2	4.0	1.2
18									38	1.2	4.2	1.2
19									32	1.4	4.2	1.2
20									32	2.6	2.6	1.2
21									27	7.5	1.8	1.4
22									28	5.0	1.0	1.2
23									24	4.2	.4	1.0
24									24	3.0	.6	1.0
25									22	2.6	1.7	1.2
26									18	1.8	2.6	1.0
27									16	1.1	2.4	1.2
28									15	1.0	1.9	3.0
29									17	.6	1.4	3.1
30									13	.4	1.7	3.1
31									-	.4	3.8	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year .....												
January.....												
February.....												
March.....												
April.....												
May.....												
June 4-30.....						1,224	111	13	45.3	2,430		
July.....						131.4	13	.4	4.24	261		
August.....						50.7	4.2	0	1.64	101		
September.....						48.5	3.1	1.0	1.62	96		
The period:.....										2,890		

## Tongue River near Decker, Mont.

Location.- Water-stage recorder, lat. 45°2', long. 106°48', in sec. 23, T. 9 S., R. 40 E., 1½ miles east of Decker and 2 miles north of Wyoming State line.

Drainage area.- 1,610 square miles.

Records available.- April 1928 to September 1935.

Extremes.- Maximum discharge during period, 4,100 second-feet June 14 (gage height, 6.45 feet); minimum, not determined.  
1928-35: Maximum discharge, 7,220 second-feet June 2, 1929 (gage height, 9.25 feet present datum); minimum, 2.9 second-feet Aug. 20, 21, 1934.

Remarks.- Records good above 2,000 second-feet and excellent below, except those for period of ice effect, Feb. 1-19, which were estimated on the basis of one discharge measurement and temperature records. Diversions for irrigation above station.

Rating table, for Feb. 20, to Sept. 30, 1935 except period of ice effect (gage height, in feet, and discharge, in second-feet)

1.0	14	2.4	345	3.8	1,070	5.2	2,400
1.2	30	2.6	435	4.0	1,220	5.4	2,650
1.4	52	2.8	530	4.2	1,380	5.6	2,910
1.6	84	3.0	630	4.4	1,550	5.8	3,170
1.8	126	3.2	730	4.6	1,740	6.0	3,450
2.0	186	3.4	830	4.8	1,940	6.2	3,730
2.2	262	3.6	940	5.0	2,160	6.5	4,160

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1					100	132	108	164	1,200	745	51	38	
2						146	108	171	1,280	655	36	108	
3						146	108	171	1,230	570	39	119	
4						132	126	154	1,060	535	39	111	
5					95	115	126	143	1,060	510	35	115	
6						100	124	134	1,180	435	34	117	
7						132	129	140	1,240	430	34	117	
8						104	134	140	1,200	372	30	117	
9					115	129	146	132	1,660	315	26	124	
10						104	174	115	2,270	298	24	122	
11						111	151	108	2,940	282	25	113	
12						111	129	122	3,230	243	22	98	
13					130	124	148	161	3,390	232	21	92	
14						161	210	181	3,790	220	20	82	
15						167	247	178	3,660	181	21	71	
16						135	124	258	2,820	168	27	66	
17					140	124	290	417	2,360	206	30	63	
18						145	124	239	660	1,960	151	37	63
19						146	122	220	1,270	1,640	143	40	63
20						146	124	266	1,130	1,420	655	50	58
21					148	126	412	886	1,200	282	59	55	
22						143	126	440	892	1,160	174	55	62
23						148	126	332	910	1,200	126	45	60
24						115	119	270	1,230	1,260	102	41	63
25					96	129	206	1,320	1,060	96	37	68	
26						115	134	195	1,200	860	86	32	79
27						119	124	195	1,190	760	79	29	98
28						-	115	188	962	755	70	27	100
29					111	-	115	178	870	760	73	26	100
30						-	-	-	910	-	66	26	-
31													
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....													
November.....													
December.....													
Calendar year .....													
January.....						-	-	-	-				
February.....						3,276	148	-	117	6,500			
March.....						3,895	161	100	126	7,730			
April.....						6,067	440	108	202	12,030			
May.....						15,416	1,320	108	530	32,660			
June.....						52,945	3,790	755	1,765	105,000			
July.....						8,723	745	68	281	17,300			
August.....						1,039	59	19	33.5	2,060			
September.....						2,614	124	38	87.1	5,180			
The period .....										188,400			

\*Discharge measurement.

## Goose Creek near Sheridan, Wyo.

Location.— Water-stage recorder, lat. 44°42', long. 107°11', in sec. 35, T. 55 N., R. 88 W., half a mile above Cave Creek and 14 miles southwest of Sheridan.

Drainage area.— 110 square miles.

Records available.— September 1929 to September 1935.

Extremes.— Maximum discharge during year, 1,730 second-feet June 14 (gage-height, 4.70 feet); minimum mean daily discharge, 4.7 second-feet Nov. 22, Dec. 25.

1930-35: Maximum discharge, that of June 14, 1935; minimum, that of Nov. 22, Dec. 25, 1935.

Remarks.— Records good except those estimated, Oct. 12-17, May 7-16, Sept. 15-18, and those for periods of ice effect, Nov. 23, 24, 26, Nov. 28 to Dec. 6, Jan. 18-30, which were estimated on the basis of one discharge measurement and temperature records. Water diverted above station from East Fork of Goose Creek into Little Goose Creek. Flow partly regulated by storage in Dome Lake. Gage-height record furnished by city of Sheridan.

Rating tables, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Jan. 17, July 23 to Sept. 30 (Shifting-control method used Oct. 1 to Jan. 17)

0.3	4	0.7	14
.4	5	.8	16
.5	7	1.0	28
.6	10	1.2	42

Table for Jan. 18 to July 22

0.0	4.0	0.6	14.6	1.6	80	3.2	560
.1	5.0	.8	21.5	1.8	109	3.6	845
.2	6.2	1.0	30	2.0	143	4.0	1,150
.3	7.6	1.2	42	2.4	224	4.4	1,470
.4	9.5	1.4	58	2.8	366	4.7	1,730

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.6	9.7	7.0	7.3	5.5	7.3	8.4	26	205	266	38	36
2	7.0	9.1	7.0	7.0	5.6	7.3	8.6	26	207	241	39	34
3	14	8.4	7.5	6.8	5.7	7.5	8.6	23	162	210	40	37
4	12	8.5	7.5	6.4	5.3	7.6	8.7	22	190	192	39	34
5	9.5	7.9	7.5	6.2	6.0	7.6	6.7	30	214	176	40	24
6	7.3	8.5	8.0	6.0	6.1	7.0	8.9	32	230	157	38	18
7	6.8	7.9	8.2	5.8	6.2	6.6	11	34	232	123	34	18
8	12	7.9	8.2	5.6	6.2	6.9	13	34	337	119	33	17
9	15	7.6	8.2	5.6	6.2	6.9	14	32	676	126	29	16
10	13	7.0	8.2	5.6	6.2	6.9	13	30	1,350	119	28	14
11	12	7.3	8.2	5.6	6.2	6.9	13	28	1,430	106	28	13
12	12	7.0	7.9	5.4	6.2	6.9	13	30	1,510	66	29	12
13	12	7.0	7.9	5.4	6.2	6.9	16	32	1,650	49	36	10
14	12	6.8	7.9	5.4	6.8	8.0	16	38	1,650	56	35	8.5
15	12	6.8	7.6	5.2	6.8	9.1	15	36	1,550	64	24	8.5
16	11	6.0	6.8	5.2	6.8	8.9	33	38	1,370	48	24	8.5
17	11	5.8	8.2	5.2	6.8	8.2	32	41	1,170	45	26	8.5
18	11	9.1	7.3	5.2	6.8	8.4	22	75	1,020	49	25	8.5
19	12	9.1	7.6	5.2	6.9	8.2	28	121	762	54	26	8.6
20	12	9.1	7.3	5.2	6.9	8.4	33	102	566	60	24	8.2
21	12	6.6	7.6	5.2	6.9	8.4	42	114	471	49	28	7.9
22	11	4.7	6.8	5.2	6.9	8.6	45	129	482	46	29	7.6
23	10	5.2	7.0	5.2	6.9	8.4	32	140	544	41	28	7.9
24	9.4	5.8	7.3	5.2	6.9	8.6	26	167	509	34	29	8.6
25	11	6.4	4.7	5.2	6.9	8.4	28	176	416	32	28	8.5
26	10	6.5	6.2	5.5	7.0	8.2	25	176	346	29	29	12
27	9.7	6.6	7.9	5.5	7.2	8.0	26	186	246	28	29	10
28	10	6.0	7.3	5.5	7.3	7.6	25	172	297	35	29	9.7
29	10	7.0	7.3	5.5	-	8.2	19	163	355	34	29	16
30	9.7	7.0	7.3	5.5	-	8.2	26	165	301	33	29	18
31	9.7	-	7.3	5.5	-	8.4	-	180	-	32	37	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						333.7	15	6.8	10.8		662	
November.....						216.6	9.7	4.7	7.22		450	
December.....						230.7	8.2	4.7	7.44		458	
Calendar year 1934.....						11,609.0	31.7	4.7	31.8		23,030	
January.....						174.3	7.3	5.2	5.62		346	
February.....						181.9	7.3	5.5	6.50		361	
March.....						242.7	9.1	6.6	7.83		481	
April.....						618.9	45	8.4	20.6		1,230	
May.....						2,600	186	22	83.9		5,160	
June.....						20,362	1,630	190	67.9		40,390	
July.....						2,721	266	28	87.8		5,400	
August.....						959	40	24	30.9		1,900	
September.....						450.6	37	7.6	15.0		894	
Water year 1934-35.....						29,091.4	1,630	4.7	79.7		57,700	

## Powder River at Arvada, Wyo.

Location.- Chain gage, lat. 44°39', long. 106°6', in sec. 16, T. 54 N., R. 77 W., at Arvada, a quarter of a mile above Wildhorse Creek. Zero of gage is 3,623.8 feet above mean sea level.

Drainage area.- 6,050 square miles.

Records available.- May 1919 to September 1935, July 1915 to April 1919, just above mouth of Clear Creek, 16 miles downstream.

Average discharges.- 19 years (1916-35), 518 second-feet.

Extremes.- Maximum discharge during year, 9,700 second-feet June 1 (gage height, 7.40 feet); minimum, 2 second-feet (estimated) Aug. 17.

1915-35: Maximum discharge, determined by slope-area method, 72,000 second-feet Sept. 29, 1923 (gage height, 23.7 feet); no flow during part of summers 1919, 1921-23, 1931-34.

Remarks.- Records good except those for the period of ice effect, Nov. 25 to Feb. 19, which were estimated on the basis of one discharge measurement and temperature records, and those estimated, Aug. 9-18, Sept. 15-30. Diversions for irrigation above station.

Rating table, water year 1934-35 except period of ice effect  
(gage height, in feet, and discharge, in second-feet)

0.0	5	1.0	88	2.0	726	3.0	1,920	4.2	3,820	6.5	7,990
.2	12	1.2	152	2.2	934	3.2	2,210	4.6	4,500	7.0	8,940
.4	22	1.4	238	2.4	1,160	3.4	2,510	5.0	5,200	7.4	9,700
.6	34	1.6	370	2.6	1,400	3.6	2,820	5.5	6,100		
.8	51	1.8	534	2.8	1,650	3.8	3,140	6.0	7,040		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	73				314	269	132	6,660	184	21	10
2	22	78				294	156	149	1,990	159	16	35
3	19	63				708	170	170	1,240	203	11	46
4	257	63				1,340	163	163	1,440	198	9	86
5	121	57				465	184	132	969	138	7	46
6		94	62			40	193	135	681	269	6	33
7		80	73			86	193	91	821	56	6	26
8		62	83			163	177	88	967	50	5	18
9		56	83			213	188	80	881	47	4	17
10		51	80			256	213	59	787	42	4	16
11	49	85				163	213	68	1,210	34	4	13
12	45	80				281	281	97	828	32	3	8
13	43	73				561	269	165	946	34	3	8
14	42	78				203	294	138	818	24	3	5
15	45	73				208	534	474	808	22	3	5
16		48	83			203	321	525	992	19	3	4
17		50	83			152	281	321	934	18	2	4
18		53	91			164	269	425	1,790	697	40	4
19		56	112			156	213	300	1,560	62	2,100	3
20		55	106			163	250	667	680	166	638	3
21	53	106				638	162	223	1,290	562	63	218
22	58	88				667	177	149	1,000	474	66	112
23	76	112				757	165	149	809	395	55	46
24	66	112				797	170	269	681	356	1,020	36
25	73	100				956	174	269	517	370	162	28
26		83	90			581	174	198	534	244	135	22
27		76	80			160	138	177	818	294	78	18
28		62	76			250	128	198	902	300	48	15
29		57	70			-	126	159	925	307	36	14
30		68	70			-	142	135	978	198	27	8
31		66	-			-	152	-	2,210	-	23	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2,000	257	19	64.5	3,970
November.....	2,502	112	57	83.4	4,960
December.....	1,240	-	-	40	2,460
Calendar year .....					
January.....	830	-	-	50	1,840
February.....	5,665	956	-	202	11,220
March.....	7,891	1,340	40	255	15,660
April.....	6,762	534	135	225	13,410
May.....	14,739	2,210	59	475	29,230
June.....	30,654	6,660	193	1,028	61,200
July.....	4,155	1,020	18	154	8,240
August.....	3,411	2,100	2	110	6,770
September.....	421	68	3	14.0	855
Water year 1934-35.....	80,560	6,660	2	221	159,800

## Powder River at Moorhead, Mont.

Location.- Water-stage recorder, lat. 45°3', long. 105°52'30", in sec. 18, T. 9 S., R. 48 E., at Moorhead.

Records available.- May 1929 to September 1935.

Extremes.- Maximum discharge during year, 8,140 second-feet June 1 (gage height, 7.58 feet); minimum, 13 second-feet Aug. 17 (gage height, 1.83 feet).  
1929-35: Maximum discharge, 14,800 second-feet Aug. 30, 1933 (gage height, 10.85 feet); no flow at various times during 1931-1934.

Remarks.- Records good except those for period of ice effect, Nov. 25 to Apr. 2, which are fair. Some diversions for irrigation above station.

Rating tables, water year 1934-35 except period of ice effect  
(gage height, in feet, and discharge, in second-feet)

Table for Oct. 1-27

2.0	6	3.0	143
2.2	17	3.2	200
2.4	36	3.4	266
2.6	58	3.6	340
2.8	96	4.0	550

Table for Oct. 28, to Sept. 30

2.8	150	3.8	740	6.0	4,650
2.0	20	3.0	220	4.0	1,030
2.2	35	3.2	307	4.5	1,830
2.4	59	3.4	407	5.0	2,690
2.6	99	3.6	528	5.5	3,640

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	151	88					147	176	5,670	796	39	30
2	155	93					145	153	5,600	667	37	69
3	119						139	145	2,020	546	33	118
4	112	93	65	80	80	255	145	150	1,710	365	32	104
5	230	97					147	163	1,520	317	27	142
6	490	97					163	166	1,290	298	23	116
7	276	97					209	172	1,140	212	17	91
8	197	97	75	105	230	225	209	153	1,060	205	16	76
9	176	101					201	134	1,020	162	15	72
10	143	109					193	121	1,240	163	15	56
11	121	109					193	113	2,770	128	15	51
12	117	113					201	111	2,870	86	15	42
13	103	113	75	120	260	180	249	118	2,510	63	14	38
14	106	111					245	126	2,870	51	14	33
15	106	111					435	160	2,690	46	14	29
16	103	111					452	298	2,600	42	14	24
17	98	116					365	376	2,260	59	13	22
18	98	116	80	95	240	225	262	371	1,920	179	16	23
19	101	116					212	397	1,870	336	355	24
20	103	116					220	609	1,740	336	970	23
21	258	116					205	1,260	1,280	345	618	21
22	203	106					182	1,180	940	326	262	20
23	185	111	85	50	255	215	150	852	2,140	109	156	19
24	151	88					156	642	1,340	452	118	18
25	136	88					262	522	1,120	796	76	18
26	114	86					266	502	502	462	58	18
27	117	113			230		233	591	489	128	43	42
28	95	111	45	50		170	197	691	668	118	37	49
29	93	109					182	796	3,150	104	32	35
30	88	88					160	810	496	76	26	30
31	88	-					-	1,260	-	56	24	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	4,612	490	88	149	9,150
November.....	3,113	116	86	104	6,170
December.....	2,170	-	-	70.0	4,300
Calendar year .....					
January.....	2,550	-	-	82.3	5,080
February.....	6,015	-	-	215	11,930
March.....	6,520	-	-	210	12,930
April.....	6,525	452	139	218	12,940
May.....	13,318	1,260	111	430	26,420
June.....	56,563	5,870	489	1,885	112,200
July.....	8,019	796	39	259	15,910
August.....	3,144	970	13	101	6,240
September.....	1,454	142	18	48.5	2,880
Water year 1934-35.....	114,003	5,870	13	312	226,100





## Little Missouri River near Watford City, N. Dak.

Location.- Water-stage recorder, lat.  $47^{\circ}36'$ , long.  $103^{\circ}16'$ , in NW $\frac{1}{4}$  sec. 35, T. 148 N., R. 99 W., at highway bridge  $17\frac{1}{2}$  miles south of Watford City. Zero of gage is 1,863.51 feet above mean sea level.

Drainage area.- 8,490 square miles.

Records available.- October 1934 to September 1935.

Extremes.- Maximum discharge during year, 28,000 second-feet July 11 (gage height, 10.10 feet); no flow Jan. 1 to Mar. 15.

Remarks.- Records fair. Mean monthly flow estimated for October, November, and December.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	29	370	198	144	399	58
2						0	34	305	394	128	310	62
3						0	35	310	370	103	238	44
4						0	26	341	274	944	205	36
5						0	19	223	687	727	189	24
6						0	55	230	2,090	351	164	36
7						0	171	245	2,050	944	140	30
8						0	262	323	1,740	1,350	123	28
9						0	93	474	1,490	1,960	110	32
10						0	144	341	1,210	7,790	72	32
11						0	70	238	980	21,000	44	32
12						0	68	215	740	8,990	74	28
13						0	68	208	689	3,940	74	24
14						0	81	189	1,090	2,810	102	24
15						0	98	223	608	893	48	17
16						120	98	182	459	615	28	15
17						420	124	120	436	492	28	14
18						431	98	93	389	370	58	17
19						436	87	90	323	292	97	24
20						714	84	84	639	238	138	23
21						525	66	86	1,410	946	241	21
22						365	75	78	944	481	187	19
23						415	88	75	847	660	158	17
24						323	87	70	702	441	97	17
25						318	87	103	602	292	58	14
26						238	103	318	463	223	44	14
27						45	114	195	379	405	97	10
28						50	184	118	283	399	87	9.4
29						37	157	90	132	498	87	8.2
30						35	370	78	171	601	87	7.6
31						37	-	70	-	529	62	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						46.5	-	-	1.5	92		
November.....						45	-	-	1.5	89		
December.....						31	-	-	1.0	61		
Calendar year .....												
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						4,509	714	0	145	8,940		
April.....						3,043	370	19	101	6,040		
May.....						6,085	474	70	196	12,070		
June.....						22,838	2,090	171	761	45,300		
July.....						59,536	21,000	103	1,921	118,100		
August.....						3,787	399	28	122	7,510		
September.....						737.2	62	7.6	24.6	1,480		
Water year 1934-35.....						100,657.7	21,000	0	276	199,700		

## Cannonball River at Breien, N. Dak.

Location.- Water-stage recorder, lat. 46°23', long. 100°56', in sec. 36, T. 134 N., R. 82 W., at bridge on State Highway 6, half a mile south of Breien.

Drainage area.- 4.066 square miles (revised).

Records available.- August 1934 to September 1935.

Extremes.- Maximum discharge during period of record, 2,920 second-feet July 12, 1935 (stage height, 6.80 feet); no flow on many days; minimum gage height, 0.00 foot Aug. 19-21, 1934.

Remarks.- Records good except those for period of ice effect, Dec. 6 to Mar. 24, and those estimated for Mar. 26, 29, Apr. 1-7, 9-12, 14, 16, 17, which are poor. Records for August and September 1934 supersede those published in Water-Supply Paper 761.

Discharge, in second-feet, Aug. 15 to Sept. 30, 1934

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	-	0.3	11	-	0.3	21	0	0.3
2	-	.3	12	-	.3	22	.3	.3
3	-	.3	13	-	.3	23	6	.3
4	-	.3	14	-	.3	24	15	.3
5	-	.3	15	0	.3	25	6	.3
6	-	.3	16	0	.3	26	1.5	.3
7	-	.3	17	0	.3	27	.7	.3
8	-	.3	18	0	.3	28	.3	.3
9	-	.3	19	0	.3	29	.5	.3
10	-	.3	20	0	.3	30	.4	.3
						31	.3	-

Note.-Mean discharge Aug. 15-31, 1.84 second-feet (run-off, 62 acre-feet); Sept. 1-30, 0.3 second-foot (run-off, 18 acre-feet).

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	0.8	0.9	0.1		0	8	30	24	18	114	1.1
2	.3	.7	.8	.1		.1	7	42	23	166	817	1.1
3	.3	.9	.7	.1		.2	6	27	21	120	166	1.1
4	.2	.9	.5	.1		.4	5	27	16	82	41	1.1
5	.1	.8	.5	.1		.6	5	26	14	1,040	27	1.1
6	.2	.8	.5	.1		.8	10	24	14	576	19	1.1
7	.2	.8	.5	.1		1.1	30	41	12	610	14	1.0
8	.2	.7	.5	.1		2.0	27	104	14	460	12	1.0
9	.2	.7	.5	.1		3.1	27	90	14	284	10	.8
10	.2	.7	.5	.1		5	28	40	18	203	9	.8
11	.2	.7	.4	0		8	29	42	2.5	1,270	6	12
12	.2	.7	.4	0		51	30	332	6	2,050	6	1.4
13	.2	.6	.4	0		188	30	614	16	822	4.9	.9
14	.2	.7	.4	0		370	27	518	12	536	4.3	.4
15	.2	1.0	.4	0		968	24	188	28	406	3.7	.4
16	18	1.1	.4	0		574	24	160	931	284	3.1	.4
17	178	.8	.3	0		352	26	157	1,060	188	10	.4
18	42	.8	.3	0		218	28	60	776	136	3.4	.4
19	21	.8	.3	0		117	26	53	424	115	3.7	.4
20	15	.9	.3	0		60	24	58	501	94	1.4	.4
21	9	.9	.3	0		51	21	49	370	75	.6	.4
22	5	.8	.2	0		47	18	44	188	78	.5	.4
23	3.7	.8	.2	0		49	16	47	117	60	.6	.4
24	2.5	.8	.2	0		55	17	36	75	90	.6	.4
25	2.2	1.1	.2	0		64	23	28	53	49	.6	.4
26	1.7	1.1	.2	0		40	25	25	34	30	1.0	.4
27	1.2	1.1	.2	0		14	25	24	28	24	1.0	.4
28	1.0	1.0	.2	0		32	97	23	22	18	1.1	.4
29	1.0	.9	.2	0		28	82	28	19	14	1.2	.4
30	1.0	.8	.1	0		25	40	28	14	11	1.2	.4
31	.9	-	.1	0		9	-	22	-	9	1.2	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						306.4	178	0.1	9.88	608		
November.....						25.2	1.1	.6	.84	50		
December.....						11.7	.9	.1	.38	23		
Calendar year												
January.....						1.0	.1	0	.03	2.0		
February.....						0	0	0	0	0		
March.....						3,233.3	868	0	104	6,410		
April.....						785	97	5	26.2	1,560		
May.....						2,837	614	22	91.5	5,530		
June.....						4,646.5	1,060	2.5	155	9,220		
July.....						9,918	2,050	9	320	19,670		
August.....						1,285.1	817	.5	41.5	2,580		
September.....						31.2	12	.4	1.04	62		
Water year 1934-35.....						23,080.7	2,050	0	63.2	45,780		

## Grand River near Wakpala, S. Dak.

Location.- Wire-weight gage, lat. 45°35', long. 100°30', in sec. 26, T. 19 N., R. 29 E., at bridge on U. S. Highway 12, 5 miles south of Wakpala. Prior to Nov. 3, 1934, chain gage at same site and datum.

Drainage area.- 5,664 square miles (revised).

Records available.- August 1928 to September 1935, September 1911 to March 1918 at site 5 miles upstream.

Extremes.- Maximum discharge observed during year, 2,680 second-feet July 24 (gage height, 7.08 feet); no flow on many days.  
1911-18, 1928-35: Maximum discharge, 7,130 second-feet June 17, 19, 1915 (gage height, 18.0 feet, former site); no flow on many days.

Remarks.- Records good except those for period of ice effect, Nov. 17 to Mar. 11, and those estimated for July 26, 27. Sept. 1-6. which are fair.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	4.8	0.9		0.1	0.3	177	82	33	149	244	0.6
2	0	3.8	.9		.1	.3	156	72	87	58	158	.5
3	0	2.9	.8		.2	.3	140	50	67	44	127	.4
4	0	2.2	.7		.2	.4	140	63	54	158	20	.3
5	0	1.6	.6		.2	.5	140	88	1,610	555	17	.2
6	0	1.6	.5		.2	.5	140	123	820	231	14	.1
7	0	1.6	.4		.2	.5	64	187	555	352	12	0
8	0	1.4	.3		.2	.7	31	149	323	352	10	0
9	0	1.4	.2		.2	.8	25	123	231	244	9	0
10	0	1.3	.1		.2	1.0	54	99	187	123	7	0
11	0	1.3	.1		.3	30	89	78	140	198	7	0
12	0	1.3	.1		.3	146	91	54	115	231	7	0
13	0	1.3	.1		.3	156	96	98	131	244	6	0
14	0	1.3	.1		.3	1,190	102	198	92	296	6	0
15	0	1.3	.1		.3	1,140	115	123	123	123	4.5	0
16	0	1.3	.1		.3	1,000	81	86	140	91	3.6	0
17	0	1.2	.1		.3	455	64	78	625	81	3.6	0
18	22	1.2	.1		.3	395	48	63	590	67	3.6	0
19	283	1.2	.1		.3	282	47	49	1,040	57	3.6	0
20	663	1.2	.1		.3	309	45	39	910	48	5	0
21	177	1.1	.1		.3	352	37	35	520	46	5	0
22	97	1.1	.1		.4	296	33	29	366	44	4.5	0
23	65	1.1	.1		.4	244	27	24	256	48	4.5	0
24	44	1.1	.1		.4	198	24	21	198	2,610	4.1	0
25	23	1.1	0		.3	177	25	19	177	865	3.6	0
26	14	1.0	0		.3	177	34	52	177	500	2.4	0
27	12	1.0	0		.3	177	49	44	487	200	1.6	0
28	10	1.0	0		.3	177	92	35	208	1,240	1.3	0
29	8	1.0	0		-	177	91	28	208	865	1.0	0
30	7	1.0	0		-	177	88	24	198	660	.9	0
31	6	-	0		-	177	-	28	-	455	.8	-

  

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,431	663	0	46.2	2,840
November.....	45.7	4.3	1.0	1.52	91
December.....	6.8	.9	0	.22	13
Calendar year 1934.....	26,659	1,170	0	73.0	52,870
January.....	0	0	0	0	0
February.....	7.5	.4	.1	.27	15
March.....	7,437.3	1,190	.3	240	14,750
April.....	2,327	177	24	77.6	4,620
May.....	2,231	198	19	72.0	4,430
June.....	10,638	1,610	33	355	21,100
July.....	11,237	2,610	44	352	22,290
August.....	597.5	244	.8	19.3	1,190
September.....	2.1	.6	0	.07	4.2
Water year 1934-35.....	35,960.7	2,610	0	98.5	71,340

## Moreau River at Promise, S. Dak.

Location.- Water-stage recorder, lat. 45°20', long. 100°36', in sec. 17, T. 16 N., R. 29 E., half a mile below Virgin Creek and three-quarters of a mile north of Promise. Prior to Nov. 8, 1934, chain gage at same site and datum.

Drainage area.- 5,223 square miles (revised).

Records available.- August 1928 to September 1935.

Extremes.- Maximum discharge during year, 4,200 second-feet June 6 (gage height, 9.45 feet); no flow on many days.  
1928-35: Maximum discharge observed, 13,400 second-feet Sept. 17, 1928; maximum gage height observed, 16.60 feet May 26, 1933; no flow on many days.

Remarks.- Records good. Backwater from ice Nov. 24 to Mar. 2.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	5				0	57	117	152	60	95	
2	0	8					262	95	202	48	70	
3	0	5				7	276	80	893	39	50	
4	0	3.6				155	102	63	3,360	35	42	
5	0	3.6				322	102	51	3,310	42	39	
6	0	2.9				576	88	48	3,230	117	37	
7	0	1.8				475	68	42	1,590	65	36	
8	0	1.8				225	50	35	1,020	48	34	
9	0	1.7				35	56	29	644	33	27	
10	0	1.5				27	213	24	347	1,580	20	
11	0	1.4				25	442	19	225	1,060	13	
12	0	1.2				26	317	15	151	442	9	
13	0	1.1				27	250	11	143	303	3.6	
14	0	1.0				289	181	10	117	250	.1	
15	0	.9				475	102	9	110	225	0	
16	0	.8				317	78	7	117	191	0	
17	3.1	.8				394	70	7	102	134	0	
18	41	.7				748	57	7	491	110	0	
19	14	.7				508	83	7	783	88	0	
20	6	.7				542	102	16	475	71	0	
21	2.2	.7				610	88	19	748	99	0	
22	1.5	.7				394	75	9	783	928	0	
23	1.5	.7				303	62	4.1	475	347	0	
24	1.0	.5				225	55	16	303	134	0	
25	.8	.5				181	71	20	213	75	0	
26	1.0	.4				143	347	19	202	54	0	
27	21	.3				126	576	25	143	22	0	
28	17	.2				110	237	30	102	117	0	
29	15	.1				102	162	85	85	276	0	
30	13	0				95	143	76	72	181	0	
31	8	-				88	-	78	-	126	0	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						146.1	41	0	4.71	290		
November.....						49.4	8	0	1.65	98		
December.....						0	0	0	0	0		
Calendar year 1934.....						7,493.1	498	0	20.5	14,870		
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						7,550.1	748	0	244	14,980		
April.....						4,782	576	50	159	9,480		
May.....						1,073.1	117	4.1	34.6	2,130		
June.....						20,618	3,360	72	627	40,600		
July.....						7,301	1,880	22	236	14,480		
August.....						475.7	95	0	15.3	944		
September.....						0	0	0	0	0		
Water year 1934-35.....						41,995.4	3,360	0	115	83,300		

## Cheyenne River near Wasta, S. Dak.

Location.- Chain gage, lat. 44°5', long. 102°24', in sec. 2, T. 1 N., R. 14 E., at bridge on U. S. Highway 16, 3 miles east of Wasta. Zero of gage is about 2,263.4 feet above mean sea level.

Drainage area.- 12,800 square miles (revised).

Records available.- July 1914 to June 1915, August 1928 to June 1932, March 1934 to September 1935.

Extremes.- Maximum discharge observed during year, 43,000 second-feet June 1 (gage height, 10.60 feet); minimum discharge, 21 second-feet Jan. 22, 23; minimum gage height, 1.30 feet Dec. 2.  
1914-15, 1928-32, 1934-35: Maximum discharge observed, 46,300 second-feet May 6, 1932 (gage height, 11.28 feet); minimum, 15 second-feet July 26, 27, 1931 (gage height, 0.92 foot).

Remarks.- Records good except those for periods of ice effect, Dec. 3 to Mar. 2, Mar. 5, 6, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	54	138	60	52	168	500	105	620	39,000	580	144	55
2	51	132	45	60	205	465	100	705	29,700	540	126	62
3	51	138	45	60	225	382	138	540	9,500	540	105	64
4	54	144	40	60	248	500	540	275	4,760	458	100	74
5	54	138	40	60	270	580	350	234	3,380	406	e7	e1
6	54	126	45	60	270	485	995	141	2,400	458	66	70
7	48	120	45	60	295	290	540	174	2,100	406	72	68
8	48	115	45	60	295	406	840	154	1,750	310	63	81
9	51	110	45	68	295	620	995	141	1,540	260	57	77
10	51	105	52	68	295	486	3,020	123	1,340	580	48	70
11	45	126	52	68	295	370	1,540	118	1,280	620	45	74
12	51	120	60	68	295	350	2,550	108	1,160	280	48	62
13	51	120	60	60	320	330	2,550	112	1,340	270	45	58
14	54	120	68	52	320	300	1,280	108	1,160	225	51	51
15	51	115	75	45	320	252	840	115	1,340	193	45	51
16	75	115	75	40	320	217	750	123	995	178	43	51
17	750	115	75	40	320	252	750	102	2,100	150	41	48
18	2,700	115	75	35	320	243	540	118	3,200	157	43	48
19	1,960	105	68	35	320	234	365	5,580	2,550	178	48	50
20	1,050	110	68	32	320	225	266	8,500	3,380	171	45	50
21	750	120	85	25	360	225	221	4,500	2,550	193	46	50
22	430	113	85	21	320	171	221	6,420	1,620	1,540	48	50
23	340	115	68	21	320	164	182	4,020	1,280	451	48	51
24	261	115	52	25	345	157	147	2,250	1,100	360	48	51
25	300	120	52	32	345	150	147	1,610	995	320	41	57
26	340	132	45	32	345	144	4,760	1,100	1,160	234	48	48
27	334	120	45	45	370	138	1,410	940	1,340	171	138	48
28	208	115	45	68	400	126	3,330	705	1,280	157	100	51
29	171	110	45	95	-	105	2,550	3,380	1,160	138	75	48
30	154	75	45	108	-	105	1,160	6,700	705	105	60	63
31	144	-	45	135	-	138	-	6,700	-	150	57	-

  

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	10,739	2,700	48	546	0.027	0.03	21,300
November.....	3,562	144	75	119	.0093	.01	7,070
December.....	1,750	85	40	56.5	.0044	.005	3,470
Calendar year .....							
January.....	1,690	135	21	54.5	.0043	.005	3,350
February.....	8,481	400	168	303	.024	.02	16,820
March.....	9,111	620	105	294	.023	.03	18,070
April.....	33,232	4,760	100	1,106	.087	.10	65,910
May.....	56,416	8,500	102	1,820	.142	.16	111,900
June.....	127,365	39,000	705	4,246	.332	.37	252,600
July.....	10,799	1,540	105	348	.027	.03	21,420
August.....	2,031	144	41	65.5	.0051	.006	4,030
September.....	1,762	81	48	58.7	.0046	.005	3,500
Water year 1934-35.....	266,938	39,000	21	731	.057	.77	529,400

## Cheyenne River near Eagle Butte, S. Dak.

Location.- Water-stage recorder, lat. 44°42', long. 101°13', in sec. 31, T. 9 N., R. 24 E., at bridge on State Highway 63 half a mile above Hermaphrodite Creek and 21 miles south of Eagle Butte. Prior to Nov. 23, 1934, chain gage at same site and datum.

Drainage area.- 24,500 square miles (revised).

Records available.- August 1928 to September 1935.

Extremes.- Maximum discharge during year, 51,600 second-feet June 2 (gage height, 10.80 feet); minimum discharge, about 22 second-feet Jan. 23; minimum gage height, 1.36 feet Jan. 19.

1928-35: Maximum discharge observed, 104,000 second-feet May 24, 1933 (gage height, 15.00 feet); minimum discharge, that of Jan. 23, 1935; minimum gage height, that of Jan. 19, 1935.

Remarks.- Records good except those for period of ice effect Nov. 25 to Mar. 11, which are poor. Discharge estimated July 6, 21.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	136	253	125	115	137	232	175	1,270	11,500	1,090	203	145
2	125	267	125	115	137	282	148	1,250	46,800	1,090	208	133
3	122	214	125	123	151	342	151	970	27,400	796	214	122
4	122	248	125	123	165	557	145	750	10,500	786	198	114
5	120	234	125	135	165	416	157	599	7,150	724	171	116
6	109	234	125	135	191	378	202	488	6,770	737	151	124
7	93	230	137	135	210	342	386	401	3,950	760	139	133
8	91	226	137	135	253	378	536	536	3,070	689	139	136
9	125	218	137	135	277	416	730	282	2,670	614	139	133
10	113	226	137	135	305	664	970	258	2,370	543	139	130
11	102	218	132	135	336	908	2,030	230	2,180	504	126	150
12	96	214	132	135	371	1,250	2,280	210	2,000	712	122	126
13	94	206	132	135	451	2,550	2,370	206	1,910	657	122	126
14	85	214	132	130	497	2,280	2,550	202	2,000	603	122	128
15	83	214	132	107	599	1,250	1,790	198	1,730	436	110	122
16	120	214	132	96	708	1,320	1,180	191	1,910	341	103	114
17	158	218	132	78	788	2,230	730	191	1,550	341	112	110
18	2,910	222	132	70	788	1,470	788	214	1,550	208	124	105
19	2,030	222	132	45	730	1,250	675	243	5,510	219	120	105
20	2,110	230	132	34	651	1,470	515	2,370	4,690	240	124	105
21	1,390	222	132	30	433	1,110	371	6,770	3,730	248	126	101
22	1,040	222	120	26	356	908	277	4,690	3,070	257	139	99
23	788	218	115	22	293	845	226	4,950	2,470	257	145	99
24	557	210	94	22	202	730	185	4,190	2,570	1,310	133	96
25	442	188	76	24	185	588	253	2,910	2,370	736	130	90
26	371	172	68	32	202	451	3,510	2,370	2,000	624	114	86
27	330	157	76	42	243	336	5,510	1,870	1,550	504	110	86
28	324	143	85	60	293	293	3,110	1,550	2,090	398	142	87
29	336	130	105	67	-	234	3,110	1,390	1,640	290	148	89
30	277	118	115	92	-	206	2,550	2,280	1,310	245	160	89
31	258	-	115	113	-	188	-	4,190	-	224	145	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	15,057	2,910	83	486	0.020	0.02	29,870
November	8,302	267	118	210	0.0066	.01	12,500
December	3,719	137	68	120	0.0049	.006	7,380
Calendar year 1934	109,937	2,910	67	301	-	-	218,100
January	2,781	135	22	89.7	.0037	.004	5,520
February	10,097	788	137	361	.015	.02	20,030
March	25,974	2,550	188	836	.034	.04	51,520
April	37,610	5,510	145	1,254	.051	.06	74,600
May	48,599	6,770	191	1,568	.064	.07	96,390
June	167,810	46,800	1,310	5,594	.228	.25	332,800
July	17,133	1,310	208	553	.023	.03	33,980
August	4,378	214	103	141	.0058	.007	8,680
September	3,379	145	86	113	.0046	.005	6,700
Water year 1934-35	342,839	46,800	22	939	.038	.52	680,000

## Rapid Creek at Big Bend, S. Dak.

Location.- Water-stage recorder, lat. 44°4', long. 103°24', in sec. 9, T. 1 N., R. 6 E., at Big Bend.

Drainage area.- 332 square miles.

Records available.- March 1915 to September 1917, April 1932 to September 1935.

Extremes.- Maximum discharge during year, 446 second-feet June 1 (gage height, 2.65 feet); minimum probably occurred during period of no record.  
1932-35: Maximum discharge, 1,570 second-feet May 24, 1933 (gage height, 5.20 feet); minimum, 4 second-feet Dec. 9, 1932.

Remarks.- Records good above 50 second-feet and fair below. No records Dec. 8 to Mar. 13. Flow regulated by power plant 100 feet above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	28	12			-	27	28	345	94	53	35
2	25	29	29			-	28	37	307	90	60	37
3	24	30	28			-	26	39	212	81	56	37
4	24	30	29			-	36	39	165	78	49	34
5	24	29	17			-	24	36	149	72	46	33
6	23	29	30			-	38	34	138	66	46	32
7	23	29	25			-	37	37	125	63	41	32
8	23	29	-			-	38	41	107	65	36	32
9	22	29	-			-	41	39	95	69	38	32
10	24	29	-			-	39	36	108	60	36	30
11	24	27	-			-	36	35	160	59	34	29
12	24	26	-			-	34	36	119	55	32	28
13	24	27	-			-	45	37	105	58	31	28
14	24	27	-			43	48	41	95	52	30	26
15	24	27	-			52	44	41	98	51	29	26
16	36	27	-			44	39	41	123	49	31	25
17	39	27	-			27	40	40	166	47	35	25
18	36	26	-			42	39	42	175	50	36	25
19	32	26	-			34	38	60	170	71	35	25
20	34	29	-			40	38	72	163	70	36	25
21	36	28	-			38	36	72	156	68	33	25
22	34	20	-			38	36	70	136	81	31	25
23	31	16	-			37	36	64	123	66	30	25
24	30	22	-			37	41	60	200	58	28	25
25	29	23	-			37	44	57	192	58	28	25
26	29	25	-			39	41	56	151	52	29	25
27	29	14	-			32	40	53	136	49	29	26
28	28	16	-			20	39	55	123	45	29	28
29	29	20	-			32	37	62	110	41	29	28
30	28	11	-			30	37	70	95	45	29	27
31	28	-	-			33	-	117	-	46	31	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						365	39	22	27.9	1,720		
November.....						755	30	11	26.2	1,500		
December 1-7.....						158	30	12	22.6	313		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March 14-31.....						655	52	20	36.4	1,500		
April.....						1,121	48	24	37.4	2,220		
May.....						1,547	117	28	49.9	3,070		
June.....						4,537	345	96	151	9,000		
July.....						1,902	94	41	61.4	3,770		
August.....						1,116	60	25	36.0	2,210		
September.....						855	37	25	28.5	1,700		
Water year .....												



## Belle Fourche River near Belle Fourche, S. Dak.

Location.- Staff gage, lat. 44°41', long. 103°50', in sec. 2, T. 8 N., R. 2 E., at diversion dam of Belle Fourche irrigation project, 1½ miles below Belle Fourche.

Drainage area.- 4,310 square miles.

Records available.- May to November 1906, January 1912 to September 1935.

Average discharge.- 24 years (1911-35), 420 second-feet.

Extremes.- Maximum discharge during year, 1,090 second-feet June 2; minimum mean daily discharge, 2 second-feet several days in July and August. 1912-35: Maximum discharge, 22,400 second-feet Apr. 9, 1924; no flow for several days in 1914 and 1919.

Remarks.- Diversions for irrigation above station. Flow regulated by Belle Fourche Reservoir, capacity 203,770 acre-feet. Records include amount diverted at Belle Fourche diversion dam. Records furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	105	140	138	140	186	150	147	118	633	82	49	64
2	102	90	120	150	204	145	134	95	955	70	37	61
3	101	87	129	143	174	149	143	109	576	57	23	53
4	120	90	140	144	178	215	145	119	533	37	8	8
5	108	90	139	151	169	161	155	118	462	32	4	8
6	101	90	130	163	154	401	156	120	328	26	3	8
7	100	85	144	165	156	257	157	125	324	45	2	8
8	93	69	152	165	129	345	172	152	263	42	2	9
9	95	69	153	163	128	204	159	132	207	37	2	10
10	113	85	161	140	128	167	212	106	212	35	2	15
11	119	88	147	139	128	185	189	78	269	28	2	10
12	99	87	148	141	150	199	194	114	256	15	2	9
13	86	84	151	78	127	337	287	130	332	10	2	9
14	66	83	150	76	126	446	205	115	565	5	2	8
15	101	84	161	108	126	366	170	115	316	5	2	6
16	101	85	161	144	124	365	145	114	258	5	3	6
17	101	86	153	124	121	449	143	107	363	3	2	17
18	101	88	142	104	144	327	141	119	244	3	2	10
19	101	105	139	62	127	237	141	227	201	2	2	23
20	108	108	141	77	129	280	134	336	181	2	3	22
21	117	103	141	94	135	219	130	185	181	159	2	24
22	101	100	148	111	134	195	136	171	162	434	2	28
23	101	96	141	117	143	181	132	159	164	186	2	29
24	100	95	136	131	123	175	128	112	161	80	2	40
25	87	97	102	164	130	182	124	154	183	60	2	41
26	96	96	94	193	119	170	135	141	1e7	53	2	41
27	98	97	99	183	123	150	130	142	175	56	2	44
28	98	94	74	186	127	145	130	138	127	40	2	41
29	95	94	133	188	-	143	130	175	119	49	4	38
30	95	107	146	187	-	145	114	139	103	37	4	39
31	95	-	144	198	-	150	-	156	-	31	6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	3,103	120	66	100	6,150
November.....	2,762	140	69	92.1	5,480
December.....	4,247	161	74	137	8,420
Calendar year 1934.....	40,033	410	2	110	79,400
January.....	4,328	198	62	140	8,580
February.....	3,921	204	119	140	7,780
March.....	7,241	449	143	234	14,360
April.....	4,608	287	114	154	9,140
May.....	4,318	336	78	139	8,560
June.....	9,037	953	103	301	17,920
July.....	1,726	434	2	55.7	3,420
August.....	184	49	2	5.9	365
September.....	738	64	6	24.6	1,460
Water year 1934-35.....	46,213	953	2	127	91,640

## Belle Fourche River near Elm Springs, S. Dak.

Location.- Chain gage, lat. 44°22', long. 102°33', in Lot 1, sec. 29 (revised), T. 5 N., R. 13 E., at county highway bridge 6 miles north of Elm Springs.

Drainage area.- 7,210 square miles (revised).

Records available.- August 1928 to June 1932, March 1934 to September 1935.

Extremes.- Maximum discharge observed during year, 32,500 second-feet June 1 (gage height, 11.15 feet); minimum discharge, about 7 second-feet Jan. 17-26; minimum gage height, 0.92 feet Mar. 12.  
1928-32, 1934-35: Maximum discharge observed, 33,500 second-feet June 3, 1929 (gage height, 11.3 feet), minimum discharge, that of Jan. 17-26, 1935; minimum gage height, that of Mar. 12, 1935.  
Maximum stage known, 21.8 feet in May 1927.

Remarks.- Records good except those for period of ice effect, Nov. 26 to Mar. 13, and those estimated for Nov. 12, 18, June 29, Aug. 26 to Sept. 1, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	63	53	65	20	46	97	38	43	18,000	44	94	75
2	55	55	55	20	55	86	28	50	4,280	56	105	68
3	48	57	46	20	65	76	41	45	4,000	76	111	111
4	45	61	46	20	65	56	59	41	1,230	64	111	124
5	41	57	46	25	66	55	52	40	505	100	59	117
6	134	65	46	25	56	46	41	40	520	136	73	124
7	88	59	46	25	97	38	41	41	247	150	94	124
8	75	57	46	25	65	25	38	38	143	130	89	117
9	63	53	46	32	46	20	75	37	156	124	73	105
10	52	57	46	32	32	15	250	33	212	136	73	100
11	45	61	46	38	25	25	377	34	230	120	73	117
12	48	63	46	38	25	15	366	38	170	102	83	111
13	41	65	46	32	25	55	377	35	185	108	81	105
14	40	63	46	25	25	158	216	40	124	114	100	108
15	38	65	46	11	75	638	117	52	114	133	130	83
16	310	61	46	11	110	1,040	112	84	64	127	105	81
17	2,280	149	46	7	137	472	67	71	68	146	100	83
18	417	103	55	7	137	35	61	77	420	139	117	83
19	208	57	55	7	137	35	52	84	225	127	136	78
20	140	71	55	7	137	233	43	390	170	124	178	73
21	114	57	55	7	137	259	33	905	163	127	170	78
22	95	55	75	7	137	224	33	354	127	124	160	66
23	131	71	46	7	122	178	32	242	114	124	136	50
24	86	86	38	7	110	107	34	181	407	150	114	54
25	69	75	25	7	110	97	67	112	193	156	89	59
26	65	86	20	7	110	79	212	110	120	143	85	64
27	61	97	20	11	110	55	69	102	71	105	90	68
28	55	97	20	11	97	28	46	75	56	94	95	73
29	55	86	20	15	-	46	35	67	43	78	90	59
30	102	75	15	20	-	23	29	75	30	59	65	59
31	65	-	15	32	-	35	-	88	-	83	80	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	5,129	2,280	38	165	0.023	0.03	10,170
November.....	2,119	149	53	70.6	.0098	.01	4,200
December.....	1,324	75	15	42.7	.0059	.007	2,650
Calendar year .....							
January.....	558	38	7	18.0	.0025	.003	1,110
February.....	2,388	137	25	85.3	.012	.01	4,740
March.....	4,359	1,040	15	141	.020	.02	8,650
April.....	3,041	377	28	101	.014	.02	6,030
May.....	3,625	905	33	117	.016	.02	7,190
June.....	32,687	18,000	30	1,090	.151	.17	64,830
July.....	3,499	155	44	113	.016	.02	6,940
August.....	3,209	178	73	104	.014	.02	6,360
September.....	2,626	124	50	87.5	.012	.01	5,210
Water year 1934-35.....	64,664	18,000	7	177	.025	.34	128,100

## Bad River near Fort Pierre, S. Dak.

Location.- Wire-weight gage, lat. 44°19'40", long. 100°23', in NW¼ sec. 10, T. 4 N., R. 31 E., at highway bridge 2½ miles south of Fort Pierre. Zero of gage is about 1,427.83 feet above mean sea level. Prior to Nov. 24, 1934, chain gage at same site and datum.

Drainage area.- 3,107 square miles (revised).

Records available.- August 1928 to June 1932, March 1934 to September 1935.

Extremes.- Maximum discharge during year, about 4,480 second-feet Apr. 26 (gage height, 12.80 feet, from flood marks); no flow on many days.  
1928-32, 1934-35: Maximum discharge observed, 12,800 second-feet Apr. 25, 1929 (gage height, 21.18 feet); no flow on many days.  
Maximum stage known, 30.89 feet in 1927, as shown by a well-defined high-water mark (estimated discharge, 35,000 second-feet).

Remarks.- Records fair except those for periods of ice effect, Feb. 5-8, 12-15, 19-27, Mar. 4-8, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0			0	41	1.4	173	96	1.2	2.3	0.4
2	0	0			10	61	1.3	110	69	1.5	1.8	.2
3	0	0			173	217	1.0	71	1,840	.7	1.8	0
4	0	0			134	267	1.2	51	1,210	.2	.8	0
5	0	0			173	319	1.4	38	574	.3	.2	0
6	0	0			229	217	1.4	32	184	0	0	110
7	0	0			293	206	3.2	27	102	0	0	110
8	0	0			229	229	2.6	20	65	.1	0	34
9	184	0			126	229	1.26	16	48	0	0	15
10	6	0			67	229	1,210	9	35	0	0	7
11	.7	0			48	206	1,330	241	28	0	0	2.9
12	0	0			32	126	1,210	23	20	0	0	1.9
13	0	0			25	102	1,590	12	16	0	0	0
14	0	0			43	117	1,290	8	12	0	0	0
15	0	0			63	102	683	6	8	0	0	0
16	12	0			70	162	267	11	8	0	0	0
17	126	0			33	88	152	10	7	0	0	0
18	52	0			20	64	76	10	7	0	0	0
19	22	0			28	34	53	229	24	0	0	0
20	803	0			30	22	31	514	58	0	0	0
21	1,590	0			37	12	18	2,080	69	0	0	0
22	267	0			18	9	10	1,850	24	0	0	0
23	53	0			12	7	6	1,080	13	0	0	0
24	28	0			16	5	4.1	374	7	0	514	0
25	28	0			20	3.5	134	152	6	0	88	0
26	7	.7			20	1.9	3,830	134	4.4	117	32	0
27	1.0	6			26	2.0	2,030	64	3.2	53	10	0
28	0	.2			34	1.7	1,980	47	2.0	25	7	0
29	0	.1			-	1.3	966	36	1.7	13	3.5	0
30	0	0			-	1.3	374	31	1.4	7	1.4	0
31	0	-			-	1.1	-	26	-	3.8	.7	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						3,179.7	1,590	0	103		6,330	
November.....						7.0	0	0	.23		14	
December.....						0	0	0	0		0	
Calendar year .....												
January.....						0	0	0	0		0	
February.....						2,009	293	0	71.8		3,980	
March.....						3,083.8	319	1.1	99.5		6,120	
April.....						17,383.6	3,830	1.0	579		34,480	
May.....						7,484	2,080	6	241		14,840	
June.....						4,442.7	1,940	1.4	148		8,810	
July.....						223.6	117	0	7.21		444	
August.....						663.5	514	0	21.4		1,320	
September.....						281.4	110	0	9.38		568	
Water year 1934-35.....						38,758.3	3,830	0	106		76,880	

## White River at Crawford, Nebr.

Location.- Chain gage, lat. 42°41', long. 103°25', in sec. 9, T. 31 N., R. 52 W., 1 mile southwest of Crawford.

Drainage area.- 295 square miles.

Records available.- July to December 1897, February 1931 to September 1935.

Extremes.- Maximum discharge during year, 452 second-feet June 18 (gage height, 6.02 feet); minimum mean daily discharge, 7 second-feet Aug. 11, 15, 1931-35; Maximum discharge, 1,080 second-feet (slope measurement) Aug. 28, 1933 (gage height, 10.7 feet, present datum); minimum mean daily discharge, 7 second-feet July 20-23, Aug. 2-4, 1934, Aug. 11, 15, 1935.

Remarks.- Records fair. Discharge estimated Jan. 2 to Feb. 14, Feb. 25-28, on basis of two discharge measurements and temperature records. Small diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	21	22	24	32	32	34	29	38	29	15	34
2	17	20	26	26	32	29	30	28	34	27	13	19
3	17	20	24	27	33	28	32	26	32	24	11	15
4	18	21	23	25	34	48	34	28	31	30	10	15
5	18	21	20	29	31	40	34	25	30	24	9	14
6	18	21	27	33	25	31	34	25	36	24	9	14
7	18	21	15	35	22	32	30	25	33	24	9	14
8	19	21	27	35	20	31	29	24	30	160	9	21
9	20	21	27	34	19	31	30	24	28	22	10	16
10	19	21	26	33	18	32	29	24	26	18	9	14
11	18	22	27	33	20	32	34	23	27	18	7	14
12	18	22	26	30	22	32	37	30	28	18	8	13
13	18	22	28	28	23	34	36	33	26	24	9	13
14	18	22	27	30	23	32	34	32	26	18	8	13
15	19	22	28	28	23	32	32	31	115	16	7	12
16	21	25	29	31	26	31	32	30	396	16	8	12
17	21	22	26	33	28	32	31	30	226	18	10	12
18	20	24	28	27	26	31	31	38	90	19	11	13
19	20	25	28	20	25	31	28	52	38	18	10	13
20	20	26	30	15	30	31	26	47	36	16	9	14
21	20	26	27	14	30	31	26	34	38	16	9	13
22	19	24	24	17	27	30	28	33	34	20	8	12
23	19	23	22	20	27	29	28	30	32	18	8	12
24	19	23	21	23	22	28	46	30	32	16	9	13
25	19	25	24	29	20	30	113	29	32	16	8	13
26	19	24	22	26	18	29	60	29	32	15	9	13
27	19	27	22	27	17	28	42	31	30	13	9	15
28	20	24	22	28	24	27	35	38	36	15	9	15
29	20	24	25	30	-	28	32	36	30	15	10	14
30	21	24	26	31	-	30	30	30	30	16	9	14
31	20	-	24	32	-	31	-	38	-	14	11	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				599		27	17	19.3	1,190			
November.....				684		27	20	22.8	1,360			
December.....				780		30	18	25.2	1,550			
Calendar year 1934.....				7,246		39	7	19.9	14,380			
January.....				853		36	14	27.5	1,690			
February.....				699		34	17	25	1,390			
March.....				973		48	27	31.4	1,930			
April.....				1,075		113	26	35.8	2,130			
May.....				981		62	23	31	1,910			
June.....				1,650		396	26	55	3,270			
July.....				734		180	13	23.7	1,460			
August.....				288		13	7	9.3	571			
September.....				439		34	12	14.6	871			
Water year 1934-35.....				9,735		396	7	26.7	19,320			

## White River near Chadron, Nebr.

Location.- Water-stage recorder, lat. 42°50', long. 103°07', in sec. 18, T. 33 N., R. 49 W., 2 miles below mouth of Dead Horse Creek and 6 miles west of Chadron. Prior to Dec. 8, 1934, chain gage at same site and datum.

Drainage area.- 750 square miles.

Records available.- October 1931 to September 1935.

Extremes.- Maximum discharge during year, 2,040 second-feet (slope measurement) Apr. 26 (gage height, 17.12 feet); minimum mean daily discharge, 1 second-foot Aug. 23, 25, Sept. 25, 26.  
1931-35: Maximum discharge, that of Apr. 26, 1935; no flow Aug. 5-8, Sept. 5-9, 1932, and July 6, 7, 1934.

Remarks.- Records fair. Discharge estimated Dec. 17 to Feb. 22 on the basis of two discharge measurements and temperature records. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4	6	7			36	5	19	437	46	3	7
2	4	5	9			50	7	22	159	47	3	90
3	4	5	16			55	9	21	97	88	3	20
4	4	4	14			72	9	21	77	38	3	10
5	4	4	11			244	10	21	69	14	3	8
6	4	4	11		25	117	11	20	77	12	3	5
7	4	4	11			104	12	19	140	199	2	4
8	5	5	7			96	12	19	84	235	3	3
9	5	5	9			175	13	19	86	199	3	3
10	5	5	9			122	14	19	57	167	3	3
11	8	3	9			88	14	19	56	130	3	3
12	7	3	9		*10	65	29	18	58	107	2	3
13	7	3	9			52	192	17	56	136	6	3
14	7	4	9			31	183	16	50	96	8	3
15	7	4	15	*7		15	126	15	48	42	8	2
16												
17	22	4	13			13	86	15	124	19	6	2
18	38	4			18	12	57	14	140	12	6	2
19	11	4				12	34	23	265	10	5	2
20	6	4				10	16	659	162	10	4	3
21	6	4				9	8	1,080	122	9	3	3
22	5	5	15			8	8	361	71	7	2	3
23	4	7				7	7	128	63	7	2	2
24	3	8			33	6	7	83	57	7	1	2
25	3	7			26	5	123	58	51	8	2	2
26	2	9			28	4	601	44	49	8	1	1
27	4	7			20	4	1,520	38	47	7	2	1
28	4	8			16	4	618	34	46	5	3	2
29	4	9	10		22	4	87	101	46	4	2	2
30	7	6			"	3	38	227	52	4	2	3
31	4	-			"	4	25	192	44	4	3	2
						4	-	159	-	4	4	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						207	38	2	6.7	411		
November.....						154	9	3	5.1	305		
December.....						361	-	-	11.6	716		
Calendar year 1934.....						5,389.8	615	0	14.8	10,690		
January.....						341	"	"	11	676		
February.....						610	"	"	21.8	1,210		
March.....						1,433	244	3	46.2	2,840		
April.....						3,679	1,520	5	129	7,690		
May.....						3,499	1,080	14	113	6,940		
June.....						2,871	437	44	95.7	5,690		
July.....						1,679	233	4	54.2	3,330		
August.....						104	8	1	3.4	206		
September.....						199	90	1	6.6	395		
Water year 1934-35.....						15,337	1,520	1	42.0	30,410		

\*Discharge measurement.

## White River near Oacoma, S. Dak.

Location.- Water-stage recorder, lat. 43°44', long. 99°28', in NE $\frac{1}{4}$  sec. 17 (revised), T. 103 N., R. 72 W., at bridge on State Highway 47, 6 miles southwest of Oacoma.

Drainage area.- 10,200 square miles (revised).

Records available.- August 1928 to September 1935.

Extremes.- Maximum discharge during year, 15,800 second-feet June 2 (gage height, 7.55 feet); minimum, 5 second-feet Sept. 5 (gage height, 0.48 foot).  
1928-35: Maximum discharge, that of June 2, 1935; minimum, that of Sept. 5, 1935.

Remarks.- Records good except those for periods of ice effect, Dec. 4 to Feb. 17, Feb. 26 to Mar. 2, and those estimated for May 13-18, June 14, 15, 17, 18, July 3-6, Aug. 12-17, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	123	116	18	30	170	131	1,710	1,900	728	380	6
2	30	118	89	14	30	187	131	1,360	9,500	658	338	8
3	34	109	48	16	45	316	143	1,360	6,160	600	262	6
4	32	99	38	16	53	904	154	1,360	3,680	450	226	7
5	30	106	33	14	116	530	151	1,310	2,440	350	179	5
6	31	101	29	14	104	217	164	1,160	1,840	300	144	9
7	32	97	33	14	116	213	194	803	1,710	285	218	879
8	32	95	33	14	116	289	206	623	1,280	258	137	1,630
9	30	99	29	14	129	1,360	316	523	1,060	911	78	523
10	32	93	32	14	129	602	957	463	926	968	64	231
11	34	89	37	18	129	660	4,400	436	968	883	60	127
12	37	93	37	24	157	484	4,230	408	693	1,360	54	90
13	35	97	42	35	173	572	4,230	400	463	658	48	78
14	34	97	42	35	191	614	3,320	390	444	523	42	56
15	38	101	42	40	173	515	3,060	390	426	523	36	41
16	283	101	42	52	206	411	2,620	385	408	380	30	34
17	572	99	48	67	249	358	2,040	395	426	267	24	29
18	1,010	99	48	76	352	340	1,650	400	444	209	18	23
19	802	99	62	76	294	327	1,300	408	463	179	16	21
20	764	97	55	67	327	299	1,010	1,530	338	179	20	16
21	802	97	55	59	383	272	754	9,090	338	186	25	16
22	1,010	93	48	46	507	239	660	7,920	523	172	23	15
23	764	93	70	35	957	226	572	5,460	883	338	17	14
24	499	106	70	27	371	198	492	3,940	1,110	668	14	13
25	358	113	70	20	210	198	2,040	3,440	1,010	1,110	12	10
26	267	113	62	23	187	177	11,200	3,220	658	883	11	10
27	230	118	54	31	170	157	11,700	2,890	843	803	11	10
28	206	116	47	31	170	151	6,160	1,590	1,360	843	8	8
29	180	111	36	31	-	143	3,940	1,530	968	1,160	7	8
30	151	121	27	31	-	134	2,280	1,530	693	523	6	10
31	134	-	20	31	-	126	-	1,010	-	456	6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	8,502	1,010	29	274	0.027	0.03	16,860
November.....	5,093	123	89	103	.010	.01	6,130
December.....	1,494	116	20	48.2	.0047	.005	2,960
Calendar year 1934.....	61,066	2,720	16	167	-	-	121,100
January.....	1,003	76	14	32.4	.0032	.004	1,990
February.....	6,104	987	30	218	.021	.02	12,110
March.....	11,569	1,360	126	374	.037	.04	22,990
April.....	70,206	11,700	131	2,340	.229	.26	139,200
May.....	57,344	9,090	385	1,850	.181	.21	113,700
June.....	43,935	9,500	338	1,464	.144	.16	87,140
July.....	17,781	1,360	172	574	.056	.06	35,270
August.....	2,514	380	6	81.1	.0080	.009	4,990
September.....	3,933	1,630	5	131	.013	.01	7,800
Water year 1934-35.....	227,497	11,700	5	623	.061	.82	451,100

## Niobrara River at Dunlap, Nebr.

Location.- Staff gage, lat. 42°28', long. 102°56', on line between secs. 26 and 27, T. 29 N., R. 48 W., at Dunlap, half a mile above Cottonwood Creek.

Drainage area.- 1,550 square miles.

Records available.- February 1931 to September 1935.

Extremes.- Maximum discharge during year, 308 second-feet June 17 (gage height, 4.40 feet); minimum mean daily discharge, 3 second-feet Oct. 6, 7, July 13.  
1931-35: Maximum discharge, 1,270 second-feet Aug. 26, 1933 (gage height, 10.82 feet); minimum mean daily discharge, 1 second-foot Sept. 22, 1932, June 28-30, July 3, 1934.

Remarks.- Records fair. Discharge estimated Nov. 30 to Feb. 14, Feb. 25 to Mar. 11, on the basis of three discharge measurements and temperature records. No diversions or regulation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	6	19	55	60	72	68	67	102	245	48	25	48	
2	6	19				68	70	102	88	25	19	25	
3	6	19				66	74	102	88	19	19	29	
4	5	19				60	78	102	95	10	10	29	
5	4	19	56	62	64	58	68	102	88	4	9	30	
6	3	19				56	62	88	88	4	15	26	
7	3	19				60	68	80	88	4	9	28	
8	4	19				60	68	80	104	6	23	45	
9	4	19	57	62	64	64	74	72	91	5	29	37	
10	4	19				64	74	60	91	5	25	45	
11	4	19				70	54	68	82	4	22	39	
12	4	19				80	56	62	85	4	22	39	
13	4	19	60	61	60	82	68	58	85	3	34	37	
14	5	19				72	52	99	60	86	4	32	43
15	5	20				82	125	60	86	4	16	35	
16	8	20				76	82	140	55	74	4	11	31
17	14	20	58	58	77	82	84	51	186	4	11	31	
18	16	20				77	75	88	69	75	13	11	31
19	14	22				80	73	88	117	75	13	13	24
20	13	22				74	72	76	117	93	13	13	14
21	13	22	56	50	72	72	66	104	93	7	11	13	
22	13	23				70	69	68	104	91	6	13	13
23	13	23				69	66	67	78	82	7	14	11
24	13	25				70	64	91	78	68	7	16	11
25	16	29	52	64	50	62	60	140	78	68	11	16	11
26	16	23				58	58	166	64	62	8	16	11
27	17	30				52	62	165	83	62	8	22	11
28	16	38				56	64	144	96	62	10	22	11
29	16	38	58	64	50	-	64	142	99	52	12	22	11
30	17	58				-	63	122	98	46	12	23	11
31	17	-				-	64	-	91	-	27	-	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....						299	17	5	9.6	595			
November.....						697	58	19	23.2	1,380			
December.....						1,741	-	-	56.2	3,450			
Calendar year 1934.....						12,649	374	1	34.7	25,080			
January.....						1,838	-	-	59.3	3,650			
February.....						1,905	80	50	68.0	3,780			
March.....						2,110	82	56	68.1	4,190			
April.....						2,738	166	34	91.3	5,450			
May.....						2,582	117	51	83.3	5,120			
June.....						2,879	245	46	89.3	5,510			
July.....						311	48	3	10.0	617			
August.....						570	34	9	18.4	1,130			
September.....						776	48	11	25.9	1,540			
Water year 1934-35.....						18,246	245	3	50.0	36,190			

\*Discharge measurement.

## Niobrara River near Spencer, Nebr.

Location.- At power plant of Northern Nebraska Power Co., lat. 42°48', long. 98°39', in N. sec. 30, T. 33 N. R. 11 W., 5 miles southeast of Spencer. Top of dam is 1,501.13 feet above mean sea level.

Drainage area.- 10,800 square miles.

Records available.- May to December 1908, August 1927 to September 1935.

Extremes.- Maximum discharge during year, not determined; minimum mean daily discharge, 188 second-feet Dec. 28.

1927-35: Maximum discharge, 15,200 second-feet Sept. 6, 1930; minimum mean daily discharge, 115 second-feet Mar. 10, 1932.

Remarks.- Records good except those for Mar. 1 to July 10, which are poor. Discharge estimated Mar. 1 to Apr. 22 and June 2-13. Spencer Reservoir capacity greatly reduced by filling up with sand; practically no regulation. Discharge computed from flow over spillway and through turbines and gates. Base data furnished by Northern Nebraska Power Co.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,040	1,060	1,250	383	1,560	2,710	1,320	1,790	2,350	1,180	665	960
2	1,020	1,140	611	508	1,900	3,600	1,170	1,630		1,060	734	1,060
3	1,040	1,130	457	621	1,880	3,000	1,020	1,560	1,700	1,010	766	1,050
4	1,140	1,130	810	890	1,860	2,400	1,260	1,410		940	779	1,100
5	1,110	1,160	878	1,220	1,890	2,000	1,480	1,610	1,250	956	813	1,030
6	1,040	1,150	852	1,610	1,780	1,700	1,620	1,510		911	766	949
7	995	1,120	608	1,420	1,670	1,400	1,890	1,530	1,250	1,090	875	883
8	1,010	1,190	635	1,330	1,680	1,000	2,020	1,540		926	820	877
9	1,040	1,140	839	1,470	1,580	1,200	1,890	1,450	1,250	783	745	929
10	1,080	1,110	696	1,220	1,640	1,350	2,020	1,360		811	657	889
11	1,010	1,130	833	1,270	1,670	1,250	2,410	1,370	1,200	894	628	834
12	1,020	1,160	1,210	1,420	1,850	1,200	1,860	1,320	1,180	1,040	599	818
13	997	1,190	1,480	1,180	2,200	1,250	1,770	1,180	1,150	894	623	818
14	1,020	1,190	1,520	1,010	2,420	1,300	1,690	1,250	1,180	834	593	795
15	1,050	1,130	1,840	675	2,420	1,250	1,610	1,300	1,270	788	557	800
16	1,080	1,160	1,680	752	2,040	1,240	1,520	1,350	1,360	844	527	790
17	1,830	1,210	1,550	642	2,030	1,220	1,430	1,360	1,710	752	771	773
18	1,570	1,220	1,370	721	2,150	1,200	1,430	1,380	1,940	875	744	847
19	1,310	1,220	1,090	719	2,310	1,220	1,420	1,600	1,750	808	688	787
20	1,160	1,240	1,150	592	2,330	1,240	1,420	1,410	1,940	786	668	622
21	1,180	1,200	1,230	387	2,460	1,250	1,410	1,260	1,980	719	839	868
22	1,140	1,190	1,410	228	2,350	1,240	1,410	1,270	2,200	1,160	679	885
23	1,120	1,180	1,180	269	2,490	1,230	1,470	1,340	1,970	1,370	665	759
24	1,130	1,270	1,030	373	1,130	1,230	2,100	1,220	1,840	1,370	706	730
25	1,090	1,280	839	417	225	1,220	2,840	1,340	1,920	1,020	1,460	751
26	1,160	1,240	341	384	245	1,220	2,580	1,450	1,750	761	913	826
27	1,070	1,260	237	462	518	1,200	2,850	1,370	1,800	802	722	834
28	1,090	1,260	186	590	617	1,200	2,780	1,490	2,540	746	800	907
29	1,060	1,190	206	663	-	1,200	2,160	1,650	2,790	662	930	860
30	1,090	1,140	213	924	-	1,200	1,690	1,560	1,410	641	833	815
31	1,100	-	223	1,240	-	1,180	-	1,500	-	680	881	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						34,812	1,830	995	1,123		69,060	
November.....						35,390	1,280	1,060	1,180		70,200	
December.....						28,456	1,840	188	918		56,440	
Calendar year 1934.....						400,101	6,140	188	1,096		793,600	
January.....						25,830	1,610	228	835		51,250	
February.....						48,875	2,490	225	1,746		96,940	
March.....						46,100	3,600	1,000	1,487		91,440	
April.....						53,940	2,850	1,020	1,798		107,000	
May.....						44,380	1,790	1,190	1,432		88,050	
June.....						49,280	2,640	1,150	1,643		97,750	
July.....						28,115	1,370	641	907		55,770	
August.....						23,646	1,460	527	753		46,900	
September.....						26,048	1,100	730	868		51,670	
Water year 1934-35.....						444,672	3,600	188	1,219		882,400	





## Big Sioux River at Akron, Iowa

Location.- Water-stage recorder, lat. 42°50', long. 96°33', in sec. 31, T. 93 N., R. 48 W., 300 feet below county highway bridge at Akron. Prior to Dec. 3, 1934, chain gage at same datum at highway bridge.

Drainage area.- 8,851 square miles (revised).

Records available.- October 1928 to September 1935.

Extremes.- Maximum discharge during year, about 3,000 second-feet Mar. 10; maximum gage height, 12.24 feet Mar. 7; minimum discharge, about 35 second-feet Dec. 31; minimum gage height, 1.07 feet Dec. 3.  
1928-35: Maximum discharge observed, 14,000 second-feet Mar. 15, 1929 (gage height, 18.63 feet); minimum, 28 second-feet Aug. 7, 1931.

Remarks.- Records good except those for period of ice effect, Dec. 1 to Mar. 10, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	309	106	78	36	50	356	404	404	263	404	91	115
2	263	106	67	56	65	508	380	404	252	356	101	115
3	229	104	51	37	86	780	380	428	240	454	81	107
4	207	104	49	38	123	954	380	428	240	428	72	107
5	196	102	46	38	187	1,190	356	428	229	404	74	102
6	174	102	45	39	428	1,430	356	428	229	332	98	115
7	153	101	44	39	624	1,780	356	428	229	274	88	177
8	142	99	44	40	684	2,070	356	404	218	337	81	252
9	132	101	44	40	556	2,480	332	404	197	252	79	218
10	132	101	43	40	480	2,960	356	380	187	229	73	149
11	128	97	42	40	428	1,700	404	356	177	240	700	123
12	118	95	41	41	428	1,150	428	356	168	229	1,470	100
13	116	95	40	41	480	992	428	404	158	218	1,310	88
14	116	97	39	42	716	954	428	564	149	177	848	84
15	112	95	40	44	992	1,030	454	428	140	158	564	78
16	108	93	40	44	1,430	1,070	428	380	132	140	428	77
17	108	95	41	44	1,150	1,070	428	332	168	132	356	75
18	108	104	42	44	918	954	428	332	240	123	286	72
19	106	106	42	44	748	882	404	309	187	107	240	68
20	207	110	42	43	594	848	380	309	158	107	298	65
21	298	106	41	42	480	814	380	298	149	104	508	63
22	185	99	41	41	428	814	380	286	149	102	380	63
23	164	99	41	40	380	716	380	263	140	400	263	59
24	132	102	41	39	356	654	428	263	149	428	208	54
25	118	101	41	39	309	624	594	252	1,480	187	177	59
26	118	101	41	38	309	594	536	240	1,640	123	149	58
27	120	104	40	38	309	564	480	252	564	106	140	56
28	116	101	40	37	332	508	454	252	454	91	132	54
29	114	101	38	38	-	480	454	263	480	85	132	53
30	114	97	36	38	-	454	428	263	454	84	132	53
31	108	-	35	40	-	428	-	263	-	84	123	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				4,751	309	106	153	0.017	0.02	9,420		
November.....				3,024	110	93	101	.011	.01	6,000		
December.....				1,355	78	35	43.7	.0049	.006	2,690		
Calendar year 1934.....				87,588	10,300	35	240	-	-	173,700		
January.....				1,240	44	36	40.0	.0045	.005	2,460		
February.....				14,050	1,430	50	502	.067	.06	27,870		
March.....				31,808	2,960	356	1,026	.116	.13	63,090		
April.....				12,380	594	332	413	.047	.05	24,560		
May.....				10,801	564	240	343	.039	.04	21,420		
June.....				9,820	1,640	132	321	.036	.04	19,080		
July.....				6,895	454	64	222	.025	.03	13,680		
August.....				9,682	1,470	72	312	.035	.04	19,200		
September.....				2,888	252	53	95.3	.011	.01	5,670		
Water year 1934-35.....				108,464	2,960	35	297	.034	.44	215,100		

## Floyd River at James, Iowa

Location.- Wire gage, lat. 42°35', long. 96°18', in NW¼NW¼ sec. 32, T. 90 N., R. 46 W., at highway bridge at James.

Drainage area.- 918 square miles.

Records available.- December 1934 to September 1935.

Extremes.- Maximum discharge observed during period, 1,400 second-feet June 28 (gage height, 14.91 feet); minimum, 3 second-feet June 12 (gage height, 4.74 feet).

Remarks.- Records fair except those estimated because of ice effect, Dec. 8-31, Jan. 14-31, Feb. 2-8, which are poor.

Rating table, water year 1934-35 except periods of ice effect  
(gage height, in feet, and discharge, in second-feet)

4.4	0	5.8	23	7.8	151	12.5	704
4.6	2	6.0	31	8.4	205	13.0	789
4.8	4	6.3	44	9.0	259	13.5	889
5.0	6	6.6	60	9.5	309	14.0	1,030
5.2	10	6.9	80	10.0	359	14.5	1,210
5.4	14	7.2	102	11.0	479	15.0	1,440
5.6	18	7.5	126	12.0	629		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	17	12	142	42	54	25	160	20	11
2			-	18	45	178	42	54	25	134	20	12
3			-	18	100	584	39	53	25	118	20	11
4			-	18	170	734	37	52	23	699	19	11
5			-	15	190	914	39	44	25	749	18	11
6			-	15	200	1,100	37	52	25	223	17	10
7			-	18	180	509	39	46	25	187	16	57
8			-	16	160	223	37	46	23	126	17	66
9			-	18	142	178	37	46	23	126	17	19
10			-	8	134	223	37	46	6	187	16	11
11			8	16	134	187	54	76	5	151	15	11
12			9	14	178	142	57	94	3	142	14	11
13			9	14	223	134	49	46	10	94	13	11
14			9	13	539	126	52	35	18	80	12	10
15			10	11	769	126	60	33	18	80	12	10
16			10	10	914	87	49	32	18	70	11	102
17			10	8	644	80	54	31	18	49	11	17
18			10	8	299	76	44	37	23	49	11	17
19			10	8	539	76	42	46	23	49	11	16
20			10	7	187	80	35	37	22	49	11	12
21			11	7	169	70	35	33	19	39	11	11
22			11	7	142	70	33	33	18	37	11	10
23			9	7	151	60	35	20	18	44	11	9
24			9	8	134	57	57	8	66	66	11	9
25			8	8	80	57	53	27	187	54	11	9
26			7	9	84	57	63	27	719	46	11	9
27			7	9	84	54	80	31	1,170	52	11	8
28			7	10	80	46	66	35	769	54	10	8
29			9	10	-	46	57	31	319	27	10	9
30			10	11	-	44	54	27	240	22	11	9
31			12	12	-	42	-	23	-	22	11	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	-	-	-	-	-	-
November.....	-	-	-	-	-	-
December 8-31.....	219	12	7	9.12	0.010	0.01
Calendar year .....						
January.....	370	18	7	11.9	.013	.02
February.....	6,483	914	12	232	.253	.26
March.....	6,502	1,100	42	210	.229	.26
April.....	1,425	80	33	47.5	.052	.06
May.....	1,255	94	8	40.5	.044	.06
June.....	3,928	1,170	3	131	.143	.16
July.....	3,975	749	22	128	.139	.18
August.....	420	20	10	13.5	.015	.02
September.....	527	102	8	17.6	.019	.02
Water year .....						

## Spirit Lake at Orleans, Iowa

Location.- Lat. 43°27', long. 95°6', in sec. 27, T. 100 N., R. 36 W., at State fish hatchery at Orleans. Gage consists of vertical 2-inch pipe tapped into 10-inch gravity main from lake to rearing ponds of fish hatchery; gage height determined by measuring down from top of pipe to water surface. During the year the gravity main was lowered several feet, and the top of present riser pipe is at elevation 98.77 feet, Iowa Lake Survey datum.

Records available.- May 1933 to September 1935.

Extremes.- Maximum gage height observed during year, 98.30 feet June 25; minimum,

96.94 feet Nov. 7, 8, 9.

1933-35: Maximum gage height observed, 99.88 feet May 20, 1933; minimum, that of Nov. 7, 8, 9, 1935.

Remarks.- Daily gage heights subject to fluctuation caused by direction and velocity of wind. No gage readings on days of missing record. There has been no discharge from lake for several years.

Gage height, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	96.96				-	97.40		-	-	-	-
2	-	96.96				-	97.35	97.73	-	-	-	-
3	97.16	96.98				-	97.40	-	-	-	-	-
4	97.16	96.96				-	97.37	-	-	-	-	-
5	-	96.98				-	97.37	-	-	-	-	-
6	-	96.96				-	97.37	-	-	-	-	-
7	-	96.94				-	97.35	-	97.54	97.60	-	-
8	-	96.94				-	97.40	-	97.54	-	-	97.23
9	97.22	96.94				-	97.40	-	-	-	97.62	97.27
10	97.18	96.96				-	97.50	-	-	-	97.64	-
11	97.18	-				-	97.65	-	-	-	-	-
12	97.16	-				-	97.63	-	-	-	97.56	-
13	97.18	-				-	97.56	-	-	97.60	97.57	-
14	97.18	-				-	97.71	-	-	-	-	-
15	97.16	-				-	97.73	-	-	-	-	-
16	97.14	-				-	-	-	-	97.64	-	-
17	97.18	-				-	-	-	97.92	97.60	97.41	97.18
18	-	-				-	-	-	-	-	-	-
19	-	-				97.42	-	-	-	-	-	-
20	97.26	-				97.37	-	-	-	-	97.75	-
21	97.28	-				97.35	-	-	-	-	-	-
22	-	97.12				97.37	-	-	-	-	97.50	-
23	-	97.01				-	-	-	-	-	97.48	-
24	97.16	97.03				97.35	-	-	-	-	-	-
25	97.16	-				97.35	97.65	-	98.30	-	-	-
26	97.14	-				97.33	-	-	-	-	-	97.46
27	97.18	-				97.33	-	-	-	97.51	-	-
28	97.10	-				97.33	-	-	-	97.51	-	-
29	-	-				97.37	-	-	-	97.51	97.24	-
30	-	-				97.40	-	-	-	-	97.28	97.06
31	-	-				97.37	-	-	-	-	-	-

## 159

Location.- Staff gage, lat.  $43^{\circ}22'$ , long.  $95^{\circ}8'$ , in sec. 24, T. 99 N., R. 36 W., at State Pier in Arnolds Park. Zero of gage is at elevation 94.51 feet, Iowa Lake Survey datum.

Extremes. - Maximum stage recorded during year, 2.78 feet July 2; minimum, 1.38 feet Nov. 17, 19, 24, 25, Jan. 27.

Remarks.- Gage heights subject to fluctuation caused by direction and velocity of wind.  
No records on days of missing gage heights.

[illegible]

## Grizzly Creek near Walden, Colo.

Location.— Water-stage recorder, lat. 40°38', long. 106°23', in sec. 29, T. 8 N., R. 80 W., half a mile above junction with Little Grizzly Creek and 10 miles south of Walden.

Drainage area.— 229 square miles.

Records available.— May 1904 to October 1905, May to September 1923, October 1926 to September 1930, October 1933 to September 1935, in reports of U. S. Geological Survey; May 1904 to October 1905, May to September 1923, October 1926 to September 1935, in reports of State engineer.

Extremes.— Maximum discharge during year, 330 second-feet June 13 (gage height, 2.92 feet); no flow Oct. 1 to Nov. 12.  
1904-5, 1923, 1926-35: Maximum discharge, 1,340 second-feet June 10, 1923 (gage height, 4.8 feet); no flow June 20 to Nov. 12, 1934.

Remarks.— Records good except those estimated, June 10, 11, Sept. 22-30. No record Nov. 21 to May 21. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0						-	159	35	14	3.6
2		0						-	134	29	15	3.3
3		0						-	110	25	13	4.3
4		0						-	111	16	10	4.8
5		0						-	118	15	10	4.0
6		0						-	148	13	10	3.8
7		0						-	175	12	10	7.0
8		0						-	201	12	10	11
9		0						-	199	12	11	13
10		0						-	224	14	11	14
11		0		*7.0				-	252	16	7.5	14
12		0						-	276	14	6.0	9.0
13		2.6						-	302	11	6.5	6.5
14		2.6						-	280	10	6.0	6.5
15		3.1						-	272	8.5	4.8	7.0
16		5.5						-	272	7.5	11	6.0
17		4.3						-	260	6.0	12	5.0
18		3.6						-	201	15	8.5	4.8
19		3.8						-	145	14	7.0	4.5
20		4.3						-	142	16	6.5	4.3
21		-						-	134	18	4.8	4.3
22		-						55	131	18	4.0	4.2
23		-						68	118	18	3.8	4.0
24		-						112	111	18	4.0	4.2
25		-						180	96	13	4.3	4.4
26		-						197	89	11	6.0	6.5
27		-						208	77	12	7.0	7.2
28		-						192	56	9.0	6.0	7.5
29		-						169	36	9.0	4.8	7.5
30		-						135	37	9.0	4.8	7.5
31		-						129	-	9.0	4.5	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November 1-20.....						29.8	5.5	0	1.49	59		
December.....						-	-	-	-	-		
Calendar year .....												
January.....												
February.....												
March.....												
April.....												
May 22-31.....												
June.....						1,445	208	55	144	2,870		
July.....						4,846	302	36	162	9,610		
August.....						445	35	6.0	14.4	883		
September.....						243.8	15	3.8	7.86	484		
Water year .....						193.7	14	3.3	6.46	384		

\*Discharge measurement.

## North Platte River near Walden, Colo.

Location.— Water-stage recorder, lat. 40°42', long. 106°23', in sec. 6, T. 8 N., R. 80 W., 8 miles southwest of Walden.

Drainage area.— 446 square miles.

Records available.— May 1904 to October 1905, October 1923 to September 1930, October 1933 to September 1935, in reports of U. S. Geological Survey; May 1904 to October 1905, October 1923 to September 1935, in reports of State engineer.

Extremes.— Maximum discharge during year, 1,640 second-feet June 15, (gage height, 4.94 feet); minimum mean daily discharge, 8 second-feet Oct. 1, 2, 7, 8.  
1904-5, 1923-35: Maximum discharge, 1,770 second-feet June 1, 1928 (gage height, 5.33 feet); minimum mean daily discharge, 5.2 second-feet Sept. 19, 20, 1934.

Remarks.— Records good except those for Oct. 20, Nov. 2 to Mar. 29, Apr. 2-4, 6-13, 15, 16, May 26-28, which were estimated by comparison with North Platte River near Northgate. Diversions for irrigation above station.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used June 29 to Sept. 6)

0.4	5	1.4	94	3.0	620
.6	15	1.6	130	3.5	835
.8	27	1.8	178	4.0	1,070
1.0	43	2.0	240	4.5	1,360
1.2	65	2.5	420	5.0	1,680

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8	14	27				80	111	492	552	113	26
2	8	14					80	91	544	504	108	23
3	9	16				26	80	91	392	544	99	23
4	9	16					80	72	292	464	85	22
5	10	16					82	63	289	384	79	22
6	9	21					78	61	380	317	72	20
7	8	23					80	91	548	286	69	32
8	8	23				32	80	132	704	261	66	45
9	9	22					78	126	853	240	65	51
10	10	22					75	150	938	211	60	47
11	10	22		*28			65	221	1,060	196	54	41
12	10	22					90	240	1,220	184	50	34
13	10	21					95	275	1,550	152	45	29
14	10	20				40	91	254	1,430	132	44	29
15	10	21					110	190	1,530	117	41	27
16	10	21					135	150	1,520	104	41	26
17	10	25					137	187	1,340	94	42	26
18	10	27				60	99	169	975	119	47	25
19	11	25					94	205	858	126	42	23
20	12	25					111	181	859	141	39	22
21	14	24					115	130	912	165	35	23
22	15	26					141	102	902	237	33	21
23	14	27				75	152	106	890	237	31	20
24	14	37					137	152	894	170	32	21
25	14	41					108	362	848	124	34	22
26	14	36					109	530	660	108	36	30
27	16	34					154	650	576	92	36	33
28	16	33				80	126	710	604	62	35	34
29	15	32					108	664	664	76	33	34
30	15	29				84	92	430	628	88	32	34
31	14					82	-	424	-	119	27	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						352	16	8	11.4	698		
November.....						735	41	14	24.5	1,460		
December.....						899	-	-	29	1,790		
Calendar year .....												
January.....						637	-	-	27	1,660		
February.....						784	-	-	29	1,560		
March.....						1,701	-	-	54.9	3,370		
April.....						3,062	152	75	102	6,070		
May.....						7,339	710	61	237	14,560		
June.....						25,141	1,530	289	838	49,870		
July.....						6,626	552	76	214	13,140		
August.....						1,625	113	27	52.4	3,220		
September.....						863	51	20	26.8	1,710		
Water year 1934-35.....						49,964	1,530	8	137	99,100		

\*Discharge measurement.

## North Platte River near Northgate, Colo.

Location.- Water-stage recorder, lat. 40°57', long. 106°21', in sec. 11, T. 11 N., R. 80 W., 6 miles south of Colorado-Wyoming State line, and 6 miles northwest of Northgate.

Drainage area.- 1,440 square miles.

Records available.- May to November 1904, May 1915 to September 1935.

Average discharge.- 20 years, (1915-35) 529 second-feet.

Extremes.- Maximum discharge during year, 3,470 second-feet June 17 (gage height, 4.18 feet); minimum mean daily discharge 28 second-feet Oct. 9-12.  
1904, 1915-35: Maximum discharge, 8,720 second-feet June 11, 1923 (gage height, 8.24 feet); minimum mean daily discharge, 19 second-feet July 19, 1934.

Remarks.- Records good except those for period of ice effect, Nov. 15 to Apr. 9, which were estimated on the basis of four discharge measurements and comparison with flow of North Platte River at Saratoga. Diversions for irrigation above station.

Rating table, water year 1934-35 except period of ice effect  
(gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Apr. 10 to June 9)

0.6	17	1.6	258	2.6	1,070	3.6	2,500
.7	28	1.8	360	2.8	1,310	3.8	2,840
.8	40	2.0	495	3.0	1,560	4.0	3,180
1.0	72	2.2	660	3.2	1,860	4.2	3,550
1.2	120	2.4	855	3.4	2,170	4.3	3,740
1.4	182						

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	38	54	39	52	70	225	241	785	695	437	94
2	29	40	54	40	52	72	260	233	945	795	437	92
3	29	43	52	42	52	76	260	206	765	865	372	83
4	29	45	51	44	54	78	270	172	535	625	322	76
5	29	61	50	46	50	60	280	144	444	660	292	72
6	32	55	52	48	48	78	260	141	488	559	277	66
7	30	66	51	50	46	76	280	144	662	511	250	90
8	29	66	49	52	50	74	280	172	665	527	237	147
9	28	62	50	52	52	72	250	196	1,130	527	172	136
10	28	62	52	50	48	70	196	199	1,390	511	229	160
11	28	61	53	52	48	72	209	229	1,640	488	206	126
12	28	57	54	56	48	60	216	236	1,990	503	185	104
13	28	55	57	50	46	66	224	322	2,530	480	172	87
14	30	62	58	54	44	92	254	355	2,580	429	160	79
15	34	62	59	56	42	90	333	311	2,910	466	144	72
16	32	62	59	54	44	105	422	268	3,080	416	144	72
17	32	60	57	52	48	125	372	245	3,420	366	153	68
18	32	60	56	52	52	110	295	250	2,940	379	163	62
19	30	59	55	48	54	100	241	277	2,190	422	163	62
20	30	58	53	42	58	120	250	301	1,690	519	144	53
21	34	57	52	48	60	145	272	263	1,670	511	129	50
22	35	55	52	50	58	135	317	220	1,670	626	123	48
23	35	52	54	54	56	125	317	202	1,660	736	115	48
24	35	51	59	52	48	160	306	233	1,600	600	117	46
25	34	50	60	50	46	190	216	437	1,550	473	126	49
26	35	48	58	48	52	215	202	698	1,380	385	138	59
27	35	42	56	50	60	225	268	775	1,120	333	126	76
28	34	42	52	52	68	220	277	955	1,070	301	115	85
29	34	46	48	54	-	220	272	1,120	1,080	277	110	85
30	35	50	44	52	-	215	250	905	1,050	226	99	77
31	39	-	40	52	-	210	-	688	-	372	97	-
Month	Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet			
October.....	982		39		26		51.7		1,850			
November.....	1,627		66		38		54.2		3,230			
December.....	1,651		60		40		53.5		3,270			
Calendar year 1934.....	38,686		549		19		106		76,730			
January.....	1,541		56		39		49.7		3,080			
February.....	1,436		68		42		51.3		2,650			
March.....	3,706		225		70		122		7,510			
April.....	8,085		422		196		270		16,040			
May.....	11,198		1,120		141		361		22,210			
June.....	46,409		3,420		444		1,547		92,050			
July.....	16,053		895		277		518		31,840			
August.....	6,019		437		97		194		11,940			
September.....	2,462		172		46		62.1		4,860			
Water year 1934-35.....	101,249		3,420		28		277		200,800			



## North Platte River at Saratoga, Wyo.

Location.— Water-stage recorder, lat. 41°27', long. 106°49', in sec. 14, T. 17 N., R. 84 W., at Saratoga. Zero of gage is 6,773.8 feet above mean sea level.

Drainage area.— 2,880 square miles.

Records available.— June 1903 to October 1908, April to December 1909, April 1911 to September 1935.

Average discharge.— 28 years (1903-6, 1910-35), 1,306 second-feet.

Extremes.— Maximum discharge during year, 8,010 second-feet June 15 (gage height, 8.31 feet); minimum mean daily discharge, 103 second-feet September 23, 24, 1903-6, 1909, 1911-35: Maximum discharge, 18,000 second-feet June 8, 1909 (gage height, 11.06 feet); minimum mean daily discharge, 38 second-feet July 18-20, 1934.

Remarks.— Records good except those for Nov. 29 to Dec. 1, Dec. 3-11, 19-23, Dec. 30 to Jan. 6, Jan. 17-23, Jan. 31 to Feb. 2, Feb. 3, 4, 10-17, 22, 24-27, Mar. 5-12, which were estimated on the basis of one discharge measurement and temperature records. A few diversions between Northgate and Saratoga.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	124	131	168	179	211	207	338	536	3,000	2,240	673	163
2	124	126	178	178	211	207	374	512	3,000	2,010	692	163
3	126	126	174	184	214	218	400	456	2,720	1,890	664	149
4	124	126	165	190	225	218	456	356	2,540	1,860	572	146
5	124	141	157	197	232	222	435	321	2,610	1,680	504	138
6	118	162	160	207	211	229	449	297	3,070	1,440	435	134
7	116	163	168	214	204	229	360	288	3,330	1,320	393	146
8	114	171	165	216	204	225	464	292	3,960	1,220	356	197
9	116	174	163	214	211	207	472	512	4,500	991	338	228
10	116	178	163	214	194	200	360	360	5,400	904	332	249
11	116	171	168	222	181	225	307	528	5,660	820	302	232
12	116	166	181	225	200	207	344	740	6,270	810	283	197
13	116	160	190	216	178	240	380	894	6,650	800	261	168
14	118	160	187	214	166	278	456	863	7,320	760	236	152
15	121	157	197	222	163	288	464	790	7,510	682	232	136
16	126	157	197	225	163	244	635	790	7,410	617	240	131
17	136	160	187	216	171	278	740	852	7,080	599	274	128
18	136	174	190	207	197	302	599	1,060	6,370	635	270	124
19	141	194	194	190	197	283	520	1,000	5,680	664	261	116
20	149	194	200	178	207	265	490	652	4,940	654	253	114
21	149	190	194	184	229	274	520	770	4,620	760	236	112
22	144	181	190	190	225	288	664	810	4,390	682	222	107
23	136	156	190	200	225	253	720	991	4,540	988	218	103
24	141	165	197	216	218	283	692	1,420	4,180	980	222	103
25	136	162	211	216	200	297	592	1,620	3,930	820	222	116
26	136	105	194	211	194	316	435	2,560	3,440	682	218	116
27	136	154	197	207	197	297	464	3,150	3,030	563	214	128
28	136	149	197	211	204	302	520	3,680	2,720	488	204	136
29	136	144	197	214	-	344	545	3,610	2,610	435	194	152
30	136	149	184	211	-	344	554	3,490	2,470	464	184	154
31	134	-	181	211	-	350	-	3,260	-	599	174	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						4,007	149	114	129	7,960		
November.....						4,708	194	105	157	9,540		
December.....						5,674	211	157	183	11,260		
Calendar year 1934.....						110,725	1,620	38	503	219,600		
January.....						6,388	226	178	206	12,670		
February.....						5,624	232	163	201	11,160		
March.....						6,120	350	200	262	16,110		
April.....						14,779	740	307	493	29,310		
May.....						37,600	3,610	288	1,213	74,680		
June.....						134,840	7,510	2,470	4,495	267,500		
July.....						30,187	2,240	435	974	59,880		
August.....						9,869	682	174	318	19,670		
September.....						4,439	249	103	148	8,600		
Water year 1934-35.....						266,235	7,510	729	730	528,100		

## North Platte River above Pathfinder Reservoir, Wyo.

Location.— Water-stage recorder, lat.  $42^{\circ}12'$ , long.  $106^{\circ}52'$ , in sec. 27, T. 26 N., R. 84 W., 900 feet below mouth of Lost Creek, and  $2\frac{1}{2}$  miles above upper end of Pathfinder Reservoir.

Drainage area.— 7,410 square miles.

Records available.— October 1913 to September 1925, June 1929 to September 1935.

Average discharge.— 19 years (1913-25, 1928-35), 1,624 second-feet.

Extremes.— Maximum discharge during year, 10,100 second-feet June 17 (gauge height, 4.77 feet); minimum, 70 second-feet Nov. 27 (gauge height, -0.10 foot).  
1913-25, 1929-35: Maximum discharge, 18,800 second-feet June 28, 1917 (gauge height, 6.2 feet); minimum mean daily discharge, 20 second-feet Sept. 7, 1934.

Remarks.— Records good except those estimated for Nov. 5, 6, 12, 13, Nov. 28 to Feb. 5, Feb. 23, 24, Mar. 5, which were based on comparison with flow of North Platte River at Saratoga. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	111	159	191	256	325	364	498	680	4,050	2,740	498	194
2	117	162	194	240	330	347	507	724	3,780	2,450	691	191
3	129	142	198	243	350	341	460	713	3,780	2,150	661	178
4	138	162	200	248	362	347	498	680	3,480	1,940	681	170
5	156	164	205	254	384	377	524	622	3,150	1,890	613	162
6	154	164	203	260	371	340	603	550	3,100	1,730	541	159
7	133	162	202	262	358	298	575	483	3,510	1,510	490	159
8	151	175	200	268	341	347	575	452	3,830	1,380	430	167
9	129	187	203	270	338	384	532	445	4,580	1,250	390	162
10	129	205	210	270	330	358	622	445	5,270	1,180	352	324
11	129	211	218	267	336	347	632	475	6,350	1,110	324	324
12	131	218	225	274	336	330	515	594	7,160	1,020	308	324
13	133	215	228	280	308	364	452	823	7,780	955	302	280
14	135	211	223	280	298	437	460	1,110	8,500	922	289	267
15	135	208	230	278	289	613	515	1,210	9,330	889	267	230
16	138	208	228	280	258	377	613	1,190	9,710	801	680	198
17	142	204	228	280	250	532	661	1,110	9,760	735	867	181
18	144	198	230	255	254	468	666	1,110	9,330	801	490	167
19	154	198	235	220	280	558	856	1,300	8,100	702	409	162
20	162	204	241	188	289	550	735	1,410	6,730	691	284	151
21	156	226	247	190	313	524	642	1,270	5,690	724	302	147
22	156	211	242	190	341	541	594	1,180	5,270	779	324	144
23	167	211	234	195	325	468	661	1,090	5,140	867	289	140
24	164	211	244	205	285	460	845	1,270	5,140	955	302	138
25	162	167	250	225	271	416	867	1,510	4,890	999	250	135
26	159	103	254	250	324	437	812	1,930	4,550	933	293	133
27	162	85	257	300	302	390	713	2,630	4,110	768	250	140
28	167	82	245	305	358	409	584	3,400	3,590	642	222	144
29	167	110	250	308	-	396	613	4,230	3,180	567	234	151
30	164	131	247	310	-	460	680	4,260	2,930	507	218	159
31	164	-	242	316	-	490	-	4,170	-	483	208	-
Month												
	Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet			
October.....	4,478		167		111		144		8,880			
November.....	5,300		226		82		177		10,510			
December.....	7,004		257		191		226		13,890			
Calendar year 1934.....	144,003		1,890		20		395		285,600			
January.....	7,947		316		188		256		15,760			
February.....	8,904		384		250		318		17,660			
March.....	13,070		613		298		422		25,920			
April.....	18,680		867		452		653		37,070			
May.....	43,066		4,280		445		1,399		85,420			
June.....	165,750		9,760		2,930		5,525		328,800			
July.....	35,070		2,740		463		1,131		69,660			
August.....	12,439		867		208		401		24,670			
September.....	5,581		324		133		186		11,070			
Water year 1934-35.....	327,299		9,760		82		697		649,200			

## North Platte River below Pathfinder Reservoir, Wyo.

Location.- Water-stage recorder, lat. 42°28', long. 106°50', in sec. 24, T. 29 N., R. 84 W., a quarter of a mile below Pathfinder Dam.

Drainage area.- 10,700 square miles.

Records available.- May 1905 to September 1935.

Average discharge.- 28 years (1907-35), 1,819 second-feet.

Extremes.- Maximum discharge since completion of reservoir, 18,900 second-feet June 25-27, 1917; no flow for periods during 1928, 1932-35.

Remarks.- Flow regulated by Pathfinder Reservoir, completed in June 1909, capacity 1,070,000 acre-feet. Records furnished by U. S. Bureau of Reclamation.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	83	85	75	50	50	0	20		0	5,320	4,730	2,110
2	83	75	75	50	50	0	20		0	5,300	4,830	1,920
3	114	68	75	50	50	0	20		0	5,300	4,780	1,740
4	123	75	75	50	50	0	20		0	5,300	4,730	1,510
5	123	75	75	50	50	0	20		0	5,280	4,820	1,060
6	123	75	75	50	15	0	20		0	5,260	4,830	725
7	123	75	75	50	0	0	20		0	5,250	4,780	703
8	123	75	75	50	0	0	20		0	5,610	4,720	688
9	123	75	75	50	0	0	20		0	5,820	4,460	673
10	123	75	75	50	0	31	20		0	5,620	4,140	658
11	123	75	75	50	0	40	20		0	5,780	4,000	646
12	123	75	75	50	0	40	20		0	5,750	3,950	640
13	123	75	75	50	0	40	20		0	5,810	4,000	630
14	123	75	75	50	0	40	20		47	5,610	3,960	245
15	123	75	75	50	0	40	20		52	5,660	4,080	368
16	123	75	75	50	31	40	20		89	5,200	4,000	347
17	123	75	75	50	40	40	20		337	5,080	3,990	287
18	123	75	75	50	40	40	20		494	5,130	3,950	239
19	123	75	75	50	40	28	3		496	5,150	4,100	234
20	123	75	75	50	40	20	0		500	4,960	4,020	204
21	123	75	55	50	40	20	0		504	4,590	3,910	170
22	123	75	190	50	40	20	0		506	4,520	4,000	170
23	123	75	190	50	40	20	0		1,340	4,500	4,070	170
24	123	75	45	50	40	20	0		2,020	4,480	3,950	170
25	123	75	50	50	40	20	0		2,350	4,450	3,940	170
26	123	75	50	50	40	20	0		3,420	4,420	3,760	170
27	123	75	50	50	40	20	0		3,460	4,390	3,580	170
28	123	75	50	50	40	20	0		4,420	4,500	3,310	170
29	123	75	50	50	-	20	0		4,460	4,470	3,010	170
30	123	75	50	50	-	20	0		5,090	4,490	2,710	170
31	123	-	50	50	-	20	-		-	4,480	2,440	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	3,724	123	83	120	7,390
November.....	2,253	85	68	75.1	4,470
December.....	2,330	190	45	75.2	4,620
Calendar year 1934.....	235,860	5,660	0	646	467,800
January.....	1,550	50	50	50.0	3,070
February.....	776	50	0	27.7	1,540
March.....	619	40	0	20.0	1,230
April.....	363	20	0	12.1	720
May.....	0	0	0	0	0
June.....	29,585	5,090	0	966	58,680
July.....	157,580	5,620	4,390	5,063	312,600
August.....	125,500	4,830	2,440	4,048	248,900
September.....	17,327	2,110	170	576	34,370
Water year 1934-35.....	341,607	5,820	0	936	677,600

## North Platte River at Alcova, Wyo.

Location.- Water-stage recorder, lat. 42°33', long. 106°43', in sec. 25, T. 30 N., R. 83 W., at Alcova.

Drainage area.- 10,800 square miles.

Records available.- June to September 1935.

Remarks.- Flow regulated by Pathfinder Reservoir, capacity 1,070,000 acre-feet. Records furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									15	5,360	4,910	2,030
2									15	5,360	4,970	1,890
3									15	5,360	4,830	1,680
4									15	5,340	4,810	1,400
5									15	5,340	4,910	900
6									15	5,340	4,850	790
7									15	5,480	4,780	765
8									15	5,910	4,720	740
9									15	5,970	4,370	720
10									15	5,950	4,080	690
11									15	5,950	4,030	670
12									15	5,950	4,060	665
13									15	5,910	4,040	370
14									25	5,780	4,080	270
15									44	5,690	4,120	385
16									70	5,280	4,080	320
17									535	5,280	4,080	280
18									555	5,280	4,080	230
19									560	5,200	4,140	225
20									560	4,890	3,990	180
21									570	4,620	3,960	170
22									925	4,600	4,080	170
23									1,620	4,600	4,020	170
24									2,020	4,540	3,940	170
25									2,640	4,520	3,860	165
26									3,320	4,500	3,650	165
27									4,060	4,520	3,400	165
28									4,260	4,550	3,130	165
29									4,720	4,540	2,850	165
30									5,580	4,550	2,520	165
31									-	4,640	2,240	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year .....												
January.....												
February.....												
March.....												
April.....												
May.....												
June.....						32,059	5,380	15	1,069	63,890		
July.....						160,720	5,970	4,600	5,185	318,800		
August.....						128,450	4,910	2,240	4,047	245,800		
September.....						16,820	2,030	165	561	33,360		
The period.....										664,600		

## North Platte River below Casper, Wyo.

Location.- Water-stage recorder, lat. 42°52', long. 106°13', in NW¼NW¼ sec. 4, T. 33 N., R. 78 W., 6½ miles east of Casper.

Drainage area.- 12,600 square miles.

Records available.- October 1932 to September 1935. Comparable records May 1929 to September 1932 at site at Casper.

Extremes.- Maximum discharge during year, 5,660 second-feet July 14, (gage height, 4.70 feet); minimum mean daily discharge, 38 second-feet May 10, 11.  
1929-35: Maximum discharge, 13,800 second-feet May 30, 1929; minimum, that of May 10, 11, 1935.

Remarks.- Records good except those for Dec. 4-6, Dec. 26 to Jan. 5, Jan. 14, 17-25, Feb. 24-26, which were estimated on the basis of temperature records. Flow regulated by Pathfinder Reservoir.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	104	140	114	124	104	98	58	55	450	4,840	4,580	2,320
2	104	140	120	128	104	104	55	47	164	4,800	4,710	2,130
3	108	120	108	110	104	98	65	40	147	4,900	4,750	1,950
4	108	108	98	124	104	86	65	42	161	4,800	4,750	1,750
5	120	104	94	132	98	74	65	42	95	4,820	4,760	1,450
6	127	101	112	130	98	60	63	40	74	4,840	4,760	1,030
7	127	101	130	117	101	47	60	42	63	4,840	4,780	1,130
8	130	101	124	117	92	65	58	40	58	4,930	4,800	921
9	130	104	114	111	83	60	60	40	60	5,240	4,670	815
10	133	108	124	104	74	45	71	38	52	5,430	4,460	770
11	133	108	124	104	63	45	77	38	47	5,490	4,220	736
12	133	111	127	95	55	58	74	40	45	5,540	4,090	710
13	130	111	124	110	71	63	71	50	55	5,600	4,040	693
14	130	114	130	95	55	63	65	52	52	5,600	4,040	612
15	133	114	137	114	47	71	65	50	47	5,600	4,050	355
16	140	120	140	117	58	83	68	50	120	5,510	4,340	394
17	137	120	124	110	52	89	65	47	77	5,340	4,050	378
18	137	127	114	104	74	83	65	50	147	5,270	4,000	339
19	140	127	92	84	71	83	60	58	383	5,250	4,120	308
20	137	127	104	68	83	83	58	60	412	5,200	4,050	292
21	137	133	98	60	77	77	52	58	431	5,020	3,950	278
22	137	127	137	78	80	68	50	58	450	4,840	4,020	249
23	137	111	114	96	80	55	50	52	727	4,730	4,070	244
24	137	147	240	100	75	58	50	47	1,660	4,670	3,950	240
25	137	127	231	124	60	60	50	104	2,050	4,650	3,950	236
26	140	117	140	133	80	52	50	92	2,570	4,640	3,780	236
27	144	101	112	124	92	50	60	74	2,930	4,600	3,600	240
28	150	120	118	120	86	50	52	71	4,070	4,580	3,410	244
29	150	124	120	120	-	65	58	65	4,070	4,580	3,140	236
30	147	101	118	117	-	65	50	111	4,840	4,570	2,850	223
31	144	-	90	108	-	63	-	400	-	4,570	2,540	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-foot	
October.....						4,101	150	104	132		8,130	
November.....						3,514	147	101	117		6,970	
December.....						3,672	240	90	125		7,690	
Calendar year 1934.....						245,552	5,210	42	673		487,000	
January.....						3,378	133	60	109		6,700	
February.....						2,221	104	47	79.3		4,410	
March.....						2,121	104	45	68.4		4,210	
April.....						1,797	77	50	59.9		3,560	
May.....						2,053	400	38	66.2		4,070	
June.....						26,507	4,840	45	884		52,580	
July.....						155,280	5,600	4,570	5,009		308,000	
August.....						127,300	4,800	2,540	4,106		252,500	
September.....						21,610	2,320	223	717		42,660	
Water year 1934-35.....						363,654	5,600	38	969		701,500	

## North Platte River at Douglas, Wyo.

Location.— Water-stage recorder, lat. 42°46', long. 105°24', in sec. 8, T. 32 N., R. 71 W., half a mile northwest of Douglas.

Drainage area.— 14,200 square miles.

Records available.— May 1891 to September 1894, April 1919 to September 1923, April 1929 to September 1935.

Extremes.— Maximum discharge during year, 5,800 second-feet July 13 (gage height, 4.92 feet); minimum mean daily discharge, 60 second-feet Apr. 5-8.  
1891-94, 1919-23, 1929-35: Maximum discharge, 16,600 second-feet Sept. 28, 1923; minimum, not determined.

Remarks.— Records good except those estimated for Nov. 25 to Feb. 20, Feb. 26 to Mar. 2, which were based on two discharge measurements and temperature records, and those estimated for Oct. 7 to Nov. 12. Flow regulated by Pathfinder Reservoir.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	168	160	188	200	158	154	85	118	1,180	5,120	4,350	2,980
2	164	160	177	198	156	180	110	206	1,450	5,200	4,550	2,850
3	156	160	176	188	156	172	100	215	1,180	5,220	4,610	2,070
4	156	160	165	206	158	160	62	196	975	5,240	4,590	1,890
5	152	164	156	214	160	148	60	168	846	5,240	4,610	1,700
6	152	160	154	210	160	125	60	160	728	5,270	4,680	1,410
7	152	160	180	195	158	140	60	196	665	5,270	4,660	1,120
8	148	160	172	185	154	116	60	249	614	5,290	4,630	1,060
9	160	156	165	195	146	140	64	255	535	5,660	4,550	950
10	160	156	155	194	139	90	71	220	475	5,720	4,320	823
11	156	156	180	188	118	100	172	310	376	5,700	3,980	749
12	156	156	180	186	102	100	100	432	356	5,740	3,960	719
13	156	156	183	188	105	90	74	468	284	5,680	3,960	710
14	156	164	190	195	83	100	68	520	243	5,580	3,920	692
16	156	164	200	197	90	114	71	490	220	5,500	4,140	512
17	156	168	190	192	88	110	64	512	210	5,250	4,340	446
18	156	168	177	182	118	110	90	692	272	5,250	3,990	460
19	156	172	164	170	116	103	103	781	191	5,290	3,900	424
20	156	177	152	138	160	96	85	915	284	5,330	3,980	390
21	156	177	156	122	152	90	79	813	424	5,220	3,900	362
22	156	186	148	124	140	93	82	770	439	5,010	3,800	349
23	156	177	158	130	132	76	90	770	439	4,800	3,870	323
24	156	177	170	146	144	71	118	692	505	4,660	3,870	304
25	156	172	260	165	121	74	118	728	1,480	4,530	3,760	291
26	156	188	230	190	140	64	93	813	2,130	4,500	3,700	272
27	156	190	182	184	158	85	71	915	2,920	4,460	3,560	284
28	156	176	185	180	130	74	76	1,000	3,170	4,440	3,370	284
29	156	190	190	178	-	66	103	1,130	3,890	4,440	3,190	284
30	156	172	180	178	-	71	103	915	4,210	4,430	2,970	291
31	160	-	188	165	-	76	-	802	-	4,430	2,740	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							4,848	168	148	156	9,620	
November.....							5,038	190	156	168	9,980	
December.....							5,554	250	148	179	11,020	
Calendar year 1934.....							257,229	5,330	-	705	510,200	
January.....							5,585	214	122	180	11,080	
February.....							3,779	160	83	135	7,500	
March.....							3,311	180	64	107	6,570	
April.....							2,608	172	60	86.9	5,170	
May.....							16,871	1,130	118	538	33,070	
June.....							31,115	4,210	191	1,037	61,720	
July.....							159,150	5,740	4,430	5,134	315,700	
August.....							124,480	4,680	2,740	4,015	246,900	
September.....							26,180	2,980	272	839	49,940	
Water year 1934-35.....							387,319	5,740	60	1,061	768,300	

## North Platte River below Guernsey Reservoir, Wyo.

Location.- Water-stage recorder, lat.  $42^{\circ}17'$ , long.  $104^{\circ}45'$ , in sec. 27, T. 27 N., R. 86 W. (revised), three-quarters of a mile below Guernsey Dam and 1 mile northwest of Guernsey.

Drainage area.- 16,200 square miles.

Records available.- June 1900 to November 1908, March to October 1912, January 1928 to September 1935.

Remarks.- Flow regulated by Pathfinder and Guernsey Reservoirs. Only a few minor diversions for irrigation between this station and diversion dam at Whalen. Records furnished by U. S. Bureau of Reclamation.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	150	126	78	92	100	135	180	160	7,230	4,170	4,600	2,940
2	410	122	78	113	92	140	170	175	1,260	4,340	4,620	2,910
3	564	78	74	118	113	170	226	190	2,350	4,800	4,530	3,810
4	578	78	81	122	92	122	216	165	2,620	4,960	4,610	3,360
5	313	145	56	113	113	221	160	170	1,910	4,860	4,510	2,810
6	195	91	78	118	109	185	170	185	1,820	5,030	4,530	2,850
7	185	67	74	60	113	145	166	190	1,370	5,180	4,490	3,010
8	200	64	84	109	113	175	206	190	1,210	5,260	4,530	2,570
9	221	100	81	104	100	155	200	180	1,080	5,290	4,550	2,070
10	253	78	78	100	81	175	165	190	1,000	5,290	4,530	1,780
11	200	78	88	100	88	150	195	190	1,010	5,310	4,380	1,530
12	195	78	88	104	145	222	185	175	1,640	5,310	3,630	1,460
13	126	74	74	88	150	216	221	190	987	5,330	3,650	1,460
14	145	81	78	100	226	195	150	155	978	5,170	3,770	1,160
15	175	74	70	113	150	190	180	175	883	5,000	3,810	1,160
16	165	74	81	104	175	185	200	150	691	4,750	3,910	1,060
17	126	78	74	95	211	195	206	150	899	4,730	3,910	1,060
18	170	81	92	113	98	195	175	140	975	4,660	3,970	1,060
19	100	58	70	175	221	185	206	150	899	4,610	4,090	907
20	160	78	95	258	200	206	160	216	915	4,470	4,230	495
21	81	74	70	190	195	190	185	551	947	4,440	4,270	458
22	135	88	81	150	150	200	185	648	1,110	4,490	3,910	568
23	170	100	64	160	180	206	200	915	1,260	4,560	3,760	482
24	131	81	113	160	221	190	221	939	1,560	4,490	3,650	470
25	104	91	122	88	155	185	160	1,180	2,120	4,440	3,590	458
26	170	78	95	64	180	210	165	1,260	2,560	4,470	3,190	416
27	131	150	118	67	185	210	190	1,310	3,070	4,510	3,090	381
28	150	150	95	67	180	195	135	1,720	3,400	4,470	3,040	324
29	140	81	104	113	-	175	175	1,690	3,660	4,530	2,970	285
30	117	70	92	109	-	190	190	1,920	3,950	4,530	2,940	268
31	122	-	78	92	-	206	-	5,090	-	4,530	2,910	-
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	6,102					584	81	197	12,100			
November.....	2,596					150	58	69.9	5,350			
December.....	2,604					122	56	84.0	5,160			
Calendar year 1934.....	274,861					5,240	56	753	545,100			
January.....	3,559					258	60	116	7,060			
February.....	4,116					226	81	147	8,160			
March.....	5,704					222	122	184	11,310			
April.....	5,562					228	135	185	11,030			
May.....	20,729					5,090	140	669	41,120			
June.....	55,655					7,230	875	1,855	110,400			
July.....	147,880					5,330	4,170	4,770	293,300			
August.....	121,760					4,620	2,910	3,928	241,500			
September.....	42,942					3,360	256	1,431	85,170			
Water year 1934-35.....	419,509					7,230	56	1,149	831,700			

## North Platte River below Whalen, Wyo.

Location.- Lat. 42°14', long. 104°37', in sec. 11, T. 28 N., R. 65 W., at diversion dam at Whalen, 7 miles below Guernsey Dam.

Drainage area.- 16,300 square miles.

Records available.- May 1909 to September 1935.

Average discharge.- 26 years, 1,348 second-feet.

Remarks.- Discharge records obtained by subtracting flow of Interstate and Fort Laramie Canals from flow below Guernsey Reservoir. Flow regulated by Pathfinder and Guernsey Reservoirs.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	10	10	10	10	10	30	30	8,710	1,580	1,630	351
2	95	10	10	10	10	10	30	30	953	1,580	1,620	322
3	354	10	10	10	10	10	30	30	1,250	2,120	1,550	610
4	378	10	10	10	10	10	30	30	1,540	1,770	1,570	790
5	262	10	10	10	10	10	30	30	1,120	1,720	1,560	276
6	15	10	10	10	10	10	30	30	610	1,760	1,570	330
7	15	10	10	10	10	10	30	30	232	1,800	1,560	490
8	15	10	10	10	10	10	30	30	30	1,830	1,590	609
9	15	10	10	10	10	10	30	30	20	1,850	1,600	677
10	15	13	10	10	10	10	30	30	20	1,770	1,600	709
11	15	10	10	10	10	10	30	30	385	1,790	1,460	551
12	10	10	10	10	10	10	30	30	1,690	1,770	776	488
13	10	10	10	10	10	10	30	30	129	1,840	903	500
14	10	10	10	10	10	10	30	30	20	2,040	789	552
15	10	10	10	10	10	10	30	30	20	1,600	790	567
16	10	10	10	10	10	10	30	30	20	1,600	810	472
17	10	10	10	10	10	10	30	1,320	20	1,670	813	468
18	10	10	10	10	10	10	25	37	292	1,680	916	475
19	10	10	10	10	10	10	27	25	20	1,610	1,090	374
20	10	10	10	10	10	10	30	35	20	1,630	1,200	276
21	10	10	10	10	10	10	30	96	20	1,560	1,250	224
22	10	10	10	10	10	12	30	43	20	1,590	938	324
23	10	10	10	10	10	10	30	56	20	1,610	956	239
24	10	10	10	10	10	10	30	30	158	1,470	812	227
25	10	10	10	10	10	10	30	142	284	1,470	565	228
26	10	10	10	10	10	10	30	233	760	1,520	515	188
27	10	10	10	10	10	10	30	290	1,010	1,560	411	153
28	10	10	10	10	10	10	30	480	1,170	1,540	366	96
29	10	10	10	10	-	-	30	388	1,350	1,560	310	67
30	10	10	10	10	-	-	30	640	1,480	1,530	285	50
31	-	-	10	10	-	-	30	-	-	1,550	271	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							1,419	384	10	45.8	2,510	
November.....							303	13	10	10.1	801	
December.....							310	10	10	10.0	615	
Calendar year 1934.....							85,199	2,020	10	233	169,000	
January.....							310	10	10	10.0	615	
February.....							280	10	10	10.0	555	
March.....							492	30	10	15.9	976	
April.....							692	30	25	29.7	1,770	
May.....							8,495	4,200	25	274	16,850	
June.....							23,375	8,710	20	779	46,360	
July.....							52,170	2,120	1,470	1,683	103,500	
August.....							32,076	1,630	271	1,035	63,620	
September.....							11,713	790	50	390	23,230	
Water year 1934-35.....							131,833	8,710	10	361	261,500	



## North Platte River at Torrington, Wyo.

Location.- Water-stage recorder, lat. 42°3', long. 104°10', in sec. 15, T. 24 N., R. 61 W., at Torrington.

Drainage area.- 21,700 square miles.

Records available.- April 1930 to September 1935, in reports of U. S. Geological Survey; April 1926 to September 1935, in reports of State engineer of Nebraska.

Extremes.- Maximum discharge during year, 11,300 second-feet June 1 (gage height, 4.65 feet); minimum mean daily discharge, 125 second-feet May 10, 13.  
1926-35: Maximum discharge, 14,200 second-feet June 2, 1929; minimum mean daily discharge, 80 second-feet May 16, 1934.

Remarks.- Records good except those estimated for Jan. 19-25, which are fair. Small diversions for irrigation above station. Flow regulated by Pathfinder and Guernsey Reservoirs.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	273	282	316	264	230	264	247	215	6,640	1,280	1,610	548
2	290	273	308	238	230	247	290	208	4,140	1,240	1,650	548
3	376	282	264	264	238	264	264	208	3,160	1,390	1,610	622
4	502	282	264	264	256	290	282	215	2,870	1,410	1,610	762
5	524	273	299	238	273	282	273	185	2,090	1,460	1,570	674
6	405	264	299	264	273	308	255	162	1,650	1,430	1,570	548
7	365	273	316	282	255	308	223	156	1,390	1,540	1,520	610
8	345	273	282	264	247	290	215	150	1,240	1,590	1,570	674
9	365	282	290	238	255	299	255	138	958	1,540	1,650	762
10	345	264	290	238	247	282	264	125	873	1,520	1,610	822
11	308	290	255	238	247	282	238	132	1,460	1,480	1,480	822
12	299	282	255	247	247	299	238	144	2,480	1,500	1,130	732
13	290	264	264	247	264	299	230	125	2,910	1,700	994	732
14	282	273	255	223	273	290	223	192	1,740	1,810	994	762
15	255	264	264	230	308	290	208	282	1,150	1,740	941	790
16	255	255	308	238	316	264	223	255	839	1,570	941	776
17	273	255	299	247	247	273	230	718	518	1,570	924	704
18	273	264	290	255	299	238	230	776	732	1,610	975	674
19	273	264	273	225	290	247	215	491	635	1,590	1,030	704
20	255	264	273	200	290	247	195	447	538	1,590	1,170	635
21	230	255	282	180	299	264	177	524	524	1,570	1,170	622
22	223	247	273	185	290	247	162	502	491	1,570	1,050	635
23	230	238	290	190	264	215	150	436	480	1,540	975	648
24	247	255	282	195	255	208	177	395	458	1,570	958	635
25	238	264	290	210	299	208	247	365	513	1,570	856	610
26	223	273	299	208	290	208	230	469	674	1,590	776	598
27	238	282	238	200	299	215	223	598	805	1,590	718	610
28	247	299	299	200	264	208	223	674	958	1,570	660	572
29	238	316	282	208	-	215	185	718	1,110	1,570	598	548
30	230	316	264	230	-	208	200	673	1,190	1,540	548	524
31	238	-	273	225	-	215	-	3,690	-	1,590	548	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	9,124	524	223	294	18,100
November.....	6,168	316	238	272	16,200
December.....	8,736	316	238	282	17,350
Calendar year 1934.....	166,383	2,050	80	456	330,000
January.....	7,133	282	180	230	14,150
February.....	7,544	316	230	269	14,960
March.....	7,974	308	208	257	15,820
April.....	6,762	290	150	225	13,410
May.....	14,568	3,690	125	470	28,900
June.....	47,238	8,640	458	1,575	93,690
July.....	47,830	1,810	1,240	1,543	94,870
August.....	35,408	1,650	548	1,142	70,230
September.....	19,903	822	524	663	39,480
Water year 1934-35.....	220,384	8,640	125	604	437,100

## North Platte River at Wyoming-Nebraska State line

Location.- Water-stage recorder, lat. 41°59', long. 104°3', in sec. 10, T. 23 N., R. 80 W., a quarter of a mile above Wyoming-Nebraska State line and 1 mile southwest of Henry, Nebr.

Drainage area.- 22,100 square miles.

Records available.- April 1929 to September 1935.

Extremes.- Maximum discharge during year, 11,800 second-feet June 1 (gage height, 5.35 feet); minimum mean daily discharge, 100 second-feet Apr. 23.  
1929-35: Maximum discharge, 17,900 second-feet June 2, 1929 (gage height, 6.04 feet); minimum mean daily discharge, 21 second-feet May 16, 1934.

Remarks.- Records good except those estimated for Nov. 23-27, Jan. 20-27. Large diversions for irrigation between Torrington and this station. Flow regulated by Pathfinder and Guernsey Reservoirs.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	181	235	193	281	281	308	244	181	9,200	1,180	1,440	570
2	193	216	206	276	286	297	281	168	4,380	1,190	1,480	595
3	249	220	211	281	286	333	276	157	3,300	1,340	1,480	623
4	364	244	220	270	259	377	276	168	3,070	1,360	1,480	766
5	440	198	265	259	292	320	259	172	2,420	1,430	1,430	777
6	320	181	286	281	314	259	150	2,010	1,370	1,370	1,370	604
7	270	172	297	327	261	327	211	139	1,680	1,410	1,300	623
8	240	177	308	327	281	308	198	142	1,320	1,440	1,320	733
9	265	161	333	308	292	308	240	125	1,050	1,450	1,390	810
10	281	172	339	286	297	308	235	106	846	1,410	1,350	870
11	265	160	333	281	286	281	244	111	1,340	1,340	1,520	906
12	249	172	351	292	292	303	244	157	1,530	1,340	1,070	846
13	235	153	364	249	292	308	249	177	2,910	1,500	870	810
14	225	187	364	276	303	308	244	211	1,760	1,570	1,010	834
15	198	160	361	254	314	308	211	225	1,190	1,590	944	846
16	211	153	384	314	308	292	185	230	906	1,430	944	834
17	230	146	384	308	286	292	202	502	810	1,360	944	810
18	235	153	364	391	308	249	202	858	934	1,430	930	810
19	249	157	358	308	320	292	202	642	798	1,430	1,010	858
20	235	160	339	260	320	276	181	597	662	1,440	1,070	810
21	225	157	345	225	308	292	160	614	595	1,430	1,160	691
22	230	153	345	234	327	286	117	561	535	1,430	1,100	642
23	235	153	345	250	320	244	100	479	502	1,350	972	633
24	245	157	351	265	308	244	120	433	428	1,340	906	595
25	235	172	351	280	320	244	211	405	456	1,300	733	570
26	225	172	286	280	292	265	286	463	535	1,350	623	544
27	240	172	286	280	297	249	216	604	652	1,390	595	544
28	249	172	333	244	297	254	211	733	766	1,350	535	552
29	216	189	308	292	-	259	177	972	958	1,350	535	527
30	189	177	292	308	-	265	160	1,010	1,070	1,340	614	510
31	198	-	286	297	-	270	-	2,640	-	1,350	595	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						7,642	440	181	247		15,160	
November.....						5,221	244	146	174		10,360	
December.....						9,778	384	193	315		19,390	
Calendar year 1934.....						148,714	1,760	21	407		295,000	
January.....						8,784	391	225	283		17,420	
February.....						8,334	327	259	298		16,530	
March.....						8,981	377	244	290		17,810	
April.....						6,401	286	100	213		12,700	
May.....						14,122	2,640	106	456		28,010	
June.....						48,981	9,200	426	1,616		96,160	
July.....						42,970	1,590	1,180	1,386		85,230	
August.....						32,830	1,530	535	1,059		65,120	
September.....						21,133	906	510	704		41,920	
Water year 1934-35.....						214,677	9,200	100	588		425,800	

## North Platte River at Mitchell, Nebr.

Location.- Water-stage recorder, lat. 41°58', long. 103°48', in sec. 27, T. 23 N., R. 56 W., half a mile south of Mitchell.

Drainage area.- 24,300 square miles.

Records available.- June 1901 to July 1913, October 1930 to September 1935, in reports of U. S. Geological Survey; June 1901 to July 1913, April 1918 to September 1935, in reports of State engineer.

Average discharge.- 15 years (1920-35), 1,487 second-feet.

Extremes.- Maximum discharge during year, 11,000 second-feet June 1 (gage height, 4.51 feet); minimum mean daily discharge, 99 second-feet Oct. 1-2.  
1901-13, 1918-35: Maximum discharge, 23,600 second-feet June 17, 1921; minimum mean daily discharge, 45 second-feet May 10, 1934.

Remarks.- Records good except those for Dec. 4-8, Dec. 24 to Jan. 1, Jan. 13-31, Feb. 25 to Mar. 2, which were estimated on the basis of two discharge measurements and temperature records. Numerous diversions for irrigation. Flow partly regulated by Pathfinder and Guernsey Reservoirs.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	99	184	155	500	743	480	229	238	8,880	261	185	224
2	99	172	214	535	699	500	238	220	5,380	242	255	196
3	106	160	228	589	589	510	247	202	3,660	196	236	154
4	135	166	300	643	422	535	247	184	3,160	242	236	149
5	150	160	309	535	400	510	238	166	2,460	230	236	149
6	155	155	330	498	400	485	238	155	2,060	230	230	144
7	155	145	400	498	388	460	229	135	1,910	267	219	149
8	155	140	460	485	366	447	220	125	1,260	261	224	180
9	160	135	575	485	344	447	208	122	1,010	236	219	191
10	155	130	562	498	355	447	214	120	664	224	224	174
11	166	125	562	498	411	435	220	120	864	219	273	164
12	172	125	562	523	411	411	220	140	1,110	208	224	164
13	178	125	562	523	411	422	214	125	2,580	273	208	159
14	178	130	535	500	422	435	214	120	2,290	428	213	154
15	172	135	498	480	498	447	214	130	1,380	586	213	149
16	178	135	498	500	602	447	202	202	871	385	219	144
17	196	135	498	520	523	460	196	208	734	224	230	159
18	172	130	498	550	485	460	184	1,040	684	213	236	139
19	160	130	523	480	485	400	155	1,080	575	213	236	134
20	166	130	498	400	447	400	145	912	495	202	242	159
21	178	130	485	380	472	400	125	848	414	202	255	149
22	166	125	472	412	472	411	115	773	343	208	255	139
23	166	125	472	450	472	344	106	758	318	196	255	134
24	160	120	450	500	447	256	110	643	292	174	249	124
25	155	115	470	580	350	202	400	589	202	164	242	124
26	150	115	430	600	400	184	510	562	164	159	230	115
27	145	115	490	600	420	172	510	670	144	164	230	124
28	145	120	470	550	440	172	422	992	191	169	230	129
29	150	120	450	620	-	202	310	1,060	149	169	356	129
30	155	120	450	650	-	214	256	788	164	169	337	124
31	172	-	440	600	-	220	-	1,440	-	169	230	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October							4,849	196	99	156	9,620	
November							4,052	184	115	135	8,040	
December							13,647	575	155	447	27,470	
Calendar year 1934							117,279	912	45	321	232,600	
January							16,182	650	380	522	32,100	
February							12,874	743	344	460	25,540	
March							11,915	535	172	364	23,630	
April							7,136	510	106	238	14,150	
May							14,867	1,440	120	480	29,490	
June							44,429	8,880	144	1,481	88,120	
July							7,283	586	159	235	14,450	
August							7,427	356	185	240	14,730	
September							4,526	224	115	151	8,960	
Water year 1934-35							149,387	8,880	99	409	296,300	

## North Platte River near Minatare, Nebr.

Location.- Water-stage recorder, lat. 41°47', long. 103°3', on west line of sec. 18, T. 21 N., R. 53 W., 2 miles south of Minatare.

Drainage area.- 24,700 square miles.

Records available.- October 1930 to September 1935, in reports of U. S. Geological Survey; May 1916 to October 1920, April 1922 to September 1935, in reports of State engineer.

Average discharge.- 12 years (1923-35), 1,729 second-feet.

Extremes.- Maximum discharge during year, 9,100 second-feet June 2 (gage height, 4.01 feet); minimum mean daily discharge, 158 second-feet Aug. 2.

1916-35: Maximum discharge, that of June 2, 1935; minimum mean daily discharge, 17 second-feet May 23, 1934.

Maximum stage since 1916 occurred in June 1921; discharge not determined.

Remarks.- Records good except those for Dec. 5-13, Dec. 26 to Jan. 7, Jan. 20-29, which were estimated. Numerous diversions for irrigation. Flow partly regulated by Pathfinder and Guernsey Reservoirs.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	221	329	815	560	845	597	516	597	4,040	597	167	414	
2	242	242	830	570	800	625	477	542	6,950	433	156	346	
3	274	187	755	750	770	625	477	477	4,150	356	194	298	
4	274	193	770	750	770	876	451	353	3,360	267	217	281	
5	252	200	618	600	661	710	425	317	3,010	344	225	261	
6	294	221	620	830	625	625	425	294	2,560	272	240	252	
7	353	221	606	870	597	740	389	252	2,620	447	225	262	
8	329	193	638	894	569	725	377	242	1,870	372	205	365	
9	329	187	638	911	542	687	425	200	1,550	279	221	430	
10	329	167	638	894	490	639	611	180	1,180	521	208	371	
11	341	200	695	845	529	611	681	174	1,200	240	192	353	
12	341	187	730	815	569	583	681	252	1,370	279	236	345	
13	353	180	760	785	611	611	611	274	2,020	395	211	333	
14	341	200	830	800	611	639	667	329	2,960	566	209	323	
15	377	200	862	845	597	667	611	341	2,410	723	190	314	
16	425	193	765	878	597	639	542	425	1,590	723	181	316	
17	477	210	785	755	639	597	490	451	1,330	503	210	298	
18	451	221	725	815	639	625	438	785	1,280	302	223	279	
19	341	252	611	695	639	569	377	1,550	1,110	166	243	286	
20	365	252	630	600	625	529	353	1,500	1,010	284	227	279	
21	529	232	815	450	597	490	317	1,440	878	256	197	269	
22	503	221	800	530	569	516	263	1,160	710	266	256	263	
23	516	242	785	590	611	464	193	977	625	205	271	242	
24	377	274	830	600	542	389	438	845	569	214	247	231	
25	305	242	755	620	542	232	894	755	451	213	246	231	
26	294	263	680	620	765	210	1,330	653	377	181	238	236	
27	274	341	570	640	725	210	1,390	1,040	305	183	209	309	
28	294	365	462	660	625	274	960	1,410	305	187	219	366	
29	284	413	480	680	-	353	830	1,240	294	200	263	336	
30	263	639	510	345	-	353	725	1,130	503	182	360	329	
31	274	-	530	862	-	413	-	1,160	-	171	451	-	
Month						Second-foot-days		Maximum		Minimum		Mean	Run-off in acre-feet
October.....						10,622		529		221		343	21,070
November.....						7,487		639		180		250	14,850
December.....						21,756		862		462		702	43,160
Calendar year 1934.....						170,540		1,280		17		467	338,400
January.....						22,879		911		450		738	45,380
February.....						17,741		845		490		634	35,190
March.....						16,805		878		210		542	33,330
April.....						17,364		1,390		193		579	34,440
May.....						21,345		1,550		174		688	42,340
June.....						52,537		6,950		294		1,753	104,300
July.....						10,349		723		171		334	20,530
August.....						7,141		451		158		230	14,160
September.....						9,208		430		231		307	18,260
Water year 1934-35.....						215,286		6,950		158		590	427,000

## North Platte River at Bridgeport, Nebr.

Location.- Water-stage recorder, lat. 41°40', long. 103°8', in sec. 28, T. 20 N., R. 50 W., half a mile north of Bridgeport. Zero of gage is 3,656.14 feet above mean sea level.

Drainage area.- 25,300 square miles.

Records available.- May 1902 to November 1908, October 1930 to September 1935, in reports of U. S. Geological Survey; May 1902 to November 1908, May 1915 to September 1935, in reports of State engineer.

Average discharge.- 18 years (1919-35), 2,101 second-feet.

Extremes.- Maximum discharge during year, 12,400 second-feet June 2 (gage height, 8.12 feet); minimum mean daily discharge, 196 second-feet July 28, 29.  
1902-6, 1915-35: Maximum discharge, 23,000 second-feet June 19, 1921; minimum mean daily discharge, 55 second-feet May 26, 1934.

Remarks.- Records good except those for Dec. 6-14, Dec. 25 to Jan. 3, Jan. 20-29, Feb. 23 to Mar. 1, which were estimated. Numerous diversions for irrigation. Flow partly regulated by Pathfinder and Guernsey Reservoirs.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	411	436	954	1,000	954	850	585	740	1,950	732	320	398
2	387	478	1,070	1,100	954	954	554	680	5,550	458	410	315
3	363	448	1,160	1,220	976	976	760	620	5,790	351	446	293
4	363	463	1,070	1,390	1,070	1,350	640	720	3,630	306	442	306
5	387	463	1,070	1,390	996	1,250	570	660	3,360	280	403	295
6	387	424	1,000	1,470	888	1,040	554	660	3,170	264	380	294
7	424	443	900	1,370	800	932	509	640	3,050	326	394	311
8	478	478	950	1,180	800	976	494	554	2,580	305	379	407
9	494	436	1,000	1,200	822	910	539	524	1,920	303	370	535
10	494	424	950	1,250	822	866	740	478	1,770	293	306	469
11	524	424	850	1,230	922	944	740	436	1,690	264	267	430
12	539	424	1,000	1,440	822	780	800	494	2,380	199	296	372
13	509	424	1,050	1,230	844	760	800	570	1,900	234	365	394
14	478	436	1,050	1,090	910	780	800	570	3,230	298	326	404
15	524	448	1,140	1,250	822	780	720	554	3,300	374	354	385
16	539	463	1,110	1,490	844	760	660	554	2,490	460	362	363
17	554	463	1,090	1,250	910	700	585	585	2,240	491	361	360
18	600	478	1,040	932	888	700	539	822	1,970	340	319	329
19	554	463	954	844	866	680	539	1,640	1,660	281	302	328
20	494	478	1,090	800	844	640	524	2,110	1,590	291	322	329
21	524	436	1,160	750	844	660	494	2,240	1,470	264	298	327
22	600	399	1,160	750	844	680	494	1,770	1,200	370	309	329
23	600	411	1,040	750	976	660	463	1,420	1,090	372	315	320
24	570	478	1,140	712	650	640	720	1,200	954	280	331	316
25	554	463	1,100	750	650	600	1,200	1,300	740	258	309	302
26	554	448	1,000	800	600	539	1,620	1,020	539	220	313	308
27	509	478	900	850	800	478	1,770	1,110	424	208	314	308
28	585	411	650	900	830	424	1,370	1,920	387	196	313	511
29	539	509	871	950	-	448	932	1,690	338	196	328	521
30	524	640	950	976	-	463	800	1,540	297	231	313	551
31	436	-	1,000	954	-	620	-	1,540	-	281	478	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							15,498	600	363	500	30,740	
November.....							13,672	640	399	456	27,120	
December.....							31,669	1,160	850	1,022	62,810	
Calendar year 1934.....							229,621	1,790	55	629	465,200	
January.....							33,268	1,490	712	1,073	65,990	
February.....							24,050	1,070	650	859	47,700	
March.....							23,740	1,350	424	766	47,090	
April.....							22,515	1,770	463	750	44,660	
May.....							31,361	2,240	436	1,012	62,200	
June.....							65,859	8,580	297	2,195	130,600	
July.....							9,726	732	196	314	19,290	
August.....							10,765	478	267	347	21,350	
September.....							11,122	551	293	371	22,060	
Water year 1934-35.....							293,245	8,550	196	803	581,600	

## North Platte River at Lisco, Nebr.

Location.- Water-stage recorder, lat. 41°30', long. 102°38', in sec. 33, T. 18 N., R. 46 W., half a mile south of Lisco.

Drainage area.- 26,900 square miles.

Records available.- September 1931 to September 1935.

Extremes.- Maximum discharge during year, 12,100 second-feet June 15 (gage height, 3.57 feet); minimum mean daily discharge, 132 second-feet July 29.

1931-35: Maximum discharge, that of June 15, 1935; minimum mean daily discharge, 8 second-feet Aug. 4, 1934.

Remarks.- Records good. Discharge estimated for period of ice effect, Dec. 5-15, Dec. 26 to Feb. 4, Feb. 25 to Mar. 2, on the basis of two discharge measurements and temperature records. Numerous diversions for irrigation. Flow partly regulated by Pathfinder and Guernsey Reservoirs.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	362	497	654	1,410	1,100	870	872	1,060	1,670	508	248	454		
2	362	475	796			890	859	911	2,240	784	266	393		
3	372	497	937			911	833	820	8,790	654	434	324		
4	403	486	1,090			1,090	898	808	4,720	552	454	294		
5	434	497	1,200	1,700	1,400	1,300	796	796	3,500	434	413	294		
6	424	497	1,150			1,240	1,200	712	784	3,380	372	403	275	
7	424	508				1,150	1,010	654	898	3,120	393	382	285	
8	454	541				1,110	966	620	846	2,790	424	393	382	
9	475	519		1,110	937	712	760	2,150	393	343	434			
10	497	508	1,300	1,400	924	998	937	1,050	712	1,720	424	497		
11	508	497				966	924	911	736	2,150	294	285	475	
12	519	475				1,030	898	872	859	2,900	304	266	355	
13	552	475				1,080	898	937	998	2,410	266	294	294	
14	541	475	1,300	1,400	924	1,080	859	924	966	2,080	266	324		
15	541	454				924	924	820	898	4,630	333	294	266	
16	596	465				1,220	898	898	748	859	4,130	403	294	285
17	596	497				1,130	911	833	736	885	3,150	454	314	294
18	608	475	1,170	1,300	924	859	688	1,340	2,180	497	333	304		
19	631	454	1,080			982	808	654	1,590	1,650	393	285	285	
20	596	454	1,080			924	820	608	2,410	1,470	257	221	294	
21	574	465	1,190			924	796	585	2,510	1,530	552	185	285	
22	541	444	1,240	950	898	760	552	2,410	1,430	642	239	285		
23	563	434	1,050			937	724	574	1,720	1,190	465	239	275	
24	585	434	1,050			677	736	998	1,400	1,090	362	285	294	
25	541	434	1,110			700	736	1,620	1,320	998	294	314	333	
26	552	434	850	1,200	750	736	1,740	1,340	924	248	304	314		
27	552	454	600			800	642	1,720	1,130	736	203	314	372	
28	519	454	810			850	596	1,740	1,320	642	155	343	403	
29	519	508	837			-	552	1,470	2,080	563	132	343	465	
30	508	563	900		-	585	1,090	1,720	508	185	324	444		
31	519	-	1,000		--	688	-	1,600	-	266	333	-		
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....						15,868	631	362	512	31,470				
November.....						14,370	563	434	479	28,600				
December.....						33,444	-	654	1,079	66,340				
Calendar year 1934.....						271,198	2,440	8	743	537,900				
January.....						41,090	-	-	1,325	81,500				
February.....						27,737	1,400	677	991	55,020				
March.....						26,383	1,300	552	851	52,330				
April.....						28,023	1,740	552	1,241	55,580				
May.....						38,476	2,510	712	2,348	76,320				
June.....						70,441	8,790	508	364	139,700				
July.....						11,909	784	132	348	23,620				
August.....						9,773	454	185	315	19,380				
September.....						10,227	497	266	341	20,280				
Water year 1934-35.....						327,741	8,790	132	898	650,000				

## North Platte River at Oshkosh, Nebr.

Location.— Water-stage recorder, lat.  $41^{\circ}23'$ , long.  $102^{\circ}20'$ , on west line of sec. 2, T. 16 N., R. 44 W., 1 mile south of Oshkosh.

Drainage area.— 27,500 square miles.

Records available.— October 1930 to September 1935, in reports of U. S. Geological Survey; April 1916 to October 1917, March 1923 to September 1935, in reports of State engineer.

Extremes.— Maximum discharge during year, 11,500 second-feet June 16 (gage height, 3.97 feet); minimum mean daily discharge, 83 second-feet July 29.

1916-17, 1928-35: Maximum discharge, 19,200 second-feet June 4, 1929; no flow July 21 to Aug. 11, Aug. 21, 24-31, 1934.

Remarks.— Records good except those for period of ice effect, Dec. 3-21, Dec. 30 to Jan. 10, Jan. 16 to Feb. 2, which were estimated on the basis of one discharge measurement and temperature records. Numerous diversions for irrigation. Flow partly regulated by Pathfinder and Guernsey Reservoirs.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	366	554	582	1,700	1,500	1,660	568	1,260	2,030	496	222	282	
2	345	539	640		1,800	1,560	704	1,020	1,880	484	213	314	
3	345	496	600		2,130	1,210	720	956	5,820	752	213	272	
4	345	496	750		1,700	1,040	768	898	5,870	672	448	238	
5	355	472	900		1,440	1,100	800	858	3,920	525	448	222	
6	388	484	800	1,900	1,320	1,190	768	878	3,450	472	376	222	
7	424	525	1,000		1,230	1,100	640	898	3,180	436	412	222	
8	448	525	1,200		1,260	1,080	539	995	2,930	460	448	230	
9	460	539			1,190	1,060	611	839	2,830	366	448	272	
10	460	525			1,150	976	976	784	2,160	334	345	314	
11	460	539	1,300	1,930	1,120	956	1,100	688	2,340	181	314	376	
12	448	525		1,860	1,100	995	956	720	3,590	153	264	338	
13	448	496		1,980	1,080	998	936	917	3,280	132	255	344	
14	472	496		1,510	1,170	956	956	976	3,050	118	272	272	
15	448	496		1,420	1,100	898	839	976	2,800	101	282	247	
16	525	484	1,380	1,540	1,370	858	878	936	7,880	106	264	255	
17	539	496		1,610	1,170	768	878	917	4,500	174	293	255	
18	554	484		1,350	858	800	800	1,230	3,220	293	314	264	
19	582	472			800	768	752	1,680	2,370	282	262	264	
20	568	472			784	839	720	2,210	1,900	205	213	282	
21	539	484	1,700	900	917	800	656	2,900	1,780	146	174	324	
22	510	448	1,960		878	784	597	2,830	1,700	688	181	345	
23	484	424	1,080		917	704	525	2,450	1,460	460	167	314	
24	484	424	1,320		484	704	936	1,900	1,230	376	174	293	
25	496	424	1,590		688	688	1,660	1,760	1,170	247	196	355	
26	554	460	800	1,200	995	672	2,080	1,730	1,120	174	222	366	
27	568	568	1,230		1,120	568	1,900	1,610	995	125	222	412	
28	611	525	1,040		1,350	460	2,030	1,630	784	101	255	448	
29	597	554	1,320		-	436	1,900	2,000	568	83	282	484	
30	582	582	1,300		-	448	1,560	2,370	460	95	238	554	
31	554	-	1,400		-	525	-	2,030	-	167	247	-	
Month					Second-foot-days		Maximum	Minimum	Mean		Run-off in acre-feet		
October.....					14,971		611	345	483		29,690		
November.....					15,008		582	424	500		29,770		
December.....					36,812		1,960	582	1,187		73,020		
Calendar year 1934.....					280,528		2,840	0	769		556,400		
January.....					45,600		1,980	-	1,471		90,450		
February.....					32,621		2,130	484	1,165		64,700		
March.....					27,578		1,660	436	890		54,700		
April.....					29,853		2,080	525	998		59,410		
May.....					45,846		2,900	698	1,414		86,970		
June.....					80,267		7,880	460	2,676		159,200		
July.....					9,404		752	83	303		18,650		
August.....					8,684		448	167	280		17,220		
September.....					9,420		554	222	314		18,680		
Water year 1934-35.....					354,164		7,880	83	970		702,500		

## North Platte River at Martin, Nebr.

Location.- Water-stage recorder, lat.  $41^{\circ}14'$ , long.  $101^{\circ}43'$ , in sec. 31, T. 15 N., R. 38 W., 1 mile south of Martin.

Drainage area.- 30,000 square miles.

Records available.- October 1933 to September 1935.

Extremes.- Maximum discharge during year, 16,400 second-feet June 17 (gage height, 3.35 feet); minimum mean daily discharge 127 second-feet July 30.  
1933-35: Maximum discharge, that of June 17, 1935; no flow July 25 to Aug. 14, Aug. 27, 29-31, 1934.

Remarks.- Records fair. Discharge estimated Dec. 6-16, Dec. 28 to Jan. 12, Jan. 14 to Feb. 4, Feb. 25 to Mar. 2, on the basis of two discharge measurements and temperature records. Numerous diversions above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	410	525	770	2,000	2,100	1,450	894	1,850	2,430	816	216	410
2	486	549	848		2,200	2,200	910	1,530	2,290	668	299	338
3	488	549	995		2,300	1,930	927	1,250	2,110	725	236	328
4	525	537	1,250		2,400	1,550	1,190	1,140	6,920	1,140	236	299
5	537	537	1,150		2,130	1,210	1,030	1,060	4,410	1,030	398	254
6	512	586	1,120	1,200	1,780	1,330	1,140	961	4,000	696	466	201
7	525	610			1,660	1,440	978	978	3,700	549	376	192
8	561	653			1,530	1,310	801	1,060	3,510	500	366	236
9	525	696			1,400	1,350	832	1,100	3,370	488	366	201
10	466	696			1,290	1,250	1,250	894	3,090	454	309	201
11	488	740	1,500	1,730	1,270	1,210	1,480	894	2,560	410	290	218
12	537	785		1,950	1,270	1,250	1,380	848	3,740	357	254	271
13	525	801		2,240	1,310	1,180	1,270	1,210	3,870	262	227	309
14	586	754		2,000	1,330	1,080	1,230	1,440	2,970	245	201	254
15	537	770		1,800	1,270	1,180	1,080	1,330	2,340	201	210	218
16	586	696	1,800	1,500	1,120	1,030	1,060	1,160	3,870	156	290	218
17	561	740	1,930		1,270	961	1,100	1,120	9,740	170	245	201
18	610	696	1,600		1,330	995	1,080	1,460	4,600	280	271	192
19	639	696	1,550		1,250	995	978	2,050	3,200	347	338	170
20	586	682	1,600		1,190	1,050	863	2,430	2,560	421	328	134
21	537	711	1,620	1,200	1,310	1,010	816	2,730	2,430	573	245	149
22	549	668	1,690		1,210	961	816	2,910	2,160	711	309	192
23	512	682	1,640		1,190	863	725	2,700	1,930	801	227	210
24	454	725	1,190		639	910	1,120	2,340	1,730	668	218	185
25	500	711	1,500		550	995	1,930	1,950	1,570	454	271	201
26	573	711	696	1,500	600	944	2,820	1,780	1,730	347	309	236
27	488	770	725		800	879	2,480	1,950	1,640	271	299	328
28	525	725	1,200		765	2,210	2,480	1,580	192	254	376	
29	573	754	-		-	770	2,320	1,850	1,080	142	280	366
30	561	816	-		-	711	2,080	1,980	927	127	280	367
31	561	-	-	-	-	598	-	2,540	-	170	338	-
Month					Second-foot-days		Maximum	Minimum	Mean		Run-off in acre-feet	
October.....					16,525		639	410	533		32,780	
November.....					20,571		816	525	696		40,800	
December.....					41,154		1,830	696	1,328		81,630	
Calendar year 1934.....					329,491		3,480	0	903		653,600	
January.....					52,220		2,240	-	1,685		103,600	
February.....					38,399		2,400	550	1,369		77,160	
March.....					35,427		2,200	598	1,143		70,270	
April.....					38,790		2,820	725	1,293		76,940	
May.....					50,965		2,910	848	1,644		101,100	
June.....					91,857		9,740	927	3,062		182,200	
July.....					14,371		1,140	127	464		28,500	
August.....					8,934		466	201	288		17,720	
September.....					7,475		410	134	249		14,830	
Water year 1934-35.....					417,188		9,740	127	1,143		827,500	



## North Platte River at North Platte, Nebr.

Location.- Water-stage recorder, lat. 41°9', long. 100°46', in sec. 28, T. 14 N., R. 30 W., half a mile north of North Platte and 4½ miles above mouth of South Platte River. Zero of gage is 2,794.9 feet above mean sea level.

Drainage area.- 32,000 square miles.

Records available.- February 1895 to September 1915, October 1930 to September 1935, in reports of U. S. Geological Survey; February 1895 to September 1935, in reports of State engineer.

Average discharge.- 41 years (1894-1935), 2,656 second-feet.

Extremes.- Maximum discharge during year, 11,700 second-feet June 18 (gage height, 5.20 feet); minimum mean daily discharge, 52 second-feet Aug. 17, 18.

1895-1935: Maximum discharge, 27,100 second-feet June 6, 1909; minimum mean daily discharge, 20 second-feet Sept. 20, 1904.

Remarks.- Records good. Discharge estimated Dec. 6-25, Jan. 19 to Feb. 6, Feb. 25 on the basis of one discharge measurement and temperature records. Numerous diversions for irrigation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	369	434	1,160	1,210	3,000	1,300	822	2,330	4,240	972	92	296
2	369	434	1,530	1,400		2,260	782	2,170	2,930	655	92	390
3	348	523	1,610	1,630		3,600	740	1,760	2,330	464	78	420
4	380	593	1,350	2,000		3,310	972	1,660	1,950	593	75	359
5	390	574	1,500	2,260		3,000	2,140	1,530	7,270	533	65	317
6	405	523	1,600	2,490	2,500	1,530	1,040	1,450	7,100	629	58	380
7	405	556		2,390	1,920	1,690	996	1,260	5,580	593	58	380
8	369	593		2,390	1,920	1,870	1,020	1,450	4,900	434	58	338
9	359	629		2,230	2,030	1,790	884	1,610	4,390	307	58	249
10	348	647		2,260	1,890	1,740	1,090	1,400	3,940	242	58	254
11	369	720	1,640	2,460	1,710	1,580	1,160	1,350	3,550	359	55	227
12	369	782		2,520	1,820	1,580	1,110	1,300	3,020	264	89	242
13	369	822		2,060	1,890	1,530	1,280	1,500	2,930	227	89	192
14	390	822		1,870	1,790	1,530	1,350	1,560	4,140	192	61	185
15	420	843		1,610	1,580	1,680	1,230	1,660	2,780	161	61	192
16	494	843	1,600	1,300	1,280	1,300	1,150	1,630	3,270	151	61	198
17	593	843		1,480	1,480	1,300	1,040	1,590	4,140	151	52	205
18	702	782		1,560	1,330	1,350	900	1,890	8,740	139	52	212
19	702	802		1,000	1,400	1,380	780	2,890	5,480	139	68	192
20	647	802		950	1,400	1,400	660	3,780	3,660	139	113	178
21	611	884	1,550	1,000	1,400	1,430	550	4,250	2,880	154	164	158
22	629	864		1,350	1,350	1,350	460	4,100	2,460	128	227	151
23	647	884		1,300	1,230	359	3,560	2,120	123	227	171	171
24	684	822		740	1,140	1,840	3,180	1,980	200	164	164	164
25	629	864		730	1,140	2,930	2,890	1,740	219	227	185	185
26	479	884	1,690	720	1,040	3,020	2,330	1,690	219	185	198	198
27	380	1,020		1,040	1,020	3,450	2,090	1,630	128	171	219	219
28	479	1,140		1,020	904	2,780	5,320	1,560	97	227	227	227
29	479	1,090		-	904	2,230	5,010	1,450	97	307	249	249
30	464	1,140		884	-	761	2,260	2,490	1,300	97	307	307
31	464	-	1,090	-	-	702	-	2,970	-	97	296	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				14,742		702	348	476	29,240			
November.....				23,159		1,140	434	772	45,940			
December.....				43,107		-	234	1,391	85,500			
Calendar year 1934.....				358,101		3,800	41	1,008	730,100			
January.....				53,470		2,520	950	1,725	106,100			
February.....				49,750		3,510	720	1,777	98,560			
March.....				47,551		3,600	702	1,528	93,980			
April.....				39,833		3,450	359	1,328	79,010			
May.....				73,940		5,320	1,260	2,385	146,700			
June.....				105,110		8,740	1,300	3,504	208,500			
July.....				8,888		972	97	287	17,630			
August.....				3,895		307	52	126	7,730			
September.....				7,445		420	161	248	14,770			
Water year 1934-35.....				470,720		8,740	52	1,290	933,800			

## Platte River near Overton, Nebr.

Location.- Water-stage recorder, lat. 40°41', long. 99°32', in sec. 12, T. 8 N., R. 20 W., 4 miles south of Overton.

Drainage area.- 58,400 square miles.

Records available.- October 1930 to September 1935, in reports of U. S. Geological Survey; June 1918 to December 1923, April 1925 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 37,600 second-feet June 5 (gage height, 6.25 feet); no flow Oct. 1 to Dec. 8, July 20 to Aug. 27.  
1918-23, 1925-35: Maximum discharge, that of June 5, 1935; no flow at times during 1925, 1927, 1928, 1930-35.

Remarks.- Records fair. Discharge estimated Dec. 25 to Feb. 5, Feb. 27-28, on the basis of one discharge measurement and temperature records. Numerous diversions from headwaters.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0		2,470	1,140	118	2,450	21,500	2,110	0	123
2			0		2,550	1,790	97	2,260	18,300	1,760	0	308
3			0		2,850	2,220	74	1,860	11,500	1,460	0	337
4			0		2,800	3,450	50	1,690	7,330	1,230	0	280
5			0		3,250	5,150	32	1,460	29,400	955	0	175
6			0		3,190	2,760	21	1,310	16,300	692	0	118
7			323		3,010	2,560	18	1,230	15,800	604	0	88
8			308		3,060	2,030	12	1,230	11,000	502	0	128
9			265		2,890	2,140	8	1,140	8,240	385	0	214
10			294		2,890	2,220	16	1,170	5,020	308	0	206
11			337		2,720	2,260	152	2,640	6,860	214	0	152
12			463		2,520	2,070	444	2,110	6,100	152	0	128
13			670		2,330	1,890	463	1,690	5,340	102	0	97
14			1,230		2,600	1,720	444	1,630	4,700	56	0	74
15			1,760		2,640	1,620	424	1,430	4,120	21	0	53
16			2,410		2,260	1,720	424	1,400	3,860	8	0	38
17			2,330		2,110	1,340	385	1,400	4,350	6	0	19
18			2,600		2,070	1,230	337	2,800	16,700	4	0	11
19			2,560		1,930	1,140	308	4,580	13,200	3	0	6
20			2,760		1,860	1,090	251	5,490	15,000	0	0	7
21			2,850		1,960	1,030	206	5,950	8,940	0	0	6
22			2,520		2,110	930	183	5,950	6,440	0	0	5
23			1,720		2,030	905	152	5,280	4,830	0	0	5
24			1,500		1,720	830	134	4,470	4,070	0	0	5
25			1,100		714	736	128	4,290	3,860	0	0	4
26					526	604	1,590	4,020	3,550	0	0	4
27					550	482	5,490	4,530	3,320	0	0	4
28			950		850	366	5,150	5,870	3,010	0	3	4
29					-	251	4,180	5,490	2,760	0	47	4
30			1,200		-	183	2,890	13,700	2,490	0	53	4
31			1,400		-	144	-	18,300	-	0	60	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	34,400	2,850	0	1,110	68,230
Calendar year 1934.....	280,803	3,700	0	769	557,000
January.....	47,430	-	-	1,530	94,080
February.....	62,360	3,250	550	2,227	123,700
March.....	48,011	5,150	144	1,549	95,230
April.....	24,182	5,490	9	806	47,960
May.....	118,720	16,300	1,140	3,630	235,500
June.....	272,890	29,400	2,490	9,096	541,300
July.....	10,572	2,110	0	341	20,970
August.....	163	60	0	5.3	323
September.....	2,609	337	4	5,170	5,170
Water year 1934-35.....	621,337	29,400	0	1,702	1,232,000

## Platte River near Grand Island, Nebr.

Location.- Water-stage recorder, lat. 40°53', long. 98°17', in sec. 36, T. 11 N., R. 9 W., 5 miles southeast of Grand Island.

Drainage area.- 59,500 square miles.

Records available.- October 1933 to September 1935.

Extremes.- Maximum discharge during year, 44,400 second-feet June 6 (gage height, 5.99 feet); no flow Oct. 1 to Dec. 20, July 17 to Sept. 3, Sept. 16-30.  
1933-35: Maximum discharge, that of June 6, 1935; no flow at times during 1934-35.

Remarks.- Records fair. Discharge estimated Dec. 21 to Feb. 13, Mar. 6-10, on the basis of one discharge measurement and temperature records. Numerous diversions for irrigation above station. Flow partly regulated by reservoirs in Wyoming.

Rating table for June 1 to Sept. 30 (gage height, in feet,  
and discharge, in second-feet)

1.4	0	2.2	635	3.6	6,650	5.0	23,800
1.5	5	2.4	940	3.8	8,550	5.2	27,400
1.6	35	2.6	1,330	4.0	10,400	5.4	31,300
1.7	100	2.8	1,890	4.2	12,500	5.6	35,600
1.8	185	3.0	2,770	4.4	14,900	5.8	40,000
1.9	275	3.2	3,910	4.6	17,600	6.0	44,600
2.0	380	3.4	5,290	4.8	20,500		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	570	1,500	1,210	375	2,400	30,700	1,630		0
2			0	566	1,800	2,280	324	1,940	29,100	1,350		0
3			0	703	2,400	1,900	282	1,510	24,200	1,080		0
4			0	742	3,000	2,480	234	1,480	15,300	907		32
5			0	761	3,500	2,130	180	1,460	9,740	907		117
6			0	834	3,400	1,500	142	1,400	30,100	841		117
7			0	890	3,000	1,200	158	1,280	23,000	540		94
8			0	946	2,800	2,000	135	1,170	17,700	452		175
9			0	1,050	2,500	2,400	180	1,130	13,800	440		151
10			0	1,170	2,700	2,200	202	1,070	10,200	392		257
11			0	1,400	2,800	2,360	172	1,070	7,600	296		317
12			0	1,200	3,000	2,050	150	1,550	6,130	230		286
13			0	1,100	3,500	1,900	122	2,440	4,790	100		142
14			0	1,000	3,790	1,730	75	2,050	4,370	29		23
15			0	900	2,800	1,510	90	1,510	3,850	8		2
16			0		2,130	1,230	109	1,140	3,260	2		0
17			0		1,940	1,480	52	1,170	4,860	0		0
18			0		1,940	1,760	48	1,940	7,350	0		0
19			0		1,630	1,460	52	3,660	15,900	0		0
20			0		1,260	1,380	34	5,340	13,100	0		0
21			218	400	1,170	1,330	23	5,540	13,600	0		0
22			495	450	1,120	1,300	13	5,490	8,200	0		0
23			560	600	1,140	1,210	15	5,340	5,070	0		0
24			570	781	1,060	1,070	96	4,640	3,610	0		0
25			642	807	876	932	307	4,110	3,430	0		0
26			742	876	729	862	195	3,610	3,370	0		0
27			528	876	768	729	135	3,610	2,530	0		0
28			456	890	932	654	48	3,660	2,990	0		0
29			486	916	-	594	2,010	4,930	3,730	0		0
30			549	976	-	496	2,840	4,930	2,430	0		0
31			549	1,100	-	458	-	8,770	-	0		-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	5,795	742	0	187	11,490
Calendar year 1934.....	244,985	5,700	0	671	486,000
January.....	26,126	1,400	400	843	51,820
February.....	59,235	3,790	729	2,116	117,500
March.....	45,775	2,480	438	1,477	90,790
April.....	8,799	2,840	13	293	17,450
May.....	91,340	8,770	1,070	2,946	181,200
June.....	324,010	30,700	2,430	10,900	642,700
July.....	9,204	1,630	0	297	18,260
August.....	0	0	0	0	0
September.....	1,714	317	0	57.1	3,400
Water year 1934-35.....	571,998	30,700	0	1,567	1,135,000

## Platte River near Duncan, Nebr.

Location.- Water-stage recorder, lat. 41°22', long. 97°29', in sec. 12, T. 16 N., R. 2 W.,  $1\frac{1}{2}$  miles south of Duncan. Prior to Sept. 20, 1934, staff gage at same site and datum. Zero of gage is 1,478.7 feet above mean sea level.

Drainage area.- 61,600 square miles.

Records available.- October 1928 to September 1935. June 1895 to September 1915 at points 7 miles downstream.

Extremes.- Maximum discharge during year, 47,300 second-feet June 7 (gage height, 6.28 feet); no flow Oct. 1 to Nov. 5, Nov. 8-21, 24-28, Dec. 3-10.  
1895-1915, 1928-35: Maximum discharge, 51,100 second-feet June 23, 1905; no flow at times.

Remarks.- Records fair. Discharge estimated Dec. 3 to Feb. 19, Feb. 25-28, Mar. 6-10, on the basis of one discharge measurement and temperature records, and July 27 to Sept. 1, Sept. 21-30, by comparison with nearby stations. Numerous diversions from headwaters. Flow partly regulated by reservoirs in Wyoming. Gage-height record collected in cooperation with the U. S. Weather Bureau.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.9	80	1,200	1,510	368	2,120	15,300	3,670	1	10
2		0	0.6	60		1,550	302	2,280	29,800	2,970	1	85
3		0	0	43		2,250	321	2,150	29,000	2,390	1	188
4		0	0	60		2,650	302	1,940	19,600	1,890	1	216
5		0	0	200		1,820	256	1,750	12,800	1,490	1	180
6		.3	0	500	1,500	1,220	256	1,680	6,980	1,510	.9	262
7		.6	0			550	275	1,640	35,400	1,550	.9	211
8		0	0			1,000	250	1,870	21,100	990	.9	202
9		0	0			1,500	251	1,410	13,800	766	.8	284
10		0	0			2,000	278	1,220	9,970	600	.8	246
11		0	4	950	2,200	2,750	262	1,240	7,550	503	.8	197
12		0				2,090	308	1,120	6,270	420	.7	290
13		0				1,890	328	1,090	5,500	347	.7	358
14		0				1,870	246	2,620	5,100	262	.7	321
15		0				1,770	172	2,800	5,280	216	.6	202
16		0	10	800	2,100	1,680	145	1,890	4,760	184	.6	141
17		0			2,050	1,530	109	1,450	6,040	145	.6	116
18		0			2,000	1,660	92	1,450	8,000	106	.6	89
19		0			1,950	1,600	85	2,280	9,520	92	.5	76
20		0			1,940	1,590	63	4,520	22,100	85	.5	66
21		0	10	700	1,550	1,470	53	6,270	16,600	82	.5	40
22		.6			1,330	1,350	50	6,750	16,400	50	.5	18
23		2			1,260	1,170	50	6,450	8,800	28	.5	6
24		0			1,280	1,050	235	5,990	8,320	18	.5	5
25		0			1,100	1,010	152	5,560	5,740	12	.5	4
26		0	100	800	700	864	211	4,680	5,060	3	.5	3
27		18			1,000	778	268	3,970	4,890	2	.8	3
28		2			1,550	697	175	3,990	5,140	2	1	3
29		2			-	610	123	4,360	4,280	2	2	2
30		1			-	486	188	5,500	4,690	2	5	2
31		-			-	452	-	7,200	-	2	7	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						26.5	18	0	.88	53		
December.....						721.5	-	0	23.3	1,430		
Calendar year 1934.....						265,276	8,580	0	727	526,200		
January.....						19,995	-	43	645	39,660		
February.....						44,310	-	700	1,582	87,890		
March.....						44,197	2,750	452	1,426	87,660		
April.....						6,153	368	50	205	12,200		
May.....						98,340	7,200	1,090	3,172	195,100		
June.....						354,590	35,400	4,280	11,820	703,300		
July.....						20,389	3,670	2	658	40,440		
August.....						34.4	7	.5	1.11	68		
September.....						3,856	368	2	128	7,610		
Water year 1934-35.....						592,590.4	35,400	0	1,624	1,175,000		

## Platte River near Ashland, Nebr.

Location.— Water-stage recorder, lat. 41°4', long. 96°20', in sec. 30 (revised), T. 13 N., R. 10 E., 3 miles northeast of Ashland. Zero of gage is 1,020.1 feet above mean sea level.

Drainage area.— 83,800 square miles.

Records available.— August 1928 to September 1935.

Extremes.— Maximum discharge during year, 44,400 second-feet June 7 (gage height, 7.29 feet); minimum mean daily discharge, 474 second-feet Dec. 7.  
1928-35: Maximum discharge, 58,000 second-feet Feb. 28, 1932 (gage height, 6.7 feet); minimum, not determined.

Remarks.— Records fair. Discharge estimated Dec. 12 to Feb. 18, Feb. 25-27, Mar. 6-9, on the basis of two discharge measurements and temperature records. Numerous diversions from headwaters. Flow partly regulated by reservoirs on headwaters in Wyoming.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,840	2,260	3,580	1,500	2,800	2,790	2,390	7,570	25,800	10,900	1,620	3,280
2	1,710	2,030	3,120	1,500	3,200	3,190	2,520	6,120	37,700	9,100	1,640	5,130
3	1,600	2,860	2,140	1,600	3,400	5,600	2,480	6,120	39,400	7,390	1,820	7,860
4	1,530	2,580	1,320	2,000	3,100	11,100	2,760	6,430	35,400	7,690	1,770	8,890
5	1,600	2,170	1,420	3,000	2,800	9,460	2,720	6,010	29,500	5,750	1,830	4,300
6	1,600	2,230	1,120	3,900	2,600	7,500	2,550	5,010	22,800	4,380	1,710	3,310
7	1,800	2,360	474	4,200	3,300	6,000	2,480	4,510	21,400	4,740	1,710	2,780
8	1,620	2,390	666	4,400	4,300	6,500	2,720	4,510	34,200	9,380	1,670	4,810
9	1,640	2,230	1,080	4,100	4,600	8,000	2,900	4,700	27,000	9,100	1,600	5,960
10	1,870	2,200	964	3,900	5,200	8,790	3,560	4,800	23,600	5,490	1,570	6,670
11	1,980	2,200	1,360	3,950	5,800	7,220	3,920	4,800	22,300	3,100	1,520	3,600
12	1,970	2,230	1,800	4,020	6,000	6,490	3,830	4,910	19,700	2,540	1,450	2,110
13	1,940	2,480	1,500	4,100	6,500	5,950	6,300	5,890	12,700	2,200	1,460	2,560
14	2,090	2,290	2,600	3,500	6,800	5,280	6,120	6,120	11,500	2,120	1,450	2,360
15	2,000	2,320	2,600	1,600	7,400	4,910	4,750	7,640	10,200	2,080	1,420	2,310
16	1,790	2,280	2,650	1,800	8,000	5,010	4,180	9,870	9,620	2,050	1,390	2,240
17	1,790	2,390	2,680	1,600	8,800	5,010	4,220	9,020	9,200	2,040	1,370	2,110
18	1,970	2,520	2,700	1,900	9,500	5,380	3,650	7,350	11,300	2,010	1,330	2,000
19	2,580	2,550	2,100	1,400	10,100	6,330	3,260	6,620	15,800	1,960	1,370	1,910
20	3,620	4,910	1,720	950	8,480	4,700	2,820	8,480	13,800	1,910	1,400	1,850
21	6,940	4,550	2,000	1,000	8,320	4,550	3,000	19,400	25,200	1,850	1,410	1,850
22	10,600	3,500	2,300	1,600	7,500	4,220	2,680	18,300	25,900	1,630	1,960	1,830
23	6,740	3,340	2,200	1,120	6,680	4,090	2,650	18,400	20,200	1,630	6,210	1,780
24	4,130	3,460	2,300	1,180	6,440	3,740	3,190	18,300	12,800	1,900	3,350	1,790
25	2,760	3,580	1,500	1,600	4,300	3,460	6,300	16,400	13,500	1,800	2,950	1,740
26	2,520	3,340	800	1,900	2,800	3,382	28,800	15,400	23,200	1,770	2,750	1,800
27	2,450	3,230	850	1,700	1,010	3,190	13,900	13,700	13,000	1,760	8,590	1,740
28	2,260	3,580	1,100	1,600	2,450	2,970	11,700	12,100	10,600	1,770	7,010	1,740
29	2,230	4,000	1,500	1,900	-	3,120	11,000	11,100	23,600	1,620	4,300	1,740
30	2,260	3,830	1,900	2,100	-	3,080	8,970	12,700	13,100	1,730	4,110	1,800
31	2,290	-	1,550	2,500	-	2,650	-	14,700	-	1,690	2,550	-
Month	Second-foot-days				Maximum		Minimum		Mean		Run-off in acre-feet	
October.....	83,460				10,600		1,530		2,692		165,500	
November.....	85,900				4,910		2,030		2,665		170,400	
December.....	55,394				3,580		474		1,787		109,900	
Calendar year 1934.....	1,094,246				12,000		386		2,998		2,170,000	
January.....	72,320				4,400		950		2,333		143,400	
February.....	151,080				10,100		1,010		5,396		299,700	
March.....	162,660				11,100		2,650		5,247		322,600	
April.....	162,250				28,800		2,390		5,408		321,800	
May.....	226,990				19,400		4,510		9,548		587,100	
June.....	613,720				39,400		9,200		20,460		1,217,000	
July.....	115,470				10,900		1,680		3,725		229,000	
August.....	76,380				8,590		1,370		2,464		151,500	
September.....	94,450				8,890		1,740		3,149		187,400	
Water year 1934-35.....	1,969,104				39,400		474		5,395		3,905,000	

## Little Grizzly Creek near Hebron, Colo.

Location.- Staff gage, lat.  $40^{\circ}37'$ , long.  $106^{\circ}24'$ , in sec. 32, T. 8 N., R. 80 W., 1 mile above junction with Grizzly Creek and 3 miles north of Hebron.

Drainage area.- 96 square miles.

Records available.- June 1904 to October 1905, October 1933 to September 1935, in reports of U. S. Geological Survey; June 1904 to October 1905, June 1931 to October 1935, in reports of State engineer.

Extremes.- Maximum discharge observed during year, 496 second-feet June 15 (gage height, 4.78 feet); no flow Oct. 1-4.  
1904-5, 1931-35: Maximum mean daily discharge, 592 second-feet June 11, 1905; no flow July 8 to Oct. 4, 1934.

Remarks.- Records good except those for Nov. 28 to Apr. 8, which were estimated on the basis of one discharge measurement and comparison with North Platte River at North-gate. Diversions for irrigation above station.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1, to Dec. 8						Table for Apr. 9 to Sept. 30					
1.7	0	2.1	7.8	2.6	72	1.9	1.4	2.4	41	3.0	145
1.8	.3	2.2	15	2.8	110	2.0	4.0	2.5	55	3.5	240
1.9	.8	2.3	27	3.0	150	2.1	9.2	2.6	71	4.0	340
1.95	1.3	2.4	40	3.3	210	2.2	18	2.8	107	4.8	500
2.0	2.8	2.5	55			2.3	28				

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	12					30	28	174	206	18	1.4
2	0	12					30	31	177	166	16	1.4
3	0	12					30	31	134	130	17	1.4
4	0	13					30	41	198	84	17	1.4
5	1.6	14					32	41	227	58	16	1.4
6	.8	16					30	41	217	44	16	1.4
7	.8	40					30	36	246	51	15	23
8	1.2	27					28	36	266	49	15	38
9	1.2	15					28	52	316	34	15	23
10	1.6	14					28	55	422	27	16	17
11	1.6	14					28	55	436	24	9.2	15
12	1.6	14		*72			28	41	436	21	9.2	9.2
13	1.6	12					44	44	456	24	9.2	5.0
14	2.2	12					41	38	472	25	8.2	4.0
15	2.2	11					63	38	476	27	6.6	3.2
16	2.2	12					89	38	314	34	4.0	2.4
17	2.8	12					89	34	350	34	4.0	1.9
18	2.8	12					89	41	404	32	3.2	1.4
19	3.8	12					80	26	304	37	3.0	3.5
20	5.3	14					80	18	312	58	3.0	4.0
21	6.8	14					80	16	324	93	3.0	4.0
22	6.8	15					80	17	358	58	3.0	3.5
23	6.8	15					63	18	384	51	3.0	1.9
24	7.8	15					71	34	294	37	3.0	1.9
25	7.8	15					80	61	200	24	2.4	2.2
26	7.8	14					48	143	200	19	1.9	2.2
27	9.2	14					41	215	225	17	1.9	2.7
28	10	13					31	234	244	17	1.4	2.4
29	11	12					34	225	242	19	1.4	2.2
30	11	12					28	160	219	19	1.4	1.9
31	11	-					-	164	-	17	1.4	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						129.3	11	0	4.17	256		
November.....						439	40	11	14.6	871		
December.....						279	-	-	9.0	553		
Calendar year 1934.....												
January.....						217	-	-	7.0	430		
February.....						210	-	-	7.5	417		
March.....						434	-	-	14.0	861		
April.....						1,483	89	28	49.4	2,940		
May.....						2,056	234	16	66.3	4,080		
June.....						9,027	476	134	301	17,900		
July.....						1,536	206	17	49.5	3,050		
August.....						244.4	18	1.4	7.88	485		
September.....						183.9	38	1.4	6.13	365		
Water year 1934-35.....						16,238.6	476	0	44.5	32,210		

\*Discharge measurement.

## Roaring Fork near Walden, Colo.

Location.- Water-stage recorder, lat. 40°41', long. 106°28', in sec. 11, T. 8 N., R. 81 W., 10 miles southwest of Walden.

Drainage area.- 84 square miles.

Records available.- May 1904 to October 1905, October 1923 to September 1930, October 1933 to September 1935, in reports of U. S. Geological Survey; May 1904 to October 1905, October 1923 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 461 second-feet June 15 (gauge height, 3.72 feet); minimum mean daily discharge, 5.7 second-feet Sept. 23, 1904-5, 1923-35: Maximum discharge, 790 second-feet June 15, 1924 (gauge height, 3.73 feet); minimum daily discharge, 2 second-feet Aug. 15, 1904.

Remarks.- Records good except those for Dec. 6 to Mar. 29, which were estimated on the basis of one discharge measurement and temperature records, and those estimated June 9-13, 16-18, Aug. 5-12. Diversions for irrigation above station.

Rating table, water year 1934-35 (gauge height, in feet, and discharge, in second-feet)  
(Shifting-control method used Sept. 1-30)

0.3	2.5	0.7	24	1.2	79	2.0	191
.4	5.2	.8	32	1.4	106	2.5	266
.5	10.4	.9	42	1.6	134	3.0	346
.6	16.4	1.0	54	1.8	162	3.5	426
						3.8	474

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.2	6.8	10	-			27	28	66	202	64	16
2	6.8	6.8	13	-			27	30	46	218	65	15
3	6.8	9.4	12	-			30	25	30	215	62	15
4	7.3	9.4	10	-			30	27	26	186	54	13
5	6.2	10	12	-			30	47	42	123	52	11
6	6.8	15	13	-			30	52	72	107	50	11
7	6.8	15		-			31	61	99	110	44	26
8	6.6	14		-			28	60	168	106	42	24
9	7.3	14		-			29	52	250	96	39	21
10	7.3	14		-			27	46	225	88	33	16
11	6.8	14		*12			27	47	275	87	37	16
12	6.8	12		-			30	43	325	76	35	12
13	7.6	12		-			38	20	355	71	30	13
14	7.8	13		-			50	17	410	59	29	13
15	7.3	12		-			70	13	447	50	27	13
16	6.3	12		-			72	12	445	42	27	13
17	9.4	13		-			69	12	360	39	30	11
18	8.6	14		-			60	14	300	60	30	10
19	9.4	12		-			40	17	284	65	28	9.9
20	9.4	13	12	-			42	15	311	72	26	9.9
21	9.4	13		-			42	21	341	80	26	9.9
22	9.4	12		-			47	42	312	99	26	8.3
23	8.6	11		-			44	43	309	79	25	5.7
24	8.8	14		-			34	46	312	65	27	6.2
25	7.3	15		-			27	83	279	59	30	7.8
26	6.8	10		-			30	102	220	50	29	12
27	8.3	12		-			37	124	221	43	26	14
28	9.4	12		-			30	144	246	42	26	14
29	9.9	13		-			28	112	266	42	24	12
30	9.9	12		-			27	65	239	59	24	10
31	9.4	-		-			28	-	55	58	20	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							247.5	9.9	6.2	7.96	491	
November.....							365.4	15	8.6	12.2	725	
December.....							372	-	-	12	758	
Calendar year 1934.....												
January.....							372	-	-	12	738	
February.....							364	-	-	13	722	
March.....							496	-	-	16	984	
April.....							1,130	72	26	37.7	2,240	
May.....							1,475	144	12	47.6	2,930	
June.....							7,271	447	26	242	14,420	
July.....							2,728	218	39	88.0	5,410	
August.....							1,087	65	20	35.1	2,160	
September.....							388.7	26	5.7	13.0	771	
Water year 1934-35.....							16,296.6	447	-	44.6	32,350	

\*Discharge measurement.

## Michigan River near Lindland, Colo.

Location.- Water-stage recorder, lat. 40°33', long. 106°2', in sec. 21, T. 7 N., R. 77 W., 1 mile above mouth of North Fork of Michigan River and 3 miles southeast of Lindland.

Drainage area.- 62 square miles.

Records available.- October 1933 to September 1935, in reports of U. S. Geological Survey; July 1931 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 547 second-feet June 16 (gage height, 3.07 feet); minimum, probably occurred during period of no record.

Remarks.- Records good except those estimated, Nov. 28-30, Apr. 18-21. No records Dec. 1 to Apr. 16. Diversions for irrigation above station.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Nov. 27

0.0	2
.1	3.2
.2	8
.3	10

Table for Apr. 17, to Sept. 30  
(Shifting-control method used Aug. 8 to Sept. 30)

0.1	4	1.0	116	1.8	275
.2	8	1.2	154	2.0	317
.4	29	1.4	194	2.5	422
.6	54	1.6	234	3.1	554
.8	85				

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	3.5					-	36	122	139	44	12
2	10	3.5					-	24	102	127	39	10
3	10	4.3					-	13	93	129	39	12
4	6.8	3.6					-	12	94	124	35	12
5	6.4	3.8					-	15	113	101	34	14
6	6.8	3.8					-	17	131	86	28	11
7	7.6	5.2					-	15	150	80	29	11
8	5.7	4.9					-	15	178	74	26	20
9	6.0	4.0					-	8	208	78	22	15
10	6.0	3.2					-	11	252	89	21	10
11	6.8	2.7					-	16	298	69	22	12
12	6.8	2.7					-	20	359	71	21	11
13	5.7	3.5					-	28	378	51	21	8.0
14	5.7	4.3					-	36	418	44	21	8.0
15	5.7	3.8					-	36	464	42	19	6.4
16	6.8	3.5					-	34	444	50	19	6.0
17	6.0	4.0					61	44	338	64	25	7.2
18	4.9	4.0					50	54	256	70	14	9.0
19	4.9	3.5					35	44	267	74	9	8.0
20	5.2	6.4					40	37	283	76	11	7.2
21	4.3	3.2					32	41	261	77	16	7.6
22	4.3	3.5					37	42	269	74	15	8.0
23	4.9	2.4					33	58	250	54	17	6.8
24	4.6	2.6					33	60	228	36	19	7.2
25	4.9	2.5					27	102	204	22	19	7.2
26	3.6	2.4					27	122	174	20	13	8.0
27	4.6	2.5					27	124	174	26	12	9.0
28	4.0	2.4					27	120	152	28	13	8.0
29	3.8	2.4					27	118	144	37	14	6.4
30	3.2	2.3					29	137	141	54	14	5.6
31	3.5	-					-	144	-	54	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	179.7	10	3.2	5.80	356
November.....	104.6	6.4	2.3	3.49	207
December.....	-	-	-	-	-
Calendar year .....					
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April 17-30.....	485	61	27	34.6	962
May.....	1,603	144	8	51.7	3,180
June.....	6,965	464	93	232	13,810
July.....	2,140	139	20	69.0	4,240
August.....	665	44	9	21.5	1,520
September.....	283.6	20	5.6	9.45	563
Water year .....					



## Michigan River at Walden, Colo.

Location.- Water-stage recorder, lat. 40°44', long. 106°17' in NW¼ sec. 21, T. 9 N., R. 79 W., half a mile north of Walden. Zero of gage is 8,044.87 feet above sea level.

Drainage area.- 185 square miles.

Records available.- May 1904 to October 1905, May 1923 to September 1930, October 1933 to September 1935, in reports of U. S. Geological Survey; May 1904 to October 1905, May 1923 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 569 second-feet June 16 (gage height, 2.95 feet); minimum daily discharge, 4.8 second-feet Nov. 1.

1904-5, 1923-35: Maximum discharge, 1,070 second-feet June 10, 1923 (gage height, 3.3 feet); minimum daily discharge, 2 second-feet July 17-20, 1934.

Remarks.- Records good except those estimated, Nov. 8-10, 27-30, and those for period of ice effect, Dec. 1 to Apr. 14, which were estimated on the basis of one discharge measurement and temperature records. Diversions for irrigation above station.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

0.5	4.5	1.0	24.5	1.6	100
.6	7.0	1.1	32	1.8	144
.7	10.5	1.2	42	2.0	208
.8	14.5	1.4	66	3.0	568
.9	19.0				

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	4.8		-			30	16	165	60	90	23
2	14	5.0		-			35	12	125	53	89	20
3	14	6.5		-			40	8.8	63	60	58	19
4	14	5.2		-			40	6.8	32	52	43	18
5	14	5.5		-			40	5.2	28	37	39	16
6	12	5.5		-			45	6.8	39	31	35	13
7	10	5.2		-			50	7.0	72	30	30	30
8	10	5.4		-			50	6.5	96	24	29	46
9	10	5.8		-			45	6.5	147	25	40	37
10	9.8	6.0		-			40	5.0	242	27	44	29
11	9.8	6.2		-			60	6.0	292	26	37	24
12	9.8	6.2		*8.7			90	8.4	352	24	35	19
13	10	5.8		-			110	11	402	24	30	17
14	10	6.0		-			165	12	428	21	28	16
15	10	6.0		-			216	12	463	21	28	16
16	11	6.2		-			208	7.0	535	21	30	14
17	10	6.8		-			188	8.0	539	21	30	14
18	8.0	7.0		-			174	9.8	478	20	32	14
19	8.4	7.7		-			125	13	326	28	26	12
20	8.8	8.4		-			58	12	223	23	24	10
21	7.4	8.8		-			57	8.0	201	23	22	8.0
22	7.0	9.8		-			49	7.4	235	51	20	8.0
23	7.0	8.4		-			46	7.7	219	74	20	8.8
24	6.5	9.1		-			40	9.1	212	45	21	9.4
25	6.2	9.8		-			29	52	188	32	28	9.4
26	6.0	7.0		-			22	65	159	27	27	15
27	6.0	7.0		-			30	74	132	23	23	17
28	6.2	6.8		-			27	90	118	19	23	19
29	5.8	6.8		-			24	92	89	16	21	17
30	5.8	6.8		-			18	65	69	20	20	14
31	5.2	-		-			-	80	-	48	22	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						286.7	14	5.2	9.25	569		
November.....						201.5	9.8	4.8	6.72	400		
December.....						248	-	-	8	492		
Calendar year .....												
January.....						232.5	-	-	7.5	461		
February.....						224	-	-	8	444		
March.....						568	-	-	18	1,110		
April.....						2,151	216	18	71.7	4,270		
May.....						729	92	5.0	23.5	1,450		
June.....						6,869	539	28	222	13,230		
July.....						1,006	74	16	32.5	2,000		
August.....						1,044	90	20	33.7	2,070		
September.....						532.6	46	8.0	17.8	1,060		
Water year 1934-35.....						13,882.3	539	-	38.0	27,560		

\*Discharge measurement.

## Illinois Creek at Walden, Colo.

Location.- Water-stage recorder, lat. 40°44', long. 106°18', in NW¼ sec. 29, T. 9 N., R. 79 W., half a mile southwest of Walden. Prior to Mar. 30, 1935, staff gage 300 feet upstream at different datum.

Drainage area.- 254 square miles.

Records available.- May 1923 to September 1930, October 1933 to September 1935, in reports of U. S. Geological Survey; May 1917 to August 1918, May 1923 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 430 second-feet June 18 (gage height, 2.35 feet); no flow Oct. 1-10, 14-22, Nov. 25-30, Aug. 31, Sept. 28-30.  
1917-18, 1923-35: Maximum discharge, 2,520 second-feet May 28, 1926 (gage height, 6.4 feet, former datum); no flow at times during 1934-35.

Remarks.- Records fair. Discharge estimated Dec. 1 to Mar. 31 on the basis of two discharge measurements and temperature records, and Apr. 30 to May 4, Sept. 3-9. Diversions for irrigation above station.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used July 18 to Sept. 2)

0.34	0	0.9	24	1.4	105	1.9	250
.4	.4	1.0	35	1.5	127	2.0	288
.5	2.0	1.1	48	1.6	154	2.2	366
.6	4.8	1.2	65	1.7	182	2.3	408
.7	8.8	1.3	84	1.8	214	2.6	540
.8	15.3						

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	1.0		-			7.2	10	15	21	11	0.1
2	0	1.4		-			6.4	6.0	30	17	11	.1
3	0	1.4		-			11	3.0	40	19	8.8	.1
4	0	1.7		-			13	2.8	28	17	9.4	.1
5	0	1.7		-			15	2.6	21	16	9.4	.2
6	0	1.4		-			13	3.1	17	21	10	.3
7	0	1.0		-			17	4.0	15	24	8.4	.5
8	0	.7		-			13	3.1	14	27	6.8	.6
9	0	.7		-			12	1.8	30	27	4.8	.8
10	0	.7		-			8.8	1.0	92	27	4.2	.6
11	.1	.4		-			11	1.0	120	28	3.7	.3
12	.1	.7		*0.3			17	1.2	157	31	2.8	.3
13	.1	.7		-			21	1.4	195	36	2.6	.3
14	0	.7		-			21	2.3	232	35	1.7	.2
15	0	.7		-			17	2.3	250	42	1.5	.2
16	0	.7		-			12	1.8	318	39	1.8	.1
17	0	.7		-			8.4	2.0	370	38	1.8	.1
18	0	.7		-			6.4	2.0	400	43	1.4	.1
19	0	.3		-			3.7	2.3	232	56	1.0	.1
20	0	.4		-			1.5	2.6	114	42	.9	.1
21	0	.4		-			1.2	2.0	73	39	.7	.1
22	0	.3		-			1.2	1.5	56	53	.6	.1
23	.1	.3		-			1.4	1.7	58	58	.6	.1
24	.3	.3		-			1.7	2.8	71	38	.7	.2
25	.4	0		-			2.3	6.4	86	28	.7	.3
26	.4	0		-			3.7	4.2	71	21	.4	.1
27	.4	0		-			6.4	4.8	55	14	.3	.1
28	.4	0		-			7.2	6.4	40	11	.2	0
29	.7	0		-			10	10	27	8.8	.1	0
30	.7	0		-			12	11	21	8.8	.1	0
31	1.0	-		-			-	12	-	15	0	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						4.7	1.0	0	0.15	9.3		
November.....						19.0	1.7	0	.63	38		
December.....						6.2	-	-	.20	12		
Calendar year 1934.....												
January.....						15.5	-	-	.50	31		
February.....						19.6	-	-	.70	39		
March.....						62.0	-	-	2.00	123		
April.....						282.5	21	1.2	9.42	560		
May.....						119.1	12	1.0	3.84	236		
June.....						3,248	400	14	108	6,440		
July.....						900.6	58	8.8	29.1	1,790		
August.....						107.4	11	0	3.46	213		
September.....						5.8	.6	0	.19	12		
Water year 1934-35.....						4,790.4	400	0	13.1	9,500		

\*Discharge measurement.

## Willow Creek near Rand, Colo.

Location.- Water-stage recorder, lat. 40°28', long. 106°13', in sec. 23, T. 6 N., R. 79 W., 2.6 miles northwest of Rand and 2½ miles above mouth.

Drainage area.- 62 square miles.

Records available.- October 1933 to September 1935, in reports of U. S. Geological Survey; July 1931 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 162 second-feet June 16 (gage height, 3.21 feet); minimum probably occurred during period of no record.

Remarks.- Records good except those estimated, Oct. 24-29. No records Nov. 7 to Apr. 15. Diversions for irrigation above station.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Apr. 16 to June 7)

1.1	0	1.6	12.3	2.3	64
1.2	.6	1.7	17	2.6	94
1.3	2.2	1.8	23	3.0	137
1.4	4.9	1.9	30	3.3	173
1.5	8.2	2.0	37		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	0.9					-	8.6	19	7.5	14	5.6
2	1.9	1.1					-	6.2	18	7.9	11	4.9
3	1.9	.9					-	6.9	11	11	9.0	4.4
4	1.7	.6					-	6.6	7.5	9.4	8.2	4.4
5	1.6	.6					-	3.6	8.6	5.9	8.6	3.3
6	1.6	.5					-	2.7	12	4.6	7.9	2.7
7	.9	-					-	4.1	21	5.9	7.2	7.2
8	.8	-					-	5.2	44	9.8	12	7.5
9	.6	-					-	3.0	64	7.2	11	6.2
10	.6	-					-	1.9	79	11	11	5.6
11	.5	-					-	2.5	97	6.2	8.6	4.9
12	.5	-					-	2.5	129	7.2	6.9	3.6
13	.6	-					-	1.7	137	4.9	7.5	2.7
14	.8	-					-	2.5	145	3.0	6.9	2.7
15	.8	-					-	3.0	142	3.8	6.9	2.5
16	.8	-					19	2.7	149	4.4	7.2	2.2
17	.8	-					15	1.9	149	3.8	10	2.0
18	.8	-					14	4.1	85	4.1	9.4	2.0
19	.8	-					15	5.9	87	3.3	6.2	1.9
20	.9	-					9.4	5.6	45	4.4	4.9	1.7
21	.9	-					7.9	3.6	36	7.2	4.6	1.7
22	.9	-					7.5	3.3	33	11	4.1	1.6
23	.9	-					5.6	4.9	32	7.2	4.4	1.6
24	.9	-					5.8	7.9	33	6.6	4.9	1.6
25	1.0	-					1.4	11	22	9.8	4.9	1.9
26	1.0	-					1.4	9.8	21	8.2	5.2	2.7
27	1.0	-					8.2	11	14	8.2	3.6	8.6
28	1.0	-					12	10	12	7.9	3.9	11
29	1.1	-					13	13	12	7.9	4.1	9.0
30	1.1	-					14	9.4	9.4	19	3.8	7.2
31	.9	-					-	9.4	-	17	4.6	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							31.5	1.9	0.5	1.02	62	
November 1-6.....							4.6	1.1	.5	.77	9.1	
December.....							-	-	-	-	-	
Calendar year .....												
January.....							-	-	-	-	-	
February.....							-	-	-	-	-	
March.....							-	-	-	-	-	
April 16-30.....							147.2	19	1.4	9.81	292	
May.....							174.5	13	1.7	5.63	346	
June.....							1,643.5	149	7.5	54.9	3,269	
July.....							237.3	19	3.0	7.65	471	
August.....							222.4	14	3.6	7.17	441	
September.....							124.9	11	1.6	4.16	248	
Water year .....												

## Bates Creek near Alcova, Wyo.

Location.- Water-stage recorder, lat. 42°41', long. 106°34', in sec. 7, T. 31 N., R. 81 W., 2½ miles above mouth and 11 miles northeast of Alcova.

Drainage area.- 377 square miles.

Records available.- June to September 1935.

Extremes.- Maximum stage during period, 2.19 feet Aug. 16 (discharge not determined); no flow several days each month.

Remarks.- Records poor. Water practically all diverted for irrigation at low and intermediate stages.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									-	0.1	0	0
2									-	.6	0	0
3									-	1.0	0	0
4									-	.7	0	0
5									3.5	.6	0	0
6									2.6	.3	.1	.1
7									1.5	.3	.1	8.4
8									1.0	.3	0	1.5
9									1.0	.3	0	0
10									.6	.5	0	0
11									2.6	.1	0	0
12									3.1	.1	0	.1
13									.7	.1	0	.1
14									.3	.1	.1	.1
15									.3	.1	.1	.1
16									.3	.1	11	.1
17									.2	.1	.7	.1
18									0	.1	0	.1
19									0	.1	0	.1
20									0	0	0	0
21									0	.1	0	0
22									0	0	0	0
23									0	0	0	0
24									.1	0	0	0
25									.1	0	0	0
26									.1	.1	0	.1
27									.1	0	0	.1
28									.1	0	0	.1
29									.1	0	0	.1
30									.1	0	0	.1
31									-	0	0	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year .....												
January.....												
February.....												
March.....												
April.....												
May.....												
June 5-30.....						18.4	3.5	0	0.71	36		
July.....						5.8	1.0	0	.19	12		
August.....						12.1	11	0	.39	24		
September.....						11.3	8.4	0	.38	22		
The period.....											94	

## Deer Creek at Glenrock, Wyo.

Location.- Water-stage recorder, lat. 42°52', long. 105°51', in sec. 4, T. 33 N., R. 75 W., a quarter of a mile above mouth at Glenrock. Prior to June 1, 1935 staff gage 100 yards downstream.

Drainage area.- 216 square miles.

Records available.- April 1916 to September 1924, May 1928 to September 1933, April to September 1935.

Extremes.- Maximum discharge during period, 570 second-feet (gage height, 3.69 feet, old datum; 4.03 feet, new datum); no flow at times during July, August, and September.

1916-24, 1928-33, 1935: Maximum discharge, 4,600 second-feet April 15, 1924; no flow during summers of 1919, 1922, 1933, 1935.

Remarks.- Records good except those estimated on the basis of intermittent gage readings, July 1 to Sept. 26, which are fair. Diversions for irrigation above station.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							*0.6	250	297	*0.1	*0.3	*0
2							*.6	204	302	*.1	*.3	*0
3							.6	181	338	*0	.3	*0
4							.6	157	269	*0	*.3	*0
5							.6	149	232	*0	*.3	*0
6							.6	162	221	0	*.3	*0
7							.6	250	219	*0	*.3	0
8							.6	247	190	*0	*.3	*0
9							1.5	161	170	*0	*.3	*0
10							5	186	140	*.1	.3	*0
11							8	281	123	*.1	*.3	*0
12							6	329	116	.2	*.3	*0
13							1.1	372	96	0	*.3	*0
14							.6	409	71	*0	*.3	0
15							16	352	51	*0	*.3	*0
16							28	326	44	*0	*.3	*.2
17							88	342	45	*0	.3	*.3
18							70	458	42	*0	*.3	*.4
19							59	525	35	*0	*.3	*.4
20							63	540	33	0	*.3	*.3
21							81	466	32	*0	*.3	*.1
22							99	451	23	*0	*.3	0
23							91	402	12	*0	*.3	*0
24							88	433	9	*0	.3	*0
25							56	509	8	*0	*.3	*0
26							44	528	3.7	*0	*.2	.4
27							85	509	*2.0	0	.2	1.6
28							119	544	.4	*0	*.2	1.6
29							95	521	.2	*.1	*.1	1.6
30							152	423	*.2	*.1	*0	1.6
31							-	419	-	*.2	0	-
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....												
November.....												
December.....												
Calendar year .....												
January.....	-					-	-	-	-			
February.....	-					-	-	-	-			
March.....	-					-	-	-	-			
April.....	1,261.0					152	0.6	42.0	2,500			
May.....	11,106					544	149	353	22,030			
June.....	3,122.5					338	.2	104	6,190			
July.....	1.0					.2	0	.03	2.0			
August.....	8.2					.3	0	.26	16			
September.....	8.5					1.6	0	.28	17			
The period.....									30,760			

\*Estimated.

## Running Dutchman Canal near Careyhurst, Wyo.

Location.- Water-stage recorder, lat. 42°52', long. 105°40', in sec. 1, T. 33 N., R. 74 W., 1 mile north of Careyhurst.

Records available.- June to September 1935.

Extremes.- Maximum daily discharge, 28 second-feet Aug. 7-9.

Remarks.- Records good. Canal diverts from left bank of North Platte River 1 mile north of Careyhurst. Water is used for irrigation east of Careyhurst.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									0	18	20	0
2									0	18	23	0
3									0	18	25	0
4									0	18	26	0
5									0	15	26	0
6									0	12	27	1.5
7									0	8	28	4.8
8									0	10	28	5
9									0	13	28	3.8
10									0	12	27	3.2
11									1.7	14	24	2.7
12									13	14	11	1.4
13									11	14	1	.7
14									10	13	0	1.0
15									12	10	10	1.4
16									13	16	17	0
17									16	18	14	0
18									17	18	6	0
19									16	18	6	0
20									14	17	7	0
21									11	16	7	0
22									14	14	8	0
23									18	14	8	0
24									22	17	7	0
25									23	17	2.3	.4
26									26	17	2.3	2.5
27									25	16	2.3	4.1
28									24	16	2.2	4.1
29									19	16	2.2	4.6
30									19	16	.4	4.1
31									-	16	.4	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year .....												
January.....												
February.....												
March.....												
April.....												
May.....												
June.....						324.7	26	0	10.8		644	
July.....						469	18	8	15.1		930	
August.....						396.7	28	0	12.8		787	
September.....						45.3	5	0	1.51		90	
The period.....											2,450	

## Boxelder Creek near Careyhurst, Wyo.

Location.-- Water-stage recorder, lat. 42°49' long. 105°41', in sec. 13, T. 33 N., R. 74 W., 2 miles upstream from Careyhurst.

Drainage area.-- 202 square miles.

Records available.-- May to October 1911, April 1916 to September 1924, May 1928 to September 1933, April to September 1935.

Extremes.-- Maximum discharge during year, 675 second-feet May 17 (gage height, 4.70 feet); no flow April 21, 22.  
1911, 1916-24, 1928-33, 1935: Maximum discharge, 2,360 second-feet May 23, 1933 (gage height, 9.04 feet); no flow during summers of 1922, 1929, 1931, 1932 and 1935.

Remarks.-- Records good above 10 second-feet; poor below. Discharge estimated Apr. 1-3. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.						1.0	23	440	1.4	1.4	0.7
2							1.0	25	437	1.2	1.2	.6
3							1.1	12	461	1.2	1.1	.7
4							1.1	1.7	343	1.9	1.2	.7
5							1.2	2.1	300	1.9	1.2	.8
6							1.1	12	290	2.1	1.1	.8
7							.8	38	280	2.1	1.1	1.1
8							.6	45	228	2.4	1.2	1.0
9							.4	36	196	2.4	1.1	.7
10							.6	38	188	2.6	1.0	.7
11							.8	69	180	3.0	.8	.5
12							1.2	103	190	3.0	.8	.6
13							.7	144	144	3.0	.7	.2
14							.2	166	109	3.0	.7	.1
15							.2	183	88	3.5	.8	.1
16							.6	168	74	5	1.2	.1
17							1.2	231	87	6	1.0	.1
18							.4	280	56	6	1.0	.2
19							.4	420	32	5	.8	.6
20							.2	383	20	5	.8	.6
21							0	337	15	6	.8	.4
22							0	386	8	6	.8	.4
23							.2	330	7	6	.7	.4
24							1.2	320	4.0	6	.7	.5
25							1.0	366	3.5	6	.6	.7
26							.6	399	3.3	4.5	.6	1.1
27							1.2	430	2.1	3.3	.6	1.0
28							.2	479	1.4	3.3	.7	.7
29							.6	472	1.9	3.3	.7	.7
30							.8	356	1.4	3.5	.8	.7
31							-	403	-	3.0	.7	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April.....						20.1	1.2	0	0.67	40		
May.....						6,656.8	479	1.7	215	13,200		
June.....						4,180.6	461	1.4	139	8,280		
July.....						112.6	6	1.2	3.63	223		
August.....						27.8	1.4	.5	.90	55		
September.....						17.2	1.1	.1	.67	34		
The period.....										21,840		

## La Prele Creek near Douglas, Wyo.

Location.- Water-stage recorder, lat. 42°41', long. 105°38', in sec. 6, T. 31 N., R. 73 W., 16 miles southwest of Douglas.

Drainage area.- 146 square miles.

Records available.- August 1919 to September 1935.

Average discharge.- 16 years, 45.5 second-feet.

Extremes.- Maximum discharge during year, 676 second-feet May 21 (gage height, 8.85 feet); minimum mean daily discharge, 0.2 second-foot Aug. 31, Sept. 1, 2, 28-30. 1919-35: Maximum discharge, 1,220 second-feet May 11, 1920 (gage height, 11.4 feet); minimum mean daily discharge, 0.2 second-foot for periods in 1934 and 1935.

Remarks.- Records good except those estimated, Dec. 18-21, 23-27, Dec. 30 to Jan. 8, Jan. 11-13, 17-25, Feb. 11-18, Aug. 23-25, Aug. 31 to Sept. 2, Sept. 18-30. Diversions for irrigation above station. Gage-height record furnished by Douglas Reservoir Water Users Association.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	1.7	10	7.6	3.3	4.3	4.3	68	364	10	2.2	0.2
2	1.2	1.5	9.1	7.8	2.9	4.1	5.1	47	377	12	2.0	.2
3	1.2	1.3	12	8.0	2.7	4.1	4.7	40	352	12	1.8	1.0
4	1.2	1.3	10	8.2	2.5	4.1	3.3	32	259	8.7	1.8	1.5
5	1.2	1.2	13	8.4	2.4	4.1	3.3	37	234	8.7	1.5	1.8
6	1.2	1.5	13	8.6	2.0	4.3	3.3	47	235	9.6	1.3	1.2
7	1.2	1.5	14	8.0	2.0	4.7	2.5	64	218	11	1.5	1.7
8	1.2	1.7	14	7.0	2.0	5.1	1.7	65	172	11	1.3	1.5
9	1.0	1.7	13	5.1	1.8	4.5	2.4	60	157	9.6	1.2	1.7
10	.9	1.7	11	6.7	1.8	4.3	8.3	90	148	6.7	1.0	1.8
11	.9	1.7	11	6.8	1.6	4.5	9.1	126	149	8.3	1.0	1.7
12	.9	1.7	9.6	6.9	1.8	4.5	6.7	140	144	7.9	.8	1.7
13	1.0	1.7	8.7	7.0	2.0	4.3	11	193	108	4.5	.8	1.7
14	1.0	1.8	7.1	7.1	2.2	3.7	7.9	224	89	4.5	.6	1.7
15	1.2	2.5	6.3	5.1	2.4	6.7	6.7	226	74	4.7	.6	1.5
16	1.8	2.5	5.9	5.5	2.6	11	7.9	184	67	3.7	.6	1.0
17	1.5	2.0	5.9	5.4	3.5	6.7	14	200	66	2.5	.6	.5
18	1.3	2.0	5.6	5.4	4.0	4.5	6.3	287	62	2.7	.6	.5
19	1.0	2.0	5.6	5.2	5.9	4.1	2.9	405	51	3.5	.6	.5
20	1.0	2.7	5.9	5.0	4.7	4.3	3.5	390	40	2.9	.5	.5
21	1.0	3.3	6.2	4.0	4.3	4.1	9.1	406	36	2.9	.5	.4
22	1.0	5.1	6.7	3.5	3.3	3.5	14	492	28	3.5	.5	.4
23	1.0	3.7	7.0	4.2	3.3	2.0	14	385	22	3.9	.5	.4
24	1.3	3.9	7.2	5.6	2.9	1.8	18	361	19	3.9	.5	.3
25	1.2	4.5	7.0	6.4	3.1	1.7	18	377	16	3.5	.5	.3
26	1.3	5.1	6.6	7.5	3.7	1.3	34	387	15	3.1	.7	.3
27	1.5	3.9	6.7	5.9	4.1	2.2	48	387	14	2.9	.9	.3
28	1.3	3.6	6.7	4.7	4.1	2.9	50	425	10	2.5	.7	.2
29	1.2	3.6	7.1	4.1	-	2.5	38	425	8.7	2.4	.5	.2
30	1.3	6.0	7.2	3.5	-	2.0	52	323	8.7	2.4	.5	.2
31	1.5	-	7.4	3.3	-	3.9	-	392	-	2.5	.2	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				36.7		1.8	0.9	1.18	73			
November.....				78.6		6.0	1.2	2.62	156			
December.....				266.7		14	5.6	8.60	529			
Calendar year 1934.....				2,922.8		62	.2	6.01	5,800			
January.....				187.5		8.6	3.3	6.05	372			
February.....				82.9		5.9	1.6	2.96	164			
March.....				127.8		11	1.3	4.12	253			
April.....				410.0		52	1.7	13.7	813			
May.....				7,233		492	32	236	14,450			
June.....				3,842.4		377	9.7	115	7,030			
July.....				178.0		12	2.4	6.74	353			
August.....				28.3		2.2	.2	.91	56			
September.....				26.9		1.8	.2	.50	53			
Water year 1934-35.....				12,248.8		492	.2	33.6	24,300			



## La Prele Creek near Orpha, Wyo.

Location.- Water-stage recorder, lat. 42°51', long. 105°28', in sec. 9 (revised) T. 33 N., R. 72 W., three-quarters of a mile above mouth and 1 mile south of Orpha. Prior to Apr. 1, 1935, staff gage at same site and half a foot higher datum.

Drainage area.- 227 square miles.

Records available.- April to August 1916, April to September 1918, April 1923 to September 1924, May 1928 to September 1933, April to September 1935.

Extremes.- Maximum discharge during period, 16 second-feet Sept. 26 (gage height, 1.49 feet); no flow at times during period. 1916, 1918, 1923-24, 1928-33, 1935: Maximum discharge, 1,140 second-feet May 23, 1933 (gage height, 6.45 feet, present datum); no flow at times during 1931, 1932 and 1935.

Remarks.- Records fair. Discharge estimated Apr. 1-3, June 2. Diversions for irrigation above station. Flow regulated by La Prele Reservoir, capacity 20,000 acre-feet.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0.1	0	2.4	0.2	0	0.3
2							.1	0	2.0	.1	0	0
3							.1	0.1	1.7	.1	.1	0
4							.1	.1	1.6	.1	0	0
5							.1	.1	1.6	.2	0	0
6							.2	.2	1.6	.4	.2	0
7							0	.2	1.6	.2	.2	0
8							0	.3	1.6	.2	.1	0
9							0	.2	1.8	.1	.1	0
10							0	.2	2.2	.2	0	0
11							.1	.2	2.4	.2	.1	0
12							.2	.5	1.7	.2	.1	0
13							0	.9	.5	.2	0	0
14							0	1.0	.4	.2	0	0
15							0	1.6	.3	.3	0	0
16							0	1.3	.3	.3	.1	0
17							0	.7	.9	.3	.1	.1
18							0	.8	2.0	.5	0	.4
19							0	1.3	2.4	.7	0	.6
20							0	1.8	2.8	.4	0	1.3
21							0	1.9	2.5	.5	0	1.4
22							0	1.4	1.8	.6	0	1.5
23							0	1.4	1.5	.3	0	2.8
24							.1	1.4	1.4	.3	0	3.7
25							0	1.9	.7	.3	0	3.9
26							0	2.1	.5	.2	0	8
27							0	1.8	.5	.2	0	8
28							0	2.0	.5	.2	0	9
29							0	2.5	.4	0	0	7
30							0	2.3	.4	0	0	6
31							-	2.6	-	0	0	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year.....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April.....						1.1	0.2	0	0.04	2.2		
May.....						32.8	2.6	0	1.06	65		
June.....						42.0	2.8	.3	1.40	83		
July.....						7.6	.7	0	.25	15		
August.....						1.1	.2	0	.04	2.2		
September.....						54.0	9	0	1.80	107		
The period.....										274		

## Morton Canal nea. Orpha, Wyo.

Location.- Water-stage recorder, lat. 42°51', long. 105°28', in sec. 9, T. 33 N., R. 72 W., 3 miles below head gate and 1 mile southeast of Orpha.

Records available.- May to September 1935.

Extremes.- Maximum mean daily discharge during period, 59 second-feet, Aug. 3-6.

Remarks.- Records good. Canal diverts from North Platte River 2 miles west of Orpha. Water used for irrigation southeast of Orpha.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								45	0	50	57	43
2								25	0	51	58	32
3								16	0	52	59	26
4								16	0	52	59	20
5								16	0	54	59	15
6								21	0	54	59	17
7								21	0	57	58	17
8								21	0	53	58	17
9								21	0	53	57	9
10								22	0	53	56	2
11								22	7	55	55	0
12								24	19	55	54	0
13								26	19	54	51	0
14								28	18	55	51	0
15								22	16	55	52	0
16								23	15	55	50	0
17								23	15	55	50	0
18								23	18	55	52	0
19								25	14	55	51	0
20								25	24	56	51	0
21								25	28	54	50	0
22								25	29	53	50	0
23								25	29	53	51	0
24								25	37	54	51	0
25								0	47	54	50	0
26								0	45	53	50	0
27								0	39	55	49	0
28								20	46	55	48	0
29								14	48	55	48	0
30								0	50	56	47	0
31								0	-	57	42	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year .....												
January.....												
February.....												
March.....												
April.....												
May.....						601	45	0	19.4	1,190		
June.....						562	50	0	18.7	1,110		
July.....						1,678	57	50	54.1	3,330		
August.....						1,633	59	42	52.7	3,240		
September.....						198	43	0	6.6	593		
The period.....											9,280	

## La Bonte Creek near La Bonte, Wyo.

Location.- Water-stage recorder, lat. 42°39', long. 105°21', in sec. 21, T. 31 N., R. 71 W., 1½ miles above mouth and 3 miles northeast of La Bonte. Prior to June 4, 1935, chain gage at different datum a quarter of a mile upstream.

Drainage area.- 302 square miles.

Records available.- April 1916 to September 1924, May 1928 to September 1933, April to September 1935.

Extremes.- Maximum discharge during year, 842 second-feet May 22 (gage height, 5.58 feet); no flow Sept. 19, 21-30.

1916-24, 1928-33, 1935: Maximum discharge, 2,750 second-feet May 22, 23, 1923 (gage height, 7.5 feet, former site and datum); no flow during summers of 1917, 1918, 1931, 1933, 1935.

Remarks.- Records good except those estimated, Apr. 1 to May 3, which are poor. Diversions for irrigation above station.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0.2	18	410	15	1.5	0.9
2							.2	20	341	13	1.5	.9
3							.2	30	363	12	1.5	.9
4							.1	45	318	12	1.7	.9
5							.1	46	258	11	1.7	.9
6							.1	47	216	12	1.7	.9
7							.1	64	191	11	1.7	1.3
8							.1	90	158	10	1.9	1.3
9							.1	73	146	7	2.1	1.3
10							.1	73	128	5	1.5	1.1
11							.1	79	216	5	1.3	1.1
12							.1	100	142	5	1.1	.5
13							.1	221	112	3.2	1.3	.4
14							.1	312	90	2.5	1.5	.4
15							.1	306	80	2.5	1.1	.4
16							.1	282	71	2.5	1.1	.4
17							.1	270	69	2.5	1.1	.2
18							.1	267	64	2.3	1.5	.1
19							.1	615	56	2.1	1.7	0
20							.1	591	44	1.7	1.3	.1
21							.1	584	37	1.5	1.3	0
22							.1	534	30	1.7	.9	0
23							.1	688	28	1.9	.7	0
24							.1	685	40	2.1	1.1	0
25							.1	677	41	1.5	1.1	0
26							.1	505	32	1.1	.9	0
27							1	434	25	1.1	1.1	0
28							3	370	24	1.1	1.1	0
29							7	548	21	1.1	1.1	0
30							12	444	17	1.3	.9	0
31							-	434	-	1.5	.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....					
November.....					
December.....					
Calendar year .....					
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	25.9	12	0.1	0.86	51
May.....	9,741	834	16	314	19,320
June.....	3,767	410	17	126	7,470
July.....	183.2	15	1.1	4.94	304
August.....	40.8	2.1	.7	1.32	81
September.....	14.0	1.3	0	.47	28
The period.....					27,260

## Horseshoe Creek near Glendo, Wyo.

Location.- Water-stage recorder, lat. 42°27', long. 104°58', in sec. 25, T. 29 N., R. 68 W., half a mile above mouth and 5 miles southeast of Glendo. Prior to May 29, 1935, staff gage at different datum  $1\frac{1}{2}$  miles upstream.

Drainage area.- 205 square miles.

Records available.- April 1916 to September 1919, April 1921 to September 1924, May 1928 to September 1933, April to September 1935.

Extremes.- Maximum discharge during period, 11,900 second-feet May 30 (gage height, 8.80 feet, slope measurement); no flow at times during April and May, 1916-19, 1921-24, 1928-33, 1935: Maximum discharge, that of May 30, 1935; no flow at times during 1918, 1919, 1935.

Remarks.- Records good except those estimated, May 30 to June 7, Sept. 8-14, which are fair. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0.1	0	750	20	0.9	1.6
2							.1	0	500	18	.9	1.8
3							.1	0	450	16	1.2	1.2
4							.1	0	400	15	.9	1.2
5							.1	0	350	12	.9	1.2
6							.1	0	300	10	1.0	1.6
7							0	0	250	9.0	1.6	5.0
8							0	0	191	7.0	3.8	1.6
9							0	0	176	5.8	3.4	1.4
10							0	0	172	5.4	3.0	1.2
11							0	0	181	2.2	2.8	1.2
12							0	0	240	2.0	2.0	1.2
13							0	0	176	2.0	1.4	1.2
14							0	0	164	1.4	.9	1.2
15							0	25	139	1.2	.9	1.2
16							0	35	122	1.2	1.4	1.6
17							0	274	114	2.0	1.0	2.2
18							0	556	116	1.0	1.0	2.4
19							0	447	110	1.0	.9	2.2
20							0	382	98	1.0	.9	1.2
21							0	363	82	1.2	2.6	1.0
22							0	336	71	1.2	2.4	.9
23							0	344	59	6.5	1.6	.9
24							0	460	60	22	3.8	.9
25							0	431	66	10	3.8	.9
26							0	307	56	5.0	3.8	1.2
27							0	267	48	2.8	3.0	2.8
28							0	329	37	2.2	3.0	3.4
29							0	346	28	1.8	1.6	3.0
30							0	2,200	23	.9	1.4	2.6
31							-	1,000	-	1.6	1.8	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year .....												
January.....							-	-	-	-	-	
February.....							-	-	-	-	-	
March.....							-	-	-	-	-	
April.....							0.6	0.1	0	0.02	1.2	
May.....							8,102	2,200	0	261	16,070	
June.....							5,519	750	23	184	10,850	
July.....							190.4	22	.9	6.14	372	
August.....							59.6	3.8	.9	1.92	118	
September.....							51.2	5.0	.9	1.71	102	
The period.....											27,620	

## Cottonwood Creek at Wendover, Wyo.

Location.- Water-stage recorder, lat. 42°19', long. 104°52', in sec. 10, T. 27 N., R. 87 W., a quarter of a mile above mouth, at Wendover. Prior to May 24, 1935, chain gage at different datum a quarter of a mile upstream.

Drainage area.- 159 square miles.

Records available.- April 1916 to September 1924, May 1929 to September 1933, April to September 1935.

Extremes.- Maximum discharge during period, 3,600 second-feet June 11 (gage height, 6.80 feet, slope measurement); minimum mean daily discharge, 0.9 second-foot July 23-25, 1916-24, 1929-33, 1935: Maximum discharge, that of June 11, 1935; no flow July 12, 15, 1932.  
Maximum stage known, 10.6 feet (former site and datum) Aug. 15, 1927 (discharge about 5,800 second-feet).

Remarks.- Records good except those for Apr. 1 to June 19, which are fair. Discharge estimated Apr. 1-4. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							2	19	433	4.0	1.6	3.4
2							2	26	309	4.0	1.3	3.4
3							2	20	196	4.0	1.3	3.4
4							2	26	138	4.0	1.6	3.4
5							2.4	26	90	4.0	1.6	3.4
6							8	28	71	3.7	1.6	3.7
7							9	29	65	3.4	1.6	3.4
8							9	29	58	3.4	1.6	3.4
9							7	28	46	3.4	1.6	3.1
10							12	21	43	3.7	1.6	3.1
11							9	25	400	2.8	1.6	3.4
12							5	33	41	2.8	1.6	3.1
13							7	32	26	2.8	1.6	3.1
14							6	32	22	2.2	1.6	2.6
15							9	30	19	2.2	1.6	2.5
16							11	33	17	2.2	1.6	2.2
17							9	30	25	2.2	1.6	2.2
18							12	143	20	2.2	1.6	2.2
19							9	244	15	1.9	1.6	2.2
20							17	162	14	1.6	1.6	2.2
21							16	123	12	1.3	1.9	2.2
22							13	97	7	1.0	2.2	2.2
23							16	80	7	.9	2.2	2.5
24							21	76	6	.9	2.2	2.5
25							22	69	4.6	.9	2.2	2.5
26							19	64	4.0	1.0	2.2	2.2
27							18	55	6	1.3	2.5	2.2
28							22	60	6	1.6	2.8	2.2
29							20	102	4.6	1.6	2.8	2.2
30							18	125	4.0	1.9	3.4	1.9
31							-	660	-	1.6	2.5	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year .....												
January.....							-	-	-	-		
February.....							-	-	-	-		
March.....							-	-	-	-		
April.....							334.4	22	2	11.1	663	
May.....							2,754	960	19	88.2	5,420	
June.....							2,109.2	433	4.0	70.3	4,180	
July.....							74.5	4.0	.9	2.40	148	
August.....							58.6	3.4	1.3	1.89	116	
September.....							82.2	3.7	1.9	2.74	163	
The period.....											10,690	

## Laramie River near Glendevy, Colo.

Location.- Water-stage recorder, lat. 40°48', long. 105°53', in sec. 25, T. 10 N., R. 76 W.,  $1\frac{1}{2}$  miles north of present location of Glendevy post office. Prior to Sept. 20, 1935, water-stage recorder 180 feet upstream at different datum.

Drainage area.- 101 square miles.

Records available.- June 1904 to October 1905, August 1910 to September 1930, October 1933 to September 1935, in reports of U. S. Geological Survey; June 1904 to October 1905, August 1910 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 1,060 second-feet June 16 (gage height, 3.32 feet, former site and datum); minimum probably occurred during period of no record, 1904-5, 1910-35: Maximum discharge, 2,240 second-feet June 9, 1923; minimum, 5 second-feet Feb. 14, 15, 1911.

Remarks.- Records good. Discharge estimated Nov. 27-30, Apr. 1-7. No records Dec. 1 to Mar. 31. Diversions for irrigation above station, including two large trans-mountain diversions.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	14					18	36	224	182	53	15
2	20	17					18	33	205	168	43	14
3	17	17					18	30	213	172	33	14
4	14	17					19	29	241	164	31	15
5	14	16					20	31	322	127	29	13
6	14	15					20	37	345	109	28	12
7	14	15					20	39	395	106	27	32
8	13	15					20	44	490	114	25	36
9	12	14					20	42	572	95	25	20
10	14	13					22	46	593	89	22	15
11	14	12					21	49	635	87	20	16
12	14	12					20	56	645	100	17	14
13	14	10					24	58	731	64	17	14
14	14	13					25	53	774	49	17	14
15	14	15					29	55	925	41	17	17
16	17	15					32	53	909	33	21	17
17	17	16					30	55	763	54	26	17
18	16	17					28	78	531	35	20	23
19	15	17					31	60	455	29	17	27
20	17	16					34	47	420	29	16	27
21	17	19					36	45	415	31	17	29
22	16	18					35	56	375	33	16	23
23	17	16					34	66	341	28	16	23
24	15	16					25	71	317	31	19	23
25	15	18					16	127	312	25	18	26
26	15	15					23	172	241	25	16	28
27	16	13					25	166	228	25	16	35
28	16	11					32	205	228	25	16	33
29	15	12					34	186	209	29	15	32
30	15	15					38	209	190	60	15	32
31	15	-					-	241	-	92	17	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						477	21	12	15.4	946		
November.....						449	18	10	15.0	891		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April.....						767	38	16	25.6	1,520		
May.....						2,495	241	29	80.5	4,950		
June.....						13,245	925	190	442	26,270		
July.....						2,231	192	25	72.0	4,430		
August.....						685	53	15	22.1	1,560		
September.....						656	36	12	21.9	1,500		
Water year .....												

## Laramie River near Jelm, Wyo.

Location.- Water-stage recorder, lat. 41°, long. 106°1', in sec. 15, T. 12 N., R. 77 W., a quarter of a mile north of Colorado-Wyoming State line, and 4 miles south of Old Jelm. Zero of gage is 7,685.32 feet above mean sea level.

Drainage area.- 297 square miles.

Records available.- June 1904 to October 1905, May 1911 to September 1935.

Average discharge.- 25 years (1904-5, 1911-35), 179 second-feet.

Extremes.- Maximum discharge during year, 1,790 second-feet June 14 (gage height, 3.81 feet); minimum mean daily discharge, 13 second-feet Nov. 29.  
1904-5, 1911-35: Maximum discharge, 4,200 second-feet June 9, 1923 (gage height, 4.15 feet); minimum 5.6 second-feet Dec. 2, 1933.

Remarks.- Records good except those for period of ice effect, Nov. 26 to Apr. 3, which were estimated on basis of three discharge measurements and temperature records.  
Diversion for irrigation above station.

Rating table, water year 1934-35 except period of ice effect  
(gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Apr. 13 to May 31, Aug. 1-15)

0.7	6	1.2	68	1.7	204	2.3	466	2.8	780
.8	13	1.3	87	1.8	240	2.4	516	3.1	1,050
.9	24	1.4	110	1.9	280	2.5	570	3.5	1,450
1.0	36	1.5	138	2.0	324	2.6	630	4.0	2,000
1.1	51	1.6	170	2.1	370	2.7	700	4.5	2,600

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	31	28	22	26	32	40	65	600	418	121	38
2	48	34	24	22	25	34	40	65	538	394	108	36
3	48	34	15	22	24	34	40	54	527	370	85	34
4	40	32	22	22	25	34	39	46	624	361	76	32
5	36	34	22	26	28	32	42	50	748	302	74	32
6	32	36	22	22	32	31	40	56	987	268	70	31
7	31	36	22	22	32	30	35	65	1,060	252	68	51
8	31	36	22	24	32	30	35	72	1,210	256	66	73
9	34	38	24	26	30	29	34	66	1,390	222	66	65
10	30	36	26	28	28	28	29	72	1,410	190	63	48
11	30	34	24	26	32	28	26	83	1,470	187	56	39
12	30	32	21	26	35	28	31	96	1,540	222	56	35
13	31	32	24	24	30	29	35	105	1,600	180	54	32
14	31	34	26	26	30	32	44	116	1,680	148	50	30
15	31	34	29	25	26	30	38	108	1,710	127	48	30
16	32	32	26	24	25	28	35	96	1,740	105	54	31
17	34	24	22	24	28	28	40	98	1,600	98	61	31
18	35	22	23	23	32	32	34	110	1,380	98	56	28
19	36	22	25	21	34	32	39	130	1,120	116	48	31
20	36	21	26	16	32	34	48	105	1,060	110	42	32
21	35	25	24	21	29	32	61	93	1,030	173	40	35
22	34	26	22	26	28	34	56	110	924	180	40	36
23	35	26	22	26	28	36	50	160	879	135	40	34
24	34	24	24	28	28	40	51	177	789	116	42	36
25	31	18	26	31	22	40	70	244	732	96	48	42
26	32	16	28	32	26	39	65	352	554	89	44	45
27	32	15	28	34	30	39	62	481	538	85	39	54
28	32	14	25	34	32	36	59	543	543	78	36	60
29	32	13	21	32	-	30	63	501	506	76	38	54
30	32	13	18	30	-	35	58	527	456	83	38	56
31	31	-	21	26	-	39	-	618	-	160	39	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						1,058	48	30	34.1		2,100	
November.....						829	38	13	27.6		1,640	
December.....						732	29	13	23.6		1,450	
Calendar year 1934.....						19,992	344	10	54.8		39,600	
January.....						791	34	16	25.5		1,570	
February.....						809	35	22	28.9		1,600	
March.....						1,015	40	28	32.7		2,010	
April.....						1,342	70	26	44.7		2,660	
May.....						5,464	618	46	176		10,840	
June.....						30,925	1,740	456	1,031		61,340	
July.....						5,686	413	76	184		11,300	
August.....						1,766	121	36	57.0		3,500	
September.....						1,216	76	28	40.5		2,410	
Water year 1934-35.....						51,642	1,740	13	141		102,400	

## Laramie River and Pioneer Canal near Woods, Wyo.

Location.- Water-stage recorder, lat. 41°9', long. 105°59', in sec. 36, T. 14 N., R. 77 W., at diversion dam for Pioneer Canal, 2 miles northeast of Woods. Zero of river gage is 7,390.01 feet above mean sea level. Staff gage about half a mile below headgates is used to determine flow in canal.

Drainage area.- 418 square miles.

Records available.- April 1912 to September 1924, April to September 1927, April 1932 to September 1935.

Extremes.- Laramie River: Maximum discharge during year, 2,220 second-feet June 16 (gage height, 3.25 feet); no flow Aug. 21, 22, 29, Sept. 3-6, 20-24.  
Pioneer Canal: Maximum mean daily discharge during year, 117 second-feet June 13, 14, 21, 22; minimum, about 2 second-feet leakage through gates when closed.  
1912-24, 1927, 1932-35: Combined maximum discharge, 5,060 second-feet June 10, 1923; combined minimum discharge not determined.

Remarks.- Records good. No record Nov. 21 to Mar. 31. Canal diverts from left bank of river at diversion dam for irrigation in the vicinity of Laramie. Diversions for irrigation above station.

Rating table for Laramie River, water year 1934-35  
(gage height, in feet, and discharge, in second-feet)

-0.40	0	0.6	158	1.6	785	2.6	1,640
-.20	2	.8	245	1.8	945	2.8	1,620
.0	10	1.0	350	2.0	1,110	3.0	2,000
.2	36	1.2	475	2.2	1,280	3.5	2,450
.4	86	1.4	625	2.4	1,460		

Discharge, in second-feet, of Laramie River near Woods, Wyo.,  
for water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	7					47	77	949	362	70	4
2	18	8					47	64	745	328	46	3
3	16	7					47	47	665	316	31	0
4	14	14					47	40	745	339	19	0
5	12	15					47	40	681	268	22	0
6	8	17					47	47	1,070	220	10	0
7	6	19					49	58	1,170	206	5	7
8	4	19					53	61	1,290	202	11	44
9	4	15					46	67	1,450	173	10	42
10	4	5					40	74	1,500	147	8	26
11	2	8					38	86	1,600	132	4	14
12	2	10					40	110	1,680	170	6	8
13	2	8					42	136	1,720	140	11	6
14	7	6					49	174	1,940	100	9	11
15	10	9					49	166	1,930	86	8	10
16	12	8					55	143	2,040	64	6	10
17	14	2					58	136	1,850	47	16	11
18	14	2					49	202	1,500	47	16	11
19	15	1					51	189	1,170	46	8	10
20	14	2					53	151	1,050	77	2	0
21	14	-					58	132	1,030	80	0	0
22	13	-					67	154	945	158	0	0
23	13	-					64	211	873	100	10	0
24	13	-					64	279	641	74	12	0
25	13	-					44	392	753	51	15	14
26	10	-					42	510	585	40	11	1
27	13	-					74	673	517	33	3	4
28	13	-					100	849	503	51	1	18
29	8	-					104	825	468	17	0	28
30	8	-					93	801	416	21	1	24
31	7	-					-	889	-	70	7	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						324	18	2	10.5	643		
November 1-20.....						182	19	1	9.1	361		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April.....						1,664	104	38	55.5	3,300		
May.....						7,783	889	40	251	15,440		
June.....						32,576	2,040	416	1,119	66,600		
July.....						4,170	362	17	135	8,270		
August.....						390	70	0	12.3	754		
September.....						306	44	0	10.2	607		
Water year .....												



Discharge, in second-feet, of Pioneer Canal near Woods, Wyo., 1934-35

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	55	15					2	34	55	93	70	40
2	53	15					2	40	78	93	70	40
3	51	15					2	40	65	93	68	40
4	69	12					2	40	73	64	70	36
5	65	12					2	39	70	64	68	33
6	36	12					2	39	64	64	66	30
7	35	12					2	40	77	70	64	23
8	35	12					2	39	108	70	63	26
9	16	14					2	42	110	70	53	33
10	10	14					2	42	106	69	49	33
11	10	14					2	42	104	68	48	31
12	10	14					2	62	116	70	48	28
13	12	14					2	63	117	70	40	28
14	14	14					2	73	117	68	40	20
15	15	14					2	73	116	68	36	20
16	15	14					2	72	110	64	47	20
17	15	12					2	72	105	62	47	20
18	15	12					2	74	105	67	48	20
19	15	12					2	69	102	62	46	19
20	15	12					2	69	100	66	47	26
21	15	-					22	71	117	66	43	28
22	15	-					22	70	117	68	33	28
23	15	-					23	70	116	76	33	27
24	15	-					23	70	114	70	33	18
25	15	-					26	65	110	66	33	19
26	15	-					23	57	96	64	33	33
27	14	-					11	57	95	66	34	42
28	15	-					5	56	93	64	35	42
29	15	-					5	62	94	66	40	25
30	15	-					5	58	94	70	39	25
31	15	-					-	58	-	70	40	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						723	69	10	23.3	1,430		
November 1-20 .....						265	15	12	13.2	526		
December.....						-	-	-	-	-		
Calendar year .....						-	-	-	-	-		
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April.....						266	86	2	8.8	526		
May.....						1,768	74	34	56.7	3,490		
June.....						2,944	117	55	98.1	5,840		
July.....						2,160	93	62	69.7	4,280		
August.....						1,484	70	33	47.9	2,940		
September.....						853	42	18	28.4	1,690		
Water year .....						-	-	-	-	-		

Combined monthly discharge of Laramie River and Pioneer Canal near Woods, Wyo., for 1934-35

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,047	83	12	33.8	2,080
November 1-20 .....	447	31	13	22.4	887
December.....	-	-	-	-	-
Calendar year .....	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	1,929	130	40	64.5	3,830
May.....	9,541	947	79	308	18,920
June.....	36,520	2,160	510	1,217	72,440
July.....	6,330	455	82	204	12,560
August.....	1,864	140	33	60.1	3,700
September.....	1,159	75	18	36.6	2,500
Water year .....	-	-	-	-	-

## Laramie River at Laramie, Wyo.

Location.- Chain gage, lat. 41°19', long. 105°37', in sec. 32, T. 16 N., R. 73 W., at west edge of Laramie.

Drainage area.- Not measured.

Records available.- April 1933 to September 1935.

Extremes.- Maximum discharge observed during year, 1,660 second-feet June 16 (gage height, 5.00 feet); minimum mean daily discharge, 4.6 second-feet Sept. 23. 1933-35: Maximum discharge that of June 18, 1935; minimum mean daily discharge, 1.5 second-feet Sept. 6, 7, 1934.

Remarks.- Records good. No record Oct. 1 to Mar. 31. Diversions for irrigation above station.

Rating table, Apr. 1 to Sept. 30, 1935 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Apr. 1-27)

0.5	3	1.6	79	3.0	482
.6	6	1.8	112	3.1	530
.7	8	2.0	155	3.5	730
.8	12	2.2	200	3.7	840
1.0	22	2.4	263	4.0	1,020
1.2	37	2.6	319	4.3	1,200
1.4	55	2.8	396	5.0	1,655

Discharge, in second-feet, water year-October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							16	39	610	272	56	9.6
2							16	29	620	225	62	9.6
3							18	25	550	215	58	8.8
4							16	22	530	215	52	8.0
5							11	21	530	225	45	8.0
6							11	20	590	195	40	8.0
7							10	19	690	173	35	8.0
8							11	13	807	164	32	12
9							14	7	858	151	29	14
10							14	8	978	137	26	17
11							16	8	1,110	105	25	22
12							23	12	1,150	96	55	20
13							16	12	1,200	96	34	16
14							14	18	1,260	91	22	13
15							12	28	1,310	76	69	10
16							12	23	1,410	71	31	9.2
17							12	20	1,530	62	21	7.7
18							14	27	1,620	57	20	6.8
19							18	42	1,430	55	16	6.2
20							18	79	1,120	53	17	5.6
21							20	94	888	53	16	5.0
22							22	82	829	56	16	5.0
23							24	64	730	69	16	4.6
24							25	94	675	79	15	5.3
25							28	105	630	76	14	7.7
26							32	164	520	70	13	6.8
27							94	210	460	65	12	7.4
28							65	341	396	53	11	6.4
29							51	511	356	55	10	9.6
30							42	540	326	60	10	10
31							-	501	-	56	10	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year .....												
January.....						-	-	-	-		-	
February.....						-	-	-	-		-	
March.....						-	-	-	-		-	
April.....						695	94	10	23.2		1,380	
May.....						3,178	540	7	103		6,300	
June.....						25,713	1,620	326	857		51,000	
July.....						3,426	272	53	111		6,800	
August.....						888	69	10	28.6		1,760	
September.....						289.3	22	4.6	9.64		574	
The period.....											67,810	

## Laramie River at Two Rivers, Wyo.

Location.- Water-stage recorder, lat. 41°28', long. 105°44', in sec. 5, T. 17 N., R. 74 W., a quarter of a mile above Little Laramie River. Zero of gage is 7,058.90 feet above mean sea level.

Drainage area.- 1,290 square miles.

Records available.- May 1911 to October 1927, May 1933 to September 1935.

Extremes.- Maximum discharge during year, 1,550 second-foot June 19 (gage height, 5.27 feet); minimum mean daily discharge, 0.7 second-foot Oct. 24.  
1911-27, 1933-35: Maximum discharge, 3,930 second-foot June 13, 1923 (gage height, 7.48 feet); no flow Sept. 22-25, 1911.

Remarks.- Records good except those for period of ice effect, Nov. 29 to Mar. 24, which were estimated on the basis of two discharge measurements and temperature records, and those for Oct. 1-8. Diversions for irrigation above station.

Rating table, for Mar. 25 to Sept. 30, 1935  
except period of ice effect (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Aug. 6 to Sept. 30)

0.6	1.0	1.4	63	2.8	390	4.1	890
.7	2.5	1.5	80	3.0	446	4.6	1,140
.8	9	1.6	98	3.1	476	5.0	1,360
.9	16	1.7	118	3.3	544	5.2	1,490
1.0	24	1.8	140	3.4	582	5.4	1,650
1.2	40	2.0	168	3.5	624	5.7	1,920
1.3	49	2.3	260	3.9	800	6.0	2,220

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	1.3	6	19	30	32	22	11	438	276	48	1.9
2	1.7	1.5	10	18	30	32	16	7.0	500	228	40	1.6
3	1.6	3.6	10	18	29	31	14	5.1	500	188	49	1.8
4	1.6	2.3	10	19	28	30	15	3.2	461	219	47	2.5
5	1.5	2.0	9	20	27	26	14	2.5	429	188	42	2.5
6	1.5	1.8	10	21	26	30	14	3.8	443	205	38	2.5
7	1.4	1.5	9	20	26	30	11	2.5	517	183	39	5.3
8	1.4	1.6	9	21	26	26	10	3.2	590	184	37	11
9	1.3	1.6	10	22	26	24	10	2.5	699	142	37	15
10	1.1	1.8	11	25	28	23	20	2.4	787	131	34	14
11	1.1	1.8	12	25	29	24	23	2.4	886	118	34	12
12	1.6	1.8	13	22	27	25	36	3.2	995	91	26	18
13	1.3	1.8	13	22	24	27	30	2.5	1,060	89	17	20
14	1.0	1.9	14	22	22	30	16	3.2	1,100	82	29	17
15	1.0	1.8	15	21	20	30	12	2.5	1,170	78	26	9.0
16	.9	1.8	12	18	20	28	10	2.5	1,230	63	38	3.2
17	.9	1.9	12	18	21	26	7.7	2.5	1,330	55	33	2.2
18	.9	1.9	14	18	24	26	4.4	3.8	1,430	55	19	1.9
19	.8	1.9	18	15	29	26	2.5	4.4	1,510	52	13	1.6
20	.9	2.3	20	16	30	27	2.4	5.1	1,320	46	9.7	1.6
21	.9	2.0	21	18	29	28	2.4	12	965	46	7.7	1.4
22	.9	2.2	22	18	28	28	2.2	44	747	52	5.8	1.4
23	1.0	2.4	23	18	26	29	2.4	46	672	46	4.4	1.4
24	.7	2.4	23	18	23	30	7.7	37	599	55	4.4	1.6
25	1.0	2.2	23	20	21	35	11	44	541	78	3.2	1.8
26	1.0	5.0	23	22	27	37	18	49	479	66	2.2	1.4
27	1.0	2.7	23	24	29	38	15	82	432	56	2.2	1.4
28	1.0	3	23	26	30	45	38	183	382	49	2.0	1.3
29	1.1	3	20	27	-	38	34	307	346	44	2.0	1.3
30	1.1	3	16	30	-	26	18	426	299	56	2.0	1.2
31	1.1	-	18	30	-	24	-	449	-	52	2.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	36	1.7	0.7	1.16	71
November.....	65.8	5	1.3	2.19	131
December.....	472	23	6	15.2	936
Calendar year .....					
January.....	651	30	15	21.0	1,290
February.....	735	30	20	26.2	1,460
March.....	911	45	23	29.4	1,810
April.....	438.7	38	2.2	14.6	870
May.....	1,754.3	449	2.4	56.6	3,480
June.....	22,657	1,510	299	762	45,340
July.....	3,254	276	44	106	6,450
August.....	691.8	49	2.0	22.3	1,370
September.....	159.3	20	1.2	5.31	316
Water year 1934-35.....	32,025.9	1,510	.7	87.7	63,520

## Laramie River near Lookout, Wyo.

Location.- Water-stage recorder, lat.  $41^{\circ}46'$ , long.  $105^{\circ}41'$ , in sec. 27, T. 21 N., R. 74 W., 9 miles northeast of Lookout. Zero of gage is 8,982.68 feet above mean sea level.

Drainage area.- 2,100 square miles.

Records available.- May 1912 to August 1917, May 1932 to September 1935 in reports of U. S. Geological Survey; in reports of State engineer for same periods.

Extremes.- Maximum discharge during year, 1,830 second-feet June 19 (gage height, 4.89 feet); no flow Oct. 1 to Jan. 10.  
1915-17, 1932-35: Maximum discharge (estimated), 3,100 second-feet June 28, 1917; no flow July 15 to Aug. 5, Aug. 11, 1934, to Jan. 10, 1935.

Remarks.- Records good except those estimated, Jan. 17 to May 24. Diversions for irrigation above station.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Aug. 21 to Sept. 30)

0.8	0	1.5	64	2.8	492
.9	1	1.6	86	3.0	588
1.0	3	1.8	134	3.2	696
1.1	8	2.0	188	3.6	940
1.2	16	2.2	250	4.0	1,200
1.3	28	2.4	320	4.8	1,760
1.4	44	2.6	402	5.0	1,920

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0				40	373	502	50	6
2				0				25	377	270	54	6
3				0				20	411	231	52	5
4				0				15	415	212	54	4
5				0				10	411	215	60	3
6				0				5	398	188	56	3
7				0				5	398	203	46	4
8				0				5	428	188	44	12
9				0				5	502	166	35	10
10				0				5	702	147	33	9
11								5	833	134	31	9
12								5	1,070	124	31	8
13				5				5	1,290	103	30	7
14								6	1,450	88	28	7
15								6	1,510	79	33	7
16								6	1,610	77	28	8
17								6	1,680	75	26	8
18				15				6	1,780	60	33	6
19								6	1,790	52	28	4
20								8	1,700	48	19	3
21								10	1,470	44	19	3
22								12	1,110	44	17	3
23				20				18	946	46	16	2
24								22	839	46	14	3
25								33	725	46	12	4
26								31	630	56	8	3
27								26	559	64	8	3
28								31	478	52	7	3
29								82	411	66	6	2
30								188	344	62	5	2
31								332	-	44	6	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				0		0	0	0	0			
November.....				0		0	0	0	0			
December.....				0		0	0	0	0			
Calendar year												
January.....				350		-	0	11.3	694			
February.....				700		-	-	25	1,390			
March.....				992		-	-	32	1,970			
April.....				600		-	-	20	1,190			
May.....				979		332	5	31.6	1,940			
June.....				26,640		1,790	344	888	52,840			
July.....				3,532		302	44	114	7,010			
August.....				889		60	5	28.7	1,760			
September.....				157		12	2	5.2	311			
Water year 1934-35.....				34,639		1,790	0	95.4	69,100			

## Laramie River near Fort Laramie, Wyo.

Location.— Water-stage recorder, lat.  $42^{\circ}12'$ , long.  $104^{\circ}32'$ , in sec. 28, T. 26 N., R. 64 W., half a mile below Old Fort Laramie and 2.1 miles from Fort Laramie. Prior to August 21, 1935, recorder 3 miles upstream.

Drainage area.— 4,600 square miles.

Records available.— April 1915 to September 1935.

Remarks.— Diversions for irrigation above station. Discharge tables include flow of Lingle power-plant canal, which diverts water from river 4 miles upstream. Flow regulated by Wheatland Reservoir, capacity about 60,000 acre-feet. Complete records furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	47	30	60	60	58	36	30	1,070	93	21	23
2	14	46	46	53	53	61	36	30	1,900	85	19	23
3	15	47	51	63	52	57	38	40	1,020	90	19	25
4	15	46	55	64	53	54	42	39	940	80	24	27
5	12	46	72	67	51	48	35	34	671	72	19	28
6	12	46	63	72	51	42	36	37	569	66	20	27
7	12	44	50	67	51	40	32	24	561	65	18	27
8	12	44	71	58	53	41	32	35	515	55	18	31
9	12	44	51	62	49	40	32	38	510	52	19	30
10	12	44	85	61	50	39	36	39	462	45	21	28
11	12	46	66	61	45	39	24	39	420	30	19	27
12	12	46	73	61	43	40	45	42	750	26	19	27
13	12	46	74	50	49	40	38	49	1,750	23	20	27
14	12	46	53	31	51	39	30	75	990	21	19	27
15	33	46	73	35	35	41	31	81	664	30	18	27
16	33	45	59	62	42	38	33	96	457	21	18	29
17	35	44	88	49	41	40	32	108	407	15	19	30
18	33	43	61	71	47	40	23	182	414	14	20	28
19	29	44	61	28	49	39	22	155	395	14	22	28
20	28	43	66	71	48	39	21	253	345	12	26	28
21	27	43	52	74	46	37	18	367	293	14	25	23
22	22	44	58	59	44	39	17	359	269	19	23	23
23	25	43	59	59	43	30	13	314	251	15	25	22
24	22	42	35	48	41	30	12	291	215	72	26	23
25	23	44	16	58	21	30	16	282	192	39	25	23
26	24	44	41	72	54	30	37	350	177	29	26	23
27	38	49	53	89	56	30	48	294	152	23	26	25
28	40	41	51	70	50	30	40	294	133	25	25	27
29	41	49	43	81	-	30	37	363	120	23	25	28
30	44	37	54	74	-	32	29	440	93	22	22	28
31	46	-	41	66	-	36	-	449	-	22	23	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						720	46	12	23.2	1,430		
November.....						1,338	49	37	44.6	2,650		
December.....						1,720	85	16	55.5	3,410		
Calendar year 1934.....						16,256	140	2	44.5	32,240		
January.....						1,896	89	28	61.2	3,760		
February.....						1,328	60	21	47.4	2,630		
March.....						1,229	51	30	39.6	2,440		
April.....						926	43	12	30.9	1,840		
May.....						5,228	449	24	169	10,370		
June.....						16,685	1,900	93	556	33,090		
July.....						1,212	93	12	39.1	2,400		
August.....						669	26	18	21.6	1,330		
September.....						792	31	22	26.4	1,570		
Water year 1934-35.....						33,743	1,900	12	92.4	66,920		

## Little Laramie River near Filmore, Wyo.

Location.- Staff gage, lat.  $41^{\circ}17'$ , long.  $106^{\circ}3'$ , in sec. 9, T. 15 N., R. 77 W., at Mays ranch,  $1\frac{1}{2}$  miles south of Filmore.

Drainage area.- 155 square miles.

Records available.- July 1902 to August 1903, May 1911 to November 1926, May 1933 to September 1935.

Average discharge.- 18 years (1911-26, 1932-35), 110 second-feet.

Extremes.- Maximum discharge during year, 1,410 second-feet June 14 (gage height, 4.07 feet); minimum, not determined.

1902-3, 1911-26, 1933-35: Maximum discharge, 2,400 second-feet June 1, 1914 (gage height, 5.9 feet); minimum, 1 second-foot Sept. 19, 20, 1913.

Remarks.- Records good except those for Dec. 2 to Mar. 31, which were estimated on the basis of one discharge measurement and temperature records. Small diversions for irrigation above station.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Apr. 1 to May 23)

0.4	8	1.2	74	2.3	358	3.0	656
.5	11	1.3	92	2.4	392	3.1	710
.7	19	1.5	132	2.5	428	3.3	830
.8	26	1.6	154	2.6	466	3.7	1,110
.9	34	1.7	178	2.7	508	4.0	1,350
1.0	45	1.9	234	2.8	554	4.2	1,510
1.1	58	2.1	294	2.9	604	4.3	1,600

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	14	11				11	20	243	240	92	16
2	14	13					13	22	217	226	76	16
3	13	13					13	28	220	203	64	16
4	14	13					13	29	246	240	55	16
5	13	13					13	30	300	186	55	16
6	13	13					13	21	443	173	53	16
7	13	13					11	20	614	173	53	16
8	13	14		* 16			15	19	722	171	50	19
9	14	14					16	17	914	164	46	19
10	14	14					15	16	949	145	29	17
11	13	14					15	17	963	143	24	17
12	13	14					15	40	1,050	152	22	16
13	12	13					14	37	1,130	168	22	15
14	13	13					15	37	1,290	143	21	15
15	14	13					15	35	1,170	143	20	15
16	13	14					19	34	1,090	136	23	15
17	13	13					16	40	752	128	25	15
18	14	12					22	46	589	122	22	14
19	14	12					50	63	574	106	20	14
20	14	12					42	72	574	110	20	14
21	13	11					28	74	554	143	19	14
22	13	13					22	85	495	130	18	14
23	13	12					22	88	495	114	17	14
24	13	12					24	92	443	104	18	14
25	13	13					74	108	365	87	17	14
26	13	12					92	102	332	66	17	16
27	13	12					55	143	332	64	17	17
28	14	13					31	184	300	63	17	17
29	14	12					26	228	300	114	16	13
30	13	12					24	220	282	116	16	14
31	14	-					-	270	-	122	16	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							414	14	12	13.4	821	
November.....							386	14	11	12.9	765	
December.....							403	-	-	13	799	
Calendar year												
January.....							527	-	-	17	1,050	
February.....							420	-	-	15	633	
March.....							403	-	-	13	799	
April.....							764	92	11	25.1	1,500	
May.....							2,237	270	16	72.2	4,440	
June.....							17,948	1,290	217	598	35,600	
July.....							4,395	240	63	142	8,720	
August.....							980	92	16	31.6	1,940	
September.....							464	19	13	15.5	920	
Water year 1934-35.....							29,331	1,290	-	80.4	58,190	

\* Discharge measurement.

## Little Laramie River at Two Rivers, Wyo.

**Location.**— Water-stage recorder, lat.  $41^{\circ}28'$ , long.  $105^{\circ}44'$ , on line between secs. 5 and 6, T. 17 N., R. 74 W., at old Two Rivers. Zero of gage is 7,060.54 feet above mean sea level.

**Drainage area.**— 310 square miles.

**Records available.**— May 1911 to October 1927, May 1933 to September 1935.

**Extremes.**— Maximum discharge during year, 710 second-feet June 17 (gage height, 4.80 feet); no flow Oct. 1 to Jan. 25, Sept. 14–30.  
1911–27, 1933–35: Maximum discharge, 1,790 second-feet May 29, 1926 (gage height, 6.32 feet); no flow at times.

**Remarks.**— Records good except those for Jan. 26 to Apr. 1, which were estimated on the basis of one discharge measurement and temperature records. Diversions for irrigation above station.

Rating table, water year 1934–35 (gage height, in feet, and discharge, in second-feet)

1.3	0	2.0	13	3.5	242
1.4	.2	2.1	19	3.7	290
1.5	.6	2.2	23	4.0	370
1.6	1.4	2.4	50	4.2	436
1.7	2.4	2.7	90	4.5	555
1.8	4.8	3.0	138	4.7	655
1.9	8	3.2	176	4.9	765

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0			0.1	11	3.4	29	10	0.3
2				0			.5	4.1	3.1	19	13	.3
3				0			.5	2.2	3.4	14	11	.2
4				0			.6	2.0	3.8	10	7.4	.2
5				0			.7	1.8	4.3	7.4	5.8	.1
6				0			.7	1.9	3.8	6.4	4.1	.1
7				0			.7	1.8	3.6	5.8	3.1	.2
8				0			.7	1.7	15	5.4	2.3	.3
9				0			.8	1.6	112	4.6	2.1	.3
10				0			1.5	1.5	209	3.8	1.8	.3
11				0			1.5	1.4	316	3.6	1.6	.2
12				0			.9	1.7	419	3.4	1.7	.1
13				0			1.3	1.8	487	2.6	1.5	.1
14				0			2.3	1.8	524	2.3	1.4	0
15				0			1.7	1.8	585	2.1	1.2	0
16				0			1.6	1.7	600	1.9	1.2	0
17				0			1.3	1.6	635	1.9	1.3	0
18				0			1.3	1.8	528	2.0	1.0	0
19				0			1.2	2.1	332	2.0	.9	0
20				0			1.1	4.1	216	1.9	.8	0
21				0			1.1	6.4	174	1.9	.7	0
22				0			1.1	6.7	196	2.4	.7	0
23				0			1.2	7.4	174	3.1	.6	0
24				0			2.0	5.8	160	4.3	.7	0
25				0			5.8	2.9	130	5.4	.6	0
26				.2			3.8	3.1	109	4.6	.6	0
27				.3	* 0.7		.9	2.9	87	3.6	.5	0
28				.5			1.1	3.6	67	2.9	.5	0
29				.4			2.2	5.1	55	2.9	.4	0
30				.4			4.8	7.4	41	4.8	.4	0
31				.4			-	4.1	-	7.4	.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year .....					
January.....	2.0	.4	0	.06	4.0
February.....	14.0	-	-	.5	23
March.....	16.6	-	-	.6	37
April.....	45.0	5.8	.1	1.5	89
May.....	104.8	11	1.4	3.38	208
June.....	6,196.4	635	3.1	207	12,290
July.....	172.4	29	1.9	5.56	342
August.....	79.4	13	.4	2.56	157
September.....	2.7	.3	0	.09	5.4
Water year 1934-35.....	6,635.3	635	0	18.2	13,160

\* Discharge measurement.

## PLATTE RIVER BASIN

Rawhide Creek near Lingle, Wyo.

Location.- Water-stage recorder, lat. 42°07', long. 104°19', in sec. 20, T. 25 N., R. 82 W. (revised), 1 mile east of Lingle and 1 mile above mouth. Prior to June 12, 1935, staff gage 200 feet upstream at different datum.

Drainage area.- 510 square miles.

Records available.- May 1928 to September 1935.

Extremes.- Maximum discharge during year, 1,940 second-feet June 1 (slope measurement) (gage height, 10.00 feet at old site, 10.15 feet at new site); minimum, not determined.

1928-35: Maximum discharge, that of June 1, 1935; minimum daily discharge, 0.7 second-foot Aug. 2, 1934.

Remarks.- Records good June 12 to Sept. 30, poor Oct. 1 to June 11. Discharge estimated Oct. 1 to May 20 on the basis of 14 discharge measurements and intermittent gage heights. No diversions. Low-water flow represents return seepage from Interstate Canal.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		* 10	-	-	-	-	* 1.4	6	650	21	15	31
2		-	-	-	-	-	-	7	472	17	17	35
3		-	-	-	-	-	-	8	133	8	20	43
4		-	* 9	-	* 12	-	-	9	191	7	21	30
5		-	-	-	-	-	-	10	66	32	19	30
6		-	-	-	-	* 4.0	-	8	113	11	19	29
7		-	-	-	-	-	-	7	100	13	21	26
8		-	-	-	-	-	-	7	85	13	23	27
9		-	-	-	-	-	-	6	50	14	24	26
10		-	-	-	-	-	-	6	46	10	24	27
11		-	-	-	-	-	-	7	61	16	24	28
12		-	-	-	-	-	-	8	422	9	17	29
13		-	-	-	-	-	-	32	113	40	12	29
14		-	-	-	-	-	-	29	54	43	13	27
15		-	-	-	-	-	-	36	39	132	14	28
16		-	-	-	-	-	* 1.5	37	33	43	13	27
17		-	-	* 10	-	-	-	36	34	27	13	24
18		-	-	-	-	* 8	-	42	45	24	14	23
19		-	-	-	* 15	-	-	44	29	31	15	21
20		* 3.6	-	-	-	-	* 2.0	49	56	20	12	22
21		-	-	* 7	-	-	-	35	22	21	15	22
22		-	-	-	-	-	-	23	19	17	14	26
23		-	-	-	-	-	-	24	24	24	14	24
24		-	-	-	-	-	-	14	27	35	15	20
25		-	-	-	-	-	-	33	24	14	20	17
26		-	* 15	-	-	-	-	28	27	15	72	21
27		-	-	-	-	-	-	19	20	17	40	26
28		-	-	-	-	-	-	68	24	23	32	23
29		-	-	-	-	-	-	66	20	16	25	18
30		-	-	-	-	-	-	74	26	13	23	16
31		-	-	-	-	-	-	20	-	12	28	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						341	-	-	11	676		
November.....						240	-	-	8	476		
December.....						405	-	-	13	799		
Calendar year 1934.....						5,925.4	475	0.7	16.2	11,750		
January.....						310	-	-	10	615		
February.....						364	-	-	13	722		
March.....						217	-	-	7	450		
April.....						60	-	-	2	119		
May.....						805	74	6	26.0	1,600		
June.....						3,003	650	19	100	5,960		
July.....						744	132	7	24.0	1,480		
August.....						649	72	12	20.9	1,290		
September.....						775	43	16	25.8	1,540		
Water year 1934-35.....						7,911	650	-	21.7	15,710		

\* Discharge measurement.



## Cherry Creek Drain near Torrington, Wyo.

Location.- Water-stage recorder, lat. 42°3', long. 104°9', in sec. 23, T. 24 N., R. 81 W., three-quarters of a mile above mouth and 2 miles southeast of Torrington. May 1 to June 11, 1935, staff gage 1 mile above.

Records available.- May to September 1935.

Extremes.- Maximum discharge during period, about 339 second-feet June 1 (gage height, 3.02 feet, former site and datum); minimum mean daily discharge, 4 second-feet May 1-3, 8.

Remarks.- Records good except those for May 1 to June 11, which are poor. Discharge estimated May 1, 5-8, 9-11, 15, 17, 21-23. Flow is chiefly return water from irrigation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								4	132	15	16	20
2								4	41	18	13	18
3								4	22	25	11	16
4								6	13	26	11	21
5								6	9	29	11	22
6								7	11	31	10	21
7								7	11	32	14	26
8								4	9	29	17	28
9								5	9	24	20	25
10								7	16	21	19	26
11								9	51	20	20	27
12								10	12	15	17	26
13								20	11	16	15	27
14								12	13	18	15	26
15								9	13	14	14	27
16								6	13	12	12	24
17								7	13	11	13	29
18								9	19	18	11	30
19								29	16	15	13	28
20								41	12	17	11	24
21								20	11	15	13	19
22								10	10	21	15	16
23								8	10	16	14	11
24								7	11	24	15	10
25								7	12	22	13	14
26								7	11	18	15	14
27								7	15	16	15	15
28								12	16	16	15	16
29								28	16	18	16	16
30								13	16	15	19	18
31								16	-	16	21	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						-	-	-	-	-		
November.....						-	-	-	-	-		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April.....						-	-	-	-	-		
May.....						341	41	4	11.0	676		
June.....						574	132	9	19.1	1,140		
July.....						603	32	11	19.5	1,200		
August.....						454	21	10	14.6	900		
September.....						640	30	10	21.3	1,270		
The period.....										5,190		

## Katzner Drain near Henry, Nebr.

Location.- Water-stage recorder, lat. 41°58', long. 104°3', in sec. 15, T. 23 N., R. 60 W., 3 miles southwest of Henry. Prior to June 24, 1935, staff gage at different datum 250 feet upstream.

Records available.- June 1928 to September 1935.

Extremes.- Maximum discharge during year, 102 second-feet May 31 (gage height, 2.48 feet); minimum, not determined.  
1928-35: Maximum discharge, about 1,050 second-feet June 2, 1929 (gage height, 9.9 feet); minimum mean daily discharge, 0.8 second-foot Aug. 21, 1934.

Remarks.- Records fair except those for Oct. 1 to May 23, which were estimated on the basis of 10 discharge measurements and intermittent gage heights. Records show return flow from area irrigated by Fort Laramie Canal. Katzner Drain enters North Platte River in Wyoming 1 mile above Nebraska State line.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	-	-	-	-	-	5	25	10	15	24
2		-	-	-	-	-	-	5	31	9	14	23
3		-	-	-	-	-	-	4.5	10	9	14	23
4		-	-	-	-	-	-	4.0	6	7	16	24
5		-	-	-	* 3.0	* 2.8	-	4.0	6	11	15	21
6		-	-	-	-	-	-	2.5	7	15	15	20
7		-	-	-	-	-	-	2.5	7	11	13	23
8		-	-	-	-	-	-	2.5	6	13	11	23
9		-	-	-	-	-	-	3.0	7	12	12	20
10		-	-	-	-	-	-	3.5	6	12	15	20
11		-	-	-	-	-	-	3.9	7	11	14	22
12		-	-	-	-	-	-	7	10	13	16	23
13		-	-	-	-	-	-	10	5	12	17	24
14		-	-	-	-	-	-	7	5	15	15	25
15		-	-	-	-	-	-	5	4.9	13	14	28
16		-	-	-	-	-	-	4.1	5	11	18	27
17		-	-	* 0.9	-	-	* 2.9	5	6	12	16	22
18		-	-	-	-	-	-	4.5	6	14	17	20
19		-	-	-	-	-	-	12	5	13	13	20
20		-	-	-	-	-	* 2.5	25	4.6	12	12	20
21		* 3.8	-	-	-	-	-	10	4.1	13	12	19
22		-	-	* 1.2	-	-	-	9	3.9	14	12	14
23		-	-	-	-	-	-	8	3.9	15	13	10
24		-	-	-	-	-	-	8	5	15	13	9
25		-	-	-	-	-	-	6	9	15	14	8
26		-	-	-	-	-	-	7	10	15	14	8
27		-	* 2.9	-	-	-	-	10	7	16	16	9
28		-	-	-	-	-	-	10	9	18	19	9
29		-	-	-	-	-	-	12	9	17	20	9
30		-	-	-	-	-	-	8	10	15	24	8
31		-	-	-	-	-	-	30	-	16	25	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				138.5	-	-	4.5	277				
November.....				120	-	-	4.0	238				
December.....				108.5	-	-	3.5	215				
Calendar year 1934.....				2,287.2	35	0.8	6.3	4,540				
January.....				52.7	-	-	1.7	105				
February.....				84	-	-	3.0	167				
March.....				105.4	-	-	3.4	209				
April.....				90	-	-	3.0	179				
May.....				240	30	2.5	7.7	476				
June.....				240.4	31	3.9	8.0	477				
July.....				404	18	7	15.0	901				
August.....				474	25	11	15.3	940				
September.....				555	28	8	18.5	1,100				
Water year 1934-35.....				2,613.5	31	-	7.2	5,180				

\* Discharge measurement.

## Horse Creek near Lyman, Nebr.

Location.- Staff gage, lat. 41°56', long. 104°59', in sec. 25, T. 23 N., R. 58 W., half a mile below mouth of Kiowa Drain and 3 miles northeast of Lyman.

Drainage area.- 1,860 square miles.

Records available.- October 1930 to September 1935.

Extremes.- Maximum discharge during year, 1,150 second-feet June 13 (gage height, 4.9 feet, from high-water mark); minimum mean daily discharge, 4 second-feet (estimated), Jan. 19-21.

1930-35: Maximum discharge, that of June 13, 1935; minimum discharge, that of Jan. 19-21, 1935.

Remarks.- Records good except those for Dec. 26 to Feb. 16, Feb. 24-27, which were estimated on the basis of two discharge measurements and temperature records. Numerous small diversions above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	10	10	11	11	10	6	21	289	118	30	45
2	17	11	11			9	6	18	126	65	31	42
3	18	10	11			9	6	16	156	45	30	40
4	18	13	9			16	7	16	190	49	31	45
5	16	12	10			12	6	15	135	44	33	43
6	16	9	17	10	11	10	7	14	152	42	28	42
7	18	11	10			11	6	14	147	93	28	47
8	12	11	10			8	6	15	274	43	28	67
9	12	13	10			7	6	12	211	38	28	102
10	12	10	10			7	30	12	154	32	28	63
11	12	11	10	12	12	7	6	11	140	28	28	45
12	13	11	9			7	9	21	49	31	27	44
13	14	10	9			7	18	23	742	37	29	46
14	11	9	17			7	18	20	418	109	28	47
15	15	10	16			7	10	16	287	77	27	41
16	12	11	16	4	10	6	12	13	186	40	26	32
17	10	11	16			6	8	14	182	35	31	39
18	10	10	14			7	7	16	147	39	34	32
19	11	12	15			7	7	93	151	29	33	41
20	10	11	12			6	6	170	142	28	31	54
21	11	11	18	8	5	9	6	7	65	121	29	37
22	12	12	14			9	8	7	37	109	34	28
23	12	10	13			10	7	7	16	99	34	27
24	11	10	11			8	6	42	14	83	30	29
25	12	10	12			5	6	88	13	55	28	31
26	12	10	7	12	9	5	170	10	41	31	39	27
27	10	10	* 7			8	5	52	26	42	28	40
28	11	10	8			5	83	45	80	31	38	31
29	11	10	10			5	55	15	108	30	95	25
30	11	10	12			6	29	10	65	29	51	25
31	10	-	12	-	-	6	-	-	303	-	28	46
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						394	18	10	12.7	781		
November.....						318	13	9	10.6	631		
December.....						369	15	7	11.9	732		
Calendar year 1934.....						5,721	182	6	15.7	11,350		
January.....						295	-	-	9.5	581		
February.....						284	12	5	10.1	563		
March.....						231	16	5	7.5	458		
April.....						727	170	6	24.2	1,440		
May.....						1,104	303	10	35.6	2,180		
June.....						5,081	742	41	169	10,080		
July.....						1,362	119	28	43.6	2,680		
August.....						1,042	95	26	33.6	2,070		
September.....						1,250	102	25	41.7	2,480		
Water year 1934-35.....						12,445	742	-	34.1	24,690		

\* Discharge measurement.

## Sheep Creek near Morrill, Nebr.

Location.- Staff gage, lat. 41°58', long. 103°56', in sec. 16, T. 23 N., R. 57 W., 1 mile west of Morrill.

Records available.- October 1931 to September 1935.

Extremes.- Maximum discharge during year, 153 second-feet July 13 (gage height, 3.64 feet); minimum discharge, 0.9 second-foot Mar. 25, 26.

1932-35: Maximum gage height, 6.75 feet (discharge not determined), due to break in Interstate Canal, Aug. 2, 1932; minimum discharge, 0.8 second-foot July 7, 8, 1934.

Remarks.- Records good except those for Oct. 1 to Feb. 14, which were estimated on the basis of four discharge measurements and intermittent gage heights and are fair. During irrigation season all the flow is diverted at a point  $1\frac{1}{4}$  miles above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	5					53	51	51	64	17	2.0	2.6	
2	* 5					51	51	50	55	42	2.4	2.6	
3			1	52	50	53	53	45	53	41	2.4	3.0	
4	5				25	71	50	50	50	46	2.4	3.4	
5			25		* 3	50	50	25	49	42	1.8	3.8	
6						50	49	7	53	43	2.0	4.8	
7						51	49	4.3	52	42	2.0	4.8	
8					3	53	49	9	51	42	2.0	8	
9			58			51	50	2.2	47	42	2.0	7	
10					25	54	47	1.2	50	42	2.2	3.2	
11				51		51	52	1.2	51	42	2.2	2.8	
12						51	50	1.7	51	42	2.4	2.6	
13					53	51	48	1.7	51	97	2.6	2.4	
14						51	48	1.4	50	47	2.4	2.2	
15					53	51	48	19	47	65	2.2	2.2	
16			55			51	48	49	45	32	2.6	2.8	
17				50	53	50	47	50	61	6	2.8	2.8	
18					53	22	47	21	57	6	3.0	2.6	
19					52	2.4	47	68	47	6	3.0	2.6	
20				45	51	2.4	46	72	46	6	3.0	2.6	
21						54	2.2	45	58	45	7	3.0	2.4
22						53	2.2	45	54	46	8	3.0	2.2
23					* 50	50	2.2	45	54	45	4.8	3.0	2.6
24				53		48	2.0	60	50	19	2.4	3.6	2.2
25			1			47	1.4	93	50	1.4	2.6	3.6	2.2
26							.9	74	50	1.8	2.6	3.2	2.4
27				53	52	53	18	57	66	1.4	2.8	3.2	2.6
28						54	48	55	66	2.2	2.4	3.2	2.6
29						-	48	54	65	2.0	2.4	47	2.6
30						-	49	51	66	1.4	2.6	4.0	2.6
31		-				51	-	71	-	2.4	2.0	-	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....						107	-	-	3.5	212			
November.....						40	-	-	1.3	79			
December.....						1,448	-	-	46.7	2,870			
Calendar year 1934.....						11,918.7	92	-	32.7	23,640			
January.....						1,555	-	-	50.2	3,080			
February.....						1,153	54	-	41.2	2,290			
March.....						1,144.7	71	0.9	36.9	2,270			
April.....						1,559	93	45	52.0	3,090			
May.....						1,212.7	71	1.2	39.1	2,410			
June.....						1,195.2	54	1.4	39.8	2,370			
July.....						790.2	97	2.4	25.5	1,570			
August.....						126.2	47	1.8	4.07	250			
September.....						93.2	8	2.2	3.11	185			
Water year 1934-35.....						10,424.2	97	-	28.6	20,680			

\*Discharge measurement made.

## Winter Creek near Scottsbluff, Nebr.

**Location.**— Staff gage, lat. 41°52', long. 103°37', in sec. 19, T. 22 N., R. 54 W., 1 mile east of Scottsbluff.

**Records available.**— October 1931 to September 1935.

**Extremes.**— Maximum discharge during year, 400 second-feet (slope measurement) July 9 or 10 (gage height, 4.4 feet); minimum, 1 second-foot Aug. 16 (gage height, 0.32 foot). 1932-35: Maximum discharge, that of July 9 or 10, 1935; minimum, that of Aug. 16, 1935.

**Remarks.**— Records good except those for Jan. 1 to Feb. 14 which were estimated on the basis of two discharge measurements and temperature records. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	40	100	44	45	42	43	48	42	7	5	53
2	66	40	57			43	41	47	36	5	4	105
3	57	34	53			43	43	46	35	4	4	118
4	34	34	52			54	41	48	38	3	6	91
5	25	40	51			45	43	50	26	3	7	123
6	39	43	50	44	45	44	43	54	30	7	6	117
7	43	41	50			44	42	60	35	6	22	112
8	38	40	75			46	26	59	35	6	49	103
9	34	38	52			44	15	54	40	10	66	47
10	26	31	78			43	42	48	35	32	64	28
11	46	24	80	44	43	43	43	44	138	3	76	36
12	53	19	81			42	40	40	85	3	30	34
13	56	16	79			42	38	46	48	2	4	43
14	55	14	77			42	38	57	43	3	7	40
15	53	12	52			43	43	37	77	7	3	83
16	51	9	49	44	43	41	37	70	32	5	1	112
17	52	10	48			41	37	39	38	4	1	107
18	50	7	48			43	41	37	54	57	3	123
19	50	5	48			43	41	49	48	47	2	117
20	51	5	49			43	38	56	52	45	2	68
21	52	5	49	44	42	38	50	44	38	3	61	24
22	50	6	51			41	36	39	40	24	2	59
23	51	6	51			41	36	30	39	22	3	60
24	43	4	52			36	45	38	15	2	23	17
25	44	4	51			42	36	59	37	12	8	24
26	44	7	46	44	41	36	59	38	8	8	5	30
27	45	24	44			37	54	49	7	28	9	106
28	45	40	45			41	37	43	48	9	62	17
29	48	37	45			41	48	43	8	70	25	97
30	40	90	45			43	48	40	9	71	24	101
31	38	-	43	-	-	44	-	124	-	7	22	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,441	66	25	46.5	2,860		
November.....						775	90	4	25.9	1,540		
December.....						1,750	100	43	56.5	3,470		
Calendar year 1934.....						12,897	100	1	35.3	25,590		
January.....						1,364	-	-	44.0	2,710		
February.....						1,216	-	41	43.4	2,430		
March.....						1,281	54	36	41.3	2,540		
April.....						1,266	59	15	42.2	2,510		
May.....						1,581	124	37	51.0	3,140		
June.....						1,067	138	7	35.6	2,120		
July.....						581	71	2	12.3	756		
August.....						686	76	1	22.1	1,560		
September.....						2,159	123	7	72.0	4,280		
Water year 1934-35.....						14,967	138	1	41.0	29,700		

\* Discharge measurement.

## Gering Drain near Gering, Nebr.

Location.- Staff gage, lat. 41°50', long. 103°36', on line between secs. 5 and 6, T. 21 N., R. 54 W., 2 miles east of Gering. Prior to Apr. 18 staff gage 600 feet downstream, datum 1.00 foot lower.

Records available.- October 1930 to September 1935.

Extremes.- Maximum discharge during year, 2,700 second-feet (estimated) June 30 (gage height, 10.8 feet, from flood marks); minimum, not determined.  
1931-35: Maximum discharge, that of June 30, 1935; minimum mean daily discharge, 6 second-feet Aug. 21, Sept. 13, 1934.

Remarks.- Records fair. Discharge estimated Jan. 1 to Feb. 14 on the basis of two discharge measurements and temperature records.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	28	70	17	17	19	20	23	45	120	33	46
2	16	19	64			19	20	22	46	30	34	37
3	16	19	41			20	21	18	38	45	34	40
4	18	15	38			53	19	24	35	29	35	36
5	20	14	23			21	18	28	36	29	34	39
6	17	15	26	17	* 17	17	18	28	37	80	34	43
7	20	16	20			17	20	29	36	66	35	44
8	19	16	20			19	23	25	35	32	32	52
9	20	17	18			16	26	24	35	35	31	42
10	20	17	18			17	44	24	31	46	30	39
11	20	16	17	17	17	17	21	23	33	40	27	37
12	20	18	17			16	36	28	33	39	26	36
13	19	17	17			16	52	23	33	50	28	36
14	19	17	17			16	138	24	31	70	26	39
15	20	18	22			16	82	23	30	63	28	37
16	21	20	78	16	16	18	26	23	30	59	23	32
17	21	20	59			17	25	25	34	65	29	31
18	25	20	33			16	20	41	34	43	36	30
19	26	20	46			16	17	20	61	34	58	32
20	26	22	70			16	21	109	32	54	35	31
21	27	23	73	* 17	16	16	24	49	32	36	35	31
22	66	22	101			18	16	20	45	31	32	40
23	30	22	40			16	18	38	27	32	39	31
24	24	25	27			19	69	45	27	33	36	29
25	22	24	23			20	13	43	44	25	34	30
26	20	23	21	17	19	14	65	42	56	33	33	31
27	20	23	20			16	42	500	62	33	36	31
28	19	27	19			15	35	100	66	36	37	31
29	20	26	19			15	35	100	64	42	37	29
30	20	96	17			16	28	54	405	35	39	27
31	21	-	16	-	-	22	-	50	-	37	43	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						668	66	16	22.2	1,360		
November.....						675	96	14	22.5	1,340		
December.....						1,090	101	16	35.2	2,160		
Calendar year 1934.....						9,314	175	6	25.5	18,460		
January.....						540	-	-	17.4	1,070		
February.....						486	-	-	17.4	964		
March.....						613	69	13	19.3	1,220		
April.....						1,018	138	18	33.9	2,020		
May.....						1,693	500	18	54.6	3,360		
June.....						1,513	405	25	50.4	3,000		
July.....						1,438	120	29	46.4	2,850		
August.....						1,037	43	23	33.5	2,060		
September.....						1,056	52	27	35.3	2,100		
Water year 1934-35.....						11,849	500	-	32.5	23,500		

\* Discharge measurement.

## Ninemile Drain near McGrew, Nebr.

Location.- Staff gage, lat. 41°46', long. 103°24', in sec. 25, T. 21 N., R. 53 W., 1½ miles north of McGrew.

Records available.- January 1932 to September 1935.

Extremes.- Maximum gage height, 3.76 feet June 11 (discharge not determined); minimum daily discharge, 60 second-feet Apr. 14, 16, 17, 19-21.

1932-35: Maximum computed discharge, 385 second-feet Apr. 13, 1932 (observed gage height, 3.08 feet); minimum daily discharge, 51 second-feet July 25, 1934.

Remarks.- Records fair. Discharge estimated Jan. 1 to Feb. 14 on the basis of two discharge measurements and temperature records. Flow represents return seepage from irrigated lands.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	123	109	122	74	74	65	65	78	110	110	121	117
2	118	108	95			67	65	74	172	98	121	119
3	116	105	82			75	67	74	82	102	122	117
4	110	107	80			97	66	74	75	115	116	122
5	114	109	80			82	63	73	73	114	123	127
6	116	108	78	74	* 74	76	65	73	108	108	127	125
7	118	107	76			80	65	73	107	98	129	124
8	113	102	78			73	63	71	73	98	126	135
9	104	100	82			69	65	71	98	112	124	119
10	104	105	85			72	66	71	82	97	118	116
11	104	113	88	72	72	70	66	71	204	90	110	119
12	102	109	83			72	65	76	139	97	118	122
13	96	112	80			69	63	82	82	102	113	122
14	92	110	79			65	60	76	81	100	112	127
15	98	107	83			71	62	74	77	104	106	129
16	104	109	87	70	70	72	60	69	86	94	108	124
17	121	104	87			72	60	69	122	93	104	122
18	122	92	83			67	61	80	110	101	115	125
19	106	93	78			67	60	125	82	98	113	124
20	89	92	78			70	60	135	80	124	112	128
21	91	86	76	72	72	69	60	128	82	131	112	123
22	95	86	76			70	61	95	82	119	113	123
23	93	87	77			68	68	85	80	109	102	123
24	92	87	78			68	91	77	82	114	106	127
25	95	91	75			68	116	74	81	116	107	118
26	106	87	74	73	73	64	124	71	82	115	103	129
27	110	89	74			64	143	70	80	125	96	142
28	110	92	75			66	64	118	77	92	125	106
29	106	99	75			-	65	87	74	85	127	108
30	105	130	73			-	65	82	74	102	128	104
31	106	-	73	-	-	67	-	80	-	123	107	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						3,283	123	89	106	6,510		
November.....						3,035	130	86	101	6,020		
December.....						2,510	122	73	81.0	4,980		
Calendar year 1934.....						33,254	-	51	91.1	65,950		
January.....						2,261	-	-	72.9	4,480		
February.....						1,971	-	64	70.4	3,910		
March.....						2,194	97	64	70.8	4,350		
April.....						2,211	143	60	73.7	4,390		
May.....						2,484	135	69	80.5	4,950		
June.....						2,691	204	73	96.4	5,730		
July.....						3,387	151	90	109	6,720		
August.....						3,504	129	96	113	6,950		
September.....						3,717	142	116	124	7,370		
Water year 1934-35.....						33,458	204	60	91.7	66,360		

\* Discharge measurement.

## Bayard sugar-factory drain near Bayard, Nebr.

Location.- Staff gage, lat. 41°44', long. 103°19', in sec. 4, T. 20 N., R. 52 W., 1½ miles southwest of Bayard.

Records available.- October 1931 to September 1935.

Extremes.- Maximum discharge observed during year, 154 second-feet Apr. 26 (gage height, 2.56 feet); minimum mean daily discharge, 1 second-foot Apr. 24, June 28, July 1, 1932-35; Maximum discharge, that of Apr. 26, 1935; no flow June 1, 2, July 4-8, 1934.

Remarks.- Records good except those for Jan. 1 to Feb. 14, which were estimated on the basis of two discharge measurements and temperature records, and those below 15 second-feet, which are fair.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	28	25	27	26	26	25	29	46	1	28	8
2	20	28	25			25	24	27	38	3	27	10
3	20	29	28			25	24	26	28	5	27	22
4	21	30	29			35	24	26	28	4	31	29
5	21	28	27			29	24	26	28	6	31	30
6	25	28	28	* 25	25	27	24	26	35	6	28	25
7	25	29	26			27	23	26	35	10	27	21
8	22	28	27			28	22	26	30	9	26	22
9	27	23	30			28	23	25	29	12	27	22
10	27	18	29			27	23	25	28	14	29	22
11	28	16	30	26	25	27	27	25	34	14	28	22
12	28	18	30			26	27	29	42	13	26	23
13	28	18	30			26	24	30	27	15	25	28
14	28	18	30			26	23	26	27	15	24	34
15	27	18	30			25	23	27	25	15	25	34
16	28	18	32	24	26	26	23	26	25	14	26	33
17	28	18	32		25	25	22	25	38	10	26	35
18	30	18	30		24	26	22	46	20	8	20	32
19	26	21	30		24	25	22	82	12	8	24	28
20	29	23	30		22	24	22	85	11	8	24	28
21	28	22	30	24	24	24	23	60	10	6	24	29
22	28	22	29	26	24	24	10	37	10	7	24	30
23	28	22	28	28	24	23	2	30	10	7	24	30
24	33	22	29	* 29	24	22	1	28	10	8	24	28
25	35	22	29	28	24	22	33	29	10	8	24	27
26	27	22	29	27	24	22	116	26	9	6	26	27
27	28	22	27		25	22	80	30	4	5	26	29
28	28	22	27		27	22	40	36	1	6	24	31
29	25	22	27		-	22	36	30	2	11	24	31
30	32	25	27		-	21	30	28	2	18	7	31
31	29	-	27	-	-	24	-	33	-	8	6	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				832		35	20	26.6	1,650			
November.....				678		30	16	22.6	1,540			
December.....				697		32	25	28.6	1,760			
Calendar year 1934.....				9,411		48	0	25.8	18,660			
January.....				616		29	22	26.3	1,620			
February.....				699		27	24	25.0	1,590			
March.....				784		39	21	25.3	1,560			
April.....				842		116	1	28.1	1,670			
May.....				1,030		85	25	33.2	2,040			
June.....				654		46	1	21.8	1,500			
July.....				278		18	1	9.0	551			
August.....				762		31	6	24.6	1,510			
September.....				801		35	8	26.7	1,590			
Water year 1934-35.....				9,063		116	1	24.8	17,980			

\* Discharge measurement.



## Red Willow Creek near Bayard, Nebr.

Location.- Staff gage, lat. 41°43', long. 103°15', at southwest corner of sec. 7, T. 20 N., R. 51 W., a quarter of a mile below mouth of Wild Horse Drain, three-quarters of a mile above mouth of creek, and 4½ miles southeast of Bayard.

Records available.- February 1932 to September 1935, October 1930 to September 1931, at station 1 mile upstream above mouth of Wild Horse Drain.

Extremes.- Maximum discharge during year, about 1,570 second-feet June 11 (gage height, 6.56 feet, from high-water mark); minimum mean daily discharge, 15 second-feet Apr. 23. 1932-35: Maximum discharge, about 1,650 second-feet Aug. 25, 1933; minimum mean daily discharge, that of Apr. 23, 1935.

Remarks.- Records fair. Discharge Jan. 1 to Feb. 14 estimated on the basis of two discharge measurements and temperature records. Numerous small diversions above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	45	71	70	50	47	30	48	48	31	55	27
2	37	41	64			33	30	50	45	30	64	34
3	40	36	61			52	30	50	43	29	62	35
4	43	71	62			72	36	47	42	28	62	33
5	41	50	62	65	* 49	52	38	47	45	28	53	31
6	43	46	62			49	35	47	224	32	60	31
7	40	64	62			46	34	47	190	30	55	34
8	34	42	62			51	35	48	71	30	63	35
9	51	27	66	60	47	49	35	44	215	30	55	43
10	51	27	65			47	45	44	213	30	54	44
11	50	25	64			46	43	37	272	33	51	60
12	51	30	64			44	49	54	327	35	58	53
13	52	28	66	43	43	38	50	51	113	36	47	58
14	53	26	65			44	49	49	213	35	76	57
15	68	27	67			38	44	47	173	38	48	39
16	77	30	66	55	43	43	40	47	213	42	55	38
17	64	32	70			47	39	45	184	44	55	40
18	56	27	68			44	39	81	117	42	54	40
19	68	28	70			44	40	117	82	48	51	40
20	58	30	71	50	18	41	26	95	179	46	51	42
21	60	40	73			32	44	16	73	38	50	39
22	60	42	72			32	40	26	53	110	40	52
23	64	45	68			34	15	52	106	35	51	46
24	94	42	71	* 53	47	25	16	114	68	32	52	44
25	77	40	74			28	170	224	34	35	54	43
26	71	42	75			19	183	60	30	33	54	44
27	75	40	75			19	104	107	26	36	47	56
28	76	41	77	52	48	18	66	72	26	38	64	55
29	52	40	71			21	61	55	26	33	52	70
30	45	79	73			28	55	46	30	36	30	72
31	41	-	74			28	-	42	-	39	30	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,719	94	27	55.5	3,410
November.....	1,183	79	25	39.4	2,350
December.....	2,111	77	61	68.1	4,190
Calendar year 1934.....	18,203	117	18	49.9	36,120
January.....	1,816	-	-	58.6	3,600
February.....	1,220	-	16	43.6	2,420
March.....	1,219	72	18	39.3	2,420
April.....	1,474	183	15	49.1	2,920
May.....	1,993	224	37	64.3	3,950
June.....	3,641	327	26	121	7,220
July.....	1,094	48	28	35.3	2,170
August.....	1,665	76	30	53.7	3,300
September.....	1,336	72	27	44.5	2,650
Water year 1934-35.....	20,471	327	15	56.1	40,600

\* Discharge measurement

## PLATTE RIVER BASIN

## Pumpkin Creek near Bridgeport, Nebr.

Location.- Water-stage recorder, lat. 41°38', long. 103°2', on line between secs. 12 and 13, T. 19 N., R. 50 W., at highway bridge half a mile above mouth and 4 miles south-east of Bridgeport.

Drainage area.- 1,080 square miles.

Records available.- October 1930 to September 1935.

Extremes.- Maximum discharge during year, 560 second-feet (slope measurement) June 16, 17 (gage height, 6.3 feet); minimum mean daily discharge, 6 second-feet Nov. 18-22. 1930-35: Maximum discharge, 700 second-feet Aug. 28, 1934 (gage height, 6.95 feet); minimum daily discharge, 1 second-foot at times during 1931, 1934.

Remarks.- Records fair except those for Oct. 1 to Mar. 4, which were estimated on the basis of five discharge measurements and intermittent gage heights. Several diversions above station. Flow chiefly return seepage from irrigated lands.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	* 29	7	13	30	35	40	39	73	100	70	26	13
2	20	7	16	32		41	33	69	96	68	33	11
3		7	17	32		46	46	62	96	54	34	13
4		7	15	31		33	33	60	92	48	34	20
5	15		15	30	30	42	30	60	78	44	32	25
6		7	16	31		42	17	58	84	42	32	19
7			18	32		36	15	60	85	57	33	19
8			19			24	30	58	83	66	34	28
9	10	8	19	32	25	24	36	56	78	53	36	32
10						35	38	55	78	49	35	30
11						34	28	52	90	61	34	23
12						36	29	55	107	63	30	17
13	11	10	20	30	20	25	34	58	152	61	27	17
14						23	42	61	131	53	28	17
15						26	46	61	96	48	27	17
16						49	48	58	113	36	26	16
17	10	7		30	15	52	44	60	188	30	30	11
18		3	22			46	38	66	119	25	34	11
19		6		25		43	40	75	88	21	32	11
20		6		20		40	38	94	81	19	30	11
21	8	6		25	15	26	37	104	81	27	30	11
22	9	6		30	* 22	23	40	95	78	30	30	11
23	7		24		27	26	39	84	77	25	31	12
24	7	8		35	30	30	44	80	75	28	30	15
25	7	9			20	28	54	78	73	28	30	20
26	7	10		* 38	25	23	66	77	61	32	33	28
27	* 7	10	26		30	19	74	73	72	34	34	32
28	7	10			39	15	75	88	69	30	34	42
29		10	* 28	35	-	16	88	105	67	32	34	42
30	7	12	30		-	22	78	103	69	25	20	47
31		-	30		-	32	-	101	-	27	16	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						373	29	7	12.0	740		
November.....						237	12	6	7.9	470		
December.....						663	30	13	21.4	1,320		
Calendar year 1934.....						8,876	121	1	24.3	17,610		
January.....						982	38	20	31.7	1,950		
February.....						758	39	15	27.1	1,500		
March.....						1,000	52	15	32.3	1,980		
April.....						1,303	88	15	43.4	2,680		
May.....						2,239	105	52	72.2	4,440		
June.....						2,757	188	61	91.9	5,470		
July.....						1,298	70	19	41.5	2,560		
August.....						939	36	16	30.3	1,860		
September.....						621	47	11	20.7	1,230		
Water year 1934-35.....						13,158	188	6	36.0	26,090		

\* Discharge measurement made.

## Blue Creek near Lewellen, Nebr.

Location.- Water-stage recorder, lat.  $41^{\circ}20'$ , long.  $102^{\circ}10'$ , on north line of sec. 30, T. 18 N., R. 42 W.,  $\frac{1}{2}$  miles west of Lewellen.

Drainage area.- 287 square miles.

Records available.- October 1930 to September 1935.

Extremes.- Maximum discharge during year, 553 second-feet June 12 (gage height, 4.20 feet); minimum mean daily discharge, 0.2 second-foot Sept. 18-21, 1930-35: Maximum discharge, that of June 12, 1935; minimum daily discharge, 0.2 second-foot July 3, 29-31, 1933, and Sept. 18-21, 1935.

Remarks.- Records good except those for Jan. 15-23, Feb. 4-9, 15, 16, 25-28, which were estimated on the basis of two discharge measurements and temperature records. Several diversions upstream.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	63	101	120	148	106	58	92	140	96	105	4
2	48	58	105	120	147	101	59	82	107	78	84	5
3	51	51	116	120	148	104	69	71	95	50	83	6
4	55	58	115	124	140	106	55	69	95	90	80	3
5	53	74	113	125	135	103	37	61	94	82	77	3
6	54	65	117	118	130	95	28	62	105	38	61	3
7	62	60	115	117	130	101	27	65	118	31	59	3
8	58	62	116	120	130	101	22	66	102	28	50	3
9	58	52	117	118	130	100	17	69	97	18	17	4
10	58	43	120	122	130	98	16	71	97	14	24	4
11	58	41	121	120	129	103	17	75	127	11	19	4
12	55	43	127	122	133	98	35	79	377	9	12	3
13	62	42	127	117	129	103	68	95	161	7	58	3
14	61	42	121	112	129	103	75	110	100	5	79	3
15	60	41	118	115	125	103	35	109	94	5	81	2
16	58	40	122	115	120	96	11	106	144	5	76	1
17	68	39	130	115	117	97	10	106	143	4	80	.5
18	59	41	117	100	110	97	15	138	107	4	46	.2
19	60	43	116	80	105	103	14	160	106	48	21	.2
20	60	44	115	60	104	102	11	157	105	74	12	.2
21	62	45	118	80	106	98	5	148	120	70	42	.2
22	73	62	122	100	101	93	2	117	113	68	29	.5
23	65	72	122	100	98	90	1	105	115	39	51	1
24	63	70	117	120	97	82	58	101	111	26	69	1
25	62	65	120	125	75	83	213	100	110	19	81	16
26	59	58	118	125	80	68	190	100	111	15	54	33
27	58	78	124	140	90	43	120	109	106	8	19	26
28	56	103	130	150	111	37	105	138	103	6	18	14
29	59	105	120	143	-	41	103	115	104	26	8	14
30	66	105	124	142	-	42	98	109	98	64	5	12
31	60	-	118	146	-	50	-	106	-	87	3	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				1,634	73	48	59.2	3,640				
November.....				1,765	105	39	58.8	3,500				
December.....				3,662	127	101	118	7,260				
Calendar year 1934.....				25,784.6	212	.4	70.6	51,120				
January.....				3,631	150	60	117	7,200				
February.....				3,327	148	75	119	6,600				
March.....				2,749	106	37	88.7	5,450				
April.....				1,574	213	1	52.5	3,120				
May.....				3,139	188	61	101	6,230				
June.....				3,605	377	94	120	7,150				
July.....				1,125	96	4	36.3	2,230				
August.....				1,482	106	3	47.8	2,940				
September.....				172.8	33	.2	5.8	343				
Water year 1934-35.....				28,065.8	377	.2	76.9	55,660				

Otter Creek near Lemoyne, Nebr.

Location.- Staff gage, lat. 41°18', long. 101°55', in sec. 5, T. 15 N., R. 40 W., half a mile above mouth and 5½ miles northwest of Lemoyne.

Drainage area.- 12 square miles.

Records available.- April to September 1931, October 1932 to September 1935.

Extremes.- Maximum stage during year, 2.67 feet July 21 (discharge not determined); minimum mean daily discharge, 11 second-feet Apr. 20.  
1931-35: Maximum stage, that of July 21, 1935; minimum mean daily discharge, 2 second-feet Aug. 5, 1934.

Remarks.- Records fair. Discharge Oct. 1 to Feb. 21 estimated on the basis of five discharge measurements, temperature records, and intermittent gage heights. Several diversions upstream.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		20				*24	26	33	26	27	27	23
2	23						26	30	22	25	26	23
3		20		23	24		26	30	20	22	25	22
4	23		21				26	30	21	23	25	22
5	23						26	28	26	22	23	22
6					*24	24	30	30	25	22	25	24
7	23						30	30	25	23	23	24
8		21	*21	24			28	30	23	25	22	23
9	*23						26	28	20	25	22	23
10							28	28	19	23	23	23
11							30	30	18	20	23	23
12	22		21	*25			30	28	16	19	22	23
13		22					30	28	15	18	22	24
14				25			30	29	15	18	22	24
15	22				24		30	26	16	16	22	24
16		*22				25	33	25	23	16	23	23
17				24			33	25	20	16	22	23
18	22						33	29	21	15	22	23
19							24	26	25	17	22	23
20			22	23			11	26	26	18	21	23
21												
22	23	22				26	12	30	28	44	20	23
23						26	20	30	28	30	25	25
24						26	30	26	26	24	24	25
25						25	51	26	27	26	23	25
26								25	25	25	23	25
27	23			24	20	25	33	30	28	27	23	25
28	23					24	30	30	28	25	24	25
29	23		23		26	20	28	25	28	25	21	25
30	22					20	27	22	28	27	25	25
31	20					25	27	21	27	27	25	25
							-	27	-	26		-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						698	-	-	22.5	1,330		
November.....						645	-	-	21.5	1,280		
December.....						673	-	-	21.7	1,330		
Calendar year 1934.....						7,238	29	2	19.8	14,350		
January.....						739	-	-	23.8	1,470		
February.....						682	-	-	23.6	1,310		
March.....						765	-	20	24.4	1,500		
April.....						822	33	11	27.4	1,630		
May.....						861	33	21	27.8	1,710		
June.....						697	28	15	23.2	1,380		
July.....						716	44	15	23.1	1,420		
August.....						716	27	20	23.1	1,420		
September.....						710	25	22	23.7	1,410		
Water year 1934-35.....						8,695	44	11	23.8	17,250		

\*Discharge measurement.

## Birdwood Creek near Hershey, Nebr.

Location.- Water-stage recorder, lat.  $41^{\circ}13'$ , long.  $101^{\circ}4'$ , in sec. 2, T. 14 N., R. 35 W., 1 mile above mouth and 5 miles northwest of Hershey. Prior to Dec. 17, 1934, staff gage at same site and datum.

Drainage area.- 286 square miles.

Records available.- January 1931 to September 1935.

Extremes.- Maximum discharge during year, about 830 second-feet Apr. 24; minimum, about 30 second-feet Jan. 19 (gage height, 1.75 feet).  
1931-35: Maximum and minimum, those of 1935.

Remarks.- Records good except those estimated, Dec. 2-8, Jan. 20-29, Feb. 25 to Mar. 1, Mar. 11-19. Small diversions upstream.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	177	214	189	185	154	300	177	205	255	151	100	158
2	185	214	180	173	140	223	162	169	158	140	98	165
3	169	214	180	173	162	232	175	162	140	140	118	140
4	181	214	180	173	177	270	177	169	134	161	127	134
5	181	214	180	169	193	228	165	177	137	148	130	168
6	173	223	180	173	185	218	181	181	165	127	124	162
7	173	218	175	169	193	214	158	197	140	130	121	148
8	169	201	200	158	201	228	177	223	148	137	112	154
9	154	223	195	158	201	246	185	205	140	121	118	151
10	154	223	189	144	210	228	228	193	130	134	121	144
11	169	218	181	169	214	200	214	250	134	118	118	144
12	177	218	181	189	218		193	205	177	115	112	134
13	169	223	193	173	228		218	232	148	112	121	140
14	169	218	193	173	236		214	210	144	127	124	150
15	173	223	186	181	205		218	201	140	140	112	124
16	181	214	181	173	214	185	218	177	338	134	112	124
17	185	218	193	173	218		232	193	285	127	115	115
18	205	218	205	154	232		223	223	201	124	158	115
19	210	210	185	61	228		232	255	165	127	162	121
20	210	214	193	80	214		228	250	151	115	162	121
21	181	210	189	100	241	169	228	210	154	115	154	124
22	197	214	205	125	236	185	218	210	148	140	210	127
23	201	218	165	140	245	189	218	185	140	137	193	130
24	189	218	169	150	210	189	514	181	140	144	173	127
25	185	218	169	175	100	193	350	177	187	137	148	134
26	181	218	121	200	150	177	270	173	151	118	121	134
27	193	210	158	210	200	177	250	210	144	112	118	148
28	193	201	173	220	250	177	205	379	137	109	169	140
29	197	210	197	200	-	185	193	197	151	100	165	144
30	205	201	197	127	-	165	193	173	165	98	165	148
31	210	-	181	144	-	169	-	260	-	95	169	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	5,676	210	154	183	11,260
November.....	5,450	223	201	215	12,790
December.....	5,660	205	121	183	11,230
Calendar year 1934.....	60,983	482	71	167	121,000
January.....	4,992	220	61	161	9,900
February.....	5,656	250	100	202	11,220
March.....	6,347	300	165	205	12,590
April.....	6,612	514	158	220	13,110
May.....	6,432	379	162	207	12,760
June.....	4,897	358	130	163	9,710
July.....	3,953	181	85	128	7,840
August.....	4,250	210	98	137	8,450
September.....	4,138	165	115	138	8,210
Water year 1934-35.....	65,063	514	61	178	129,000

## South Platte River near Lake George, Colo.

Location.- Water-stage recorder, lat.  $36^{\circ}55'$ , long.  $105^{\circ}27'$ , in NW $\frac{1}{4}$  sec. 21, T. 13 S., R. 72 W.,  $1\frac{1}{2}$  miles below Elevenmile Canyon Reservoir and 8 miles above Lake George. Zero of gage is 8,423.95 feet above mean sea level.

Drainage area.- 929 square miles.

Records available.- October 1929 to September 1935.

Extremes.- Maximum daily discharge during year, 598 second-feet July 23; minimum daily discharge, 2 second-feet several days during year when gates are closed at reservoir. 1930-35: Maximum discharge, 990 second-feet Aug. 15, 1930 (gage height, 4.8 feet); no flow Jan. 25, 1930, and during February 1931.

Remarks.- Records good. Diversions for irrigation above station. Flow regulated by Antero and Elevenmile Canyon Reservoirs, capacity 33,000 and 80,000 acre-feet, respectively.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	23	20	2	2	2	32	16	6	89	493	140
2	20	23	18	2	2	2	32	16	5	76	403	128
3	21	23	10	2	2	2	32	16	4	107	330	101
4	22	23	10	2	2	2	16	16	3	189	281	84
5	22	23	10	2	2	2	24	18	3	150	264	65
6	22	23	10	2	2	4	24	19	3	112	246	53
7	22	23	10	2	2	4	24	17	3	105	233	134
8	21	23	10	2	2	6	30	17	2	134	228	241
9	17	22	6	2	2	10	94	19	2	170	220	233
10	11	23	6	2	2	6	241	18	2	161	189	103
11	14	23	2	2	2	12	241	17	34	128	132	75
12	24	23	2	2	2	15	300	17	226	283	130	53
13	23	23	2	2	2	15	330	23	256	427	120	29
14	24	23	2	2	2	20	333	32	316	267	118	53
15	23	23	2	2	2	26	344	61	391	194	114	132
16	23	23	2	2	2	26	341	54	373	140	109	130
17	23	23	2	2	2	26	335	40	338	116	107	74
18	23	22	2	2	2	26	341	53	159	153	109	61
19	22	22	2	2	2	26	358	55	70	302	91	66
20	22	22	2	2	2	26	400	36	40	177	81	70
21	23	22	2	2	2	26	394	27	42	258	136	46
22	23	23	2	2	2	76	361	22	94	591	103	33
23	22	23	2	2	2	111	82	19	191	568	122	29
24	22	22	2	2	2	46	54	17	184	454	153	41
25	23	22	2	2	2	17	58	17	134	313	130	52
26	22	22	2	2	2	22	40	16	126	201	223	41
27	22	22	2	2	2	25	24	13	124	96	155	59
28	23	23	2	2	2	30	19	13	126	84	409	96
29	22	23	2	2	-	32	16	13	138	112	241	101
30	23	19	2	2	-	32	17	10	122	478	168	99
31	23	-	2	2	-	32	-	8	-	563	148	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						666	24	11	21.5	1,590		
November.....						677	23	19	22.6	1,340		
December.....						152	20	2	4.9	301		
Calendar year 1934.....						11,463	240	-	31.4	22,740		
January.....						62	2	2	2.0	123		
February.....						56	2	2	2.0	111		
March.....						705	111	2	22.7	1,400		
April.....						4,939	400	16	165	9,800		
May.....						735	61	6	23.7	1,460		
June.....						3,517	391	2	117	6,980		
July.....						7,210	598	76	233	14,300		
August.....						5,866	493	61	193	11,670		
September.....						2,624	241	29	87.5	5,200		
Water year 1934-35.....						27,329	598	2	74.9	54,200		

## South Platte River above Lake Cheesman, Colo.

Location.- Water-stage recorder, lat. 39°9', long. 105°19', in sec. 22, T. 10 S., R. 71 W., half a mile above highwater line of Lake Cheesman.

Drainage area.- 1,680 square miles.

Records available.- October 1933 to September 1935, in reports of U. S. Geological Survey; October 1924 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 1,100 second-feet Aug. 1 (gage height, 3.61 feet); minimum occurred during winter.  
1924-35: Maximum discharge, that of Aug. 1, 1935; minimum occurred during winter of 1934.

Remarks.- Records excellent except those for Aug. 1-24, Sept. 1-30 and those estimated Nov. 25-30, June 12, 13, June 22 to July 6, Aug. 26-31, on basis of amount of water stored in Cheesman Lake. No record Dec. 1 to Mar. 23. Diversion for irrigation above station. Flow regulated by two reservoirs above station (capacity of 115,000 acre-feet).

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	28				-	50	24	66	103	726	69
2	30	28				-	49	28	59	87	467	73
3	30	27				-	48	31	54	121	415	73
4	29	30				-	49	30	47	204	292	60
5	29	29				-	42	28	42	210	266	56
6	28	28				-	40	32	38	203	220	56
7	29	28				-	41	31	36	159	196	77
8	28	31				-	42	36	31	172	200	131
9	26	32				-	44	34	30	182	175	141
10	23	32				-	147	36	28	193	150	113
11	16	32				-	200	35	28	150	133	53
12	16	32				-	220	34	250	240	113	57
13	24	31				-	309	47	286	453	104	41
14	26	30				-	326	74	429	424	89	36
15	26	30				-	344	117	434	249	62	62
16	26	29				-	348	159	424	200	79	62
17	25	31				-	344	153	304	144	79	61
18	26	29				-	339	208	172	200	73	41
19	26	29				-	348	208	117	326	70	43
20	26	32				-	420	172	86	283	59	56
21	30	35				-	384	141	88	266	57	43
22	28	28				-	352	135	118	462	58	39
23	28	36				-	200	128	211	709	61	32
24	28	39				63	92	126	198	548	66	35
25	28	36				40	90	113	148	438	66	40
26	27	34				34	53	104	146	296	68	36
27	26	32				38	66	100	142	190	68	39
28	28	30				44	51	95	142	117	70	51
29	28	30				54	45	97	158	126	70	56
30	27	30				55	53	88	140	348	73	56
31	28	-				52	-	78	-	755	75	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						825	30	16	26.6	1,640		
November.....						928	59	27	30.9	1,840		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March 24-31 .....						380	63	34	47.5	754		
April.....						5,146	420	33	172	10,210		
May.....						2,736	208	24	68.3	5,430		
June.....						4,452	434	28	148	8,830		
July.....						8,568	755	87	276	16,970		
August.....						4,719	726	57	152	9,360		
September.....						1,776	141	32	59.2	3,520		
Water year .....												

## South Platte River below Lake Cheesman, Colo.

Location.- Water-stage recorder, lat. 39°13', long. 105°16', in sec. 6, T. 10 S., R. 70 W., a quarter of a mile below Lake Cheesman.

Drainage area.- 1,786 square miles.

Records available.- October 1933 to September 1935, in reports of U. S. Geological Survey; October 1924 to September 1935, in reports of State engineer.

Average discharge.- 11 years, 157 second-feet.

Extremes.- Maximum discharge during year, 1,430 second-feet July 23 (gage height, 6.36 feet); minimum daily discharge, 7 second-feet May 20.

1924-35: Maximum discharge, 1,590 second-feet Aug. 9, 1929 (gage height, 6.16 feet); minimum daily discharge, 7 second-feet May 20, 1935.

Remarks.- Records good except those for Dec. 10 to Mar. 23, which were estimated on the basis of four discharge measurements and diversion records at reservoir. Diversions for irrigation above station. Flow regulated by three reservoirs, capacity 194,000 acre-feet.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	143	78	39			16	77	68	11	200	1,070	304
2	141	73	36			16	79	69	11	172	724	281
3	141	39	27			16	86	55	11	172	538	250
4	136	26	21			16	74	49	11	172	435	250
5	126	26	18			16	67	48	11	181	374	227
6	124	28	18			17	66	48	11	245	396	181
7	122	40	18	*18		17	61	48	12	236	345	141
8	133	51	18			17	59	70	12	222	362	220
9	136	45	18			17	59	62	12	222	438	238
10	135	41	14			17	59	75	12	242	385	198
11	133	41	*25			*17	59	74	12	245	306	198
12	121	41	20			17	59	73	12	222	317	198
13	115	41	20			17	54	72	12	388	337	196
14	118	41	16			42	48	121	12	551	225	130
15	118	41	16		*15	42	41	187	13	396	250	130
16	133	41	15			90	41	192	13	293	306	206
17	118	40	15			90	42	254	13	198	317	233
18	108	40	15			90	53	111	13	276	317	177
19	108	40	16			61	80	8	26	425	291	144
20	104	36	15			86	108	7	118	548	266	194
21	95	35	15			86	120	9	128	495	204	227
22	100	44	15			110	97	15	143	584	259	162
23	111	45	15			200	82	15	162	944	453	160
24	107	45	15			143	115	15	291	912	459	143
25	98	45	15			84	101	15	324	735	513	143
26	98	33	15			38	67	15	192	411	504	190
27	109	37	15			54	80	15	159	231	474	210
28	102	45	15			54	73	13	188	154	429	194
29	72	43	15			54	62	12	188	130	535	222
30	72	43	15			61	66	11	206	301	354	269
31	75	-	15			73	-	11	-	900	252	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						3,552	143	72	115	7,050		
November.....						1,284	78	26	42.1	2,510		
December.....						565	39	14	18.2	1,120		
Calendar year 1934.....						39,613	497	14	109	78,470		
January.....						496	-	-	16	984		
February.....						420	-	-	15	833		
March.....						1,674	200	16	54.0	3,320		
April.....						2,125	120	41	70.8	4,210		
May.....						1,537	254	7	59.9	3,680		
June.....						2,336	324	11	77.9	4,630		
July.....						11,401	944	130	368	22,610		
August.....						12,433	1,070	204	401	24,660		
September.....						6,016	304	130	201	11,930		
Water year 1934-35.....						44,139	1,070	7	121	87,540		

\* Discharge measurement.



## South Platte River at South Platte, Colo.

Location.- Water-stage recorder, lat. 39°25', long. 105°10', in sec. 25, T. 7 S., R. 70 W., at South Platte, 375 feet below mouth of North Fork of South Platte River. Zero of gage is 6,078.43 feet above mean sea level.

Drainage area.- 2,550 square miles.

Records available.- March 1902 to September 1935.

Average discharge.- 33 years, 398 second-feet.

Extremes.- Maximum discharge during year, 1,630 second-feet July 23 (gage height, 4.62 feet); minimum occurred during winter.  
1902-35: Maximum discharge, 6,320 second-feet June 7, 1921 (gage height, 8.95 feet); minimum, 14 second-feet Mar. 11, 1932.

Remarks.- Records good. Discharge Nov. 28 to Mar. 21 estimated on basis of four discharge measurements, flow of South Platte at Waterton, and diversions at intake. Diversions for irrigation above station. Flow regulated by three reservoirs, capacity 194,000 acre-feet.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	191	132					118	174	457	478	1,460	403
2	195	134					118	182	449	457	1,140	399
3	195	122					112	162	448	433		364
4	195	104					120	144	445	437	763	348
5	187	100					114	136	461	445	646	318
6	180	95				60	116	140	457	482	645	300
7	178	98		*60			108	146	475	491	656	300
8	178	108					98	160	500	482	546	300
9	182	112					96	209	550	469	612	300
10	182	112					95	200	602	478	602	300
11	180	104	*68				87	193	697	499	457	300
12	174	96				*60	84	191	789	536	469	300
13	184	110					86	200	828	546	491	302
14	186	106			*68	60	87	240	776	726	388	290
15	188	104					98	348	720	703	368	229
16	189	100					106	354	697	478	418	282
17	176	104					110	429	546	449	508	250
18	172	104				70	116	581	478	495	465	280
19	184	102					128	445	465	624	414	240
20	182	98					162	388	655	776	461	229
21	150	95				68	191	348	576	759	399	294
22	148	96				106	202	463	550	802	403	254
23	158	87				98	160	565	541	1,090	651	260
24	162	98				168	206	591	607	1,360	618	275
25	168	93				176	209	586	629	940	679	300
26	156	80				118	140	550	571	691	651	300
27	166	80				96	134	560	474	504	624	330
28	162	80				96	174	550	508	399	425	300
29	138	80				95	189	513	499	399	470	300
30	132	80				95	178	508	482	607	495	300
31	128	-				96	-	504	-	1,280	345	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						5,226	195	128	169	10,370		
November.....						3,014	134	80	100	5,980		
December.....						2,015	-	-	65	4,000		
Calendar year 1934.....						77,209	743	-	212	153,100		
January.....						1,860	-	-	60	5,690		
February.....						1,652	-	-	59	5,280		
March.....						2,480	176	-	80.0	4,920		
April.....						3,946	209	84	132	7,830		
May.....						10,780	591	136	348	21,380		
June.....						16,833	828	445	561	33,390		
July.....						19,345	1,360	399	624	39,370		
August.....						18,096	1,460	345	585	35,870		
September.....						8,895	403	229	296	17,640		
Water year 1934-35.....						94,132	1,460	-	258	186,700		

\*Discharge measurement.

## South Platte River at Waterton, Colo.

Location.- Water-stage recorder, lat. 39°29', long. 105°6', in sec. 34, T. 6 S., R. 89 W., half a mile south of Waterton.

Drainage area.- 2,621 square miles.

Records available.- October 1933 to September 1935, in reports of U. S. Geological Survey; May 1926 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 1,280 second-feet July 23 (gage height, 2.28 feet); minimum daily discharge, 1 second-foot Jan. 13, Jan. 15 to Feb. 5, Feb. 8, 9, 15.

1926-35: Maximum discharge, 2,150 second-feet June 9, 1926 (gage height, 2.78 feet); minimum daily discharge, that of January and February 1935.

Remarks.- Records good above 10 second-feet. Discharge estimated Jan. 16 to Feb. 6. Diversions for irrigation above station. Flow regulated by three storage reservoirs above station, capacity 194,000 acre-feet.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	29	42	11	1	7	143	84	136	425	843	256
2	21	29	68	10	1	3	132	104	100	397	706	267
3	22	35	62	9	1	3	42	94	94	356	560	250
4	22	31	47	6	1	2	50	90	74	363	350	216
5	22	29	22	4	1	3	50	56	114	363	432	193
6	22	22	21	6	2	3	50	56	87	383	502	159
7	22	22	29	4	4	4	47	77	87	425	502	129
8	22	22	22	3	1	4	42	74	180	403	356	202
9	22	24	22	2	1	2	44	104	118	390	410	77
10	26	24	24	2	5	2	44	100	147	418	432	42
11	24	22	21	2	2	2	33	94	235	448	272	47
12	22	22	20	2	3	2	26	94	289	455	289	59
13	22	21	21	1	5	3	37	107	365	278	325	68
14	24	21	22	2	3	29	37	100	370	269	202	71
15	24	21	22	1	1	37	42	65	319	325	168	68
16	22	20	24	1	8	42	62	42	319	343	221	81
17	22	24	31	1	6	59	84	68	216	370	350	189
18	22	31	20	1	8	77	100	376	147	319	262	161
19	22	26	17	1	8	56	61	283	68	356	267	114
20	24	22	16	1	3	40	118	107	151	493	403	90
21	24	26	18	1	3	44	136	111	301	543	325	176
22	24	24	18	1	2	33	139	221	313	526	337	121
23	22	22	16	1	2	21	121	337	289	658	403	87
24	26	29	14	1	9	114	107	337	350	917	465	50
25	24	24	13	1	12	118	53	350	403	440	376	47
26	24	21	35	1	31	84	87	313	295	462	501	59
27	26	24	16	1	22	87	35	283	295	343	337	139
28	24	26	14	1	11	100	12	256	410	207	289	159
29	29	31	13	1	-	84	6	225	425	184	649	136
30	26	20	10	1	-	110	21	124	418	425	440	121
31	24	20	11	1	-	139	-	155	-	715	235	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						724	29	21	23.4	1,440		
November.....						772	50	20	25.7	1,530		
December.....						749	68	10	24.2	1,490		
Calendar year 1934.....						29,624	507	4	31.2	59,820		
January.....						80	11	1	2.6	159		
February.....						162	31	1	5.8	321		
March.....						1,327	139	2	42.6	2,630		
April.....						1,931	143	6	66.0	3,930		
May.....						4,947	376	42	160	9,810		
June.....						7,103	425	68	237	14,000		
July.....						13,019	917	184	420	25,820		
August.....						11,999	843	168	387	23,800		
September.....						3,804	267	42	127	7,550		
Water year 1934-35.....						46,667	917	1	128	92,670		

## South Platte River at Denver, Colo.

Location.- Water-stage recorder, lat. 39°46', long. 105°, at Nineteenth Street bridge in Denver, a quarter of a mile below mouth of Cherry Creek.

Records available.- May 1895 to November 1913, October 1933 to September 1935, in reports of U. S. Geological Survey; May 1895 to September 1935, in reports of State engineer.

Average discharge.- 40 years (1895-1935), 368 second-feet.

Extremes.- Maximum discharge during year, 12,300 second-feet May 31 (gage height, 8.10 feet); minimum daily discharge, 23 second-feet Jan. 20, 21, 1902-35: Maximum discharge, 22,000 second-feet Sept. 10, 1933 (gage height, 10.98 feet); minimum daily discharge, 15 second-feet Apr. 15, 1925.

Remarks.- Records good except those estimated, June 1, 3-6, 9, 16. Diversions for irrigation above station. Flow completely regulated except during extreme high water.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	66	56	90	38	31	52	59	176	560	290	824	306	
2	73	56	111	42	36	48	54	150	719	264	788	306	
3	76	64	111	38	36	42	52	157	640	234	508	259	
4	68	76	122	36	31	36	59	150	500	274	418	239	
5	59	78	102	36	31	40	73	122	450	254	323	224	
6	61	73	68	34	28	38	56	115	425	264	378	193	
7	81	76	61	36	31	34	50	111	411	296	384	234	
8	66	81	71	33	36	30	34	157	390	285	378	476	
9	64	87	61	33	56	30	54	153	300	274	317	259	
10	68	96	66	31	40	30	50	172	279	285	371	132	
11	78	87	66	30	40	31	42	157	678	306	323	111	
12	76	73	64	33	36	28	31	165	2,270	397	285	108	
13	61	81	56	34	33	30	27	244	961	550	290	118	
14	50	81	54	33	27	36	44	274	657	285	279	132	
15	52	76	52	34	34	54	33	244	626	264	198	139	
16	46	81	52	34	34	73	38	198	540	306	161	139	
17	56	87	50	30	40	73	52	347	365	274	626	189	
18	66	108	46	28	44	84	66	1,000	220	323	588	211	
19	66	99	44	30	44	90	61	1,640	118	378	359	184	
20	71	87	48	23	50	73	56	686	139	371	328	118	
21	64	84	48	23	44	61	96	569	249	384	936	146	
22	54	81	48	27	38	71	105	612	265	607	411	211	
23	52	81	50	33	36	76	105	1,750	274	636	359	108	
24	56	90	46	36	36	87	189	1,490	301	764	873	87	
25	64	96	50	38	33	132	220	1,650	378	559	636	68	
26	61	90	42	38	46	118	206	1,460	296	540	432	84	
27	56	76	34	38	50	68	153	1,360	198	425	347	202	
28	54	73	48	36	56	68	115	1,280	323	312	359	142	
29	54	73	30	34	-	59	96	1,380	347	259	404	139	
30	54	90	40	34	-	50	78	788	323	312	492	139	
31	54	-	36	33	-	48	-	2,900	-	709	334	-	
Month						Second-foot-days		Maximum		Minimum		Mean	Run-off in acre-feet
October.....						1,909		76		46		61.6	3,790
November.....						2,437		108		56		81.2	4,830
December.....						1,867		122		30		60.2	3,700
Calendar year 1934.....						49,306		554		30		135	97,850
January.....						1,036		42		23		33.4	2,050
February.....						1,077		56		27		36.5	2,140
March.....						1,790		132		28		57.7	3,550
April.....						2,354		220		27		78.5	4,670
May.....						22,087		2,900		111		712	43,780
June.....						14,512		2,270		116		484	28,780
July.....						11,681		764		234		377	23,170
August.....						13,709		936		161		442	27,190
September.....						5,403		476		68		180	10,720
Water year 1934-35.....						79,832		2,900		23		219	158,300

## South Platte River at Henderson, Colo.

Location.- Water-stage recorder, lat. 39°55', long. 104°52', in sec. 34, T. 1 S., R. 67 W., a quarter of a mile west of Henderson.

Drainage area.- 4,740 square miles.

Records available.- October 1933 to September 1935, in reports of U. S. Geological Survey; May 1926 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 5,150 second-feet June 12 (gage height, 6.22 feet); minimum daily discharge, 6 second-feet Apr. 4, 7.  
1926-35: Maximum discharge, 5,800 second-feet Sept. 10, 1933 (gage height, 7.15 feet); minimum daily discharge, that of Apr. 4, 7, 1935.

Remarks.- Records good. Diversions for irrigation above station. Flow complete regulated except during extreme high water.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	32	112	40	44	47	8	99	972	485	760	356
2	42	32	89	39	39	46	7	200	394	449	758	342
3	44	39	62	37	37	42	7	138	496	629	496	336
4	56	39	49	37	34	67	6	135	360	643	595	280
5	62	51	47	40	64	58	8	118	248	511	479	252
6	62	34	52	37	71	75	10	102	526	431	431	186
7	62	33	69	33	64	47	6	97	582	413	431	313
8	67	33	69	32	62	64	10	102	636	455	407	692
9	60	42	89	32	86	62	37	123	643	467	353	608
10	60	46	89	30	110	34	94	121	608	492	389	313
11	49	54	77	29	77	22	33	112	805	485	348	218
12	44	46	80	29	92	17	10	132	3,680	684	258	173
13	39	40	52	30	107	12	28	170	2,980	1,360	263	111
14	44	40	49	30	89	14	51	274	1,380	492	268	118
15	46	39	49	52	75	21	52	294	1,340	419	173	115
16	42	37	52	54	73	58	46	255	828	371	140	86
17	39	42	46	62	77	37	52	167	563	285	498	81
18	42	49	46	62	87	12	67	1,150	394	595	835	125
19	47	47	37	80	97	20	69	2,140	189	518	356	118
20	46	60	46	75	94	33	62	1,010	196	407	307	89
21	33	54	42	80	92	20	73	452	420	511	708	73
22	23	40	40	102	64	15	89	511	671	537	377	99
23	24	36	39	80	42	21	75	686	629	667	290	92
24	24	34	40	62	37	19	149	1,100	615	622	544	60
25	19	51	42	77	49	23	232	1,080	550	492	775	67
26	19	33	40	64	51	54	217	902	462	359	485	47
27	28	73	40	62	47	33	196	700	383	285	413	140
28	23	64	39	62	42	16	121	888	348	274	413	359
29	24	62	46	52	-	12	97	1,500	544	268	437	324
30	32	71	49	54	-	9	123	865	544	419	582	296
31	32	-	40	47	-	7	-	3,050	-	768	425	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				1,285		67	19	41.5	2,550			
November.....				1,353		73	32	45.1	2,680			
December.....				1,738		112	37	56.1	3,450			
Calendar year 1934.....				54,851		1,100	19	150	106,800			
January.....				1,622		102	29	52.5	3,220			
February.....				1,902		110	34	57.9	3,770			
March.....				1,007		75	7	35.6	2,000			
April.....				2,088		282	6	89.6	4,140			
May.....				18,475		3,050	97	598	36,640			
June.....				22,876		3,680	189	783	45,370			
July.....				15,763		1,560	268	508	31,270			
August.....				13,956		835	140	450	27,680			
September.....				6,449		692	47	215	12,790			
Water year 1934-35.....				88,514		3,680	6	243	175,600			

## South Platte River at Fort Lupton, Colo.

Location.- Water-stage recorder, lat. 40°5', long. 104°50', in sec. 8, T. 1 N., R. 66 W., at west edge of Fort Lupton. Prior to June 20, 1935, water-stage recorder a quarter of a mile downstream at different datum.

Drainage area.- 5,070 square miles.

Records available.- October 1923 to September 1935, in reports of U. S. Geological Survey; May to September 1906, April 1929 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, not determined; minimum daily discharge, 17 second-feet Oct. 23, 25.  
1906, 1929-35: Maximum discharge, 4,150 second-feet Sept. 11, 1933 (gage height, 5.80 feet, former site and datum); minimum daily discharge, that of Oct. 23, 25, 1934.

Remarks.- Records fair. Discharge Oct. 28 to Nov. 2, Jan. 16 to Feb. 10, Mar. 3 to Apr. 3, May 20 to June 5, June 16-20 estimated by comparison with South Platte River at Henderson. Diversions for irrigation above station. Flow completely regulated except during extreme high water.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	32	123	70	94	95	53	195	3,090	408	684	426
2	31	34	120	73	79	95	52	248	912	352	727	403
3	31	36	97	71	77	87	52	242	434	443	644	386
4	32	34	91	66	74	112	57	234	536	590	617	336
5	41	48	90	73	104	103	52	244	400	480	431	274
6	49	40	87	71	111	120	44	234	362	420	306	207
7	49	31	91	69	104	92	40	232	382	391	311	178
8	52	22	105	67	102	109	42	228	380	369	325	596
9	61	23	105	69	125	107	40	264	393	397	274	850
10	57	31	111	66	150	79	54	264	393	369	276	487
11	45	44	105	62	116	67	66	268	417	408	302	306
12	40	41	95	64	136	62	35	264	800	531	197	232
13	32	34	90	61	154	57	26	268	878	1,410	194	191
14	28	39	88	57	152	59	31	339	749	537	204	161
15	24	38	87	58	156	66	32	347	749	360	140	153
16	31	35	87	84	151	103	37	312	666	358	89	116
17	38	38	84	102	134	72	41	299	603	283	150	76
18	36	44	80	102	136	57	46	531	424	456	638	73
19	45	44	80	120	142	65	54	552	229	563	274	89
20	52	60	78	115	139	78	52	2,180	236	360	204	81
21	39	62	77	120	154	65	61	1,060	488	443	518	68
22	19	49	81	142	122	60	71	492	550	526	380	68
23	17	39	80	120	105	66	76	341	596	537	194	92
24	18	36	74	122	92	64	110	928	550	525	366	76
25	17	44	76	117	81	68	306	1,140	437	560	896	68
26	18	43	76	104	96	99	244	1,120	431	270	623	68
27	19	60	76	102	96	75	244	942	276	253	513	118
28	28	91	81	102	95	61	139	740	302	249	391	391
29	23	92	80	92	-	57	185	928	505	200	426	420
30	24	91	81	94	-	54	201	1,340	466	211	590	364
31	32	-	76	87	-	52	-	905	-	499	516	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,060	61	17	34.2	2,100		
November.....						1,375	92	22	45.6	2,730		
December.....						2,752	123	74	88.8	5,460		
Calendar year 1934.....						50,269	670	17	138	99,670		
January.....						2,722	142	57	87.8	5,400		
February.....						3,217	154	74	115	6,580		
March.....						2,409	120	52	77.7	4,780		
April.....						2,632	305	26	57.7	5,220		
May.....						17,971	2,180	195	580	35,640		
June.....						17,808	3,090	229	594	35,320		
July.....						13,787	1,410	200	445	27,550		
August.....						12,631	998	69	407	25,060		
September.....						7,524	530	68	244	14,530		
Water year 1934-35.....						85,688	3,090	17	235	170,000		

## South Platte River near Kersey, Colo.

Location.- Water-stage recorder, lat. 40°25', long. 104°34', in sec. 9, T. 5 N., R. 64 W.,  $1\frac{1}{2}$  miles north of Kersey.

Drainage area.- 9,500 square miles.

Records available.- April 1901 to October 1903, March 1905 to November 1913, October 1933 to September 1935, in reports of U. S. Geological Survey; April 1901 to October 1903, March 1905 to September 1935, in reports of State engineer.

Average discharge.- 29 years (1901-3, 1905-7, 1909-12, 1913-35), 762 second-feet.

Extremes.- Maximum discharge during year, 13,000 second-feet May 31 (gage height, 7.29 feet); minimum daily discharge, 35 second-feet Apr. 23, 24, 1901-3, 1905-35: Maximum recorded discharge, 31,000 second-feet June 7, 1921; minimum mean daily discharge, that of Apr. 23, 24, 1935.

Remarks.- Records good. Diversions for irrigation above station. Flow completely regulated except during extreme high water.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	89	70	91	231	190	237	86	64	4,120	94	102	330
2	84	70	150	223	188	240	75	59	2,390	94	119	281
3	84	72	182	223	175	228	70	56	1,360	93	115	202
4	84	74	192	218	166	223	68	58	1,060	97	117	193
5	82	77	242	223	162	212	68	60	880	112	118	188
6	84	79	275	229	160	205	68	62	660	104	99	184
7	84	79	302	231	153	208	70	60	717	103	99	192
8	82	82	302	228	158	200	72	60	890	101	96	362
9	80	84	323	226	160	198	70	59	991	94	95	1,660
10	79	84	335	215	180	198	67	62	1,110	91	96	2,180
11	77	87	341	188	192	198	68	64	1,640	90	94	1,140
12	79	89	341	180	178	195	68	68	2,370	91	97	721
13	84	86	326	178	160	195	68	59	3,940	118	104	506
14	100	86	314	175	152	190	70	91	2,570	967	99	333
15	96	86	311	168	155	190	70	108	2,940	228	101	279
16	87	86	308	158	158	185	67	116	3,440	135	110	199
17	82	89	296	158	162	185	62	104	4,210	121	116	162
18	79	91	257	162	175	185	54	167	1,640	118	129	146
19	77	91	234	165	190	182	47	1,100	564	116	164	134
20	74	91	220	175	202	182	42	3,610	285	114	134	138
21	74	89	212	190	200	178	46	1,780	195	111	132	141
22	74	89	212	210	195	150	36	1,000	172	110	147	141
23	80	89	212	230	210	128	35	870	144	120	146	142
24	116	93	210	251	210	120	35	1,650	142	113	155	136
25	100	93	200	251	208	116	67	1,710	142	115	189	145
26	74	93	218	251	212	108	275	1,440	130	112	232	150
27	72	110	231	254	218	98	275	1,110	107	101	225	207
28	72	118	228	254	226	96	198	960	96	94	216	546
29	74	96	231	234	-	80	93	2,160	93	98	221	1,120
30	72	91	240	208	-	84	66	2,390	92	100	237	1,270
31	68	-	237	195	-	87	-	5,700	-	99	301	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						2,543	116	68	82.0	5,040		
November.....						2,614	118	70	87.1	5,180		
December.....						7,773	341	91	251	15,420		
Calendar year 1934.....						82,348	679	57	226	163,200		
January.....						6,481	254	158	209	12,850		
February.....						5,102	226	152	182	10,120		
March.....						5,281	240	80	170	10,470		
April.....						2,458	275	35	81.9	4,880		
May.....						26,887	5,700	56	867	53,230		
June.....						39,090	4,210	92	1,503	77,530		
July.....						4,254	967	90	137	8,440		
August.....						4,405	301	94	142	8,740		
September.....						13,513	2,180	134	451	26,610		
Water year 1934-35.....						120,406	5,700	35	330	238,800		

## South Platte River at Sublette, Colo.

Location.- Water-stage recorder, lat. 40°18', long. 104°10', in sec. 14, T. 4 N., R. 61 W., 1,000 feet south of Sublette.

Drainage area.- 12,900 square miles.

Records available.- October 1933 to September 1935, in reports of U. S. Geological Survey; April 1926 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 4,720 second-feet June 1 (gage height, 6.45 feet); minimum daily discharge, 35 second-feet Mar. 8.  
1926-35: Maximum discharge, 8,090 second-feet Apr. 23, 1926; minimum daily discharge, that of Mar. 8, 1935.

Remarks.- Records good. Diversions for irrigation above station. Flow completely regulated except during extreme high water.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	111	96	180	60	47	43	74	87	3,630	148	138	134
2	104	96	82	59	54	44	71	82	2,080	136	145	132
3	104	109	72	52	53	44	72	82	917	134	162	121
4	107	127	72	50	50	43	72	84	520	130	177	150
5	113	184	76	56	54	42	72	84	407	125	182	150
6	122	193	76	56	55	41	74	79	356	132	194	158
7	169	196	139	54	52	37	82	77	291	140	162	160
8	190	196	113	55	52	35	86	80	263	142	138	212
9	196	196	80	55	56	41	91	79	224	162	132	266
10	196	203	72	52	56	41	107	77	203	191	117	377
11	196	206	74	52	54	36	84	77	237	197	127	328
12	200	206	72	54	59	39	51	80	420	212	130	237
13	206	209	68	53	55	39	47	84	1,160	197	130	191
14	213	209	66	52	51	37	58	86	1,500	266	134	180
15	216	200	69	53	50	40	74	82	1,020	402	130	174
16	216	200	68	52	54	46	87	84	1,370	280	130	166
17	213	213	65	45	54	120	89	95	1,690	243	134	155
18	209	223	66	45	51	240	86	111	1,360	227	140	148
19	206	216	65	56	52	177	90	82	310	206	155	158
20	203	236	56	62	52	193	76	864	200	200	168	185
21	196	115	54	58	51	163	74	1,280	162	160	165	194
22	149	95	56	59	47	157	71	234	148	132	158	197
23	87	91	56	59	51	154	72	152	142	132	160	194
24	77	100	55	59	48	139	86	134	134	145	160	200
25	118	107	56	59	96	124	89	221	142	142	160	191
26	180	107	56	59	166	124	71	134	158	130	142	180
27	109	157	54	55	89	107	69	142	160	125	130	200
28	93	193	55	51	48	87	93	227	148	127	127	246
29	102	223	59	53	-	86	102	621	145	127	123	218
30	100	216	59	53	-	79	95	1,450	148	130	125	263
31	100	-	56	47	-	77	-	1,720	-	134	132	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						4,800	216	77	155	9,520		
November.....						5,018	223	91	167	9,950		
December.....						2,252	180	54	72.6	4,470		
Calendar year 1934.....						52,105	419	48	143	103,400		
January.....						1,685	62	45	54.4	3,340		
February.....						1,657	166	47	59.2	3,290		
March.....						2,677	240	35	86.4	5,310		
April.....						2,365	107	47	78.5	4,670		
May.....						8,771	1,720	77	283	17,400		
June.....						19,615	3,630	134	654	38,910		
July.....						5,354	402	125	173	10,620		
August.....						4,507	194	117	145	8,940		
September.....						5,864	377	121	195	11,630		
Water year 1934-35.....						64,555	3,630	35	177	128,000		

## South Platte River at Balzac, Colo.

Location.- Water-stage recorder, lat. 40°24', long. 103°29', in sec. 13, T. 5 N., R. 55 W., at Balzac siding, 1½ miles northeast of Union.

Drainage area.- 17,700 square miles.

Records available.- October 1933 to September 1935, in reports of U. S. Geological Survey; January 1917 to September 1935, in reports of State engineer.

Average discharge.- 19 years (1916-35), 397 second-feet.

Extremes.- Maximum stage, 11.43 feet May 31 (discharge not determined); minimum daily discharge, 6 second-feet Jan. 10, 11.

1917-35: Maximum stage, that of May 31, 1935; minimum daily discharge, 6 second-feet Jan. 1, 1934, Jan. 10, 11, 1935.

Remarks.- Records good except those estimated, May 24 to June 20. Diversions for irrigation above station. Flow is completely regulated except during extreme high water.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	174	144	22	16	18	14	120	100		61	38	195
2	170	192	30	12	20	18	174	79		84	69	229
3	151	192	73	10	21	17	163	75		81	84	261
4	124	214	50	10	21	18	192	71		84	84	157
5	151	111	54	11	21	17	174	73		74	101	98
6	147	62	22	11	22	18	174	60		76	98	160
7	48	60	18	9	20	15	163	58		109	86	946
8	47	58	19	9	20	15	155	64		109	89	484
9	50	68	18	8	22	16	159	55		109	47	292
10	50	56	18	6	20	16	114	54		129	98	218
11	48	102	17	6	19	17	29	45	5,500	148	118	86
12	47	147	16	10	18	16	21	363		154	112	69
13	68	144	15	13	17	16	71	29		179	101	123
14	170	117	15	12	15	16	151	27		160	101	112
15	124	56	17	12	15	17	244	24		141	98	186
16	36	50	17	12	16	18	188	22		141	89	176
17	43	50	19	12	16	17	174	24		154	71	126
18	62	54	24	13	14	15	155	27		160	91	107
19	111	50	25	16	13	15	140	809		166	121	98
20	97	52	24	21	12	15	136	3,610		129	121	86
21	75	52	24	24	12	12	124	1,860	792	88	123	94
22	50	77	25	25	12	14	117	1,680	556	91	123	94
23	25	75	27	25	14	18	111	990	225	96	115	101
24	22	62	27	22	17	30	174		182	112	112	104
25	20	43	27	16	18	32	229		144	74	115	94
26	20	34	27	13	20	29	32	1,560	123	60	218	94
27	32	32	24	11	18	32	30		115	45	205	144
28	87	29	21	12	14	56	58		109	24	215	176
29	111	22	20	16	-	73	155		86	32	316	179
30	111	21	18	18	-	79	124		129	36	277	176
31	111	-	18	17	-	79	-		-	47	208	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							2,582	174	20	83.5	5,120	
November.....							2,426	214	21	80.9	4,810	
December.....							771	73	15	24.9	1,530	
Calendar year 1934.....							33,457	396	6	91.7	66,360	
January.....							428	25	6	15.8	849	
February.....							485	22	12	17.3	962	
March.....							778	79	12	25.1	1,540	
April.....							4,076	244	21	136	8,080	
May.....							22,682	-	22	732	44,990	
June.....							106,461	-	24	3,616	216,100	
July.....							3,183	179	24	103	6,310	
August.....							3,823	316	38	123	7,580	
September.....							5,445	946	69	182	10,800	
Water year 1934-35.....							165,140	-	6	425	307,700	



## South Platte River at Julesburg, Colo.

Location.- Water-stage recorder, lat. 40°58', long. 102°15', in sec. 33, T. 12 N., R. 44 W., half a mile east of Julesburg and 4 miles above Colorado-Nebraska State line.

Drainage area.- 20,600 square miles.

Records available.- April 1902 to November 1906, May 1908 to September 1914, October 1930 to September 1935, in reports of U. S. Geological Survey; April 1902 to November 1906, May 1908 to November 1912, April 1914 to September 1935, in reports of State engineer of Colorado; October 1914 to September 1935, in reports of State engineer of Nebraska.

Average discharge.- 31 years (1902-6, 1908-35), 518 second-feet.

Extremes.- Maximum discharge during year, 31,300 second-feet June 2; minimum daily discharge, 20 second-feet Aug. 14, 15.  
1902-35: Maximum discharge, that of June 2, 1935; no flow Aug. 18-20, 1902.

Remarks.- Records good. They represent total flow passing the Colorado-Nebraska State line. Numerous diversions for irrigation above station. Flow is mostly return seepage from irrigated lands above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	44	81	210	138	285	36	125	6,810	144	25	27
2	32	45	89	198	128	296	35	119	24,000	122	24	27
3	32	45	96	192	120	266	45	118	15,900	107	24	26
4	31	45	125	213	105	214	58	121	7,510	114	24	27
5	31	42	131	226	90	224	36	117	4,580	95	24	26
6	31	42	152	241	74	245	40	104	3,320	87	22	26
7	31	43	164	249	65	241	48	85	2,580	82	22	29
8	38	42	181	239	63	202	43	86	2,130	77	22	34
9	40	45	197	215	61	221	54	80	1,770	74	27	36
10	46	45	185	194	55	124	45	70	1,490	74	26	34
11	49	48	180	179	55	104	55	64	1,300	69	27	33
12	51	46	156	156	55	86	40	63	1,210	66	26	57
13	51	44	141	139	54	77	35	109	1,770	61	21	82
14	52	48	129	131	57	87	54	155	4,170	58	20	91
15	54	49	124	130	60	63	33	198	2,010	54	20	94
16	57	48	120	132	62	60	30	239	1,950	51	21	89
17	55	45	117	122	108	61	30	321	1,970	44	23	59
18	56	47	117	121	108	56	30	389	1,490	43	23	50
19	56	48	109	78	95	54	31	520	1,540	39	24	46
20	55	45	109	67	79	54	37	710	2,100	39	25	45
21	49	44	112	77	67	55	36	864	2,040	37	28	41
22	50	44	118	82	76	51	41	1,540	1,410	38	27	41
23	55	44	109	103	66	50	35	2,240	1,100	36	40	40
24	68	43	104	105	59	49	63	1,680	844	34	38	41
25	49	46	107	127	56	49	106	1,440	651	33	30	41
26	50	49	99	130	58	46	155	1,030	497	31	26	42
27	45	47	95	200	65	42	155	813	373	31	25	46
28	44	50	99	213	123	41	145	792	288	30	25	46
29	42	55	120	182	-	41	135	1,500	214	30	25	47
30	41	77	163	151	-	38	127	4,850	174	27	24	62
31	41	-	195	145	-	35	-	3,310	-	27	24	-

  

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,417	65	31	45.7	2,510
November.....	1,405	77	42	45.9	2,790
December.....	4,025	198	81	130	7,980
Calendar year 1934.....	46,111	1,610	16	126	91,490
January.....	4,947	249	57	160	9,810
February.....	2,208	138	54	75.9	4,580
March.....	3,498	296	35	113	6,940
April.....	1,737	155	30	57.9	3,450
May.....	23,842	4,850	63	769	47,290
June.....	97,221	24,000	174	3,241	192,600
July.....	1,954	144	27	59.8	3,580
August.....	792	40	20	25.2	1,550
September.....	1,385	94	28	45.2	2,750
Water year 1934-35.....	144,324	24,000	20	395	286,200

## South Platte River at North Platte, Nebr.

Location.- Staff gage, lat.  $41^{\circ}7'$ , long.  $100^{\circ}46'$ , in sec. 9, T. 13 N., R. 30 W., three-quarters of a mile south of North Platte. Zero of gage is 2,798.4 feet above mean sea level.

Drainage area.- 24,300 square miles.

Records available.- June 1914 to September 1915, August 1931 to September 1935, in reports of U. S. Geological Survey; 1915 to 1935, in reports of State engineer.

Extremes.- Maximum discharge observed during year, 37,100 second-feet June 3 (gage height, 6.10 feet); no flow at times.  
1914-35: Maximum discharge observed, that of June 3, 1935; frequently no flow during summer.

Remarks.- Records fair above 400 second-feet, poor below. Discharge for Dec. 26 to Jan. 8, Jan. 14-31, Feb. 8, Feb. 17 to Apr. 4, estimated on the basis of two discharge measurements and temperature records. Gage-height record collected in co-operation with U. S. Weather Bureau.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	160	247	90	1	117	3,880	818	0	0
2			0	210	202	150	1	83	2,580	630	0	2
3			0	250	172	230	1	75	17,100	548	0	1
4			0	280	172	* 253	1	83	21,900	548	0	1
5			0	305	172	253	2	51	9,400	398	0	0
6			0	290	144	290	2	51	5,900	310	0	0
7			0	300	172	260	2	51	3,310	242	0	0
8			0	330	155	240	2	75	2,290	149	0	1
9			0	300	172	250	2	69	1,770	92	0	0
10			0	353	117	260	22	45	1,600	75	0	0
11			0	493	75	255	14	45	1,270	75	0	0
12			0	172	117	200	14	45	1,520	50	0	0
13			0	144	117	120	10	83	1,600	41	0	0
14			0	140	144	90	7	104	1,180	32	0	0
15			0	130	117	70	7	109	4,780	13	0	0
16			0	120	117	65	7	117	4,470	13	0	0
17			50	110	130	55	7	109	3,350	5	0	0
18			166	88	140	45	3	187	2,470	5	0	0
19			258	72	140	38	3	493	2,060	5	0	0
20			210	68	115	30	1	658	1,740	5	0	0
21			166	66	90	15	1	698	1,800	4	0	0
22			128	70	70	5	0	658	2,470	3	1	0
23			122	80	58	0	0	625	2,250	5	1	0
24			180	90	54	1	96	770	1,740	5	0	0
25			180	96	50	1	423	1,580	1,220	5	1	0
26			150	115	50	1	423	1,710	1,220	5	1	0
27			135	130	54	1	210	1,530	1,180	3	1	0
28			115	160	60	*	1	128	1,110	3	1	0
29			120	180	-	1	128	3,810	996	1	1	0
30			125	220	-	1	128	3,160	886	0	0	0
31			135	230	-	1	-	1,060	-	0	0	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				0		0	0	0	0			
November.....				0		0	0	0	0			
December.....				2,240		258	0	72.3	4,440			
Calendar year 1934.....				31,890		1,060	0	87.4	63,240			
January.....				5,752		493	66	186	11,410			
February.....				3,425		247	50	122	8,790			
March.....				3,272		290	0	106	6,480			
April.....				1,646		423	0	54.9	3,260			
May.....				19,970		3,810	45	644	39,610			
June.....				109,192		21,900	886	3,640	216,600			
July.....				4,078		818	0	132	8,090			
August.....				7		1	0	.2	14			
September.....				5		2	0	.2	10			
Water year 1934-35.....				149,585		21,900	0	410	296,700			

\* Discharge measurement.

## Tarryall Creek near Lake George, Colo.

Location.- Water-stage recorder, lat. 39°5', long. 105°26', in sec. 22, T. 11 S., R. 72 W., 8 miles northwest of Lake George.

Drainage area.- 460 square miles.

Records available.- October 1910 to June 1912, October 1933 to September 1935 in reports of U. S. Geological Survey; June to October 1916, April 1925 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 1,030 second-feet July 31 (gage height, 5.20 feet); minimum daily discharge, 4 second-feet May 6, 7.  
1910-12, 1916, 1925-35: Maximum discharge, that of July 31, 1935; minimum daily discharge, 3 second-feet July 13, 1934.

Remarks.- Records good except those estimated, Nov. 25-30. No records Dec. 1 to Mar. 26. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	9					24	6	33	14	291	44
2	14	8					23	6	29	11	96	54
3	14	9					24	6	26	14	85	63
4	13	10					24	6	23	15	69	47
5	14	8					24	5	22	60	60	46
6	10	9					24	4	20	91	64	38
7	10	9					24	4	20	79	58	39
8	10	11					23	5	18	67	57	48
9	10	12					22	6	18	51	70	56
10	9	14					18	9	16	44	78	59
11	8	14					18	10	18	45	70	63
12	8	13					14	10	24	84	66	54
13	10	13					12	16	30	118	61	36
14	11	14					11	28	50	111	60	32
15	12	11					14	47	62	65	65	28
16	14	11					16	72	75	40	51	30
17	16	12					17	78	72	36	54	28
18	16	12					24	72	58	42	51	29
19	17	9					24	65	67	85	51	26
20	20	9					22	53	40	111	60	25
21	17	14					21	47	33	104	51	24
22	14	9					22	46	24	134	48	24
23	14	10					22	43	20	219	54	22
24	14	13					25	41	14	128	99	20
25	14	10					26	40	14	81	67	20
26	11	10				-	24	40	20	51	64	20
27	11					49	18	40	18	41	69	24
28	12					69	14	41	16	36	76	31
29	11					44	11	45	20	36	83	35
30	10					41	9	37	18	91	59	31
31	10	-				26	-	33	-	687	50	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						388	20	8	12.5		770	
November.....						323	14	8	10.8		641	
December.....						-	-	-	-		-	
Calendar year .....												
January.....						-	-	-	-		-	
February.....						-	-	-	-		-	
March 27-30 .....						228	69	25	46.6		462	
April.....						594	26	9	19.8		1,180	
May.....						963	78	4	31.1		1,910	
June.....						908	75	14	30.3		1,800	
July.....						2,768	687	11	89.9		5,630	
August.....						2,226	291	48	71.8		4,420	
September.....						1,096	63	20	36.5		2,170	
Water year .....												

## Goose Creek above Lake Cheesman, Colo.

Location.- Water-stage recorder, lat.  $39^{\circ}12'$ , long.  $105^{\circ}19'$ , in sec. 3, T. 10 S., R. 71 W., 1 mile above high water line of Lake Cheesman.

Drainage area.- 86 square miles.

Records available.- October 1933 to September 1935, in reports of U. S. Geological Survey; October 1924 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 168 second-feet June 13, (gage height, 2.75 feet); minimum, not determined.  
1924-35: Maximum discharge, 315 second-feet May 26, 1926 (gage height, 3.75 feet); minimum, not determined.

Remarks.- Records good. No record Dec. 1 to Mar. 22.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	10				-	15	23	103	37	53	30
2	10	10				-	12	21	100	35	43	27
3	10	11				-	14	20	96	42	40	22
4	10	9				-	14	16	94	39	39	21
5	10	10				-	15	14	91	33	44	19
6	10	11				-	14	18	91	30	52	18
7	10	11				-	14	22	90	34	46	20
8	10	11				-	11	24	88	36	42	58
9	10	12				-	11	30	84	34	52	53
10	10	12				-	10	30	84	36	42	36
11	10	11				-	10	26	87	36	37	30
12	11	11				-	11	24	91	50	39	27
13	10	11				-	12	29	126	54	33	25
14	10	11				-	18	38	99	37	30	23
15	10	11				-	22	50	86	55	27	23
16	9	11				-	21	59	81	38	28	23
17	10	14				-	19	75	82	32	54	22
18	9	11				-	16	97	76	50	42	21
19	9	12				-	12	76	70	46	32	21
20	9	12				-	15	70	66	40	30	20
21	10	12				-	17	67	65	44	28	20
22	9	11				-	24	60	60	75	25	20
23	9	11				8	26	99	55	53	35	20
24	9	13				8	23	126	53	38	44	20
25	9	14				8	16	137	49	33	54	20
26	10	14				8	11	155	48	31	40	23
27	9	14				10	18	129	46	29	36	27
28	10	12				11	18	117	46	27	34	26
29	10	10				11	23	115	46	30	32	32
30	10	7				12	32	115	42	65	30	25
31	10	-				15	-	113	-	58	31	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						303	11	9	9.8	601		
November.....						340	14	7	11.3	674		
December.....						-	-	-	-	-		
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March 23-31.....						91	15	8	10.1	180		
April.....						493	32	10	16.4	978		
May.....						1,995	137	14	64.4	3,960		
June.....						2,292	126	42	76.4	4,560		
July.....						1,277	75	27	41.2	2,550		
August.....						1,151	54	25	39.4	2,360		
September.....						772	58	18	25.7	1,530		
Water year .....												

## North Fork of South Platte River at South Platte, Colo.

Location.- Water-stage recorder, lat. 39°25', long. 105°10', in sec. 25, T. 7 S., R. 70 W., a third of a mile above South Platte. Zero of gage is 6,090.55 feet above mean sea level.

Drainage area.- 484 square miles.

Records available.- June 1909 to September 1910, April 1913 to September 1935.

Average discharge.- 23 years (1909-10, 1913-35), 172 second-feet.

Extremes.- Maximum discharge during year, 833 second-feet June 13 (gage height, 4.47 feet); minimum daily discharge, not determined.  
1909-10, 1913-35: Maximum discharge, 1,910 second-feet June 8, 1921 (gage height, 5.9 feet); minimum discharge, 4 second-feet Dec. 8, 1932 (discharge measurement).

Remarks.- Records good except those for Nov. 27 to Mar. 21, which were estimated on the basis of four discharge measurements and temperature records. Minor diversions above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	51	40				30	51	61	329	245	563	112
2	52	45				30	45	61	318	233	360	118
3	51	41				28	45	55	318	285	352	106
4	51	42				28	45	53	329	302	346	102
5	50	46				26	46	51	329	270	332	96
6	50	45				26	47	52	349	233	289	91
7	50	45		* 34		28	40	57	377	233	270	94
8	50	47				28	39	60	448	245	201	168
9	46	44				30	39	65	444	245	204	173
10	46	45				30	37	66	518	251	178	133
11	45	36	* 42			30	32	71	594	248	155	112
12	39	35				31	32	76	649	325	173	102
13	36	42				31	35	85	678	322	140	94
14	39	39			* 32	31	41	108	668	242	122	89
15	44	36				31	48	138	633	298	118	89
16	46	36				32	60	138	618	239	118	89
17	48	42				33	60	129	529	206	235	85
18	51	41				34	57	198	474	308	184	84
19	47	42				34	46	227	437	254	140	82
20	47	36				35	51	191	440	266	204	78
21	35	36				36	58	158	448	295	209	78
22	37	34				36	57	198	437	384	212	78
23	44	32				36	60	206	419	370	248	80
24	48	48				39	65	315	405	322	287	78
25	45	41				39	66	332	380	285	227	77
26	46	32				39	56	329	352	251	193	85
27	44	32				45	70	342	322	227	150	98
28	40	32				42	71	339	292	209	125	96
29	35	32				42	70	329	276	205	118	100
30	45	32				48	64	329	260	390	108	100
31	39	-				51	-	346	-	419	100	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,395	52	35	45.0	2,770		
November.....						1,176	48	32	39.2	2,330		
December.....						1,240	-	-	40	2,460		
Calendar year 1934.....						30,619	308	-	83.9	60,740		
January.....						1,023	-	-	33	2,030		
February.....						896	-	-	32	1,780		
March.....						1,059	51	26	34.2	2,100		
April.....						1,533	71	32	51.1	3,040		
May.....						5,153	346	51	137	10,240		
June.....						13,068	676	260	436	25,920		
July.....						8,598	419	206	277	17,050		
August.....						6,437	363	100	208	12,770		
September.....						2,967	173	77	98.9	5,880		
Water year 1934-35.....						44,555	676	-	122	88,370		

\* Discharge measurement.

## Bear Creek at Morrison, Colo.

Location.- Water-stage recorder, lat. 39°39'15", long. 105°11'40", in SE¼ sec. 35, T. 4 S., R. 70 W., just below mouth of Mount Vernon Creek, at Morrison. October 1919 to September 1934, water-stage recorder at Idledale, 3 miles above; records comparable.

Records available.- April 1888 to September 1891, May 1895 to March 1902, October 1934 to September 1935, in reports of U. S. Geological Survey; April 1888 to September 1891, May 1895 to March 1902, October 1919 to September 1935, in reports of State engineer.

Average discharge.- 16 years (1919-35), 59.2 second-feet.

Extremes.- Maximum discharge during year, 1,740 second-feet July 12 (gage height, 2.16 feet); minimum daily discharge, 3 second-feet Mar. 9-11, 24.  
1888-91, 1895-1902, 1919-35: Maximum discharge, 8,600 second-feet (estimated) July 24, 1896; minimum not determined.

Remarks.- Records fair. Discharge Nov. 27 to Jan. 31, Feb. 11-17, Feb. 25 to Mar. 1, estimated on the basis of three discharge measurements and temperature records. Small diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9	9	* 9		15	6	9	26	191	59	82	37
2	9	9			11	9	9	24	180	55	66	36
3	12	6			9	6	9	22	168	66	94	30
4	12	10			9	6	9	16	142	70	88	36
5	12	9			9	6	7	15	142	63	66	36
6	11	10			9	9	9	16	139	57	55	37
7	11	10			8	15	8	16	147	55	49	52
8	10	8			7	9	9	20	133	37	45	77
9	9	8			9	3	12	27	129	63	46	73
10	9	8			9	3	13	27	180	68	43	63
11	10	6			8	3	11	26	215	76	40	61
12	11	7			8	4	11	27	147	196	42	53
13	11	7			8	9	10	42	135	52	37	44
14	11	7			8	10	18	50	185	35	34	40
15	12	6		* 12	7	14	9	68	153	45	34	42
16	12	8			7	9	18	73	147	34	35	40
17	10	9			7	9	22	85	113	25	100	41
18	11	9			6	9	21	268	91	100	59	37
19	13	10			6	9	16	228	81	88	35	31
20	8	10			4	8	19	158	94	121	45	27
21	6	11			7	6	15	142	100	85	43	14
22	6	11			6	7	9	234	97	79	38	10
23	7	12			6	5	10	268	88	73	79	12
24	9	13			6	3	21	305	85	59	33	15
25	8	19			5	4	19	290	73	59	26	17
26	8	20			5	5	17	260	68	55	28	22
27	7	16			5	9	20	234	68	46	31	20
28	7	14			6	7	21	215	76	45	32	31
29	8	12			-	6	21	228	68	46	37	30
30	8	10		* 13	-	9	27	241	63	76	40	28
31	8	-			-	7	-	222	-	85	42	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				295		13	6	9.5	585			
November.....				309		20	6	10.3	613			
December.....				310		-	-	10	615			
Calendar year 1934.....				8,932		274	-	24.5	17,710			
January.....				372		-	-	12	738			
February.....				210		15	4	7.5	417			
March.....				224		15	3	7.2	444			
April.....				423		27	15	14.3	851			
May.....				3,873		305	15	125	7,659			
June.....				3,705		215	63	124	7,350			
July.....				2,093		196	25	67.5	4,150			
August.....				1,523		100	26	49.1	3,020			
September.....				1,092		77	10	36.4	2,170			
Water year 1934-35.....				14,435		305	-	39.5	28,630			

\* Discharge measurement.

Bear Creek at mouth, at Sheridan Junction, Colo.

Location.- Water-stage recorder, lat. 39°39', long. 105°1', in sec. 5, T. 5 S., R. 66 W., half a mile southwest of Sheridan Junction and three-quarters of a mile above mouth.

Records available.- October 1933 to September 1935, in reports of U. S. Geological Survey; April to November 1914, February 1927 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 612 second-feet July 12 (gage height, 4.33 feet); minimum daily discharge, 1 second-foot Apr. 2-8, 13-19, 22, 23.  
1914, 1927-35: Maximum discharge, 3,000 second-feet (slope measurement) July 7, 1933 (gage height, 6.95 feet); minimum daily discharge, that of April, 1935.

Remarks.- Records fair. Discharge estimated Jan. 8-11. Diversions and regulation, by storage for irrigation, above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4	7	11	10	9	6	2	5	36	6	4	12
2	4	8	11	9	10	7	1	7	26	5	4	12
3	5	9	11	9	9	7	1	6	40	8	3	12
4	5	8	10	9	9	7	1	6	53	11	21	12
5	4	8	10	9	7	7	1	6	48	9	7	11
6	4	8	10	9	8	7	1	6	34	10	5	9
7	4	10	10	9	8	6	1	3	63	12	4	13
8	4	8	10	9	9	6	1	4	66	13	4	24
9	4	10	11	9	11	6	2	3	59	14	4	26
10	4	10	11	8	10	6	6	3	60	20	4	17
11	5	9	11	8	9	6	2	3	62	18	4	13
12	5	9	11	8	9	6	2	4	109	29	5	12
13	5	8	11	8	9	6	1	5	147	65	5	12
14	5	8	11	9	7	4	1	9	57	12	4	12
15	5	7	11	8	11	5	1	31	38	11	4	12
16	5	8	11	8	9	6	1	36	46	11	5	11
17	5	9	11	8	8	6	1	31	29	15	19	10
18	5	10	11	8	8	6	1	194	24	19	19	10
19	4	9	12	8	10	6	1	166	19	15	14	10
20	5	8	11	9	8	5	2	110	19	8	15	10
21	5	10	10	11	6	4	3	82	14	10	14	10
22	5	10	11	10	6	4	1	158	15	12	13	9
23	4	9	11	9	7	4	1	251	15	11	17	9
24	5	10	10	9	8	5	6	204	15	9	36	9
25	5	9	10	9	7	5	8	184	15	8	26	10
26	5	9	9	9	7	5	9	144	10	7	15	11
27	6	14	9	9	7	4	13	101	10	7	12	13
28	6	12	9	9	6	3	11	87	10	11	12	13
29	6	12	10	8	-	3	11	103	10	7	11	12
30	6	11	10	8	-	4	7	66	7	5	10	10
31	7	-	10	8	-	4	-	60	-	5	10	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				152	7	4	4.0	301				
November.....				277	14	7	9.2	549				
December.....				325	12	9	10.5	645				
Calendar year-1934 .....				3,151	88	3	8.6	6,250				
January.....				271	11	8	8.7	538				
February.....				232	11	6	8.3	460				
March.....				166	7	3	5.4	329				
April.....				100	13	1	3.3	198				
May.....				2,058	231	3	66.4	4,080				
June.....				1,156	147	7	38.5	2,290				
July.....				403	65	5	13.0	799				
August.....				330	36	3	10.6	655				
September.....				366	26	9	12.2	726				
Water year 1934-35.....				5,836	231	1	16.0	11,570				

## Clear Creek near Golden, Colo.

Location.— Water-stage recorder, lat. 39°45', long. 105°15', in sec. 32, T. 3 S., R. 70 W.,  $\frac{1}{2}$  miles above Golden.

Drainage area.— 392 square miles.

Records available.— December 1908 to December 1909, June 1911 to September 1929, October 1933 to September 1935, in reports of U. S. Geological Survey; December 1908 to December 1909, June 1911 to September 1935, in reports of State engineer.

Average discharge.— 22 years (1911-22, 1924-35), 241 second-feet.

Extremes.— Maximum discharge during year, 4,900 second-feet Aug. 3 (gage height, 4.83 feet); minimum probably occurred during ice period.  
1908-9, 1911-35: Maximum discharge, 5,890 second-feet (slope measurement) Sept. 9, 1933 (gage height, 7.97 feet, present datum); minimum daily discharge, 18 second-feet Jan. 11, 1918. Maximum discharge known, 8,700 second-feet Aug. 1, 1888.

Remarks.— Records good except those estimated, Dec. 1 to Feb. 28. Small diversions for irrigation above station. Several small reservoirs slightly regulate the flow.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	78	56	* 26			49	42	98	695	729	612	220
2	80	54				49	46	82	685	696	416	232
3	80	56				49	50	64	718	848	730	220
4	78	58				47	48	66	740	812	707	215
5	73	64				45	46	62	764	685	560	175
6	71	69				44	48	73	752	630	449	185
7	67	69				43	45	85	752	590	378	180
8	71	64			* 48	45	43	106	800	590	368	225
9	73	53				47	45	113	860	560	368	210
10	71	62				46	43	109	1,240	570	332	180
11	69	52				47	39	122	1,540	560	325	175
12	71	47				50	42	135	2,020	641	359	163
13	71	52				48	44	195	1,560	400	318	161
14	61	53				45	45	220	1,640	311	311	143
15	59	48		* 52		44	46	210	1,630	339	290	143
16	61	59				43	49	180	1,660	353	318	139
17	61	61				41	61	171	1,410	368	416	139
18	62	76				41	45	368	1,180	440	368	143
19	64	82				41	45	335	1,140	424	304	139
20	67	76				41	52	311	1,150	408	284	129
21	67	96				39	62	297	1,160	400	277	129
22	64	89				37	61	376	1,110	432	264	129
23	62	69				38	59	503	1,110	530	264	129
24	64	78				37	62	630	1,040	476	290	129
25	59	75				37	54	674	985	432	318	122
26	53	52				38	62	674	948	400	332	125
27	56	46				42	62	685	910	384	304	135
28	58	52				37	98	764	872	346	284	135
29	57	48				40	85	764	812	346	261	135
30	56	38				41	92	718	776	503	215	132
31	57	-				42	-	685	-	590	210	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						2,041	80	53	65.8	4,050		
November.....						1,853	96	38	61.8	3,880		
December.....						930	-	-	30	1,840		
Calendar year 1934.....						65,840	1,220	21	180	130,700		
January.....						1,240	-	-	40	2,460		
February.....						1,400	-	-	50	2,780		
March.....						1,333	50	37	43.0	2,640		
April.....						1,661	98	39	55.4	3,290		
May.....						9,879	764	62	319	19,590		
June.....						32,620	2,020	685	1,087	64,700		
July.....						15,793	848	311	509	31,320		
August.....						11,100	730	210	358	22,020		
September.....						4,806	232	122	160	9,530		
Water year 1934-35.....						84,656	2,020	-	232	167,900		

\* Discharge measurement.



Clear Creek at mouth, near Derby, Colo.

Location.-- Water-stage recorder, lat. 39°50', long. 104°57', in sec. 36, T. 2 S., R. 68 W., three-quarters of a mile above mouth, and 2½ miles west of Derby.

Drainage area.-- 600 square miles.

Records available.-- October 1933 to September 1935, in reports of U. S. Geological Survey; April to November 1914, February 1927 to September 1935, in reports of State engineer.

Extremes.-- Maximum discharge during year, 537 second-feet June 12 (gage height, 4.33 feet); minimum daily discharge, 1 second-foot Mar. 25 to Apr. 8, Apr. 14-17, 19-23, Sept. 20.

1914, 1927-35: Maximum discharge, 1,260 second-feet June 2, 1914 (gage height, 4.5 feet); minimum daily discharge, that of March, April and September 1935.

Remarks.-- Records fair. Discharge estimated Oct. 1-31, Dec. 4-10. Diversions for irrigation above station. Flow slightly regulated by storage for irrigation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3	2	23	30	18	16	1	8	141	124	70	11
2	3	3	24	29	13	14	1	5	115	139	34	12
3	3	4	19	27	12	9	1	4	113	205	20	9
4	3	4	21	28	6	7	1	4	130	210	91	10
5	3	3	24	28	8	7	1	3	128	180	52	10
6	3	3	26	14	23	10	1	4	141	144	16	11
7	3	3	29	9	21	8	1	4	159	127	12	17
8	3	3	32	7	10	7	1	3	159	146	12	30
9	3	3	36	6	11	7	2	4	176	145	24	18
10	3	3	37	5	28	3	10	4	206	157	16	10
11	3	3	37	4	25	4	7	6	236	156	12	7
12	3	3	33	4	29	5	3	5	485	198	10	5
13	3	3	25	4	25	9	2	19	460	287	11	4
14	3	2	24	10	25	25	1	41	476	130	10	3
15	3	2	26	6	23	14	1	27	489	91	9	2
16	2	2	21	20	28	7	1	20	474	52	11	2
17	2	2	21	21	28	6	1	37	397	41	41	2
18	2	3	25	21	29	6	2	228	516	123	37	2
19	2	3	30	24	19	8	1	210	223	123	14	2
20	2	3	37	24	12	9	1	149	228	98	12	1
21	2	3	40	24	14	6	1	113	246	79	12	6
22	2	3	41	24	18	5	1	86	273	80	11	6
23	2	3	35	24	18	5	1	133	236	64	14	6
24	2	3	36	49	19	2	12	148	274	34	22	5
25	2	3	33	52	20	1	28	142	239	11	52	5
26	2	6	30	31	12	1	33	132	212	7	24	5
27	2	43	30	22	11	1	30	142	189	6	13	9
28	2	37	33	20	11	1	20	179	168	16	11	17
29	2	39	34	16	-	1	13	200	163	20	10	8
30	2	38	32	20	-	1	11	225	131	65	9	6
31	2	-	27	16	-	1	-	162	-	97	8	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						77	3	2	2.5	153		
November.....						225	43	2	7.5	446		
December.....						921	41	19	29.7	1,630		
Calendar year 1934.....						17,628	618	2	48.3	35,010		
January.....						619	52	4	20.0	1,230		
February.....						516	29	6	18.4	1,020		
March.....						206	25	1	6.6	409		
April.....						190	33	1	6.3	377		
May.....						2,447	228	3	78.9	4,850		
June.....						7,433	489	113	248	14,740		
July.....						3,330	257	6	107	6,600		
August.....						700	91	8	22.6	1,390		
September.....						241	30	1	8.0	478		
Water year 1934-35.....						16,905	489	1	46.3	33,520		

## Fall River near Idaho Springs, Colo.

Location.- Water-stage recorder, lat. 39°45'20", long. 105°33'25", in sec. 28, T. 3 S., R. 75 W., at mouth, 1½ miles west of Idaho Springs.

Drainage area.- 23.6 square miles.

Records available.- October 1933 to September 1935, in reports of U. S. Geological Survey; April 1930 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 190 second-feet June 13 (gauge height, 1.90 feet); minimum discharge not determined.  
1930-35: Maximum discharge, that of June 13, 1935; minimum not determined.

Remarks.- Records fair. Discharge estimated Oct. 22-25, Oct. 28 to Mar. 27. Flow regulated by storage for irrigation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6					6	3	8	114	56	36	30
2	6						3	6	112	53	29	22
3	6						3	4	107	62	30	19
4	5						3	5	108	61	30	16
5	5						4	6	108	57	27	14
6	5						4	8	108	55	23	14
7	5					5	4	8	115	50	20	18
8	4						3	10	119	52	20	21
9	4						3	10	120	50	20	20
10	4						3	12	124	49	18	18
11	4			* 4			3	32	132	53	21	14
12	5						3	48	144	46	19	12
13	5					6	4	55	151	40	18	11
14	5						6	56	151	42	16	12
15	5						7	56	159	43	22	12
16	5						8	61	124	44	52	10
17	5						6	72	97	55	58	10
18	4						6	88	86	43	49	9
19	5	* 3				7	8	82	86	43	38	8
20	4						9	76	88	49	38	9
21	4						8	84	91	50	36	10
22	4						8	97	86	49	31	10
23	4						8	91	86	50	30	9
24	4						7	96	82	38	41	9
25	4				* 6	4	4	100	78	29	44	10
26	4						4	8	100	76	33	12
27	4						4	10	107	79	37	10
28	4						4	10	110	73	35	10
29	4						2	12	108	70	35	10
30	4						3	10	110	62	44	25
31	4						3	-	114	-	44	28
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						141	6	4	4.5	130		
November.....						90	-	-	3	179		
December.....						93	-	-	3	184		
Calendar year 1934.....						5,105	89	-	14.0	10,130		
January.....						124	-	-	4	246		
February.....						168	-	-	6	333		
March.....						155	-	-	5.0	307		
April.....						178	12	3	5.9	353		
May.....						1,820	114	4	58.7	3,610		
June.....						3,086	151	62	103	6,120		
July.....						1,443	62	29	46.5	2,960		
August.....						943	58	16	30.4	1,870		
September.....						396	30	7	13.2	765		
Water year 1934-35.....						8,637	151	-	23.7	17,130		

\* Discharge measurement.

North St. Vrain Creek at Longmont Dam, near Lyons, Colo.

Location.-- Water-stage recorder, lat. 40°14', long. 105°21', in sec. 16, T. 3 N., R. 71 W., three-quarters of a mile above Longmont Dam and 4 miles west of Lyons.

Drainage area.-- 109 square miles.

Records available.-- October 1933 to September 1935, in reports of U. S. Geological Survey; June 1926 to September 1935, in reports of State engineer.

Extremes.-- Maximum discharge during year, 930 second-feet Sept. 6 (gage height, 3.40 feet); minimum daily discharge, 6 second-feet Jan. 21.

1926-35: Maximum discharge, that of Sept. 6, 1935; minimum daily discharge, 6 second-feet Dec. 15, 1926, Jan. 21, 1935.

Remarks.-- Records good except those estimated, Aug. 16, 17, Sept. 18-21. Flow partly regulated by small reservoirs above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	21	10	9	9	9	10	33	250	299	126	68
2	17	20	11	9	9	9	9	33	210	289	126	51
3	18	13	7	9	9	10	11	31	191	313	109	49
4	17	16	7	9	9	9	11	30	191	330	100	49
5	16	16	8	10	10	9	11	34	205	279	95	69
6	15	17	8	10	10	9	11	40	231	259	98	102
7	17	16	11	10	10	10	8	41	243	253	85	79
8	20	15	10	10	10	9	10	43	275	266	84	92
9	23	15	11	10	10	10	10	45	299	250	82	87
10	21	14	11	10	9	8	8	48	344	250	78	76
11	21	13	11	10	8	9	9	56	406	282	72	58
12	21	12	11	10	9	9	9	71	445	237	71	50
13	20	12	11	10	9	11	11	103	469	222	68	43
14	20	10	12	11	7	11	12	138	536	219	60	41
15	21	11	12	11	8	13	13	156	665	202	60	40
16	27	11	12	10	7	10	15	140	600	183	64	39
17	28	11	11	10	7	8	17	126	461	173	68	39
18	28	10	11	8	8	9	14	326	395	191	71	37
19	29	11	10	7	9	10	21	306	391	202	60	35
20	27	9	10	7	10	8	26	243	453	202	55	33
21	27	11	10	6	10	7	29	216	441	202	82	30
22	26	10	11	9	9	9	31	250	434	188	82	28
23	22	11	11	9	10	9	28	391	430	176	81	28
24	17	11	11	10	7	10	27	344	418	156	85	28
25	19	7	11	9	7	9	23	316	391	147	103	28
26	16	12	10	9	9	11	22	303	337	143	96	30
27	16	8	10	10	8	11	27	296	340	136	64	35
28	16	9	10	10	9	7	31	292	330	128	56	33
29	15	10	10	10	-	9	30	262	306	126	53	42
30	19	9	10	9	-	10	35	279	313	143	51	40
31	21	-	10	9	-	10	-	286	-	140	50	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						637	29	15	20.5	1,260		
November.....						371	21	7	12.4	736		
December.....						319	12	7	10.3	633		
Calendar year 1934.....						20,717	395	7	56.8	41,120		
January.....						290	11	6	9.4	575		
February.....						246	10	7	8.8	483		
March.....						292	13	7	9.4	579		
April.....						529	35	8	17.6	1,750		
May.....						5,278	391	30	170	10,470		
June.....						11,000	665	191	367	21,820		
July.....						6,586	330	126	212	13,060		
August.....						2,425	126	50	78.2	4,810		
September.....						1,459	102	28	48.6	2,990		
Water year 1934-35.....						29,432	665	6	80.6	58,370		

## St. Vrain Creek at Lyons, Colo.

Location.- Water-stage recorder, lat. 40°13', long. 105°15', in sec. 17, T. 3 N., R. 70 W., 300 feet below junction of North and South St. Vrain Creeks and three-quarters of a mile east of Lyons.

Drainage area.- 226 square miles.

Records available.- August 1887 to October 1890, June 1895 to October 1903, July 1904 to November 1913, October 1933 to September 1935, in reports of U. S. Geological Survey; August 1887 to October 1890, June 1895 to October 1903, July 1904 to September 1935, in reports of State engineer.

Average discharge.- 31 years (1900-3, 1907-35), 129 second-feet.

Extremes.- Maximum discharge during year, 2,340 second-feet May 27 (gage height, 5.50 feet); minimum daily discharge, 3 second-feet Nov. 1-8, 9.

1887-90, 1895-1903, 1904-35: Maximum discharge, that of May 27, 1935; no flow at times during January 1920, 1922.

Remarks.- Records good. Diversion for irrigation above station. Several reservoirs partly regulate flow.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	3	7	7	9	10	11	36	505	490	177	85
2	16	3	7	6	9	9	10	39	420	460	165	77
3	17	3	6	6	8	9	12	36	387	465	156	70
4	15	3	6	6	9	9	13	35	368	500	126	70
5	14	3	6	9	9	9	12	35	372	440	136	58
6	13	3	6	8	9	8	10	46	435	406	126	67
7	14	4	8	8	9	9	10	70	465	387	121	109
8	15	4	9	9	10	9	10	74	505	425	116	105
9	16	3	9	9	10	6	10	76	535	396	107	92
10	16	6	9	9	9	5	10	85	617	364	98	69
11	16	7	10	11	8	6	9	98	685	430	87	62
12	16	8	8	12	9	8	9	134	819	387	83	64
13	16	7	8	9	9	8	8	162	871	337	77	58
14	16	8	9	9	8	10	8	219	954	337	69	59
15	16	11	10	11	6	12	11	252	1,030	333	77	58
16	18	13	10	11	6	9	15	215	936	277	87	53
17	23	13	10	10	6	7	25	198	654	260	123	52
18	23	11	9	9	7	9	22	690	520	281	118	50
19	25	10	9	7	9	11	25	617	515	285	100	47
20	25	9	10	7	9	11	32	455	638	315	96	46
21	24	11	9	5	11	9	37	392	724	310	90	43
22	23	10	10	6	11	10	42	455	633	285	94	43
23	20	10	8	8	11	10	37	724	628	281	72	39
24	17	12	9	9	9	9	42	654	607	241	79	35
25	14	9	9	10	8	10	34	597	581	226	107	32
26	15	9	8	10	9	10	23	566	545	212	100	42
27	7	6	9	9	11	10	29	602	540	204	94	54
28	5	6	9	10	10	9	31	581	535	201	85	47
29	5	6	8	9	-	11	27	515	485	194	79	56
30	4	8	7	8	-	11	34	556	505	212	74	48
31	4	-	7	8	-	10	-	566	-	201	70	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	484	25	4	15.6	960
November.....	219	13	3	7.3	434
December.....	259	10	6	8.4	514
Calendar year 1934.....	28,274	544	3	77.5	56,040
January.....	267	12	5	8.6	530
February.....	248	11	6	8.9	492
March.....	233	12	5	9.1	561
April.....	608	42	8	20.3	1,210
May.....	9,777	724	33	315	19,390
June.....	13,014	1,030	368	600	35,730
July.....	10,151	500	194	327	20,130
August.....	3,169	177	69	102	6,290
September.....	1,791	109	32	59.7	3,560
Water year 1934-35.....	45,270	1,030	3	124	89,790

## St. Vrain Creek at mouth, near Platteville, Colo.

Location.- Water-stage recorder, lat. 40°16', long. 104°53', in sec. 3, T. 3 N., R. 87 W., 1 mile above mouth and 4 miles northwest of Platteville.

Drainage area.- 1,000 square miles.

Records available.- October 1933 to September 1935, in reports of U. S. Geological Survey; April to December 1915, February 1927 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 2,360 second-feet May 28 (gage height, 5.08 feet); minimum daily discharge, 12 second-feet Apr. 23.

1915, 1927-35: Maximum discharge undetermined; minimum daily discharge, that of Apr. 23, 1935.

Remarks.- Records good below 500 second-feet and fair above except those estimated, Dec. 11-15, Dec. 26 to Jan. 9, Jan. 19 to Feb. 1, which are fair. Diversions for irrigation above station. Flow partly regulated by several small reservoirs.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	32	30	24	30	38	24	35	1,240	143	58	82
2	16	30	32	24	31	40	22	32	980	129	52	72
3	18	32	31	24	30	42	22	31	768	120	58	65
4	17	30	31	25	29	36	20	36	606	137	64	61
5	19	31	32	25	29	33	20	35	520	141	68	57
6	21	31	30	25	30	32	17	31	488	99	58	52
7	20	32	29	25	30	30	17	30	700	75	49	91
8	20	32	30	26	30	28	16	32	931	65	51	272
9	20	33	32	25	34	28	16	34	899	62	47	252
10	21	33	33	25	36	28	20	33	875	61	43	156
11	22	35	32	22	34	28	17	31	1,110	58	42	133
12	24	34	31	25	34	28	16	32	1,450	68	46	111
13	27	32	30	24	36	23	15	42	1,470	190	46	102
14	28	32	30	22	32	26	16	76	1,480	137	44	97
15	31	31	29	23	32	25	16	90	1,760	120	42	96
16	31	29	29	26	33	25	16	62	1,960	97	50	86
17	31	30	28	25	33	26	16	47	1,620	90	65	86
18	28	29	27	25	32	27	17	232	605	96	76	88
19	28	29	27	26	30	28	17	2,020	246	116	72	82
20	29	32	25	25	29	27	16	1,180	133	131	58	71
21	27	33	25	24	26	26	16	625	127	153	56	69
22	26	31	26	24	24	25	14	428	213	216	56	69
23	32	31	25	24	24	25	12	655	216	165	49	69
24	31	32	24	22	26	25	21	1,120	251	147	92	64
25	27	32	24	22	25	25	60	796	206	109	115	68
26	25	30	24	22	26	24	85	620	185	88	104	73
27	28	30	24	24	27	25	71	496	131	76	88	111
28	31	31	24	24	35	25	46	1,210	120	73	96	160
29	31	29	24	25	-	25	36	1,600	127	71	99	143
30	34	28	24	26	-	24	35	1,310	137	62	97	116
31	32	-	24	28	-	25	-	1,310	-	64	106	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				792		34	16	25.5	1,570			
November.....				936		35	29	31.2	1,680			
December.....				866		33	24	27.9	1,720			
Calendar year 1934.....				26,699		700	16	73.1	52,930			
January.....				755		28	22	24.4	1,500			
February.....				847		36	24	30.2	1,680			
March.....				876		42	24	28.3	1,740			
April.....				752		85	12	25.1	1,490			
May.....				14,311		2,020	30	462	28,390			
June.....				21,555		1,960	120	718	42,750			
July.....				3,363		216	58	106	6,670			
August.....				2,047		115	42	66.0	4,060			
September.....				3,053		272	52	102	6,060			
Water year 1934-35.....				50,153		2,020	12	137	99,490			

Left-hand Creek at mouth, at Longmont, Colo.

Location.- Water-stage recorder, lat. 40°9', long. 105°6', in sec. 10, T. 2 N., R. 69 W., three-quarters of a mile above mouth, and 1 mile south of Longmont.

Drainage area.- 74 square miles.

Records available.- October 1933 to September 1935, in reports of U. S. Geological Survey; March 1927 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 228 second-feet May 16 (gage height, 3.10 feet); minimum daily discharge, 1 second-foot on numerous days from Oct. 9 to May 3, 1927-35; Maximum discharge, 252 second-feet May 10, 1928; minimum daily discharge, 1 second-foot at times during 1932, 1934, 1935.

Remarks.- Records fair. Discharge estimated Dec. 1-14, Jan. 1-5, 14-31, Feb. 26-28. Diversions for irrigation above station. Flow regulated by storage for irrigation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4	1	2	2	2	1	1	1	109	10	7	6
2	3	1	2	2	2	1	1	1	96	10	6	6
3	3	1	2	2	2	1	1	1	85	7	6	5
4	3	1	2	2	2	1	1	2	72	10	6	5
5	2	1	2	2	1	1	1	2	65	7	6	4
6	2	1	2	2	1	1	1	2	51	7	5	4
7	2	1	2	2	1	1	1	2	52	7	5	14
8	2	1	2	2	1	1	1	3	48	8	4	32
9	1	1	2	2	1	1	1	3	40	8	3	16
10	1	1	2	1	2	1	1	2	24	10	3	13
11	1	1	2	1	1	1	1	2	38	11	3	10
12	1	1	1	2	1	1	1	3	42	8	3	9
13	1	1	1	2	1	1	1	3	32	7	3	8
14	1	1	1	2	1	1	1	4	29	8	3	8
15	1	1	1	2	2	1	1	3	39	10	3	7
16	1	1	1	2	2	1	1	2	35	9	3	7
17	1	1	1	2	2	1	2	2	13	11	3	6
18	1	1	2	2	1	1	1	100	8	16	4	6
19	1	1	2	2	1	1	1	190	8	18	3	5
20	1	1	2	2	1	1	1	150	8	21	2	5
21	1	1	1	2	1	1	1	126	8	29	3	6
22	1	1	1	2	1	1	1	123	10	29	3	5
23	1	1	2	2	1	1	1	223	11	20	3	4
24	1	2	2	2	1	1	2	209	14	17	4	3
25	1	2	2	2	2	1	2	185	20	14	4	6
26	1	2	2	2	2	1	2	163	17	13	4	8
27	1	2	2	1	2	1	2	149	16	11	6	16
28	1	2	2	1	2	1	2	139	17	15	6	14
29	1	2	2	1	-	1	2	123	16	11	4	9
30	1	2	2	1	-	1	2	121	16	9	3	7
31	1	-	2	1	-	1	-	118	-	8	4	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				44	4	1	1.4	87				
November.....				37	2	1	1.2	73				
December.....				54	2	1	1.7	107				
Calendar year 1934.....				1,953	103	1	5.4	3,870				
January.....				55	2	1	1.8	109				
February.....				41	2	1	1.5	81				
March.....				31	1	1	1.0	61				
April.....				38	2	1	1.3	75				
May.....				2,147	223	1	69.3	4,260				
June.....				1,036	109	8	34.5	2,050				
July.....				379	29	7	12.2	752				
August.....				125	7	2	4.0	248				
September.....				256	32	3	8.5	508				
Water year 1934-35.....				4,243	223	1	11.6	8,410				

## Boulder Creek near Orodell, Colo.

**Location.**— Water-stage recorder, lat. 40°, long. 105°20', in sec. 34, T. 1 N., R. 71 W., 1 mile above Old Orodell and 1 mile above mouth of Fourmile Creek.

**Drainage area.**— 105 square miles.

**Records available.**— August 1887 to October 1888, March 1907 to December 1913, October 1933 to September 1935, in reports of U. S. Geological Survey; August 1887 to October 1888, March 1907 to November 1914, February 1916 to September 1935, in reports of State engineer. Prior to 1917 station maintained just above mouth of Four-mile Creek, 1 mile downstream.

**Average discharge.**— 27 years (1906-14, 1916-35), 95.8 second-feet.

**Extremes.**— Maximum discharge during year, 1,060 second-feet June 15 (gage height, 3.62 feet); minimum daily discharge, 2 second-feet Dec. 6.

1887-88, 1907-14, 1916-35: Maximum discharge, 2,500 second-feet June 6, 1921 (gage height, 4.31 feet); minimum daily discharge, 2 second-feet at times in 1911, 1920, 1934, 1935.

**Remarks.**— Records good above 10 second-feet, fair below. Flow regulated by Barker Meadow Reservoir, capacity 11,500 acre-feet. Low-water flow during nonirrigation season regulated by operation of power plant 1,500 feet above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8	6	8	10	8	6	10	44	108	412	174	68
2	10	7	6	9	9	13	12	47	96	412	158	66
3	9	6	6	13	8	9	8	43	92	419	153	70
4	11	5	4	7	8	6	10	34	112	440	137	71
5	8	4	3	3	8	8	12	34	135	412	135	68
6	9	6	2	8	7	7	15	33	140	395	110	67
7	10	6	5	9	7	5	26	39	137	348	92	67
8	8	6	4	10	5	6	17	50	145	332	106	73
9	9	6	5	4	7	7	13	49	142	419	98	73
10	9	4	9	5	5	6	6	52	168	360	90	68
11	9	6	9	6	6	4	6	60	198	360	90	67
12	9	4	12	4	7	6	10	60	240	360	90	66
13	9	4	12	10	9	6	6	61	291	360	85	66
14	10	4	9	9	8	8	8	70	785	318	77	64
15	9	4	7	4	22	9	15	68	974	275	76	61
16	10	4	10	5	11	7	19	68	996	222	74	56
17	9	4	10	6	4	4	18	90	745	180	79	50
18	9	3	21	4	14	6	20	121	540	230	71	49
19	9	4	10	4	15	6	29	114	461	255	76	49
20	8	3	9	5	6	6	35	114	500	260	79	49
21	8	5	9	3	7	7	6	40	686	275	79	52
22	8	4	6	3	9	6	58	119	716	275	77	45
23	6	6	14	3	8	6	55	174	716	291	76	44
24	6	6	9	3	20	11	47	153	661	260	80	47
25	7	6	12	4	10	17	43	158	624	226	64	39
26	6	7	13	5	9	12	27	145	524	202	82	35
27	6	6	10	6	8	10	28	150	447	214	76	32
28	6	9	6	5	10	12	15	164	468	163	73	28
29	6	7	11	7	-	7	19	153	440	164	71	15
30	7	8	13	9	-	6	47	153	398	168	70	28
31	6	-	8	9	-	12	-	125	-	160	70	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						254	11	6	8.2	504		
November.....						160	9	3	5.3	317		
December.....						272	21	2	8.8	540		
Calendar year 1934.....						19,855	390	2	54.4	39,310		
January.....						192	13	3	6.2	381		
February.....						255	22	4	9.1	505		
March.....						240	17	4	7.7	476		
April.....						674	58	6	22.5	1,340		
May.....						2,849	174	33	91.9	5,650		
June.....						12,687	996	92	423	25,160		
July.....						9,242	440	164	298	18,330		
August.....						2,888	174	70	93.2	5,730		
September.....						1,630	73	15	54.3	3,230		
Water year 1934-35.....						31,343	996	2	85.9	62,170		

Boulder Creek at mouth, near Longmont, Colo.

Location.- Water-stage recorder, lat. 40°8', long. 105°1', in NE¼ sec. 17, T. 2 N., R. 68 W., 1½ miles above mouth and 5 miles southeast of Longmont.

Drainage area.- 512 square miles.

Records available.- October 1933 to September 1935, in reports of U. S. Geological Survey; March 1927 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 860 second-feet May 28 (gage height, 4.62 feet); no flow Dec. 9-12, Mar. 24-26, 28, 29, Apr. 1, 3-8, 11-19, 21, 22, May 6, 1927-35: Maximum discharge, that of May 28, 1935; no flow at times during 1935.

Remarks.- Records good above 10 second-feet, fair below. Diversions and regulations, by storage for irrigation, above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1	1	2	2	4	4	0	3	213	3	2	3
2	1	2	2	2	4	5	1	1	184	3	2	3
3	1	2	2	2	3	6	0	1	179	4	2	3
4	2	2	1	2	3	4	0	1	152	6	2	3
5	1	2	1	2	3	4	0	1	166	8	1	3
6	1	2	1	2	3	3	0	0	181	3	2	2
7	1	2	1	1	3	3	0	1	284	3	2	3
8	1	2	1	1	3	3	0	1	352	3	2	40
9	1	2	0	1	5	2	1	2	327	3	2	19
10	2	2	0	2	4	3	1	1	346	4	2	12
11	2	2	0	2	3	2	0	1	366	6	3	10
12	2	2	0	2	3	3	0	1	420	6	2	8
13	1	2	2	1	3	2	0	5	344	6	3	6
14	1	2	3	1	3	3	0	14	449	4	3	6
15	1	2	3	1	2	4	0	9	531	4	2	5
16	1	2	2	1	3	5	0	3	534	4	2	6
17	1	3	1	2	2	6	0	2	402	5	2	6
18	1	3	1	2	2	7	0	159	159	4	2	7
19	1	3	1	2	2	4	0	511	72	5	2	6
20	1	3	1	4	2	1	1	237	28	6	2	6
21	1	4	1	4	1	1	0	127	49	7	2	4
22	1	3	1	5	1	1	0	69	93	10	1	4
23	1	3	1	6	1	1	5	255	102	5	2	4
24	1	4	1	7	2	0	9	296	82	4	3	4
25	1	3	1	8	2	0	32	192	52	3	3	4
26	1	3	2	6	3	0	6	147	20	4	2	5
27	1	3	4	4	3	1	2	135	5	3	2	10
28	1	3	4	4	4	0	1	492	2	3	2	28
29	1	3	2	4	-	0	3	372	2	2	3	20
30	1	3	2	4	-	1	6	346	6	2	2	14
31	1	-	2	4	-	1	-	296	-	2	3	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						35	2	1	1.1	69		
November.....						75	4	1	2.5	149		
December.....						46	4	0	1.5	91		
Calendar year 1934 .....						7,359	316	0	20.2	14,600		
January.....						91	8	1	2.9	180		
February.....						77	5	1	2.8	153		
March.....						80	7	0	2.6	159		
April.....						68	32	0	2.3	135		
May.....						3,681	511	0	119	7,500		
June.....						6,102	534	2	203	12,100		
July.....						135	10	2	4.4	268		
August.....						67	3	1	2.2	133		
September.....						254	40	2	8.5	504		
Water year 1934-35 .....						10,711	534	0	29.3	21,240		



## Middle Boulder Creek at Nederland, Colo.

Location.- Water-stage recorder, lat. 39°57'45", long. 105°30'20", in sec. 13, T. 1 S., R. 73 W., below mouth of North Beaver Creek, at Nederland.

Drainage area.- 38 square miles.

Records available.- October 1934 to September 1935, in reports of U. S. Geological Survey; October 1929 to September 1935, in reports of State engineer; January 1908 to September 1929, in office of State engineer.

Remarks.- Complete records furnished by Public Service Co. of Colorado.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	6	5	4	5	4	6	26	170	265	128	30
2	12	6	5	4	4	4	6	25	151	240	118	24
3	12	3	5	4	5	4	6	22	141	263	100	22
4	11	6	5	4	5	4	6	22	142	268	89	19
5	10	9	5	4	5	4	6	24	163	234	78	18
6	10	10	5	5	5	5	6	27	193	206	72	16
7	9	9	5	5	5	4	6	27	195	220	70	21
8	9	9	5	5	5	4	5	28	244	226	65	30
9	9	9	5	5	5	4	5	29	240	204	62	29
10	9	9	5	5	5	4	4	36	315	199	57	22
11	10	9	5	5	5	4	6	39	419	201	53	19
12	15	8	5	5	5	5	6	49	440	224	48	19
13	20	8	5	5	5	5	8	52	460	189	43	35
14	13	8	5	5	5	5	10	49	528	179	38	34
15	11	8	6	5	5	6	10	48	417	156	37	32
16	10	8	5	5	4	5	16	53	406	147	38	30
17	10	7	5	5	4	5	12	62	304	158	51	28
18	10	7	5	5	4	4	74	253	189	43	22	
19	10	7	5	5	4	5	19	57	276	181	38	16
20	8	7	5	5	5	5	23	49	363	170	34	13
21	8	7	5	5	4	5	27	51	403	172	32	13
22	8	7	6	5	4	4	30	63	380	166	29	13
23	8	10	6	5	4	4	29	86	360	166	29	12
24	6	8	6	5	4	4	28	98	344	138	28	12
25	6	7	6	5	4	4	20	111	300	121	34	12
26	7	9	6	5	4	6	22	138	263	115	31	15
27	7	9	5	5	4	5	24	147	288	118	28	17
28	7	9	5	5	5	5	24	150	280	115	27	16
29	6	8	5	5	-	5	26	145	268	117	26	18
30	6	7	5	5	-	6	28	161	268	145	25	14
31	6	-	5	5	-	6	-	177	-	138	24	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							295	20	6	9.5	585	
November.....							234	10	3	7.8	464	
December.....							161	6	5	5.2	319	
Calendar year .....												
January.....							160	5	4	4.8	298	
February.....							128	5	4	4.6	254	
March.....							144	6	4	4.6	286	
April.....							436	30	4	14.5	865	
May.....							2,125	177	22	68.5	4,210	
June.....							8,974	528	141	299	17,600	
July.....							5,630	268	115	182	11,170	
August.....							1,575	128	24	50.8	3,120	
September.....							621	35	12	20.7	1,230	
Water year 1934-35 .....							20,473	528	3	56.1	40,600	

South Boulder Creek near Eldorado Springs, Colo.

Location.- Water-stage recorder, lat.  $39^{\circ}56'$ , long.  $105^{\circ}18'$ , in sec. 26, T. 1 S., R. 71 W.,  $1\frac{1}{4}$  miles west of Eldorado Springs.

Drainage area.- 114 square miles.

Records available.- April 1888 to October 1892, May 1895 to September 1901, April 1909 to November 1913, October 1933 to September 1935, in reports of U. S. Geological Survey; May 1895 to September 1901, July 1904 to September 1935, in reports of State engineer. Prior to September 1929 station was at Eldorado Springs, but records were corrected for diversions before publishing, thus making records at both stations comparable.

Average discharge.- 35 years (1896-99, 1900-1, 1904-35), 76.9 second-feet.

Extremes.- Maximum discharge during year, 477 second-feet June 11 (gage height, 3.75 feet); minimum daily discharge not determined. 1896-92, 1895-1901, 1904-35: Maximum discharge, 1,090 second-feet June 3, 1895 (gage height, 3.95 feet, former site and datum); minimum not determined.

Remarks.- Records good above 10 second-feet and fair below. Discharge estimated Nov. 27 to Jan. 31, Feb. 23-26, on the basis of two discharge measurements and temperature records, and Apr. 13, 19, 20, 25, 26. Small diversions above station for irrigation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8	7			10	7	8	62	324	233	90	24
2	8	7			9	7	8	59	319	219	81	23
3	8	6			8	8	11	50	306	214	73	21
4	8	6		* 2	8	6	15	48	287	204	72	19
5	8	8			8	7	12	50	285	200	66	18
6	8	9			9	7	13	63	298	197	63	18
7	7	12			8	8	9	69	306	192	62	19
8	7	10			7	7	11	72	303	188	59	28
9	7	9			7	6	10	76	300	183	53	30
10	7	9			5	8	7	81	333	183	49	28
11	7	9			9	8	9	86	447	188	47	23
12	6	8	* 5		5	7	13	101	432	188	46	18
13	5	8			5	8	13	117	432	160	42	18
14	4	7			5	8	14	124	417	146	38	16
15	4	7			5	8	16	134	408	130	36	16
16	5	8			5	7	20	130	402	112	41	15
17	7	9			6	8	24	140	372	114	61	16
18	7	8			6	8	19	295	311	126	52	15
19	8	8			6	7	25	306	333	121	39	14
20	8	9			6	8	31	248	361	117	32	14
21	8	8			7	5	37	231	390	128	37	14
22	7	8			8	8	39	280	378	115	41	13
23	6	10			7	6	46	411	375	117	47	13
24	6	10			6	8	49	402	344	99	52	13
25	6	9			5	7	47	393	327	89	54	13
26	6	9			6	8	46	373	300	81	46	15
27	6	9			6	9	44	361	287	76	36	20
28	6	9			6	6	50	347	274	75	29	22
29	6	9			-	6	47	338	259	84	27	20
30	6	9			-	11	62	336	243	115	26	19
31	6	-			-	8	-	327	-	105	25	-

  

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	206	8	4	6.6	409
November.....	254	12	6	8.5	504
December.....	155	-	-	5	307
Calendar year 1934.....	15,089	264	-	41.3	29,960
January.....	155	-	-	5	307
February.....	184	10	5	6.6	365
March.....	230	11	5	7.4	456
April.....	755	62	7	25.2	1,500
May.....	6,115	411	48	197	12,130
June.....	10,153	447	243	338	20,140
July.....	4,497	233	75	145	8,920
August.....	1,521	90	25	49.1	3,020
September.....	555	30	13	18.5	1,100
Water year 1934-35.....	24,780	447	-	67.9	49,160

\* Discharge measurement.

## Thompson River near Estes Park, Colo.

Location.- Water-stage recorder, lat. 40°23', long. 105°30', in sec. 29, T. 5 N., R. 72 W., 1½ miles east of Estes Park.

Drainage area.- 158 square miles.

Records available.- October 1933 to September 1935, in reports of U. S. Geological Survey; June 1930 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 1,590 second-feet June 16 (gage height, 5.54 feet); minimum not determined.

1930-35: Maximum discharge, that of June 16, 1935; minimum daily discharge, 5 second-feet Mar. 8, 1934.

Remarks.- Records good except those for Nov. 15-17, Nov. 28 to Mar. 27, which were estimated on the basis of five discharge measurements and temperature records. Small diversions for irrigation above station. Flow partly regulated by several natural lakes.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	16					8	34	416	588	317	85
2	36	18					10	37	357	608	278	79
3	32	18					12	38	319	613	262	73
4	31	19					13	38	315	672	229	70
5	28	18					11	36	341	593	207	64
6	27	18					10	37	437	527	195	63
7	26	18					9	38	475	464	184	83
8	24	19					10	40	538	522	181	96
9	24	20					11	42	534	491	172	96
10	23	19				15	14	48	704	478	165	83
11	22	17					12	68	754	622	144	75
12	22	17	* 16				11	176	594	603	134	70
13	22	15					11	228	988	550	132	68
14	22	18					12	256	1,090	495	127	64
15	20	17			* 11		12	201	1,200	418	127	52
16	20	16		* 14			16	123	1,150	382	132	49
17	20	15					16	96	767	390	175	47
18	20	16					22	169	606	422	146	44
19	22	16					26	159	509	550	129	44
20	21	18					29	128	532	495	122	* 42
21	19	18					22	34	123	593	117	44
22	20	18					22	34	165	550	115	41
23	18	18					21	37	234	627	469	115
24	14	18					19	38	266	574	406	120
25	17	18					17	30	323	555	366	141
26	17	17					15	42	388	536	339	136
27	18	17					12	42	449	541	320	120
28	17	17					11	43	445	541	302	115
29	17	17					10	37	408	545	320	92
30	16	17					8	34	453	574	368	83
31	15	-					8	-	475	-	374	85
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						686	36	14	22.1	1,360		
November.....						522	20	15	17.4	1,040		
December.....						496	-	-	16	984		
Calendar year 1934.....						27,175	430	5	74.5	53,840		
January.....						465	-	-	15	722		
February.....						336	-	-	12	366		
March.....						465	-	-	15.0	722		
April.....						648	43	8	21.6	720		
May.....						5,720	475	34	185	11,550		
June.....						18,564	1,200	315	619	36,820		
July.....						14,808	672	302	478	29,370		
August.....						4,777	317	83	154	9,480		
September.....						1,887	96	38	62.9	3,740		
Water year 1934-35.....						49,374	1,200	-	135	97,940		

\* Discharge measurement.

Thompson River below power house near Drake, Colo.

Location.— Water-stage recorder, lat. 40°25', long. 105°17', in NW¼ sec. 7, T. 5 N., R. 70 W., a quarter of a mile below hydroelectric plant of city of Loveland and 4½ miles east of Drake. Cedar Creek enters an eighth of a mile downstream.

Drainage area.— 277 square miles.

Records available.— October 1928 to September 1935. Comparable record at site 3 miles upstream, September 1917 to December 1926.

Average discharge.— 16 years (1917-26, 1928-35), 188 second-feet.

Extremes.— Maximum discharge during year, 1,950 second-feet June 14 (gage height, 5.00 feet); minimum daily discharge, 13 second-feet Nov. 28-30, Dec. 3-5, Feb. 15, 1929-35: Maximum discharge, that of June 14, 1935; minimum daily discharge, 6 second-feet Dec. 23, 1930. Maximum discharge known, 8,000 second-feet (estimated) July 31, 1919.

Remarks.— Records good except those estimated, Oct. 4, Dec. 13, 14, Jan. 17, Feb. 24, Apr. 16, May 5-7, Sept. 6, 7, 28, 27. Small storage reservoir above power plant, capacity about 50 acre-feet. Gage-height record furnished by city of Loveland.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44	22	16	16	24	28	23	60	515	663	382	118
2	43	22	17	18	17	22	20	64	438	718	342	114
3	42	22	13	18	24	30	27	62	404	718	299	110
4	35	17	13	15	21	23	28	57	404	802	271	107
5	35	28	13	16	17	22	30	62	458	681	285	103
6	32	26	14	20	24	22	20	65	552	606	238	110
7	27	24	17	20	18	18	24	70	579	606	226	114
8	29	26	17	20	29	22	20	74	697	645	228	118
9	29	26	17	18	24	24	22	75	796	618	210	124
10	29	27	16	26	22	20	24	81	905	590	192	116
11	29	24	24	20	17	18	19	92	958	712	179	99
12	27	26	20	33	22	23	20	105	1,130	754	174	91
13	24	25	22	17	18	34	21	130	1,260	693	161	79
14	26	24	25	23	14	34	26	150	1,490	568	145	83
15	29	22	26	22	13	34	23	162	1,540	520	137	76
16	29	22	20	17	20	23	29	156	1,540	451	145	76
17	29	25	21	17	18	21	35	168	1,100	451	201	71
18	30	22	16	17	18	20	26	362	866	500	212	69
19	30	23	16	17	22	24	29	356	849	601	168	66
20	29	22	17	20	28	24	35	276	1,000	596	150	64
21	28	24	23	22	28	23	42	242	1,090	618	142	60
22	28	13	16	19	20	22	42	268	1,040	568	134	60
23	27	22	22	21	22	27	42	414	1,070	540	131	59
24	26	23	20	18	20	29	51	455	965	459	137	58
25	22	18	15	18	16	22	39	481	920	414	169	57
26	24	13	20	20	25	21	32	535	731	396	174	69
27	24	13	13	27	20	26	68	596	764	365	159	83
28	23	13	25	28	22	23	54	546	724	349	147	91
29	25	13	16	26	-	20	57	472	699	339	134	96
30	23	13	20	24	-	22	56	510	675	459	121	91
31	22	-	18	19	-	21	-	562	-	446	117	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				902	44	22	29.1	1,790				
November.....				640	26	13	21.3	1,270				
December.....				571	26	13	18.4	1,130				
Calendar year 1934.....				33,000	494	12	90.4	65,450				
January.....				634	33	15	20.5	1,280				
February.....				583	29	13	20.8	1,160				
March.....				742	34	18	23.9	1,470				
April.....				984	68	19	32.3	1,950				
May.....				7,709	596	57	249	15,290				
June.....				26,099	1,540	404	870	51,770				
July.....				17,416	802	339	562	34,640				
August.....				5,870	332	117	189	11,640				
September.....				2,632	124	57	87.7	5,220				
Water year 1934-35.....				64,782	1,540	13	177	128,500				

Thompson River at mouth, near La Salle, Colo.

Location.- Water-stage recorder, lat. 40°21', long. 104°46', in SW¼ sec. 34, T. 5 N., R. 66 W. (revised), 1 mile above mouth and 4 miles west of La Salle.

Drainage area.- 818 square miles.

Records available.- October 1933 to September 1935, in reports of U. S. Geological Survey; April to November 1914, March 1927 to September 1935, in reports of State engineer.

Extremes.- Maximum discharge during year, 748 second-feet June 12 (gage height, 3.85 feet); no flow Oct. 1-15, Dec. 11-14, Apr. 16, 22, 23.  
1914, 1927-35: Maximum discharge, 1,300 second-feet July 29, 1932 (gage height, 5.22 feet); no flow at times during 1934 and 1935.

Remarks.- Records fair. Diversions for irrigation above station. Flow regulated by several reservoirs above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	1	1	24	16	19	1	1	70	122	16	3
2	0	1	1	26	16	20	1	1	58	109	8	3
3	0	1	1	25	16	19	1	1	47	163	5	3
4	0	2	2	24	14	18	1	1	28	185	5	3
5	0	6	3	22	14	18	1	1	24	152	7	3
6	0	6	2	23	16	14	1	1	22	40	8	3
7	0	6	1	24	14	12	1	1	19	20	6	3
8	0	5	1	24	14	16	1	2	17	24	5	9
9	0	6	1	24	17	19	1	1	14	46	5	7
10	0	7	1	23	17	19	1	1	11	22	4	5
11	0	8	0	21	17	20	1	2	32	12	3	5
12	0	8	0	20	17	22	1	1	323	49	4	5
13	0	5	0	19	18	24	1	1	115	24	4	5
14	0	1	0	17	16	24	1	1	35	8	3	5
15	0	1	8	19	16	22	1	2	20	3	3	6
16	4	1	27	18	14	20	0	1	16	2	3	6
17	7	1	28	18	14	17	1	1	21	1	3	6
18	8	1	27	19	15	17	1	2	12	5	5	7
19	7	1	27	16	16	14	1	70	7	10	5	8
20	7	1	22	17	17	12	1	328	6	22	3	6
21	9	1	22	27	14	6	1	260	5	14	3	7
22	6	1	24	27	14	2	0	220	6	22	2	6
23	7	1	26	27	15	1	0	240	29	6	2	6
24	9	1	24	27	14	1	3	282	28	6	3	6
25	8	1	24	41	15	1	12	328	11	7	3	7
26	8	1	26	27	16	1	5	260	7	6	2	7
27	9	1	27	24	19	1	2	200	6	13	2	14
28	7	1	24	24	18	1	2	145	68	24	2	42
29	1	1	23	22	-	1	1	128	69	20	2	31
30	1	-	23	20	-	1	1	112	120	26	2	20
31	1	-	23	19	-	1	-	96	-	39	3	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				99	9	0	3.2	196				
November.....				79	8	1	2.6	157				
December.....				419	28	0	13.5	831				
Calendar year 1934.....				4,264	49	0	11.7	8,460				
January.....				708	41	16	22.8	1,400				
February.....				439	19	14	15.7	871				
March.....				383	24	1	12.4	760				
April.....				46	12	0	1.5	91				
May.....				2,691	323	1	86.3	5,340				
June.....				1,246	323	5	41.5	2,470				
July.....				1,202	185	1	38.8	2,380				
August.....				131	16	2	4.2	260				
September.....				247	42	3	8.2	490				
Water year 1934-35.....				7,690	328	0	21.1	15,250				

Cache la Poudre River at mouth of canyon near Fort Collins, Colo.

Location.— Water-stage recorder, lat. 40°40', long. 105°13', in sec. 15, T. 8 N., R. 70 W., at mouth of canyon, 11 miles west of Fort Collins.

Drainage area.— 1,048 square miles.

Records available.— March 1884 to October 1901, February 1910 to November 1913, October 1933 to September 1935, in reports of U. S. Geological Survey; March 1884 to September 1935, in reports of State engineer.

Average discharge.— 51 years, 421 second-feet.

Extremes.— Maximum discharge during year, 4,110 second-feet July 22 (gage height, 5.52 feet); minimum daily discharge, 5 second-feet Jan. 19-21.

1884-1935: Maximum discharge not determined, occurred May 20, 1904; minimum daily discharge, that of Jan. 19-21, 1935.

Remarks.— Records good except those estimated, Jan. 19-21. Storage and diversions for irrigation above station. Transmountain inflow from Colorado, Laramie, and Michigan Rivers above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	36	8	25	32	25	25	181	1,560	1,530	916	296
2	60	42	8	23	34	20	18	184	1,200	1,380	734	292
3	60	42	7	27	29	27	20	188	990	1,420	654	288
4	56	37	6	18	33	27	22	165	970	1,470	634	360
5	58	45	8	39	54	16	23	146	1,010	1,310	582	412
6	51	47	15	32	34	8	23	159	1,200	1,120	536	412
7	49	49	15	27	30	19	23	191	1,260	1,120	492	530
8	47	49	19	27	29	22	18	195	1,390	1,340	510	530
9	45	51	23	32	27	18	25	213	1,700	1,270	360	412
10	44	53	29	27	22	20	25	191	1,880	1,160	300	309
11	44	51	34	25	18	13	9	228	2,300	1,470	336	216
12	39	47	34	25	22	16	12	276	2,620	1,390	356	162
13	45	45	34	23	40	27	23	296	2,610	1,160	318	188
14	64	44	34	18	36	26	25	390	3,240	1,000	300	191
15	62	42	33	12	19	27	26	355	3,900	980	280	162
16	53	42	33	11	11	23	27	318	3,870	617	318	138
17	51	45	29	8	20	15	51	284	2,650	766	400	130
18	51	44	22	6	25	18	62	742	2,300	1,040	422	122
19	53	45	30	5	22	20	66	1,180	2,280	961	370	96
20	53	45	25	5	15	20	76	881	2,600	934	355	87
21	49	42	29	5	26	20	91	916	2,640	1,000	412	67
22	45	40	25	6	15	15	96	961	2,510	1,290	406	89
23	44	50	22	11	13	22	98	1,290	2,530	1,050	400	93
24	45	26	26	22	15	20	105	1,120	2,300	862	417	67
25	45	16	23	26	11	23	110	1,000	2,190	734	380	93
26	44	8	26	27	10	18	98	1,000	1,600	620	355	105
27	45	7	27	29	23	23	105	1,050	1,720	568	336	127
28	44	6	32	29	26	23	98	1,040	1,690	661	332	141
29	40	7	27	30	-	13	102	1,300	1,880	728	332	135
30	42	8	20	29	-	16	141	1,280	1,620	1,400	518	141
31	40	-	26	25	-	27	-	1,630	-	1,160	264	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,526	64	39	49.2	3,030		
November.....						1,080	53	6	36.3	2,160		
December.....						729	34	6	25.6	1,450		
Calendar year 1934 .....						67,543	1,470	5	185	134,300		
January.....						654	39	5	21.1	1,300		
February.....						691	54	10	24.7	1,370		
March.....						627	27	8	20.2	1,240		
April.....						1,643	141	9	64.8	3,260		
May.....						19,329	1,630	146	624	38,340		
June.....						61,910	3,900	970	2,064	122,800		
July.....						33,699	1,530	568	1,067	66,840		
August.....						13,105	916	264	423	25,990		
September.....						6,431	530	87	214	12,760		
Water year 1934-35 .....						141,434	3,900	5	387	280,500		

Cache la Poudre River near Greeley, Colo.

**Location.**— Water-stage recorder, lat. 40°25', long. 104°38', in sec. 2, T. 5 N., R. 65 W., 2 miles east of Greeley, 2½ miles above mouth. Prior to 1924 station located 1 mile downstream. Records comparable.

**Drainage area.**— 1,840 square miles.

**Records available.**— March to October 1903, October 1933 to September 1935, in reports of U. S. Geological Survey; March 1903 to November 1904, February 1914 to December 1919, May 1924 to September 1935 in reports of State engineer.

**Average discharge.**— 16 years (1914-19, 1924-35), 113 second-feet.

**Extremes.**— Maximum discharge during year, 2,480 second-feet June 17 (gage height, 6.49 feet); minimum daily discharge, 5 second-feet Nov. 27-30, Dec. 2-5, Apr. 18-23, May 2-11.

1903-4, 1914-19, 1924-35: Maximum discharge, 4,240 second-feet June 24, 26, 1917 (gage height, 7.3 feet, former site and datum); minimum, 3 second-feet several days in 1931-32.

**Remarks.**— Records good except those for May 15 to July 15, which are fair. Diversions for irrigation above station. Flow is return water from irrigated lands above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7	7	6	33	40	40	11	6	280	14	41	73
2	8	7	5	38	41	44	11	5	320	13	70	51
3	8	8	5	39	39	46	12	5	122	15	60	15
4	7	6	5	36	36	46	11	5	94	12	55	16
5	7	6	5	38	39	47	11	5	80	11	42	14
6	7	7	14	38	40	49	11	5	70	11	13	13.
7	7	7	46	38	40	49	11	5	65	14	14	16
8	7	6	47	39	38	46	10	5	63	13	14	52
9	11	8	44	40	41	46	11	5	196	14	12	34
10	8	8	44	39	40	47	10	5	445	18	13	30
11	8	8	45	39	40	49	9	5	912	15	14	30
12	7	7	45	41	41	50	8	6	1,370	13	14	26
13	8	8	42	40	42	54	8	7	1,180	15	14	21
14	8	8	41	39	39	54	8	7	882	16	12	18
15	8	8	42	39	36	51	7	6	1,690	14	11	26
16	7	7	42	41	35	34	6	6	2,190	14	11	22
17	7	7	42	34	36	38	6	6	2,320	14	12	20
18	6	6	45	33	36	52	5	27	732	14	11	15
19	6	6	44	34	38	42	5	128	180	15	11	15
20	6	6	42	29	39	28	5	182	106	22	10	15
21	7	6	39	32	39	16	5	144	90	14	11	18
22	7	6	42	35	38	14	5	93	66	14	10	22
23	7	6	39	36	38	14	5	94	27	15	10	21
24	8	8	38	35	39	13	6	108	16	19	10	17
25	7	6	39	35	32	12	6	86	16	21	11	17
26	6	6	40	39	34	12	6	73	25	14	10	19
27	6	6	35	39	34	12	6	63	21	14	11	62
28	6	5	36	40	38	12	6	69	15	13	10	99
29	6	5	39	41	-	11	6	82	15	14	10	93
30	6	5	36	42	-	12	6	86	17	18	19	86
31	7	-	34	40	-	11	-	858	-	20	60	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	221	11	6	7.1	438
November.....	199	8	5	6.6	395
December.....	1,068	47	5	34.5	2,120
Calendar year 1934.....	11,090	100	5	30.4	22,000
January.....	1,160	42	29	37.4	2,300
February.....	1,068	42	32	38.1	2,120
March.....	1,051	54	11	33.9	2,080
April.....	233	12	5	7.8	462
May.....	2,187	858	5	70.5	4,340
June.....	13,607	2,320	15	454	26,990
July.....	461	22	11	14.9	914
August.....	526	70	10	20.2	1,240
September.....	978	99	13	32.6	1,940
Water year 1934-35.....	22,559	2,320	5	62.6	45,340

## Lonetree Creek near Granite Canyon, Wyo.

Location.- Water-stage recorder, lat. 41°5', long. 105°11', in sec. 24, T. 13 N., R. 70 W.,  $1\frac{1}{2}$  miles southwest of Granite Canyon.

Drainage area.- 23 square miles.

Records available.- May 1933 to September 1935.

Extremes.- Maximum discharge during year, 68 second-feet May 30 (gage height, 2.10 feet); minimum mean daily discharge, 0.1 second-foot Oct. 1-10, 24.

1933-35: Maximum stage, 4.86 feet Sept. 8, 1933 (discharge not determined); no flow July 28-31, 1934.

Remarks.- Records good except those estimated, Dec. 19, Jan. 19-30, Feb. 14-17, Feb. 22 to Mar. 2, Mar. 5-12, 28, because of ice effect. Small diversions above station.

Rating table, water year 1934-35 except periods of ice effect  
(Gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Oct. 15 to Nov. 30,  
Mar. 2 to Apr. 29, and Sept. 1-30)

0.5	0	0.9	4.8	1.5	54
.6	.2	1.0	9.1	1.0	51
.7	.4	1.1	13.5	2.1	68
.8	1.6				

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.2	0.2	0.3	0.4	0.8	1.0	7.4	30	4.5	5.2	4.5
2	.1	.2	.2	.4	.4	1.2	1.4	5.2	29	4.8	5.2	4.2
3	.1	.2	.2	.5	.5	1.4	1.0	4.0	28	4.8	4.2	4.2
4	.1	.2	.2	.4	.6	1.0	1.2	3.5	26	4.2	3.8	4.5
5	.1	.2	.2	.4	1.1	.6	1.0	3.5	25	3.5	3.0	3.2
6	.1	.2	.3	.3	.5	.7	1.0	5.2	25	3.5	4.2	2.2
7	.1	.2	.3	.3	.4	.8	.8	6.1	25	3.5	4.2	5.7
8	.1	.2	.3	.3	.4	.9	.8	7.4	22	4.0	3.8	7.8
9	.1	.2	.3	.3	.4	.9	.9	6.2	20	4.5	3.5	6.5
10	.1	.3	.3	.4	.4	.7	.9	7.0	18	4.8	2.9	4.0
11	.2	.3	.3	.4	.8	.6	1.5	6.5	18	4.5	2.9	3.0
12	.2	.3	.3	.4	.8	1.0	1.2	10	19	4.2	2.9	3.2
13	.2	.3	.3	.4	.6	1.5	1.2	13	16	3.5	2.6	2.9
14	.2	.2	.3	.5	.4	1.6	.9	12	16	3.8	1.9	2.6
15	.2	.2	.3	.4	.5	1.6	.4	12	14	3.5	1.9	2.2
16	.2	.3	.3	.4	.5	3.2	.4	10	14	3.2	2.2	2.2
17	.2	.2	.3	.6	.6	2.6	.4	13	14	3.5	4.2	1.6
18	.2	.3	.4	.4	.6	.9	.9	42	14	4.8	4.5	1.6
19	.2	.3	.4	.4	.4	.5	1.9	33	12	9.1	3.6	1.6
20	.2	.2	.4	.3	.4	.8	2.9	26	11	5.2	3.5	1.5
21	.2	.3	.3	.2	.4	1.1	1.5	25	9.1	6.1	3.2	1.5
22	.2	.3	.3	.3	.4	.4	1.2	25	6.7	5.7	2.9	1.5
23	.2	.3	.3	.3	.4	.4	.9	29	7.8	7.4	2.6	1.6
24	.1	.3	.3	.3	.4	.4	2.9	29	8.2	7.4	4.8	1.6
25	.2	.3	.3	.4	.2	.4	.5	29	8.7	7.4	3.8	1.9
26	.2	.3	.3	.4	.2	.5	1.4	25	6.5	6.5	3.5	1.9
27	.2	.3	.3	.4	.3	.5	3.0	25	5.2	5.7	2.9	2.9
28	.2	.3	.3	.4	.5	.5	7.0	27	5.7	5.2	2.2	3.5
29	.2	.3	.3	.4	-	.6	11	30	5.7	5.7	3.5	3.5
30	.2	.2	.3	.4	-	.6	13	27	5.2	5.7	3.5	3.2
31	.2	-	.2	.4	-	1.2	-	36	-	6.1	4.5	-
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	5.1					0.2	0.1	0.16	10			
November.....	7.6					.3	.2	.25	15			
December.....	9.0					.4	.2	.29	18			
Calendar year 1934.....	353.4					7.7	0	.97	700			
January.....	11.8					.6	.2	.38	23			
February.....	13.4					1.1	.2	.48	27			
March.....	29.9					3.2	.4	.96	59			
April.....	64.8					15	.4	2.16	123			
May.....	544.8					42	3.5	17.6	1,030			
June.....	466.0					30	5.2	15.6	928			
July.....	157.1					9.1	3.2	5.07	312			
August.....	106.6					5.2	1.9	3.50	215			
September.....	93.8					7.8	1.5	3.13	186			
Water year 1934-35.....	1,512.7					42	.1	4.14	3,000			



## Middle Fork of Crow Creek near Hecla, Wyo.

Location.- Water-stage recorder, lat. 41°10', long. 105°15', in sec. 20, T. 14 N., R. 70 W., a quarter of a mile above backwater from Crystal Lake Reservoir, 4 miles northwest of Hecla.

Drainage area.- 23 square miles.

Records available.- May 1933 to September 1935. Comparable records April to July 1902, April to November 1903, at a site  $1\frac{1}{2}$  miles downstream.

Extremes.- Maximum discharge during year, 147 second-feet May 31 (gage height, 3.15 feet); no flow Oct. 1-10.  
1902-3, 1933-35: Maximum stage, 4.90 feet Sept. 8, 1933 (discharge not determined); no flow June 27 to Oct. 10, 1934.

Remarks.- Records excellent except those for Nov. 27 to Apr. 9, which were estimated on the basis of two discharge measurements and temperature records. No diversions or regulation.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Oct. 10 to Nov. 10)

C.O	0	0.4	5.5	1.1	27	2.5	65	3.0	125
.1	.6	.5	8.2	2.1	67	2.7	97	3.1	139
.2	1.6	.6	11	2.2	72	2.8	104	3.2	165
.3	3.0	.9	20	2.4	80	2.9	113		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.3		-		-	0.7	11	82	9.0	2.4	0.8
2	0	.4		-		-	.9	7.9	65	8.5	1.7	.8
3	0	.3		-		-	1.1	6.3	56	8.5	1.3	.7
4	0	.4		-		-	1.2	4.6	49	7.9	1.2	.7
5	0	.3		*0.3		-	1.2	5.0	45	6.6	1.1	.7
6	0	.2		-		-	.9	8.8	41	5.5	.9	.6
7	0	.2		-		-	.9	9.9	40	5.2	.8	1.0
8	0	.2		-		-	.9	9.6	33	7.4	.8	2.2
9	0	.3		-		-	.8	9.3	32	5.2	.8	2.2
10	0	.3		-		-	.8	10	28	3.8	.8	1.3
11	.1	.4		-		-	.8	9.9	29	4.0	.5	.9
12	.1	.4		-		-	1.1	13	28	4.0	.5	.7
13	.1	.3		-		-	2.2	21	24	3.2	.5	.6
14	.1	.3		-		-	4.2	17	21	3.0	.5	.5
15	.1	.3		-		-	2.2	17	19	2.9	.6	.6
16	.2	.4		-		-	2.2	16	18	2.3	1.2	.6
17	.2	.3		-		-	1.9	18	19	2.0	2.9	.4
18	.2	.4		-		-	1.5	48	18	2.9	1.7	.4
19	.2	.5		-		-	2.2	45	16	4.2	1.3	.4
20	.2	.4		-		-	6.3	38	15	2.9	1.0	.4
21	.2	.4		-		-	4.0	41	14	3.8	.8	.4
22	.2	.4		-		-	2.7	53	14	3.0	.8	.4
23	.1	.4		-		-	2.2	69	13	2.9	.8	.3
24	.2	.4		-		-	2.2	56	13	2.4	.9	.2
25	.2	.3		-		0.8	1.1	57	12	2.7	.9	.4
26	.2	.4		-		-	.9	50	11	2.0	.8	.5
27	.2	.3		-		-	1.2	45	10	1.6	.6	1.0
28	.2	.3		-		-	2.3	51	11	1.4	.6	1.0
29	.2	.3		-		-	6.0	57	11	1.4	.6	1.2
30	.2	.3		-		-	9.9	53	9.6	1.5	.6	1.0
31	.2	-		-		-	-	103	-	2.3	.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	3.6	0.2	0	0.12	7.1
November.....	10.1	.5	.2	.34	20
December.....	9.3	-	-	.3	15
Calendar year 1934.....	378.9	11	0	1.04	751
January.....	12.4	-	-	.4	25
February.....	11.2	-	-	.4	22
March.....	18.6	-	-	.6	37
April.....	66.5	9.9	.7	2.22	132
May.....	963.7	103	4.6	31.1	1,910
June.....	795.6	82	9.6	26.5	1,560
July.....	124.3	9.0	1.4	4.01	247
August.....	30.4	2.9	.5	.98	60
September.....	22.7	2.2	.2	.76	45
Water year 1934-35.....	2,068.4	103	0	5.67	4,100

\*Discharge measurement.

## South Fork of Crow Creek near Hecla, Wyo.

Location.- Water-stage recorder, lat. 41°8', long. 105°12', in sec. 2, T. 13 N., R. 70 W., just above backwater from South Crow Creek Reservoir, 2.8 miles southwest of Hecla.

Drainage area.- 16 square miles.

Records available.- May 1933 to September 1935.

Extremes.- Maximum discharge during year, 27 second-feet May 31 (gage height, 2.39 feet); no flow Oct. 1 to Dec. 31, Jan. 11-24, Feb. 8-17, 22-28, Mar. 5-11.  
1933-35: Maximum discharge, that of May 31, 1935; no flow at times.

Remarks.- Records good except those estimated, Jan. 1 to Apr. 9, which are fair. No diversions or regulation.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

1.4	0	2.1	13.5
1.6	1.0	2.2	18
1.8	4.0	2.4	28
2.0	9.8	2.6	33

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0.1	0.3	0.1	0.4	4.5	20	2.6	0.8	0.5
2				.1	.3	.2	.5	4.3	18	3.6	.7	.6
3				.1	.3	.2	.5	3.1	17	3.1	.6	.6
4				.1	.3	.1	.4	2.1	16	2.6	.5	.6
5				* .1	.2	0	.3	2.1	14	2.0	.5	.6
6				.1	.1	0	.3	2.4	14	1.7	.7	.4
7				.1	.1	0	.4	2.6	14	2.0	.8	1.2
8				.1	0	0	.5	3.1	12	2.4	.6	2.6
9				.1	0	0	.4	3.6	11	2.0	.5	1.8
10				.1	0	0	.3	2.0	11	1.8	.4	1.1
11				0	0	0	.4	2.2	11	2.6	.4	.7
12				0	0	.1	.5	4.5	10	1.8	.4	.6
13				0	0	.2	.6	6.1	9.2	1.5	.3	.6
14				0	0	.3	.5	5.8	8.5	1.4	.2	.7
15				0	0	.5	.5	6.6	7.9	1.2	.2	.8
16				0	0	.3	.5	6.1	6.9	1.1	.3	.8
17				0	0	.2	.5	6.2	6.9	1.5	1.4	.8
18				0	.1	.2	.8	21	6.3	2.0	1.2	.8
19				0	.1	.2	.9	19	6.1	2.9	.7	.9
20				0	.1	.2	1.0	16	5.3	1.9	.6	.8
21				0	.1	.2	.6	17	5.3	2.0	.6	.7
22				0	0	.2	.5	21	4.8	2.6	.6	.6
23				0	0	.2	.5	23	4.3	2.0	.5	.5
24				0	0	.3	.1	21	4.0	1.4	.8	.5
25				.1	0	.4	.2	20	4.0	1.1	.7	.5
26				.2	0	.3	.9	17	3.6	.8	.5	.5
27				.2	0	.2	4.5	17	3.8	.7	.4	.6
28				.2	0	.2	4.5	19	4.0	.6	.4	1.0
29				.3	-	.3	3.8	20	3.6	.7	.4	1.1
30				.3	-	.3	4.3	18	3.1	.9	.4	.8
31				.3	-	.4	-	24	-	1.1	.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year 1934.....	170.4	4.3	0	.47	338
January.....	2.6	.3	0	.08	5.2
February.....	2.0	.3	0	.07	4.0
March.....	5.7	.5	0	.18	11
April.....	30.1	4.5	.1	1.00	60
May.....	342.3	24	2.0	11.0	679
June.....	284.6	20	3.1	8.82	525
July.....	55.5	3.6	.6	1.78	110
August.....	17.5	1.4	.2	.56	35
September.....	24.4	2.6	.4	.81	48
Water year 1934-35.....	744.7	24	0	2.04	1,480

\* Discharge measurement.

## North Fork of Crow Creek near Hecla, Wyo.

Location.- Water-stage recorder, lat. 41°14', long. 105°12', in sec. 35, T. 15 N., R. 70 W. 800 feet above backwater from North Crow Creek Reservoir, 5½ miles northwest of Hecla.

Drainage area.- 27 square miles.

Records available.- May 1933 to September 1935.

Extremes.- Maximum discharge during year, 54 second-feet May 30 (gage height, 3.20 feet); minimum daily discharge, 0.1 second-foot Oct. 24, 25, Jan. 18-22 (estimated).  
1933-35: Maximum stage, 8.65 feet, Sept. 8, 1933 (discharge not determined); minimum discharge, 0.1 second-foot at times in 1934-35.

Remarks.- Records good except those for Nov. 28 to Apr. 3, which were estimated on the basis of intermittent gage heights. Flow partly regulated by North Crow Creek Reservoir.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used June 1 to July 24)

1.3	0	1.6	3.2	1.9	8.4	2.3	17
1.4	0.4	1.7	4.7	2.0	10.4	2.5	22
1.5	1.7	1.8	6.6	2.1	12.6		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	0.2		0.3	0.7	0.5	0.4	1.2	11	6.9	5.4	4.9
2	.5	.2		.3	.7	.5	.4	1.2	10	6.9	5.6	4.7
3	.4	.2		.3	.7	.5	.4	1.0	9.6	6.7	5.4	4.7
4	.4	.2		.3	.7	.4	.4	1.0	9.0	6.9	5.2	4.6
5	.3	.2		* .3	.7	.3	.4	.9	8.4	7.1	5.1	4.6
6	.3	.2		.3	.7	.4	.4	1.0	8.2	7.1	5.1	4.9
7	.2	.2		.3	.7	.5	.4	1.0	7.6	6.7	5.2	5.4
8	.2	.2		.3	.7	.6	.4	1.2	7.4	4.7	5.2	5.6
9	.2	.2		.3	.7	.5	.4	1.2	7.1	4.2	5.4	5.2
10	.2	.2		.3	.5	.4	.3	1.2	6.9	3.6	5.2	4.9
11	.2	.2		.3	.4	.5	.4	1.2	6.7	4.0	5.1	4.7
12	.2	.2		.3	.4	.6	.4	1.7	6.5	3.8	5.1	4.7
13	.2	.2		.3	.5	.6	.4	2.0	6.0	3.6	5.1	4.9
14	.2	.2		.2	.5	.7	.4	1.7	8.8	3.8	5.1	4.9
15	.2	.2		.2	.5	.7	.4	1.6	9.2	3.6	5.1	4.6
16	.2	.2		.2	.6	.6	.4	1.7	9.6	3.4	6.1	4.7
17	.2	.3		.2	.6	.5	.4	2.3	9.6	4.7	5.6	4.6
18	.2	.3		.1	.6	.6	.5	6.1	9.4	6.4	5.1	4.6
19	.2	.3		.1	.7	.6	.5	7.1	9.4	6.1	4.9	4.6
20	.2	.3		.1	.7	.7	.4	6.3	9.2	5.4	4.9	4.7
21	.2	.3		.1	.6	.7	.4	6.0	9.2	5.2	4.9	4.9
22	.2	.3		.1	.5	.6	.4	7.4	6.9	5.6	5.1	4.7
23	.2	.3		.2	.4	.5	.4	6.4	9.2	7.6	4.9	4.7
24	.1	.3		.3	.3	.5	.3	8.4	9.0	7.8	4.9	4.6
25	.1	.3		.3	.2	.6	.3	8.0	8.8	7.6	4.9	4.9
26	.2	.3		.4	.2	.5	1.2	7.3	8.6	7.6	4.9	4.9
27	.2	.3		.5	.3	.4	1.4	6.9	8.2	7.8	4.7	5.1
28	.2	.3		.5	.4	.5	1.3	6.5	7.6	7.3	4.7	4.9
29	.2	.3		.6	-	.6	1.3	6.5	7.4	6.1	4.7	4.9
30	.2	.3		.7	-	.5	1.4	11	7.1	6.0	4.9	4.9
31	.2	-		.7	-	.5	-	11	-	5.8	4.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	7.2	0.5	0.1	0.23	14
November.....	7.4	.3	.2	.26	15
December.....	9.3	-	-	.3	18
Calendar year 1934.....	475.7	13	.1	1.30	942
January.....	9.4	.7	.1	.30	19
February.....	16.2	.7	.2	.54	30
March.....	16.6	.7	.3	.54	33
April.....	16.5	1.4	.3	.55	33
May.....	130.2	11	.9	4.20	268
June.....	253.7	11	6.0	8.46	503
July.....	182.6	8.4	3.4	5.89	362
August.....	158.4	6.1	4.7	5.11	314
September.....	145.3	5.6	4.6	4.84	298
Water year 1934-35.....	951.6	11	-	2.61	1,890

\* Discharge measurement.

## Lodgepole Creek near Federal, Wyo.

Location.- Water-stage recorder, lat. 41°19', long. 105°13', in sec. 34, T. 16 N., R. 70 W., 7 miles northwest of Federal.

Drainage area.- 25 square miles.

Records available.- May 1933 to September 1935.

Extremes.- Maximum discharge during year, 89 second-feet May 31 (gage height, 2.93-foot); no flow Oct. 1-3.

1933-35: Maximum discharge, that of May 31, 1935; no flow July 1-7, July 15 to Oct. 3, 1934.

Remarks.- Records good except those interpolated Apr. 27 to May 2 and those estimated on basis of intermittent gage heights Nov. 28 to Jan. 4, Jan. 11 to Apr. 9, which are fair.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Oct. 1 to Nov. 27, Jan. 5-10)

0.4	0	0.9	7.0	1.6	30	2.4	61
.5	.3	1.0	10	1.8	37	2.6	70
.6	.9	1.2	16	2.0	46	2.8	81
.7	2.2	1.4	23	2.2	53	3.0	94
.8	4.4						

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.6	0.3	0.3	0.6	0.3	0.9	1.8	38	6.7	4.2	2.6
2	0	.6	.3	.3	.6	.4	.9	3.3	32	7.0	4.0	2.2
3	0	.6	.3	.3	.7	.6	1.1	3.5	27	6.7	4.0	1.7
4	.2	.6	.3	.3	.6	.5	1.2	2.4	17	6.2	3.7	1.8
5	.3	.6	.3	.3	.6	.4	1.3	3.3	23	6.7	3.5	1.4
6	.3	.6	.3	.3	.4	.5	1.1	3.5	27	4.9	3.5	.9
7	.3	.6	.4	.3	.4	.5	1.2	4.0	29	5.4	3.3	1.8
8	.4	.7	.4	.3	.4	.5	1.2	4.2	25	5.4	3.1	6.0
9	.5	.7	.4	.2	.3	.4	1.0	4.9	22	4.4	3.1	3.3
10	.6	.7	.4	.2	.3	.4	.9	5.2	21	4.4	2.4	2.2
11	.7	.7	.4	.2	.3	.5	.7	5.2	20	4.7	1.9	1.6
12	.7	.7	.4	.2	.3	.5	.7	5.5	19	4.4	2.1	1.2
13	.6	.7	.4	.2	.3	.6	1.9	11	18	4.4	2.2	1.0
14	.5	.6	.5	.2	.3	.7	2.9	10	17	3.7	1.9	1.0
15	.5	.6	.5	.1	.3	.7	1.9	9.4	16	3.7	2.6	.9
16	.5	.7	.4	.1	.3	.6	1.8	7.0	15	3.3	1.2	.8
17	.6	.7	.3	.1	.4	.6	1.9	7.9	15	3.1	5.2	.8
18	.5	.8	.3	.1	.4	.7	1.2	19	15	11	3.3	.6
19	.5	.7	.2	.1	.4	.6	2.4	18	14	14	2.6	.7
20	.5	.7	.2	.1	.5	.6	3.1	16	12	9.7	2.2	.7
21	.5	.7	.3	.1	.5	.9	2.6	18	12	8.8	2.4	.7
22	.5	.5	.3	.1	.4	.9	2.1	23	11	9.7	2.6	.7
23	.4	.7	.3	.2	.3	1.9	1.7	27	10	10	3.1	.7
24	.4	.6	.3	.2	.2	1.1	1.4	23	10	9.4	3.3	.8
25	.4	.5	.3	.3	.1	1.0	.5	22	9.4	9.4	3.1	.9
26	.5	.5	.3	.4	.1	.9	.4	21	9.1	6.5	3.1	.9
27	.6	.4	.3	.4	.2	.9	.4	19	8.5	5.4	2.6	1.3
28	.6	.3	.3	.5	.2	.7	.7	19	9.4	4.7	2.6	1.6
29	.6	.3	.3	.5	-	.8	.5	13	6.8	4.7	2.9	1.6
30	.6	.3	.3	.6	-	.9	1.0	20	7.9	4.4	2.6	1.3
31	.6	-	.3	.6	-	.9	-	53	-	6.5	2.4	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						13.9	0.7	0	0.45	28		
November.....						18.0	.8	.3	.60	36		
December.....						10.3	.5	.2	.33	20		
Calendar year 1934.....						306.5	4.7	0	.85	612		
January.....						6.1	.6	.1	.26	16		
February.....						10.4	.7	.1	.37	21		
March.....						21.9	1.9	.3	.71	43		
April.....						40.6	3.1	.4	1.35	81		
May.....						411.1	53	1.8	13.3	815		
June.....						518.1	38	7.9	17.3	1,030		
July.....						198.3	14	3.1	6.40	393		
August.....						101.5	12	1.9	3.27	201		
September.....						43.9	6.0	.7	1.46	87		
Water year 1934-35.....						1,396.1	53	0	3.82	2,770		

## Lodgepole Creek at Bushnell, Nebr.

Location.- Staff gage, lat. 41°14', long. 103°51', in sec. 33, T. 15 N., R. 57 W., 1½ miles east of Bushnell.

Drainage area.- 1,090 square miles.

Records available.- March 1931 to September 1935.

Extremes.- Maximum discharge during year, 530 second-feet June 11 (gage height, 6.30 feet); minimum daily discharge, 2 second-feet Apr. 11 when stream was blocked by snow. 1931-35: Maximum discharge, 620 second-feet Aug. 27, 1933 (gage height, 6.8 feet); minimum daily discharge, that of Apr. 11, 1935.

Remarks.- Records good except those for Jan. 1 to Feb. 14, which were estimated on the basis of two discharge measurements and temperature records. Small diversions up-stream.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9	12	13	14	16	15	12	23	23	22	8	8
2	9	12	14	15	17	15	10	20	110	22	8	8
3	9	11	12	13	17	15	11	18	63	20	8	8
4	10	13	10	14	15	18	9	18	42	19	8	9
5	9	13	11	15	17	17	9	17	28	17	8	8
6	10	14	14	15	14	14	9	16	25	16	8	8
7	10	13	12	14	13	14	9	18	23	15	8	9
8	10	13	14	14	12	14	9	16	21	15	7	13
9	9	13	15	14	14	12	13	16	20	15	7	14
10	9	12	13	14	14	14	6	15	19	13	7	12
11	10	14	14	14	15	13	2	15	93	10	7	12
12	10	14	14	14	16	14	3	16	287	10	8	10
13	10	14	14	12	14	14	32	18	135	11	8	10
14	10	14	15	13	12	13	42	20	81	11	8	10
15	11	14	16	11	9	13	25	19	51	12	7	10
16	10	14	16	12	12	11	19	18	109	11	8	10
17	11	14	15	14	12	12	16	17	60	10	9	10
18	11	14	14	12	14	14	17	20	42	10	10	10
19	11	14	16	10	14	13	16	29	37	11	10	13
20	12	14	15	8	14	13	16	30	33	11	9	12
21	12	14	14	7	14	13	16	24	32	11	10	12
22	11	15	16	9	13	13	15	19	30	10	10	12
23	11	14	14	11	14	13	11	19	29	10	11	12
24	11	13	14	14	7	13	20	18	29	11	10	13
25	12	14	15	16	8	13	22	17	28	10	10	12
26	12	13	14	13	12	13	25	16	27	8	10	12
27	12	14	13	14	13	13	52	33	26	8	9	14
28	12	13	14	15	15	11	36	26	24	8	10	14
29	12	14	14	16	-	13	27	25	23	8	10	14
30	12	13	13	* 18	-	14	25	24	23	8	7	13
31	12	-	13	16	-	10	-	23	-	8	8	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						329	12	9	10.6	653		
November.....						403	15	11	13.4	799		
December.....						430	16	10	13.9	853		
Calendar year 1934.....						4,311	40	5	11.8	8,560		
January.....						409	16	7	13.2	811		
February.....						375	17	7	13.4	744		
March.....						419	18	10	13.5	831		
April.....						534	52	2	17.8	1,060		
May.....						623	33	15	20.1	1,240		
June.....						1,573	287	19	52.4	3,120		
July.....						381	22	8	12.3	756		
August.....						266	11	7	8.6	528		
September.....						332	14	8	11.1	659		
Water year 1934-35.....						6,074	287	2	16.6	12,060		

\* Discharge measurement.

## South Fork of Lodgepole Creek near Federal, Wyo.

Location.- Water-stage recorder, lat.  $41^{\circ}16'$ , long.  $105^{\circ}13'$ , in sec. 15, T. 15 N., R. 70 W., 6 miles northwest of Federal.

Drainage area.- 16 square miles.

Records available.- May 1933 to September 1935.

Extremes.- Maximum discharge during year, about 210 second-feet July 18 (gage height, 3.12 feet); minimum mean daily discharge, 0.2 second-foot Jan. 21, 22.  
1933-35: Maximum stage, 4.95 feet Sept. 8, 1933 (discharge not determined); no flow July 20 to Aug. 9, Aug. 28 to Sept. 4, 1934.

Remarks.- Records good except those for Nov. 27 to Mar. 20, Mar. 29 to Apr. 10, which were estimated on the basis of one discharge measurement and temperature records, and are fair.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	0.5	0.3	0.5	0.8	0.6	0.7	2.2	20	3.5	1.9	1.4
2	.5	.5	.3	.5	.6	.7	.7	2.4	18	3.5	1.6	1.3
3	.5	1.4	.3	.6	.8	.7	.8	2.2	17	3.5	1.5	1.3
4	.4	.5	.3	.6	.8	.6	.9	1.6	16	3.2	1.5	1.3
5	.4	.5	.3	.6	.6	.5	.8	1.6	14	3.2	1.5	1.3
6	.4	.5	.3	.7	.5	.4	.6	1.9	13	2.9	1.4	1.2
7	.4	.5	.3	.6	.5	.4	.8	2.2	13	2.9	1.4	1.5
8	.5	.6	.4	.6	.5	.5	.7	2.2	12	3.5	1.3	2.8
9	.5	.6	.5	.6	.5	.4	.6	2.2	12	3.2	1.3	2.4
10	.5	.6	.6	.6	.5	.4	.5	2.2	12	2.9	1.3	1.8
11	.6	.6	.6	.6	.6	.5	.5	2.2	11	2.9	1.2	1.3
12	.5	.6	.6	.6	.6	.7	.6	3.2	11	1.9	1.2	1.2
13	.6	.6	.5	.5	.5	.9	1.4	4.7	11	1.9	1.3	1.3
14	.6	.6	.6	.4	.5	1.1	1.6	2.9	10	1.9	1.0	1.3
15	.9	.6	.5	.5	.5	.8	1.1	2.7	9.6	2.2	1.2	1.3
16	.7	.6	.5	.5	.6	.7	.9	2.4	8.5	2.2	2.4	1.3
17	.7	.6	.4	.5	.6	.6	1.1	4.1	8.5	1.9	2.6	1.2
18	.7	.6	.4	.4	.7	.6	1.1	11	8.5	14	2.0	1.2
19	.7	.6	.3	.3	.7	.5	1.4	10	7.3	6.8	1.8	1.2
20	.5	.5	.4	.3	.6	.6	1.9	8.1	6.6	4.8	1.5	1.0
21	.3	.4	.5	.2	.7	.6	1.4	9.6	6.2	3.3	1.5	1.0
22	.3	.4	.5	.2	.6	.6	1.1	14	5.9	3.4	1.5	.9
23	.3	.5	.4	.3	.5	.6	.9	17	5.3	3.3	1.5	.9
24	.3	.4	.4	.4	.5	.6	.6	16	5.6	2.8	1.6	1.3
25	.3	.4	.3	.6	.4	1.1	.4	16	5.3	2.6	1.5	1.5
26	.4	.5	.3	.7	.3	.4	.6	15	4.7	2.1	1.4	1.4
27	.4	.4	.3	.8	.3	.4	.9	14	4.4	2.0	1.2	1.6
28	.4	.4	.4	.8	.4	.4	1.4	14	4.4	1.9	1.3	1.8
29	.4	.3	.4	.9	-	.5	1.6	14	4.4	1.8	1.3	1.6
30	.5	.3	.5	.8	-	.6	1.9	14	4.1	1.9	1.2	1.6
31	.4	-	.5	.8	-	.6	-	22	-	2.1	1.4	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				15.1		0.9	0.3	0.49	30			
November.....				15.1		1.4	.3	.54	32			
December.....				12.9		.6	.3	.42	26			
Calendar year 1934.....				326.5		3.0	0	.89	648			
January.....				16.9		.8	.2	.56	34			
February.....				16.1		.8	.3	.58	32			
March.....				19.6		1.1	.4	.60	37			
April.....				29.5		1.9	.4	.98	59			
May.....				237.6		22	1.6	7.66	471			
June.....				289.3		20	4.1	9.64	574			
July.....				100.0		14	1.8	3.23	198			
August.....				46.3		2.6	1.0	1.49	92			
September.....				42.2		2.8	.9	1.41	84			
Water year 1934-35.....				840.6		22	.2	2.30	1,670			

## Middle Loup River at St. Paul, Nebr.

Location.- Water-stage recorder, lat. 41°12', long. 98°27', in sec. 10, T. 14 N., R. 10 W., at St. Paul. Zero of gage is 1,778.4 feet above mean sea level.

Drainage area.- 7,320 square miles.

Records available.- May 1895 to October 1897, April to October 1899, April to November 1903, August 1928 to September 1935.

Extremes.- Maximum discharge during year, 14,800 second-feet June 1 (gage height, 5.87 feet); minimum daily discharge not determined, occurred during estimated period. 1895-97, 1899, 1903, 1928-35: Maximum discharge, 18,000 second-feet Mar. 17, 1932 (gage height, 5.19 feet, former site); minimum daily discharge, 230 second-feet Nov. 23, 1929.

Remarks.- Records fair. Discharge estimated for Nov. 27 to Dec. 25, Jan. 3 to Feb. 15, Feb. 26 to Mar. 2, Aug. 6-19, on the basis of one discharge measurement and flow of North Loup River near St. Paul. No diversions or regulation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,050	1,050		870		1,000	1,180	1,480	14,500	1,650	1,090	2,460
2	1,050	1,020		730		1,300	1,260	1,610	9,220	1,390	1,090	4,100
3	1,040	1,180				2,130	1,220	1,640	4,600	1,320	1,160	2,830
4	1,020	1,240				1,460	1,160	1,410	3,310	1,450	1,240	1,940
5	1,070	1,680				1,360	1,120	1,290	2,210	2,300	1,240	1,650
6	1,040	1,430				1,500	1,000	1,260	1,500	2,040	1,100	1,160
7	968	1,340				1,600	1,090	1,360	1,450	5,010	930	2,300
8	968	1,460				1,450	1,080	1,520	1,590	1,580	820	1,910
9	944	1,460				1,300	1,080	1,650	1,080	1,240	770	1,410
10	1,090	1,460				1,300	1,140	1,590	1,070	1,160	750	1,280
11	944	1,410				1,220	1,890	1,640	1,090	1,200	740	1,090
12	920	1,320				1,140	1,650	1,910	1,030	1,230	750	1,050
13	956	1,370				1,120	1,500	1,590	1,050	1,280	750	1,050
14	1,020	1,160				1,130	1,200	1,590	1,080	1,300	710	1,080
15	1,000	909				1,130	1,230	1,430	1,080	1,320	700	1,130
16	1,090	898				1,280	1,140	1,480	1,100	1,320	700	1,160
17	1,100	1,240				1,170	1,160	1,160	1,500	1,290	690	1,050
18	1,450	2,800				1,640	956	1,220	2,040	1,610	1,230	900
19	1,890	2,240				1,360	1,070	1,300	3,160	1,500	1,170	760
20	4,450	2,180				1,570	1,040	1,200	5,210	2,980	1,120	870
21	2,800	1,890				1,480	956	1,180	4,290	6,900	1,060	780
22	1,650	1,700				1,450	909	1,140	3,220	2,160	1,070	780
23	1,280	1,320				1,610	956	1,090	2,550	1,080	1,090	2,040
24	1,280	1,100				1,500	952	1,450	2,160	1,040	1,140	1,460
25	1,100	956				*740	909	5,900	1,690	1,000	1,570	840
26	1,290	1,020				500	698	3,770	2,020	1,050	1,460	1,000
27	1,000	1,000				600	1,120	3,070	1,680	1,290	1,370	3,500
28	1,000	1,050				650	1,090	2,270	1,290	5,070	1,260	2,300
29	956	920				-	1,080	1,740	2,300	4,970	1,170	2,240
30	944	900				-	1,080	1,450	2,100	3,160	1,130	1,940
31	1,020					-	1,080	-	6,390	-	1,100	1,820
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						39,340	4,430	920	1,269	78,030		
November.....						40,703	2,800	898	1,367	80,730		
December.....						21,947	-	-	708	43,530		
Calendar year 1934.....						366,063	4,430	-	1,008	730,000		
January.....						23,495	-	-	758	46,600		
February.....						42,640	-	500	1,523	84,580		
March.....						36,676	2,130	898	1,180	72,550		
April.....						47,660	5,900	1,000	1,569	94,530		
May.....						66,040	6,380	1,280	2,130	131,000		
June.....						82,170	14,300	1,000	2,739	163,000		
July.....						45,070	5,010	1,070	1,454	89,400		
August.....						46,400	4,840	690	1,497	92,030		
September.....						41,380	4,100	780	1,379	82,080		
Water year 1934-35.....						533,421	14,300	-	1,461	1,058,000		

\* Discharge measurement.

## Loup River at Columbus, Nebr.

Location.— Water-stage recorder, lat. 41°25', long. 97°21', in sec. 30, T. 17 N., R. 1 E. (revised), at Columbus,  $3\frac{1}{2}$  miles above mouth.

Drainage area.— 14,200 square miles.

Records available.— March to September 1931, October 1933 to September 1935. Comparable records October 1894 to September 1915 at station 2 miles above.

Extremes.— Maximum discharge during year, 41,500 second-feet Apr. 26 (gage height, 3.77 feet); minimum mean daily discharge, 341 second-feet Feb. 28 (discharge measurement). 1894-1915, 1931, 1933-35: Maximum discharge, 70,000 second-feet June 6, 7, 1896 (gage height, 12.55 feet, former site and datum); minimum discharge, 185 second-feet Feb. 24, 1934.

Remarks.— Records good except those for Dec. 8 to Mar. 3, which were estimated on the basis of 12 discharge measurements and temperature records. Diversions for irrigation on headwaters.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,720	1,940	2,450	1,020	1,490	1,900	2,450	3,380	23,500	5,560	1,700	10,400
2	1,720	2,020	2,240	1,490	2,660	2,400	2,880	3,060	18,300	2,690	1,760	6,570
3	1,660	2,110	489	1,060	2,900	3,500	2,640	2,720	15,100	2,620	1,680	2,410
4	1,610	2,110	481	* 1,230	2,410	4,530	2,280	2,550	10,100	2,590	1,870	2,290
5	1,580	2,240	489	1,940	1,940	4,170	2,240	2,250	6,090	2,560	1,720	3,900
6	1,680	2,240	497	2,900	1,940	3,850	2,500	1,660	6,210	6,210	1,600	4,110
7	1,610	2,110	521	3,260	* 2,320	3,290	2,190	1,860	4,870	10,200	1,400	5,500
8	1,680	2,320	1,060	2,900	2,900	2,550	2,740	2,140	4,160	5,600	1,300	3,700
9	1,670	2,410	1,490	2,750	3,670	2,960	2,740	2,550	4,600	4,010	1,300	2,320
10	1,940	2,320	1,250	2,650	4,490	2,880	3,160	2,630	5,040	3,020	1,300	2,160
11	1,980	2,280	1,100	* 2,670	4,760	2,550	3,790	2,720	7,800	2,600	1,290	2,160
12	2,110	2,060	1,440	2,800	5,030	2,110	4,110	2,590	3,240	2,440	1,240	2,220
13	1,940	2,060	* 2,040	2,410	4,760	2,060	3,430	3,060	2,730	2,290	1,220	2,110
14	1,790	2,110	1,940	1,490	4,760	2,190	2,960	2,680	2,640	2,270	1,240	1,960
15	1,750	2,110	2,080	1,060	* 4,690	2,450	2,640	2,680	2,470	2,240	1,260	1,890
16	1,870	2,110	2,150	1,360	4,480	2,360	2,550	2,360	2,270	2,160	1,240	1,870
17	1,790	2,280	1,800	1,140	4,690	1,680	2,360	2,590	3,700	2,040	1,240	1,760
18	2,150	3,230	1,640	* 1,240	4,210	1,580	2,280	3,100	8,250	1,920	1,240	1,660
19	2,790	3,690	1,360	700	4,320	2,240	2,160	5,200	7,120	1,800	1,240	1,680
20	6,390	3,080	1,390	405	4,320	2,190	2,110	17,000	5,210	1,780	1,240	1,600
21	6,840	2,930	1,700	450	* 4,250	2,020	2,190	15,400	16,400	1,740	4,870	1,450
22	5,050	2,640	1,580	880	3,590	1,960	2,190	11,900	10,200	1,740	3,320	1,380
23	3,850	2,790	1,610	480	3,230	1,910	2,190	14,900	4,110	1,740	2,560	1,380
24	3,030	2,590	1,490	590	3,030	2,020	3,060	6,070	4,920	1,870	2,470	1,420
25	2,690	2,450	1,700	* 651	1,940	1,980	27,600	4,510	10,300	1,960	4,430	1,650
26	2,640	2,110	1,590	1,220	1,490	1,790	18,000	3,970	7,420	2,040	9,590	1,570
27	2,590	2,150	1,750	1,140	590	1,630	7,230	3,640	2,910	2,160	6,830	1,590
28	2,550	2,410	2,140	880	* 341	2,240	7,230	3,590	14,900	2,010	4,010	1,520
29	2,410	2,640	* 2,500	990	-	2,280	5,990	3,330	9,230	1,890	2,910	1,540
30	2,410	2,640	2,150	1,140	-	2,020	4,200	3,970	5,330	1,720	2,730	1,570
31	2,190	-	950	* 1,270	-	2,110	-	7,230	-	1,780	2,060	-
Month	Second-foot-days					Maximum		Minimum		Mean		Run-off in acre-feet
October	77,800					6,840		1,580		2,510		154,300
November	72,180					3,690		1,940		2,406		143,200
December	46,947					2,600		481		1,514		93,120
Calendar year 1934	745,143					6,840		481		2,041		1,478,000
January	46,216					3,260		405		1,491		91,670
February	91,091					5,030		341		3,253		180,700
March	75,930					4,830		1,580		2,449		150,500
April	134,140					27,600		2,110		4,471		266,100
May	147,290					17,000		1,660		4,751		292,100
June	227,120					23,500		2,270		7,571		450,500
July	87,150					10,800		1,720		2,811		172,900
August	73,650					6,580		1,220		2,376		146,100
September	77,240					10,400		1,520		2,676		153,200
Water year 1934-35	1,156,754					27,600		341		3,169		2,294,000

\* Discharge measurement.



## North Loup River near St. Paul, Nebr.

Location.- Water-stage recorder, lat.  $41^{\circ}16'$ , long.  $96^{\circ}27'$ , in sec. 22, T. 15 N., R. 10 W., 3 miles north of St. Paul.

Drainage area.- 4,040 square miles.

Records available.- May 1895 to October 1897, April to October 1899, April to December 1903, August 1928 to September 1935.

Extremes.- Maximum discharge during year, 11,200 second-feet Apr. 25 (gage height, 5.13 feet); minimum not determined, occurred during estimated period.  
1895-97, 1899, 1903, 1928-35: Maximum discharge (estimated), 90,000 second-feet June 6, 1896; minimum, 126 second-feet Jan. 15, 1931.

Remarks.- Records fair. Discharge Nov. 27 to Feb. 15, Feb. 24 to Mar. 2 estimated on the basis of one discharge measurement and temperature records; July 11-24 by comparison with Loup River at Columbus. Small diversions on headwaters for irrigation.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	690	822	440	920	970	700	1,020	1,380	3,730	544	467	896	
2	668	822				1,100	1,060	1,310	2,140	476	527	928	
3	647	774				1,730	1,040	1,180	1,650	450	536	837	
4	647	702				1,560	1,030	1,080	1,520	587	534	813	
5	647	714	400	1,150	1,400	1,300	1,060	1,070	1,240	866	527	790	
6	647	690				1,060	1,040	1,050	1,130	1,940	493	742	
7	636	668				848	1,180	1,040	1,140	2,540	493	1,210	
8	658	647				948	1,120	1,070	1,120	1,280	484	1,070	
9	679	668	625	720	1,910	1,090	1,120	1,060	1,110	948	493	790	
10	679	658				1,180	1,540	970	1,320	876	501	704	
11	690	690				* 1,120	1,120	1,640	991	1,130	900	458	667
12	702	690				1,060	1,470	1,190	1,060	920	467	640	
13	714	668	600	250	1,910	989	1,370	1,050	1,020	890	467	623	
14	714	668				976	1,350	1,140	1,010	910	458	623	
15	714	668				1,070	1,330	1,070	990	590	433	614	
16	714	690				922	1,250	1,100	980	820	392	605	
17	738	726	550	320	1,040	1,890	1,180	1,060	1,080	730	400	570	
18	848	1,030				1,750	625	1,150	1,200	906	720	433	579
19	1,170	1,000				1,490	614	1,100	2,450	1,010	670	494	570
20	1,950	976				1,180	582	1,070	3,140	3,440	660	1,360	570
21	898	989	550	320	1,040	948	989	2,340	3,140	650	799	570	
22	898	1,030				935	566	922	2,060	1,700	710	704	570
23	872	962				547	872	1,760	1,220	730	614	570	
24	872	962				940	556	3,380	1,600	1,180	730	596	
25	810	935	670	430	-	500	547	7,360	1,590	1,940	732	2,350	
26	786	922				350	573	2,760	1,630	1,170	676	1,420	587
27	774	900				400	679	2,230	1,600	3,200	632	846	649
28	762	920				420	798	1,860	1,490	4,100	570	738	676
29	786	800	-	-	-	-	860	1,490	1,590	1,020	519	694	
30	810	780				-	848	1,270	1,530	694	510	667	714
31	822	-				-	935	-	2,430	-	510	658	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....						24,642	1,950	636	795	48,880			
November.....						24,171	1,030	647	806	47,940			
December.....						17,095	-	-	551	33,910			
Calendar year 1934.....						258,037	1,950	373	707	511,800			
January.....						19,790	-	-	638	39,230			
February.....						35,283	2,040	350	1,260	69,980			
March.....						27,747	1,730	547	895	55,040			
April.....						47,253	7,360	872	1,575	93,720			
May.....						45,221	3,140	970	1,459	89,690			
June.....						48,090	4,100	694	1,603	95,390			
July.....						25,686	2,540	450	825	50,750			
August.....						20,495	2,350	392	661	40,650			
September.....						21,052	1,210	570	702	41,760			
Water year 1934-35.....						356,414	7,360	-	976	706,900			

\* Discharge measurement.

## Elkhorn River at Neligh, Nebr.

Location.- Chain gage, lat. 42°7', long. 98°2', in sec. 20, T. 25 N., R. 6 W., at Neligh.

Drainage area.- 1,740 square miles.

Records available.- March 1931 to September 1935.

Extremes.- Maximum discharge during year, 2,150 second-feet June 3 (gage height, 9.44 feet), minimum discharge, 42 second-feet Aug. 17 (gage height, 1.77 feet).  
1931-35: Maximum discharge, that of June 3, 1935; minimum, 12 second-feet July 2, 1932 (gage height, 1.26 feet, former site).

Remarks.- Records good except those for Dec. 26 to Feb. 14, which were estimated on the basis of one discharge measurement and temperature records. No diversions.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75	96	144	128	183	195	139	360	1,110	270	76	96
2	71	98	138	142	188	193	151	329	1,780	231	74	114
3	75	102	128	108	176	205	157	302	2,110	295	70	120
4	79	102	142	112	170	240	162	268	1,920	195	71	115
5	80	103	164	100	162	226	173	237	1,740	187	69	110
6	76	108	168	98	160	220	179	212	1,350	175	66	109
7	73	108	172	150	168	209	185	212	1,000	165	64	134
8	75	108	168	178	175	209	191	203	813	158	62	130
9	79	106	164	184	185	248	207	195	649	148	58	110
10	79	104	156	178	186	237	266	187	551	141	54	102
11	80	102	153	188	190	216	350	209	489	136	53	103
12	83	102	158	188	188	193	376	302	443	130	51	106
13	83	104	164	190	184	191	355	286	404	118	47	103
14	84	109	172	190	180	191	338	298	366	109	47	94
15	84	110	179	165	173	195	312	310	336	100	44	86
16	87	114	189	140	175	201	295	307	302	96	43	80
17	90	118	193	158	179	172	275	302	334	89	43	71
18	97	141	189	138	191	183	246	320	394	80	46	68
19	120	151	187	152	201	175	233	441	343	74	52	70
20	158	157	185	144	187	170	214	780	368	70	56	70
21	125	149	181	158	181	168	201	1,110	368	65	52	68
22	108	149	173	150	183	163	189	1,170	353	70	52	68
23	106	142	153	158	195	158	175	1,140	307	288	50	66
24	100	138	157	162	197	155	193	1,050	275	251	50	58
25	94	138	164	168	193	148	780	998	268	203	75	62
26	90	142	162	174	189	142	675	894	275	134	76	65
27	86	149	148	168	187	133	655	780	287	104	73	70
28	89	155	165	160	183	134	537	651	277	94	70	79
29	96	157	174	168	-	128	448	582	310	80	69	78
30	98	149	170	176	-	131	399	590	298	76	69	79
31	94	-	152	178	-	131	-	657	-	74	78	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						2,814	158	71	90.8	5,580		
November.....						3,711	157	96	124	7,360		
December.....						5,119	193	128	165	10,150		
Calendar year 1934.....						41,903	415	19	115	83,110		
January.....						4,851	190	98	156	9,620		
February.....						5,113	201	160	183	10,140		
March.....						5,665	248	128	153	11,240		
April.....						9,056	780	139	301	17,920		
May.....						15,701	1,170	187	506	31,140		
June.....						19,792	2,110	287	660	39,260		
July.....						4,319	208	65	139	8,570		
August.....						1,860	78	43	60.0	3,680		
September.....						2,684	134	58	89.5	5,320		
Water year 1934-35.....						80,665	2,110	43	221	160,000		

## Elkhorn River at Waterloo, Nebr.

Location.- Water-stage recorder, lat. 41°18', long. 96°17', in sec. 10, T. 15 N., 10 E., at Waterloo. Zero of gage is 1,110.1 feet above mean sea level.

Drainage area.- 6,390 square miles.

Records available.- May 1911 to July 1913, August 1928 to September 1935.

Extremes.- Maximum discharge during year, not determined; minimum mean daily discharge (estimated), 130 second-feet Feb. 28, 1911-13, 1928-35; Highest flood occurred in April 1912 (gage height and discharge not determined); minimum mean daily discharge, 118 second-feet Sept. 12, 1931, and Aug. 10, 1934.

Remarks.- Records good except those for Dec. 3 to Mar. 8, which were estimated on the basis of three discharge measurements and temperature records. No diversions.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	268	351	447	226	360	175	478	1,220	2,460	792	293	279
2	272	334	414	240	376	280	478	1,080	2,880	666	730	272
3	263	357	226	230	400	330	482	1,040	2,700	640	1,030	268
4	256	350	208	260	375	400	496	984	2,850	620	1,180	268
5	251	347	190	328	350	500	501	928	2,950	608	784	263
6	249	347	193	365	345	610	510	856	3,250	557	627	260
7	244	347	206	396	370	670	526	792	2,900	515	758	256
8	242	347	250	383	410	765	526	753	2,700	475	443	1,130
9	242	350	310	368	475	508	552	730	2,500	597	337	653
10	242	347	285	357	520	928	591	716	2,320	1,090	298	426
11	244	347	255	358	560	976	633	666	2,100	660	272	377
12	244	347	224	364	614	928	653	780	1,700	562	258	344
13	247	350	280	366	625	924	816	1,130	1,300	482	244	301
14	254	353	268	368	654	765	866	1,270	1,090	426	227	280
15	254	357	304	300	620	723	924	952	1,020	407	216	263
16	258	364	305	246	616	701	824	1,130	920	399	205	247
17	263	374	305	262	612	653	800	928	888	377	202	240
18	272	399	300	248	585	627	768	846	936	353	200	233
19	293	418	274	265	560	653	708	936	1,570	334	202	222
20	347	430	260	226	547	640	666	1,520	1,690	321	321	216
21	328	460	260	240	535	614	640	2,450	1,640	318	367	211
22	478	456	264	265	520	597	614	2,220	1,490	312	646	209
23	447	451	257	240	500	585	603	2,070	1,180	304	367	200
24	399	435	266	260	400	574	646	2,030	1,050	304	562	196
25	395	430	250	288	258	557	1,110	2,010	1,040	321	370	196
26	364	439	235	300	177	546	1,570	1,930	1,040	347	282	205
27	340	439	200	276	155	526	2,320	1,840	1,300	411	263	200
28	328	451	216	260	130	501	1,770	1,790	1,190	487	254	200
29	321	451	252	285	-	492	1,550	1,650	1,190	374	251	200
30	324	460	237	313	-	487	1,430	1,810	1,000	340	249	200
31	323	-	227	336	-	482	-	1,790	-	307	260	-
Month	Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet			
October	9,277		478		242		299		18,400			
November	11,668		460		331		389		23,140			
December	8,161		447		190		263		16,190			
Calendar year 1934	161,910		7,040		121		444		321,100			
January	9,219		396		226		297		18,290			
February	12,629		634		130		451		25,050			
March	18,895		976		175		610		37,480			
April	24,941		2,320		478		831		49,470			
May	40,829		2,450		666		1,317		80,980			
June	52,824		3,250		888		1,761		104,800			
July	14,699		1,090		304		474		23,160			
August	12,675		1,180		200		408		25,150			
September	8,816		1,130		196		294		17,490			
Water year 1934-35	224,636		3,250		130		615		445,600			

## Nishnabotna River above Hamburg, Iowa

Location.- Wire-weight gage, lat.  $40^{\circ}38'$ , long.  $95^{\circ}37'$ , in S $\frac{1}{2}$  sec. 11, T. 67 N., R. 42 W., 1 mile below junction of East and West Forks and 3 miles northeast of Hamburg.  
Prior to Feb. 12, 1935 chain gage at same site and datum. Zero of gage is 894.17 feet above mean sea level (U. S. Coast and Geodetic Survey 1929 general adjustment).

Drainage area.- 2,800 square miles.

Records available.- October 1928 to September 1935, March 1922 to September 1923 at site 5 miles downstream.

Extremes.- Maximum discharge observed during period Oct. 1 1933 to Sept. 30, 1935, 7,350 second-feet June 26, 1935 (gage height, 17.50 feet); minimum, 4.5 second-feet Aug. 30, 1934 (gage height, 1.58 feet).  
1922-23, 1926-35: Maximum discharge, 12,000 second-feet Mar. 13, 1929 (gage height, 22.30 feet, present site and datum); minimum, that of Aug. 30, 1934.

Remarks.- Records fair except those for periods of ice effect, which are poor.

## Discharge, in second-feet, water year October 1933 to September 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	175	106	113	*106	*209	159	159	60	30	88	21	41
2	151	106	184	*106	*215	*184	159	58	26	55	24	37
3	136	106	209	120	227	*192	159	58	28	50	19	425
4	136	106	287	120	192	*209	330	72	143	50	19	167
5	120	113	287	126	167	*216	308	88	209	151	20	167
6	120	120	218	156	159	*209	308	75	175	77	13	120
7	113	120	175	136	167	*192	246	70	400	48	16	77
8	113	113	151	143	151	*159	192	50	425	48	12	60
9	113	120	136	136	113	*136	167	62	3,320	99	9	46
10	113	106	126	136	136	*113	143	58	1,840	2,880	12	55
11	113	106	*120	151	151	151	120	50	1,350	1,710	13	35
12	113	106	113	159	159	159	106	55	425	638	13	24
13	106	99	113	159	151	175	106	353	246	425	16	12
14	106	106	120	159	159	159	99	198	218	287	13	26
15	120	96	136	167	143	175	96	99	192	184	15	91
16	167	76	106	151	151	159	96	77	175	136	16	30
17	184	98	81	167	159	151	93	72	143	106	15	12
18	151	92	* 92	167	159	143	96	65	123	85	19	15
19	151	99	*136	167	*184	143	91	60	215	91	16	9
20	136	99	184	167	*192	143	82	50	209	75	13	9
21	128	106	209	159	*200	143	80	48	128	62	30	13
22	113	106	286	167	*192	143	81	46	376	50	18	9
23	143	106	151	2,320	*159	136	77	46	151	39	12	9
24	151	113	49	908	*151	136	72	41	106	35	12	9
25	128	120	* 42	*790	*143	120	70	41	80	39	10	694
26	120	113	* 42	*694	*143	128	77	46	75	35	12	2,370
27	113	113	* 42	*376	*143	120	70	41	60	33	14	1,620
28	106	106	* 48	*237	*151	120	67	41	53	29	10	874
29	113	106	* 54	*227	-	136	65	35	58	25	7	400
30	113	106	* 66	*218	-	136	67	35	60	22	4.5	266
31	106	-	* 85	*209	-	143	-	35	-	22	76	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	3,971	184	106	128	0.046	0.05	7,880
November.....	3,188	120	76	106	.035	.04	6,320
December.....	4,143	287	42	134	.048	.06	6,220
Calendar year 1933.....	140,413	5,480	42	385	.138	1.88	278,100
January.....	9,226	2,320	106	298	.106	.12	18,300
February.....	4,629	227	113	165	.059	.06	9,180
March.....	4,790	215	113	155	.055	.06	9,500
April.....	3,682	330	65	129	.046	.05	7,700
May.....	2,113	353	33	68.2	.024	.03	4,190
June.....	11,047	3,320	26	368	.131	.15	21,910
July.....	7,678	2,880	22	248	.089	.10	15,230
August.....	521.5	76	4.5	16.8	.0060	.007	1,030
September.....	7,718	2,370	9	257	.092	.10	15,810
Water year 1933-34.....	62,906.5	3,320	4.5	172	.061	.83	124,900

\*Ice effect.

## Nishnabotna River above Hamburg, Iowa

(Continued)

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	159	71	192	* 85	* 425	193	92	73	1,800	1,030	54	158
2	113	66	159	* 92	* 400	269	89	72	1,490	825	2,700	136
3	91	842	106	* 99	* 375	1,170	87	71	1,750	411	1,280	109
4	75	1,980	* 85	113	* 308	1,240	92	71	1,690	367	502	95
5	67	942	* 72	113	* 246	3,480	96	70	772	323	301	79
6	50	450	* 54	128	* 227	1,660	94	66	600	279	268	66
7	48	266	* 48	128	* 192	1,050	115	65	502	248	206	52
8	41	209	* 42	136	* 175	593	121	64	550	248	166	325
9	37	184	* 37	136	* 159	361	150	58	434	1,030	128	166
10	37	159	* 37	136	* 143	355	121	53	600	995	107	166
11	35	143	* 37	156	* 128	355	113	62	258	301	86	122
12	37	136	* 48	151	* 143	409	113	70	166	258	79	80
13	36	128	* 66	145	* 143	457	113	147	126	206	75	67
14	23	120	* 99	143	* 167	335	113	113	116	186	60	41
15	26	120	136	* 128	* 174	305	102	86	98	166	56	38
16	35	113	159	* 120	* 305	269	93	113	98	156	52	279
17	46	128	175	* 120	* 393	257	92	94	107	166	48	40
18	55	136	184	* 128	* 870	246	92	98	1,570	146	44	30
19	1,690	128	167	4,850	*1,170	224	85	205	2,950	301	43	22
20	1,160	143	151	* 1,750	*1,410	246	80	355	1,240	301	84	15
21	376	159	151	* 1,490	*1,540	257	83	235	742	120	63	14
22	200	256	151	* 1,200	1,620	246	79	156	928	196	63	9
23	450	175	151	* 942	1,050	193	80	138	600	112	50	12
24	200	151	159	* 810	257	174	76	138	1,900	279	79	11
25	184	136	151	* 722	184	156	72	113	1,280	166	63	11
26	136	287	192	* 638	* 138	147	70	147	7,400	156	49	95
27	120	246	128	* 556	* 138	130	70	130	4,900	132	36	268
28	56	308	*106	* 502	* 156	113	71	1,620	2,010	100	34	122
29	86	266	* 92	* 450	-	113	64	497	1,570	96	34	105
30	78	184	* 85	* 425	-	104	60	381	995	72	34	67
31	76	-	* 85	* 425	-	96	-	2,130	-	66	56	-
Month	Second-foot-days		Maximum		Minimum		Mean		Per square mile	Run-off		
										Inches	Acre-feet	
October.....	6,027		1,990		26		194		0.069	0.08	11,950	
November.....	8,632		1,990		66		288		.103	.11	17,120	
December.....	3,505		192		37		113		.040	.05	6,950	
Calendar year 1934.....	69,768.5		3,320		4.5		191		.068	.92	138,400	
January.....	16,995		4,850		85		548		.196	.23	33,710	
February.....	12,637		1,620		128		451		.161	.17	25,070	
March.....	15,583		3,480		96		503		.180	.21	30,910	
April.....	2,754		130		60		91.8		.035	.04	5,460	
May.....	7,687		2,130		53		249		.089	.10	15,250	
June.....	36,442		7,400		98		1,315		.470	.52	79,230	
July.....	9,138		1,030		66		295		.105	.12	18,120	
August.....	6,897		2,700		34		222		.079	.09	13,680	
September.....	2,786		323		9		92.9		.033	.04	5,530	
Water year 1934-35.....	132,085		7,400		9		562		.129	1.76	262,000	

\*Ice effect.

## East Tarkio Creek at Blanchard, Iowa

Location.- Water-stage recorder, lat. 40°35'40", long. 95°13'25", on line between SE $\frac{1}{4}$  sec. 20 and NE $\frac{1}{4}$  sec. 29, T. 67 N., R. 38 W., at bridge on County Highway G, 1 mile north of Blanchard.

Drainage area.- 200 square miles.

Records available.- March 1934 to September 1935.

Extremes.- Maximum discharge during year, 1,920 second-feet May 31 (gage height, 9.10 feet); minimum, 0.16 second-foot Oct. 15 (gage height, 3.29 feet).  
1934-35: Maximum discharge and gage height, those of May 31, 1935; no flow during construction of control July 25, 1934.

Remarks.- Records excellent. Stage-discharge relation affected by ice Jan. 20-25, Feb. 24-25.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.02	0.43	3.66	1.10	2.97	9.25	1.36	0.99	573	52	2.1	16
2	3.52	.43	3.66	1.23	2.97	37.6	1.51	1.83	554	35	1.9	18
3	1.72	31.8	4.23	1.36	4.55	56.0	1.36	1.83	144	29	2.6	5.7
4	1.23	31.8	5.25	1.51	6.82	45.4	1.23	1.51	116	24	2.5	3.5
5	.72	8.20	3.93	1.23	9.25	46.6	1.36	1.36	85.1	21	2.1	1.9
6	.56	3.41	2.55	1.99	6.40	12.3	1.67	1.10	171	19	1.6	1.3
7	.37	2.76	3.18	3.41	4.89	4.55	3.41	.99	52.2	18	1.3	1.2
8	.27	1.83	2.55	8.20	5.25	5.25	4.55	.99	41.9	40	1.2	19
9	.23	1.23	2.76	8.20	5.62	7.72	3.66	.89	39.7	383	1.1	27
10	.23	.99	2.15	5.25	4.55	13.1	3.66	.72	65.8	80	1.1	6.8
11	.23	.89	1.67	4.55	6.40	13.1	4.23	.80	33.5	32	1.1	3.4
12	.23	.72	1.36	6.82	7.72	8.20	3.93	3.18	23.8	28	.95	1.9
13	.19	.72	1.67	5.06	7.72	9.25	2.97	18.7	20.9	21	.84	1.5
14	.19	.72	2.15	3.41	12.1	7.26	2.55	17.8	19.6	17	.63	1.1
15	.19	.72	3.18	2.97	179	5.62	1.36	9.25	19.0	13	.54	.84
16	.27	.72	6.82	1.99	48.3	5.62	1.10	15.4	18.4	11	.54	9.2
17	.27	2.76	9.80	2.35	16.8	3.66	1.10	7.72	47.3	9.2	.84	6.4
18	.49	13.0	8.20	3.18	14.2	7.72	1.23	4.89	623	7.7	1.3	2.5
19	21.6	4.89	6.40	617	8.70	7.72	1.36	41.6	124	6.8	.84	1.3
20	141	10.7	5.25	105	4.89	6.40	1.23	114	76.7	6.0	.84	.95
21	33.0	17.5	4.89	16.0	6.00	4.55	1.23	56.0	66.6	5.7	.73	.73
22	10.9	35.6	4.89	16.0	5.25	3.66	.99	23.1	47.4	5.4	1.5	.63
23	5.25	11.4	5.62	17.8	4.23	2.76	.89	35.5	38.6	5.1	1.3	.54
24	2.97	6.40	5.62	11.4	.80	2.15	.89	17.8	172	18	1.3	.46
25	1.83	6.40	3.41	4.89	.99	2.35	.89	12.6	78.4	21	1.3	.56
26	1.36	30.4	4.30	5.25	1.67	2.15	.64	8.70	655	6.8	.95	31
27	.80	17.2	1.23	5.62	.89	1.83	.64	11.4	205	4.3	.84	15
28	.64	15.4	1.36	3.93	1.99	1.36	.72	361	59.8	3.9	.73	4.3
29	.56	8.70	1.23	3.93	-	1.10	.72	66.6	45.2	3.4	.63	2.5
30	.49	3.93	1.36	3.41	-	1.10	.64	37.5	80.4	3.0	.53	1.9
31	.49	-	1.36	3.18	-	1.10	-	492	-	2.6	1.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	433.22	216	0.19	14.0	0.070	0.08	859
November.....	271.65	35.6	.43	9.06	.045	.05	539
December.....	115.69	9.80	1.23	3.73	.019	.02	229
Calendar year .....							
January.....	877.22	617	1.10	28.3	.142	.16	1,740
February.....	489.82	179	.60	17.5	.088	.09	972
March.....	356.43	56.0	1.10	10.9	.054	.06	667
April.....	63.78	4.55	.64	1.77	.0088	.01	105
May.....	1,366.75	492	.72	44.1	.220	.25	2,710
June.....	4,297.3	655	18.4	143	.715	.80	8,520
July.....	931.9	383	2.6	30.1	.150	.17	1,850
August.....	37.33	2.5	.54	1.20	.0060	.007	74
September.....	187.20	31	.46	6.24	.031	.03	371
Water year 1934-35 .....	9,395.90	655	.19	25.7	.128	1.73	18,640

## Tarkio River at Fairfax, Mo.

Location.— Wire-weight gage, lat. 40°21', long. 95°25', on line between secs. 22 and 27, T. 64 N., R. 40 W., at highway bridge half a mile west of Fairfax. Prior to Dec. 8, 1934 chain gage at same site and datum.

Drainage area.— 508 square miles.

Records available.— March 1922 to September 1935.

Average discharge.— 13 years, 147 second-feet.

Extremes.— Maximum discharge during year, 8,670 second-feet June 1 (gage height, 18.00 feet, from flood marks); minimum discharge, 0.7 second-foot Oct. 9; minimum gage height, 2.01 feet May 10.  
1922-35: Maximum discharge, about 15,000 second-feet July 7, 1923 (gage height, 22.33 feet, present datum, from flood mark); no flow several days in July, August 1934.

Remarks.— Records good except those for days of rapidly changing stage and for periods of ice effect, Dec. 2 to Feb. 15, Feb. 24-28, which are poor. Discharge estimated Sept. 27.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40	5.9	24	9	17	49	7.0	5.1	2,710	132	8.3	168
2	22	6.3	24	9	17	30	6.6	7.0	2,960	86	8.0	42
3	14	49	24	7	20	93	5.9	6.6	510	63	15	21
4	8.0	95	24	7	27	71	6.3	6.6	369	68	10	12
5	6.1	25	24	7	31	82	7.3	5.6	207	56	9.0	9.5
6	3.2	16	20	7	35	30	7.6	5.1	346	59	8.3	7.6
7	2.3	11	20	7	40	35	21	4.6	177	46	7.6	6.5
8	1.3	6.3	20	7	40	31	13	4.6	140	46	7.3	24
9	.7	7.5	20	7	40	27	15	4.6	132	585	6.6	33
10	1.3	6.6	20	7	35	26	16	3.4	268	187	8.3	23
11	1.0	5.1	20	7	35	25	15	3.7	115	63	7.0	12
12	1.5	5.9	20	9	35	22	14	58	100	48	5.9	8.3
13	1.7	6.6	20	9	35	24	11	71	86	43	5.6	7.3
14	1.5	5.6	24	9	217	21	7.6	57	79	37	5.4	6.5
15	2.0	5.6	27	9	197	18	5.6	38	77	34	5.4	5.4
16	2.0	6.3	31	9	149	14	5.6	44	71	33	5.1	5.6
17	2.0	8.3	35	9	38	13	5.5	33	207	31	5.1	24
18	4.6	132	40	9	48	18	5.9	29	2,270	27	5.1	11
19	3,980	25	31	740	26	18	5.9	177	346	26	7.0	7.3
20	770	38	27	158	20	17	5.4	955	287	25	8.3	5.1
21	158	227	24	140	24	15	3.9	177	197	22	5.9	4.2
22	57	107	24	79	22	12	4.2	100	149	20	8.7	3.9
23	257	49	24	35	17	9.5	4.6	115	123	19	7.3	3.2
24	25	29	20	20	14	7.6	5.1	60	535	19	7.0	3.2
25	15	23	20	17	14	8.3	5.9	52	237	43	5.9	3.4
26	12	85	20	14	12	8.3	4.6	42	1,980	20	5.9	107
27	8.3	60	20	14	12	7.0	3.7	47	369	17	5.9	64
28	7.6	90	17	14	14	5.9	5.9	830	158	13	5.1	20
29	5.9	39	17	14	-	5.6	4.6	177	115	12	5.6	10
30	5.9	33	14	14	-	5.6	4.4	80	346	10	5.4	8.3
31	5.9	-	12	14	-	5.4	-	2,200	-	10	9.5	-

  

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	5,422.8	3,980	0.7	175	0.344	0.40	10,760
November.....	1,208.8	227	5.1	40.3	.079	.09	2,400
December.....	707	40	12	22.9	.045	.05	1,400
Calendar year 1934.....	14,098.0	3,980	0	38.5	.076	1.03	27,970
January.....	1,417	740	7	45.7	.090	.10	2,810
February.....	1,231	217	12	44.0	.087	.09	2,440
March.....	752.2	93	5.4	24.3	.048	.06	1,490
April.....	234.2	21	3.7	7.81	.015	.02	466
May.....	5,398.9	2,200	3.4	174	.343	.40	10,710
June.....	15,546	2,950	71	618	1.02	1.14	30,840
July.....	1,904	585	10	61.4	.121	.14	3,780
August.....	220.5	15	5.1	7.11	.014	.02	437
September.....	666.2	168	3.2	22.2	.044	.05	1,320
Water year 1934-35.....	34,708.6	3,980	.7	95.1	.187	2.56	68,850

## West Tarkio Creek near Westboro, Mo.

Location.— Water-stage recorder, lat. 40°32'30", long. 95°23', in NW¼ sec. 13, T. 66 N., R. 40 W., at bridge on County Highway C, 3½ miles west of Westboro.

Drainage area.— 127 square miles.

Records available.— March 1934 to September 1935.

Extremes.— Maximum discharge during year, 4,640 second-feet June 17 (gage height, 14.55 feet); minimum, 0.05 second-foot Oct. 16 (gage height, 2.70 feet).  
1934-35: Maximum discharge and gage height, those of June 17, 1935; minimum discharge, 0.01 second-foot July 19-25, 1934; minimum gage height, 2.36 feet June 1, 2, 6, 1934.

Remarks.— Records excellent. Stage-discharge relation affected by ice Jan. 20 to Feb. 15.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.96	0.31	2.23	0.57	3.00	8.75	0.83	0.92	499	31	1.4	11
2	2.23	.37	3.96	.74	5.80	13.9	.74	1.32	222	20	1.4	4.2
3	1.32	14.6	2.80	.74	6.40	12.4	.74	.74	79.3	16	1.5	1.6
4	.92	4.74	2.80	.50	5.00	15.9	.74	.57	84.5	14	1.5	1.2
5	.57	1.58	2.61	.74	4.74	13.2	1.01	.50	36.8	12	1.2	.79
6	.31	1.20	1.72	1.10	4.74	7.71	1.10	.37	156	11	1.0	.69
7	.21	1.01	1.45	1.89	3.96	3.96	2.80	.37	25.0	10	.89	.69
8	.16	.83	1.45	4.48	2.61	6.10	1.58	.50	19.9	8.4	.79	2.8
9	.13	.74	1.45	3.70	2.42	5.80	1.58	.43	17.1	88	.79	2.4
10	.13	.65	1.01	2.80	2.61	5.52	2.42	.26	17.7	73	1.0	2.7
11	.10	.65	.74	2.80	2.80	4.74	2.42	.83	13.4	14	.89	1.5
12	.08	.65	.83	5.62	3.46	3.96	1.72	2.42	12.9	11	.79	1.0
13	.08	.65	1.10	4.24	4.48	4.22	1.20	8.86	10.5	8.0	.60	.79
14	.08	.50	1.32	1.10	17.6	4.22	1.01	5.92	9.60	7.2	.53	.79
15	.08	.37	1.89	1.45	18.6	3.46	.65	7.02	8.50	6.5	.53	.60
16	.06	.43	4.22	1.58	47.9	4.48	.65	6.29	8.50	5.8	.53	6.9
17	.06	1.68	4.48	1.89	23.2	2.61	.74	3.70	321	5.5	.53	6.5
18	.21	3.96	3.96	3.59	14.0	3.70	.83	3.96	518	4.6	.46	2.7
19	394	1.58	4.22	153	10.3	3.46	.83	23.5	79.3	4.2	.53	1.2
20	76	5.00	2.80	44	6.25	3.00	.74	99.0	57.6	4.2	.79	.60
21	13.9	6.76	2.80	41	5.26	2.61	.57	30.1	43.5	3.9	.60	.46
22	9.52	12.3	2.80	15.0	5.00	2.23	.43	15.4	31.3	3.7	1.4	.39
23	11.8	3.46	3.46	8.21	2.61	1.72	.31	12.4	24.7	3.4	1.1	.34
24	3.70	3.00	2.42	3.96	2.42	1.45	.50	7.76	60.4	5.5	.69	.29
25	2.06	5.05	1.58	2.61	.31	1.72	.57	6.29	29.8	3.7	.60	.60
26	1.32	9.85	1.01	3.70	.21	1.32	.37	6.29	666	3.1	.60	15
27	.92	10.9	.50	1.20	.31	1.01	.26	6.29	72.6	2.5	.60	2.4
28	.57	9.56	.74	.92	1.32	.83	.50	247	48.8	2.2	.46	1.1
29	.43	3.70	.74	3.46	-	.65	.50	42.8	29.0	2.1	.53	.89
30	.50	1.58	.65	3.00	-	.65	.37	19.9	70.2	1.9	.60	.79
31	.43	-	.74	2.61	-	.65	-	308	-	1.8	1.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off		
						Inches	Acres-feet	
October.....	525.84	394		0.86	17.0	0.134	1,040	
November.....	107.68	14.6		.31	3.69	.028	214	
December.....	64.48	4.48		.50	2.08	.016	128	
Calendar year .....								
January.....	322.40	153		.50	10.4	.082	.09	539
February.....	207.31	47.9		.21	7.40	.058	.06	411
March.....	145.93	15.9		.85	4.71	.037	.04	289
April.....	28.71	2.80		.28	.957	.0075	.008	57
May.....	869.71	308		.26	28.1	.221	.25	1,730
June.....	3,275.90	666		8.5	109	.858	.96	6,500
July.....	388.0	88		1.6	12.5	.098	.11	770
August.....	26.43	1.6		.46	.853	.0067	.007	52
September.....	73.11	15		.29	2.44	.019	.02	145
Water year 1934-35 .....	6,035.48	666		.06	16.5	.130	1.74	11,980



## Nodaway River near Burlington Junction, Mo.

Location.- Wire-weight gage, lat. 40°26', long. 95°5', in sec. 17, T. 65 N., R. 37 W., at bridge on State Highway 4 (revised) 1½ miles west of Burlington Junction. Prior to Dec. 7, 1934, chain gage at same site and datum.

Drainage area.- 1,240 square miles.

Records available.- March 1922 to September 1935.

Average discharge.- 13 years, 393 second-feet.

Extremes.- Maximum discharge observed during year, 10,600 second-feet May 31 (gage height, 13.45 feet); minimum discharge, 17 second-feet Nov. 16; minimum gage height, 2.06 feet Sept. 22, 23.  
1922-35: Maximum discharge observed, 21,000 second-feet July 6, 1929; maximum gage height observed, 19.5 feet Sept. 3, 1936; minimum discharge, 1.1 second-foot Aug. 7, 1934; minimum gage height, 1.80 feet July 28, 1923.

Remarks.- Records poor. Stage-discharge relation affected by ice Dec. 6-11, 13-19, 21-31, Jan. 1-9, 13-31, Feb. 1-20, 24-27.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	178	25	78	29	412	231	42	27	2,600	516	35	56
2	100	25	91	25	412	455	42	30	5,370	322	34	89
3	78	155	78	25	374	786	39	32	2,760	377	786	60
4	58	123	69	25	337	1,320	38	29	2,440	274	231	45
5	52	58	46	25	285	2,850	41	26	1,500	736	89	39
6	41	36	50	25	235	1,820	39	26	2,600	274	56	36
7	38	43	50	29	220	558	74	26	690	245	43	38
8	35	35	50	33	192	231	53	24	475	192	37	41
9	31	28	46	29	166	204	43	25	358	690	33	146
10	30	25	41	34	153	218	44	24	3,710	435	29	78
11	28	25	33	44	142	179	44	25	786	204	28	63
12	27	24	31	52	132	136	50	90	358	156	26	53
13	25	21	37	50	132	156	40	80	289	127	26	45
14	25	18	41	41	132	146	37	98	245	111	25	40
15	24	18	46	37	132	146	36	66	204	101	24	37
16	25	17	55	37	274	113	34	94	274	65	21	44
17	22	24	60	37	416	90	32	65	2,440	78	21	38
18	27	566	60	41	496	113	34	49	6,170	72	21	33
19	5680	67	55	1,100	690	90	32	455	2,520	69	23	31
20	1270	453	47	996	1,050	85	32	1,620	2,010	76	24	30
21	374	69	46	888	377	99	30	1,050	1,380	64	24	28
22	132	543	41	735	289	83	29	306	690	60	26	27
23	374	114	41	685	259	69	28	306	435	57	32	27
24	91	81	37	636	192	61	26	245	306	59	29	28
25	64	64	33	566	168	61	28	245	558	136	25	30
26	50	337	33	520	127	56	26	179	3,030	69	24	340
27	41	37	29	475	110	51	26	156	4,790	50	23	146
28	36	589	25	412	127	50	29	690	3,820	55	25	63
29	31	153	25	393	-	47	28	1,880	2,080	48	24	55
30	30	89	25	393	-	41	26	1,620	786	41	26	50
31	28	-	29	393	-	45	-	4,530	-	39	29	-
Month				Second-foot-days		Maximum	Minimum	Mean	Per square mile	Run-off		
										Inches	Acre-feet	
October.....				9,045		5,680	22	292	0.235	0.27	17,940	
November.....				3,860		589	17	129	.104	.12	7,660	
December.....				1,428		91	25	46.1	.037	.04	2,830	
Calendar year 1934.....				34,211.7		5,680	1.1	93.7	.076	1.02	67,860	
January.....				8,810		1,100	25	284	.229	.26	17,470	
February.....				8,031		1,050	110	287	.231	.24	15,930	
March.....				10,585		2,850	41	341	.275	.32	21,000	
April.....				1,104		74	26	36.8	.030	.03	2,190	
May.....				14,118		4,530	24	455	.367	.42	28,000	
June.....				55,674		6,170	204	1,856	1.50	1.67	110,400	
July.....				5,870		786	39	189	.252	.13	11,640	
August.....				1,899		786	21	61.3	.049	.06	3,770	
September.....				1,836		340	27	61.2	.049	.05	3,640	
Water year 1934-35.....				122,260		6,170	17	335	.270	3.66	242,500	

## Platte River near Agency, Mo.

Location.- Wire-weight gage, lat. 39°41'20", long. 94°42'15", in NE $\frac{1}{4}$  sec. 10, T. 56 N., R. 34 W., at bridge on U. S. Highway 169,  $\frac{1}{2}$  miles below Third Fork and 3 miles northeast (revised) of Agency. Prior to Dec. 12, 1934, chain gage at same site and datum.

Drainage area.- 1,760 square miles.

Records available.- May 1932 to September 1935, May 1924 to August 1930 at site 4 miles downstream.

Extremes.- Maximum discharge observed during year, 21,800 second-feet June 4 (gage height, 23.10 feet); minimum, 4.1 second-feet Oct. 17 (gage height, 2.03 feet). 1924-30, 1932-35: Maximum discharge, 22,800 second-feet Sept. 18, 1926 (gage height, 25.5 feet, present site and datum); no flow several days during July and August 1934.

Remarks.- Records fair except those for days of rapidly changing stage and for periods of ice effect, Dec. 7-20, 25-31, Jan. 1-5, 15, 16, 20-31, Feb. 1, 2, 10, 11, 26, which are poor. Discharge estimated Mar. 22.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	264	39	566	61	136	118	47	432	7,000	1,160	40	45
2	200	32	404	49	136	145	44	974	17,000	2,120	36	80
3	102	36	463	49	163	761	41	432	20,200	929	51	110
4	65	38	603	49	172	1,300	45	252	21,600	566	50	64
5	50	53	350	49	182	1,350	44	163	16,700	376	49	53
6	38	127	337	68	163	1,550	38	154	7,100	337	56	38
7	26	110	324	80	145	1,070	94	136	4,060	2654	36	31
8	19	83	276	110	172	432	145	127	2,120	264	31	87
9	16	54	210	154	154	241	136	350	1,260	191	28	154
10	12	39	154	182	172	220	145	200	3,600	843	25	65
11	10	29	118	191	210	241	163	276	3,860	2,180	23	51
12	8	25	102	210	264	288	145	463	2,690	376	21	40
13	7	22	102	191	376	300	127	2,630	1,650	276	21	44
14	8	16	102	210	432	264	127	1,160	642	182	19	36
15	6	14	102	210	463	220	118	761	496	154	22	27
16	7	14	118	191	1,350	162	94	2,450	720	127	22	25
17	4.1	11	191	136	1,400	154	87	1,700	432	102	22	25
18	4.5	31	276	172	1,070	136	127	986	1,900	94	22	127
19	26	4,700	324	182	496	110	324	1,500	7,500	86	23	118
20	603	1,850	376	191	350	110	172	4,270	11,500	87	23	60
21	2,180	1,260	376	191	264	110	163	6,560	12,300	73	29	37
22	302	2,930	337	172	200	106	118	5,000	3,800	72	25	27
23	337	3,480	230	154	172	102	94	2,280	1,950	66	29	24
24	566	2,180	200	136	163	87	94	1,650	1,110	59	22	22
25	642	686	191	136	200	118	94	1,950	3,540	54	28	22
26	720	1,960	172	118	252	200	77	1,160	2,280	56	26	40
27	264	2,060	154	118	127	118	69	761	5,160	74	22	30
28	127	1,900	136	118	241	87	65	9,520	5,640	59	19	404
29	86	2,280	118	118	-	55	127	6,220	2,570	50	20	154
30	65	1,160	102	118	-	54	127	4,790	1,160	46	18	81
31	49	-	73	118	-	47	-	4,130	-	41	19	-
Month				Second-foot-days		Maximum	Minimum	Mean	Per square mile	Run-off		
										Inches	Acres-feet	
October.....				7,313.6		2,180	4.1	236	0.134	0.15	14,510	
November.....				27,419		4,700	11	914	.519	.58	54,380	
December.....				7,597		603	73	245	.139	.16	15,060	
Calendar year 1934.....				60,963.5		4,700	0	167	.095	1.28	120,900	
January.....				4,232		210	49	137	.078	.09	8,390	
February.....				9,625		1,400	127	344	.195	.20	19,090	
March.....				10,276		1,560	47	331	.188	.22	20,380	
April.....				3,291		324	38	110	.063	.07	6,530	
May.....				63,127		9,520	127	2,036	1.16	1.34	125,200	
June.....				171,540		21,500	432	5,718	3.25	3.63	340,200	
July.....				11,364		2,180	41	367	.209	.24	22,540	
August.....				877		56	18	28.3	.016	.02	1,740	
September.....				2,141		404	22	71.4	.041	.05	4,260	
Water year 1934-35.....				318,792.6		21,500	4.1	873	.496	6.75	632,300	

One Hundred and Two River near Maryville, Mo.

Location.- Wire-weight gage, lat. 40°23', long. 94°50', in SE¼SW¼ sec. 34, T. 65 N., R. 35 W., on county highway bridge 2½ miles (revised) northeast of Maryville.

Drainage area.- 500 square miles.

Records available.- June 1934 to September 1935.

Extremes.- Maximum discharge during year, 10,300 second-feet June 1 (gage height, 19.60 feet, from flood marks); minimum, 0.1 second-foot Oct. 16 (gage height, 1.87 feet). 1934-35: Maximum discharge, that of June 1, 1935; minimum, less than 0.05 second-foot Aug. 1, 3, 4, 7-11, 29, Sept. 25, 1934; minimum gage height, 1.81 feet Aug. 10, 1934.

Maximum known stage about 21.2 feet, date unknown.

Remarks.- Records fair except those for days of rapidly changing stage and for periods of ice effect, Dec. 5 to Jan. 12, Jan. 14 to Feb. 13, Feb. 24 to Mar. 2, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	7	57	12	40	20	15	10	4,590	137	6	32
2	6	6	70	12	36	61	15	10	5,180	98	7	16
3	4.0	8	92	12	32	47	11	16	4,050	86	18	10
4	2.9	32	42	12	26	550	10	14	1,720	70	7	5
5	2.9	11	36	12	22	698	14	14	506	53	6	5
6	1.5	8	32	12	20	572	11	11	1,790	45	6	5
7	1.5	6	32	12	17	416	19	11	356	38	6	6
8	1.2	6	29	14	17	117	30	11	224	33	6	7
9	1.0	6	26	20	17	81	25	10	166	110	5	7
10	1.0	6	22	26	17	61	26	8	1,760	2,630	5	6
11	.9	6	22	29	17	96	30	7	1,270	260	5	6
12	.9	4.7	22	36	104	76	26	56	396	86	5	5
13	.9	4.7	22	76	144	71	23	233	144	54	5	5
14	.9	4.5	22	44	276	61	26	166	104	41	5	4.9
15	.2	4.4	22	32	1,520	53	18	484	86	33	4.7	4.9
16	.1	4.4	26	29	528	44	16	166	71	28	4.5	12
17	1.9	4.4	44	26	253	30	16	152	67	22	3.6	39
18	472	116	52	29	124	32	16	96	4,150	20	5	10
19	496	203	52	56	92	37	14	316	2,030	17	4.7	7
20			44	110	71	36	14	848	1,520	18	5	6
21	150	262	36	117	63	31	11	1,410	664	16	5	6
22	46	616	29	117	62	31	11	528	440	13	4.7	5
23	25	165	22	104	46	25	7	276	215	12	6	5
24	449	116	20	98	36	19	10	276	150	32	5	4.7
25	25	50	17	86	29	21	10	356	640	28	5	4.5
26	14	360	17	81	26	18	10	152	1,970	16	5	356
27	14	150	14	76	22	17	7	936	1,380	12	4.9	47
28	9	616	14	66	20	14	10	698	1,060	11	4.7	22
29	8	152	14	61	-	12	11	462	242	9	4.7	14
30	8	76	12	52	-	12	10	848	130	8	5	9
31	8	-	12	48	-	12	-	1,950	-	7	5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,755.6	496	0.1	56.6	0.113	0.13	5,480
November.....	4,921.1	1,870	4.4	164	.328	.37	9,760
December.....	975	92	12	31.4	.063	.07	1,950
Calendar year .....							
January.....	1,517	117	12	48.9	.098	.11	3,010
February.....	3,659	1,520	17	131	.262	.27	7,260
March.....	3,393	688	12	109	.218	.25	6,730
April.....	468	30	7	15.6	.031	.03	928
May.....	10,527	1,950	7	340	.680	.78	20,380
June.....	36,951	5,180	67	1,232	2.46	2.74	73,290
July.....	4,043	2,630	7	130	.260	.30	8,020
August.....	174.5	18	3.6	5.65	.011	.01	346
September.....	652.0	356	4.5	21.7	.043	.05	1,290
Water year 1934-35 .....	69,032.2	5,180	.1	189	.378	5.11	136,900

## Arikaree River at Haigler, Nebr.

Location.— Staff gage, lat. 40°1', long. 101°57', in sec. 28, T. 1 N., R. 41 W., half a mile northwest of Haigler and 1½ miles above mouth. Prior to May 30, 1935, staff gage 200 feet upstream at 2 feet higher datum.

Drainage area.— 2,210 square miles.

Records available.— March 1932 to September 1935.

Extremes.— Maximum discharge during year, 50,000 second-feet May 31 by slope measurement (gage height, 11.2 feet); minimum daily discharge, 3 second-feet July 17. 1932-35: Maximum discharge, that of May 31, 1935; no flow July 30 to Aug. 10, Aug. 12, 13, 1934.

Remarks.— Records fair except those for Dec. 1 to Feb. 14, May 30 to Sept. 30, which are poor. Discharge estimated Dec. 1 to Feb. 14 on the basis of one discharge measurement and temperature records, and May 30 to June 4 on the basis of slope measurement and observer's reports. Small diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6	7				23	18	29	5,000	29	29	8
2	6	8				25	19	28	4,000	27	32	9
3	6	8			24	24	20	28	2,000	13	35	8
4	6	9			24	19	32	800	14	40	6	6
5	6	9			21	20	30	400	14	35	6	6
6	6	9				19	20	26	289	10	38	7
7	5	10				20	20	21	275	8	36	11
8	5	10			18	20	20	22	266	6	36	39
9	5	9			18	22	23	232	4	41	22	8
10	6	10			19	20	18	225	5	38		
11	6	10				18	21	19	224	5	36	6
12	6	11			22	18	23	23	911	5	38	6
13	6	12				17	23	17	470	4	38	6
14	6	11		*18		17	24	17	322	4	39	6
15	6	13			23	16	23	24	192	4	35	6
16	6	14			23	16	23	28	188	4	40	7
17	6	14			23	16	24	33	383	3	41	7
18	6	53			22	14	25	44	208	5	173	6
19	6	28			19	13	24	70	115	4	19	6
20	6	26			19	13	24	63	112	4	11	6
21	6	26			19	13	29	40	118	4	10	5
22	6	26			19	13	29	40	78	4	10	4
23	6	26			18	13	28	33	73	204	204	4
24	6	25			19	13	28	40	73	148	26	5
25	6	25			19	13	32	150	60	159	75	5
26	6	26			18	16	53	36	357	85	30	5
27	6	28			18	16	56	55	112	54	20	5
28	6	36			18	16	40	485	173	33	8	8
29	7	39			-	16	38	37	60	31	8	6
30	7	32			-	18	33	3,500	232	22	7	4
31	7	-			-	18	-	17,000	-	19	8	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					196	7	5	6.0	369			
November.....					570	53	7	19.0	1,130			
December.....					682	-	-	22	1,350			
Calendar year 1934.....					7,307.6	1,080	0	20.0	14,500			
January.....					527	-	-	17	1,050			
February.....					575	-	18	20.5	1,140			
March.....					535	25	13	17.3	1,060			
April.....					798	56	18	26.6	1,580			
May.....					21,989	17,000	17	709	45,610			
June.....					17,971	5,000	60	599	35,640			
July.....					935	204	3	30.2	1,850			
August.....					1,234	204	7	39.3	2,450			
September.....					237	39	4	7.9	470			
Water year 1934-35.....					46,239	17,000	3	127	91,700			

\*Discharge measurement.

## Republican River at Max, Nebr.

Location.— Staff gage, lat. 40°6', long. 101°24', in sec. 32, T. 2 N., R. 36 W., three-quarters of a mile south of Max. Zero of gage is 2,873.6 feet above mean sea level.

Drainage area.— 6,220 square miles.

Records available.— August 1928 to September 1935.

Extremes.— Maximum discharge during year, 190,000 second-feet (slope measurement), May 31, (gage height, 11.8 feet); minimum daily discharge, 13 second-feet Aug. 15–17. 1928–35: Maximum discharge recorded, that of May 31, 1935; no flow during parts of summer, 1930, 1931, 1933, 1934.

Remarks.— Records fair except those for Nov. 24–30, Dec. 4–15, Dec. 26 to Feb. 16, Feb. 24 to Mar. 1, which were estimated on the basis of one discharge measurement and temperature records, and those for May 25 to June 26, which were estimated by comparison with Republican River near Bloomington. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	54	170		195	330	132	137	22,000	624	65	114
2	22	59	166		205	402	100	142	8,000	540	62	104
3	23	59	166		190	291	132	113	3,800	366	53	71
4	23	61	175		205	264	146	100	2,500	224	50	77
5	25	56	165		160	238	142	95	2,100	200	56	94
6	27	61	160		140	206	161	87	1,600	200	50	99
7	25	65	155		135	222	176	73	1,200	200	43	77
8	28	61	170		140	250	171	87	1,000	212	33	390
9	34	61	175		160	264	180	95	860	212	33	435
10	32	59	170		165	233	195	87	790	218	31	296
11	37	59	175		175	211	185	74	700	182	20	212
12	35	65	190		170	195	176	78	800	150	18	182
13	32	74	195		165	206	161	70	650	133	19	155
14	31	95	190	*165	155	190	142	82	640	99	15	139
15	38	95	185		160	185	128	100	700	109	13	155
16	43	95	205		175	161	95	104	5,000	114	13	85
17	45	113	185		185	185	74	109	12,000	104	13	85
18	59	118	176		190	176	59	137	3,200	77	679	99
19	59	161	185		190	180	50	244	1,500	77	350	109
20	56	151	185		206	161	43	327	1,500	74	171	109
21	56	161	180		206	151	28	318	1,550	62	94	94
22	52	151	190		166	161	38	291	1,300	71	426	77
23	47	151	176		180	142	35	235	1,050	1,830	1,160	74
24	47	135	166		170	137	38	190	910	374	435	71
25	50	105	156		160	156	146	180	820	283	358	74
26	52	105	140		145	151	206	250	774	200	249	236
27	52	110	150		155	123	233	300	417	133	160	114
28	61	110	155		190	118	195	8,740	1,113	123	104	94
29	78	120	160		-	132	166	5,500	530	104	139	113
30	61	130	160		-	128	146	11,000	976	80	104	109
31	59	-	160		-	132	-	85,000	-	74	104	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				1,509		78	20	42.2	2,600			
November.....				2,900		161	54	96.7	5,750			
December.....				5,536		205	140	172	10,580			
Calendar year 1934.....				43,424		2,580	0	119	86,120			
January.....				5,425		-	-	175	10,760			
February.....				4,333		402	135	173	9,600			
March.....				5,086		402	118	196	12,070			
April.....				3,879		233	28	129	7,690			
May.....				117,558		85,000	70	3,786	232,800			
June.....				80,277		22,000	417	2,676	159,200			
July.....				7,449		1,830	62	240	14,770			
August.....				5,120		1,160	13	166	10,160			
September.....				4,148		435	71	133	8,230			
Water year 1934-35.....				244,125		85,000	13	669	484,200			

\*Discharge measurement.

## Republican River at Culbertson, Nebr.

Location.— Staff gage, lat. 40°13', long. 100°51', in sec. 20, T. 3 N., R. 31 W., three-quarters of a mile south of Culbertson and 2 miles above mouth of Frenchman Creek.

Drainage area.— 8,790 square miles.

Records available.— March 1931 to September 1935.

Extremes.— Maximum discharge during year not determined, occurred on May 31; minimum daily discharge, 2 second-feet Oct. 1-3.  
1931-35: Maximum discharge, that of May 31, 1935; no flow for several days during summer 1931, 1934.

Remarks.— Records fair except those for Dec. 2 to Feb. 15, Feb. 24 to Mar. 3, which were estimated on basis of one discharge measurement and temperature records, and those for May 28 to June 27, which were estimated by comparison with Republican River at Bloomington. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2	40	171		210	370	180	171	25,000	1,470	165	82
2	2	42	165		215	490	160	165	11,000	628	194	50
3	2	42	175		210	450	150	150	5,500	478	158	48
4	5	42	175		215	345	134	134	3,800	430	135	45
5	15	46	180		210	305	130	130	2,600	315	86	48
6	16	47	180		195	355	138	138	2,700	260	86	48
7	19	49	175		160	285	154	134	2,000	205	75	48
8	16	47	170		165	270	146	160	1,600	241	67	559
9	5	49	175		170	262	150	126	1,400	250	56	552
10	8	49	180		175	262	165	114	1,200	250	45	614
11	11	53	175		180	262	188	114	850	158	56	346
12	12	60	185		175	295	171	114	1,100	135	48	222
13	11	68	185	*321	175	240	171	100	1,000	150	45	112
14	15	68	205		170	175	160	90	950	150	43	90
15	19	87	200		180	165	154	126	900	142	34	112
16	19	87	195		188	165	146	138	7,000	142	20	67
17	19	100	210		210	130	122	146	13,000	135	15	98
18	21	126	200		193	150	104	171	4,000	112	430	67
19	24	126	199		189	146	84	285	2,000	108	1,500	67
20	30	154	162		188	150	87	409	2,300	105	79	63
21	33	138	171		176	184	83	409	1,950	112	128	56
22	33	171	188		171	142	72	548	1,700	128	150	79
23	21	97	182		165	150	55	505	1,400	977	587	67
24	19	111	200		160	138	51	345	1,100	1,310	1,130	41
25	20	111	180		170	165	160	305	890	1,410	657	41
26	20	114	170		220	160	188	315	760	760	821	52
27	20	126	160		290	165	262	225	555	466	293	271
28	38	122	165		340	171	176	8,000	2,350	304	160	135
29	40	150	165		-	160	104	7,800	1,540	282	79	128
30	44	199	170		-	130	107	11,000	2,910	184	50	112
31	44	-	170		-	154	-	90,000	-	120	47	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				603		44	2	19.5	1,200			
November.....				2,651		199	40	68.7	5,280			
December.....				5,633		210	160	162	11,170			
Calendar year 1934.....				36,775		1,260	0	101	72,950			
January.....				6,200		-	-	200	12,300			
February.....				5,465		340	150	195	10,840			
March.....				6,852		450	130	221	13,590			
April.....				4,102		262	51	137	8,140			
May.....				122,537		90,000	90	3,354	245,100			
June.....				105,085		25,000	565	3,503	208,400			
July.....				11,912		1,470	105	384	23,630			
August.....				7,529		1,600	15	245	14,930			
September.....				4,622		852	41	154	9,170			
Water year 1934-35.....				283,231		90,000	2	776	561,800			

\*Discharge measurement.

## Republican River near Bloomington, Nebr.

Location.- Chain gage, lat. 40°4', long. 99°2', in sec. 8, T. 1 N., R. 15 W., 2 miles south of Bloomington. Zero of gage is 1,821.5 feet above mean sea level. Datum lowered 1.00 foot Apr. 13, 1935; all gage readings after Sept. 30, 1934, reduced to new datum.

Drainage area.- 19,000 square miles.

Records available.- April 1929 to September 1935.

Extremes.- Maximum discharge during year, 280,000 second-feet (slope measurement), June 1, (gage height, 20.4 feet); minimum daily discharge, 49 second-feet Oct. 13. 1929-35: Maximum discharge, that of June 1, 1935; minimum mean daily discharge, 9.2 second-feet Aug. 8, 1934.

Remarks.- Records good except those for Dec. 27 to Feb. 13, Feb. 24 to Mar. 1, which were estimated on the basis of two discharge measurements and temperature records, and those for June 1, 2, 18, 19, which were based on comparison with Republican River near Hardy. Minor diversions for irrigation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	89	90	139	355	475	315	378	450	116,000	1,740	245	1,140
2	64	93	85	365	485	358	364	466	47,000	2,200	225	1,340
3	61	95	70	340	475	397	360	364	17,700	1,850	225	995
4	58	98	98	400	460	548	351	305	9,500	1,560	217	841
5	58	102	107	450	445	759	346	310	8,420	1,210	209	739
6	56	102	119	445	425	719	351	266	2,610	1,210	195	654
7	54	106	130	440	430	648	364	286	2,730	1,080	179	616
8	54	102	154	440	435	585	346	272	2,580	925	168	5,310
9	52	102	214	440	440	572	360	275	1,660	995	160	4,170
10	54	99	217	440	445	572	355	242	1,840	862	145	2,760
11	54	99	242	440	440	610	444	266	1,910	786	141	2,150
12	52	96	272	444	430	542	406	2,930	1,660	779	148	1,670
13	49	96	303	445	425	512	266	1,480	1,720	641	141	1,560
14	50	96	279	450	418	466	408	772	1,540	667	134	1,170
15	52	93	267	470	418	444	383	418	3,300	667	130	918
16	55	96	248	480	423	616	364	369	2,800	572	121	745
17	58	99	292	485	418	579	387	472	4,350	524	119	616
18	58	102	346	430	408	466	342	654	14,000	500	116	572
19	62	112	338	390	408	455	318	1,170	6,500	461	116	500
20	76	137	330	385	397	444	314	2,150	5,010	423	116	466
21	104	239	358	380	387	428	303	2,970	4,060	392	109	423
22	360	1,260	322	385	374	408	282	1,660	5,410	369	1,220	413
23	175	988	314	400	383	397	269	1,350	4,060	560	786	355
24	139	454	306	425	370	402	2,330	1,170	2,740	1,240	392	314
25	119	257	299	450	320	406	387	1,040	2,820	383	572	338
26	110	175	296	460	280	408	326	911	1,630	795	8,680	346
27	107	154	240	460	290	413	1,010	1,020	1,660	591	4,990	353
28	104	160	270	450	310	397	786	2,550	3,210	478	4,510	766
29	99	146	310	465	-	402	548	10,400	2,760	378	5,130	355
30	97	137	330	465	-	392	413	8,230	2,550	299	2,500	383
31	85	-	364	470	-	383	-	15,900	-	266	1,590	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2,630	360	49	84.8	5,220
November.....	5,963	1,280	90	199	11,850
December.....	7,617	364	70	246	15,110
Calendar year 1934.....	130,214	5,300	10	357	258,300
January.....	13,364	495	340	430	26,430
February.....	15,414	485	280	408	22,640
March.....	15,025	759	315	485	29,800
April.....	13,863	2,330	266	462	27,500
May.....	61,136	15,900	242	1,972	121,300
June.....	280,280	116,000	1,540	9,343	555,900
July.....	24,901	2,800	266	803	49,390
August.....	36,227	8,680	109	1,072	66,900
September.....	35,963	8,310	514	1,199	71,330
Water year 1934-35.....	505,343	116,000	49	1,385	1,002,000

## Republican River near Hardy, Nebr.

Location.— Water-stage recorder, lat. 40°, long. 97°56', in sec. 6, T. 1 S., R. 5 W., 1½ miles southwest of Hardy.

Drainage area.— 20,500 square miles.

Records available.— May 1932 to September 1935.

Extremes.— Maximum discharge during year, 225,000 second-feet June 2 by slope measurement (gage height, 19.4 feet); minimum daily discharge, 58 second-feet Oct. 15, 17, 1932-35; Maximum discharge, that of June 2, 1935; no flow Aug. 9-19, 1934.

Remarks.— Records fair. Discharge estimated Dec. 4 to Feb. 28 on the basis of two discharge measurements and temperature records. Power plant 8 miles above station regulates flow.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75	105	306	220	410	517	395	598	12,000	2,680	435	2,270
2	81	108	302	255	450	592	395	490	117,000	2,320	400	1,690
3	77	105	292	250	575	554	385	456	45,100	1,960	375	1,560
4	75	100	274	265	625	512	375	456	12,600	2,140	350	1,480
5	70	108	200	275	675	523	375	425	7,980	1,590	345	1,100
6	71	100	155	280	725	610	385	420	6,170	1,580	355	915
7	70	100	120	285	725	737	390	410	5,000	1,420	355	825
8	64	105	125	300	650	696	400	385	4,050	1,300	350	2,430
9	62	102	150	310	620	673	405	360	3,390	1,160	350	11,100
10	64	100	180	325	620	669	415	345	2,850	1,110	340	5,850
11	60	102	210	345	625	586	415	350	2,350	990	345	3,460
12	60	105	225	370	625	586	425	302	1,950	931	340	2,770
13	64	105	240	390	600	604	585	728	1,870	877	340	2,180
14	62	108	235	410	625	574	534	2,180	1,780	805	335	1,710
15	58	114	225	435	620	550	610	1,240	1,660	744	326	1,450
16	60	114	220	455	550	508	506	744	3,260	704	330	1,320
17	58	114	220	450	530	500	451	552	5,990	673	326	1,120
18	62	120	250	420	530	495	425	552	5,100	698	321	915
19	70	120	280	320	540	490	420	1,000	13,200	610	274	814
20	61	129	295	260	535	484	420	3,540	11,000	574	196	728
21	75	155	550	200	530	473	410	2,160	7,920	556	164	673
22	75	158	385	220	520	456	395	3,910	5,550	556	261	631
23	81	255	400	230	475	440	375	2,430	6,540	544	825	598
24	269	1,580	375	240	425	446	360	1,970	5,310	554	1,420	596
25	235	895	320	250	390	435	1,740	1,450	3,620	752	970	517
26	161	610	280	265	360	440	1,460	1,270	3,050	1,100	832	1,500
27	175	455	260	280	370	450	596	1,320	5,390	534	4,690	752
28	135	390	225	305	410	420	425	4,250	5,270	631	7,020	586
29	129	350	195	325	-	415	586	3,200	5,030	673	5,220	528
30	111	340	185	360	-	405	756	8,790	3,980	574	6,140	555
31	120	-	200	380	-	395	-	9,780	-	506	3,280	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						2,924	269	58	94.3	5,800		
November.....						7,145	1,580	100	238	11,170		
December.....						7,679	400	120	248	15,230		
Calendar year 1934.....						135,452.2	5,340	0	371	269,700		
January.....						9,656	466	200	511	19,150		
February.....						15,535	725	360	548	30,420		
March.....						16,583	797	395	524	32,210		
April.....						15,550	1,740	360	518	30,840		
May.....						56,015	9,780	302	1,807	111,100		
June.....						311,680	117,000	1,660	10,390	618,200		
July.....						31,666	2,680	506	1,022	65,210		
August.....						57,618	7,020	124	1,215	74,610		
September.....						52,498	11,100	622	1,750	104,100		
Water year 1934-35.....						564,170	117,000	58	1,546	1,119,000		



## Republican River at Scandia, Kans.

Location.— Chain gage, lat. 39°48', long. 97°47', in NE¼ sec. 17, T. 3 S., R. 4 W., at Scandia, 4 miles below Dry Creek.

Drainage area.— 23,000 square miles.

Records available.— August 1919 to July 1925, August 1928 to September 1935.

Average discharge.— 12 years (1919-24, 1928-35), 810 second-feet.

Extremes.— Maximum discharge during year, 215,000 second-feet June 2 (gage height, 17.80 feet from flood marks); minimum, 29 second-feet Oct. 17 (gage height, 1.88 feet).

1919-25, 1928-35: Maximum discharge, that of June 2, 1935; no flow Aug. 9-21, 1934. Bank-full stage, 9 feet.

Maximum stage known, 14.2 feet June 30, 1915.

Remarks.— Records fair. No gage-height record Jan. 21-23, 25-31, June 4-10, July 9, 12, 13, discharge estimated from weather records, by comparison with nearby stations and from field engineers' notes. Records affected by ice Dec. 3 to Feb. 4. Feb. 25 to Mar. 23; discharge estimated on basis of numerous current-meter measurements.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	102	134	405	210	350	500	359	642	15,500	2,760	535	2,500
2	72	150	204	220	400	550	359	580	115,000	2,360	470	1,770
3	86	145	190	220	500	550	359	490	56,200	1,770	441	1,450
4	72	138	190	240	600	550	359	520	20,000	2,240	412	1,560
5	77	112	180	250	745	580	359	435	9,000	1,560	412	1,260
6	72	130	162	270	782	580	335	435	6,000	1,350	359	1,030
7	89	123	155	290	782	820	335	435	3,500	1,050	359	905
8	75	123	160	310	762	820	335	409	2,500	1,060	335	1,260
9	63	119	170	330	642	782	435	335	2,300	1,050	335	9,480
10	63	115	180	360	642	710	435	385	2,250	1,200	311	7,280
11	61	115	190	580	675	710	462	359	2,240	1,080	311	3,640
12	63	115	190	400	675	642	462	353	1,880	1,050	290	2,900
13	61	119	200	420	642	642	435	409	2,120	1,020	288	2,120
14	75	134	210	440	675	610	435	1,980	1,770	990	268	1,580
15	58	119	210	460	642	580	620	1,540	1,880	948	248	1,560
16	45	138	230	470	642	580	675	875	2,760	825	222	1,450
17	39	142	260	470	550	580	550	700	4,270	825	222	1,360
18	69	142	270	475	550	580	435	632	5,130	785	222	1,080
19	63	145	300	400	580	550	462	875	15,000	745	207	990
20	66	145	350	300	550	520	462	4,730	15,000	670	222	905
21	75	142	400	250	550	490	462	2,770	7,050	600	229	825
22	66	145	450	200	550	490	435	4,040	6,590	600	335	785
23	58	153	460	180	550	462	435	2,360	5,320	568	412	745
24	66	950	450	200	435	490	409	1,640	4,950	535	1,770	708
25	330	1,080	350	240	430	435	745	1,560	3,490	568	1,160	708
26	330	735	300	260	390	435	1,750	1,100	2,900	1,460	905	1,770
27	306	570	250	260	380	435	550	1,360	3,040	670	3,490	1,080
28	217	485	200	280	430	409	490	11,100	7,050	600	7,760	825
29	138	487	160	280	-	409	359	7,760	7,080	948	4,110	670
30	153	405	176	300	-	385	520	10,700	4,270	745	6,590	785
31	145	-	200	300	-	359	-	12,700	-	635	3,640	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						3,255	330	39	105	6,460		
November.....						7,645	1,020	112	265	15,160		
December.....						7,761	460	150	250	15,590		
Calendar year 1934.....						141,885	5,470	0	389	281,400		
January.....						9,665	475	180	512	19,170		
February.....						16,111	782	350	575	31,960		
March.....						17,213	920	359	555	34,140		
April.....						15,025	1,750	335	501	29,600		
May.....						74,027	12,700	335	2,388	146,800		
June.....						336,010	115,000	1,770	11,800	666,500		
July.....						33,307	2,760	535	1,074	66,080		
August.....						56,850	7,760	207	1,189	73,090		
September.....						55,271	9,480	670	1,842	109,600		
Water year 1934-35.....						612,138	115,000	39	1,677	1,214,000		

## KANSAS RIVER BASIN

## Republican River at Clay Center, Kans.

**Location.**— Water-stage recorder, lat. 39°21', long. 97°8', in SW<sup>1</sup>/<sub>4</sub> sec. 17, T. 8 S., R. 3 E., about 1 mile south of Clay Center, and about 4 miles below mouth of "Five Creeks" which enters from the west. Chain gage used after June 2, 1935.

**Drainage area.**— 24,500 square miles.

**Records available.**— February 1934 to September 1935.

**Extremes.**— Maximum discharge during year, 195,000 second-feet June 3 (gage height, 25.74 feet); minimum, 27 second-feet Oct. 16 (gage height, 2.54 feet).

1934-35: maximum discharge, that of June 3, 1935; no flow Aug. 6, 7, 9-31, Sept. 1-8, 1934.

**Remarks.**— Records good except those estimated for Jan. 30 to Feb. 7, and those for July 10-16, which are fair. Estimates based on comparison with discharge of Kansas River at Ogden and Smoky Hill River at Enterprise.

Recomputation of discharge for flood of May and June 1903 for station on Republican River at Junction City, Kans., is to be published in a report on the flood on the Republican and Kansas Rivers in May and June 1935.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

(Shifting-control method used Oct. 1 to Nov. 25, Feb. 27 to May 20, June 1, 2)

Table for Oct. 1 to June 3

2.6	30	5.0	960	14.0	13,700
2.8	67	6.0	1,700	16.0	18,500
3.0	116	7.0	2,540	18.0	24,170
3.3	206	8.0	3,550	20.0	37,500
3.6	313	10.0	6,230	22.0	64,500
4.0	470	12.0	9,700	24.0	116,650
4.5	675				

Table for June 4 to Sept. 30

6.0	440	10.0	4,180
6.5	600	12.0	8,500
7.0	830	14.0	13,100
7.5	1,180	16.0	18,000
8.0	1,580	18.0	24,080
9.0	2,640	20.0	37,500

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	144	119	347	193	400	287	410	466	13,800	6,020	830	12,400
2	124	116	328	196	500	412	406	552	20,600	3,640	830	12,400
3	124	162	283	196	680	486	398	610	103,000	3,040	830	4,180
4	103	254	223	187	740	570	406	550	37,500	2,400	725	3,330
5	122	187	200	168	850	570	402	490	22,000	2,640	725	2,900
6	111	150	144	193	960	550	402	486	16,000	2,290	680	2,640
7	53	127	127	216	940	458	386	458	9,880	1,960	640	2,400
8	67	124	103	233	835	590	398	434	4,560	1,860	620	2,400
9	72	122	103	291	652	630	359	414	2,400	1,870	600	2,400
10	65	133	95	298	630	675	390	402	2,300	1,580	600	9,180
11	61	133	111	321	550	652	398	390	2,250	1,490	565	11,300
12	59	127	106	370	570	630	402	398	2,200	1,400	565	5,580
13	51	127	111	362	550	610	418	630	2,150	1,320	565	3,810
14	55	133	127	355	550	570	426	550	2,100	1,320	550	3,040
15	55	130	168	390	530	570	398	470	2,100	1,240	530	*2,660
16	51	127	193	321	550	570	410	1,580	2,200	1,160	500	2,290
17	47	127	283	438	550	530	510	1,130	2,290	1,090	500	1,960
18	57	127	313	422	510	530	590	780	3,810	1,020	500	*1,820
19	72	130	269	262	478	510	550	835	3,810	1,020	500	1,670
20	74	130	313	174	462	506	482	2,360	7,350	950	*500	1,490
21	74	136	269	324	462	506	426	7,730	18,300	890	500	1,320
22	78	113	298	200	454	490	458	4,520	11,500	830	500	*1,240
23	74	113	351	159	454	470	430	3,120	7,120	830	565	1,160
24	51	119	406	220	460	466	426	3,330	5,580	830	500	1,090
25	55	119	370	240	294	446	630	2,020	4,960	830	*1,000	1,090
26	53	258	370	233	233	438	1,100	1,620	3,990	775	2,070	3,330
27	53	652	223	233	226	430	780	1,350	2,770	725	1,760	2,070
28	76	570	108	233	254	418	1,460	2,180	6,020	1,090	830	1,960
29	122	506	150	258	-	422	675	6,230	8,960	830	8,040	*1,560
30	116	406	116	265	-	414	530	10,430	8,270	830	4,760	1,160
31	122	-	174	300	-	394	-	10,810	-	950	7,580	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2,441	144	47	78.7	4,840
November.....	5,777	652	113	193	11,460
December.....	6,782	406	95	219	13,450
Calendar year .....					
January.....	8,271	438	159	267	16,400
February.....	15,294	960	226	546	30,340
March.....	15,806	675	287	510	31,350
April.....	15,436	1,460	359	515	30,620
May.....	87,225	10,810	350	2,189	133,300
June.....	339,470	103,000	2,100	11,520	873,300
July.....	48,520	6,020	725	1,565	96,240
August.....	40,440	8,040	500	1,505	80,210
September.....	105,840	12,400	1,090	3,528	208,900
Water year 1934-35.....	671,302	103,000	47	1,839	1,331,000

\* Interpolated.

## Kansas River at Ogden, Kans.

Location.- Water-stage recorder, lat. 39°6', long. 96°42', in SW $\frac{1}{4}$  sec. 12, T. 11 S., R. 6 E., three-quarters of a mile south of Ogden and 10 miles below junction of Smoky Hill and Republican Rivers.

Drainage area.- 45,200 square miles.

Records available.- June 1917 to September 1935.

Average discharge.- 16 years, 2,172 second-feet.

Extremes.- Maximum discharge during year, 170,000 second-feet June 3 (gage height, 28.03 feet); minimum, 106 second-feet Oct. 28 (gage height, 4.21 feet).  
1917-35: Maximum discharge, that of June 3, 1935; minimum, 51 second-feet Aug. 20, 1934. Bank-full stage, 18 feet.

Remarks.- Records fair. Stage-discharge relation affected by ice Dec. 7, 8, 24-29, Jan. 3-5, 19-31; discharge based on comparison with that of nearby stations.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	865	192	592	427	400	500	450	832	21,900	19,600	2,460	13,200
2	652	160	506	404	410	500	475	735	30,600	16,400	2,300	17,500
3	522	189	495	380	418	450	450	900	54,300	14,800	2,200	11,400
4	455	400	445	350	455	500	428	935	96,200	14,800	2,120	7,480
5	409	445	418	320	506	670	450	832	56,700	14,800	2,020	6,760
6	555	391	386	307	592	670	450	800	44,000	15,800	1,940	6,040
7	283	339	370	382	640	582	450	702	32,900	15,800	1,840	6,040
8	247	299	360	418	592	582	450	702	23,900	15,800	1,890	5,690
9	231	264	351	404	865	610	475	640	21,500	12,000	2,160	4,440
10	240	254	254	414	800	640	450	555	21,100	6,790	2,020	3,660
11	231	272	339	440	768	735	450	610	21,900	5,240	1,890	7,480
12	234	198	331	455	768	768	475	582	21,900	4,660	1,800	8,230
13	231	237	396	445	735	735	475	582	16,100	4,250	1,620	6,220
14	198	237	339	470	735	735	450	800	8,400	4,000	1,580	6,040
15	195	228	331	517	735	670	450	1,080	6,790	3,980	1,490	5,690
16	216	213	323	528	702	670	475	832	6,250	3,760	1,450	4,440
17	219	228	354	455	670	640	450	1,240	6,070	3,520	1,400	3,540
18	216	742	355	485	735	610	500	1,840	10,200	3,400	1,320	3,060
19	204	404	436	430	702	640	610	2,600	11,200	3,280	1,360	2,850
20	237	386	427		640	640	640	4,520	11,700	3,170	1,280	2,660
21	177	386	436	364	640	610	555	7,750	16,400	3,060	1,320	2,500
22	172	400	427		640	592	500	11,400	24,700	2,950	1,280	2,340
23	219	378	400	364	640	582	500	10,400	17,800	2,840	1,240	2,260
24	207	323	400	364	582	528	500	10,400	16,400	2,730	1,280	2,180
25	192	307	405	350	610	528	475	11,700	16,400	2,680	1,400	2,110
26	137	339	410	350	500	555	475	11,200	17,100	3,170	1,590	2,660
27	169	355	410	360	428	528	935	10,900	16,400	3,760	2,070	4,040
28	109	716	405	350	500	528	768	26,700	18,100	3,400	2,350	3,300
29	122	805	405	350	-	475	1,490	16,800	20,900	3,380	2,120	3,420
30	219	716	400	370	-	475	1,160	17,800	22,500	2,680	6,590	3,910
31	343	-	359	390	-	475	-	19,600	-	2,400	6,040	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						6,525	865	109	275		16,910	
November.....						10,803	805	160	360		21,430	
December.....						12,255	592	254	395		24,310	
Calendar year 1934.....						292,197	10,900	78	801		579,500	
January.....						12,615	528	307	407		25,020	
February.....						17,408	865	400	622		34,550	
March.....						18,413	768	450	594		35,520	
April.....						16,861	1,490	428	562		33,440	
May.....						176,969	26,700	555	5,709		351,000	
June.....						710,010	96,200	6,070	23,670		1,408,000	
July.....						218,700	19,600	2,400	7,055		433,800	
August.....						63,400	6,580	1,240	2,045		125,800	
September.....						161,140	17,500	2,110	5,371		319,600	
Water year 1934-35.....						1,427,100	96,200	109	3,810		2,830,000	

## Kansas River at Wamego, Kans.

Location.— Water-stage recorder, lat. 39°12', long. 96°18', in SE¼ sec. 9, T. 10 S., R. 10 E., at Wamego, 3 miles below Antelope Creek.

Drainage area.— 54,900 square miles.

Records available.— January 1919 to September 1935. Intermittent observations made by U. S. Weather Bureau 1914-19.

Average discharge.— 16 years (1919-35), 3,535 second-feet.

Extremes.— Maximum discharge during year, 177,000 second-foot June 4 (gage height, 23.79 feet); minimum, 304 second-foot Oct. 22 (gage height, 1.34 feet).  
1919-35: Maximum discharge, that of June 4, 1935; minimum, 200 second-foot Aug. 23, 1934 (gage height, 1.14 feet). Bank-full stage, 15 feet.

Remarks.— Records good except those for periods of ice effect, Dec. 7-10, Jan. 20 to Feb. 3, and those for February, March, and April, which are fair. Discharge for periods of ice effect determined by comparison with that of nearby stations. Gage-height record collected in cooperation with U. S. Weather Bureau.

Rating tables, water year 1934-35, except periods of ice effect (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Oct. 1 to Nov. 12, Feb. 4 to Apr. 29)

Table for Oct. 1 to June 4

1.4	340	4.0	3,700	14.0	40,800
1.7	550	5.0	5,670	16.0	54,900
2.0	830	6.0	7,900	18.0	72,500
2.5	1,410	8.0	13,900	20.0	97,000
3.0	2,070	10.0	21,100	22.0	131,000
3.5	2,900	12.0	26,800	25.3	177,000

Table for June 5 to Sept. 30

2.2	1,650	5.0	6,720
2.4	1,950	7.0	12,000
2.6	2,270	9.0	18,100
3.0	2,930	11.0	25,900
3.5	3,780	13.0	35,200
4.0	4,630		

Above 15 feet same as previous table.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,740	510	940	703	760	750	760	4,370	33,900	29,900	3,520	14,700
2	1,600	470	852	730	800	760	712	3,890	44,700	23,600	3,360	26,800
3	1,290	449	703	568	850	820	740	3,060	60,400	19,400	3,180	17,500
4	951	494	740	435	940	896	730	2,490	140,000	18,800	3,020	11,400
5	800	649	685	470	760	685	721	2,210	129,000	18,100	2,940	9,740
6	740	874	613	568	790	1,030	730	1,930	62,800	19,400	2,680	8,160
7	649	1,010	590	502	962	1,060	740	1,670	51,900	18,400	2,510	7,660
8	577	830	550	510	962	1,090	740	1,350	35,200	17,800	2,430	7,420
9	456	667	530	559	790	1,060	760	1,240	27,200	16,300	2,590	6,780
10	518	526	500	510	1,070	1,040	810	1,070	24,600	12,500	2,930	5,400
11	456	478	463	510	1,160	1,040	790	1,150	24,800	8,410	2,680	6,720
12	494	550	631	658	1,160	1,090	750	1,030	26,800	7,180	2,510	12,300
13	421	428	649	685	1,130	1,160	740	1,860	25,500	6,720	2,430	9,470
14	428	442	820	676	1,050	1,170	740	6,030	14,700	6,270	2,270	7,910
15	376	428	830	685	1,070	1,170	740	4,180	11,400	5,830	2,110	8,160
16	358	394	770	721	1,040	1,160	790	2,860	9,470	5,400	2,110	6,950
17	376	470	542	685	1,030	1,130	830	2,490	8,930	5,000	1,950	5,610
18	414	676	534	568	1,030	1,070	740	2,900	12,300	4,630	1,900	4,630
19	414	630	613	550	1,030	1,030	760	3,420	17,100	4,630	1,960	4,120
20	428	568	595	540	995	1,030	885	5,070	19,400	4,460	1,800	3,780
21	428	622	649	530	940	1,010	810	16,200	19,100	4,290	2,110	3,580
22	370	740	622	530	962	995	790	26,100	30,800	3,950	1,680	3,270
23	1,040	595	640	550	962	973	760	27,900	25,500	3,700	2,190	3,020
24	1,090	577	631	570	962	962	750	15,400	20,900	3,700	2,110	2,840
25	940	510	658	580	940	918	694	16,200	19,400	3,520	2,110	2,680
26	852	542	604	600	951	863	640	15,600	20,500	3,610	6,950	6,270
27	676	534	631	620	850	874	631	15,600	19,300	4,630	4,200	5,610
28	568	550	604	640	694	841	667	27,000	20,500	4,630	3,440	5,830
29	463	830	586	660	—	780	896	30,300	28,500	4,460	3,780	4,810
30	478	1,020	604	680	—	750	3,940	25,200	29,000	4,290	4,290	5,200
31	502	—	494	710	—	721	—	33,400	—	3,660	8,160	—

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	20,883	1,740	358	674	41,420
November.....	18,263	1,020	394	609	36,220
December.....	19,873	940	463	641	39,420
Calendar year 1934.....	414,294	11,000	230	1,135	821,700
January.....	18,503	730	456	597	36,700
February.....	26,620	1,160	694	951	52,800
March.....	30,128	1,170	721	972	59,760
April.....	25,776	3,940	631	859	51,130
May.....	306,090	33,400	1,030	9,674	607,100
June.....	1,033,500	140,000	8,930	34,460	2,050,000
July.....	297,780	29,900	3,520	9,606	590,600
August.....	91,900	1,800	2,965	2,965	122,300
September.....	228,200	26,800	2,680	7,607	452,600
Water year 1934-35.....	2,117,516	140,000	358	5,801	4,200,000

## Kansas River at Topeka, Kans.

**Location.**— Water-stage recorder, lat. 39°4', long. 95°39', in Topeka, about half a mile above mouth of Soldier Creek. Prior to Oct. 1, 1934, U. S. Weather Bureau chain gage 1 mile upstream.

**Drainage area.**— 56,400 square miles.

**Records available.**— April to August 1904, June 1917 to September 1935.

**Average discharge.**— 18 years (1917-35) 4,002 second-feet.

**Extremes.**— Maximum discharge during year, 154,000 second-feet June 5 (gage height, 26.65 feet); minimum, 459 second-feet Dec. 7 (gage height, 1.93 feet).

1917-35: Maximum discharge, that of June 5, 1935; minimum, 200 second-feet Aug. 31, 1934.

**Remarks.**— Records good except those for period of ice effect, Jan. 23 to Feb. 1, which are fair and were estimated by comparison with those at Wamego and Bonner Springs. At low stages the gage readings correspond closely to readings of U. S. Weather Bureau gage 1 mile upstream. At crest stage of 26.65 June 5, 1935, the U. S. Weather Bureau gage read about 1 foot higher (27.6 feet).

Recomputation of discharge for flood of May and June 1903 for station on Kansas River at Leocompton, Kans., is to be published in a report on the flood on the Republican and Kansas Rivers in May and June 1935.

Rating tables, water year 1934-35, except period of ice effect  
(gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to June 30

Table for July 1 to Sept. 30

2.0	470	10.0	14,850	22.0	74,760	3.0	1,750	10.0	15,600
2.5	790	12.0	20,700	24.0	104,500	3.5	2,330	12.0	21,300
3.0	1,205	14.0	27,000	26.0	141,400	4.0	3,040	14.0	28,000
4.0	2,330	16.0	34,300			5.0	4,740	16.0	35,100
5.0	5,600	18.0	42,910			6.0	6,630		
6.0	9,950	20.0	55,200			8.0	10,870		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,940	650	1,340	842	815	921	790	3,530	50,900	30,000	3,360	9,120
2	1,700	650	1,200	699	858	828	828	4,090	42,900	26,600	3,280	31,400
3	1,540	585	1,140	678	937	812	755	3,690	50,200	20,700	3,280	22,300
4	1,300	585	1,030	828	921	820	790	2,910	66,800	18,600	3,040	15,100
5	1,030	585	998	741	1,150	881	790	2,400	141,000	17,700	2,800	11,300
6	905	720	979	699	889	897	776	2,200	115,000	18,300	2,660	9,980
7	828	865	671	921	962	962	865	1,880	61,100	18,600	2,690	8,700
8	755	1,120	585	855	979	996	798	1,760	41,000	17,700	2,460	3,460
9	678	1,050	685	769	979	1,010	762	1,540	31,200	17,500	2,400	8,070
10	567	790	776	812	996	1,050	820	1,390	27,000	15,300	2,590	7,030
11	611	650	630	762	1,060	1,030	905	1,340	25,400	11,100	2,800	5,650
12	561	650	644	748	1,120	1,020	850	1,390	26,000	8,700	2,520	8,700
13	531	650	734	812	1,110	1,110	790	1,300	27,700	7,860	2,400	11,800
14	555	585	805	812	1,120	1,150	828	2,470	21,600	7,230	2,330	8,700
15	555	592	828	828	1,110	1,050	835	6,480	14,100	6,630	2,210	8,070
16	518	611	954	820	1,120	1,120	828	4,520	11,600	6,430	2,090	8,070
17	525	573	1,020	858	1,090	1,110	790	3,210	10,200	5,840	2,030	6,830
18	624	1,600	996	835	1,080	1,030	865	3,060	10,400	5,230	1,920	5,650
19	585	2,610	929	790	1,050	1,040	790	4,340	15,400	4,920	1,860	4,740
20	585	1,390	937	734	1,040	1,000	790	7,500	19,800	4,740	1,860	4,120
21	585	1,140	945	727	1,030	1,020	865	10,200	19,500	4,560	1,970	3,780
22	592	1,300	945	637	1,030	979	820	21,900	24,100	4,300	2,270	3,530
23	531	1,490	988	630	988	962	790	27,000	29,400	4,120	2,030	3,200
24	897	1,080	962	630	1,070	962	783	23,200	21,900	3,700	2,730	2,960
25	1,140	954	970	640	1,060	945	820	16,200	20,400	3,620	2,400	2,800
26	1,030	850	970	655	898	865	755	16,200	20,700	3,440	2,730	2,800
27	988	869	685	655	783	921	706	17,100	20,700	3,530	11,300	7,440
28	790	945	699	680	962	897	790	51,600	21,300	4,920	4,300	5,840
29	720	1,340	762	700	-	828	921	40,100	25,100	4,560	3,960	5,840
30	525	1,340	805	735	-	812	1,180	24,800	27,700	4,300	3,780	5,100
31	585	-	783	775	-	805	-	30,900	-	4,040	5,280	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	25,276	1,940	518	815	50,130
November.....	28,819	2,610	573	961	57,160
December.....	27,385	1,340	585	883	54,320
Calendar year 1934.....	456,720	10,600	200	1,251	905,900
January.....	23,297	921	630	752	46,210
February.....	28,198	1,150	783	1,007	55,930
March.....	29,833	1,150	805	962	59,170
April.....	24,675	1,180	706	822	48,940
May.....	340,200	51,600	1,500	10,970	674,800
June.....	1,049,100	141,000	10,200	54,670	2,063,000
July.....	314,820	30,000	3,440	10,160	624,400
August.....	93,730	11,800	1,860	3,024	185,900
September.....	247,110	31,400	2,800	8,237	480,100
Water year 1934-35.....	2,223,443	141,000	518	6,092	4,410,000

## Kansas River at Bonner Springs, Kans

Location.— Water-stage recorder, lat. 39°3', long. 94°52' in NW¼ sec. 32, T. 11 S., R. 23 E., at Bonner Springs, half a mile below Wolf Creek. Prior to Apr. 24, 1934, chain gage at same site and datum.

Drainage area.— 59,600 square miles.

Records available.— July 1917 to September 1935.

Average discharge.— 18 years, 5,110 second-feet.

Extremes.— Maximum discharge during year, 122,000 second-feet June 6 (gage height, 23.05 feet); minimum, 540 second-feet Oct. 22 (gage height, 2.26 feet).  
1917-35: Maximum discharge, that of June 6, 1935; minimum, 300 second-feet Sept. 1, 1934 (gage height, 1.67 feet).

Remarks.— Records fair. Discharge for periods of ice effect, Dec. 8-16, Jan. 24 to Feb. 2, determined by comparison with stations upstream.

Recomputation of discharge for flood of May and June 1903 for station on Kansas River at Leocompton, Kans., is to be published in a report on the flood on the Republican and Kansas Rivers in May and June 1935.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	3,800	662	2,240	860	900	1,180	852	1,150	63,600	30,400	4,330	4,770	
2	2,930	675	2,000	844	940	1,220	884	2,080	77,700	31,500	3,600	14,200	
3	1,930	668	1,860	852	990	1,160	876	5,230	77,700	24,900	3,600	31,500	
4	1,930	805	1,860	649	1,120	1,030	876	4,660	77,700	23,500	3,800	19,100	
5	1,690	717	1,600	852	972	1,140	820	3,700	76,800	21,300	3,400	13,100	
6	1,370	689	1,380	884	1,080	1,140	900	3,020	117,000	18,300	3,120	10,200	
7	1,170	689	1,360	820	1,210	1,130	954	2,750	101,000	19,100	3,020	9,360	
8	1,020	790	1,300	945	1,080	1,110	936	2,410	60,800	18,700	3,020	8,520	
9	954	999	1,120	963	1,120	1,180	936	2,660	42,200	17,900	2,750	8,250	
10	868	1,200	1,080	1,010	1,140	1,290	1,010	3,400	33,000	17,400	2,580	7,980	
11	812	1,080	1,120	1,040	1,070	1,250	972	3,120	47,200	13,500	2,750	6,930	
12	710	984	1,140	1,060	1,200	1,250	945	2,660	44,000	10,200	2,930	5,690	
13	689	745	1,150	1,010	1,300	1,210	860	5,230	36,400	8,250	2,540	7,980	
14	699	731	1,130	1,040	1,360	1,210	820	5,810	33,000	7,450	2,750	10,900	
15	642	768	1,100	990	1,390	1,310	876	7,980	20,900	6,930	2,580	7,980	
16	675	662	1,080	1,040	1,400	1,250	836	9,080	15,400	6,430	2,580	12,100	
17	668	724	1,050	1,030	1,370	1,300	876	8,250	12,800	6,080	2,500	14,600	
18	860	731	1,210	1,050	1,300	1,140	936	8,520	11,500	5,690	2,320	7,710	
19	936	2,580	1,280	1,200	1,360	1,210	900	24,000	15,800	5,460	2,240	6,060	
20	936	6,930	1,160	990	1,290	1,190	954	28,400	22,200	5,230	2,320	4,880	
21	1,070	3,400	1,020	945	1,200	1,160	954	24,500	21,800	4,550	2,320	4,220	
22	668	5,340	1,150	900	1,250	1,090	918	23,100	21,300	4,660	2,320	4,020	
23	745	3,800	1,080	710	1,190	1,180	981	35,200	27,800	4,550	2,410	3,910	
24	1,090	3,910	1,060	700	1,190	1,120	900	30,900	27,800	4,330	2,680	3,600	
25	927	2,930	1,090	692	1,400	1,020	954	24,000	21,600	4,120	2,560	3,510	
26	1,190	2,840	894	690	1,450	1,090	972	17,900	19,100	3,910	3,120	3,310	
27	1,280	1,930	860	700	1,120	1,060	954	18,700	20,900	3,800	3,310	3,400	
28	1,220	1,610	860	710	1,030	954	884	67,500	22,200	3,800	9,640	6,060	
29	936	1,860	876	740	-	972	936	95,500	24,000	4,550	5,230	5,810	
30	909	2,660	852	810	-	963	954	71,600	27,800	4,770	3,700	6,580	
31	868	-	868	850	-	963	-	41,600	-	4,440	4,220	-	
Month						Second-foot-days		Maximum		Minimum		Mean	Run-off in acre-feet
October.....						36,182		3,800		642		1,167	71,770
November.....						54,009		6,930		662		1,800	107,100
December.....						37,820		2,240		852		1,220	75,010
Calendar year 1934.....						543,876		9,940		305		1,490	1,079,000
January.....						27,576		1,200		649		890	54,700
February.....						33,422		1,450		900		1,194	66,290
March.....						35,472		1,310		954		1,144	70,560
April.....						27,426		1,010		820		914	54,400
May.....						584,610		95,800		1,150		18,860	1,160,000
June.....						1,221,000		117,000		11,500		40,700	2,422,000
July.....						345,660		31,500		3,800		11,150	685,600
August.....						100,740		9,640		2,240		3,250	199,800
September.....						254,930		31,500		3,310		8,498	505,600
Water year 1934-35.....						2,758,867		117,000		642		7,559	5,473,000

North Fork of Republican River at Colorado-Nebraska State line  
(Formerly North Fork of Arikaree River at Colorado-Nebraska State Line.)

Location.— Water-stage recorder, lat. 40°4', long. 102°3', in sec. 10, T. 1 N., R. 42 W., 100 feet east of Colorado-Nebraska State line. Prior to Oct. 19, 1934, staff gage at same site and datum.

Records available.— March 1931 to September 1935.

Extremes.— Maximum discharge during year, 367 second-feet June 1 (gage height, 3.49 feet); minimum mean daily discharge, 3 second-feet July 17, 18, 21.  
1931-35: Maximum discharge, 378 second-feet July 30, 1932, June 15, 1934; maximum stage, 4.00 feet June 15, 1934; no flow Aug. 25, 28, 1932.

Remarks.— Records good except those for Dec. 23 to Jan. 2, Jan. 20-31, Feb. 20, 21, Feb. 25 to Mar. 2, which were estimated on the basis of temperature records. Small diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	15	67	58	61	88	65	46	275	10	6	52
2	40	16	70	59	63	80	65	19	168	7	7	47
3	38	21	72	67	70	100	63	14	149	5	6	70
4	37	14	80	65	61	96	59	21	119	4	6	68
5	35	14	74	72	56	94	61	42	110	4	5	65
6	34	14	74	70	47	82	59	40	96	4	5	30
7	34	16	68	67	49	82	61	36	92	4	6	54
8	40	16	72	70	49	76	63	14	90	5	6	74
9	37	19	72	74	47	78	63	14	86	4	9	84
10	35	22	70	84	46	76	65	14	76	4	7	58
11	40	20	65	74	44	76	58	14	72	4	6	56
12	41	21	67	74	44	76	54	14	168	4	5	54
13	38	27	76	70	44	74	49	15	135	5	6	54
14	52	23	72	69	44	74	33	13	86	5	6	49
15	42	28	70	68	46	72	33	47	59	5	5	46
16	41	47	72	74	51	68	33	25	65	4	6	40
17	42	52	74	67	47	68	33	30	86	3	6	36
18	42	46	70	65	49	70	32	40	67	3	6	34
19	42	42	65	61	56	70	18	65	56	4	7	33
20	37	47	67	59	60	70	10	110	58	4	6	24
21	37	49	68	58	64	70	10	102	61	3	7	27
22	24	49	67	54	68	72	10	84	47	4	34	28
23	16	40	61	51	68	72	10	82	58	56	190	25
24	17	51	56	46	70	70	16	74	42	12	100	20
25	16	49	51	42	58	72	30	72	25	10	87	14
26	14	49	49	44	52	68	67	68	42	7	61	36
27	19	59	47	49	67	68	30	58	86	6	52	32
28	39	65	54	58	80	68	21	108	47	6	59	28
29	12	65	56	59	-	68	33	90	46	6	61	24
30	14	70	56	59	-	68	51	86	32	8	58	25
31	13	-	56	65	-	68	-	266	-	6	74	-
Month	Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet			
October.....	1,005		52		12		32.4		1,990			
November.....	1,071		70		14		35.7		2,120			
December.....	2,038		80		47		65.7		4,040			
Calendar year 1934.....	15,035		301		4		41.2		29,810			
January.....	1,949		84		42		62.9		3,870			
February.....	1,561		80		44		55.8		3,100			
March.....	2,346		100		68		75.7		4,650			
April.....	1,253		67		10		41.8		2,490			
May.....	1,728		86		14		55.7		3,430			
June.....	2,603		275		25		86.8		5,160			
July.....	216		56		3		7.0		428			
August.....	887		190		5		28.6		1,760			
September.....	1,287		84		14		42.9		2,550			
Water year 1934-35.....	17,944		275		3		49.2		35,590			

## Frenchman Creek near Champion, Nebr.

Location.— Water-stage recorder, lat. 40°29', long. 101°48', in sec. 19, T. 6 N., R. 39 W., 2½ miles west of Champion.

Drainage area.— 1,020 square miles.

Records available.— July 1932 to September 1935.

Extremes.— Maximum discharge during year, 397 second-feet May 28 (gage height, 3.85 feet); minimum daily discharge, 8 second-feet Apr. 23.  
1932-35: Maximum discharge, 849 second-feet June 17, 1934 (gage height, 5.85 feet); minimum, that of Apr. 23, 1935.

Remarks.— Records good. Discharge estimated Jan. 20-22, Feb. 24-26. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	12	22	34	39	45	13	16	125	28	32	30
2	18	12	21	44	40	42	13	17	71	18	33	24
3	18	12	21	40	46	38	13	17	52	14	32	26
4	15	11	21	39	42	36	13	18	50	14	27	27
5	11	12	21	18	39	39	13	18	40	14	27	27
6	12	12	21	27	26	45	12	20	9	14	26	27
7	12	12	21	30	24	44	11	20	16	14	27	28
8	12	12	21	34	23	44	13	18	21	14	27	30
9	12	13	18	27	22	39	13	20	16	13	28	33
10	14	28	16	26	22	32	11	20	18	14	30	33
11	14	33	16	20	22	32	10	18	18	15	32	33
12	15	32	16	20	20	18	10	18	28	14	32	34
13	54	30	16	20	15	12	9	21	50	16	32	36
14	39	30	17	20	15	14	9	24	38	50	32	36
15	15	30	17	24	21	14	9	26	32	22	32	33
16	18	30	16	34	28	18	11	24	32	16	28	30
17	52	30	16	18	28	13	9	26	57	17	27	20
18	34	32	16	21	28	14	9	32	52	18	27	20
19	34	33	16	33	27	16	9	42	39	17	28	20
20	36	32	18	32	26	20	10	42	45	18	28	20
21	34	28	44	32	28	15	9	57	44	21	30	18
22	36	28	44	32	30	15	9	60	44	27	32	18
23	36	28	42	33	28	15	8	56	44	24	30	18
24	36	26	40	36	26	16	10	52	44	20	28	17
25	36	21	40	39	28	14	12	51	44	20	21	22
26	33	21	39	39	30	14	14	42	44	18	24	38
27	17	21	38	42	38	14	10	26	32	17	15	36
28	17	21	38	44	39	14	11	232	27	17	13	28
29	22	21	34	42	-	13	11	112	32	17	20	14
30	13	21	30	40	-	14	14	46	33	24	34	27
31	12	-	32	40	-	14	-	121	-	26	33	27
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				745		54	11	24.0	1,480			
November.....				684		33	11	22.8	1,360			
December.....				787		44	15	25.4	1,560			
Calendar year 1934.....				10,097		499	11	27.7	20,040			
January.....				980		44	18	31.6	1,940			
February.....				802		46	15	28.6	1,590			
March.....				733		45	12	23.6	1,450			
April.....				328		14	6	10.9	651			
May.....				1,312		232	16	42.3	2,600			
June.....				1,197		123	9	39.9	2,370			
July.....				591		50	13	19.1	1,170			
August.....				865		34	13	27.9	1,720			
September.....				803		33	14	26.8	1,590			
Water year 1934-35.....				9,827		232	8	26.9	19,480			



## Frenchman Creek below Champion, Nebr.

Location.- Water-stage recorder, lat. 40°28', long. 101°49', in SW $\frac{1}{4}$  sec. 22, T. 6 N., R. 39 W., 0.4 mile below Champion.

Drainage area.- 1,050 square miles.

Records available.- March to September 1935.

Extremes.- Maximum discharge during period, about 888 second-feet May 28 (gage height, 6.87 feet); minimum mean daily discharge, 13 second-feet Apr. 14.

Remarks.- Records good. Flow regulated by two power plants a short distance upstream. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						45	26	42	129	47	43	51
2						46	26	29	81	32	49	50
3						45	26	37	56	39	46	38
4						56	24	31	59	23	37	49
5						40	30	27	56	38	35	43
6						59	22	31	36	31	36	46
7						63	20	37	35	22	43	48
8						52	27	22	35	33	38	50
9						62	24	30	27	23	32	51
10				*45		37	22	24	44	27	48	52
11						42	25	24	38	31	42	47
12						41	20	24	50	24	46	53
13						23	19	32	61	28	45	51
14						32	13	32	53	56	47	50
15						27	22	33	49	29	49	50
16						27	22	37	42	23	47	53
17						24	19	31	68	22	44	38
18						33	28	50	75	29	46	35
19						21	24	57	46	23	55	42
20						31	27	56	61	24	49	33
21						29	15	55	49	24	45	41
22						31	27	54	45	36	57	30
23						22	26	62	49	35	55	45
24						24	28	61	56	32	52	33
25						24	23	48	54	23	50	41
26						27	35	45	47	24	40	44
27						33	33	70	48	34	38	54
28						27	24	371	36	24	35	53
29						25	34	61	35	30	38	35
30						24	29	68	34	25	41	50
31						24	-	220	-	38	50	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						1,096	63	21	35.4	2,170		
April.....						739	35	13	24.6	1,470		
May.....						1,821	371	22	58.7	3,610		
June.....						1,553	129	27	51.8	3,090		
July.....						929	56	22	30.0	1,840		
August.....						1,380	57	32	44.5	2,740		
September.....						1,352	54	30	45.1	2,680		
The period.....										17,590		

\*Discharge measurement.

## Frenchman Creek near Hamlet, Nebr.

Location.— Water-stage recorder, lat. 40°23', long. 101°13', in sec. 19, T. 5 N., R. 34 W., 1 mile east of Hamlet. Zero of gage is 2,796.43 feet above mean sea level.

Drainage area.— 1,420 square miles.

Records available.— April 1929 to September 1935.

Extremes.— Maximum discharge during year, about 2,200 second-feet May 27 (gage height, 10.34 feet); minimum mean daily discharge, 63 second-feet July 31 (gage height, 0.85 foot).

1929-35: Maximum discharge, that of May 27, 1935; minimum mean daily discharge, 49 second-feet Nov. 21, 1931.

Remarks.— Records good. Discharge estimated Dec. 24-31, Jan. 20-28, Feb. 1, Apr. 19-23. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	88	110	113	100	112	123	109	97	1,020	108	68	77
2	85	110	116	103	109	106	105	98	442	104	67	80
3	84	108	117	99	108	108	110	101	256	102	68	87
4	80	105	114	100	109	112	108	104	203	95	76	88
5	80	113	120	106	106	111	108	96	179	95	76	88
6	72	112	112	111	112	119	107	94	164	92	77	82
7	76	103	114	106	111	116	108	99	144	88	67	108
8	73	105	115	100	109	112	111	88	144	84	64	105
9	71	106	107	101	106	117	112	94	140	84	68	95
10	68	102	108	102	105	117	109	95	135	85	68	90
11	72	104	109	101	108	119	118	92	126	80	68	90
12	71	107	110	102	102	113	113	90	124	76	64	88
13	76	110	104	101	102	113	108	90	127	74	72	84
14	75	115	108	101	104	114	107	96	125	76	68	85
15	80	118	108	100	104	112	107	93	125	74	68	84
16	81	118	104	102	92	110	105	99	153	75	72	84
17	95	131	104	96	92	108	101	99	132	80	72	87
18	105	122	108	100	85	110	100	110	125	71	72	84
19	113	120	102	93	97	110	102	119	122	68	71	80
20	112	119	104	91	92	107	104	126	128	67	75	80
21	112	124	102	90	98	106	106	132	121	69	73	75
22	117	124	99	97	100	106	106	146	118	68	69	72
23	113	121	100	98	98	102	108	134	120	76	72	71
24	116	119	94	101	90	104	108	136	117	72	77	76
25	117	119	92	104	65	103	108	132	116	74	99	71
26	116	120	90	110	64	106	108	131	116	75	79	72
27	118	117	93	114	88	100	108	178	118	68	83	79
28	120	118	93	117	108	104	100	1,120	112	69	82	82
29	120	118	95	128	-	108	103	310	112	67	87	84
30	116	110	90	117	-	110	104	864	104	64	83	84
31	116	-	87	115	-	108	-	927	-	63	75	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							2,937	120	68	94.7	5,830	
November.....							3,456	131	102	115	6,820	
December.....							3,248	120	90	105	6,440	
Calendar year 1934.....							37,443	406	57	103	74,300	
January.....							3,206	128	90	103	6,360	
February.....							2,786	112	64	99.5	5,530	
March.....							3,414	125	102	110	6,770	
April.....							3,211	118	100	107	6,370	
May.....							5,680	1,120	88	123	11,270	
June.....							5,268	1,020	104	176	10,450	
July.....							2,443	108	63	78.8	4,850	
August.....							2,280	99	64	73.5	4,520	
September.....							2,512	108	71	83.7	4,980	
Water year 1934-35.....							40,421	1,120	63	111	80,190	



## West Buffalo Creek near Jewell, Kans.

Location.- Water-stage recorder, lat. 39°40", long. 98°11", in NW $\frac{1}{4}$  sec. 25, T. 4 S., R. 8 W., 1 mile above Jewell city dam.

Drainage area.- 15.3 square miles.

Records available.- March 1934 to September 1935.

Extremes.- Maximum discharge during year, 3,520 second-feet Sept. 1 (gage height, 12.09 feet); no flow during much of the year.  
1934-35: Maximum discharge, that of Sept. 1, 1935; no flow during extensive periods.

Remarks.- Records fair.

## Discharge, in second-feet, March to September 1934

June 17	10	June 23	1.9
18	1.6	24	.3
22	17		

Note.- No flow except for days given.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	615	0.80	0	684
2								0	4.2	0	0	1.8
3								0	.62	0	0	.34
4								0	0	0	0	.02
5								0	0	0	0	0
6								0	0	0	0	0
7								0	0	0	0	0
8								0	0	0	0	166
9								0	0	0	0	5.3
10								0	0	0	0	.52
11								0	14	0	0	.14
12								0	5.7	0	0	.01
13								0	.67	0	0	0
14								.60	.15	0	0	0
15								.56	.01	0	0	0
16								0	0	0	0	0
17								0	305	0	0	0
18								7.9	2.4	0	0	0
19								456	.02	0	0	0
20								62	.57	0	0	0
21								19	47	0	0	0
22								.36	.51	0	.83	0
23								0	.22	0	.18	0
24								0	.01	0	0	0
25								0	0	0	43	0
26								11	0	0	.92	0
27								48	.54	0	.07	0
28								496	160	0	1.4	0
29								4.8	.76	0	1.9	0
30								.69	2.2	0	.12	0
31								245	-	0	22	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
1934					
March.....	0	0	0	0	0
April.....	0	0	0	0	0
May.....	0	0	0	0	0
June.....	30.8	17	0	1.03	61
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
The period.....	-	-	-	-	61
1934-35					
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	0	0	0	0	0
January.....	0	0	0	0	0
February.....	0	0	0	0	0
March.....	0	0	0	0	0
April.....	0	0	0	0	0
May.....	1,351.91	496	0	43.6	2,680
June.....	1,159.58	615	0	38.7	2,300
July.....	.80	.80	0	.03	1.6
August.....	70.42	43	0	2.27	140
September.....	858.13	684	0	28.6	1,700
Water year 1934-35.....	3,440.84	684	0	9.43	6,820

## West Buffalo Creek at Jewell, Kans.

Location.- Water-stage recorder, lat. 39°40', long. 96°10', in SE¼ sec. 25, T. 4 S., R. 8 W., near west boundary of Jewell.

Drainage area.- 16.3 square miles.

Records available.- May 1934 to September 1935.

Extremes.- Maximum discharge during year, 3,560 second-feet Sept. 1 (gage height, 11.40 feet); no flow during much of the year.  
1934-35: Maximum discharge, that of Sept. 1, 1935; no flow during extensive periods.

Remarks.- Records fair.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	819	3.0	0	830
2								0	17	.50	0	6.1
3								0	1.5	0	0	1.9
4								0	0	0	0	0
5								0	0	0	0	0
6								0	0	0	0	0
7								0	0	0	0	0
8								0	0	0	0	143
9								0	0	0	0	15
10								0	0	0	0	2.9
11								0	14	0	0	2.4
12								0	15	0	0	82
13								0	1.5	0	0	0
14								0	0	0	0	0
15								0	0	0	0	0
16								0	0	0	0	0
17								0	297	0	0	0
18								0	8.6	0	0	0
19								468	3.8	0	0	0
20								81	3.0	0	0	0
21								9.5	77	0	0	0
22								2.5	7.1	0	0	0
23								0	3.0	0	0	0
24								0	0	0	0	0
25								0	0	0	25	0
26								14	0	0	7.9	0
27								76	0	0	0	0
28								616	143	0	.40	0
29								12	3.3	0	3.9	0
30								3.7	4.6	0	.50	0
31								189	-	0	7.5	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							0	0	0	0	0	
November.....							0	0	0	0	0	
December.....							0	0	0	0	0	
Calendar year .....												
January.....							0	0	0	0	0	
February.....							0	0	0	0	0	
March.....							0	0	0	0	0	
April.....							0	0	0	0	0	
May.....							1,471.70	616	0	47.5	2,920	
June.....							1,418.80	819	0	47.3	2,810	
July.....							3.50	3.0	0	.11	6.9	
August.....							45.20	25	0	1.46	89.7	
September.....							1,002.12	850	0	33.4	1,990	
Water year 1934-35.....							3,941.32	850	0	10.8	7,820	

Note.- No flow May 10 to Sept. 30, 1934 and during months left blank in water year 1934-35.

## Smoky Hill River at Ellsworth, Kans.

Location.- Wire-weight gage, lat. 38°44', long. 98°14', in SE $\frac{1}{4}$  sec. 20, T. 15 S., R. 8 W., in Ellsworth, 2 miles below Turkey Creek. Prior to May 1, 1935, chain gage at same site and datum.

Drainage area.- 7,580 square miles.

Records available.- April 1895 to Oct. 1905, July 1918 to July 1925, August 1923 to September 1935.

Average discharge.- 22 years (1896-1904, 1918-25, 1928-35), 184 second-feet.

Extremes.- Maximum discharge observed during year, 12,800 second-feet June 28 (gage height, 18.87 feet); minimum discharge observed, 12 second-feet Mar. 27-31, Apr. 23, 24, 26, 27; minimum gage height observed, 1.29 feet Apr. 26, 27.

1895-1905, 1918-25, 1928-35: Maximum discharge, 21,000 second-feet July 5, 1895;

minimum, 1.6 second-feet Oct. 8, 9, 1922.

A flood stage of 25.0 feet was reached in Aug. 1927 (discharge, about 24,000 second-feet). Bank-full stage, 20 feet.

Remarks.- Records good except those for periods of ice effect, Dec. 3-9, 26-31, Jan. 4-6, 18-29, Feb. 25-28, and those for periods of shifting control, Oct. 1 to Dec. 31, July 11 to Sept. 30, which are fair.

Recomputation of discharge for flood of May and June 1903 for station on Smoky Hill River at Ellsworth, Kans., is to be published in a report on the flood on the Republican and Kansas Rivers in May and June 1935.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Oct. 1 to Jan. 8, July 11 to Sept. 30)

1.2	8	2.5	146	4.5	683	8.0	2,180	14.0	6,740
1.4	17	3.0	241	5.0	870	9.0	2,720	16.0	9,100
1.6	30	3.5	365	6.0	1,260	10.0	3,320	18.0	11,800
2.0	69	4.0	515	7.0	1,700	12.0	4,800		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	16	18	17	22	20	14	32	1,700	3,950	121	138
2	27	16	19	16	21	19	14	27	2,340	7,890	121	121
3	28	24	18	16	15	20	14	24	7,070	2,720	113	113
4	26	19	17	15	19	22	15	23	3,260	1,610	113	106
5	26	18	16	14	19	22	14	21	1,610	1,300	98	172
6	25	18	15	16	19	17	15	18	1,100	985	98	163
7	23	19	15	19	19	19	16	19	1,300	794	98	146
8	22	17	15	19	19	20	15	19	754	647	92	138
9	22	16	15	19	19	21	16	16	547	547	83	129
10	21	16	16	18	19	22	16	16	453	483	80	113
11	21	16	14	19	18	21	15	453	393	423	58	138
12	21	16	14	19	19	19	14	163	339	365	61	154
13	19	16	16	18	20	18	14	393	365	339	55	181
14	19	16	19	17	21	18	13	1,560	7,990	313	53	209
15	19	15	17	16	20	16	13	1,430	4,000	288	59	199
16	18	15	18	16	19	14	13	2,130	1,700	264	59	154
17	19	15	18	16	19	14	14	1,440	1,840	241	65	153
18	20	17	17	15	19	14	14	1,930	6,960	230	62	121
19	21	17	16	15	18	14	14	4,000	10,500	209	69	113
20	19	16	17	14	18	14	14	4,980	4,980	190	62	98
21	19	15	16	14	18	14	14	2,350	3,140	190	80	92
22	20	16	16	14	16	15	14	4,980	2,610	181	59	86
23	18	15	16	14	16	14	12	2,560	1,480	165	57	80
24	18	15	16	15	15	14	12	1,260	1,100	209	183	76
25	18	15	16	15	14	14	14	908	908	163	365	73
26	17	15	15	15	13	14	12	683	3,080	154	339	870
27	16	16	15	15	12	12	12	787	4,480	146	339	163
28	16	17	14	18	16	12	30	2,720	10,400	146	252	199
29	18	18	14	16	-	12	47	1,640	4,780	146	276	647
30	17	16	15	22	-	12	36	3,200	5,520	138	183	423
31	16	-	16	24	-	12	-	1,880	-	129	163	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	638	29	16	20.6	1,270
November.....	496	24	15	16.5	984
December.....	499	19	14	16.1	990
Calendar year 1934.....	43,955	7,630	14	120	87,180
January.....	514	24	14	16.6	1,020
February.....	506	22	12	16.1	1,000
March.....	509	22	12	16.4	1,010
April.....	490	47	12	16.3	872
May.....	47,832	8,350	16	1,543	94,870
June.....	96,679	10,500	339	3,223	191,800
July.....	25,633	7,990	122	827	50,840
August.....	3,894	365	53	126	7,720
September.....	5,553	870	73	165	11,010
Water year 1934-35.....	183,243	10,500	12	502	363,500

## Smoky Hill River at Lindsborg, Kans.

Location.- Water-stage recorder, lat.  $38^{\circ}34'$ , long.  $97^{\circ}40'$ , in SE $\frac{1}{4}$  sec. 17 (revised), T. 17 S., R. 3 W., on highway bridge in Lindsborg. Prior to Feb. 23, 1934, chain gage at same site and datum.

Drainage area.- 8,100 square miles.

Records available.- February 1930 to September 1935.

Extremes.- Maximum discharge during year, 7,190 second-feet, June 30 (gage height, 25.83 feet); minimum, 1 second-foot April 25 (gage height, 2.40 feet, estimated).  
1930-35: Maximum discharge, that of June 30, 1935; minimum, that of Apr. 25, 1935.  
Maximum known stage, 31.5 feet in May 1903.

Remarks.- Records fair. Discharge for July 5-18 based on comparison with flow at Ellsworth, Kans. Early in April the power plant, about 500 feet upstream, resumed operations after many years of disuse. The minimum flow is the result of artificial regulation.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	20	24	18	19	30	19	34	2,080	5,990	272	266
2	40	21	24	19	20	30	21	49	2,120	5,180	266	240
3	36	22	23	19	20	29	17	30	3,030	4,700	286	228
4	34	24	23	15	21	30	23	60	4,070	5,630	260	216
5	34	24	21	20	21	29	17	19	5,270	4,000	253	204
6	32	23	23	21	23	30	4	46	2,260	3,200	240	193
7	31	24	17	24	25	27	16	8	1,230	2,700	228	228
8	30	23	21	28	26	28	32	30	1,000	1,850	222	240
9	29	23	19	28	30	30	22	10	933	1,500	222	228
10	28	23	18	26	31	32	3	44	707	1,250	210	210
11	28	23	20	26	28	29	28	26	654	1,000	204	204
12	27	24	20	25	28	29	22	26	637	850	204	193
13	30	23	23	24	28	30	2	234	588	720	204	196
14	30	26	26	24	30	28	7	166	588	630	193	210
15	28	24	28	23	30	27	25	1,080	3,580	560	188	234
16	26	24	28	24	30	23	3	957	5,180	500	176	246
17	24	26	28	25	29	23	24	1,610	2,420	470	182	228
18	25	28	28	25	29	23	4	1,380	1,860	425	176	210
19	26	28	26	24	28	23	25	2,650	4,400	388	176	193
20	26	28	28	18	30	23	4	4,070	5,720	380	176	176
21	25	28	26	19	26	22	3	3,900	6,810	358	176	171
22	24	30	26	16	26	22	30	4,700	5,140	342	171	166
23	24	28	24	14	26	21	3	6,220	2,560	342	176	160
24	24	28	24	15	26	21	17	2,840	1,740	743	171	149
25	24	26	23	15	24	20	2	1,230	933	604	160	144
26	23	24	17	16	21	20	65	886	1,610	412	260	166
27	22	24	17	15	16	18	101	725	3,680	335	476	781
28	22	24	19	15	24	18	40	3,210	3,030	320	428	460
29	22	24	16	16	-	18	30	5,220	5,450	299	388	253
30	21	24	19	17	-	17	6	2,330	7,000	299	342	492
31	20	-	22	18	-	17	-	3,740	-	292	306	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						861	46	20	27.8	1,710		
November.....						741	30	20	24.7	1,470		
December.....						705	28	17	22.7	1,400		
Calendar year 1934.....						46,352	5,040	17	127	91,960		
January.....						632	28	14	20.4	1,250		
February.....						715	31	16	25.5	1,420		
March.....						767	32	17	24.7	1,520		
April.....						615	101	2	20.5	1,220		
May.....						47,530	6,220	8	1,533	94,270		
June.....						86,270	7,000	588	2,876	171,100		
July.....						46,269	5,990	292	1,493	91,770		
August.....						7,592	476	160	238	14,660		
September.....						7,287	781	144	245	14,450		
Water year 1934-35.....						199,784	7,000	2	547	396,200		

## Smoky Hill River at Enterprise, Kans.

**Location.**—Water-stage recorder, lat. 38°54', long. 97°07', in NE¼ sec. 20, T. 13 S., R. 3 E., on Atchison, Topeka & Santa Fe Railway bridge a few hundred feet below Hoffman Milling Co.'s dam in Enterprise. Prior to Jan. 29, 1935, wire-weight gage at same site and datum.

**Drainage area.**—19,200 square miles.

**Records available.**—November 1934 to September 1935.

**Extremes.**—Maximum discharge during year, 20,200 second-feet June 9 (gage height, 29.12 feet); no flow Apr. 23, owing to power-plant regulation.

**Remarks.**—Records fair. Discharge for Oct. 1-31 is that for station on Smoky Hill River at Solomon. No great increment in flow occurred between Solomon and Enterprise. Stage-discharge relation affected by ice Dec. 7, Jan. 19-21, 29, Feb. 7-9, 25; discharge estimated. Discharge based on twice-daily gage readings Nov. 1 to Jan. 28, and gage-height graph constructed from 7 a.m. readings June 1-6, 10-15, 20-27, July 24 to Sept. 30.

Rating tables, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Nov. 1-24, Mar. 1-15, Apr. 28 to May 12, July 29 to Aug. 29)

		Nov. 1 to July 7			July 8 to Sept. 30		
2.3	43	5.0	730	17.0	7,150	5.0	500
2.5	77	6.0	1,080	20.0	9,400	6.0	830
2.7	114	8.0	1,850	23.0	11,700	7.0	1,210
3.0	130	10.0	2,875	25.0	15,400	8.0	1,520
3.5	300	12.0	5,780	27.0	15,750	9.0	2,040
4.0	425	14.0	5,030	29.0	19,900	10.0	2,480

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	320	103	90	79	72	106	79	252	11,100	11,300	1,290	3,060
2	247	114	86	70	93	103	79	194	12,800	12,700	1,170	3,940
3	224	106	95	88	77	110	75	180	13,300	14,200	1,090	4,330
4	202	104	99	74	88	126	74	204	12,800	15,000	1,050	3,760
5	202	110	91	65	90	116	65	166	12,900	15,900	1,020	4,070
6	180	130	88	77	91	104	79	163	13,600	15,600	920	4,660
7	168	99	82	79	85	97	84	166	14,300	14,000	1,250	4,460
8	96	101	75	82	80	116	75	124	16,900	10,300	1,700	2,530
9	96	93	77	79	85	116	90	122	19,900	4,460	1,370	1,130
10	96	91	97	70	90	112	93	122	18,600	3,400	1,210	939
11	96	90	81	79	118	128	75	122	11,900	3,060	1,050	958
12	96	76	75	68	110	109	83	122	5,800	2,730	920	1,870
13	78	168	79	77	110	114	74	412	3,780	2,530	830	3,640
14	78	91	88	74	110	116	103	293	3,310	2,340	776	3,700
15	60	97	79	62	106	104	106	250	3,090	2,210	723	2,210
16	96	88	84	79	103	86	103	350	3,660	2,040	689	1,450
17	78	91	81	75	103	93	99	570	5,750	1,960	689	1,130
18	60	103	77	60	108	94	97	1,080	7,000	1,870	655	977
19	78	242	79	70	110	101	95	3,090	7,000	1,870	639	884
20	96	156	82	68	104	101	91	3,840	6,290	1,790	623	758
21	78	180	84	65	130	90	86	4,710	7,750	1,700	623	689
22	60	126	79	63	118	81	81	6,860	9,250	1,620	623	639
23	60	103	75	68	108	90	68	8,650	9,920	1,840	639	591
24	78	104	88	62	97	72	86	9,400	11,500	1,620	884	545
25	60	93	84	65	88	84	90	10,000	12,900	2,640	902	545
26	60	90	81	60	79	103	93	9,550	14,200	3,760	740	639
27	60	86	75	67	86	82	95	6,430	12,200	2,730	639	1,130
28	78	101	75	74	106	82	211	10,100	11,600	2,170	723	2,340
29	60	86	72	62	-	68	197	9,550	11,900	1,840	1,070	3,760
30	60	95	77	77	-	77	149	9,700	10,900	1,330	2,730	5,470
31	78	-	90	82	-	70	-	9,850	-	1,410	2,680	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				3,369	320	60	109	6,680				
November.....				3,326	242	86	111	6,000				
December.....				2,565	99	72	82.7	5,090				
Calendar year .....												
January.....				2,270	88	60	73.2	4,500				
February.....				2,745	130	72	98.0	5,440				
March.....				3,040	128	68	98.1	6,030				
April.....				2,830	211	65	96.0	5,710				
May.....				107,432	10,100	122	3,466	213,100				
June.....				315,780	19,900	3,090	10,530	626,300				
July.....				161,520	15,900	1,530	5,210	320,400				
August.....				32,767	2,780	625	1,057	64,990				
September.....				66,804	5,470	545	2,227	132,500				
Water year 1934-35.....				704,498	19,900	60	1,930	1,397,000				



## Saline River near Wilson, Kans.

Location.— Water-stage recorder, lat. 38°56', long. 98°32', in SW $\frac{1}{4}$  sec. 11, T. 13 S., R. 11 W., three-quarters of a mile above Hell Creek and 8 miles northwest of Wilson.

Drainage area.— 1,900 square miles.

Records available.— May 1929 to September 1935.

Extremes.— Maximum discharge during year, 11,600 second-feet June 2 (gage height, 24.79 feet); minimum, 1 second-foot Jan. 23-25 (gage height, 2.63 feet).  
1929-35: Maximum discharge, that of June 2, 1935; minimum, that of Jan. 23-25, 1935. Bank-full stage, about 20 feet.  
A stage of about 26.75 feet occurred in July 1928.

Remarks.— Records fair except those for April 15-28, May 15-18, 23-26, June 5-17, 20, 21, July 3 to Sept. 18, which are poor.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Oct. 14 to Apr. 14, Sept. 19-30)

2.6	2	4.0	251	9.0	1,820	18.0	6,940
2.8	15	5.0	512	10.0	2,245	20.0	8,260
3.0	41	6.0	815	12.0	3,280	22.0	9,610
3.3	97	7.0	1,125	14.0	4,420	24.0	11,020
3.6	160	8.0	1,450	16.0	5,630	26.0	11,760

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	7	9	10	6	9	5	19	3,850	1,280	81	43
2	12	7	7	13	4	12	5	18	8,460	675	79	43
3	12	9	6	12	4	10	6	15	3,000	484	76	42
4	11	9	7	12	4	9	6	14	1,380	401	74	42
5	12	7	7	8	4	9	8	14	784	362	72	42
6	9	7	8	13	5	9	9	14	1,250	325	71	41
7	8	7	7	10	5	6	9	12	556	310	69	41
8	8	7	7	9	7	6	8	12	388	286	67	41
9	8	7	8	9	7	7	9	12	325	265	65	40
10	8	7	9	9	6	7	9	10	302	246	64	40
11	8	7	9	8	6	6	9	23	292	227	62	40
12	8	7	9	8	5	7	10	55	298	220	61	40
13	8	6	8	8	7	4	9	295	535	211	59	39
14	7	6	8	7	7	4	9	1,660	375	193	58	39
15	7	6	7	8	7	4	8	630	241	180	57	39
16	7	6	7	10	8	2	8	675	204	169	55	39
17	7	6	7	10	7	2	8	470	268	162	55	39
18	7	6	7	10	8	2	8	691	1,900	151	54	42
19	7	6	7	6	9	2	7	2,900	3,830	142	53	48
20	7	6	7	8	9	4	7	2,840	1,380	131	52	68
21	7	6	7	9	8	3	6	2,640	615	123	51	58
22	7	6	7	4	8	4	6	1,000	401	118	50	50
23	7	7	7	2	8	3	6	615	310	111	49	43
24	7	7	7	2	6	4	5	470	251	105	49	41
25	7	9	8	2	4	4	5	375	840	101	48	43
26	7	7	4	3	6	4	5	268	7,860	97	47	510
27	6	7	6	6	6	5	4	2,200	3,850	95	47	526
28	7	9	5	4	10	4	4	3,000	2,950	91	46	470
29	7	9	7	6	-	4	19	3,340	5,630	88	46	178
30	7	9	7	7	-	4	19	1,030	3,500	86	45	310
31	7	-	8	7	-	5	-	959	-	83	44	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	249	12	6	8.0	494
November.....	212	9	6	7.1	420
December.....	222	9	4	7.2	440
Calendar year 1934.....	18,986	3,440	2	52.0	37,640
January.....	240	13	2	7.7	476
February.....	181	10	4	8.5	359
March.....	163	12	2	5.3	323
April.....	236	19	4	7.9	468
May.....	26,314	3,340	10	849	52,190
June.....	55,885	8,460	204	1,863	110,800
July.....	7,618	1,280	65	245	14,610
August.....	1,806	81	44	58.3	5,580
September.....	2,877	526	39	96.9	5,710
Water year 1934-35.....	95,903	8,460	2	265	190,200

## Saline River at Tescott, Kans.

Location.- Water-stage recorder. lat. 39°. long. 97°53', in SE¼ sec. 16, T. 12 S., R. 5 W., half a mile south of Tescott and half a mile above Dry Creek. Prior to Oct. 1, 1934, chain gage at same site and datum.

Drainage area.- 2,800 square miles.

Records available.- September 1919 to September 1935.

Average discharge.- 16 years, 162 second-feet.

Extremes.- Maximum discharge during year, 6,850 second-feet June 3 (gage height, 29.57 feet, from graph based on gage readings); no flow Jan. 22, 23, Mar. 28, Apr. 3, 4, 12. 1919-35: Maximum discharge, that of June 3, 1935; no flow at times in 1935. Bank-full stage, 25 feet.

Remarks.- Records poor. Stage-discharge relation affected by ice Dec. 5-9, 26-31, Jan. 21-25, Feb. 26, 27.

Recomputation of discharge for flood of May and June 1903 for station on Saline River at Salina, Kans., is to be published in a report on the flood on the Republican and Kansas Rivers in May and June 1935.

Rating table, May 22 to Sept. 30 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used May 22-24)

5.6	26	8.0	153	20.0	2,100
5.8	32	9.0	229	22.0	2,750
6.0	39	10.0	315	24.0	3,570
6.3	52	12.0	529	26.0	4,500
6.6	67	14.0	792	28.0	5,520
7.0	86	16.0	1,140	29.0	6,220
7.5	118	18.0	1,570		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20		5	12	11	16	6	44	4,020	6,520	115	164
2			6	11	11	8	1	36	2,560	6,410	112	613
3			3	8	11	2	0	30	5,580	6,050	106	404
4			3	11	5	1	0	24	6,830	2,580	100	122
5			2	10	14	17	10	20	6,410	692	100	88
6	10		2	9	28	6	8	9	5,830	505	157	80
7			1	9	20	12	4	22	1,960	415	393	77
8			1	9	22	23	3	18	990	404	221	70
9			2	6	23	5	12	19	625	393	164	61
10			4	11	5	10	4	19	324	448	185	174
11	15		1	8	1	4	1	5	270	315	150	245
12			3	15	23	13	0	158	229	288	125	270
13			7	26	18	20	2	56	213	279	106	261
14			20	9	19	20	8	79	225	222	97	189
15			9	3	13	20	1	425	333	261	91	170
16	12		3	17	20	4	5	1,180	297	306	88	136
17			1	10	20	8	10	57	253	229	82	109
18			8	5	5	5	10	311	601	205	80	91
19			20	7	3	9	10	1,380	903	197	72	77
20			13	5	16	5	10	2,440	1,430	185	97	72
21	8		13	3	10	10	12	2,850	2,680	174	481	64
22			7	0	9	5	4	3,570	3,400	167	363	80
23		24	15	0	16	9	3	3,750	1,100	160	174	54
24		7	5	4	13	5	12	1,930	333	174	97	153
25		4	1	6	12	1	17	205	353	167	115	288
26	10	2		9	20	7	34	28	972	193	601	585
27		9		4	23	5	79	2,280	2,160	189	1,100	1,850
28		15		3	10	0	67	3,570	3,610	189	279	2,440
29		7		2	-	7	88	3,570	6,220	136	97	1,300
30		3		10	-	5	59	3,840	6,520	118	82	601
31		-		11	-	9	-	4,160	-	118	91	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	430	-	-	13.9	853
November.....	277	-	-	9.2	549
December.....	191	20	1	6.2	379
Calendar year 1934 .....	24,620	2,720	1	67.5	48,830
January.....	253	26	0	8.2	502
February.....	401	28	1	14.3	795
March.....	271	23	0	8.7	538
April.....	480	88	0	16.0	952
May.....	36,568	4,160	5	1,180	72,530
June.....	67,026	6,630	213	2,234	132,900
July.....	29,696	6,520	112	926	56,920
August.....	6,161	1,100	72	199	12,220
September.....	10,868	2,440	54	362	21,560
Water year 1934-35 .....	151,622	6,630	0	415	300,700

## Solomon River at Beloit, Kans.

Location.- Water-stage recorder, lat.  $39^{\circ}27'$ , long.  $98^{\circ}7'$ , in SW $\frac{1}{4}$  sec. 9, T. 7 S., R. 7 W., at highway bridge in Beloit, 93 miles above junction with Smoky Hill River.

Drainage area.- 5,410 square miles.

Records available.- April 1929 to September 1935.

Extremes.- Maximum discharge during year, 37,800 second-feet June 3 (gage height, 34.50 feet, from graph based on gage readings); minimum, 1 second-foot at times of low flow, during which power plant is shut down.  
1929-35: Maximum discharge, that of June 3, 1935; minimum, 1 second-foot at times of low flow, during which power plant is shut down.  
Maximum stage of 33.6 feet, previously reported, occurred in 1919.

Remarks.- Records fair. Discharge Dec. 17-29 estimated on the basis of behavior of flow during December.

Rating table, for May 28 to Sept. 30, 1935 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used June 27-29, July 26-29, Aug. 26-28, Sept. 3, 14-25)

2.0	44	6.0	650	20.0	4,800
2.2	61	8.0	1,050	22.0	6,290
2.4	79	10.0	1,530	24.0	8,350
2.7	110	12.0	2,040	26.0	11,200
3.0	145	14.0	2,560	29.0	17,200
4.0	282	16.0	3,130	32.0	26,200
5.0	447	18.0	3,810	34.0	33,900

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	2	1	18	9	6	5	33	10,800	3,550	107	609
2	1	36	1	19	25	7	5	3	25,200	1,050	98	5,190
3	1	1	12	8	4	14	5	10	29,400	688	153	6,570
4	19	1	12	6	4	33	6	28	14,200	501	1,660	1,150
5	9	1	35	6	5	4	27	3	3,260	429	573	282
6	10	2	2	6	12	24	4	18	1,260	375	170	204
7	9	2	2	9	30	5	4	4	652	334	118	164
8	2	2	2	11	5	24	5	5	798	297	102	225
9	1	9	2	13	35	5	7	25	573	274	98	3,130
10	1	28	12	11	11	20	26	2	429	274	84	4,110
11	1	1	38	27	37	32	4	2	555	267	83	1,630
12	1	1	2	3	6	5	4	7	1,330	218	90	609
13	12	1	2	3	32	24	6	18	1,600	204	112	465
14	1	1	2	4	7	5	14	63	1,660	225	102	358
15	2	1	2	22	28	8	21	394	874	282	97	274
16	29	26	15	4	19	27	5	237	519	260	88	190
17	1	1	25	4	6	5	20	67	1,310	211	93	153
18	1	1	2	20	22	26	44	273	4,480	190	83	132
19	1	1	2	6	23	7	4	1,140	12,300	170	97	102
20	1	1	2	9	30	8	4	5,050	11,400	146	91	104
21	1	1	20	10	6	3	6	6,360	3,190	134	92	108
22	26	1	40	9	29	8	26	3,980	1,880	128	91	76
23	1	25	12	8	5	11	3	1,440	1,550	122	90	84
24	1	2	8	16	14	4	4	605	964	119	134	79
25	26	96	2	8	29	29	39	582	962	121	183	133
26	1	48	2	7	4	4	3	439	2,140	456	1,240	1,680
27	2	31	2	6	5	4	54	1,080	3,520	447	862	2,890
28	2	1	2	6	25	3	54	3,790	4,150	274	852	2,040
29	2	20	18	6	-	6	37	7,990	4,570	176	3,010	668
30	2	46	36	6	-	25	11	9,000	3,480	133	4,250	438
31	2	-	25	6	-	5	-	4,110	-	111	1,700	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	193	29	1	6.2	383
November.....	391	95	1	13.0	776
December.....	332	40	1	10.7	659
Calendar year 1934.....	45,679	6,700	1	125	90,600
January.....	295	27	3	9.5	585
February.....	473	37	4	16.9	938
March.....	406	33	3	13.1	805
April.....	457	54	3	15.2	906
May.....	46,948	9,000	2	1,514	93,120
June.....	149,266	29,400	429	4,976	296,100
July.....	12,146	3,550	111	392	24,090
August.....	16,903	4,250	63	545	33,530
September.....	34,455	6,570	76	1,148	68,340
Water year 1934-35.....	262,265	29,400	1	719	520,200

## Solomon River at Niles, Kans.

Location.— Water-stage recorder, lat. 38°58', long. 97°29', in NW¼ sec. 31, T. 12 S., R. 1 W., three-quarters of a mile west of Niles and 7 miles above mouth of river.

Drainage area.— 6,710 square miles.

Records available.— May 1897 to November 1903, May 1919 to September 1935.

Average discharge.— 22 years, 482 second-feet.

Extremes.— Maximum discharge during year, 29,800 second-feet June 7 (gage height, 29.75 feet); minimum, 14 second-feet Feb. 4-6 (gage height, 2.20 feet).

1897-1903, 1919-35: Maximum discharge, 41,000 second-feet June 3, 1903 (erroneous figure published in Water-Supply Paper 761 and previous reports); minimum, 1 second-foot Sept. 4, 1926. Bank-full stage, 22 feet.

Remarks.— Records fair. Stage-discharge relation affected by ice Dec. 27-30, Jan. 1-3, 18-31, Feb. 27, 28, Mar. 6-8, discharge estimated. Discharge for Oct. 2 interpolated. Water-stage recorder failed to operate Oct. 1 to Nov. 24, June 10-15, July 5 to Sept. 30; records based on chain-gage readings Oct. 1 to Nov. 24 and on gage-height graph constructed on basis of twice-daily chain-gage readings June 10-15, July 5 to Sept. 30.

Recomputation of discharge for flood of May and June 1903 for station on Solomon River at Niles, Kans., is to be published in a report on the flood on the Republican and Kansas Rivers in May and June 1935.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	25	63	30	30	39	40	59	5,720	7,510	349	3,600
2	40	24	57	30	28	38	34	77	6,840	7,090	261	4,380
3	34	35	66	32	47	43	34	85	8,120	7,840	197	3,300
4	33	86	45	32	26	36	33	81	9,300	5,520	272	3,000
5	32	53	70	32	16	34	33	94	14,300	1,840	316	4,150
6	29	25	37	29	17	32	34	59	24,200	1,050	570	4,570
7	26	54	47	38	21	34	35	53	28,900	840	995	1,910
8	26	32	69	30	24	36	35	50	23,200	740	570	456
9	25	21	40	26	35	39	34	45	8,050	669	360	394
10	26	19	30	26	41	39	35	41	2,290	602	360	394
11	25	22	28	36	36	51	35	56	1,920	555	294	1,220
12	25	24	28	26	36	40	36	355	1,780	511	239	3,470
13	23	20	34	26	33	37	34	104	1,880	497	222	3,700
14	22	18	40	35	37	42	33	75	1,740	497	217	1,740
15	21	23	42	26	45	39	33	61	2,330	483	217	722
16	20	23	32	25	38	38	30	56	2,840	430	212	497
17	20	18	37	25	37	40	21	55	2,520	406	222	406
18	20	18	29	24	40	51	23	277	2,520	443	217	349
19	22	20	35	24	71	37	24	622	3,520	430	217	316
20	20	19	29	20	55	36	22	468	4,200	382	197	294
21	20	18	26	20	55	47	24	2,180	5,210	382	207	272
22	19	27	35	18	47	40	26	4,670	6,410	382	197	250
23	19	21	28	17	50	32	35	5,010	8,010	360	202	234
24	20	18	33	16	51	59	56	5,310	9,300	525	197	217
25	18	28	31	16	40	46	55	3,090	6,580	466	202	212
26	18	34	29	16	36	36	118	929	6,630	371	202	483
27	18	30	25	16	35	35	79	1,180	4,430	338	202	1,670
28	17	32	25	18	37	36	122	1,820	4,240	349	582	2,470
29	20	52	26	20	-	36	97	1,920	5,570	456	1,050	3,430
30	18	40	20	25	-	33	31	3,440	6,330	193	1,010	3,470
31	22	-	28	30	-	37	-	4,860	-	418	2,470	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					743	45	17	24.0	1,470			
November.....					884	86	18	29.5	1,750			
December.....					1,170	70	25	37.7	2,320			
Calendar year 1934.....					50,851	4,820	17	139	100,900			
January.....					784	39	16	25.3	1,560			
February.....					1,064	71	16	38.0	2,110			
March.....					1,218	59	32	39.3	2,420			
April.....					1,331	122	21	44.4	2,640			
May.....					37,162	5,310	41	1,199	73,710			
June.....					221,230	28,900	1,740	7,374	438,800			
July.....					43,655	7,890	338	1,408	86,590			
August.....					13,468	2,470	197	439	26,710			
September.....					51,576	4,570	212	1,719	102,300			
Water year 1934-35.....					374,285	28,900	16	1,025	742,400			

## East Limestone Creek near Ionia, Kans.

Location.- Water-stage recorder, lat. 39°42', long. 96°21', in NW $\frac{1}{4}$  sec. 21, T. 4 S., R. 9 W., in Jewell County, 2 miles above mouth of Elm Creek.

Drainage area.- 23.7 square miles.

Records available.- March 1934 to September 1935.

Extremes.- Maximum discharge during year, 3,920 second-feet May 28 (gage height, 16.35 feet). No flow during much of the year.  
1934-35: Maximum discharge, that of May 28, 1935; no flow during extensive periods.

Remarks.- Records good.

## Discharge, in second-feet, March to September 1934

June 17	0.6	Aug. 23	2.4	Sept. 3	5.3
22	.5	24	.2	4	.3

Note.- No flow except for days given.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								-	1220	2.4	0	699
2								-	15	.30	0	3.2
3								-	1.4	.01	0	.36
4								-	.56	0	0	.11
5								-	.04	0	0	0
6								-	0	0	0	0
7								-	0	0	0	0
8								-	0	0	0	149
9								-	0	0	0	7.3
10								-	0	0	0	.68
11								-	2.0	0	0	.07
12								-	19	0	0	0
13								-	3	0	0	0
14								-	.34	0	0	0
15								-	.09	0	0	0
16								-	0	0	0	0
17								-	367	0	0	0
18								0.01	8.4	0	0	0
19								241	.76	0	0	0
20								71	.26	0	0	0
21								.77	24	0	0	0
22								.03	1.1	0	0	0
23								0	1.20	0	0	0
24								0	.02	0	0	0
25								0	0	0	7.4	0
26								0	2.0	0	5.7	0
27								75	17	0	.29	0
28								916	704	0	.85	0
29								11	2.9	0	1.3	0
30								4.10	21	0	.19	0
31								98	-	0	13	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
1934					
March.....	0	0	0	0	0
April.....	0	0	0	0	0
May.....	0	0	0	0	0
June.....	1.1	.6	0	.04	2.2
July.....	0	0	0	0	0
August.....	2.6	2.4	0	.08	5.2
September.....	8.6	8.3	0	.29	17
The period.....	-	-	-	-	24.4
1934-35					
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	0	0	0	0	0
January.....	0	0	0	0	0
February.....	0	0	0	0	0
March.....	0	0	0	0	0
April.....	0	0	0	0	0
May.....	1,416.91	916	0	45.7	2,510
June.....	2,410.31	1,220	0	80.3	4,780
July.....	2.71	2.4	0	.09	5.4
August.....	28.43	13	0	.92	56.4
September.....	859.62	699	0	28.7	1,710
Water year 1934-35 .....	4,717.98	1,220	0	12.9	9,560

## KANSAS RIVER BASIN

East Limestone Creek at Ionia, Kans.

Location.- Staff gage, lat. 39°40', long. 98°20', in SE¼ sec. 33, T. 4 S., R. 9 W., in Jewell County, 150 feet below mouth of Elm Creek and 100 feet below highway bridge in Ionia.

Drainage area.- 51.6 square miles.

Records available.- March 10, 1934, to July 1, 1935 (discontinued).

Extremes.- Maximum discharge observed during year, 7,250 second-feet June 1 (gage height, 19.44 feet); no flow during much of the year.  
1934-35: Maximum discharge, that of June 1, 1935; no flow during extensive periods.

Remarks.- Records fair.

Discharge, in second-feet, Mar. 10 to Sept. 30, 1934

June 15	0.4	June 23	*1
June 17	*2	Sept. 3	4.5
June 18	*1	Sept. 4	.6
June 22	*9		

\*Estimated.

Note.- No flow Mar. 10 to Sept. 30, 1934, except for days given above; total run-off, 37 acre-feet.

Discharge, in second-feet, for period October 1, 1934, to July 1, 1935.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	2,940	*2		
2								0	44.5			
3								0	0			
4								0	0			
5								0	0			
6								0	0			
7								0	0			
8								0	0			
9								0	0			
10								0	0			
11								0	36.5			
12								0	28.2			
13								0	37.6			
14								0	0			
15								0	0			
16								0	0			
17								0	538			
18								0	12.4			
19								562	0			
20								222	0			
21								17.2	36.8			
22								0	0			
23								0	0			
24								0	0			
25								0	0			
26								0	0			
27								110	0			
28								1,370	1,180			
29								18.1	7.5			
30								9.8	26.2			
31								116	-			
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0	0	0
November.....						0	0	0	0	0	0	0
December.....						0	0	0	0	0	0	0
Calendar year .....												
January.....						0	0	0	0	0	0	0
February.....						0	0	0	0	0	0	0
March.....						0	0	0	0	0	0	0
April.....						0	0	0	0	0	0	0
May.....						2,425.1	1,370	0	78.2	4,810		
June.....						4,887.7	2,940	0	165	9,700		
July.....						-	-	-	-	-	-	-
August.....						-	-	-	-	-	-	-
September.....						-	-	-	-	-	-	-
The period.....											14,510	

\*Estimated.

## Elm Creek near Ionia, Kans.

Location.- Water-stage recorder, lat.  $39^{\circ}40'$ , long.  $98^{\circ}21'$ , in SW $\frac{1}{4}$  sec. 28, T. 4 S., R. 9 W.,  $1\frac{1}{2}$  miles above mouth of Elm Creek.

Drainage area.- 23.2 square miles.

Records available.- March 1934 to September 1935.

Extremes.- Maximum discharge during year, 4,490 second-feet Sept. 1 (gage height, 18.05 feet); no flow during much of the year.  
1934-35: Maximum discharge, that of Sept. 1, 1935; no flow during extensive periods.

Remarks.- Records good.

## Discharge, in second-feet, March to Sept. 30, 1934

June 15	0.2	June 22	9.9
17	2.5	23	1.8
18	1.0		

Note.- No flow March to Sept. 30, 1934, except for days given above; total run-off, 30.6 acre-feet.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	1,320	0.55	0	1,080
2								0	21	.06	0	1.8
3								0	.61	0	0	.36
4								0	.25	0	0	.16
5								0	.06	0	0	.07
6								0	0	0	0	.03
7								0	0	0	0	0
8								0	0	0	0	234
9								0	0	0	0	8.5
10								0	0	0	0	.65
11								0	20	0	0	.22
12								0	27	0	0	.13
13								0	30	0	0	.10
14								0	.44	0	0	.02
15								0	.10	0	0	0
16								0	0	0	0	0
17								0	242	0	0	0
18								.15	7.4	0	0	0
19								376	.55	0	0	0
20								45	.60	0	0	0
21								.39	31	0	0	0
22								.02	.55	0	0	0
23								0	.12	0	0	0
24								0	0	0	0	0
25								0	0	0	38	0
26								0	0	0	2.1	0
27								41	0	0	.25	0
28								609	383	0	2.7	0
29								2.9	2.0	0	2.0	0
30								.60	5.6	0	.25	0
31								96	-	0	3.3	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							0	0	0	0	0	
November.....							0	0	0	0	0	
December.....							0	0	0	0	0	
Calendar year .....												
January.....							0	0	0	0	0	
February.....							0	0	0	0	0	
March.....							0	0	0	0	0	
April.....							0	0	0	0	0	
May.....							1,171.06	609	0	37.6	2,320	
June.....							2,092.28	1,320	0	69.7	4,150	
July.....							.61	.55	0	.02	1.2	
August.....							48.60	38	0	1.57	96.4	
September.....							1,326.04	1,080	0	44.2	2,630	
Water year 1934-35.....							4,638.59	1,320	0	12.7	9,200	

## Big Blue River at Barnston, Nebr.

Location.- Water-stage recorder, lat. 40°3', long. 96°35', in sec. 13, T. 1 N., R. 7 E., 1 mile southwest of Barnston. No important tributary between station and Nebraska-Kansas State line, 4 miles downstream.

Drainage area.- 4,350 square miles.

Records available.- May 1932 to September 1935.

Extremes.- Maximum discharge during year, 9,710 second-feet June 2 (gage height, 20.75 feet); minimum daily discharge, 8 second-feet Oct. 17.  
1932-35: Maximum discharge, that of June 2, 1935; minimum daily discharge, 8 second-feet Aug. 5, Oct. 17, 1934.

Remarks.- Records good except those estimated, Dec. 29 to Jan. 14, and those May 21 to June 5, which are fair. Low water regulated by power plant at Barnston, which has pondage of about 1,500 acre-feet.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82	95	182	216	170	218	126	1,800	8,650	2,760	94	325
2	45	125	95	165	235	209	114	1,140	9,650	2,280	90	765
3	48	327	165	221	162	114	72	869	9,080	1,190	62	1,250
4	39	666	123	227	191	197	165	702	7,560	2,860	70	667
5	37	348	84	209	215	354	197	508	4,710	1,270	127	301
6	37	148	90	224	191	324	138	334	5,320	759	110	283
7	33	110	101	218	215	168	203	224	4,870	772	88	208
8	59	156	78	194	236	305	75	132	3,300	965	81	320
9	36	121	95	203	188	300	101	165	2,190	885	100	872
10	29	175	99	215	197	165	290	119	2,000	717	195	868
11	28	82	154	209	156	191	294	151	4,180	653	40	560
12	38	63	156	203	185	334	173	440	2,370	616	60	342
13	33	68	88	188	221	236	287	720	1,310	612	65	285
14	41	66	82	176	262	189	145	856	919	442	65	240
15	36	110	145	188	182	235	97	706	626	527	56	161
16	27	80	86	140	176	258	65	917	516	224	29	98
17	8	128	173	170	165	93	68	800	658	188	66	234
18	11	317	136	209	287	136	146	663	2,990	242	97	110
19	114	162	162	236	284	262	212	751	2,420	205	73	82
20	1,200	246	136	265	215	93	179	5,320	2,420	179	63	188
21	1,090	95	191	159	179	93	54	4,850	3,870	65	100	77
22	886	191	126	151	168	165	60	3,360	3,000	136	112	32
23	777	75	140	271	168	233	60	2,420	3,660	119	138	112
24	508	68	126	249	194	77	56	2,710	3,400	146	110	77
25	274	56	170	184	209	59	65	2,460	2,160	112	107	51
26	361	112	154	215	138	110	191	1,900	1,770	170	140	439
27	358	51	99	143	133	108	409	2,870	1,720	240	125	283
28	146	165	121	203	212	82	1,390	4,790	1,800	140	58	72
29	236	99	148	128	-	88	2,870	5,710	1,800	268	70	73
30	287	154	188	151	-	95	2,970	5,620	2,180	132	106	91
31	151	-	200	176	-	77	-	4,100	-	159	93	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						7,055	1,200	8	228	13,990		
November.....						4,635	666	51	154	9,190		
December.....						4,091	200	78	132	8,110		
Calendar year 1934.....						48,182	1,320	8	132	95,560		
January.....						6,078	271	128	196	12,060		
February.....						5,522	287	133	197	10,950		
March.....						5,553	354	59	179	11,010		
April.....						11,268	2,970	54	376	22,350		
May.....						57,527	5,710	119	1,856	114,100		
June.....						100,848	9,630	516	3,562	200,000		
July.....						19,679	2,980	65	635	39,030		
August.....						2,765	193	29	89.2	5,480		
September.....						9,122	1,250	32	304	18,090		
Water year 1934-35.....						234,143	9,630	8	641	464,400		



## Big Blue River at Hull, Kans.

Location.- Water-stage recorder, lat. 39°55', long. 96°38', in NW $\frac{1}{4}$  sec. 3, T. 2 S., R. 7 E., a quarter of a mile west of Hull and 2 miles above Deer Creek.

Drainage area.- 4,430 square miles.

Records available.- August 1919 to July 1925, August 1928 to September 1935.

Average discharge.- 12 years (1919-24, 1928-35), 529 second-feet.

Extremes.- Maximum discharge during year, 15,300 second-feet June 2 (gage height, 22.30 feet); minimum, 24 second-feet Oct. 18 (gage height, 1.93 feet).  
1919-25, 1928-35: Maximum discharge, that of June 2, 1935; minimum, 2 second-feet Sept. 8, 14, 1922 (gage height, 1.20 feet).  
Maximum known stage, 31.7 feet in May 1903.

Remarks.- Records good except those for Dec. 6-19, 25-31, Jan. 1-15, 19-31, Feb. 1-9, 25-28, which were estimated because of ice effect and are fair. Those for Feb. 10-17, May 2-7, June 13-17, 25-30, July 2-16 were based on constructed gage graphs or estimated by comparison with discharge hydrographs for Big Blue River at Barnston, Nebr., and are poor.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Nov. 6 to Dec. 5, May 1, 8-11, July 16, 17, Sept. 13-30)

1.5	2	2.6	91	5.0	750	12.0	4,500
1.6	6	3.0	152	6.0	1,110	14.0	6,200
1.8	16	3.5	265	7.0	1,490	16.0	8,100
2.0	29	4.0	412	8.0	1,945	18.0	10,250
2.3	57	4.5	579	10.0	3,120	20.0	12,500
						22.0	14,900

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	215	162	175	108	130	184	116	2,060	12,300	2,680	169	345
2	132	108	130	117	128	206	144	1,280	14,800	2,220	113	698
3	135	190	121	98	122	124	900	1,280	13,200	1,490	107	1,190
4	104	715	192	105	112	257	132	650	10,800	2,400	86	876
5	112	444	108	116	150	348	206	440	5,460	1,780	124	396
6	104	241	100	135	124	208	124	310	6,110	1,000	149	412
7	99	145	132	100	121	255	257	280	5,460	681	110	243
8	135	133	107	110	121	269	108	246	3,640	582	108	412
9	104	159	104	100	150	*230	96	208	2,230	491	112	696
10	94	177	100	103	137	*190	199	282	1,940	461	235	562
11	86	175	116	100	123	152	255	222	4,280	420	94	804
12	91	96	107	103	110	345	243	1,690	2,640	380	69	511
13	107	94	127	110	125	272	215	732	1,610	340	77	428
14	101	94	98	98	145	195	228	966	1,400	300	87	372
15	112	114	100	115	170	249	130	822	1,260	265	76	348
16	88	124	135	133	164	292	100	966	1,170	235	54	195
17	62	127	101	167	160	166	84	966	1,110	220	67	360
18	50	232	105	149	160	150	130	858	2,700	412	86	238
19	104	192	112	117	235	289	178	1,340	2,760	312	100	169
20	1,040	249	182	100	169	167	199	6,740	2,400	255	90	278
21	1,540	144	166	135	169	133	114	5,570	4,130	192	88	171
22	1,000	175	173	101	152	144	88	3,850	3,180	122	188	122
23	876	136	155	116	152	278	78	2,460	2,460	222	155	154
24	613	101	145	121	177	182	78	2,700	2,280	199	132	155
25	269	98	125	114	124	118	75	2,580	2,160	140	142	144
26	321	106	114	132	135	149	140	1,840	1,840	192	130	298
27	327	88	80	118	104	133	336	4,200	1,730	301	215	630
28	246	129	80	119	113	124	1,070	6,200	1,840	257	103	149
29	135	129	110	121	-	133	2,640	6,560	1,940	309	78	142
30	263	147	133	107	-	127	3,060	7,900	2,000	190	137	135
31	199	-	100	120	-	144	-	5,400	-	197	107	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	8,664	1,340	50	279	17,180
November.....	5,222	715	88	174	10,360
December.....	3,613	192	-	123	7,560
Calendar year 1934.....	64,256	1,390	16	176	127,400
January.....	3,584	-	-	116	7,110
February.....	3,965	235	-	142	7,900
March.....	6,211	348	118	200	12,320
April.....	10,951	3,060	75	365	21,720
May.....	71,178	7,900	206	2,296	141,200
June.....	120,820	14,800	-	4,031	239,800
July.....	19,125	2,580	122	617	37,930
August.....	3,636	235	54	116	7,110
September.....	11,635	1,190	122	388	23,060
Water year 1934-35.....	268,874	14,800	50	737	535,500

\*Discharge interpolated.

## Big Blue River at Randolph, Kans.

Location.- Water-stage recorder, lat. 39°27', long. 96°43' in SW¼ sec. 12, T. 7 S., R. 6 E., at Randolph, half a mile above Fancy Creek.

Drainage area.- 8,880 square miles.

Records available.- April 1918 to September 1935.

Average discharge.- 17 years, 1,214 second-feet.

Extremes.- Maximum discharge during year, 34,600 second-feet June 3 (gage height, 25.25 feet); minimum, 116 second-feet Oct. 21 (gage height, 2.07 feet).

1918-35: Maximum discharge recorded, that of June 3, 1935; minimum, 31 second-feet Aug. 10, 1934 (gage height, 1.85 feet). Bank-full stage, 20 feet.

Maximum stage known, 31.7 feet (revised) May 31, 1903.  
Remarks.- Records good except those for periods of ice effect, Dec. 5 to Feb. 5, Feb. 25-28, and for periods of backwater from Fancy Creek, Apr. 29, Sept. 16, 17, which are fair.

Recomputation of discharge for flood of May and June 1903 for station on Big Blue River at Manhattan, Kans., is to be published in a report on the flood on the Republican and Kansas Rivers in May and June 1935.

Rating tables, water year 1934-35, except period of ice effect  
 (gage-height, in feet, and discharge, in second-feet)  
 (Shifting-control method used Apr. 29, Sept. 16, 17)

Table for Oct. 1 to May 31

Table for June 1 to Sept. 30

2.0	99	7.0	3,275	24.0	31,500	2.8	173	7.0	3,275
2.3	180	8.0	4,325	25.0	34,100	3.0	251		
2.6	281	9.0	5,375			3.2	338		
3.0	435	10.0	6,425			3.6	540		
3.5	650	12.0	8,720			4.0	785		
4.0	980	14.0	11,270			4.5	1,110		
4.5	1,175	16.0	14,020			5.0	1,465		
5.0	1,510	18.0	17,600			5.5	1,865		
6.0	2,280	20.0	21,850			6.0	2,250		

Above 7.0 feet  
same as  
previous table.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	672	375	395	220	170	285	332	3,800	16,000	8,470	455	6,220
2	507	299	336	215	180	351	245	2,660	27,500	5,900	430	3,170
3	281	353	383	210	200	387	235	1,790	34,100	4,430	400	2,560
4	336	455	277	200	230	379	274	1,400	32,500	2,960	334	2,860
5	285	808	300	170	270	371	332	1,110	22,500	4,640	329	2,200
6	281	762	270	170	313	375	249	958	11,700	2,860	235	1,740
7	211	533	250	160	443	511	375	740	11,300	1,950	324	1,360
8	228	367	230	160	387	427	340	605	8,970	2,380	324	1,360
9	196	298	210	150	356	403	340	551	6,320	2,380	276	1,430
10	245	306	180	160	399	343	317	495	4,740	2,560	268	2,200
11	228	325	210	170	383	483	285	467	4,320	2,120	268	3,280
12	235	303	230	180	371	407	379	965	7,390	1,860	380	2,290
13	189	317	250	195	328	375	419	7,060	5,060	1,660	196	1,580
14	196	211	250	210	371	479	391	4,220	3,480	1,500	211	1,320
15	205	267	250	220	363	431	355	2,200	2,760	1,250	231	1,140
16	180	199	260	220	379	403	351	1,940	2,120	980	144	915
17	252	288	260	220	363	383	228	1,620	1,740	915	207	546
18	211	256	260	220	303	391	325	1,620	5,160	766	127	720
19	281	317	260	210	340	367	225	1,950	9,340	804	196	830
20	196	427	270	180	306	313	208	8,470	7,060	772	130	714
21	479	359	270	160	375	363	359	15,700	8,100	655	235	607
22	1,510	391	280	140	359	351	332	19,400	7,730	562	177	607
23	1,040	344	290	130	356	281	263	11,900	5,480	376	668	540
24	905	317	280	120	256	303	221	5,270	4,320	534	850	425
25	740	336	265	120	260	375	252	4,640	4,120	540	850	568
26	582	249	250	130	270	341	208	3,900	4,120	518	1,620	1,500
27	371	321	240	140	280	228	202	3,060	3,280	480	529	1,180
28	427	340	240	150	285	213	930	7,280	7,060	545	450	1,500
29	427	447	230	150	-	249	2,660	7,850	8,100	707	435	1,010
30	336	395	230	160	-	313	3,900	11,800	8,720	584	269	720
31	281	-	220	160	-	221	-	13,600	-	613	280	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	12,513	1,510	180	404	24,820
November.....	11,005	808	199	367	21,830
December.....	8,126	395	180	262	16,120
Calendar year 1934.....	121,538	1,940	42	333	241,000
January.....	5,400	220	120	174	10,710
February.....	8,856	443	170	316	17,570
March.....	11,202	511	221	361	22,220
April.....	15,592	3,900	202	520	30,930
May.....	149,021	19,400	467	4,807	295,600
June.....	225,020	34,100	1,740	9,503	565,500
July.....	57,272	8,470	377	1,847	113,600
August.....	11,848	1,620	127	362	23,500
September.....	47,092	6,220	425	1,570	93,410
Water year 1934-35 .....	623,017	34,100	120	1,707	1,236,000

## Little Blue River near Endicott, Nebr.

Location.- Water-stage recorder, lat. 40°5', long. 97°7', in sec. 6, T. 1 N., R. 3 E., 1½ miles southwest of Endicott.

Drainage area.- 2,590 square miles.

Records available.- April 1929 to September 1935. At point several miles upstream, May 1908 to September 1915.

Extremes.- Maximum discharge during year, 14,500 second-feet May 20 (gage height, 14.90 feet); minimum daily discharge, 56 second-feet (estimated) Jan. 23. 1908-15, 1929-35: Maximum discharge, that of May 20, 1935; minimum daily discharge, 16 second-feet Sept. 28, 1931 (discharge measurement).

Remarks.- Records good except those for Dec. 6, Dec. 8-14, Dec. 27 to Jan. 4, Jan. 17 to Feb. 4, which were estimated on the basis of one discharge measurement and temperature records, and those for Apr. 15-20. No diversions. Diurnal fluctuations caused by operation of power dams above.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	101	98	128	125	140	109	115	288	6,760	1,290	125	413
2	87	101	129	122	143	133	116	250	7,060	692	115	718
3	84	104	112	123	146	139	115	228	3,920	456	112	310
4	86	109	114	126	142	143	116	214	3,320	375	112	349
5	81	108	109	128	133	129	118	204	2,650	328	108	270
6	80	105	98	136	130	123	122	192	2,510	295	105	222
7	77	104	70	130	125	105	125	185	1,970	391	101	172
8	75	102	71	130	128	143	122	176	984	552	95	355
9	75	101	77	133	125	122	125	168	770	322	93	1,010
10	75	101	87	137	125	123	130	176	638	255	86	880
11	79	101	80	137	121	123	132	1,180	588	225	88	408
12	83	104	100	143	121	122	126	1,780	884	280	86	312
13	81	102	126	159	116	123	128	770	467	243	80	237
14	83	104	125	111	118	122	128	483	366	216	76	201
15	95	107	128	111	115	122	128	426	377	198	75	174
16	84	105	137	108	111	118	126	373	328	190	77	168
17	87	106	133	111	111	121	126	314	1,210	180	70	156
18	90	108	142	112	108	123	124	426	2,630	171	74	147
19	128	102	143	101	109	122	122	1,010	2,240	156	76	144
20	130	100	139	108	109	121	120	5,940	1,640	153	76	136
21	102	107	135	80	108	121	118	5,000	936	143	71	133
22	114	118	126	67	107	122	126	2,210	513	142	84	130
23	109	112	123	56	107	121	122	1,270	391	137	94	132
24	109	109	121	58	107	118	119	808	342	150	139	137
25	102	123	121	59	70	118	115	660	314	135	114	114
26	102	123	119	59	84	122	266	499	286	159	116	418
27	98	128	115	59	93	116	2,270	895	280	246	105	284
28	93	136	115	66	105	114	1,180	595	1,550	211	128	167
29	98	132	115	68	-	112	480	4,920	4,050	179	142	155
30	98	133	118	91	-	112	334	3,950	2,840	112	116	139
31	98	-	122	125	-	111	-	3,380	-	132	133	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-foot	
October.....						2,884	130	75	93.0		5,720	
November.....						3,289	136	98	110		6,520	
December.....						3,578	143	70	115		7,100	
Calendar year 1934.....						39,001	366	38	107		77,350	
January.....						3,259	143	56	105		6,460	
February.....						3,257	146	70	116		6,480	
March.....						3,773	143	105	122		7,480	
April.....						7,564	2,270	115	252		15,000	
May.....						38,761	5,940	168	1,250		76,880	
June.....						52,814	7,060	280	1,760		104,800	
July.....						8,713	1,290	112	281		17,280	
August.....						3,072	142	70	99.1		6,090	
September.....						8,611	1,010	114	287		17,080	
Water year 1934-35.....						139,575	7,060	56	382		276,900	

## Little Blue River at Waterville, Kans.

Location.- Chain gage, lat. 39°42', long. 96°45', in SE $\frac{1}{4}$  sec. 16, T. 4 S., R. 6 E., half a mile north of Waterville and 1 mile below Corn Creek.

Drainage area.- 3,440 square miles.

Records available.- June 1922 to June 1925, August 1928 to September 1935.

Extremes.- Maximum discharge observed during year, 23,500 second-feet June 2 (gage height, 21.90 feet); minimum (estimated), 50 second-feet Jan. 23; minimum observed gage height, 2.00 feet, Oct. 11, 12, 15-17.  
1922-25, 1928-35: Maximum discharge observed, that of June 2, 1935; minimum, 28 second-feet Aug. 12, 1934.

Remarks.- Records good except those for periods of ice effect Dec. 7 to Feb. 13, Feb. 25-27, Mar. 7, 8, and those for May, July and September, when control shifted, which are fair.

Rating tables, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Apr. 28, May 1-23, July 1-28, Sept. 11-30)

Table for Oct. 1 to Apr. 28

Table for April 29 to Sept. 30

1.2	2	4.0	642	1.4	2	3.5	365	10.0	3,730
1.4	13	4.5	831	1.6	11	4.0	535	12.0	5,200
1.7	41	5.0	1,040	1.8	25	5.0	925	14.0	6,850
2.0	86	6.0	1,500	2.0	46	6.0	1,355	16.0	8,600
2.5	195	7.0	2,010	2.3	90	7.0	1,835	18.0	10,450
3.0	328	8.0	2,700	2.6	145	8.0	2,420	20.0	13,850
3.5	478			3.0	228	9.0	3,050	22.0	24,300

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	158	109	158	112	85	182	136	461	9,320	3,450	217	411
2	147	111	156	114	104	170	136	365	21,400	1,640	217	649
3	125	234	147	117	126	170	136	320	20,000	1,130	208	885
4	115	125	136	119	145	195	136	278	10,200	845	196	461
5	109	170	147	118	155	208	136	252	7,100	687	196	427
6	101	136	125	116	160	195	136	240	5,560	573	185	350
7	99	136	80	118	165	170	158	240	3,940	611	185	292
8	97	136	82	117	165	150	147	228	2,420	497	175	278
9	92	136	84	117	167	170	147	217	1,640	765	175	497
10	90	123	91	117	167	195	147	206	1,560	555	175	1,880
11	88	125	95	116	168	170	158	196	2,000	411	165	1,080
12	88	123	100	115	168	170	158	2,420	1,890	380	155	611
13	90	119	106	114	169	158	147	3,940	1,490	427	155	461
14	90	123	112	111	170	158	147	1,440	1,130	380	155	335
15	88	121	117	110	170	158	136	1,180	925	320	145	278
16	88	123	123	108	170	147	136	649	805	292	145	240
17	86	125	126	111	158	147	136	461	2,180	278	145	228
18	99	147	128	112	158	147	136	461	2,980	252	145	228
19	99	147	128	100	158	147	136	1,840	4,010	252	145	217
20	136	125	128	88	158	147	136	7,020	2,420	240	145	206
21	182	136	126	75	147	147	136	10,800	2,920	240	145	196
22	136	125	124	60	147	136	136	11,100	1,440	240	206	185
23	136	136	122	50	147	136	136	3,520	965	240	725	185
24	121	147	120	52	147	136	136	2,060	845	228	461	175
25	121	147	105	53	120	147	136	1,490	765	240	350	185
26	115	147	80	54	95	136	132	1,220	687	252	228	411
27	113	158	83	55	120	136	576	1,130	611	240	206	411
28	109	182	87	57	147	136	2,560	1,260	4,220	305	185	395
29	105	208	92	59	-	125	1,510	3,450	4,980	305	165	278
30	105	170	100	63	-	136	649	8,690	7,360	265	206	228
31	111	-	107	72	-	136	-	7,790	-	240	196	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	3,439	182	86	111	6,820
November.....	4,250	234	109	142	8,430
December.....	3,517	158	80	113	6,980
Calendar year 1934.....	51,785	1,860	28	142	102,700
January.....	2,902	119	50	93.6	5,760
February.....	4,155	170	85	148	8,240
March.....	4,861	208	125	157	9,640
April.....	8,798	2,560	136	293	17,450
May.....	74,924	11,100	196	2,417	148,600
June.....	127,363	21,400	611	4,245	252,600
July.....	16,780	3,450	228	541	35,240
August.....	6,520	725	145	210	12,830
September.....	12,043	1,260	175	401	23,690
Water year 1934-35.....	269,532	21,400	50	738	554,600

## Soldier Creek at Topeka, Kans.

Location.- Chain gage, lat. 39°6', long. 95°41', in NW¼ sec. 18, T. 11 S., R. 16 E., at State Industrial School, Topeka. After July 27, 1935, gage was located 2 miles upstream, lat. 39°7', long. 95°43'. Relationship of datums not known.

Drainage area.- 304 square miles.

Records available.- May 1929 to September 1935.

Extremes.- Maximum discharge recorded during year, 9,560 second-feet May 28 (gage height, 23.06 feet); no flow during extensive periods.  
1929-35: Maximum discharge recorded, 9,560 second-feet May 28, 1935 (gage height, 23.06 feet); no flow at times in 1931, 1933, 1934, 1935.

Remarks.- Records poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	0		1	1		1	2	3,360	38	1	775
2	23	0		1	1		1	940	2,100	25	1	265
3	8	0		1	1		1	10	800	21	0	96
4	8	0		1	1		1	2	480	18	1	27
5	2	0		2	1		1	2	350	19	1	10
6	1	0		2	1	2	1	2	280	20	1	6
7	1	0		2	1	1	1	2	220	17	1	4
8	1	0		2	1	2	2	2	190	15	1	4
9	1	0		2	1	1	1	2	160	14	0	11
10	1	0		2	1	1	1	35	130	12	1	12
11	1	0		2	1		1	37	110	11	1	5
12	0	0		2	1		1	65	93	10	0	3
13	1	1	1	2	1		1	94	80	9	0	3
14	0	1		2	1	1	1	70	69	8	0	2
15	0	0		2	1		1	40	61	6	0	2
16	0	0	0	2	1		1	30	52	7	0	1
17	0	400	0	2	1	1	1	25	43	6	0	1
18	2	2,010	3	1			1	20	53	6	0	1
19	6	702	2	1			1	800	94	6	0	1
20	1	66	2	1		1	1	3,220	84	6	8	1
21	23	28	3	1			1	800	72	5	10	1
22	3	27	2	2	1	1	1	500	64	5	3	1
23	1	27	2	2			1	100	58	5	3	1
24	1	27	1	1			1	75	50	5	7	1
25	1	22		1			2	50	44	4	3	1
26	1	18		1		1	1	25	39	4	2	1
27	1	6					1	15	64	4	1	1
28	1	10		1			1	8,990	99	3	2	1
29	0	8					1	3,550	75	2	2	1
30	0	6					1	1,850	50	1	11	5
31	0	-					-	150	-	1	5	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						137	48	0	4.4	272		
November.....						3,360	2,010	0	112	6,660		
December.....						57	-	0	1.8	113		
Calendar year 1934.....						6,141	2,010	0	16.8	12,180		
January.....						46	2	-	1.5	91		
February.....						28	-	-	1.0	56		
March.....						41	-	-	1.3	81		
April.....						32	2	1	1.1	65		
May.....						21,305	8,990	2	687	42,260		
June.....						9,424	3,360	39	314	18,690		
July.....						315	38	1	10.2	625		
August.....						66	11	0	2.1	131		
September.....						1,244	775	1	41.5	2,470		
Water year 1934-35.....						36,055	8,990	0	98.8	71,510		

## Delaware River at Valley Falls, Kans.

Location.- Chain gage, lat.  $39^{\circ}21'$ , long.  $95^{\circ}27'$ , in SW $\frac{1}{4}$  sec. 18, T. 8 S., R. 18 E., at Valley Falls, 500 feet below Walnut Creek.

Drainage area.- 922 square miles.

Records available.- June 1922 to September 1935.

Average discharge.- 13 years, 334 second-feet.

Extremes.- Maximum discharge recorded during year, 18,900 second-feet May 28 (gage height, 23.96 feet); minimum, 4 second-foot Oct. 11-14, 16 (gage height, 2.36 feet).  
1922-35: Maximum discharge recorded, 30,000 second-feet June 16, 1925 (gage height, 29.72 feet); minimum, 0.1 second-foot during June, July and August, 1934. Bank-full stage, 22 feet.

Remarks.- Records good except those for periods of ice effect, Dec. 15-20, Jan. 25-31, Feb. 6-8, 24-28, which are fair.

Rating table, water year 1934-35, except periods of ice effect (gage height, in feet, and discharge, in second-foot)  
(Shifting-control method used Feb. 16 to May 18, Sept. 4-30)

2.4	5	4.5	579	16.0	7,760
2.6	15	5.0	880	18.0	9,100
2.8	28	6.0	1,500	19.0	9,870
3.0	48	8.0	2,740	20.0	10,820
3.3	94	10.0	3,930	21.0	12,200
3.6	167	12.0	5,220	22.0	14,200
4.0	320	14.0	6,460	24.0	18,900

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	85	6	74	21	21	42	13	34	2,930	1,620	20	34
2	52	6	87	19	23	48	12	155	10,600	277	20	467
3	38	5	110	20	26	47	12	51	8,690	298	19	467
4	21	7	89	19	32	42	11	32	758	3,610	56	136
5	14	9	61	22	44	31	10	24	608	257	44	34
6	13	12	52	24	30	27	9	22	1,440	136	32	19
7	12	26	44	31	32	32	17	20	415	190	25	15
8	10	20	48	47	29	30	24	366	298	112	20	38
9	9	15	45	49	29	32	22	467	608	96	19	35
10	6	14	33	40	30	32	22	133	257	73	18	29
11	4	12	25	38	31	32	22	200	9,170	66	17	27
12	4	10	29	37	33	32	21	114	1,310	67	16	20
13	4	9	32	21	37	32	20	193	257	62	15	16
14	4	9	31	15	45	30	17	218	200	57	15	15
15	5	8	35	12	54	29	16	164	187	49	14	12
16	4	8	40	14	47	27	15	277	200	45	13	12
17	5	11	45	24	37	22	14	147	187	44	14	12
18	10	6,970	48	29	32	19	85	237	5,470	41	14	10
19	441	343	55	28	31	16	100	7,630	3,300	38	31	9
20	108	124	55	24	27	14	42	9,700	1,380	36	21	8
21	27	150	56	20	23	14	32	15,400	1,310	34	20	9
22	21	1,130	40	15	21	16	24	3,110	320	32	24	9
23	14	180	47	10	19	16	21	608	218	30	106	9
24	15	155	49	9	20	16	20	415	155	32	44	8
25	20	114	53	9	18	15	24	298	136	28	26	9
26	15	76	53	10	18	14	25	257	277	26	25	12
27	12	98	44	10	20	13	21	1,930	467	25	23	49
28	10	1,380	28	10	25	19	20	14,700	819	25	22	40
29	8	343	28	12	-	19	29	2,930	366	24	23	29
30	7	128	26	15	-	18	54	1,250	2,000	23	22	20
31	7	-	24	18	-	14	-	1,580	-	21	22	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,000	441	4	32.3	1,980
November.....	11,378	6,970	5	379	22,570
December.....	1,486	110	24	47.9	2,950
Calendar year 1934.....	32,728	6,970	.1	89.7	64,890
January.....	672	49	9	21.7	1,330
February.....	834	54	18	29.8	1,650
March.....	789	48	13	25.5	1,560
April.....	774	100	9	26.6	1,540
May.....	62,462	15,400	20	2,015	123,900
June.....	54,333	10,600	136	1,611	107,600
July.....	7,474	3,610	21	241	14,820
August.....	802	106	13	25.9	1,590
September.....	1,607	467	8	53.6	3,190
Water year 1934-35.....	143,611	15,400	4	393	284,900

## Wakarusa River near Lawrence, Kans.

Location.- Chain gage, lat. 38°55', long. 95°16', in NW¼ sec. 24, T. 13 S., R. 19 E., 4 miles southwest of Lawrence and 11 miles above junction with Kansas River.

Drainage area.- 458 square miles.

Records available.- April 1929 to September 1935.

Extremes.- Maximum discharge observed during year, 11,700 second-feet May 27 (gage height, 29.36 feet); no flow at various times.  
1929-35: Maximum discharge, that of May 27, 1935; no flow during several months in each year, 1930-35. Bank-full stage, 22 feet.

Remarks.- Records fair. Stage-discharge relation affected by ice Jan. 19-31, Feb. 25 to Mar. 14.

Rating table, for Jan. 19 to Sept. 30, 1935, except periods of ice effect (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Mar. 22 to May 8, July 22 to Aug. 28)

2.0	5	5.0	277	17.0	3,800
2.2	12	6.0	427	19.0	4,850
2.4	20	7.0	500	21.0	5,990
2.7	36	9.0	1,050	23.0	7,220
3.0	56	11.0	1,620	25.0	8,500
3.5	98	13.0	2,285	27.0	9,870
4.0	150	15.0	2,997	29.0	11,400

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	8	0	2	1	1	4	7,720	50	0	186
2	0	0	10	0	2	1	2	7	9,450	56	0	236
3	0	0	9	0	2	1	2	8	7,220	43	2	43
4	0	2	8	0	4	2	1	9	1,440	31	7	19
5	0	2	6	0	6	4	3	6	702	22	4	19
6	0	0	3	0	2	4	5	8	744	23	4	18
7	0	0	2	0	3	4	5	11	459	26	2	13
8	0	0	2	5	5	5	5	9	505	22	0	13
9	0	0	1	2	4	6	5	223	249	18	0	8
10	0	0	1	8	4	7	6	334	223	15	0	6
11	0	0	0	4	5	7	5	123	3,000	15	0	3
12	0	0	0	2	3	8	3	118	681	13	0	5
13	0	0	0	1	3	10	4	108	394	14	0	3
14	0	0	0	1	4	12	2	1,650	249	12	0	1
15	0	0	0	0	4	13	2	1,690	186	8	0	1
16	0	0	0	0	4	10	1	1,380	198	10	0	8
17	0	0	0	0	5	7	1	526	162	10	0	48
18	0	0	0	1	5	4	1	951	139	10	0	5
19	0	0	0	3	6	6	1	7,850	123	7	0	3
20	0	0	0	2	4	6	1	3,150	103	7	0	2
21	0	83	0	1	5	4	2	951	84	6	0	0
22	0	555	0	1	4	4	2	427	84	6	0	0
23	0	313	0	1	3	5	2	305	84	5	0	0
24	0	91	0	2	3	4	1	223	76	4	0	0
25	0	35	0	2	2	5	1	186	71	1	0	0
26	2	60	0	2	1	5	2	162	84	4	0	1
27	0	46	0	1	1	4	1	9,590	134	4	0	2
28	0	38	0	1	1	3	2	11,400	491	2	0	3
29	0	21	0	2	-	2	6	11,200	620	1	52	2
30	0	14	0	2	-	4	5	3,070	162	0	39	0
31	0	-	0	2	-	1	-	681	-	0	22	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2	2	0	0.1	4.0
November.....	1,260	555	0	42.0	2,500
December.....	50	10	0	1.6	99
Calendar year 1934.....	6,624	2,050	0	18.1	13,130
January.....	46	8	0	1.5	91
February.....	97	6	1	3.5	192
March.....	159	13	1	5.1	315
April.....	80	6	1	2.7	159
May.....	56,350	11,400	4	1,818	111,800
June.....	35,607	9,450	71	1,187	70,630
July.....	475	60	0	15.3	942
August.....	132	52	0	4.3	262
September.....	649	236	0	21.6	1,290
Water year 1934-35.....	94,907	11,400	0	260	188,300

## Stranger Creek near Tonganoxie, Kans.

Location.— Chain gage, lat. 39°6', long. 95°1', in NE¼ sec. 13, T. 11 S., R. 21 E., 1 mile above mouth of Tonganoxie Creek and 4 miles east of Tonganoxie.

Drainage area.— 406 square miles.

Records available.— May 1929 to September 1935.

Extremes.— Maximum discharge observed during year, 7,050 second-feet May 29 (gage height, 25.85 feet); no flow Aug. 20-22.  
1929-35: Maximum discharge observed, 10,600 second-feet June 2, 1929 (gage height, 26.46 feet); no flow at times in 1934 and 1935. Bank-full stage, 23 feet.  
Maximum stage known, 27.31 feet, April 21, 1929 (discharge, 15,300 second-feet).

Remarks.— Records fair. Stage discharge relation affected by ice Dec. 6-20, Dec. 27 to Jan. 6, Jan. 21 to Feb. 15, Feb. 26-28; discharge estimated.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	121	2	26	1	1	21	3	12	2,340	47	2	110
2	82	2	21	1	1	20	3	194	3,120	51	2	570
3	33	2	11	1	1	18	3	226	4,000	45	5	155
4	13	4	7	1	2	17	3	43	3,250	30	4	22
5	4	13	6	2	2	16	3	24	514	26	4	13
6	2	20	5	3	2	16	3	32	311	24	3	10
7	2	11	5	4	3	20	4	26	243	23	2	18
8	2	4	4	45	3	18	5	20	178	62	2	19
9	2	2	4	15	3	17	7	463	166	43	2	148
10	2	2	3	15	3	15	7	344	121	26	2	74
11	2	1	3	7	3	14	8	92	3,160	17	1	17
12	2	1	2	3	3	13	6	210	4,430	10	1	6
13	1	1	2	4	4	10	6	72	4,000	6	1	3
14	1	1	1	4	5	9	5	1,370	750	5	1	3
15	1	1	2	4	12	6	4	667	199	5	1	3
16	1	1	3	4	22	5	4	631	169	6	1	702
17	2	1	3	4	20	5	5	367	215	6	1	1,800
18	4	1	3	7	11	5	5	915	248	4	1	110
19	43	2	4	62	8	3	4	3,690	199	4	1	13
20	9	2	5	8	6	3	3	5,540	251	5	0	7
21	2	4	6	3	5	3	3	2,190	284	4	0	5
22	3	463	5	2	4	4	3	439	110	4	0	5
23	49	333	5	2	3	4	3	367	79	3	2	5
24	82	178	4	2	3	4	3	194	53	3	4	4
25	62	87	3	2	62	4	3	145	69	3	4	5
26	4	43	2	1	24	3	3	151	141	3	3	7
27	2	45	2	1	22	3	3	290	69	2	2	17
28	2	82	2	1	22	3	3	5,300	275	2	2	6
29	2	53	1	1	-	3	7	7,050	79	2	2	4
30	2	39	1	1	-	3	7	5,770	53	2	1	3
31	2	-	1	1	-	3	-	1,530	-	2	2	-

  

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	541	121	1	17.5	1,070
November.....	1,401	463	1	46.7	2,780
December.....	154	26	1	5.0	305
Calendar year 1934.....	4,951	463	0	13.6	9,820
January.....	212	62	1	6.8	420
February.....	280	82	1	10.0	555
March.....	287	21	3	9.3	569
April.....	129	8	3	4.3	256
May.....	36,354	7,050	12	1,173	72,110
June.....	29,056	4,430	53	969	57,630
July.....	475	62	2	15.3	942
August.....	59	5	0	1.9	117
September.....	3,854	1,800	3	128	7,640
Water year 1934-35.....	72,802	7,050	0	199	144,400



## Grand River near Gallatin, Mo.

Location.— Chain gage, lat. 39°55'55", long. 93°56'40", in NW $\frac{1}{4}$  sec. 16, T. 59 N., R. 27 W., 1,000 feet above Chicago, Rock Island & Pacific Railway bridge and 2 miles north-east of Gallatin. Zero of gage is 712.95 feet above mean sea level.

Drainage area.— 2,250 square miles.

Records available.— June 1921 to September 1935.

Average discharge.— 14 years, 1,164 second-feet.

Extremes.— Maximum discharge observed during water year 1932-33, 16,600 second-feet (revised) Aug. 22 (gage height, 23.98 feet); minimum, 23 second-feet (revised) July 27-30 (gage height, 1.78 feet).

Maximum discharge observed during water year 1933-34, 6,420 second-feet (revised) Apr. 4 (gage height, 14.25 feet); minimum, 3 second-feet (revised) Aug. 10 (gage height, 1.16 feet).

Maximum discharge observed during water year 1934-35, 40,100 second-feet June 4 (gage height, 33.60 feet); minimum, 12 second-feet Oct. 17, 18 (gage height, 1.38 feet).

1921-35: Maximum discharge observed, 56,800 second-feet June 2, 1929 (gage height, 37.53 feet); minimum, 3 second-feet Aug. 10, 1934.

Maximum stage known, 39.3 feet in July 1909.

Remarks.— Records fair except those for days of rapidly changing stage and for periods of ice effect, Dec. 8-23, 1932, Feb. 5-19, Dec. 28-31, 1933, Feb. 23 to Mar. 1, Dec. 8-14, 1934, Jan. 23-31, Feb. 1-3, 8-10, 1935, which are poor.

## Discharge, in second-feet, water year October 1932 to September 1933

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	40	101	602	206	169	2,480	110	147	66	26	536
2	48	40	98	470	243	147	1,000	147	110	49	24	269
3	46	39	108	361	230	127	1,080	168	89	44	24	206
4	46	39	144	352	256	127	670	137	78	31	670	169
5	46	38	162	310	230	110	502	137	66	50	670	137
6	45	39	153	296	181	110	440	206	61	26	218	137
7	45	40	153	296	137	147	502	502	55	24	78	118
8	43	50	108	282	102	310	568	324	48	45	58	102
9	43	326	75	282	89	361	440	269	42	1,340	5,250	89
10	91	524	60	243	66	510	352	181	39	960	9,620	83
11	115	446	48	243	66	243	296	169	37	670	1,930	78
12	105	280	40	230	55	181	243	352	42	269	740	72
13	78	216	37	218	55	169	218	1,780	36	118	670	76
14	55	198	34	193	55	158	193	1,300	34	72	218	72
15	50	292	28	218	55	158	181	568	33	52	169	193
16	43	663	28	206	55	147	169	324	33	44	110	118
17	42	750	28	181	55	127	158	230	32	42	168	83
18	40	470	28	230	66	118	137	181	30	37	147	72
19	40	303	28	206	102	118	127	158	30	32	78	72
20	39	303	28	310	181	127	127	118	30	31	66	72
21	36	180	28	296	324	118	127	2,420	30	30	7,640	61
22	38	122	28	296	352	118	147	2,940	28	29	16,000	50
23	40	101	28	352	535	127	193	1,530	26	29	5,400	49
24	39	91	162	670	381	127	147	410	28	26	1,250	47
25	39	94	7,280	410	310	636	110	256	28	26	705	44
26	46	91	4,230	338	256	960	110	740	28	26	470	2,040
27	50	60	1,880	282	218	845	102	440	28	23	352	14,400
28	48	60	920	256	206	775	89	775	38	23	5,400	11,000
29	50	69	705	230	-	535	89	1,040	470	23	3,300	5,180
30	42	94	568	169	-	410	95	535	181	23	845	1,120
31	42	-	740	181	-	352	-	256	-	24	502	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,582	115	36	51.0	0.023	0.03	3,140
November.....	6,058	750	38	202	.090	.10	12,020
December.....	18,058	7,280	26	583	.259	.30	35,820
Calendar year 1932.....	377,703	23,000	28	1,035	.460	6.26	749,400
January.....	9,229	670	169	298	.132	.15	18,310
February.....	5,067	535	55	181	.080	.08	10,050
March.....	8,487	960	110	274	.122	.14	16,830
April.....	11,092	2,450	89	370	.164	.18	22,000
May.....	18,693	2,940	110	603	.268	.31	37,080
June.....	1,955	470	26	65.2	.029	.03	3,880
July.....	4,264	1,340	23	138	.061	.07	8,460
August.....	62,768	16,000	24	2,025	.900	1.04	124,500
September.....	37,349	14,400	44	1,245	.553	.62	74,080
Water year 1932-33.....	184,622	16,000	23	506	.225	3.05	336,200

Note.— The above records supersede those published in Water-Supply Paper 746.

## GRAND RIVER BASIN

Grand River near Gallatin, Mo.

(Continued)

Discharge, in second-feet, water year October 1933 to September 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	920	78	61	39	72	29	59	46	24	40	5	9
2	470	66	72	45	57	42	72	40	24	31	6	181
3	381	66	110	55	66	110	78	41	25	42	5	193
4	218	66	256	59	66	218	2,420	40	22	38	5	1,040
5	213	66	324	72	61	440	6,080	48	23	28	5	535
6	218	66	218	83	78	535	1,830	48	22	26	4	193
7	218	61	158	127	66	381	1,040	56	21	24	4	72
8	169	61	118	83	66	193	740	61	20	18	4	37
9	158	66	102	48	32	193	470	55	26	17	4	18
10	147	58	95	45	31	95	381	41	31	19	3	15
11	127	58	78	95	31	102	256	34	29	18	4	8
12	127	58	49	61	45	89	218	30	27	16	5	10
13	118	58	48	61	45	89	169	42	23	12	5	52
14	110	54	49	61	48	89	127	1,680	24	11	5	2,540
15	102	49	61	58	50	83	118	1,160	26	11	8	740
16	137	47	61	45	53	83	110	568	24	11	39	502
17	535	47	66	49	53	83	102	282	24	10	158	296
18	381	47	66	72	55	72	95	169	22	9	127	137
19	310	44	66	66	55	72	95	110	20	10	35	95
20	230	44	95	78	49	56	83	78	22	8	23	53
21	169	44	102	78	48	55	72	57	23	7	35	43
22	118	44	89	78	40	55	61	102	23	7	19	193
23	110	49	83	102	28	53	59	89	24	7	13	61
24	95	52	78	137	24	55	55	49	2,200	7	11	32
25	83	54	36	256	24	50	53	39	1,120	6	10	23
26	78	54	30	206	24	49	51	31	381	7	7	27
27	78	54	30	137	24	48	49	32	230	6	6	502
28	78	53	30	102	24	46	48	30	110	6	6	206
29	78	53	30	78	-	46	46	30	66	6	5	1,530
30	83	53	30	78	-	43	45	27	53	6	5	845
31	78	-	30	72	-	42	-	28	-	5	6	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acre-feet		
October.....				6,342	920	76	205	0.091	0.10	12,580		
November.....				1,670	78	44	55.7	.025	.03	3,310		
December.....				2,727	324	30	88.0	.039	.04	5,410		
Calendar year 1933.....				169,663	16,000	23	465	.207	2.79	336,500		
January.....				2,626	256	39	84.7	.038	.04	5,210		
February.....				1,315	78	24	47.0	.021	.02	2,610		
March.....				3,596	535	29	116	.052	.06	7,130		
April.....				15,082	6,080	45	503	.224	.25	29,910		
May.....				5,143	1,680	27	166	.074	.08	10,200		
June.....				4,709	2,200	20	157	.070	.08	9,340		
July.....				469	42	5	15.1	.0067	.008	930		
August.....				577	158	3	18.6	.0083	.01	1,140		
September.....				10,168	2,540	8	340	.161	.17	20,210		
Water year 1933-34.....				54,444	6,080	3	149	.066	.90	108,000		

Note.- The above records supersede those published in Water-Supply Paper 761.

## Grand River near Gallatin, Mo.

(Continued)

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	381	34	1,730	296	352	310	127	381	15,300	8,900	100	37
2	206	28	1,480	282	352	352	118	2,370	23,300	5,820	94	90
3	116	28	1,830	206	352	1,250	118	4,300	32,800	2,020	81	112
4	66	34	2,860	137	381	1,630	110	1,530	39,300	1,700	73	144
5	49	66	1,340	110	470	1,430	102	810	27,400	1,170	73	80
6	34	181	1,160	118	470	1,380	102	670	10,400	825	73	50
7	28	158	880	118	470	960	127	535	8,200	745	70	37
8	22	66	1,000	193	440	535	381	410	5,220	594	65	39
9	22	42	980	535	440	410	338	705	1,700	410	87	144
10	20	38	775	602	470	535	381	2,100	1,800	355	47	164
11	19	32	740	502	670	775	338	670	3,360	495	50	154
12	17	35	670	381	960	810	324	1,160	1,900	355	47	62
13	16	30	568	636	1,200	670	310	4,950	1,400	355	45	41
14	15	22	502	1,080	1,000	535	243	4,230	990	270	45	27
15	14	20	535	470	2,540	440	243	3,500	945	237	41	26
16	13	20	602	352	2,540	352	169	7,280	2,530	226	39	1,960
17	12	19	1,200	282	1,300	338	127	5,910	4,040	194	50	3,480
18	13	30	1,200	296	1,340	269	1,120	2,320	10,900	174	11	630
19	16	7,280	1,200	338	568	243	1,430	3,880	18,200	164	41	154
20	17	9,800	1,160	1,120	470	243	636	11,100	9,500	164	41	103
21	3,060	12,200	705	1,580	381	243	352	15,000	4,750	135	39	62
22	960	13,500	636	1,040	296	230	269	10,500	3,030	135	35	50
23	410	13,500	502	920	296	218	206	4,510	1,800	135	35	35
24	535	5,020	535	810	296	193	181	6,000	1,300	135	33	33
25	670	2,040	410	740	920	243	410	3,880	4,330	126	35	30
26	568	4,950	502	670	810	960	636	2,760	2,410	110	35	45
27	282	5,910	602	568	381	535	740	1,630	8,300	117	33	215
28	110	4,300	636	502	352	282	243	15,800	5,050	248	32	317
29	66	5,910	535	440	-	206	1,530	18,300	2,240	154	30	95
30	46	4,510	381	410	-	169	740	16,600	1,260	110	29	67
31	38	-	410	352	-	168	-	12,900	-	107	29	-

  

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October.....	7,843	3,060	12	253	0.112	0.13	15,560
November.....	89,803	13,500	19	2,993	1.33	1.48	178,100
December.....	28,186	2,880	381	909	1.404	.47	55,910
Calendar year 1934.....	169,537	13,500	3	464	.206	2.81	336,200
January.....	16,086	1,680	110	519	.231	.27	31,910
February.....	20,517	2,540	296	733	.326	.34	40,690
March.....	16,904	1,630	158	545	.242	.28	33,530
April.....	12,151	1,530	102	405	.180	.20	24,100
May.....	166,691	18,300	381	5,377	2.39	2.76	335,600
June.....	249,635	39,300	945	8,288	3.68	4.11	495,205
July.....	26,685	8,900	107	861	.383	.44	52,930
August.....	1,536	100	29	48.5	.022	.03	3,050
September.....	8,483	3,480	26	283	.126	.14	16,830
Water year 1934-35.....	643,520	39,300	12	1,763	.784	10.65	1,276,000

## Grand River near Sumner, Mo.

Location.- Wire-weight gage, lat. 39°38'25", long. 93°16'25", in NE¼ sec. 29, T. 56 N., R. 21 W., on county highway bridge 80 feet below Chicago, Burlington & Quincy Railroad bridge 2 miles southwest of Sumner. Zero of gage is 630.77 feet above mean sea level. Prior to Feb. 20, 1935, chain gage at same site and datum.

Drainage area.- 6,860 square miles.

Records available.- April 1924 to September 1935.

Average discharge.- 11 years, 4,250 second-feet.

Extremes.- Maximum discharge observed during year, 72,000 second-feet June 4 (gage height, 33.25 feet); minimum, 72 second-feet Oct. 17 (gage height, 2.51 feet).  
1924-35: Maximum discharge observed, 110,000 second-feet June 4, 1929; maximum gage height observed, 35.35 feet Nov. 20, 1928; minimum discharge, 10 second-feet Aug. 12, 1934 (gage height, 2.26 feet).

Remarks.- Records good except those for days of rapidly changing stage and for periods of ice effect, Dec. 10-14, Jan. 22 to Feb. 12, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,670	221	6,780	1,120	969	2,260	639	2,790	56,200	4,730	550	177
2	1,330	181	5,610	969	969	1,920	684	15,300	66,400	14,500	470	353
3	775	214	7,920	870	969	2,030	594	26,100	71,000	16,600	590	725
4	528	360	12,400	729	1,020	3,240	550	26,500	72,000	19,600	510	470
5	320	484	9,180	775	1,070	5,530	594	13,400	68,200	18,000	590	372
6	232	822	6,440	822	1,070	6,690	550	7,100	62,800	12,800	680	285
7	214	919	4,500	822	1,070	5,610	594	3,940	54,600	7,800	490	254
8	201	528	2,790	1,120	1,070	3,630	919	2,660	42,200	5,980	410	224
9	138	360	1,980	2,670	1,220	2,730	1,650	8,900	23,200	2,920	390	590
10	132	246	1,820	3,840	1,540	3,560	1,760	15,600	11,200	2,480	372	1,540
11	121	214	1,760	3,170	1,870	8,100	2,550	11,400	5,980	2,180	336	870
12	110	194	1,760	2,380	2,150	7,460	3,170	5,380	7,500	1,820	316	550
13	104	156	1,760	2,320	2,370	4,730	2,490	14,500	6,340	1,440	285	372
14	79	150	1,760	4,280	2,610	3,040	1,650	19,600	3,360	1,220	270	224
15	99	144	1,540	3,360	6,440	2,370	1,170	21,900	2,600	1,660	270	239
16	94	138	1,650	1,760	10,400	1,980	919	20,600	2,360	1,490	270	194
17	79	132	2,850	1,330	7,280	1,700	775	26,500	14,200	970	270	2,300
18	79	181	3,910	1,330	4,280	1,540	1,120	19,200	25,700	770	590	4,020
19	94	7,030	4,660	2,200	3,240	1,220	3,170	14,400	33,500	770	590	1,320
20	2,200	9,620	3,980	4,970	2,610	1,170	3,170	28,600	38,400	770	302	590
21	8,360	15,000	2,980	2,150	1,980	1,120	1,920	36,200	41,000	725	254	410
22	5,050	26,100	2,790	2,320	1,760	1,220	1,280	41,600	37,900	1,120	254	318
23	2,090	31,300	2,610	2,200	1,590	1,120	1,020	42,900	23,500	1,380	254	302
24	1,490	34,400	2,790	2,030	1,020	969	822	39,600	10,600	1,120	239	270
25	1,650	22,800	2,370	1,810	9,540	870	2,430	37,400	8,600	680	224	239
26	1,170	11,200	1,920	1,540	9,360	5,450	2,260	34,600	9,500	870	209	224
27	969	7,640	1,220	1,380	4,660	4,080	1,980	21,600	12,100	1,320	188	194
28	822	12,200	1,220	1,220	2,550	2,320	1,490	31,200	16,400	1,710	180	353
29	484	19,600	1,430	1,120	-	1,330	2,430	41,000	11,100	1,490	171	490
30	340	13,300	1,220	1,070	-	1,020	5,530	51,500	6,430	770	162	410
31	282	-	1,220	1,020	-	822	-	55,400	-	636	174	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	32,356	8,360	79	1,044	0.132	0.18	6,180
November.....	219,554	34,400	132	7,323	1.07	1.19	436,000
December.....	106,820	12,400	1,220	3,446	.501	.58	211,900
Calendar year 1934.....	468,709	34,400	10	1,284	.187	2.55	929,700
January.....	58,637	4,970	729	1,892	.275	.32	116,500
February.....	86,677	10,400	969	3,096	.450	.47	171,900
March.....	90,831	8,100	822	2,930	.426	.49	180,200
April.....	49,580	5,530	550	1,663	.242	.27	98,940
May.....	736,270	55,400	2,660	23,760	3.45	3.98	1,460,000
June.....	844,690	72,000	2,360	28,160	4.09	4.56	1,676,000
July.....	130,320	19,600	635	4,204	.611	.70	256,600
August.....	10,822	680	162	349	.051	.06	21,470
September.....	15,879	4,020	177	629	.091	.10	37,450
Water year 1934-35.....	2,386,216	72,000	79	6,638	.950	12.90	4,733,000

## East Fork of Big Creek near Bethany, Mo.

Location.- Water-stage recorder, lat. 40°17'50", long. 94°1'55", in SE $\frac{1}{4}$  sec. 34, T. 64 N., R. 28 W., at bridge on U. S. Highway 69, 2 miles north of Bethany.

Drainage area.- 95 square miles.

Records available.- March 1934 to September 1935.

Extremes.- Maximum discharge during year, 3,500 second-feet May 31 (gage height, 12.04 feet); no flow Oct. 15-19, Aug. 10 to Sept. 1, Sept. 22-25.

1934-35: Maximum discharge and gage heights, those of May 31, 1935; no flow during several days of each year.

Remarks.- Records excellent. Stage-discharge relation affected by ice Jan. 23-25.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.95	0.78	73.3	6.06	2.77	15.9	4.17	164	1,820	16	0.07	0.02
2	2.77	.87	95.8	5.14	3.15	52.6	4.17	154	1,940	20	.07	.15
3	1.72	1.48	164	5.14	4.40	52.6	3.95	123	716	21	.15	.16
4	.87	5.74	103	4.63	5.14	63.4	3.53	42.6	515	26	.13	.16
5	.78	4.63	79.4	4.40	5.70	81.7	3.53	26.8	169	20	.13	.16
6	.42	5.95	86.8	4.86	5.14	46.4	3.53	20.1	480	10	.09	.07
7	.23	2.60	41.3	7.14	4.40	22.8	7.14	17.5	79.6	6.7	.06	.04
8	.17	1.72	38.8	21.9	4.40	17.5	27.5	14.5	50.8	5.0	.04	6.0
9	.15	1.15	36.2	25.8	12.9	20.1	24.8	158	46.4	8.4	.03	6.0
10	.11	.87	27.8	21.0	37.5	67.0	17.5	28.9	62.6	7.5	.01	1.2
11	.07	.70	22.8	13.8	32.3	71.2	17.5	15.2	56.2	4.1	0	.51
12	.05	.62	16.7	21.0	32.3	45.2	14.5	245	23.8	2.8	0	.35
13	.04	.55	14.5	62.0	26.8	32.3	11.8	266	17.5	2.0	0	.24
14	.02	.48	13.1	18.9	213	22.8	10.2	104	15.2	1.6	0	.16
15	.01	.42	14.6	19.2	211	19.2	6.78	166	11.8	1.3	0	.11
16	0	.42	61.6	17.5	37.3	16.7	5.14	482	279	1.0	0	.11
17	0	15.9	65.2	11.2	34.5	13.8	6.28	120	819	.96	0	.13
18	0	818	83.8	10.2	26.8	11.8	38.9	56.2	1,910	.88	0	.11
19	507	203	50.8	76.0	21.0	10.2	21.0	634	476	.80	0	.07
20	203	1,550	34.9	63.6	15.9	9.70	13.1	1,040	167	.88	0	.05
21	28.9	364	33.5	24.5	13.1	8.82	9.70	588	144	1.0	0	.03
22	9.26	977	27.8	56.2	14.5	7.94	6.78	193	69.1	.96	0	.01
23	50.7	231	31.1	20.1	13.1	6.42	5.70	525	32.3	.56	0	0
24	56.3	95.8	27.8	5.70	17.6	5.70	5.42	346	21.9	.51	0	0
25	12.4	54.4	22.8	5.70	34.6	24.9	9.26	123	21.0	.47	0	.01
26	5.42	104	18.5	3.95	14.5	19.2	11.2	52.6	366	.39	0	1.2
27	3.13	123	13.1	3.53	9.70	9.26	8.82	358	314	.31	0	.48
28	1.72	673	10.2	3.33	8.82	7.50	9.26	941	71.2	.24	0	7.0
29	1.25	150	9.26	3.33	-	6.42	14.5	477	31.1	.18	0	3.0
30	.96	65.2	7.94	2.96	-	4.86	8.82	719	22.8	.16	0	1.2
31	.87	-	6.78	2.95	-	4.40	-	1,090	-	.11	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	892.27	507	0	28.8	0.303	0.35	1,770
November.....	5,449.28	1,550	.42	182	1.92	2.14	10,810
December.....	1,335.08	164	6.78	43.0	.453	.52	2,640
Calendar year .....							
January.....	551.71	76.0	2.95	17.8	.187	.22	1,090
February.....	912.30	213	2.77	32.6	.343	.36	1,810
March.....	798.32	81.7	4.40	25.8	.272	.31	1,580
April.....	334.78	38.9	5.53	11.2	.118	.13	664
May.....	9,290.4	1,090	14.5	300	3.16	3.64	18,430
June.....	10,949.3	1,940	11.8	352	3.71	4.14	20,920
July.....	161.81	26	.11	5.22	.055	.06	321
August.....	7.94	.13	0	.025	.00026	.0003	1.5
September.....	28.71	7.0	0	.957	.010	.01	57
Water year 1934-35 .....	30,301.72	1,940	0	83.0	.874	11.88	60,090

## Thompson River at Trenton, Mo.

Location.- Wire-weight gage, lat. 40°4', long. 93°38', in SE $\frac{1}{4}$  sec. 20, T. 61 N., R. 24 W., 1 mile south of Trenton.

Drainage area.- 1,680 square miles.

Records available.- August 1928 to September 1935.

Extremes.- Maximum discharge observed during year, 24,000 second-feet June 1 (gage height, 19.82 feet); minimum, 14 second-feet Oct. 18 (gage height, 4.50 feet).  
1928-35: Maximum discharge observed, 26,700 second-feet Nov. 18, 1928, Dec. 31, 1931; maximum gage height observed, 22.31 feet (former location) Nov. 18, 1928; minimum discharge, 1.1 second-feet Aug. 10, 1934.  
Maximum stage known, 30.7 feet (former location) July 6, 1909, before new channel was dredged.

Remarks.- Records fair except those for days of rapidly changing stage and for periods of ice effect, Dec. 4, 6-15, 27-31, Jan. 1-6, 22-31, Feb. 1-12, 25, which are poor.  
Gage-height record collected in cooperation with the U. S. Weather Bureau.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	146	42	1,040	149	240	368	159	258	24,000	1,530	102	93
2	124	40	1,510	136	208	897	154	3,760	20,700	2,900	91	151
3	115	44	2,440	136	192	1,430	139	3,940	20,500	5,280	151	112
4	102	72	1,960	124	192	2,080	129	1,110	18,400	4,920	119	154
5	78	78	1,110	124	177	4,280	120	801	6,920	1,920	156	107
6	61	84	550	136	177	3,300	118	525	12,300	904	107	86
7	52	48	368	154	192	1,680	131	431	3,780	2,000	86	67
8	37	36	276	349	192	682	349	312	2,080	1,030	80	134
9	27	30	223	740	258	575	431	5,300	1,600	896	88	276
10	27	37	192	550	330	2,320	276	967	1,350	572	78	132
11	22	26	162	388	349	3,000	312	476	1,510	414	80	159
12	21	24	149	349	388	1,270	293	1,770	1,190	458	69	134
13	18	24	149	1,350	575	832	258	7,280	897	294	67	93
14	18	20	136	682	801	682	223	4,960	801	258	65	76
15	18	19	136	258	3,780	550	166	3,300	740	241	67	65
16	18	20	136	240	2,570	476	150	6,920	5,130	224	61	65
17	15	18	832	149	1,860	409	131	4,280	14,300	208	67	59
18	16	4,620	1,040	240	1,860	349	1,680	1,960	19,500	198	59	55
19	18	2,850	832	500	1,110	330	431	8,570	16,100	186	55	45
20	3,940	7,280	740	897	710	330	180	13,100	12,500	177	63	43
21	967	5,480	575	682	575	330	214	10,300	8,760	186	55	34
22	368	11,700	476	1,110	550	293	192	4,110	3,940	168	55	27
23	409	4,790	665	967	525	240	169	8,380	1,060	159	57	26
24	525	2,570	500	770	453	204	139	13,900	1,350	156	55	24
25	217	1,190	388	655	258	832	180	13,900	1,190	1,030	51	23
26	131	740	240	550	217	550	293	4,620	2,570	414	51	65
27	220	655	236	453	431	330	166	2,200	7,480	436	49	104
28	105	9,710	177	388	268	240	198	12,500	6,150	221	45	98
29	72	4,280	162	349	-	208	710	9,330	3,500	156	47	67
30	62	1,350	162	293	-	168	801	14,100	2,160	126	49	53
31	50	-	149	276	-	162	-	6,920	-	112	51	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	7,999	3,940	15	258	0.154	0.18	16,870
November.....	57,877	11,700	18	1,929	1.15	1.28	114,800
December.....	17,673	2,440	136	570	.339	.39	36,050
Calendar year 1934.....	117,573.7	11,700	1.1	322	.192	2.60	235,200
January.....	14,144	1,350	124	456	.271	.31	28,050
February.....	19,428	3,780	177	694	.413	.43	38,530
March.....	29,397	4,280	162	948	.564	.65	58,310
April.....	8,820	1,680	118	294	.175	.20	17,490
May.....	170,300	14,100	258	5,494	3.27	3.77	337,800
June.....	223,258	24,000	740	7,442	4.43	4.94	442,800
July.....	27,274	5,280	112	880	.524	.60	54,100
August.....	2,276	156	45	73.4	.044	.05	4,510
September.....	2,627	276	23	87.6	.052	.06	5,210
Water year 1934-35.....	581,073	24,000	15	1,592	.948	12.86	1,153,000

## Weldon River at Mill Grove, Mo.

**Location.**— Wire-weight gage, lat. 40°18', long. 93°36', in SE $\frac{1}{4}$  sec. 28, T. 65 N., R. 24 W., at county highway bridge in Mill Grove. Prior to Dec. 4, 1934, chain gage at same site and datum.

**Drainage area.**— 494 square miles.

**Records available.**— April 1929 to September 1935.

**Extremes.**— Maximum discharge during year, 13,200 second-feet June 3 (gage height, about 20.50 feet, from flood marks); minimum, 0.8 second-foot Oct. 13 (gage height, 1.27 feet).

1929-35: Maximum discharge observed, 14,200 second-feet June 2, 1929 (gage height, 20.6 feet); minimum, 0.3 second-foot in July, August 1934; minimum gage height, 1.16 feet Sept. 14, 1931, July 31, Aug. 1, 1934.

Maximum stage known, about 23.5 feet in July 1909.

**Remarks.**— Records fair except those for days of rapidly changing stage and those for periods of ice effect, Dec. 26, 28-31, Jan. 1-9, 14, 15, 20-31, Feb. 1-11, 27, 28, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	4.7	266	27	42	308	41	47	4,220	438	18	14
2	4.7	4.1	400	27	42	498	44	1,060	7,060	1,170	16	25
3	4.1	4.7	642	22	37	568	41	464	9,600	2,280	18	116
4	2.9	6	600	22	37	438	40	269	2,250	1,320	26	67
5	1.8	36	480	22	37	958	34	180	672	412	16	22
6	1.6	32	400	22	32	438	28	121	854	218	15	14
7	1.2	14	284	27	32	145	28	103	490	152	13	10
8	1.1	12	380	78	32	206	180	78	96	114	11	490
9	1.0	8	321	212	27	150	150	490	256	88	11	64
10	1.0	6	400	146	32	802	90	218	205	92	11	71
11	1.0	4.7	154	97	100	1,090	114	99	386	71	10	40
12	1.0	6	88	90	130	438	123	230	205	55	11	21
13	.8	8	61	178	460	282	66	1,190	135	44	10	14
14	1.0	8	59	212	340	230	60	1,090	99	38	10	10
15	1.6	8	59	122	1,800	218	57	594	86	35	8	8
16	1.2	6	100	62	568	180	38	2,660	1,370	32	8	8
17	1.6	8	204	520	218	152	31	1,110	4,520	23	9	7
18	1.8	1,760	420	400	160	116	67	438	11,700	26	8	7
19	1,500	768	360	130	152	109	105	1,740	8,240	25	9	6
20	600	2,580	420	321	135	105	75	5,160	3,340	26	14	4.5
21	178	2,680	284	302	86	92	60	4,690	1,450	30	12	4.5
22	66	2,240	284	212	180	71	44	1,110	750	30	13	4.3
23	54	1,290	108	146	86	87	35	3,580	386	23	11	4.1
24	49	480	380	115	82	57	28	9,820	269	30	11	3.9
25	22	266	86	100	162	62	34	3,930	243	243	9	3.9
26	8	204	66	85	103	282	40	880	1,190	138	8	8
27	6	178	44	78	130	99	38	776	2,730	205	8	67
28	7	2,360	42	66	230	71	34	2,660	724	65	8	40
29	6	2,100	37	60	-	57	52	3,890	354	46	8	18
30	6	400	32	54	-	47	44	1,560	438	27	8	12
31	4.7	-	27	48	-	36	-	1,060	-	21	8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-foot
October.....	2,552.1	1,500	0.8	82.3	0.167	0.19	5,060
November.....	17,484.2	2,680	4.1	585	1.18	1.32	34,680
December.....	7,488	642	27	242	.490	.66	14,550
Calendar year 1934.....	39,331.3	2,680	.3	108	.219	2.96	78,000
January.....	4,003	520	22	129	.261	.30	7,940
February.....	5,462	1,800	27	195	.395	.41	10,830
March.....	8,571	1,090	36	276	.559	.64	17,000
April.....	1,856	130	23	61.2	.124	.14	3,640
May.....	51,287	9,820	47	1,654	3.35	3.86	101,700
June.....	64,398	11,700	86	2,147	4.35	4.85	127,700
July.....	7,527	2,280	21	243	.492	.67	14,930
August.....	356	26	8	11.5	.023	.03	706
September.....	1,184.2	490	3.9	39.5	.080	.09	2,350
Water year 1934-35.....	172,148.5	11,700	.8	472	.955	12.96	341,400

## Medicine Creek near Galt, Mo.

Location.- Wire-weight gage, lat. 40°8', long. 93°2', in NW¼ sec. 34, T. 62 N., R. 22 W., at bridge on State Highway 6, 125 feet upstream from Quincy, Omaha & Kansas City Railroad bridge, 1 mile above West Medicine Creek, and 1½ miles east of Galt. Prior to Dec. 3, 1934, chain gage on railroad bridge with datum 0.03 foot lower than present gage.

Drainage area.- 225 square miles.

Records available.- July 1921 to September 1935.

Average discharge.- 12 years (1922-24, 1926-28, 1930-35), 143 second-feet.

Extremes.- Maximum discharge observed during year, 6,500 second-feet June 18 (gage height, 11.08 feet); minimum, 0.8 second-foot Oct. 16, 17 (gage height, 2.54 feet).

1921-35: Maximum discharge observed, 7,760 second-feet Aug. 2, 1932; maximum gage height observed, 15.60 feet Apr. 20, 1929, at site 125 feet downstream; no flow July 15 to Aug. 12, 1934.

Remarks.- Records fair except those for days of rapidly changing stage and for periods of ice effect, Dec. 7-15, 27-31, Jan. 1-6, 21-31, Feb. 1-14, which are poor. Discharge estimated Aug. 26, 30.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	1.9	208	38	70	66	33	148	4,290	945	10	8
2	19	1.9	226	38	70	83	28	254	4,290	99	8	11
3	8		805	34	89	96	22	1,330	2,170	4,290	30	7
4	4.0	15	437	34	96	125	20	315	1,150	1,500	12	5
5	1.6	75	315	38	96	622	27	125	337	272	8	5
6	1.6	15	208	47	96	340	23	96	860	101	8	4.7
7	1.6	4.6	125	86	103	125	25	66	490	54	7	4.7
8	1.5	1.9	89	272	110	81	38	58	213	43	6	29
9	1.1	1.9	82	292	118	88	46	456	151	31	6	30
10	1.3	1.6	82	244	132	315	58	354	124	27	5	12
11	1.0	1.4	82	118	148	836	68	118	260	20	5	13
12	1.1	1.4	82	132	166	384	118	132	151	16	4.9	8
13	1.1	1.4	82	292	191	131	76	334	93	12	4.7	6
14	1.0	1.1	89	140	217	140	49	1,410	72	10	4.7	5
15	1.0	1.1	96	110	902	118	37	354	63	9	4.6	4.6
16	.8	1.4	217	75	622	110	35	774	170	8	4.4	4.2
17	.8	1.4	496	69	157	74	34	1,260	660	7	4.3	4.9
18	1.0	27	200	77	118	54	132	217	4,440	6	4.3	5
19	1.5	217	174	263	103	46	62	2,060	4,140	6	4.3	4.6
20	650	622	146	208	77	56	55	3,150	1,670	6	4.2	4.4
21	226	622	118	182	76	77	39	2,060	660	7	4.4	4.3
22	65	1,880	82	166	71	118	18	820	402	6	4.6	4.2
23	31	1,110	125	148	72	50	12	585	124	4.6	4.6	4.0
24	18	327	110	132	77	34	14	2,390	69	21	4.4	4.0
25	7	208	96	118	282	148	29	2,690	61	10	4.4	4.2
26	2.8	148	110	103	174	85	25	350	68	21	4.3	8
27	3.1	110	110	89	78	110	25	224	660	660	4.2	4.7
28	2.8	902	82	82	96	71	27	2,170	460	88	4.2	4.7
29	2.6	1,500	58	76	-	45	110	1,580	93	29	3.8	4.7
30	2.6	226	47	70	-	35	58	1,670	64	16	3.8	4.7
31	2.3	-	42	70	-	36	-	660	-	12	3.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,099.2	650	0.8	35.5	0.158	0.18	2,180
November.....	8,035.0	1,880	1.1	268	1.19	1.33	15,940
December.....	5,225	805	42	169	.751	.87	10,360
Calendar year 1934.....	17,273.9	1,880	0	47.3	.210	2.85	34,260
January.....	3,843	292	34	124	.551	.64	7,620
February.....	4,607	902	70	165	.733	.76	9,140
March.....	4,761	836	34	154	.684	.79	9,440
April.....	1,343	132	12	44.8	.199	.22	2,660
May.....	28,460	3,150	58	918	4.06	4.70	56,450
June.....	28,465	4,440	61	948	4.21	4.70	56,440
July.....	8,356.6	4,290	4.6	269	1.20	1.38	16,540
August.....	191.9	30	3.8	6.19	.028	.03	381
September.....	223.6	30	4.0	7.45	.033	.04	444
Water year 1934-35.....	94,580.3	4,440	.8	259	1.15	15.64	187,600



## Locust Creek near Linneus, Mo.

Location.- Wire-weight gage, lat. 39°53', long. 93°14', in NE¼ sec. 34, T. 59 N., R. 21 W., on county highway 3 miles northwest of Linneus. Prior to Feb. 18, 1935, chain gage at same site and datum.

Drainage area.- 550 square miles.

Records available.- April 1929 to September 1935.

Extremes.- Maximum discharge observed during year, 11,800 second-feet June 2 (gage height, 18.97 feet); minimum, 2.1 second-feet Oct. 16 (gage height, 2.53 feet).  
1929-35: Maximum discharge observed, 14,100 second-feet Apr. 21, 1929 (gage height, 20.89 feet); no flow July 17 to Aug. 11, 1934.

Remarks.- Records good except those for days of rapidly changing stage and for periods of ice effect, Dec. 10-13, 28-31, Jan. 1-6, 21-31, Feb. 1-12, which are poor. Discharge estimated Oct. 17, Sept. 12.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82	5	822	100	129	250	93	576	7,750	2,100	45	11
2	33	4.4	676	91	129	262	78	6,040	10,400	6,320	40	69
3	16		2,380	91	139	262	69	3,010	6,040	6,420	42	44
4	14	328	1,630	91	160	274	62	1,290	4,300	7,080	191	40
5	10	515	980	91	149	608	57	544	3,010	3,860	87	27
6	8	370	640	91	160	486	54	370	3,180	457	110	16
7	7	149	370	110	170	341	93	300	1,760	356	160	13
8	6	64	314	262	370	237	226	250	576	262	31	29
9	5	42	237	1,200	457	287	170	980	237	214	29	202
10	3.8	26	214	900	428	1,690	300	980	214	191	23	120
11	4.0	6	202	900	428	1,450	1,690	515	180	160	19	58
12	3.8	5	191	785	486	544	712	2,530	160	139	19	40
13	2.8	10	191	608	544	457	370	3,440	129	120	17	28
14	2.3	10	191	748	1,200	314	214	3,440	97	104	16	24
15	2.3	8	226	274	1,290	262	159	1,630	87	85	16	19
16	2.1	7	544	180	860	180	110	2,380	2,030	67	15	16
17	2.2	5	608	160	576	160	83	1,340	940	67	14	16
18	2.3	6	640	160	314	129	1,060	940	4,570	47	14	12
19	4.4	30	608	1,060	287	120	486	4,390	4,300	55	12	12
20	2,380	274	399	676	237	180	262	6,230	3,600	58	17	10
21	822	2,170	341	544	214	170	170	4,570	3,860	1,290	18	10
22	300	2,530	287	428	191	139	129	3,780	608	274	40	10
23	120	3,360	370	341	180	129	102	3,440	328	129	31	8
24	70	2,240	314	287	274	89	74	3,360	226	356	15	7
25	89	1,400	287	237	2,510	1,960	149	2,610	202	170	12	9
26	40	314	237	214	785	940	129	3,780	170	237	10	12
27	21	237	202	180	486	428	104	748	160	676	10	10
28	15	300	170	160	370	202	89	6,230	399	428	9	9
29	10	1,060	139	139	-	149	2,100	3,780	149	149	10	8
30	7	900	120	129	-	129	822	5,660	287	91	10	6
31	6	-	110	129	-	100	-	2,930	-	64	10	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	4,092.0	2,380	2.1	132	0.240	0.28	8,120
November.....	16,381.4	3,350	4.4	546	.993	1.11	32,490
December.....	14,640	2,380	110	472	.868	.99	29,040
Calendar year 1934.....	42,245.1	3,350	0	116	.211	2.86	83,790
January.....	11,366	1,200	91	367	.667	.77	22,540
February.....	13,323	2,310	129	476	.865	.90	26,430
March.....	12,928	1,960	89	417	.758	.87	25,640
April.....	10,196	2,100	54	340	.618	.69	20,220
May.....	82,053	6,230	250	2,647	4.81	5.54	162,700
June.....	59,949	10,400	37	1,998	5.63	4.05	118,900
July.....	32,026	7,080	47	1,033	1.68	2.17	63,520
August.....	1,092	191	9	35.2	.064	.07	2,170
September.....	895	202	6	29.8	.054	.06	1,780
Water year 1934-35.....	258,941.4	10,400	2.1	709	1.29	17.50	513,600

## Chariton River at Novinger, Mo.

Location.- Wire-weight gage, lat. 40°14', long. 92°41', in SE 1/4 sec. 27, T. 63 N., R. 18 W., at bridge on State Highway 6, three-quarters of a mile east of Novinger. Zero of gage is about 738.2 feet above mean sea level. Prior to Nov. 20, 1934, chain gage at same site and datum.

Drainage area.- 1,370 square miles.

Records available.- January 1931 to September 1935.

Extremes.- Maximum discharge observed during year, 12,600 second-feet June 2 (gage height, 24.98 feet); minimum, 0.3 second-foot Oct. 16 (gage height, 2.30 feet). 1931-35: Maximum discharge 15,400 second-feet Nov. 25, 1931 (gage height, 26.03 feet); minimum discharge, that of Oct. 16, 1934; minimum gage height, 1.84 feet Jan. 19, 1931. Maximum stage known, 28.6 feet in June 1917.

Remarks.- Records good except those for days of rapidly changing stage and those for periods of ice effect, Dec. 8-17, 24-31, Jan. 1-7, 16, 21-31, Feb. 1-13, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	17	1,440	164	155	476	214	268	8,940	2,050	176	22
2	24	6	1,410	155	146	476	194	3,280	12,600	2,660	149	72
3	13	10	2,080	137	174	436	204	3,440	11,100	4,640	194	66
4	13	588	1,750	128	174	828	174	2,320	9,860	6,200	337	80
5	9	1,380	1,220	128	164	1,960	155	978	8,720	4,960	158	131
6	10	296	978	128	155	1,660	146	660	7,900	3,950	158	140
7	10	137	636	224	155	1,780	155	540	6,390	4,640	122	80
8	e	78	516	1,500	155	1,410	184	388	5,920	6,500	102	176
9	3.6	35	476	708	155	900	296	2,880	4,880	7,900	80	185
10	1.8	35	420	1,810	268	2,510	174	1,030	3,440	7,520	98	122
11	2.7	23	388	1,220	372	2,880	952	588	1,380	4,230	90	90
12	1.4	15	372	1,060	612	2,140	1,750	2,850	971	1,240	94	149
13	.4	19	340	1,110	732	1,660	1,220	3,060	595	620	69	102
14	.6	16	324	900	1,000	1,300	732	3,340	472	426	59	80
15	.4	16	310	540	2,080	900	420	3,400	403	517	53	69
16	.3	7	310	356	1,810	732	296	3,780	356	238	53	53
17	.4	7	564	516	1,550	540	234	3,530	1,050	214	50	47
18	1.0	61	1,060	436	1,530	436	1,000	2,970	5,380	134	50	38
19	564	112	1,110	564	1,440	372	564	3,540	7,710	176	44	33
20	372	146	780	612	926	340	324	4,960	8,720	176	44	22
21	296	876	708	588	636	900	244	6,350	9,620	266	50	30
22	194	2,440	564	540	456	436	214	4,500	9,860	1,640	44	25
23	112	2,410	516	496	420	324	194	4,960	9,390	917	36	22
24	164	1,530	456	436	356	268	174	7,710	8,720	3,130	41	21
25	120	1,220	404	404	3,660	310	184	9,160	7,900	1,380	44	18
26	54	852	404	282	1,470	564	164	8,720	6,820	2,660	69	28
27	27	456	404	214	588	588	184	8,300	4,140	2,690	41	28
28	54	732	388	194	436	372	155	8,940	2,600	1,470	35	22
29	24	1,270	372	184	-	310	456	9,390	2,320	1,110	21	44
30	18	1,030	282	174	-	206	206	9,160	2,170	426	21	22
31	10	-	224	155	-	224	-	8,300	-	214	25	-

  

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	2,158.6	564	0.3	69.9	0.061	0.06	4,280
November.....	15,820	2,440	6	527	.395	.43	31,350
December.....	21,206	2,080	224	684	.499	.58	42,060
Calendar year 1934.....	67,573.3	3,130	.3	185	.135	1.85	134,100
January.....	16,063	1,810	128	518	.378	.44	31,860
February.....	21,776	3,530	146	778	.568	.59	43,190
March.....	28,288	2,880	224	913	.666	.77	56,110
April.....	11,593	1,750	146	386	.282	.31	22,990
May.....	135,092	9,390	268	4,293	3.13	3.61	264,000
June.....	170,928	12,600	357	5,698	4.16	4.64	329,000
July.....	74,754	7,900	176	2,411	1.76	2.03	148,300
August.....	2,629	337	25	84.8	.062	.07	5,210
September.....	2,023	185	18	67.4	.049	.05	4,010
Water year 1934-35.....	500,329.6	12,600	.3	1,371	1.00	13.58	992,400

## Chariton River near Keytesville, Mo.

Location.- Wire-weight gage, lat. 39°28'55", long. 92°52'10", in SE $\frac{1}{4}$  sec. 25, T. 54 N., R. 18 W.,  $\frac{1}{4}$  miles northeast of Keytesville. Prior to Feb. 20, 1935, chain gage at same site and datum.

Drainage area.- 1,950 square miles.

Records available.- April 1929 to September 1935.

Extremes.- Maximum discharge observed during year, 18,000 second-feet June 3 (gage height, 22.72 feet); minimum, 25 second-feet Oct. 13 (gage height, 2.90 feet).  
1929-35: Maximum discharge observed, 18,700 second-feet Apr. 25, 1929, maximum gage height, that of June 3, 1935; minimum 4.6 second-feet Aug. 7, 9, 10, 1934.

Remarks.- Records fair except those for periods of ice effect, Dec. 8-31, Jan. 1-3, 23-31, Feb. 1-12, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,000	59	1,780	396	370	850	345	1,100	10,600	4,040	562	77
2	448	53	2,380	396	345	910	320	4,870	13,800	5,900	414	109
3	283	57	3,520	422	345	550	297	6,500	17,400	6,120	340	158
4	126	345	4,150	422	370	790	264	5,420	17,400	6,120	630	125
5	103	1,780	3,160	396	422	3,160	244	3,760	13,800	6,350	562	123
6	82	1,850	2,040	370	422	2,950	218	2,040	10,600	6,280	442	114
7	71	1,160	1,570	422	396	2,660	233	1,460	9,800	5,540	304	123
8	60	528	1,400	2,500	448	2,660	370	1,460	8,500	5,170	287	196
9	55	297	1,230	2,580	670	2,230	750	3,430	7,750	5,540	226	666
10	47	193	1,040	2,700	790	2,150	910	4,630	6,970	6,200	196	774
11	44	146	850	2,500	790	3,760	2,190	2,460	5,680	6,650	178	340
12	41	111	760	1,740	820	3,430	2,580	2,230	3,250	6,500	168	226
13	40	96	730	1,550	910	2,620	2,300	5,360	1,770	3,660	168	178
14	38	80	790	1,530	1,530	2,000	1,710	6,650	1,290	1,450	158	187
15	36	72	972	1,330	1,740	1,640	1,200	6,980	1,070	918	149	168
16	31	64	1,040	850	2,580	1,260	790	6,500	918	702	130	130
17	28	61	1,230	760	2,380	972	556	6,350	1,330	562	123	110
18	25	56	1,570	700	2,340	790	1,500	5,420	4,570	470	116	98
19	28	193	1,600	940	1,780	640	2,820	5,230	6,550	414	106	85
20	850	612	1,570	1,230	1,640	584	1,600	6,800	6,720	388	102	77
21	1,740	760	1,600	1,070	1,460	528	880	8,120	7,220	364	107	74
22	760	2,540	1,710	880	972	584	640	7,860	7,860	414	98	70
23	474	4,330	1,330	790	770	760	500	7,310	8,280	1,610	92	67
24	345	3,520	640	940	640	500	422	6,720	8,440	2,500	88	62
25	612	2,260	422	972	4,150	422	500	6,970	8,600	4,570	83	62
26	422	1,570	370	910	4,630	2,340	396	7,220	8,440	2,950	83	64
27	233	1,260	370	760	2,380	1,500	370	7,560	7,980	1,770	82	63
28	136	910	422	556	1,400	1,070	320	9,000	7,140	3,300	76	58
29	96	1,360	448	448	-	640	396	13,800	4,930	2,220	75	54
30	75	1,670	422	396	-	500	584	14,400	3,100	1,530	75	54
31	63	-	396	370	-	422	-	12,100	-	954	74	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	8,354	1,740	25	269	0.138	0.16	16,530
November.....	28,003	4,330	53	933	.478	.53	55,540
December.....	41,512	4,150	370	1,339	.687	.79	82,340
Calendar year 1934.....	128,606.2	4,330	4.6	352	.181	2.44	255,100
January.....	31,606	2,700	370	1,020	.523	.60	62,690
February.....	37,510	4,630	345	1,340	.687	.72	74,400
March.....	46,172	3,760	422	1,489	.764	.88	91,580
April.....	26,185	2,820	218	873	.448	.60	51,940
May.....	189,600	14,400	1,100	6,116	3.14	3.62	376,100
June.....	221,658	17,400	918	7,389	3.79	4.23	439,700
July.....	100,956	6,650	364	3,257	1.67	1.92	200,200
August.....	6,264	630	74	202	.104	.12	12,420
September.....	4,692	774	54	156	.080	.09	9,310
Water year 1934-35.....	742,492	17,400	25	2,034	1.04	14.16	1,473,000



## Osage River near Quenemo, Kans.

Location.- Chain gage, lat. 36°35', long. 95°28', in NW¼ sec. 7, T. 17 S., R. 18 E., 2½ miles below Dragoon Creek and 3 miles east of Quenemo.

Drainage area.- 1,050 square miles.

Records available.- June 1922 to September 1935.

Average discharge.- 13 years, 330 second-feet.

Extremes.- Maximum discharge during year, 25,700 second-feet June 3 (gage height, 36.6 feet, from flood marks); no flow Oct. 16-18.

1922-35: Maximum observed discharge, 32,600 second-feet Nov. 17, 1928 (gage height, 38.38 feet); no flow in July and August 1926, September 1931, November 1932, August 1933, July, August and September, 1934, and October 1935. Bank-full stage, 27 feet.

Remarks.- Records poor.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Oct. 1 to Nov. 21, July 1 to Sept. 30)

Table for Oct. 1 to Nov. 22, June 6 to Sept. 30

2.4	1	6.0	556	26.0	8,040
2.6	4	8.0	976	30.0	10,140
2.8	11	10.0	1,460	32.0	11,500
3.0	24	12.0	2,100	33.0	13,140
3.5	86	14.0	2,820	35.0	19,940
4.0	168	18.0	4,400	36.0	23,500
5.0	358	22.0	6,120		

Table for Nov. 23 to June 5

2.4	3	4.5	274
2.6	8	5.0	364
2.8	18	5.5	459
3.0	36	6.0	554
3.3	72	7.0	755
3.6	118	8.0	970
4.0	185	9.0	1,200

Above 9 feet same as previous table.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75	9	134	42	18	22	10	12	21,300	225	6	196
2	36	9	126	36	18	18	10	22	22,100	188	6	2,870
3	19	20	110	36	16	22	8	22	21,300	141	116	1,990
4	11	159	87	31	16	26	10	31	11,300	116	44	416
5	7	51	80	36	18	47	12	47	6,660	69	13	244
6	5	33	80	36	15	66	12	59	1,960	50	8	180
7	4	11	72	42	18	59	12	42	763	44	6	53
8	4	7	72	194	36	53	15	31	436	38	5	63
9	2	5	59	328	47	47	22	36	637	32	4	32
10	2	4	66	220	47	42	18	292	868	32	5	27
11	2	3	47	151	42	47	15	274	576	27	4	23
12	1	3	36	126	36	47	12	134	4,680	23	4	23
13	1	2	36	87	36	42	12	238	4,800	16	3	19
14	1	1	36	59	47	36	12	2,050	1,350	16	3	16
15	1	1	47	90	47	36	10	4,800	742	16	2	13
16	0	2	47	87	42	31	10	1,730	679	16	2	10
17	0	2	47	80	47	26	8	478	596	13	3	16
18	0	274	47	72	42	22	8	594	358	16	3	27
19	0	536	53	72	42	22	10	7,040	244	10	3	23
20	4	116	53	47	36	18	12	7,640	225	10	3	13
21	2	85	59	31	31	12	10	5,400	168	13	282	10
22	1	3,120	59	15	26	10	10	3,840	132	10	76	10
23	2	1,890	59	15	22	10	10	1,600	116	8	19	8
24	2	402	47	15	22	8	10	421	108	6	16	8
25	1	266	47	22	31	12	10	292	100	8	3	8
26	1	1,300	42	26	31	18	12	202	320	6	6	10
27	23	478	36	22	26	15	10	238	784	6	2,970	8
28	11	346	36	22	18	12	10	6,660	377	6	1,700	6
29	8	238	36	18	-	10	12	15,500	358	8	206	6
30	5	151	42	18	-	12	15	10,700	320	6	124	5
31	4	-	47	22	-	10	-	7,240	-	5	116	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	235	75	0	7.6	466
November.....	9,514	3,120	1	317	18,870
December.....	1,845	134	36	59.5	5,660
Calendar year 1934.....	31,647	6,480	0	86.7	62,760
January.....	2,098	328	15	67.7	4,160
February.....	871	47	15	31.1	1,730
March.....	858	66	8	27.7	1,700
April.....	347	22	8	11.6	698
May.....	77,645	15,600	12	2,505	154,000
June.....	104,357	22,100	100	3,479	207,000
July.....	1,160	225	5	37.4	2,300
August.....	5,760	2,970	2	186	11,420
September.....	6,033	2,570	5	201	11,970
Water year 1934-35.....	210,723	22,100	0	577	417,600

## Osage River near Ottawa, Kans.

**Location.**— Water-stage recorder, lat.  $38^{\circ}37'$ , long.  $95^{\circ}15'$ , in NW $\frac{1}{4}$  sec. 6, T. 17 S., R. 20 E. (revised),  $\frac{1}{4}$  miles southeast of Ottawa and three-quarters of a mile below Skunk Creek. Zero of gage is 852.6 feet above mean sea level.

**Drainage area.**— 1,280 square miles.

**Records available.**— October 1916 to September 1935. August 1902 to October 1905 at Main Street Bridge at Ottawa.

**Average discharge.**— 19 years (1902-05, 1919-35), 549 second-feet.

**Extremes.**— Maximum discharge during year, 30,000 second-feet June 2, 3 (gage height, 34.31 feet); minimum, 2 second-feet Oct. 11-15; minimum gage height, 1.28 feet Oct. 13.

1918-35: Maximum discharge, 58,400 second-feet Nov. 17, 1928 (gage height, 38.65 feet); no flow in 1920, 1930, 1931, 1932, 1933 and 1934. Bank-full stage, 27 feet.

**Remarks.**— Records excellent except those for period of ice effect, Jan. 21-22, and for period of shifting control during July, which are good.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Mar. 7 to May 8, July 1 to Aug. 2)

1.2	1	5.0	760	17.0	6,210
1.4	5	6.0	1,080	20.0	7,970
1.7	32	8.0	1,830	23.0	9,780
2.0	70	9.0	2,250	26.0	11,660
2.5	153	10.0	2,690	29.0	13,700
3.0	252	12.0	3,620	32.0	20,600
4.0	480	14.0	4,600	35.0	33,700

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	155	5	207	44	34	26	9	14	14,000	235	3	99
2	62	5	250	43	37	29	9	49	26,200	178	5	1,480
3	34	64	275	42	38	31	10	69	29,500	170	506	2,740
4	21	122	235	39	38	38	11	37	24,100	144	114	760
5	13	139	161	39	44	38	12	106	17,800	104	38	227
6	9	53	126	34	42	64	1.0	69	8,620	82	21	144
7	5	26	109	53	45	74	29	45	1,220	64	13	104
8	5	17	91	288	47	52	22	34	730	52	10	80
9	4	11	79	408	49	42	21	73	642	39	9	69
10	4	10	67	271	53	39	22	164	1,150	34	11	56
11	2	7	76	183	50	44	17	339	614	28	10	43
12	2	5	49	144	47	48	16	211	2,650	23	7	31
13	2	7	47	121	49	45	15	282	4,700	20	6	25
14	2	6	47	104	60	49	14	1,670	2,700	17	6	22
15	2	4	52	82	70	34	11	3,760	600	16	4	18
16	3	4	62	82	74	28	9	2,970	493	15	4	17
17	5	5	69	96	64	21	9	1,550	820	10	4	18
18	5	126	67	96	68	18	10	1,360	586	8	4	105
19	5	820	61	88	52	18	9	8,920	328	7	4	33
20	15	273	57	76	45	18	9	9,410	246	5	4	19
21	6	205	65	66	43	18	10	6,500	209	8	106	12
22	8	4,050	69	55	34	17	10	4,550	191	9	205	10
23	5	3,240	79	50	32	15	9	1,710	162	7	62	9
24	21	1,080	84	39	31	16	9	568	139	11	26	9
25	44	480	73	34	32	20	24	420	126	9	15	13
26	19	1,080	67	26	32	16	16	328	408	7	22	12
27	30	916	52	25	31	18	15	295	1,080	6	1,690	7
28	25	350	44	30	28	16	16	8,300	980	5	1,830	7
29	20	239	45	30	-	12	20	12,700	506	4	374	6
30	11	201	44	32	-	10	14	13,000	306	4	153	7
31	8	-	47	33	-	9	-	11,900	-	3	117	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				552	155	2	17.6	1,100				
November.....				13,550	4,050	4	452	26,880				
December.....				2,861	275	44	92.3	5,670				
Calendar year 1934.....				39,392	6,270	0	108	78,130				
January.....				2,752	408	25	88.8	5,460				
February.....				1,259	74	28	45.0	2,500				
March.....				916	74	9	29.5	1,820				
April.....				417	29	9	13.9	827				
May.....				91,293	13,000	14	2,945	181,100				
June.....				141,356	29,500	126	4,712	280,400				
July.....				1,327	235	3	42.8	2,630				
August.....				5,283	1,830	3	170	10,480				
September.....				6,180	2,740	6	206	12,260				
Water year 1934-35.....				267,746	29,500	2	734	531,100				

## Osage River at Trading Post, Kans.

Location.- Water-stage recorder, lat. 38°15', long. 94°41', in SE¼ sec. 5, T. 21 S., R. 25 E., at Trading Post, 1 mile above mouth of Big Sugar Creek. Prior to Feb. 4, 1935, chain gage at same site and datum.

Drainage area.- 2,910 square miles.

Records available.- August 1921 to December 1923, October 1928 to September 1935.

Extremes.- Maximum discharge during year, 40,800 second-feet June 5 (gage height, 28.46 feet); minimum observed discharge, 5 second-feet Oct. 17 (gage height, 0.81 foot).  
1921-23, 1928-35: Maximum observed discharge, 120,000 second-feet Nov. 18, 1928 (gage height, 34.45 feet); no flow in September 1931 and July to September 1934. Bank-full stage, 24 feet.

Remarks.- Records good except those for period of ice effect, Jan. 20-28, which are fair.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

0.8	5	3.0	820	5.0	2,585	18.0	9,700
1.0	12	3.5	1,330	5.5	2,900	20.0	11,400
1.2	25	3.7	1,570	6.0	3,200	22.0	14,200
1.4	40	3.9	1,775	6.0	4,400	24.0	18,200
1.7	102	4.1	1,936	10.0	5,600	25.0	21,100
2.0	225	4.3	2,087	13.0	7,200	26.0	24,500
2.5	476	4.7	2,379	16.0	8,400	28.0	35,500

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	306	24	1,030	310	253	301	99	482	27,000	956	29	286
2	244	21	1,240	272	244	315	96	422	30,100	672	27	258
3	184	30	1,680	267	244	310	90	589	33,200	552	38	1,680
4	128	55	1,730	258	291	320	88	650	37,300	449	1,570	3,320
5	79	282	1,160	230	291	396	96	427	39,500	396	771	1,940
6	59	325	747	220	286	422	96	350	35,500	345	230	570
7	45	291	636	345	291	396	160	350	31,300	291	109	325
8	36	184	576	5,840	510	401	350	310	29,000	248	65	239
9	29	113	438	6,140	589	391	375	282	25,200	234	45	184
10	24	82	401	3,080	570	375	315	495	16,600	220	29	139
11	18	53	286	1,510	493	380	272	516	10,100	216	28	106
12	16	40	306	1,060	438	350	244	595	7,840	216	26	88
13	14	37	272	771	438	330	207	1,380	6,550	220	26	71
14	12	29	258	650	552	301	176	5,120	6,500	212	21	59
15	12	25	253	539	602	277	155	8,590	5,900	124	16	53
16	8	20	282	552	602	248	128	9,920	4,880	88	14	45
17	8	19	291	672	564	220	120	8,720	8,480	73	13	49
18	19	2,650	301	589	493	194	117	6,400	8,280	65	13	355
19	34	1,770	291	391	433	176	120	12,100	5,600	55	14	194
20	43	3,620	291	300	380	172	128	19,300	1,510	52	14	147
21	28	1,620	286	260	340	172	117	22,400	1,510	45	14	106
22	33	7,560	296	240	315	164	106	23,100	1,040	44	13	63
23	36	11,900	350	296	296	155	102	25,800	747	40	19	48
24	41	11,100	422	265	286	143	93	22,100	630	39	739	39
25	43	8,040	391	280	527	143	93	15,800	609	36	132	41
26	32	5,240	340	270	533	151	438	5,960	6,650	35	109	46
27	27	4,520	291	260	360	172	1,730	2,090	6,300	38	82	39
28	43	2,960	248	258	310	147	657	8,200	3,920	48	846	40
29	44	2,010	287	258	-	132	427	18,400	2,310	48	2,520	38
30	37	1,090	340	248	-	117	527	22,100	1,940	40	1,090	34
31	27	-	335	258	-	106	-	24,200	-	34	406	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				1,708	306	8	55.1	3,390				
November.....				68,770	11,900	19	2,180	130,500				
December.....				16,045	1,730	248	518	31,820				
Calendar year 1934.....				136,084	11,900	0	373	269,900				
January.....				26,843	6,140	220	866	53,240				
February.....				11,531	602	244	412	22,970				
March.....				7,877	422	106	254	15,620				
April.....				7,722	1,730	88	257	15,320				
May.....				263,126	24,200	282	8,488	521,900				
June.....				396,196	39,500	609	13,210	785,600				
July.....				6,131	956	34	198	12,160				
August.....				9,068	2,520	13	293	17,990				
September.....				10,602	3,320	34	353	21,030				
Water year 1934-35.....				622,559	39,500	8	2,254	1,631,000				

## Osage River at Osceola, Mo.

Location.- Water-stage recorder, lat. 38°3'45", long. 93°41'25", in NE1/4 sec. 17, T. 38 N., R. 25 W., 1 mile northeast of Osceola. Zero of gage is 679.05 feet above mean sea level (revised to U. S. Coast and Geodetic Survey general adjustment of 1929).

Drainage area.- 8,220 square miles.

Records available.- November 1930 to September 1935, July 1921 to September 1923 at site 1 mile upstream.

Average discharge.- 11 years (1921-28, 1931-35), 5,474 second-feet.

Extremes.- Maximum discharge during year, 59,700 second-feet June 9 (gage height, 29.35 feet); minimum, 15 second-feet Aug. 22 (gage height, 0.49 foot); minimum daily discharge, 18 second-feet Aug. 22.

1921-28, 1930-35: Maximum discharge, 70,900 second-feet Apr. 11, 1927 (gage height, 30.4 feet at old location); minimum, 9 second-feet, Aug. 1, 2, 1934, minimum daily discharge, 10 second-feet July 16, 19, 21-24, Aug. 1-3, 1934.

Remarks.- Records good. Flow regulated by hydroelectric plant of West Missouri Power Co., 1 mile upstream.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Apr. 8 to May 27)

Table for Oct. 1 to Nov. 21

1.8	207	6.0	4,080
2.2	343	7.0	5,600
2.6	616	8.0	7,250
3.0	730	9.0	8,950
4.0	1,580	10.0	11,000
5.0	2,710	11.0	13,000

Table for Nov. 22 to Sept. 30

0.5	16	6.0	4,200
.7	33	8.0	7,200
.9	52	11.0	13,000
1.5	180	14.0	19,600
2.1	384	18.0	29,200
3.0	945	22.0	39,300
4.0	1,900	26.0	49,800
5.0	3,000	30.0	61,500

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,980	566	6,610	4,520	4,080	2,010	2,010	3,600	52,000	17,500	248	1,770
2	4,670	523	8,480	3,720	4,590	1,900	1,900	4,330	53,500	12,600	437	1,130
3	2,450	1,200	12,400	3,200	4,200	1,700	1,900	7,560	56,400	7,200	418	616
4	1,650	4,590	13,200	2,780	3,960	2,770	1,700	7,200	57,900	5,600	778	1,370
5	1,020	6,940	9,430	2,450	3,720	7,430	1,800	5,150	56,700	3,960	1,330	3,100
6	510	5,520	6,690	2,230	3,480	8,670	3,650	3,960	53,800	3,000	1,850	3,360
7	656	3,480	5,150	2,870	3,560	8,290	10,800	3,600	54,900	2,560	814	427
8	441	2,100	4,200	11,600	6,210	6,660	16,000	3,120	57,600	2,230	531	950
9	397	1,560	3,840	17,500	10,200	5,070	13,400	2,780	59,100	2,010	445	548
10	367	1,130	3,480	16,900	9,430	4,730	10,600	2,450	57,600	1,900	314	316
11	263	790	3,000	13,800	6,860	10,200	7,920	2,450	54,900	1,720	375	405
12	290	661	2,560	8,860	4,730	24,200	5,600	2,780	52,600	1,590	315	427
13	259	676	2,450	5,600	4,460	33,600	4,200	2,890	49,800	1,260	439	346
14	263	486	2,340	4,330	6,210	33,200	3,480	3,720	50,200	1,400	875	109
15	224	500	2,230	3,640	7,030	14,000	3,000	6,860	56,700	920	757	120
16	226	409	2,120	3,840	6,050	6,980	2,670	11,200	56,100	945	403	224
17	831	454	2,120	4,590	4,590	5,300	2,450	13,000	50,900	854	268	257
18	8,800	356	2,010	5,150	3,720	4,460	2,340	13,000	39,000	878	394	185
19	16,800	1,480	2,010	8,300	3,240	3,840	2,340	13,200	30,700	822	408	207
20	8,900	9,280	2,120	12,600	2,780	3,480	2,120	16,700	28,200	773	778	408
21	6,460	18,900	2,340	11,800	2,560	3,240	1,900	22,100	23,300	753	30	236
22	4,250	23,100	3,000	7,740	2,340	3,000	1,900	22,400	18,400	760	16	218
23	2,180	22,800	3,720	4,730	2,120	2,780	1,800	21,400	11,000	700	20	237
24	1,710	19,100	3,600	3,240	2,010	3,120	1,670	21,700	5,900	693	193	159
25	2,180	18,000	3,240	3,000	2,340	3,700	1,200	23,300	4,460	476	189	49
26	3,270	17,800	2,890	3,120	2,780	5,290	1,480	24,500	13,100	630	280	171
27	2,770	17,500	2,560	3,350	3,000	4,200	1,310	26,000	25,300	640	343	161
28	1,750	15,500	2,230	3,480	2,450	3,240	2,340	37,000	23,300	383	591	31
29	876	11,400	2,230	3,240	-	2,780	2,780	48,700	21,900	355	1,030	205
30	696	7,220	3,360	2,890	-	2,450	2,890	50,400	20,500	492	2,250	156
31	690	-	4,590	2,670	-	2,230	-	51,500	-	443	2,410	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	82,829	16,800	224	2,672	0.325	0.37	164,300
November.....	214,021	23,100	356	7,134	.868	.97	424,500
December.....	130,200	13,800	2,010	4,200	.511	.59	258,200
Calendar year 1934.....	763,133	23,100	10	2,091	.254	3.46	1,514,000
January.....	187,870	17,500	2,230	6,060	.737	.85	372,600
February.....	122,500	10,200	2,010	4,375	.532	.55	243,000
March.....	224,740	33,600	1,700	7,250	.882	1.02	445,800
April.....	119,150	16,000	1,200	3,972	.483	.54	236,300
May.....	480,550	51,500	2,450	15,500	1.89	2.13	953,000
June.....	1,195,760	59,100	4,460	39,860	4.85	5.41	2,372,000
July.....	76,066	17,500	355	2,454	.299	.34	150,900
August.....	19,529	2,410	16	630	.077	.09	38,740
September.....	19,571	3,360	31	652	.079	.09	38,820
Water year 1934-35.....	2,872,786	59,100	16	7,871	.968	13.00	5,698,000



## Osage River near Bagnell, Mo.

Location.— Water-stage recorder, lat. 38°12'20", long. 92°35', in N&SE¼ sec. 21, T. 40 N., R. 15 W., 1½ miles above Bagnell. Zero of gage is 548.92 feet (U. S. Coast & Geodetic Survey 1929 general adjustment) above mean sea level.

Drainage area.— 14,000 square miles.

Records available.— May 1925 to September 1935.

Average discharge.— 10 years, 9,682 second-feet.

Extremes.— Maximum discharge during year, 115,000 second-feet June 3 (gage height, 36.42 feet); minimum, 271 second-feet Oct. 28 (gage height, 2.25 feet); minimum daily discharge, 473 second-feet Sept. 1, 1925-35. Maximum discharge, that of June 3, 1935; maximum gage height, 36.61 feet Apr. 17, 1927; minimum discharge, 220 second-feet June 12, 1932; minimum gage height, 2.10 feet July 15, 1934; minimum daily discharge, 290 second-feet Feb. 21, 1931. Maximum stage known, 43.1 feet in June 1844 (discharge, about 150,000 second-feet).

Remarks.— Records excellent except those for July and August, which are good. Flow regulated by hydroelectric plant of Union Electric Light & Power Co., 2 miles upstream. Capacity of reservoir, 1,300,000 acre-feet.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,220	695	12,700	7,630	16,000	9,700	12,300	7,370	97,400	42,300	2,690	473
2	2,620	529	7,720	12,500	12,900	6,090	14,000	7,170	108,000	38,700	1,910	498
3	1,580	918	19,500	14,700	7,510	2,450	13,200	8,480	114,000	23,000	544	2,650
4	4,060	1,310	30,500	14,500	11,600	9,300	12,900	5,210	112,000	16,100	581	3,330
5	3,700	3,490	25,000	8,020	14,200	11,100	12,700	1,810	103,000	15,900	2,060	3,250
6	975	1,360	20,700	2,350	13,400	13,300	9,020	8,480	94,900	16,300	2,920	3,180
7	583	1,380	14,600	9,480	13,300	13,500	4,460	9,660	96,200	11,600	2,550	1,300
8	2,870	2,760	11,500	12,800	13,200	13,900	13,100	8,760	93,000	13,500	1,480	598
9	2,710	3,710	5,890	13,700	10,700	11,400	14,600	9,700	89,000	12,200	1,320	3,560
10	2,720	1,630	11,300	14,700	7,030	5,810	15,200	9,350	77,100	11,900	498	4,240
11	2,640	828	12,200	13,600	13,000	14,500	15,200	6,130	96,400	8,950	483	4,430
12	1,940	4,460	13,100	11,900	12,500	16,300	15,400	2,020	101,000	7,300	1,410	4,540
13	719	3,190	13,000	7,210	14,300	15,300	11,300	8,140	80,500	4,300	1,630	4,540
14	651	2,630	13,500	12,600	12,700	15,200	4,340	10,100	77,200	1,200	1,090	1,070
15	3,520	4,480	11,200	14,000	11,800	14,800	12,100	9,810	91,500	4,870	729	781
16	4,580	4,250	5,640	14,700	8,190	11,800	14,300	9,790	102,000	4,440	699	4,290
17	4,740	1,530	12,500	14,000	3,460	5,380	14,700	7,960	100,000	5,350	517	3,970
18	4,840	848	13,900	14,800	10,000	13,100	14,500	5,970	83,100	4,500	565	3,960
19	5,090	3,510	13,600	13,200	11,400	14,900	13,400	1,970	55,800	4,390	1,350	3,700
20	1,410	2,560	14,200	8,930	11,400	14,800	8,530	10,800	47,700	1,550	1,980	3,790
21	753	5,540	14,800	14,400	10,700	14,700	2,770	12,200	83,300	1,110	1,290	2,860
22	4,700	11,600	12,200	16,900	11,900	14,300	8,330	12,300	72,600	2,930	1,320	798
23	5,840	16,100	5,560	17,300	8,190	11,300	9,860	12,700	38,100	3,460	800	3,720
24	5,760	12,800	9,480	17,100	3,240	5,540	8,100	11,300	16,800	3,940	552	4,000
25	5,800	7,890	5,400	16,500	10,200	13,900	7,830	8,250	18,400	2,550	621	4,820
26	4,790	14,300	11,700	14,800	11,400	15,400	7,950	3,370	73,500	1,990	2,470	4,220
27	1,070	16,300	14,200	8,770	11,700	15,700	4,090	17,400	68,500	1,080	2,330	3,390
28	617	16,000	14,700	18,700	12,600	14,800	1,720	76,800	52,600	813	1,280	1,420
29	1,760	9,310	15,100	15,700	-	14,200	5,380	99,100	58,700	1,580	1,240	655
30	2,270	16,900	7,550	15,400	-	11,900	6,210	100,000	42,400	2,640	569	2,570
31	1,860	-	12,100	15,300	-	3,490	-	94,900	-	2,580	550	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						90,388	5,640	583	2,916		179,300	
November.....						172,808	16,900	529	5,760		342,800	
December.....						405,540	30,600	5,400	13,080		804,400	
Calendar year 1934.....						1,293,893	30,600	469	3,545		2,566,000	
January.....						406,200	18,700	2,360	13,100		805,700	
February.....						308,520	16,000	3,240	11,020		611,900	
March.....						367,760	16,300	2,450	11,860		729,400	
April.....						306,490	15,400	1,720	10,220		607,800	
May.....						597,000	100,000	1,810	19,260		1,184,000	
June.....						2,344,700	114,000	16,800	78,160		4,651,000	
July.....						271,023	42,300	813	8,743		537,600	
August.....						40,078	2,920	483	1,293		79,490	
September.....						86,593	4,820	473	2,886		171,800	
Water year 1934-35.....						5,397,100	114,000	473	14,790		10,710,000	

## OSAGE (MARAI DES CYGNES) RIVER BASIN

Osage River near St. Thomas, Mo.

Location.- Water-stage recorder, lat. 38°20'25", long. 92°13'25", in SE¼SW¼ sec. 35, T. 42 N., R. 12 W., half a mile below Sugar Creek and 2½ miles south of St. Thomas. Zero of gage is 527.85 feet above mean sea level (U. S. Coast and Geodetic Survey general adjustment of 1929).

Drainage area.- 14,500 square miles.

Records available.- August 1931 to September 1935.

Extremes.- Maximum discharge during year, 113,000 second-feet June 4 (gage height, 33.00 feet); minimum, 630 second-feet Aug. 25, Sept. 1 (gage height, 1.70 feet); minimum daily discharge, 693 second-feet Sept. 1.  
1931-35: Maximum discharge, that of June 4, 1935; minimum, 420 second-feet Aug. 27, 1931 (gage height, 1.30 feet); minimum daily discharge, 420 second-feet Aug. 27, 1931.  
Maximum stage known, about 39.4 feet (revised) in June, 1844.

Remarks.- Records excellent. Flow regulated by hydroelectric plant of Union Electric Light & Power Co., near Bagnell.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,470	2,100	17,600	12,600	16,900	11,300	6,600	6,670	91,800	48,500	2,890	*693
2	3,450	1,010	*12,400	9,890	15,300	8,820	13,800	7,970	*101,000	46,800	2,760	977
3	3,200	1,150	13,500	14,900	*11,700	*5,280	13,800	8,930	107,000	31,600	2,220	1,040
4	2,250	*3,350	29,200	16,100	8,790	6,070	13,200	8,020	113,000	22,600	*1,260	3,050
5	4,400	2,520	29,700	11,800	14,000	14,300	13,200	*5,270	108,000	14,500	1,010	3,560
6	4,070	3,940	24,000	*6,740	14,500	13,800	11,300	5,280	99,200	14,700	2,250	3,360
7	*1,420	1,890	16,800	5,060	13,700	16,300	*10,400	11,200	93,800	*13,800	2,940	3,300
8	917	1,820	13,600	13,200	14,200	15,400	10,000	10,400	93,500	12,500	2,670	*1,570
9	2,850	3,220	*10,100	15,400	12,300	14,400	15,300	10,000	*91,200	13,400	1,760	1,050
10	5,000	4,020	8,240	16,100	*10,200	*14,300	15,800	10,700	86,400	12,300	1,560	3,490
11	3,040	*1,850	12,600	15,200	9,260	20,500	16,200	8,800	82,300	9,910	*829	4,390
12	3,070	1,370	13,400	13,700	14,100	27,200	15,900	*5,900	101,000	8,510	716	4,470
13	2,310	4,490	13,500	*10,500	13,800	18,800	13,800	4,570	92,800	6,360	1,500	4,550
14	*1,070	3,470	13,900	9,890	14,800	16,900	*8,560	9,970	82,800	*4,570	1,790	4,430
15	800	3,090	12,600	14,700	13,300	15,900	7,340	10,700	86,000	2,270	1,360	*1,300
16	3,590	4,750	*9,730	16,700	10,100	13,800	14,100	10,700	*96,700	4,760	1,070	1,100
17	4,770	4,200	8,070	16,200	*7,150	*9,500	15,100	9,440	106,000	4,620	896	4,160
18	5,160	*1,780	14,200	16,000	5,490	8,460	15,200	7,970	99,500	5,160	*790	3,890
19	9,140	1,170	14,600	17,100	11,600	14,700	14,500	*5,420	82,600	4,480	770	3,960
20	6,800	3,490	14,700	*13,600	11,800	15,300	11,400	5,140	57,700	3,800	1,420	3,750
21	*2,480	3,250	15,200	12,700	11,800	15,000	*6,570	12,500	61,400	*1,880	2,050	3,720
22	1,840	7,100	15,300	18,200	11,600	15,000	4,720	11,700	88,700	1,420	1,520	*2,970
23	5,450	15,600	*11,400	18,700	10,600	12,900	8,910	11,700	*66,200	3,560	1,460	1,200
24	6,560	14,700	7,820	18,500	*7,060	*9,240	8,380	11,400	25,200	4,440	1,050	3,760
25	8,710	*11,200	9,260	17,900	5,810	8,460	8,210	9,460	21,800	7,980	*719	4,270
26	6,520	10,600	8,050	16,700	12,300	15,300	8,020	*6,610	59,900	3,670	755	4,900
27	5,210	15,200	14,700	*12,500	12,100	15,900	6,870	5,680	86,900	2,650	2,300	4,240
28	*1,660	16,600	15,600	11,300	13,300	15,600	*3,940	57,500	66,200	*1,610	2,300	3,440
29	1,050	13,700	16,400	16,700	-	15,000	2,680	91,400	64,800	1,130	1,460	*1,590
30	1,900	16,700	*15,700	16,500	-	13,200	5,960	102,000	*56,200	2,090	1,400	1,000
31	2,590	-	10,800	16,200	-	*9,500	-	100,000	-	2,660	845	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						110,447	9,140	800	3,563	219,100		
November.....						180,230	16,700	1,010	6,008	357,500		
December.....						442,670	29,700	7,820	14,280	878,000		
Calendar year 1934.....						1,440,882	29,700	554	3,948	2,858,000		
January.....						441,280	18,700	5,060	14,230	875,300		
February.....						327,760	16,900	5,490	11,710	650,100		
March.....						426,130	27,200	5,280	13,750	845,200		
April.....						319,700	16,200	2,620	10,660	634,100		
May.....						583,000	102,000	4,570	18,810	1,156,000		
June.....						2,489,600	113,000	21,800	82,990	4,938,000		
July.....						318,530	48,500	1,130	10,280	631,800		
August.....						48,350	2,890	716	1,560	95,900		
September.....						59,200	4,900	693	2,973	176,900		
Water year 1934-35.....						5,776,897	113,000	693	15,830	11,460,000		

\*Sunday.

## Marmaton River near Fort Scott, Kans.

Location.— Water-stage recorder, lat. 37°52', long. 94°40', in NW¼ sec. 21, T. 25 S., R. 25 E., 2 miles northeast of Fort Scott and 2½ miles west of Kansas-Missouri State line. Prior to Dec. 4, 1934, chain gage at same site and datum.

Drainage area.— 411 square miles.

Records available.— August 1921 to June 1925, April 1929 to September 1935.

Extremes.— Maximum discharge during year, 25,800 second-feet May 28 (gage height, 37.30 feet); minimum, 2 second-feet Aug. 11-25, Sept. 14-25, 30; minimum gage height, 2.20 feet Sept. 21, 22.  
1921-25, 1929-35: Maximum discharge, that of May 28, 1935; no flow at times during summer of 1934.  
Maximum stage known, 42.34 in 1915. Bank-full stage 34.0 feet.

Remarks.— Records good except those for Jan. 20 to Feb. 7, which are fair.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	14	516	166	132	85	61	144	1,120	172	3	4
2	35	11	552	134	130	86	61	150	1,580	138	3	98
3	25	124	359	116	130	59	61	194	3,180	108	3	64
4	19	610	249	106	131	328	61	106	1,200	77	30	7
5	18	221	205	97	135	552	684	100	469	70	3	14
6	12	119	172	90	128	271	672	101	915	63	3	5
7	9	74	156	186	194	232	1,670	104	6,200	56	3	3
8	9	59	135	1,480	1,120	178	1,120	100	3,110	49	3	3
9	6	41	123	556	624	150	458	96	950	45	3	3
10	6	41	115	348	370	150	304	105	516	37	3	3
11	6	36	96	254	276	216	266	120	326	32	2	3
12	6	32	85	205	227	863	194	156	425	26	2	3
13	4	22	81	172	348	458	150	238	425	22	2	3
14	4	19	82	144	600	282	127	811	1,020	17	2	2
15	6	18	69	139	359	222	109	648	2,630	13	2	2
16	5	15	92	381	238	178	89	436	1,530	10	2	2
17	79	13	88	370	194	144	84	293	1,440	9	2	2
18	538	13	85	238	172	128	81	630	552	8	2	2
19	243	84	90	876	150	121	80	7,150	337	4	2	2
20	94	1,150	94	564	128	125	81	9,150	249	3	2	2
21	42	502	125	282	119	115	68	6,280	210	3	2	2
22	31	2,970	271	178	108	109	60	1,900	183	3	2	2
23	27	1,540	222	156	99	100	53	1,010	130	3	2	2
24	59	540	172	161	96	104	49	492	109	3	2	2
25	89	304	144	144	112	127	48	315	100	16	2	2
26	69	1,590	121	144	144	121	78	293	3,030	7	4	3
27	46	824	104	150	106	91	124	640	3,600	4	4	3
28	39	359	96	139	89	83	82	14,400	889	3	3	3
29	32	282	112	137	-	73	516	17,000	370	3	3	3
30	24	370	216	135	-	72	293	8,920	232	3	3	2
31	21	-	205	134	-	64	-	2,630	-	3	3	-
Month	Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet			
October.....	1,662		538		4		53.6		3,300			
November.....	11,597		2,970		11		387		23,000			
December.....	5,253		552		81		169		10,420			
Calendar year 1934.....	44,337		3,020		0		121		87,930			
January.....	8,462		1,480		90		273		16,780			
February.....	6,660		1,120		89		238		13,210			
March.....	5,915		863		64		191		11,730			
April.....	7,784		1,670		48		259		15,440			
May.....	74,712		17,000		96		2,410		148,200			
June.....	37,057		6,200		100		1,235		75,500			
July.....	1,008		172		3		32.5		2,000			
August.....	84		7		2		2.7		157			
September.....	274		98		2		9.1		543			
Water year 1934-35.....	160,468		17,000		2		440		318,300			

## OSAGE (MARAIS DES CYGNES) RIVER BASIN

334

Sac River near Stockton, Mo.

Location.- Wire-weight gage, lat.  $37^{\circ}42'30''$ , long.  $93^{\circ}45'20''$ , in  $\frac{1}{4}$  sec. 11, T. 34 N., R. 28 W., at bridge on State Highway 64 (revised)  $\frac{2}{3}$  miles east of Stockton. Prior to Feb. 21, 1935, chain gage at same site and datum. Zero of gage is 763.29 feet above mean sea level (U. S. Coast and Geodetic Survey general adjustment of 1929).

Drainage area.- 1,160 square miles.

Records available.- July 1921 to September 1935.

Average discharge.- 14 years, 1,174 second-feet.

Extremes.- Maximum discharge recorded during year, 36,200 second-feet Mar. 12 (gage height, 22.59 feet); minimum discharge, 115 second-feet Sept. 22-25; minimum gage height, 2.70 feet Oct. 16, 17.  
1921-35: Maximum discharge recorded, that of Mar. 12, 1935; maximum gage height, 24.95 feet Apr. 1, 1927; minimum discharge, 7 second-feet Aug. 17, 1934; minimum gage height, 1.62 feet Sept. 10 1925.  
Maximum stage known, 29.3 feet July 1909.

Remarks.- Records good except those for days of rapidly changing stage, which are fair.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Mar. 15 to Apr. 30, Sept. 13-30)

Table for Oct. 1 to Mar. 12						Table for Mar. 13 to Sept. 30					
3.0	262	5.3	1,660	15.0	8,850	2.9	115	4.8	1,000		
3.2	332	6.4	2,020	17.0	11,600	3.0	144	5.4	1,360		
3.4	411	7.0	2,400	18.0	13,600	3.2	206	6.0	1,750		
3.6	500	8.0	3,050	19.0	16,200	3.4	278	7.0	2,400		
4.0	688	9.0	3,750	20.0	19,400	3.6	364	Notes.- Same as			
4.4	885	10.0	4,500	21.0	24,400	4.0	556	other table above			
4.8	1,090	11.0	5,250	22.0	31,400	4.4	776	7.0 feet.			
5.2	1,310	13.0	6,850	22.6	36,200						

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,040	322	1,910	1,260	1,090	477	1,360	504	2,720	2,140	278	240
2	736	296	2,400	1,094	1,150	477	1,180	1,060	2,400	2,340	259	230
3	592	314	5,320	1,040	1,090	454	832	1,360	7,610	3,050	240	209
4	500	2,020	3,750	885	987	477	720	1,060	6,600	*2,340	320	206
5	411	1,040	2,860	835	935	3,400	1,060	888	3,750	1,620	*273	187
6	370	688	2,200	785	885	2,140	946	1,360	2,790	1,300	226	180
7	296	616	1,780	736	785	3,750	2,720	1,300	7,900	1,120	216	174
8	279	500	1,600	5,100	1,090	2,270	2,660	1,000	12,300	1,060	216	168
9	262	432	1,420	3,050	987	1,780	1,820	832	5,920	1,000	209	259
10	230	370	1,260	2,460	935	2,140	1,620	776	3,610	888	209	187
11	230	351	1,990	2,020	895	11,600	2,080	1,300	2,980	832	193	180
12	230	332	987	1,720	785	33,000	1,620	1,000	3,260	776	187	171
13	199	314	885	1,420	835	12,000	1,420	832	2,600	692	637	159
14	199	296	835	1,260	1,040	5,550	1,240	720	11,400	637	888	150
15	187	262	835	1,200	885	4,050	1,060	720	17,400	610	320	138
16	169	246	785	1,600	835	3,260	1,000	692	7,040	556	259	138
17	169	246	736	1,480	835	2,530	1,000	664	6,940	530	320	132
18	12,300	888	1,310	736	2,270	946	610	6,170	504	279	150	124
19	2,020	246	785	2,780	736	2,080	946	776	4,280	480	209	124
20	1,150	6,080	835	2,600	736	1,750	*861	2,720	3,260	456	196	124
21	935	5,100	835	2,200	640	1,680	776	3,470	9,100	480	190	130
22	688	4,350	987	1,780	616	*1,650	776	2,140	9,100	410	230	115
23	592	2,600	935	1,540	569	1,620	*706	*1,760	*5,880	*422	206	115
24	546	1,840	885	1,420	546	2,460	637	1,360	2,660	433	156	115
25	1,310	1,540	640	1,310	569	4,350	610	1,120	2,200	367	174	115
26	835	1,370	835	1,200	688	3,050	610	946	5,780	367	190	130
27	592	1,200	736	*1,180	569	2,200	556	776	5,250	342	206	121
28	432	1,040	*760	1,150	*523	1,750	523	1,750	2,720	320	637	138
29	411	935	785	987	-	1,660	776	9,220	3,750	299	410	*144
30	370	1,420	1,540	936	-	1,420	610	6,850	2,460	*299	299	150
31	351	-	1,420	935	-	1,360	-	3,610	-	299	259	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	28,187	12,300	169	909	0.784	0.90	55,910
November.....	36,622	6,080	246	1,921	1.06	1.17	72,540
December.....	43,319	5,320	640	1,597	1.20	1.38	85,920
Calendar year 1934.....	267,324	20,300	7	732	.631	8.55	530,500
January.....	49,282	5,100	736	1,590	1.37	1.58	97,750
February.....	22,962	1,150	523	820	*.707	.74	45,540
March.....	118,555	33,000	454	3,024	3.30	3.80	238,200
April.....	33,678	2,720	530	1,123	.968	1.08	66,800
May.....	53,166	9,220	504	1,716	1.48	1.71	106,500
June.....	169,830	17,400	2,400	5,661	4.88	5.44	336,900
July.....	27,009	3,050	299	871	.751	.87	53,670
August.....	8,890	888	166	287	.247	.28	17,630
September.....	4,759	259	115	159	.137	.15	9,440
Water year 1934-35.....	566,259	33,000	115	1,634	1.41	19.10	1,183,000

\*Interpolated.

## Pomme de Terre River at Hermitage, Mo.

Location.- Wire-weight gage, lat. 37°56'25", long. 93°18'15", in NW¼ sec. 24, T. 37 N., R. 22 W., at bridge on State Highway 54 at Hermitage. Zero of gage is 726.96 feet above mean sea level (revised to U. S. Coast and Geodetic Survey general adjustment of 1929). Prior to Oct. 3, 1934, chain gage at same site and datum.

Drainage area.- 655 square miles.

Records available.- July 1921 to September 1935.

Average discharge.- 14 years, 666 second-feet.

Extremes.- Maximum discharge recorded during year, 42,200 second-feet June 15 (gage height, 29.38 feet); minimum, 3.4 second-feet Sept. 25 (gage height, 1.67 feet).  
1921-35: Maximum discharge, about 70,000 second-feet (revised) Aug. 8, 1927 (gage height, 36.45 feet, from flood mark); minimum discharge, 0.2 second-foot Aug. 13, 15, 1934; minimum gage height, 1.28 feet Aug. 15, 1934.

Remarks.- Records fair except those for days of rapidly changing stage and those estimated for periods of ice effect, Dec. 11-14, Feb. 25, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	675	72	1,030	1,070	821	222	352	249	1,470	869	17	77
2	398	69	1,470	747	986	182	322	208	1,700	684	12	98
3	292	208	3,500	641	675	158	292	1,660	7,760	795	30	110
4	222	541	2,940	541	607	182	235	747	3,280	612	241	81
5	170	859	1,700	445	541	3,500	263	445	1,470	508	305	62
6	145	675	1,340	445	508	2,250	1,250	1,070	1,290	406	126	47
7	109	641	1,160	414	445	3,930	1,210	1,520	3,990	273	115	38
8	99	278	1,030	5,940	476	3,390	2,370	783	6,020	267	95	22
9	91	263	986	3,220	641	3,750	1,340	783	1,990	170	69	25
10	82	263	986	1,750	541	3,680	901	641	1,160	126	51	67
11	78	249	800	1,250	476	8,510	821	574	1,070	117	32	63
12	67	249	600	943	414	20,300	747	541	1,160	98	22	60
13	64	235	450	783	476	4,120	675	445	2,880	79	170	56
14	57	235	400	641	574	1,940	541	307	6,100	95	257	53
15	50	235	368	574	607	1,340	476	278	24,000	73	211	47
16	47	222	368	607	508	1,030	398	235	3,230	104	117	43
17	46	222	337	541	445	793	322	368	5,610	69	104	29
18	2,300	222	322	641	414	717	352	249	2,830	62	95	23
19	821	208	292	2,610	352	641	414	144	2,390	51	73	13
20	476	783	368	2,250	307	541	292	3,750	3,860	73	60	13
21	352	1,560	337	1,340	292	508	263	3,100	7,760	77	51	10
22	292	2,090	1,030	859	249	445	208	1,470	11,000	100	35	8
23	208	1,520	1,070	641	208	747	235	986	1,680	60	23	6
24	368	747	1,030	541	235	1,380	156	641	1,100	54	26	3.8
25	222	541	986	508	222	1,070	158	476	795	67	14	3.4
26	641	445	607	476	208	1,120	195	383	3,860	126	32	3.6
27	292	414	541	476	208	783	107	307	4,360	93	69	4.0
28	182	368	445	476	235	541	135	2,990	1,490	100	46	6
29	146	292	414	445	-	476	278	15,400	980	51	51	6
30	142	476	1,250	337	-	414	292	4,180	832	44	44	3.8
31	85	-	1,560	337	-	368	-	1,940	-	22	44	-
Month			Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off				
								Inches	Acre-foot			
October.....			9,222	2,300	47	297	0.453	0.52	18,290			
November.....			15,182	2,090	69	506	.773	.86	30,110			
December.....			29,717	3,500	292	959	1.46	1.68	58,940			
Calendar year 1934.....			126,786.4	5,530	.2	347	.530	7.19	251,500			
January.....			32,489	5,940	337	1,048	1.50	1.84	64,440			
February.....			12,671	986	208	453	.692	.72	25,130			
March.....			69,012	20,300	158	2,225	3.40	3.92	136,900			
April.....			15,900	2,670	107	530	.809	.80	31,540			
May.....			46,870	15,400	144	1,512	2.31	2.66	99,970			
June.....			117,137	24,000	795	3,905	5.96	6.65	232,300			
July.....			6,315	669	22	204	.311	.36	12,530			
August.....			2,637	305	12	85.1	.130	.15	5,230			
September.....			1,081.6	110	3.4	36.1	.055	.06	2,140			
Water year 1934-35.....			358,233.6	24,000	3.4	981	1.50	20.32	710,500			

## South Grand River near Brownington, Mo.

**Location.**— Wire-weight gage, lat.  $38^{\circ}15'45''$ , long.  $93^{\circ}42'50''$ , in NW $\frac{1}{4}$  sec. 17, T. 40 N., R. 25 W., at county highway bridge 150 feet below St. Louis & San Francisco Railroad bridge, 200 feet (revised) below Deepwater Creek, and 1 mile north of Brownington. Zero of gage is 877.1 feet above mean sea level. Prior to Oct. 3, 1934, chain gage at same site and datum.

**Drainage area.**— 1,660 square miles.

**Records available.**— June 1921 to September 1935.

**Average discharge.**— 14 years, 915 second-feet.

**Extremes.**— Maximum discharge during year, 29,400 second-feet June 4 (gage height, 31.29 feet); minimum discharge, about 0.1 second-foot Aug. 24-26; minimum gage height, 1.37 feet Aug. 26.

1921-35: Maximum discharge, about 60,000 second-feet (revised) Nov. 19, 1928 (gage height, 39.9 feet, from flood mark); no flow July 21-25, Aug. 21 to Sept. 13, 1934.

**Remarks.**— Records good except those for days of rapidly changing stage, which are poor.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Feb. 25 to May 19)

1.4	0.1	5.4	275	9.0	3,200	21.0	10,400
1.5	.7	4.0	520	10.0	3,750	23.0	11,900
1.6	3.0	4.8	910	11.5	4,600	25.0	14,200
1.8	10	5.6	1,530	13.0	5,500	27.0	17,600
2.0	18	6.4	1,770	15.0	6,700	29.0	22,800
2.4	48	7.2	2,210	17.0	7,900	31.0	28,500
2.8	112	8.0	2,650	19.0	9,100	32.0	31,400

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,210	17	610	610	275	240	73	157	27,300	8,200	17	0.2
2	1,220	14	960	390	292	240	66	258	27,000	5,860	13	120
3	258	18	1,720	275	498	258	60	910	29,100	4,240	10	360
4	108	1,990	2,760	225	710	240	54	910	28,800	1,660	196	225
5	49	1,440	2,160	108	635	3,200	64	292	26,500	710	40	225
6	29	452	1,010	196	475	1,440	79	196	19,800	410	37	120
7	20	155	565	196	350	1,500	3,970	157	15,800	258	45	51
8	14	76	360	3,640	1,280	860	5,140	155	10,200	210	24	33
9	10	43	275	4,140	2,650	565	2,390	102	6,880	170	18	24
10	6	29	292	4,240	1,500	620	1,010	110	6,760	135	16	20
11	4.5	20	170	3,920	760	1,220	1,110	131	8,140	104	10	14
12	5.9	15	120	1,200	520	2,380	660	123	7,480	91	7	10
13	2.8	12	170	635	498	1,010	452	140	7,060	73	6	9
14	2.1	9	145	475	1,600	565	360	760	7,840	60	4.5	6
15	.6	8	127	370	1,820	390	258	1,550	7,360	49	3.6	6
16	.3	6	170	390	1,060	292	196	2,380	4,540	41	2.8	4.5
17	.4	4.8	258	810	710	225	157	1,390	2,040	36	1.8	2.8
18	370	2.5	258	910	520	183	240	1,010	2,920	30	1.4	2.3
19	475	2,320	240	3,040	410	155	196	1,010	3,580	27	.7	2.1
20	760	3,360	157	3,200	310	140	170	5,530	3,480	24	.5	1.2
21	452	3,580	170	2,650	258	147	133	5,260	4,660	22	.5	.6
22	258	4,900	350	910	210	133	114	8,200	3,090	20	.3	.6
23	84	4,780	710	370	196	108	97	7,900	3,580	41	.2	.5
24	33	5,560	635	310	157	108	76	6,460	3,310	38	.1	.5
25	131	6,940	520	196	258	152	79	3,640	1,250	32	.1	.5
26	810	5,750	370	240	860	430	1,550	1,220	7,840	24	.1	.6
27	475	1,820	210	310	1,220	360	275	3,310	10,800	20	.5	.6
28	150	1,500	112	498	452	196	160	10,200	14,000	17	.5	.5
29	67	196	370	-	-	157	143	18,600	13,200	62	.4	1.8
30	36	542	1,010	360	-	102	131	23,600	10,000	36	.4	2.8
31	24	-	1,060	225	-	81	-	25,300	-	24	.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	3,067.7	2,210	0.3	260	0.157	0.18	16,000
November.....	47,223.3	2,640	2.5	576	.368	.97	85,730
December.....	17,970	2,760	112	576	.347	.40	35,440
Calendar year 1934.....	84,475.2	6,040	0	231	.139	1.89	167,500
January.....	35,489	4,240	108	1,145	.690	.80	70,390
February.....	20,484	2,660	187	732	.441	.46	40,650
March.....	17,597	3,300	81	568	.342	.39	34,930
April.....	19,443	5,140	54	648	.390	.44	39,560
May.....	128,957	25,300	102	4,160	2.51	2.89	255,800
June.....	322,310	29,100	1,250	10,740	6.47	7.22	639,300
July.....	22,724	8,200	17	733	.442	.51	45,070
August.....	457.7	196	.1	14.8	.0089	.01	908
September.....	1,245.1	360	.2	41.5	.025	.03	2,470
Water year 1934-35.....	637,667.8	29,100	.1	1,748	1.05	14.30	1,265,000

## Niangua River near Decaturville, Mo.

Location.- Water-stage recorder, lat. 37°56'20", long. 92°50'35", in ~~NW~~ sec. 19 (revised), T. 37 N., R. 17 W., 8 miles west of Decaturville. Zero of gage is about 665.9 feet above mean sea level.

Drainage area.- About 627 square miles.

Records available.- April 1930 to September 1935.

Extremes.- Maximum discharge during year, 22,400 second-feet Mar. 13 (gage height, 17.12 feet); minimum, 11 second-feet Nov. 3; minimum gage height, 1.88 feet Oct. 11; minimum daily discharge, 43 second-feet Sept. 15.  
1930-35: Maximum discharge, that of Mar. 13, 1935; minimum, 9 second-feet Nov. 28, 1932 (gage height, 1.84 feet); minimum daily discharge, 18 second-feet Oct. 4-6, 1930. Maximum stage known, about 28.0 feet during 1914.

Remarks.- Records excellent. Flow regulated by hydroelectric plant of Missouri Electric Power Co. half a mile upstream.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	844	228	492	1,040	307	347	596	358	2,480	1,680	354	*191
2	624	187	*450	919	367	539	595	468	*2,350	1,380	344	256
3	374	408	743	750	*298	*251	521	997	5,380	1,820	373	232
4	294	*296	1,850	627	398	477	480	1,130	8,060	1,820	*340	249
5	282	922	1,780	573	314	1,060	504	*732	2,830	1,660	550	171
6	265	764	1,200	*425	316	1,970	628	1,070	1,890	1,250	348	174
7	*194	587	956	575	343	1,640	*1,800	1,660	2,350	*984	348	233
8	216	476	825	624	323	1,630	2,800	1,450	4,540	964	346	*180
9	210	404	*625	1,120	304	1,350	1,970	1,110	*4,230	848	307	222
10	215	484	663	1,150	*286	*1,410	1,370	914	2,400	742	272	211
11	192	*408	569	889	295	5,150	1,090	797	1,920	731	*291	205
12	176	192	552	748	297	17,800	998	*638	2,060	661	328	199
13	200	87	508	*572	465	11,800	884	797	2,620	638	517	176
14	*161	167	379	805	414	2,830	*715	685	2,700	*553	246	201
15	169	150	390	557	270	1,930	747	596	8,900	656	256	*43
16	163	180	*326	526	299	1,520	634	516	*6,470	597	244	91
17	187	206	369	473	*287	*1,170	617	506	4,140	449	277	195
18	243	*204	432	498	260	1,090	528	514	5,550	402	*247	153
19	595	198	495	644	276	911	514	*398	2,850	422	217	140
20	733	223	445	*708	254	855	525	872	2,580	501	145	159
21	*470	290	497	945	269	807	*410	1,600	12,600	*355	145	247
22	526	484	452	829	275	726	531	1,390	14,700	353	145	*87
23	364	166	*362	686	288	743	504	1,020	*4,920	415	144	160
24	427	232	534	537	*270	*987	492	614	2,480	461	274	158
25	572	*284	502	488	392	1,110	496	694	1,900	550	*141	210
26	369	303	654	542	260	1,290	396	*533	3,030	734	336	239
27	373	325	575	*364	193	1,120	355	637	3,190	815	221	219
28	*250	235	555	482	304	910	*322	1,460	2,460	*628	235	110
29	240	248	627	527	-	777	374	8,180	1,920	511	262	*134
30	250	471	*437	350	-	727	414	7,410	*1,570	392	252	137
31	249	-	1,020	312	-	*544	-	3,270	-	328	254	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				10,427	844	161	336	0.536	0.62	20,680		
November.....				9,809	922	97	327	.522	.58	19,460		
December.....				20,264	1,850	326	654	1.04	1.20	40,190		
Calendar year 1934.....				128,867	3,690	32	353	.563	7.63	255,600		
January.....				20,075	1,150	312	648	1.03	1.19	39,820		
February.....				8,524	465	193	308	.491	.51	17,110		
March.....				65,241	17,800	251	2,105	3.36	3.87	129,400		
April.....				22,900	2,800	322	760	1.21	1.35	45,220		
May.....				43,416	8,180	368	1,401	2.23	2.57	86,110		
June.....				127,070	14,700	1,570	4,236	6.76	7.54	252,000		
July.....				24,270	1,820	328	783	1.25	1.44	48,140		
August.....				6,541	550	141	276	.440	.51	16,940		
September.....				5,382	256	43	179	.285	.32	10,680		
Water year 1934-35.....				365,919	17,800	43	1,003	1.60	21.70	725,800		

\*Sunday.

## Bennett Spring at Brice, Mo.

Location.— Water-stage recorder, lat. 37°43'5", long. 92°51'25", in NW¼ sec. 1, T. 34 N., R. 16 W., at Brice. Prior to Dec. 14, 1934, staff gage at same site and datum.

Records available.— October 1928 to September 1935.

Extremes.— Maximum discharge during year, 5,800 second-feet (estimated) June 20 (gage height, 6.08 feet); minimum discharge, about 55 second-feet Nov. 13; minimum gage height, 0.44 foot Apr. 5.  
1928-35: Maximum discharge, that of June 20, 1935; minimum, that of Nov. 13, 1934.

Remarks.— Records poor. Discharge estimated when gage was not read, Dec. 9-12, and when stage was above 3.0 feet, Mar. 11, May 28, 29, June 14, 20, 21. Occasional run-off from small valley above spring included in records.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	107	74	168	132	89	138	168	96	448	518	168	132
2	107	74	187	115	93	140	157	120	898	468	165	135
3	93	82	217	107	95	140	145	140	831	433	160	138
4	89	138	197	98	95	187	143	127	609	404	157	130
5	89	127	140	95	95	285	140	154	480	377	154	130
6	77	118	143	93	95	238	154	265	404	355	151	130
7	87	109	127	91	95	261	273	281	480	329	148	125
8	84	89	109	111	98	234	305	242	453	313	145	125
9	79	74	100	115	102	214	285	210	395	293	143	127
10	79	61	92	109	100	556	253	190	351	277	140	122
11	82	59	85	102	96	1,870	242	177	321	269	138	122
12	95	57	80	95	96	898	214	168	438	253	140	122
13	91	55	77	91	100	646	194	157	400	245	140	118
14	91	61	77	86	118	507	174	151	1,020	238	138	118
15	87	59	79	87	115	433	162	145	754	231	138	120
16	87	59	79	91	113	395	151	143	705	224	138	120
17	100	59	79	89	111	345	143	140	726	217	135	115
18	104	59	79	89	111	313	143	138	628	210	135	115
19	104	67	79	109	109	285	132	143	542	203	135	115
20	109	70	77	127	107	265	130	180	2,100	200	135	118
21	87	74	79	120	111	242	120	200	2,020	197	132	120
22	84	74	91	109	113	231	116	184	1,010	194	135	118
23	80	70	98	100	115	217	111	177	815	190	135	120
24	77	75	100	93	118	224	109	168	679	164	132	122
25	74	75	104	95	143	261	107	160	584	217	132	125
26	79	75	100	95	140	249	100	160	734	207	138	127
27	75	75	95	87	132	234	100	162	653	190	145	127
28	72	77	91	87	132	214	96	619	554	180	140	127
29	68	89	98	87	-	197	98	1,060	518	174	138	127
30	74	89	148	86	-	184	95	554	572	171	138	127
31	74	-	151	87	-	177	-	418	-	168	135	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					2,695	109	68	86.6	5,330			
November.....					2,324	138	55	77.5	4,610			
December.....					3,426	217	77	111	6,800			
Calendar year 1934.....					35,560	267	55	97.4	70,530			
January.....					3,078	132	86	99.3	6,110			
February.....					3,037	145	89	108	6,020			
March.....					10,781	1,870	138	343	21,330			
April.....					4,762	305	95	156	9,450			
May.....					7,429	1,060	96	240	14,740			
June.....					21,122	2,100	321	704	41,890			
July.....					8,129	518	168	262	16,120			
August.....					4,403	188	132	142	8,730			
September.....					3,717	138	115	124	7,370			
Water year 1934-35.....					74,893	2,100	55	205	148,600			



## Gasconade River near Hazlegreen, Mo.

Location.- Wire-weight gage, lat. 37°45', long. 92°27', in SE $\frac{1}{4}$  sec. 15, T. 35 N., R. 14 W., at bridge on U. S. Highway 66, 1 mile below Osage Fork and  $\frac{1}{2}$  miles west of Hazlegreen. Prior to Oct. 11, 1934, chain gage at same site and datum.

Drainage area.- 1,250 square miles.

Records available.- April 1929 to September 1935.

Extremes.- Maximum discharge during year, 68,700 second-feet Mar. 12 (gage height, 27.50 feet); minimum, 96 second-feet Sept. 23-25 (gage height, 1.38 feet).

1929-35: Maximum discharge, that of Mar. 12, 1935; minimum, 26 second-feet Aug.

5-7, 10, 1934; minimum gage height, 1.03 feet Aug. 6, 7, 10, 1934.

Maximum stage known, 31.8 feet in January 1916.

Remarks.- Records good except those for days of rapidly changing stage, which are fair.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	534	345	1,660	1,800	503	369	1,660	424	4,120	1,720	401	222
2	664	322	2,410	1,520	474	345	1,660	496	8,700	3,680	356	200
3	534	345	1,800	1,170	446	345	1,390	520	16,300	4,230	313	186
4	446	698	1,800	968	446	474	1,200	496	17,900	3,470	292	179
5	393	1,040	1,590	832	420	866	1,140	728	6,080	3,680	292	163
6	345	968	1,240	732	420	2,570	1,320	2,180	3,470	2,100	272	153
7	300	765	968	664	393	2,570	2,990	3,270	4,780	1,580	272	153
8	266	631	832	798	393	2,490	4,120	2,560	10,500	1,260	272	147
9	238	534	732	1,310	369	1,870	3,080	1,800	6,850	1,080	252	150
10	219	446	631	2,100	345	2,900	2,250	1,520	3,680	958	229	144
11	208	420	598	1,730	345	19,600	1,680	2,900	3,570	842	214	144
12	183	369	534	1,380	322	58,800	1,660	3,080	3,790	728	210	139
13	176	345	446	1,100	345	21,000	1,390	2,100	2,250	674	214	135
14	173	322	446	968	345	6,790	1,200	1,520	8,250	622	207	135
15	166	296	420	832	369	4,010	1,080	1,520	15,700	570	248	130
16	157	283	393	765	369	2,900	958	1,320	15,200	545	252	127
17	163	275	369	798	393	2,250	842	1,140	20,000	496	241	118
18	173	258	369	1,040	369	1,800	842	1,020	16,500	448	222	116
19	420	246	369	1,170	369	1,520	784	900	15,700	448	218	110
20	369	246	369	1,380	345	1,320	728	900	9,320	424	214	110
21	322	242	345	1,940	345	1,200	674	1,140	23,400	401	200	106
22	293	238	393	1,800	322	1,080	622	1,200	17,100	401	190	106
23	250	238	503	1,450	300	1,320	596	1,060	6,080	379	176	96
24	258	246	631	1,170	300	1,950	545	968	3,790	496	173	96
25	345	242	732	968	322	2,250	520	784	2,400	1,580	173	100
26	565	238	765	832	345	3,790	496	701	5,360	1,260	210	116
27	900	235	732	732	369	2,820	472	622	3,680	784	196	141
28	598	227	664	664	369	2,020	448	784	2,320	701	196	147
29	603	231	698	631	-	1,680	448	6,990	2,250	596	193	144
30	420	732	1,100	575	-	1,260	448	4,450	2,250	496	229	144
31	393	-	1,590	534	-	1,140	-	2,400	-	448	241	-

  

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	10,964	900	157	354	0.283	0.33	21,750
November.....	12,023	1,040	227	401	.321	.36	25,650
December.....	26,129	2,410	345	843	.674	.78	51,830
Calendar year 1934 .....	163,861	3,010	26	449	.359	4.88	325,000
January.....	34,343	2,100	534	1,108	.896	1.02	68,120
February.....	10,452	503	300	373	.298	.31	20,730
March.....	156,199	58,800	345	5,039	4.03	4.65	309,800
April.....	37,443	4,120	448	1,248	.998	1.11	74,270
May.....	51,503	6,990	424	1,661	1.33	1.53	102,200
June.....	261,290	23,400	2,250	8,710	6.97	7.78	518,300
July.....	37,096	4,230	378	1,197	.968	1.10	73,580
August.....	7,568	401	173	238	.190	.22	14,610
September.....	4,157	222	96	139	.111	.12	8,250
Water year 1934-35 .....	648,967	58,800	96	1,778	1.42	19.31	1,287,000

## GASCONADE RIVER BASIN

Gasconade River near Waynesville, Mo.

**Location.**- Wire-weight gage, lat. 37°52', long. 92°13', in SE $\frac{1}{4}$  sec. 3, T. 36 N., R. 12 W., at county highway bridge 4 miles north of Waynesville. Zero of gage is 739.00 feet above mean sea level (revised to U. S. Coast and Geodetic Survey general adjustment of 1929). Prior to Nov. 9, 1934, chain gage at same site and datum.

**Drainage area.**- 1,680 square miles.

**Records available.**- June 1921 to September 1935, in reports of U. S. Geological Survey; August 1914 to June 1921, in reports of University of Missouri and Missouri Bureau of Geology and Mines.

**Average discharge.**- 14 years (1921-35), 1,442 second-feet.

**Extremes.**- Maximum discharge during year, 69,000 second-feet Mar. 13 (gage height, 21.62 feet); minimum, 139 second-feet Sept. 24, 25 (gage height, 2.20 feet).

1921-35: Maximum discharge, that of Mar. 13, 1935; minimum, 61 second-feet Aug. 8-10, 15, 16, 1934.

Maximum stage known, 24.3 feet Aug. 22, 1915.

**Remarks.**- Records good.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

2.0	35	4.5	1,560	11.0	12,200
2.2	139	5.0	2,030	12.0	14,200
2.4	211	6.0	3,300	13.0	16,500
2.6	298	7.0	4,750	14.0	18,500
3.0	488	8.0	6,400	16.0	23,500
3.5	770	9.0	8,200	18.0	34,700
4.0	1,140	10.0	10,200	20.0	52,200
				21.6	69,000

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	539	514	1,740	2,030	707	514	1,650	620	3,440	2,900	592	298
2	514	464	2,380	2,030	648	498	2,260	620	7,820	3,160	539	280
3	770	464	2,510	1,550	620	498	2,030	678	17,600	5,720	488	254
4	678	770	1,930	1,390	592	488	1,740	707	19,200	4,750	488	245
5	488	770	1,930	1,220	592	945	1,560	1,140	17,200	5,230	439	237
6	464	1,300	1,650	1,060	566	1,220	1,650	1,930	6,230	3,580	415	215
7	415	1,140	1,390	945	539	3,860	2,770	4,500	4,910	2,510	415	203
8	368	945	1,140	982	539	3,160	5,070	4,160	8,800	2,030	391	203
9	368	804	982	1,220	514	2,900	4,750	3,030	12,300	1,650	391	203
10	321	707	872	1,840	488	3,520	3,580	2,260	6,570	1,480	568	196
11	285	620	770	2,260	488	18,400	2,770	2,260	5,390	1,300	344	192
12	280	566	707	1,930	464	45,200	2,390	4,300	6,400	1,140	321	168
13	280	514	648	1,560	464	51,400	2,030	5,300	4,600	1,060	321	164
14	280	464	592	1,300	464	17,900	1,840	2,380	3,300	945	298	177
15	228	439	566	1,220	488	7,090	1,560	1,640	11,200	837	294	170
16	228	415	539	1,140	488	4,750	1,390	1,930	17,600	804	321	166
17	254	391	488	1,060	514	3,580	1,300	1,650	21,100	738	321	166
18	250	368	488	1,060	514	2,770	1,220	1,480	21,900	678	321	169
19	237	344	488	1,480	514	2,360	1,140	1,390	18,100	648	286	153
20	391	321	464	1,560	514	2,030	1,140	1,300	17,200	620	289	153
21	488	321	464	1,840	488	1,740	1,020	1,390	22,500	592	289	149
22	439	321	488	2,140	464	1,560	945	1,480	24,600	566	272	146
23	439	298	592	1,930	439	1,740	872	1,580	16,700	566	250	149
24	464	298	678	1,560	439	1,840	837	1,390	6,570	680	224	146
25	464	298	837	1,300	439	2,640	770	1,220	4,600	804	220	139
26	464	298	945	1,140	488	3,580	738	1,140	12,200	1,930	263	166
27	837	289	982	1,060	488	4,300	707	1,060	8,200	1,480	267	173
28	837	294	945	945	514	3,030	648	1,390	4,910	1,140	280	173
29	738	285	908	872	-	2,380	648	7,630	3,440	945	272	184
30	678	539	1,220	804	-	1,930	620	8,800	3,860	770	254	196
31	592	-	1,740	738	-	1,650	-	4,750	-	678	254	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	14,048	837	228	453	0.270	0.31	27,860
November.....	15,561	1,300	285	519	.309	.34	30,860
December.....	32,073	2,510	464	1,035	.616	.71	63,620
Calendar year 1934.....	212,226	3,940	61	581	.346	4.70	420,900
January.....	45,356	2,260	738	1,399	.833	.96	86,000
February.....	14,476	707	439	517	.308	.32	28,710
March.....	139,473	51,400	488	6,435	3.83	4.42	398,600
April.....	51,635	5,070	620	1,721	2.02	1.14	102,400
May.....	75,085	8,800	820	2,368	1.40	1.61	145,000
June.....	338,940	24,600	3,300	11,300	6.73	7.51	672,300
July.....	51,871	5,720	566	1,673	.996	1.15	102,900
August.....	10,499	592	220	339	.202	.23	20,820
September.....	5,663	298	139	189	.112	.12	11,230
Water year 1934-35.....	850,680	51,400	139	2,331	1.39	18.62	1,687,000

## Gasconade River at Jerome, Mo.

Location.- Staff gage, lat. 37°55'35", long. 91°58'40", in S½ sec. 13, T. 37 N., R. 10 W., at Jerome, half a mile below Little Piney Creek. Zero of gage is 657.70 feet above mean sea level (revised to U. S. Coast and Geodetic Survey general adjustment of 1929).

Drainage area.- 2,840 square miles.

Records available.- January 1923 to September 1935, April 1903 to July 1906 at Arlington.

Average discharge.- 12 years (1923-35), 2,617 second-feet.

Extremes.- Maximum discharge during year, 76,800 second-feet March 13 (gage height, 25.80 feet); minimum, 550 second-feet Sept. 21-25 (gage height, 1.88 feet).

1903-6, 1923-35: Maximum discharge, that of March 13, 1935; minimum, 298 second-feet Aug. 7-11, 1934 (gage height, 1.28 feet).

Maximum stage known, 29.0 feet Jan. 6, 1897.

Remarks.- Records good except those for days of rapidly changing stage, which are fair.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used June 27 to Sept. 30)

1.6	481	4.5	5,700	14.0	23,900
1.6	625	5.0	4,370	16.0	29,300
2.0	800	6.0	5,950	18.0	35,600
2.3	1,080	7.0	7,880	20.0	44,100
2.6	1,400	8.0	9,900	22.0	54,100
3.0	1,840	9.0	12,000	24.0	65,600
3.5	2,430	10.5	15,400	26.0	76,100
4.0	3,050	12.0	18,900		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,340	1,130	2,550	3,570	1,400	1,130	3,310	1,340	5,770	5,950	1,510	800
2	1,180	1,040	3,770	3,440	1,340	1,080	3,570	1,400	15,100	4,950	1,400	800
3	1,340	1,400	4,090	3,050	1,240	1,080	3,570	1,510	19,600	7,280	1,290	800
4	1,290	1,640	3,310	2,550	1,240	1,180	3,180	1,620	27,600	7,880	1,240	755
5	1,180	1,950	2,920	2,310	1,180	1,620	2,920	2,190	24,200	7,850	1,240	755
6	1,080	2,310	2,670	2,070	1,180	2,670	2,920	4,800	12,400	6,310	1,130	710
7	965	2,190	2,430	1,840	1,230	2,770	5,770	6,500	7,480	4,370	1,080	668
8	938	1,950	2,070	2,070	1,080	4,950	6,690	6,500	10,700	3,570	1,080	668
9	845	1,620	1,840	2,070	1,040	4,230	7,280	5,430	13,800	3,180	1,040	668
10	800	1,400	1,620	2,430	1,040	5,770	5,770	4,230	11,800	2,790	965	668
11	755	1,290	1,510	3,180	965	26,800	4,800	4,090	9,080	2,550	938	625
12	710	1,180	1,400	3,050	938	63,800	4,090	5,430	11,000	2,310	890	668
13	668	1,080	1,240	2,550	965	75,600	3,700	6,680	2,270	2,190	965	625
14	668	965	1,130	2,310	1,040	40,500	3,310	4,370	6,150	2,070	965	625
15	625	938	1,130	2,070	1,040	14,200	2,920	3,570	10,300	1,950	938	625
16	625	845	1,040	2,550	1,130	8,880	2,670	3,440	22,400	1,840	890	625
17	625	800	965	2,430	1,130	6,310	2,550	3,050	31,800	1,750	1,040	625
18	625	600	965	2,310	1,080	5,110	2,550	2,790	31,100	1,620	1,040	588
19	668	755	965	3,050	1,080	4,370	2,310	2,920	31,100	1,620	1,040	588
20	668	755	938	3,180	1,080	3,630	2,190	3,440	26,500	1,510	938	588
21	845	755	938	3,440	1,040	3,440	2,070	3,310	42,300	1,510	890	550
22	890	710	1,040	3,570	965	3,050	1,950	3,440	35,100	2,920	845	550
23	845	710	1,340	3,440	965	2,670	1,840	3,310	29,900	1,750	800	550
24	890	710	1,510	2,920	938	2,670	1,730	3,050	16,700	1,750	755	550
25	1,510	668	1,840	2,550	1,040	3,700	1,620	2,670	6,480	2,310	755	550
26	1,240	710	1,840	2,190	1,040	4,800	1,620	2,430	47,900	3,630	800	668
27	1,240	668	1,840	1,950	965	6,130	1,510	2,430	15,600	3,440	845	710
28	1,620	668	1,840	1,840	1,080	5,110	1,400	2,790	9,900	2,550	600	668
29	1,510	668	1,840	1,620	-	4,090	1,510	5,950	7,080	2,070	890	668
30	1,340	2,790	2,670	1,620	-	3,440	1,400	11,800	5,270	1,840	845	625
31	1,180	-	2,430	1,510	-	3,050	-	8,280	-	1,620	800	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	30,725	1,620	625	991	0.349	0.40	60,940
November.....	35,515	2,790	668	1,177	.414	.46	70,050
December.....	57,541	4,090	938	1,656	.654	.75	114,100
Calendar year 1934.....	428,962	5,770	298	1,775	.625	5.60	650,900
January.....	78,730	3,570	1,510	2,540	.894	1.03	156,200
February.....	30,351	1,400	938	1,084	.382	.40	60,200
March.....	317,490	73,600	1,080	10,240	3.61	4.16	629,700
April.....	92,720	7,280	1,400	3,091	1.09	1.22	163,900
May.....	125,550	11,300	1,340	3,979	1.40	1.61	244,700
June.....	554,970	47,900	5,270	18,500	6.51	7.26	1,101,000
July.....	99,100	7,680	1,510	3,197	1.13	1.30	195,600
August.....	30,704	1,510	755	990	.549	.40	60,900
September.....	19,563	800	550	652	.230	.26	39,800
Water year 1934-35.....	1,470,559	73,600	550	4,029	1.42	19.25	2,917,000

## Gasconade River near Rich Fountain, Mo.

Location.- Water-stage recorder, lat. 38°23'20", long. 91°49'15", in SE¼ sec. 16, T. 42 N., R. 8 W., at highway bridge just above Swan Creek and 4 miles east of Rich Fountain. Zero of gage is 553.93 feet above mean sea level (revised to U. S. Coast and Geodetic Survey general adjustment of 1929).

Drainage area.- 3,180 square miles.

Records available.- October 1921 to September 1935.

Average discharge.- 14 years, 2,943 second-feet.

Extremes.- Maximum discharge during year, 86,000 second-feet Mar. 14 (gage height, 26.85 feet); minimum, 560 second-feet Sept. 25 (gage height, 1.24 feet).  
1921-35: Maximum discharge, that of Mar. 14, 1935; minimum, 276 second-feet Aug. 12, 13, 1934 (gage height, 0.93 foot).

Remarks.- Records good.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,450	1,450	4,230	3,960	1,540	1,190	3,620	1,940	8,530	7,250	1,760	815
2	1,830	1,270	3,620	3,980	1,450	1,190	3,950	2,800	10,200	8,900	1,580	850
3	1,630	1,730	4,360	3,660	1,360	1,110	4,190	2,410	18,000	6,220	1,490	815
4	1,630	4,100	4,490	3,380	1,270	1,630	4,190	2,120	20,900	7,570	1,580	790
5	1,630	2,670	4,100	2,900	1,190	2,340	3,840	2,700	26,400	7,410	1,320	748
6	1,450	2,560	3,380	2,450	1,190	2,340	3,840	5,510	24,800	6,500	1,230	715
7	1,270	2,670	3,140	2,230	1,110	3,620	4,790	6,650	13,600	5,940	1,230	715
8	1,190	2,450	2,670	2,900	1,110	4,880	6,800	7,250	8,370	4,550	1,150	682
9	1,110	2,230	2,340	2,780	1,110	5,710	7,570	6,800	11,600	3,840	1,070	715
10	1,030	1,930	2,030	2,560	1,030	8,420	7,570	5,670	14,100	3,300	1,070	682
11	990	1,630	1,830	2,900	1,030	16,700	6,360	4,790	12,700	3,000	995	682
12	915	1,450	1,630	3,500	990	30,600	5,280	4,670	10,500	2,800	958	650
13	880	1,360	1,540	3,140	1,030	62,500	4,670	6,710	11,000	2,600	920	650
14	845	1,270	1,450	2,780	1,270	80,000	4,310	6,800	8,370	2,410	958	650
15	810	1,190	1,360	2,540	1,270	46,000	3,840	5,280	6,600	2,220	958	620
16	810	1,110	1,270	3,740	1,190	17,500	3,510	4,550	13,500	2,030	920	620
17	775	1,030	1,190	3,620	1,190	8,700	3,400	4,310	23,900	1,940	920	620
18	810	990	1,110	3,020	1,190	6,360	3,400	3,730	30,300	1,760	1,070	620
19	1,450	960	1,110	4,620	1,190	5,670	3,200	4,800	31,100	1,670	1,150	590
20	1,270	915	1,110	4,230	1,110	5,030	2,900	6,650	31,400	1,670	995	590
21	1,110	880	1,110	3,740	1,110	4,550	2,800	5,670	36,000	1,670	920	590
22	1,110	880	1,630	3,740	1,110	4,190	2,600	4,550	42,200	1,760	850	560
23	1,110	845	2,030	3,980	1,030	3,950	2,500	4,430	36,800	2,800	850	560
24	2,030	810	2,230	3,620	1,030	3,620	2,320	4,070	30,800	2,840	815	590
25	4,880	810	2,670	3,140	1,360	3,730	2,220	3,620	15,600	4,070	780	560
26	2,450	810	2,560	2,780	1,190	4,430	2,120	3,200	21,200	3,200	815	620
27	1,830	775	2,340	2,450	1,110	5,670	2,030	3,720	37,900	3,950	815	715
28	1,730	775	2,230	2,230	1,110	6,220	1,940	5,150	20,700	3,300	815	748
29	1,930	775	2,450	1,930	-	5,410	2,220	5,540	10,200	2,700	815	682
30	1,830	4,820	4,230	1,830	-	4,670	2,120	8,620	7,250	2,320	850	682
31	1,540	-	3,860	1,630	-	4,070	-	11,400	-	2,030	815	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acre-feet		
October.....				46,325	4,680	775	1,494	0.470	0.54	91,880		
November.....				47,135	4,820	775	1,571	.494	.56	93,490		
December.....				75,300	4,490	1,110	2,429	.764	.88	149,400		
Calendar year 1934.....				579,719	14,800	276	1,588	.499	6.78	1,150,000		
January.....				95,860	4,620	1,630	3,092	.972	1.12	190,100		
February.....				52,870	1,540	990	1,174	.369	.38	65,200		
March.....				362,690	80,000	1,110	11,700	3.68	4.24	719,200		
April.....				114,100	7,570	1,940	3,803	1.20	1.34	226,300		
May.....				156,310	11,400	1,940	5,042	1.59	1.83	310,000		
June.....				594,420	42,200	6,800	19,810	6.23	6.95	1,179,000		
July.....				113,920	8,900	1,670	3,675	1.16	1.34	226,000		
August.....				32,464	1,760	780	1,047	.329	.38	64,390		
September.....				20,116	850	560	671	.211	.24	39,900		
Water year 1934-35.....				1,691,410	80,000	560	4,634	1.46	19.79	3,355,000		

## Piney Creek near Big Piney, Mo.

Location.- Wire-weight gage, lat. 37°40', long. 92°3', in NE¼ sec. 8, T. 34 N., R. 10 W., at Ross Bridge, on highway 3 miles east of Big Piney. Prior to Nov. 8, 1934, chain gage at same site and datum.

Drainage area.- 560 square miles.

Records available.- October 1921 to September 1935.

Average discharge.- 14 years, 546 second-feet.

Extremes.- Maximum discharge during year, 20,400 second-feet Mar. 11 (gage height, 19.82 feet); minimum, 122 second-feet Oct. 14, 18; minimum gage height, 1.81 feet Sept. 22. 1921-35: Maximum discharge and gage height, those of Mar. 11, 1935; minimum discharge, 75 second-feet Aug. 6, 7, 1934; minimum gage height, 1.60 feet July 30, 31, 1928.

Remarks.- Records good except those for days of rapidly changing stage, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	183	166	1,720	512	251	268	1,440	284	1,820	670	284	186
2	183	166	810	512	251	268	1,040	302	2,900	596	284	183
3	172	218	600	512	234	251	822	359	9,800	720	250	178
4	161	600	600	435	234	286	720	440	3,200	572	284	172
5	156	600	460	387	218	1,640	720	874	1,740	572	284	161
6	150	460	387	324	212	1,320	874	1,440	1,360	492	267	166
7	140	305	344	324	208	950	1,220	1,740	1,460	461	250	164
8	136	286	324	324	202	810	1,500	926	4,350	399	234	158
9	136	268	286	435	196	660	980	770	1,580	399	217	166
10	131	234	268	512	189	3,900	874	1,100	1,510	379	195	164
11	126	218	251	486	183	16,900	770	1,160	1,510	340	208	161
12	126	202	234	435	180	16,500	720	874	1,300	359	202	158
13	126	192	218	387	189	4,750	670	770	874	340	302	156
14	122	186	202	344	202	5,320	596	720	1,660	320	250	161
15	126	178	205	324	251	1,820	549	670	4,220	320	214	150
16	122	166	192	324	268	1,560	482	596	6,380	302	202	146
17	140	161	189	486	251	1,100	482	549	5,420	284	211	146
18	136	164	180	512	251	926	482	526	4,640	267	192	146
19	166	156	196	486	234	822	440	504	2,800	267	208	140
20	161	156	202	1,090	218	720	420	670	5,910	267	202	138
21	150	158	234	810	215	670	399	1,040	6,380	250	192	138
22	161	169	251	810	205	620	379	926	3,100	770	189	136
23	146	148	344	512	192	620	359	822	1,820	482	183	140
24	146	148	364	512	199	645	340	670	1,300	461	178	138
25	435	146	387	435	192	1,040	340	596	1,100	596	166	138
26	286	150	410	387	305	1,510	320	504	1,900	1,040	214	172
27	286	146	387	344	324	1,160	320	461	1,040	620	183	195
28	234	146	387	324	286	926	302	420	822	482	302	217
29	208	146	387	305	-	720	302	1,300	770	399	234	186
30	202	435	486	268	-	645	302	1,160	770	359	211	172
31	178	-	1,020	268	-	670	-	822	-	526	195	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	5,331	435	122	172	0.307	0.35	10,570
November.....	6,874	600	146	229	.409	.46	13,650
December.....	12,525	1,720	180	404	.721	.83	24,840
Calendar year 1934.....	83,546	1,720	75	229	.409	5.54	165,700
January.....	14,126	1,090	268	456	.814	.94	28,020
February.....	6,350	324	180	227	.405	.42	12,600
March.....	69,797	16,900	251	2,252	4.02	4.64	138,400
April.....	18,964	1,440	302	632	1.13	1.26	37,610
May.....	25,475	1,440	284	757	1.35	1.56	46,860
June.....	81,696	9,800	770	2,723	4.86	5.42	168,000
July.....	14,301	1,040	250	461	.823	.95	28,370
August.....	6,987	302	166	225	.402	.46	13,660
September.....	4,832	217	136	161	.288	.32	9,580
Water year 1934-35.....	265,258	16,900	122	727	1.30	17.61	526,000

## Little Piney Creek at Newburg, Mo.

Location.- Wire-weight gage, lat. 37°54'40", long. 91°54'10", in SE $\frac{1}{4}$  sec. 22, T. 37 N., R. 9 W., at highway bridge in Newburg. Zero of gage is 696.56 feet above mean sea level (revised to U. S. Coast and Geodetic Survey general adjustment of 1929). Prior to Nov. 10, 1934, chain gage at same site and datum.

Drainage area.- 200 square miles.

Records available.- October 1928 to September 1935.

Extremes.- Maximum discharge during year, 28,000 second-feet June 26 (gage height, 13.26 feet, from flood marks); minimum, 56 second-feet Oct. 15; minimum gage height, 0.98 foot Sept. 20, 21.

1928-35: Maximum discharge, that of June 26, 1935; minimum, 26 second-feet several days during June, July, and August, 1934; minimum gage height, 0.70 foot Aug. 5, 9-11, 1934.

Maximum stage known, 13.7 feet Aug. 20, 1915.

Remarks.- Records good except those for days of rapidly changing stage, which are poor.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to June 19

1.0	56	3.6	1,560
1.2	78	4.0	2,020
1.4	120	4.5	2,660
1.6	179	5.0	3,390
2.0	332	6.0	4,970
2.4	550	7.0	6,700
2.8	812	8.0	8,600
3.2	1,130		

Table for June 20 to Sept. 30

0.9	50	2.4	573	8.0	8,700
1.0	63	2.8	820	9.0	11,700
1.2	101	3.2	1,120	10.0	15,200
1.4	150	4.0	1,860	11.0	19,000
1.6	210	5.0	2,510	12.0	22,800
1.8	280	6.0	3,500	13.0	26,800
2.0	363	7.0	4,500		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	118	68	293	179	85	77	118	92	338	544	99	77
2	108	66	213	179	83	76	110	142	1,280	386	95	75
3	98	2,020	196	157	83	74	106	145	885	342	95	73
4	94	293	157	137	82	316	101	151	412	300	93	72
5	87	199	131	120	80	236	134	293	316	280	90	72
6	80	154	120	118	76	193	123	1,260	268	244	86	70
7	74	134	108	113	74	259	742	437	268	224	84	68
8	73	115	106	186	76	206	362	316	217	204	84	70
9	68	96	98	170	73	186	293	264	196	188	82	70
10	67	92	89	154	72	1,680	251	221	176	172	80	68
11	65	83	82	134	70	8,220	228	193	1,180	164	82	68
12	63	82	75	120	68	1,540	199	173	648	244	82	66
13	63	76	77	110	113	580	170	157	362	161	99	66
14	60	72	76	98	120	464	160	210	338	153	88	65
15	56	68	74	148	110	386	148	173	316	145	84	63
16	58	67	73	412	98	338	134	199	4,970	124	97	63
17	61	66	70	251	89	276	140	164	960	122	197	62
18	63	65	70	206	85	240	186	148	1,230	117	155	62
19	64	64	72	338	83	221	161	492	512	117	122	62
20	68	64	72	276	77	193	142	512	6,740	124	101	60
21	64	63	78	206	73	167	128	316	4,660	119	93	60
22	61	63	128	173	74	182	120	251	1,040	119	88	65
23	60	60	167	145	71	170	113	213	602	112	84	65
24	148	60	272	131	71	170	110	176	469	122	82	63
25	316	59	228	126	106	160	106	154	928	244	80	63
26	142	59	176	120	89	148	101	142	13,400	230	97	197
27	110	58	151	106	80	140	96	154	1,120	147	84	88
28	92	60	142	103	76	126	92	166	662	127	80	78
29	85	60	221	94	-	120	103	362	516	117	80	70
30	77	885	362	89	-	123	94	255	1,120	110	77	68
31	73	-	221	85	-	120	-	199	-	103	76	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	2,728	316	56	88.0	0.440	0.51	5,410
November.....	5,371	2,020	58	177	.89	1.00	10,650
December.....	4,401	362	70	142	.710	.82	8,750
Calendar year 1934.....	41,285	3,230	26	113	.565	7.68	81,890
January.....	4,984	412	85	161	.806	.93	9,890
February.....	2,339	120	68	83.5	.418	.44	4,640
March.....	17,187	8,220	74	554	2.77	3.19	34,090
April.....	5,066	742	92	169	.845	.94	10,050
May.....	8,160	1,280	92	263	1.32	1.52	16,190
June.....	46,349	13,400	176	1,545	7.72	8.61	91,930
July.....	5,905	544	103	190	.960	1.10	11,710
August.....	2,916	197	77	94.1	.470	.54	5,780
September.....	2,169	197	60	72.3	.362	.40	4,300
Water year 1934-35.....	107,575	13,400	56	295	1.48	20.00	213,400

In addition to the records of stream flow obtained at gaging stations and reported in the preceding pages, measurements of flow were made at a number of other points as shown by the following table:

Miscellaneous discharge measurements in the Missouri River drainage basin during the year ending September 30, 1935\*

Date	Stream	Tributary to-	Locality	Discharge
Oct. 7	Firehole River....	Madison River.....	200 yards above Kepler Cascades and 2 miles southeast of Old Faithful Inn, Yellowstone National Park, Wyo.	Sec.-ft. 31.4
18	Gardiner River....	Yellowstone River.....	Above Glen Creek and 2½ miles southeast of Mammoth Hotel, Yellowstone National Park, Wyo.	45.4
July 12	Heart River.....	Missouri River.....	T. 139 N., R. 81 W., at highway bridge a quarter of a mile west of Mandan, N. Dak.	6,680
May 22	Long Pine Creek...	Niobrara River.....	Sec. 30, T. 20 N., R. 30 W., at Long Pine, Nebr.	40.7
22	.....do.....	.....do.....	.....do.....	41.1
22	.....do.....	.....do.....	.....do.....	47.7
Mar. 28	.....do.....	.....do.....	.....do.....	43.0
June 20	.....do.....	.....do.....	.....do.....	43.2
July 23	.....do.....	.....do.....	.....do.....	41.1
Nov. 4	Bazille Creek.....	Missouri River.....	Sec. 33, T. 32 N., R. 5 W., near Niobrara, Nebr.	27.3
Dec. 1	.....do.....	.....do.....	.....do.....	37.3
Jan. 6	.....do.....	.....do.....	.....do.....	21.0
Feb. 15	.....do.....	.....do.....	.....do.....	37.1
Mar. 18	.....do.....	.....do.....	.....do.....	57
Apr. 22	.....do.....	.....do.....	.....do.....	45.7
May 15	.....do.....	.....do.....	.....do.....	52.0
June 19	.....do.....	.....do.....	.....do.....	45.0
July 22	.....do.....	.....do.....	.....do.....	11.6
Aug. 24	.....do.....	.....do.....	.....do.....	24.4
Sept. 24	.....do.....	.....do.....	.....do.....	9.8
July 26	Little Sioux River	.....do.....	Former gaging station at Correctionville, Iowa.	300
26	Maple River.....	Little Sioux River.....	Mapleton, Iowa.	30.5
26	Soldier Ditch.....	Missouri River.....	Sec. 15, T. 80 N., R. 45 W., near Mandamin, Iowa.	10.6
26	Boys' River.....	.....do.....	Former gaging station at Logan, Iowa.	37.1
Oct. 29	Little Papillion Creek.	.....do.....	Sec. 1, T. 14 N., R. 12 E., near Omaha, Nebr.	2.4
Dec. 3	.....do.....	.....do.....	.....do.....	2.0
Jan. 14	.....do.....	.....do.....	.....do.....	3.5
Feb. 26	.....do.....	.....do.....	.....do.....	4.8
Mar. 13	.....do.....	.....do.....	.....do.....	9.9
Apr. 26	.....do.....	.....do.....	.....do.....	1.4
May 16	.....do.....	.....do.....	.....do.....	76
June 14	.....do.....	.....do.....	.....do.....	2.8
July 20	.....do.....	.....do.....	.....do.....	2.0
Aug. 21	.....do.....	.....do.....	.....do.....	1.3
Sept. 21	.....do.....	.....do.....	.....do.....	1.9
Nov. 16	South Platte River	Platte River.....	Sec. 6, T. 13 N., R. 38 W., at Ogallala, Nebr.	32.5
Dec. 17	.....do.....	.....do.....	.....do.....	191
Jan. 11	.....do.....	.....do.....	.....do.....	284
Feb. 6	.....do.....	.....do.....	.....do.....	200
Mar. 2	.....do.....	.....do.....	.....do.....	224
29	.....do.....	.....do.....	.....do.....	14.4
June 11	.....do.....	.....do.....	.....do.....	1,400
26	.....do.....	.....do.....	.....do.....	1,150
July 2	.....do.....	.....do.....	.....do.....	316
23	.....do.....	.....do.....	.....do.....	30.4
Sept. 27	.....do.....	.....do.....	.....do.....	21.1
Nov. 1	Middle Loup River.	Loup River.....	Sec. 1, T. 19 N., R. 20 W., near Sargent, Nebr.	14.7 804
22	.....do.....	.....do.....	.....do.....	997
Jan. 8	.....do.....	.....do.....	.....do.....	1,020
Feb. 13	.....do.....	.....do.....	.....do.....	957
Mar. 19	.....do.....	.....do.....	.....do.....	825
Apr. 16	.....do.....	.....do.....	.....do.....	840
May 17	.....do.....	.....do.....	.....do.....	76
June 21	.....do.....	.....do.....	.....do.....	1,160
July 24	.....do.....	.....do.....	.....do.....	968
Aug. 27	.....do.....	.....do.....	.....do.....	788
Sept. 26	.....do.....	.....do.....	.....do.....	827
Nov. 1	Dismal River.....	Middle Loup River.....	Sec. 4, T. 21 N., R. 24 W., near Dunning, Nebr.	317
21	.....do.....	.....do.....	.....do.....	394
Jan. 8	.....do.....	.....do.....	.....do.....	347
Feb. 12	.....do.....	.....do.....	.....do.....	344
Mar. 20	.....do.....	.....do.....	.....do.....	348
Apr. 15	.....do.....	.....do.....	.....do.....	369
May 18	.....do.....	.....do.....	.....do.....	387
June 21	.....do.....	.....do.....	.....do.....	341
July 24	.....do.....	.....do.....	.....do.....	360
Aug. 22	.....do.....	.....do.....	.....do.....	325
Sept. 26	.....do.....	.....do.....	.....do.....	340
Nov. 1	Mud Creek.....	Loup River.....	Sec. 22, T. 13 N., R. 15 W., near Hazard, Nebr.	13.9
21	.....do.....	.....do.....	.....do.....	18.2
Jan. 9	.....do.....	.....do.....	.....do.....	26.8
Feb. 12	.....do.....	.....do.....	.....do.....	20.4

\*Includes also measurements on Platte River (Iowa-Missouri) at Rochester, Mo., for the years ending Sept. 30, 1932-34.

Miscellaneous discharge measurements in the Missouri River drainage basin during the year ending September 30, 1935--Continued.

Date	Stream	Tributary to-	Locality	Discharge Sec.-ft.
Mar. 20	Mud Creek.....	Loup River.....	Sec. 22, T. 13 N., R. 15 W., near Hazard, Nebr.	21.3
Apr. 15	.....do.....	.....do.....	.....do.....	29.2
May 13	.....do.....	.....do.....	.....do.....	50.3
June 22	.....do.....	.....do.....	.....do.....	236
July 25	.....do.....	.....do.....	.....do.....	13.5
Aug. 27	.....do.....	.....do.....	.....do.....	182
Sept. 26	.....do.....	.....do.....	.....do.....	18.4
Nov. 2	North Loup River.....	.....do.....	Sec. 23, T. 21 N., R. 18 W., at Taylor, Nebr.	445
5	.....do.....	.....do.....	.....do.....	458
21	.....do.....	.....do.....	.....do.....	530
Jan. 7	.....do.....	.....do.....	.....do.....	588
Feb. 13	.....do.....	.....do.....	.....do.....	482
Mar. 19	.....do.....	.....do.....	.....do.....	476
Apr. 16	.....do.....	.....do.....	.....do.....	483
May 17	.....do.....	.....do.....	.....do.....	565
June 21	.....do.....	.....do.....	.....do.....	1,300.3
July 24	.....do.....	.....do.....	.....do.....	399
Aug. 26	.....do.....	.....do.....	.....do.....	449
Sept. 25	.....do.....	.....do.....	.....do.....	398
Nov. 2	Calamus River.....	North Loup River.....	Sec. 24, T. 23 N., R. 18 W., near Harrop, Nebr.	198
22	.....do.....	.....do.....	.....do.....	235
Jan. 7	.....do.....	.....do.....	.....do.....	223
Feb. 14	.....do.....	.....do.....	.....do.....	221
Mar. 19	.....do.....	.....do.....	.....do.....	187
Apr. 16	.....do.....	.....do.....	.....do.....	228
May 17	.....do.....	.....do.....	.....do.....	233
June 21	.....do.....	.....do.....	.....do.....	219
July 24	.....do.....	.....do.....	.....do.....	202
Aug. 26	.....do.....	.....do.....	.....do.....	186
Sept. 25	.....do.....	.....do.....	.....do.....	177
Nov. 5	Cedar River.....	Loup River.....	Sec. 32, T. 17 N., R. 6 W., near Fullerton, Nebr.	174
24	.....do.....	.....do.....	.....do.....	241
Jan. 5	.....do.....	.....do.....	.....do.....	170
Feb. 16	.....do.....	.....do.....	.....do.....	253
Mar. 17	.....do.....	.....do.....	.....do.....	200
Apr. 24	.....do.....	.....do.....	.....do.....	2,900
May 14	.....do.....	.....do.....	.....do.....	253
June 13	.....do.....	.....do.....	.....do.....	339
July 25	.....do.....	.....do.....	.....do.....	217
Aug. 23	.....do.....	.....do.....	.....do.....	153
Sept. 23	.....do.....	.....do.....	.....do.....	142
Nov. 5	Timber Creek.....	Cedar River.....	Sec. 17, T. 17 N., R. 7 W., near Belgrade, Nebr.	1.6
24	.....do.....	.....do.....	.....do.....	2.8
Jan. 5	.....do.....	.....do.....	.....do.....	2.2
Feb. 16	.....do.....	.....do.....	.....do.....	3.9
Mar. 17	.....do.....	.....do.....	.....do.....	3.2
Apr. 24	.....do.....	.....do.....	.....do.....	754
May 14	.....do.....	.....do.....	.....do.....	13.9
June 13	.....do.....	.....do.....	.....do.....	30.3
July 25	.....do.....	.....do.....	.....do.....	321
Aug. 23	.....do.....	.....do.....	.....do.....	3.1
Sept. 23	.....do.....	.....do.....	.....do.....	.9
Nov. 5	Beaver Creek.....	Loup River.....	Sec. 15, T. 20 N., R. 6 W., at Albion, Nebr.	44.4
24	.....do.....	.....do.....	.....do.....	51
Jan. 5	.....do.....	.....do.....	.....do.....	41.8
Feb. 16	.....do.....	.....do.....	.....do.....	71
Mar. 17	.....do.....	.....do.....	.....do.....	60
Apr. 24	.....do.....	.....do.....	.....do.....	358
May 14	.....do.....	.....do.....	.....do.....	73
June 13	.....do.....	.....do.....	.....do.....	85
July 25	.....do.....	.....do.....	.....do.....	36.9
Aug. 23	.....do.....	.....do.....	.....do.....	36.1
Sept. 23	.....do.....	.....do.....	.....do.....	34
Nov. 5	.....do.....	.....do.....	Sec. 13, T. 17 N., R. 4 W., at Genoa, Nebr.	106
24	.....do.....	.....do.....	.....do.....	482
Nov. 25	Elkhorn River.....	Platte River.....	Sec. 31, T. 29 N., R. 11 W., at O'Neill, Nebr.	1,810
28	.....do.....	.....do.....	.....do.....	25.9
Jan. 7	.....do.....	.....do.....	.....do.....	16.4
Feb. 14	.....do.....	.....do.....	.....do.....	47.9
Mar. 18	.....do.....	.....do.....	.....do.....	44
Apr. 17	.....do.....	.....do.....	.....do.....	83
June 19	.....do.....	.....do.....	.....do.....	67
July 23	.....do.....	.....do.....	.....do.....	37.7
Aug. 26	.....do.....	.....do.....	.....do.....	18
Sept. 24	.....do.....	.....do.....	.....do.....	12.5
Oct. 29	Wahoo Creek.....	Salt Creek.....	Sec. 36, T. 13 N., R. 9 E., near Ashland, Nebr.	15.8
Dec. 4	.....do.....	.....do.....	.....do.....	14.9
Jan. 13	.....do.....	.....do.....	.....do.....	22.7
Feb. 17	.....do.....	.....do.....	.....do.....	16.6
Mar. 12	.....do.....	.....do.....	.....do.....	24.4
Apr. 26	.....do.....	.....do.....	.....do.....	86
May 10	.....do.....	.....do.....	.....do.....	19
June 13	.....do.....	.....do.....	.....do.....	34.5
July 19	.....do.....	.....do.....	.....do.....	19.1
Aug. 21	.....do.....	.....do.....	.....do.....	13.7
Sept. 20	.....do.....	.....do.....	.....do.....	15.6



Miscellaneous discharge measurements in the Missouri River drainage basin during the year ending September 30, 1935--Continued.

Date	Stream	Tributary to-	Locality	Discharge Sec.-ft.
Oct. 29	Upper Clear Creek...	Wahoo Creek.....	Sec. 36, T. 13 N., R. 9 E., near Ashland, Nebr.	3.3
Dec. 4	.....do.....	.....do.....	.....do.....	2.1
Jan. 13	.....do.....	.....do.....	.....do.....	6.8
Feb. 27	.....do.....	.....do.....	.....do.....	2.6
Mar. 12	.....do.....	.....do.....	.....do.....	14.4
Apr. 26	.....do.....	.....do.....	.....do.....	3.2
May 10	.....do.....	.....do.....	.....do.....	4.8
June 13	.....do.....	.....do.....	.....do.....	5.9
July 19	.....do.....	.....do.....	.....do.....	2.0
Aug. 21	.....do.....	.....do.....	.....do.....	2.0
Sept. 20	.....do.....	.....do.....	.....do.....	2.2
Oct. 27	Oak Creek.....	Salt Creek.....	Sec. 15, T. 10 N., R. 6 E., near Lincoln, Nebr.	4.6
Dec. 5	.....do.....	.....do.....	.....do.....	1.7
Jan. 13	.....do.....	.....do.....	.....do.....	3.2
Feb. 28	.....do.....	.....do.....	.....do.....	5.4
Mar. 22	.....do.....	.....do.....	.....do.....	63
Apr. 25	.....do.....	.....do.....	.....do.....	4.4
May 9	.....do.....	.....do.....	.....do.....	7.3
June 12	.....do.....	.....do.....	.....do.....	3.2
July 18	.....do.....	.....do.....	.....do.....	3.7
Aug. 21	.....do.....	.....do.....	.....do.....	2.7
Sept. 20	.....do.....	.....do.....	.....do.....	26.2
July 25	West Nishnabotna River.	Nishnabotna River.....	Sec. 13, T. 72 N., R. 41 W., near Hastings, Iowa.	98.4
25	East Nishnabotna River.	.....do.....	Former gaging station at Red Oak, Iowa.	14.1
25	Nodaway River.....	Missouri River.....	Former gaging station near Villisca, Iowa.	48.7
25	.....do.....	.....do.....	Former gaging station at Clarinda, Iowa.	976
Oct. 25	Platte River* (Iowa-Missouri).	.....do.....	SW $\frac{1}{4}$ sec. 23, T. 59 N., R. 34 W., at bridge on U.S. Highway 169 at Rochester, Mo.	1,730
Nov. 23	.....do.....	.....do.....	.....do.....	165
Dec. 6	.....do.....	.....do.....	.....do.....	182
Feb. 13	.....do.....	.....do.....	.....do.....	44
Apr. 23	.....do.....	.....do.....	.....do.....	33
Oct. 24	One Hundred and Two River.	Platte River (Iowa- Missouri).	SW $\frac{1}{4}$ sec. 16, T. 64 N., R. 35 W., 150 feet upstream from State Highway 4, 1 mile east of Maryville, Mo.	768
Nov. 22	.....do.....	.....do.....	.....do.....	601
Oct. 31	Little Blue River...	Big Blue River.....	Sec. 20, T. 3 N., R. 4 W., near Deshler, Nebr.	17.0
Dec. 6	.....do.....	.....do.....	.....do.....	27.9
Jan. 16	.....do.....	.....do.....	.....do.....	24.7
Mar. 1	.....do.....	.....do.....	.....do.....	133
Apr. 21	.....do.....	.....do.....	.....do.....	84
May 12	.....do.....	.....do.....	.....do.....	111
May 8	.....do.....	.....do.....	.....do.....	100
June 13	.....do.....	.....do.....	.....do.....	158
July 17	.....do.....	.....do.....	.....do.....	58
Aug. 19	.....do.....	.....do.....	.....do.....	30.1
Sept. 18	.....do.....	.....do.....	.....do.....	73
July 24	Thompson River.....	Grand River.....	Former gaging station at Davis City, Iowa.	792
24	Chariton River.....	Missouri River.....	Bridge on State Highway 60, 4 miles north of Centerville, Iowa.	867
May 1	Osage River.....	.....do.....	On line between sec. 20 and sec. 21, T. 38 N., R. 29 W., 2 $\frac{1}{2}$ miles north of Schell City, Mo.	2,090
21	.....do.....	.....do.....	.....do.....	18,800
22	.....do.....	.....do.....	.....do.....	21,100
June 6	.....do.....	.....do.....	.....do.....	46,400
27	.....do.....	.....do.....	.....do.....	14,400
15	Spring Creek.....	Miangua River.....	NW $\frac{1}{4}$ sec. 1, T. 34 N., R. 18 W., at Brice, Mo., above Bennett Spring.	133
Oct. 14	Shanghai Spring.....	Piney Creek.....	SW $\frac{1}{4}$ sec. 24, T. 36 N., R. 11 W., 7 miles east of Waynes- ville, Mo.	11.8

Platte River (Iowa-Missouri) for the years ending Sept. 30, 1932-34

1932				
Sept. 28	Platte River (Iowa-Missouri).	Missouri River.....	SW $\frac{1}{4}$ sec. 23, T. 59 N., R. 34 W., at bridge on U.S. Highway 169 at Rochester, Mo.	26
Oct. 4	.....do.....	.....do.....	.....do.....	16
Nov. 14	.....do.....	.....do.....	.....do.....	112
1933				
Mar. 2	.....do.....	.....do.....	.....do.....	38
Apr. 26	.....do.....	.....do.....	.....do.....	58
June 6	.....do.....	.....do.....	.....do.....	18
July 11	.....do.....	.....do.....	.....do.....	70
Aug. 19	.....do.....	.....do.....	.....do.....	22
Oct. 9	.....do.....	.....do.....	.....do.....	22
Nov. 27	.....do.....	.....do.....	.....do.....	12.1
1934				
Mar. 12	.....do.....	.....do.....	.....do.....	23
Apr. 18	.....do.....	.....do.....	.....do.....	13.8
June 22	.....do.....	.....do.....	.....do.....	1.5
Aug. 5	.....do.....	.....do.....	.....do.....	0
24	.....do.....	.....do.....	.....do.....	0
Sept. 26	.....do.....	.....do.....	.....do.....	38

\*Measurements on the Platte River (Iowa-Missouri) at Rochester, Mo., for the years ending Sept. 30, 1932-34 are given at the end of this table.



# INDEX

Absarokee, Mont., Rosebud Creek near.....	Page 110
Stillwater River near.....	109
Accuracy of data and computed results.....	10-11
Acres-foot, definition of.....	9
Agencies other than Geological Survey, records by.....	15
Agency, Mo., Platte River near.....	276
Akron, Iowa, Big Sioux River at.....	156
Alcoa, Wyo., Bates Creek near.....	190
North Platte River at.....	156
Alder, Mont., Ruby River near.....	41-42
Alzada, Mont., Little Missouri River near.....	139
Arkansas River at Haigler, Nebr.....	278
Arnolds Park, Iowa, Okoboji Lake at.....	159
Arvada, Wyo., Powder River at.....	137
Ashland, Nebr., Platte River near.....	183
Bad River near Fort Pierre, S. Dak.....	149
Bagnell, Mo., Osage River near.....	331
Balzac, Colo., South Platte River at.....	234
Barnston, Nebr., Big Blue River at.....	306
Barratts, Mont., Beaverhead River at.....	19
Basin, Wyo., Greybull River near.....	128
Bates Creek near Alcoa, Wyo.....	190
Battle Creek at international boundary.....	79
East Fork of, near international boundary.....	219
Bayard, Nebr., Red Willow Creek near.....	219
Bazille Creek, Nebr., discharge measure- ments of.....	345
Bear Creek at Morrison, Colo.....	240
at mouth, at Sheridan Junction, Colo.....	241
Beaver Creek, Nebr., discharge measure- ments of.....	346
Beaverhead River at Barratts, Mont.....	19
Belle Fourche River near Belle Fourche, S. Dak.....	147
near Elm Springs, S. Dak.....	148
Beloit, Kans., Solomon River at.....	301
Bench Canal near Burlington, Wyo.....	131
Bennett Spring, Kans., Kansas River at.....	336
Bethany, Mo., East Fork of Big Creek near.....	319
Big Bend, S. Dak., Rapid Creek at.....	146
Big Blue River at Barnston, Nebr.....	306
at Bull, Kans.....	307
at Randolph, Kans.....	308
Big Creek, East Fork of, near Bethany, Mo.....	319
Big Hole River near Helena, Mont.....	43
Big Horn River at Kane, Wyo.....	119
at Thermopolis, Wyo.....	118
near St. Xavier, Mont.....	120
Big Piney, Mo., Piney Creek near.....	343
Big Sandy Creek near Box Elder, Mont.....	75
Big Sioux River at Akron, Iowa.....	156
Big Spring Creek near Lewistown, Mont.....	61
Billings, Mont., Yellowstone River at.....	100
Birdwood Creek near Hershey, Nebr.....	223
Bismarck, N. Dak., Missouri River at.....	28
Blanchard, Iowa, East Tarkio Creek at.....	272
Bloomington, Nebr., Republican River near.....	281
Blue Creek near Lewellen, Nebr.....	131
Bonner Springs, Kans., Kansas River at.....	286
Bonnets Hill, Mo., Missouri River near.....	38
Boonville, Mo., Missouri River at.....	37
Boulder Creek at mouth, near Longmont, Colo.....	250
near Orodell, Colo.....	249
Boulder River near Boulder, Mont.....	44
Box Elder, Mont., Big Sandy Creek near.....	75
Box Elder Creek near Winnett, Mont.....	66
Boxelder Creek near Careyhurst, Wyo.....	193
Boyd, Mont., Red Lodge Creek near.....	116
Boyer River, Iowa, discharge measurement of.....	348
Bozeman, Mont., Hyalite Creek near.....	48
Brackley Creek near Clyde Park, Mont.....	108
Bredette, Mont., Poplar River near.....	91
Breien, N. Dak., Cannonball River at.....	141
Briee, Mo., Bennett Spring at.....	358
Bridgeport, Nebr., North Platte River at.....	176
Pumpkin Creek near.....	280
Brinkman, Mont., Marias River near.....	59
Browning, Mont., North Fork of Milk River near.....	73
Brownington, Mo., South Grand River near.....	336
Bull Lake Creek near Lemore, Wyo.....	123
Burlington, Wyo., Bench Canal near.....	131

Burlington Junction, Mo., Nodaway River near.....	Page 275
Burris, Wyo., Dry Creek near.....	263
Burnell, Nebr., Lodgepole Creek at.....	263
Byron, Wyo., Shoshone River at.....	133
Cache la Poudre River at mouth of canyon near Fort Collins, Colo.....	256
near Greeley, Colo.....	257
Calamus River, Nebr., discharge measure- ments of.....	346
Cannonball River at Breien, N. Dak.....	141
Careless Creek at Wallum, Mont.....	64-65
Careyhurst, Wyo., Boxelder Creek near.....	193
Running Dutchman Canal near.....	192
Casper, Wyo., North Platte River below.....	187
Cedar River, Nebr., discharge measure- ments of.....	346
Chadron, Nebr., White River near.....	151
Champion, Nebr., Frenchman Creek below.....	291
Frenchman Creek near.....	290
Chance, Mont., Clarke Fork at.....	111
Charlton River at Novinger, Mo.....	324
discharge measurement of.....	347
near Keytesville, Mo.....	325
Cherry Creek Drain near Madison, Wyo.....	211
Cheyenne River near Eagle Butte, S. Dak.....	145
near Wasta, S. Dak.....	144
Cheyenne River Basin, S. Dak., gaging- station records in.....	144-148
Chinook, Mont., Matheson Canal near.....	83
Clarke Fork at Chance, Mont.....	111
at Bigler, Mont.....	132
Clay Center, Kans., Republican River at.....	284
Clear Creek at mouth, near Derby, Colo.....	243
near Golden, Colo.....	242
Clemons, Mont., Dearborn River near.....	51
Clifton City, Mo., Lamine River at.....	326
Clyde Park, Mont., Brackett Creek near.....	108
Shields River at.....	127
Columbus, Nebr., Loup River at.....	317
Computations, results of, accuracy of.....	10-11
Control, definition of.....	9
Cooperation, record of.....	15
Corwin Springs, Mont., Yellowstone River at.....	99
Cottonwood Creek at Wendover, Wyo.....	199
Crawford, Nebr., White River at.....	150
Crow Creek, Middle Fork of, near Hecla, Wyo.....	259
North Fork of, near Hecla, Wyo.....	261
South Fork of, near Hecla, Wyo.....	260
Crowheart, Wyo., Willow Creek near.....	122
Culbertson, Nebr., Frenchman Creek at.....	285
Republican River at.....	280
Data, accuracy of.....	10-11
explanation of.....	9-10
Dearborn River near Clemons, Mont.....	51
Deeaturville, Mo., Niangua River near.....	337
Decker, Mont., Tongue River near.....	125
Deer Creek at Glenrock, Wyo.....	191
Delaware River at Valley Falls, Kans.....	313
Denver, Colo., South Platte River at.....	229
Derby, Colo., Clear Creek near.....	243
Dismal River, Nebr., discharge measure- ments of.....	345
Douglas, Wyo., La Prele Creek near.....	194
North Platte River at.....	168
Drake, Colo., Thompson River near.....	254
Dry Creek near Burris, Wyo.....	264
Duncan, Nebr., Platte River near.....	182
Dunlap, Nebr., Niobrara River at.....	153
Eagle Butte, S. Dak., Cheyenne River near.....	145
East Limestone Creek at Ionia, Kans.....	304
near Ionia, Kans.....	303
East Mahanob, Wyo., Iowa, discharge measurement of.....	347
East Tarkio Creek at Blanchard, Iowa.....	272
Edgar, Mont., Clarke Fork at.....	112
Eldorado Springs, Colo., South Boulder Creek near.....	252
Elkhorn River at Nellig, Nebr.....	266
at Waterloo, Nebr.....	259
discharge measurements of.....	341
Elsworth, Kans., Smoky Hill River at.....	296
Elm Creek near Ionia, Kans.....	306
Elm Springs, S. Dak., Belle Fourche River near.....	148

	Page		Page
Endicott, Nebr., Little Blue River near....	309	International boundary, Frenchman	
Enterprise, Kans., Smoky Hill River at....	298	River at.....	85
Estes Park, Colo., Thompson River near....	283	Horse Creek at.....	86
Fairfax, Mo., Tarkio River at.....	273	Lodge Creek at.....	73
Fall River near Idaho Springs, Colo.....	244	Lyons Coulee at.....	72
Federal, Wyo., Lodgepole Creek near.....	262	McEachern Creek at.....	89
South Fork of Lodgepole Creek near.....	264	McRae Coulee at.....	77
Filmore, Wyo., Little Laramie River near..	208	Middle Fork of Poplar River at.....	90
Firehole River, Wyo., discharge measure-		Milk River at eastern crossing of.....	70
ment of.....	345	North Fork of Milk River near.....	87
Floyd River at James, Iowa.....	187	Rock Creek at.....	86
Fort Benton, Mont., Missouri River at....	22	South Fork of Milk River near.....	87
Fort Collins, Colo., Cache la Poudre River		West Fork of Poplar River at.....	94
near.....	256	Whitewater Creek near.....	84
Fort Laramie, Wyo., Laramie River near....	207	Woodpile Coulee near.....	80
Fort Lupton, Colo., South Platte River at.	231	Ionia, Kans., East Limestone Creek at..	304
Fort Peck Dam, Mont., Missouri River below	25	East Limestone Creek near.....	303
Fort Pierre, S. Dak., Bad River near.....	149	Elm Creek near.....	305
Fort Scott, Kans., Marmaton River near....	353	James, Iowa, Floyd River at.....	157
Fort Washakie, Wyo., Little Wind River		James River near Scotland, S. Dak.....	155
near.....	124	Jefferson River near Silverstar, Mont....	20
North Fork of Little Wind River at....	125	Jelm, Wyo., Laramie River near.....	201
Frenchman Canal near Saco, Mont.....	86	Jerome, Mo., Gasconade River at.....	341
Frenchman Creek at Culbertson, Nebr....	293	Jewell, Kans., West Buffalo Creek at....	286
below Champion, Nebr.....	295	West Buffalo Creek near.....	294
near Champion, Nebr.....	290	Judith River near Utah.....	60
near Hemlet, Nebr.....	292	Judith River Basin, Mont., gaging-	
Frenchman River at international boundary.	85	station records in.....	60-61
Gallatin, Mo., Grand River near.....	315-317	Julesburg, Colo., South Platte River at	235
Gallatin River at Logan, Mont.....	47	Kane, Wyo., Big Horn River at.....	119
near Gallatin Gateway, Mont.....	46	Kansas City, Mo., Missouri River at....	36
Gallatin River Basin, Mont., gaging-station		Kansas River at Bonner Springs, Kans....	285
records in.....	46-48	at Ogea, Kans.....	287
Galt, Mo., Rock Creek near.....	322	at Topeka, Kans.....	287
Gardiner River at Mammoth Hotel, Yellow-		at Wamego, Kans.....	286
stone National Park.....	105	Kansas River Basin, Nebr.-Kans.,	
discharge measurement of.....	345	gaging-station records in.....	278-314
Gasconade River at Jerome, Mo.....	341	Katzner Drain near Henry, Nebr.....	212
near Hazlegreen, Mo.....	339	Kersey, Colo., South Platte River near	232
near Rich Fountain, Mo.....	342	Keytesville, Mo., Charleston River.....	325
near Wayne, Mo.....	340	La Bonte Creek near La Bonte, Wyo.....	197
Gasconade River Basin, Mo., gaging-station		La Prele Creek near Douglas, Wyo.....	194
records in.....	359-344	near Orpha, Wyo.....	195
Gering Drain near Gering, Nebr.....	216	La Salle, Colo., Thompson River near....	255
Glendevy, Colo., Laramie River near.....	200	Lake Cheesman, Colo., Goose Creek	
Glendo, Wyo., Horseshoe Creek near.....	198	above.....	238
Glenrock, Wyo., Deer Creek at.....	191	South Platte River above.....	235
Golden, Colo., Crow Creek near.....	242	South Platte River below.....	226
Goose Creek (Platte River Basin) above		Lake George, Colo., South Platte River	
Lake Cheesman, Colo.....	238	near.....	224
Goose Creek (Yellowstone River Basin) near		Tarryall Creek near.....	237
Sheridan, Wyo.....	136	Lakeview, Mont., Red Rock River near....	17
Grand Island, Nebr., Platte River near....	181	Lamar River near Tower Falls ranger	
Grand River near Gallatin, Mo.....	315-317	station Yellowstone National Park....	104
near Sumner, Mo.....	318	Lamine River at Clifton City, Mo.....	326
Grand River near Wapala, S. Dak.....	142	Laramie River and Pioneer Canal near	
Grand River Basin, Mo., gaging-station		Woods, Wyo.....	202-203
records in.....	315-323	Laramie River at Laramie, Wyo.....	204
Grand River Basin, Mo., gaging-station		at Two Rivers, Wyo.....	205
records in.....	315-323	near Fort Laramie, Wyo.....	207
Granite Canyon, Wyo., Lonetree Creek		near Glendevy, Colo.....	201
near.....	258	near Jelm, Wyo.....	201
Grealey, Colo., Cache la Poudre River near	270	near Lookout, Wyo.....	206
Greybull River at Neetsetee, Wyo.....	126-127	Lawrence, Kans., Wakarusa River near....	313
near Basin, Wyo.....	128	Lefthand Creek at mouth, at Longmont,	
Grizzly Creek near Walden, Colo.....	160	Colo.....	248
Guernsey Reservoir, Wyo., North Platte		Lemoyne, Nebr., Otter Creek near.....	222
River below.....	179	Lenore, Wyo., Bull Lake Creek near....	123
Haigler, Nebr., Arizkree River at.....	268	Lewellen, Nebr., Blue Creek near.....	221
Hamburg, Iowa, Nishnabotna River above..	270-271	Lewistown, Mont., Big Spring Creek	
Hamlet, Nebr., Frenchman Creek near.....	292	near.....	61
Hardy, Nebr., Republican River near.....	282	Lindland, Colo., Michigan River near....	186
Harlowton, Mont., Musselshell River at....	62	Lindenberg, Kans., Smoky Hill River at..	297
Havre, Mont., North Chinook Canal near..	78	Lingle, Wyo., Rawhide Creek near.....	210
Hazlegreen, Mo., Gasconade River near....	359	Linneus, Mo., Locust Creek near.....	323
Heart River, N. Dak., discharge measure-		Lisco, Nebr., North Platte River at....	176
ment of.....	345	Little Blue River at Waterville, Kans....	310
Hebron, Colo., Little Grizzly Creek near..	184	discharge measurements of.....	347
Hecla, Wyo., Middle Fork of Crow Creek		near Endicott, Nebr.....	309
near.....	259	Little Grizzly Creek near Hebron, Colo..	184
North Fork of Crow Creek near.....	261	Little Laramie River at Two Rivers,	
South Fork of Crow Creek near.....	260	Wyo.....	209
Helena, Mont., Missouri River near.....	50	near.....	208
Hemlet Creek near Cheyenne, Wyo.....	60	Little Missouri River near Alzada, Mont.	139
Henderson, Colo., South Platte River at....	250	near Watford City, N. Dak.....	140
Henry, Nebr., Katzner Drain near.....	212	Little Papillion Creek, Nebr., dis-	
Hermann, Mo., Missouri River at.....	335	charge measurements of.....	345
Hermitage, Mo., Poudre de Terre River at..	359	Little Piney Creek at Newburg, Mo.....	344
Hershey, Nebr., Birdwood Creek near.....	228	Little Sioux River, Iowa, discharge	
Horse Creek (Horse River Basin) at		measurement.....	345
international boundary.....	85	Little Sioux River Basin, Iowa, gaging-	
Horse Creek (Platte River Basin) near		station records in.....	158-159
Lyman, Nebr.....	213	Little Wind River near Fort Washakie,	
Horseshoe Creek near Glendo, Wyo.....	198	Wyo.....	124
Hull, Kans., Big Blue River at.....	307	North Fork of, at Fort Washakie, Wyo..	125
Hyalite Creek at Hyalite ranger station,		Locust Creek near Linneus, Mo.....	325
near Bonanza, Mont.....	48	Lodge Creek at international boundary..	76
Idaho Springs, Colo., Fall River near....	244	Lodgepole Creek at Bushnell, Nebr.....	263
Illinois Creek at Walden, Colo.....	188	near Federal, Wyo.....	262
International boundary, Battle Creek at..	79	South Fork of, near Federal, Wyo.....	264
East Fork of Battle Creek near.....	81	Logan, Mont., Gallatin River at.....	47
East Fork of Poplar River at.....	92	Lohman, Mont., Milk River at.....	71

	Page		Page
Loma, Mont., Missouri River at.....	25	North Loup River, Nebr., near	
Lonetree Creek near Granite Canyon, Wyo.....	258	St. Paul, Nebr.....	267
Long Pine Creek, Nebr., discharge		North Platte, Nebr., Scobey River	
Long measurements of.....	345	at.....	236
Longmont, Colo., Lefthand Creek at.....	248	North Platte River above Pathfinder	
Boulder Creek near.....	250	Reservoir, Wyo.....	164
Lookout, Wyo., Laramie River near.....	206	at Alcoa, Wyo.....	166
Loup River at Columbus, Nebr.....	266	at Bridgeport, Nebr.....	175
Lyman, Nebr., Horse Creek near.....	213	at Douglas, Wyo.....	168
Lyons, Colo., North St. Vrain Creek	245	at Lincoln, Nebr.....	176
St. Vrain Creek at.....	246	at Martin, Nebr.....	178
Lyons Coulee at international boundary.....	82	at Mitchell, Nebr.....	173
McDonald Creek at Winnett, Mont.....	67	at North Platte, Nebr.....	179
McEachern Creek at international boundary.....	89	at Oshkosh, Nebr.....	177
McGrew, Nebr., Ninemile Drain near.....	217	at Saratoga, Wyo.....	163
McRae Coulee at international boundary.....	77	at Torrington, Wyo.....	171
Madison River near.....	45	at Wyoming-Nebraska State line.....	172
Madison River, Iowa, discharge measurement		below Casper, Wyo.....	167
of.....	345	below Guernsey Reservoir, Wyo.....	169
Marias River near Brinkman, Mont.....	59	below Pathfinder Reservoir, Wyo.....	165
near Shelby, Mont.....	58	below Whalen, Wyo.....	170
Marmaton River near Fort Scott, Kans.....	353	near Minatoga, Nebr.....	174
Martin, Nebr., North Platte River at.....	178	near Northgate, Colo.....	162
Maryville, Mo., One Hundred and Two Riv.		near Walden, Colo.....	161
near.....	277	North St. Vrain Creek at Longmont Dam	
Matheson Canal near Chinook, Mont.....	83	near Lyons, Colo.....	245
Max, Nebr., Republican River at.....	279	Northgate, Colo., North Platte River near	162
Medicine Creek near Galt, Mo.....	322	Novinger, Mo., Chariton River at.....	324
Meeteetse, Wyo., Greybull River at.....	126-127	Oacoma, S. Dak., White River near.....	152
Wood River near.....	129-130	Oak Creek, Nebr., discharge measurements	
Melrose, Mont., Big Hole River near.....	45	of.....	347
Michigan River, Colo., near.....	187	Ogden, Kans., Kansas River	285
near Lindland, Colo.....	186	Okoboji Lake at Arnolds Park, Iowa.....	159
Middle Boulder Creek at Nederland, Colo.....	251	Omaha, Nebr., Missouri River at.....	32
Middle Loup River at St. Paul, Nebr.....	265	One Hundred and Two River, Mo., discharge	
discharge measurements of.....	345	measurements of.....	347
Miles City, Mont., Yellowstone River at.....	101	near Maryville, Mo.....	277
Milk River at eastern crossing of inter-		Orleans, Iowa, Spirit Lake at.....	158
national boundary.....	70	Orodel, Colo., Boulder River at.....	24
at Lohman, Mont.....	71	Orpha, Wyo., La Prele Creek near.....	195
at Milk River, Alberta.....	69	Morton Canal near.....	196
near Vandalia, Mont.....	72	Osage River at Osceola, Mo.....	330
North Fork of, above St. Mary Canal, near		at Trading Post, Kans.....	329
Browning, Mont.....	73	discharge measurements of.....	347
near international boundary.....	74	near Bagwell, Mo.....	351
South Fork of, near international bound-		near Osawa, Mo.....	329
ary.....	68	near Quenemo, Kans.....	327
Milk River Basin, Mont.-Alberta, gaging-		near St. Thomas, Mo.....	332
station records in.....	58-89	Osage (Karais des Cygnes) River Basin,	
Mill Grove, Mo., Weldon River at.....	321	Kans.-Mo., gaging-station records in.....	327-338
Minatoga, Nebr., North Platte River near.....	174	Osceola, Mo., Osage River at.....	330
Missouri River at Bismarck, N. Dak.....	37	Oshkosh, Nebr., North Platte River at.....	177
at Boonville, Mo.....	37	Ottawa, Kans., Osage River near.....	322
at Fort Benton, Mont.....	22	Other Creek near Lemoyne, Mo.....	222
at Hermann, Mo.....	39	Overton, Nebr., Platte River near.....	180
at Kansas City, Mo.....	35	Pass Creek near Wyoia, Mont.....	134
at Loma, Mont.....	23	Pathfinder Reservoir, Wyo., North Platte	
at Nebraska City, Nebr.....	33	River above.....	164
at Omaha, Nebr.....	32	North Platte River below.....	165
at Pierre, S. Dak.....	30	Pierre, S. Dak., Missouri River at.....	310
at power-plant ferry, near Zortman, Mont.		Piney Creek near Big Bend, Mo.....	343
at Ruess, Mo.....	40	Pioneer Canal and Little River near	
at St. Joseph, Mo.....	34	Woods, Wyo.....	202-203
at Waverly, Mo.....	36	Platte River (Iowa-Missouri), Mo., dis-	
at Yanikon, S. Dak.....	51	charge measurements of.....	347
below Fort Peck Dam, Mont.....	25	near Agency, Mo.....	276
below Hauser Lake Dam, near Helena, Mont.		Platte River Basin (Iowa-Missouri), Mo.,	
near Bonnets Mill, Mo.....	38	gaging-station records in.....	276-277
near Moberidge, S. Dak.....	29	Platte River (Nebraska) near Ashland,	
near Williston, N. Dak.....	27	Nebr.....	183
near Wolf Point, Mont.....	26	near Duncan, Nebr.....	182
Mitchell, Nebr., North Platte River at.....	173	near Grand Island, Nebr.....	181
Moberidge, S. Dak., Missouri River near.....	29	near Overton, Nebr.....	180
Monida, Mont., Red Rock River near.....	18	Platte River Basin, Colo.-Wyo.-Nebr.,	
Moorhead, Mont., Powder River at.....	138	gaging-station records in.....	160-269
Moraua River at Promise, S. Dak.....	143	Platteville, Colo., St. Vrain Creek near	247
Morrill, Nebr., Sheep Creek near.....	214	Pomme de Terre River at Hermitage, Mo.....	335
Morrison, Colo., Bear Creek at.....	240	Poplar River, East Fork of, at inter-	
Morton Canal near Orpha, Wyo.....	196	national boundary.....	92
Mosby, Mont., Musselshell River at.....	63	East Fork of, near Scobey, Mont.....	93
Mud Creek, Nebr., discharge measurements of		Middle Fork of, at international bound-	
Muddy Creek at Wagon, Mont.....	57	ary.....	90
near Power, Mont.....	56	near Bredeffe, Mont.....	91
Musselshell River at Harlowton, Mont.....	62	West Fork of, at international boundary	94
at Mosby, Mont.....	63	near Richland, Mont.....	95
Musselshell River Basin, Mont., gaging-		Powder River at Arvada, Wyo.....	137
station records in.....	62-67	at Moorhead, Mont.....	138
Nebraska City, Nebr., Missouri River at.....	133	Power, Mont., Muddy Creek near.....	56
Nederland, Colo., Middle Boulder Creek at.....	251	Prickly Pear Creek Basin, Mont., gaging-	
Nelson, Nebr., Klithorn River at.....	268	station records in.....	49-50
Newburg, Mo., Little Piney Creek at.....	344	Promise, S. Dak., Moreau River at.....	143
Nianqua River near Decaturville, Mo.....	337	Publications, information concerning.....	11-14
Niles, Kans., Solomon River at.....	302	obtaining or consulting of.....	11-12
Ninemile Drain near McGrew, Nebr.....	217	on stream flow, lists of.....	12-13, 14
Niobrara River at Dunlap, Nebr.....	153	Pumpkin Creek near Bridgeport, Nebr.....	220
near Spencer, Nebr., Middle Boulder Creek		Quemec, Kans., Osage River near.....	327
at.....	154	Rand, Colo., Willow Creek near.....	189
Nishnabotna River above Hamburg, Iowa.....	270-271	Randolph, Kans., Big Blue River at.....	308
Nodaway River, Iowa, discharge measurements		Rapid Creek at Big Bend, S. Dak.....	146
of.....	347	Rawhide Creek near Lingie, Wyo.....	210
near Burlington Junction, Mo.....	275	Red Lodge, Mont., Rock Creek near.....	113
North Chinook Canal near Havre, Mont.....	78	West Fork of Rock Creek near.....	116
North Loup River, Nebr., discharge measure-		Red Lodge Creek near Boyd, Mont.....	116
ments of.....	346		

	Page		Page
Red Rock River below Red Rock Reservoir, near Monida, Mont.....	18	Sublette, Colo., South Platte River at..	255
near Lakeview, Mont.....	17	Sumner, Mo., Grand River near.....	518
Republican River at Clay Center, Kans.....	284	Sun River Basin, Mont., gaging-station records in.....	54-57
at Culbertson, Nebr.....	280	Tarkio River at Fairfax, Mo.....	273
at Max, Nebr.....	279	Tarkio River Basin, Iowa-Mo., gaging- station records in.....	272-274
at Scandia, Kans.....	283	Tarryall Creek near Lake George, Colo.....	237
near Bloomington, Nebr.....	281	Tennelle Creek near Helena, Mont.....	50
near Hardy, Nebr.....	282	Terms, definition of.....	9
North Fork of, at Colorado-Nebraska State line.....	289	Tescott, Kans., Saline River at.....	300
Rich Pountain, Mo., Gasconade River near..	342	Thermopolis, Wyo., Big Horn River at....	118
Richland, Mont., West Fork of Poplar River near.....	95	Thompson River (Grand River Basin) at Trenton, Mo.....	320
Rimini, Mont., Tennelle Creek near.....	49	discharge measurement of.....	347
Riverton, Wyo., Wind River at.....	117	Thompson River (Platte River Basin) at mouth, near La Salle, Colo.....	255
Roaring Fork near Walden, Colo.....	185	below power house near Drake, Colo.....	254
Rock Creek (Milk River Basin) at inter- national boundary.....	57	near Estes Park, Colo.....	253
Rock Creek (Yellowstone River Basin) at Rockvale, Mont.....	114	Timber Creek, Nebr., discharge measure- ments of.....	346
near Red Lodge, Mont.....	113	Tonganoxie, Kans., Stranger Creek near..	314
West Fork of, near Red Lodge, Mont.....	115	Tongue River near Decatur, Mont.....	135
Rockvale, Mont., Rock Creek at.....	114	Topeka, Kans., Kansas River at.....	287
Roads Creek, Oskaloosa, Mont.....	111	Soldier Creek at.....	311
Ruby River at dam site near Alder, Mont.....	42	Torrington, Wyo., Cherry Creek Drain near.....	211
near Alder, Mont.....	42	North Platte River at.....	171
Ruegg, Mo., Missouri River at.....	40	Tower Creek at Tower Falls, Yellowstone National Park.....	103
Running Dutchman Canal near Careyhurst, Wyo.....	192	Tradition Post, Kans., Delaware River at Trenton, Mo., Thompson River at.....	320
Run-off in inches, definition of.....	9	Two Rivers, Wyo., Laramie River at.....	205
Sac River near.....	354	Little Laramie River at.....	209
Saco, Mont., Frenchman Canal near.....	86	Upper Clear Creek, Nebr., discharge measurements of.....	347
St. Joseph, Mo., Missouri River at.....	34	Utica, Mont., Judith River near.....	60
St. Paul, Nebr., Middle Loup River at.....	265	near Valley, Kans., Delaware River at Vandalia, Mont., Milk River near.....	312
North Loup River near.....	267	Vaughn, Mont., Muddy Creek at.....	72
St. Thomas, Mo., Osage River near.....	332	Sun River near.....	54-55
St. Vrain Creek at Lyons, Colo.....	246	Wahoc Creek, Nebr., discharge measure- ments of.....	346
at mouth, near Plattville, Mo., Colo.....	247	Wakarusa River near Lawrence, Kans.....	313
St. Xavier, Mont., Big Horn River near.....	120	Wakpala, S. Dak., Grand River near.....	142
Saline River at Tescott, Kans.....	300	Walden, Colo., Grizzly Creek near.....	160
near Wilson, Kans.....	299	Illinois Creek at.....	186
Saratoga, Wyo., North Platte River at.....	163	Michigan River at.....	187
Scandia, Kans., Republican River at.....	283	North Platte River near.....	161
Scobey, Mont., East Fork of Poplar River near.....	95	Roaring Fork near.....	186
Scotland, S. Dak., James River near.....	155	Wallum, Mont., Careless Creek at.....	64-65
Scottsbluff, Nebr., Winter Creek near.....	215	Wamego, Kans., Kansas River at.....	286
Second-foot per square mile, definition of	9	Wasta, S. Dak., Cheyenne River near.....	144
Second-foot, definition of.....	9	Waterloo, Nebr., Kikhorna River at.....	269
Second-foot-day, definition of.....	9	Waterton, Colo., South Platte River at..	228
Shanghai Spring, Mo., discharge measure- ment.....	347	Waterville, Kans., Little Blue River at..	310
Sheep Creek near Morrill, Nebr.....	214	Watford City, N. Dak., Little Missouri River near.....	140
Shelby, Mont., Marias River near.....	58	Waverly, Wyo., Kansas River at.....	36
Sheridan, Wyo., Goose Creek near.....	136	Waynesville, Mo., Gasconade River near..	340
Sheridan Junction, Colo., Bear Creek at..	241	Weld River at Mill Grove, Mo.....	321
Shields River at Clyde Park, Mont.....	107	Wendover, Wyo., Cottonwood Creek at....	199
near Winsall, Mont.....	106	West Buffalo Creek at Jewell, Kans.....	295
Shoshone River, Wyo., Byram, Wyo.....	130	near Jewell, Kans.....	294
below Shoshone Reservoir, Wyo.....	132	West Nishabotna River, Iowa, discharge measurement of.....	347
Sidney, Mont., Yellowstone River near.....	102	West Tarkio Creek near Westboro, Mo.....	274
Silverstar, Mont., Jefferson River near....	20	West Yellowstone, Mont., Madison River near.....	45
Smith River above Pivemile Creek, near White Sulphur Springs, Mont.....	63	Westboro, Mo., West Tarkio Creek near..	274
near White Sulphur Springs, Mont.....	52	Whalen, Wyo., North Platte River below..	170
Smoky Hill River at Ellsworth, Kans.....	296	White River at Crawford, Nebr.....	150
at Enterprise, Kans.....	298	near Chadron, Nebr.....	151
at Lindsborg, Kans.....	297	near Oacoma, S. Dak.....	152
Soldier Creek at Topeka, Kans.....	311	White Sulphur Springs, Mont., Smith River near.....	52-53
Soldier Ditch, Iowa, discharge measurement of.....	345	Whitewater Creek near international boundary.....	84
Solomon River at Beloit, Kans.....	301	Williston, N. Dak., Missouri River near..	27
at Wilos, Kans.....	302	Willow Creek (Platte River Basin) near Rand, Colo.....	169
South Boulder Creek near Kidorado Springs, Colo.....	252	Willow Creek (Yellowstone River Basin) near Crowheart, Wyo.....	122
South Grand River near Brownington, Mo....	356	Willsall, Mont., Shields River near.....	106
South Platte River above Lake Cheesman, Colo.....	226	Wilson, Kans., Saline River near.....	299
at Balsaz, Colo.....	234	Wind River at Riverton, Wyo.....	117
at Denver, Colo.....	229	Winchester, Mo., Box Elder Creek near..	46
at Fort Lupton, Colo.....	231	McDonald Creek at.....	67
at Henderson, Colo.....	230	Winter Creek near Scottsbluff, Nebr.....	215
at Julesburg, Colo.....	235	Wolf Point, Mont., Missouri River near..	26
at North Platte, Nebr.....	236	Wood River near Meeteetee, Wyo.....	129-130
at South Platte, Colo.....	227	Woodpile Coulee near international boundary.....	80
at Sublette, Colo.....	235	Woods, Wyo., Laramie River and Pioneer Caus. near.....	202-203
at Waterton, Colo.....	229	Work, division of.....	15-16
below Lake Cheesman, Colo.....	226	scope of.....	9
discharge measurements of.....	345	Wyola, Mont., Pass Creek near.....	124
near Kersey, Colo.....	232	Yankton, S. Dak., Missouri River at.....	51
near Lake George, Colo.....	224	Yellowstone Lake at Lake Hotel, Yellow- stone National Park.....	96
North Fork of, at South Platte, Colo.....	239		
Spencer, Nebr., Kicharra River near.....	154		
Spirit Lake at Orleans, Iowa.....	158		
Spring Creek, Mo., discharge measurement of.....	347		
Stage-discharge relation, definition of...	9		
Stillwater River near Absarokee, Mont.....	109		
Stockton, Mo., Sac River near.....	354		
Stranger Creek near Tonganoxie, Kans.....	314		

	Page
Yellowstone National Park, Gardiner	
River in.....	105
Lamar River in.....	104
Tower Creek in.....	103
Yellowstone Lake in.....	96
Yellowstone River in.....	97-98
Yellowstone River at Billings, Mont.....	100
at Corwin Springs, Mont.....	99
at Miles City, Mont.....	101
at Yellowstone Lake outlet, Yellowstone	
National Park.....	97
near Canyon Hotel, Yellowstone National	
Park.....	98
near Sidney, Mont.....	102
Yellowstone River Basin, Mont.-Wyo.,	
gaging-station records in.....	96-138
Zortman, Mont., Missouri River near.....	24

