Jean M. Crain 141 A.T.

Floods of April-June 1952 in Utah and Nevada

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1260-E

Prepared in cooperation with the States of California, Idaho, Nevada, Utah, and Wyoming, and agencies of the Federal Government

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FLOODS OF 1952

Prepared under the direction of J. V. B. WELLS, *Chief, Surface Water Branch*

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PREFACE

This report on the floods of April-June 1952 in the Great Basin and part of the Green River basin in Utah was prepared in the Water Resources Division, C. G. Paulsen, chief, under the general direction of J. V. B. Wells, chief, Surface Water Branch.

Basic records of stage and discharge were collected and compiled under the supervision of M. T. Wilson, district engineer, Surface Water Branch, Salt Lake City district, as part of the cooperating program with the following agencies: in California, State Department of Public Works, C. H. Purcell, director, succeeded by F. B. Durkee, and A. D. Edmonston, State engineer; in Idaho, State Department of Reclamation, M. R. Kulp, State reclamation engineer; in Nevada, Office of State Engineer, H. A. Shamberger; in Utah, Office of State Engineer, J. M. Tracy, and the Utah Water & Power Board, W. R. Wallace, chairman; in Wyoming, Office of the State Engineer, L. C. Bishop; the Bureau of Reclamation, Department of the Interior; and the Corps of Engineers, U. S. Army.

Snow-survey data were obtained by many Federal and State agencies as indicated in statewide reports "Federal-State Cooperative Snow Surveys and Irrigation Water Forecasts" prepared by the Soil Conservation Service, Department of Agriculture, in cooperation with the many participating agencies.

The report was prepared by W. P. Somers, hydraulic engineer, Salt Lake City district. The Weather Bureau, the Corps of Engineers, the Offices of the State Engineers of Nevada and Utah, the Utah Power & Light Co., water commissioners of several districts, a flood committee reporting to the Governor of Utah, and many other organizations and individuals supplied information or otherwise assisted in the collection and compilation of data presented in this report.

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FLOODS OF APRIL-JUNE 1952 IN UTAH AND NEVADA

ABSTRACT

The floods of April-June 1952 in the Great Basin and in the Green River basin in Utah came as the result of the heaviest snow cover recorded, a long period of near-record subnormal temperature during March and early April, and an abrupt change to above-normal temperature that induced rapid melting. Rainfall played an insignificant part. Low- and intermediate-elevation snow melted, bringing many streams to record-high level. Large diurnal fluctuations of discharge were evident on smaller streams. The temperature remained high until mid-May. As high-elevation snow became primed for runoff, the temperature dropped enough to refreeze and alter the structure of snow cover, thus reducing the effectiveness of the subsequent melting temperature. Had there been no respite from melting temperatures much greater peak discharges would have occurred, with damage greatly exceeding that experienced. Streams remained at high levels for several weeks.

Record peaks were reached on Strawberry River, lower Weber River, Ogden River, Spanish Fork, lower Provo River, and Jordan River in Utah; Humboldt River and its tributaries draining the north area of the basin in Nevada; and the central Bear River in Idaho and Wyoming. Record volumes for the water year were measured on many streams in the northcentral part of Utah, the northeastern part of Nevada, and the central part of the Bear River basin in Idaho and Wyoming.

Damage in the Great Basin reached $10 million and in the Green River basin, more than $300,000. Two lives were lost on Ogden River. The greatest urban damage, in Salt Lake City, totaled $1.9 million; the greatest single damage, to Denver and Rio Grande Western Railroad, was $510,000.

INTRODUCTION

The extremely heavy snow cover that accumulated over a vast area of the western United States during the winter of 1951-52 resulted in record floods in many areas. This report deals with the area in the Great Basin in Utah and Nevada and in the Green River basin in Utah where floods outstanding in magnitude of peak discharge or of volume occurred. The time distribution of the runoff was dependent in part upon the water content of snow accumulated in the drainage basin and upon the temperature, soil moisture, and drainage basin characteristics, such as area, altitude, aspect, storage capacity, and geology. Conditions of runoff varied widely in the area covered by this report. Maximum peaks of record occurred in basins with larger areas at low and intermediate altitudes. The total volume of runoff was related more closely to the water content of snow accumulation than to other factors.

Tables of data on water content of the snow are included. Graphs showing mean daily temperature variations and cumulative departures from normal are shown for four key stations. Data on stages and discharges for selected gaging stations are tabulated. Some tables give details to enable reconstruction of continuous graphs of stage and discharge with all important variations; some show daily discharge only; and others give water-year runoff for all full years of record for comparative purposes.

Information on damages was compiled from several sources. A summary table shows flood stages and discharges for the 1952 floods and for maximums previously known.

GENERAL FEATURES OF THE FLOODS

Hydrologic Conditions

The floods of April-June 1952 in the Great Basin and the Green River basin in Utah were caused by rapid melting of an unprecedented heavy snow cover, particularly from the intermediate elevations.

The most important factors determining the degree of flooding were (1) the water content and conditions of the snow cover; (2) temperature, air movement, and humidity as related to the melting rate of the snow; (3) soil-moisture conditions; (4) natural and artificial storage and diversion of streamflow. The magnitude and sequence of these hydrologic factors produced moderate floods from melting of low-elevation snow, supplemented by direct runoff resulting from rainfall; the greatest floods of record from melting of intermediate-elevation snow; and relatively minor floods from melting of high-elevation snow where an unusual potential developed but did not materialize because of favorable meteorological changes.

With the exception of a record-breaking 24-hour April rainfall in north-central Utah in mid-April, precipitation was near normal over most of the two-State area during April to June. The mid-April storm added to the snow accumulation on the mountains but produced local floods at several points by the melting of low-elevation snow combined with heavy rain. These floods were later exceeded by snowmelt runoff from intermediate elevations.

Table 1 lists water content of the snow on April 1 for selected snow courses (see pl. 7 for location of snow courses). The percentage-of-normal figures indicate the April 1 water content relative to average April 1 amount for the period of record of each snow course. The comparative water content for 1950-51 equivalent surveys is also given.

Table 1.--Equivalent depth of water, in inches, determined by snow surveys about April 1
[From Federal State Cooperative Snow Surveys and Irrigation Water Forecasts,
U. S. Department of Agriculture, Soil Conservation Service, 1952]

Drainage basin and snow course name	Snow course no.	Sec.	Twp.	Range	Elevation	Water content, in inches					April 1, 1952 percent of average
						1952	1951	1950	Years of Apr. 1 record	Average water content Apr. 1	
Bear River basin: 1/											
Franklin Basin (Idaho)	1	1-12	16S	41E	8,200	40.2	32.8	41.3	28	26.3	153
Emigrant Summit (Idaho)	1A	21	12S	42E	7,700	34.5	27.8	32.7	16	24.3	142
Slug Creek Divide (Idaho)	1B	10-15	10S	44E	7,300	20.2	17.5	24.2	16	15.8	128
Salt River Summit (Wyo.)	1C	32	29N	118W	7,900	19.5	18.0	22.3	4	17.5	2/
Poison Meadows (Wyo.) 3/	1D	29	30N	116W	8,500	31.0	39.0	34.7	4	31.0	2/
Snyder Basin ranger station (Wyo.) 3/	1E	15	29N	114W	8,040	18.0	22.1	19.2	15	13.4	134
Piney-LaBarge 3/	1F	19	29N	114W	8,820	25.0	24.8	24.4	15	17.9	140
Tony Grove Lake	2	5	13N	3E	8,200	47.6	52.0	N.R	26	34.0	140
Tony Grove ranger station	3	11	13N	3E	6,250	17.6	15.1	14.0	23	9.8	180
Spring Hollow (lower)	4	26	12N	2E	7,000	24.5	14.6	19.8	27	14.2	172
Spring Hollow (upper)	5	35	12N	2E	8,000	34.6	30.4	34.7	28	24.5	141
Mount Logan	6	3	11N	2E	9,000	43.8	37.4	41.9	28	28.8	152
Garden City Summit	9	34	14N	4E	8,000	26.6	24.4	28.9	21	18.7	142
Head of Bear River	10	15	2N	10E	8,600	13.2	6.3	13.6	17	8.1	163
Goodman Ranch	10A	19	3N	10E	7,900	9.9	4.8	10.3	14	4.7	210
Monte Cristo	12	3	8N	4E	8,960	39.2	31.4	36.0	19	23.8	165
Lost Lake	28	33	1S	9E	9,900	38.1	32.2	35.7	19	23.8	160
Weber River basin:											
Monte Cristo 3/	12	3	8N	4E	8,960	39.2	31.4	36.0	19	23.8	165
Dry Bread Pond	12A	3	7N	4E	8,230	31.3	21.1	27.0	14	18.2	172
Parley's Canyon Summit	15	9-10	1S	3E	7,500	31.3	18.0	21.6	18	17.5	179
Silver Lake 3/	16	35	2S	3E	8,725	38.2	31.9	32.8	21	25.4	150
Beaver Creek ranger station	24	28	2S	7E	7,500	18.6	8.0	11.2	20	7.6	245
Trial Lake 3/	26	5	2S	9E	9,800	39.3	33.9	38.0	21	25.7	153
Smith and Morehouse	30	25	1N	7E	7,600	24.3	14.9	19.5	23	12.7	191

Table 1.--Equivalent depth of water, in inches, determined by snow surveys about April 1--Continued.

[From Federal State cooperative Snow Surveys and Irrigation Water Forecasts, U. S. Department of Agriculture, Soil Conservation Service, 1952]

Drainage basin and snow course name	Snow course no.	Sec.	Twp.	Range	Elevation	Water content, in inches					April 1, 1952 percent of average
						1952	1951	1950	Years of Apr. 1 record	Average water content Apr. 1	
Redden mine (upper)	31	1	2S	6E	9,000	34.5	21.2	30.9	22	20.0	172
Redden mine (lower)	31A	1	2S	6E	8,500	34.0	20.3	29.3	22	19.0	179
Mount Ogden	74	5	5N	1E	8,600	48.8	32.8	30.7	4	31.2	2/
Jordan River and Great Salt Lake tributaries basins:											
Barnard Creek	13A	34	3N	1E	8,000	41.7	26.6	30.3	16	27.3	153
Lamb's Canyon	14	19	1S	3E	6,600	29.6	14.1	18.2	17	15.3	193
Silver Lake	16	35	2S	3E	8,720	38.2	31.9	32.8	21	25.4	150
Mill D. South Fork	16A	18	2S	3E	7,400	34.4	21.6	20.7	17	19.8	174
Provo River and Utah Lake basins:											
Dutchman ranger station	17	27	3S	3E	7,500	35.8	22.6	26.6	21	18.2	197
Timanogas Cave camp	18	27	4S	2E	5,500	14.5	N.S	N.S	17	1.0	---
South Fork ranger station	19	24	4S	2E	6,100	22.1	Patchy	5.5	17	4.3	---
Camp Altamont	20	29	4S	3E	7,300	35.5	14.6	26.8	17	17.5	203
Timpanogas Divide	21	33	4S	3E	8,200	43.6	25.4	40.0	17	25.3	172
Hobble Creek Summit	22	20	7S	5E	7,300	29.5	14.9	17.4	16	13.5	218
Daniels-Strawberry Summit	23	20	2S4/	12W4/	8,000	31.8	12.8	20.3	22	14.3	222
Soapstone ranger station	25	9	3S	8E	7,800	24.0	13.7	16.0	21	11.4	211
Trial Lake	26	5	2S	9E	9,800	39.3	33.9	38.0	21	25.7	153
Lost Lake	28	33	1S	9E	9,900	38.1	32.2	35.7	19	23.8	160
East portal	33	36	7S	6E	7,560	29.4	11.0	17.4	18	11.8	249
Strawberry Divide	33A	34-35	7S	6E	8,000	43.4	22.5	26.0	18	20.3	214
Payson ranger station	68	30	10S	3E	8,840	34.5	13.4	21.9	8	18.0	192
Sevier River basin:											
Gooseberry Reservoir	41	25	13S	5E	8,700	41.5	17.7	22.9	24	18.8	221

Mammoth R. S. Cottonwood Creek-----	42	13-23	13S	5E	8,800	42.0	18.6	23.8	23	20.1	209
Huntington-Horseshoe----------	43	12	14S	5E	9,800	50.0	22.4	21.6	22	24.2	207
G.B.R.C. headquarters----------	45	21	17S	4E	8,700	34.6	11.3	18.1	22	15.9	218
G.B.R.C. meadows----------	46	26-27	17S	4E	10,000	50.6	21.2	25.6	22	23.8	213
Seeley Creek ranger station no.2 3/-	48A	25	17S	4E	10,000	37.8	13.0	11.6	22	14.9	254
Pine Creek-Chalk Creek----------	49	14	22S	4W	8,500	20.6	3.6	9.2	21	11.4	180
Gooseberry ranger station----------	50	32	23S	2E	8,400	15.8	7.4	10.1	22	9.8	161
Fish Lake----------	51	35	26S	1E	8,700	18.0	4.7	8.1	22	5.8	310
Kimberly mine----------	52A	11	27S	5W	8,900	29.0	8.0	14.3	17	16.3	178
Widtsoe-Escalante Summit----------	53	22	34S	1W	9,500	15.0	.4	3.0	20	8.6	174
Bryce Canyon----------	54	36	36S	4W	8,000	12.4	N.S	N.S	12	6.8	182
Panguitch Lake----------	55	4-5	36S	7W	8,200	14.2	N.S	2.4	17	6.5	218
Long Valley Junction----------	56	22	38S	6W	7,500	14.1	N.S	N.S	15	5.3	266
Harris Flat ranger station----------	57	24	38S	7W	7,700	21.1	N.S	8.7	21	9.4	224
Duck Creek ranger station----------	58	11	38S	8W	8,500	32.7	7.2	15.5	17	16.6	197
Cedar Breaks----------	59	2	37S	9W	10,390	44.7	10.2	19.1	17	24.6	182
Big Flat 3/----------	63B	18	29S	4W	10,000	35.0	14.9	15.5	16	20.3	172
Beaver River basin:											
Merchant's Valley 5/----------	63	8-9	29S	5W	8,200	22.7	5.2	8.6	21	10.9	208
Otter Lake 5/----------	63A	11	29S	5W	9,300	31.2	10.5	12.3	16	16.8	186
Big Flat 5/----------	63B	18	29S	4W	10,000	35.0	14.9	15.5	16	20.3	172
Duchesne River basin:											
Lost Lake----------	28	33	1S	9E	9,900	38.1	32.2	35.7	19	23.8	160
Lakefork Mountain----------	36	2-3	2N 4/	5W 4/	10,500	21.7	10.6	16.0	21	10.2	213
Paradise Park----------	37	7	3N 4/	1E 4/	10,500	20.7	7.4	19.9	20	11.8	175
Mosby Mountain (lower)----------	38A	5	2N 4/	1E 4/	9,500	19.4	8.8	17.0	22	10.4	186
Indian Canyon----------	40	2	11S	10E	9,100	23.8	7.7	15.6	22	10.0	238
Brown Duck Lake----------	73	2	2N 4/	6W 4/	10,300	30.8	17.8	23.7	8	18.4	167
Price River basin:											
Indian Canyon 3/----------	40	2	11S	10E	9,100	23.8	7.7	15.5	22	10.0	238
Gooseberry Reservoir----------	41	25	13S	5E	8,700	41.5	17.7	22.9	24	18.8	221
Mammoth R. S. Cottonwood Creek-----	42	13-23	13S	5E	8,800	42.0	18.6	23.8	23	20.1	209
Staley Ranch----------	42A	32	12S	7E	7,600	17.9	2.8	8.5	16	6.4	280
Dry Valley Divide----------	42B	20	12S	8E	7,800	25.2	7.8	15.0	17	10.2	247

Table 1.--Equivalent depth of water, in inches, determined by snow surveys about April 1--Continued.
[From Federal State cooperative Snow Surveys and Irrigation Water Forecasts,
U. S. Department of Agriculture, Soil Conservation Service, 1952]

Drainage basin and snow course name	Snow course no.	Sec.	Twp.	Range	Elevation	1952	1951	1950	Years of Apr. 1 record	Average water content Apr. 1	April 1, 1952 percent of average
Huntington-Horseshoe	43	12	14S	5E	9,800	50.0	22.4	21.6	22	24.2	207
San Rafael River basin:											
Huntington-Horseshoe	43	12	14S	5E	9,800	50.0	22.4	21.6	22	24.2	207
Seeley Creek ranger station	48A	25	17S	4E	10,000	37.8	13.0	11.6	22	14.9	254
Upper Humboldt River basin: 6/											
Bear Creek	1	31	46N	58E	7,800	33.1	22.8	23.0	9	20.6	161
Fox Creek	2	33	46N	58E	6,800	19.5	7.9	11.0	15	8.6	227
Gold Creek	5	31	45N	56E	6,600	12.6	7.6	8.2	12	6.5	194
Big Bend	6	30	45N	56E	6,700	19.1	12.5	12.7	24	9.6	199
Fry Canyon	7	31	43N	54E	6,700	20.3	10.2	8.8	11	9.2	221
Rodeo Flat	8	36	43N	53E	6,800	22.8	9.2	8.4	11	9.8	233
Lower Jack Creek	9	18	42N	53E	6,800	10.3	.5	0	17	3.8	271
Upper Jack Creek	10	9	42N	53E	7,250	20.8	10.4	10.2	11	10.6	196
Tremewan Ranch	11	9	39N	55E	5,700	6.7	0	0	10	.5	1,340
Taylor Canyon	12	35	39N	53E	6,200	15.4	0	0	11	3.2	481
Lower Trout Creek	13	28	37N	61E	6,900	9.4	0	1.3	6	2.4	392
Upper Trout Creek	14	4	36N	61E	8,500	35.8	26.3	24.4	6	28.3	127
Dorsey Basin	15	28	35N	60E	8,100	23.2	13.9	11.3	10	15.6	149
Ryan Ranch	16	1	34N	59E	5,800	7.4	.6	0	10	.9	822
Dry Creek	17	5	34N	60E	6,500	15.5	1.3	0	10	3.7	419
Harrison Pass no. 1	24	9	28N	57E	6,600	10.7	0	1.5	15	4.9	218
Harrison Pass no. 2	25	16	28N	57E	7,400	15.5	0	2.8	10	4.7	330
Lower Humboldt River basin:											
Lamance Creek	5	13	42N	38E	6,000	24.9	8.2	9.9	7	7.7	323

Big Creek camp ground	7	10	17N	43E	6,600	3.6	0	0	10	2.0	180
Lake Tahoe basin:											
Echo Summit (Calif.)	12	6	11N	18E	7,500	79.4	26.8	46.7	12	38.1	208
Marlette Lake	13	13	15N	18E	8,000	35.1	11.0	26.9	35	22.7	155
Mount Rose 3/	16	7	17N	19E	9,000	68.1	33.6	35.3	42	31.2	218
Truckee River basin:											
Donner Summit (Calif.)	4	25	17N	14E	6,900	84.3	26.4	48.2	41	38.9	217
Boca no. 2 (Calif.)	11	28	18N	17E	5,900	23.8	0	5.4	17	4.7	506
Furnace Flat (Calif.)	12	10	17N	13E	6,600	95.7	31.1	53.8	33	43.7	219
Fordyce Lake (Calif.)	13	34	18N	13E	6,500	84.3	26.5	49.9	34	37.9	222
Soda Springs (Calif.)	14	23	17N	14E	6,750	80.9	25.1	46.5	23	34.5	234
Mount Rose	16	7	17N	19E	9,000	68.1	33.6	35.3	42	31.2	218
Truckee ranger station (Calif.)	17	10	17N	16E	6,000	34.1	1.1	14.8	7	8.8	388
Big Meadows	19	15	18N	18E	8,800	38.5	15.8	24.2	28	22.9	168
Little Valley	20	17	16N	19E	6,300	29.8	2.1	8.1	10	8.4	355
Carson River basin:											
Carson Pass (Calif.)	1	22	10N	18E	8,600	68.4	20.9	44.3	22	36.3	188
Poison Flat (Calif.)	2	25	8N	21E	7,900	38.1	4.9	21.4	10	14.3	266
Blue Lakes (Calif.)	3	30	9N	19E	8,000	74.8	22.1	42.5	33	36.1	207
Clear Creek	4	16	14N	19E	7,300	35.1	4.4	16.4	3	12.4	283
Walker Lake basin (Calif.):											
Center Mountain	1	4	3N	23E	9,400	67.6	36.3	38.9	29	34.8	194
Sonora Pass	2	1	5N	21E	8,800	45.6	12.6	25.2	20	23.8	192
Buckeye Forks	3	20	4N	23E	8,500	44.3	9.3	21.9	21	19.2	231
Virginia Lakes	4	5	2N	25E	9,500	51.9	10.6	16.4	5	14.4	360
Willow Flat	5	21	5N	23E	8,250	23.5	0	9.5	18	10.3	228
Buckeye Roughs	6	15	4N	23E	7,900	37.8	5.7	24.0	29	20.5	184
Leavitt Meadows	7	4	5N	22E	7,200	21.5	0	5.0	22	7.4	291

1/ Snow courses from Bear River basin to San Rafael basin are in Utah unless otherwise indicated. The entire series is numbered consecutively for the State including those outside the State in Bear River basin.

2/ Percentage not shown for short-term record.

3/ On adjacent drainage.

4/ Uinta special meridian.

5/ Telegraphic report.

6/ Snow courses from Upper Humboldt River basin to Walker Lake basin are in Nevada unless otherwise indicated. These stations are numbered in series within each basin.

The unusual conditions as related in the report of the U. S. Department of Agriculture (1952) are as follows: for Utah, "Since 55 of 69 snow courses having long-time records have equaled or considerably exceeded previous record water-content measurements, the great volume of snow water can be expected to produce record or near-record peak flows on nearly all streams, with considerable damage to farmlands, homes and other structures in vulnerable areas. When possible, reservoir storage is being reduced to allow a cushion for peak flows. * * * Moisture in the soils underlying the snowpack is average or above in most parts of the State."

For Nevada, "Snow-stored water is greater than ever before measured on most of the courses in Nevada. High-elevation snow throughout the State is about twice normal while low snow ranges from three to four times normal.

"The U. S. Geological Survey reports October through March streamflow along the Humboldt and eastern Sierra near normal. In these areas ground-water levels are normal or above."

The floods resulting from melting of the heaviest snow cover of record were in some instances the greatest peak discharges of long periods of record and produced runoff volumes unprecedented in many areas. The period of flooding was prolonged by continuous feeding of streams as the snow mantle retreated gradually under above-normal temperatures. Because the discharge rate was so closely associated with temperature, the discharge from the drainage basins at lower elevations peaked earlier than from basins at higher elevations. Even after peak discharges had been reached early in the runoff period, snow surveys of May 1 indicated "an extremely dangerous peak streamflow potential still existing in the snow-pack * * *. The possibility of streamflow peaks exceeding all previous records is very real. It is probable that only extended below-normal temperatures can prevent it."

The condition of the snow on May 1 was notable because of its high density, or percentage content of water. Throughout Utah the average density was about 50 percent and courses in Weber, Provo, Strawberry, and Spanish Fork basins showed densities of about 55 percent. The high density was due to the free water temporarily retained in the snow mantle by capillary action. Snow sampling was difficult because of this condition.

Figure 77 shows the daily range of temperature, and figure 78 shows accumulated departure of mean daily temperature from the normal, at selected weather stations in Nevada and Utah, from March 1 to June 30, 1952. A brief, moderate respite from high temperatures occurred the latter part of April. This was reflected in reduced discharge of many streams from the Wasatch Range, some

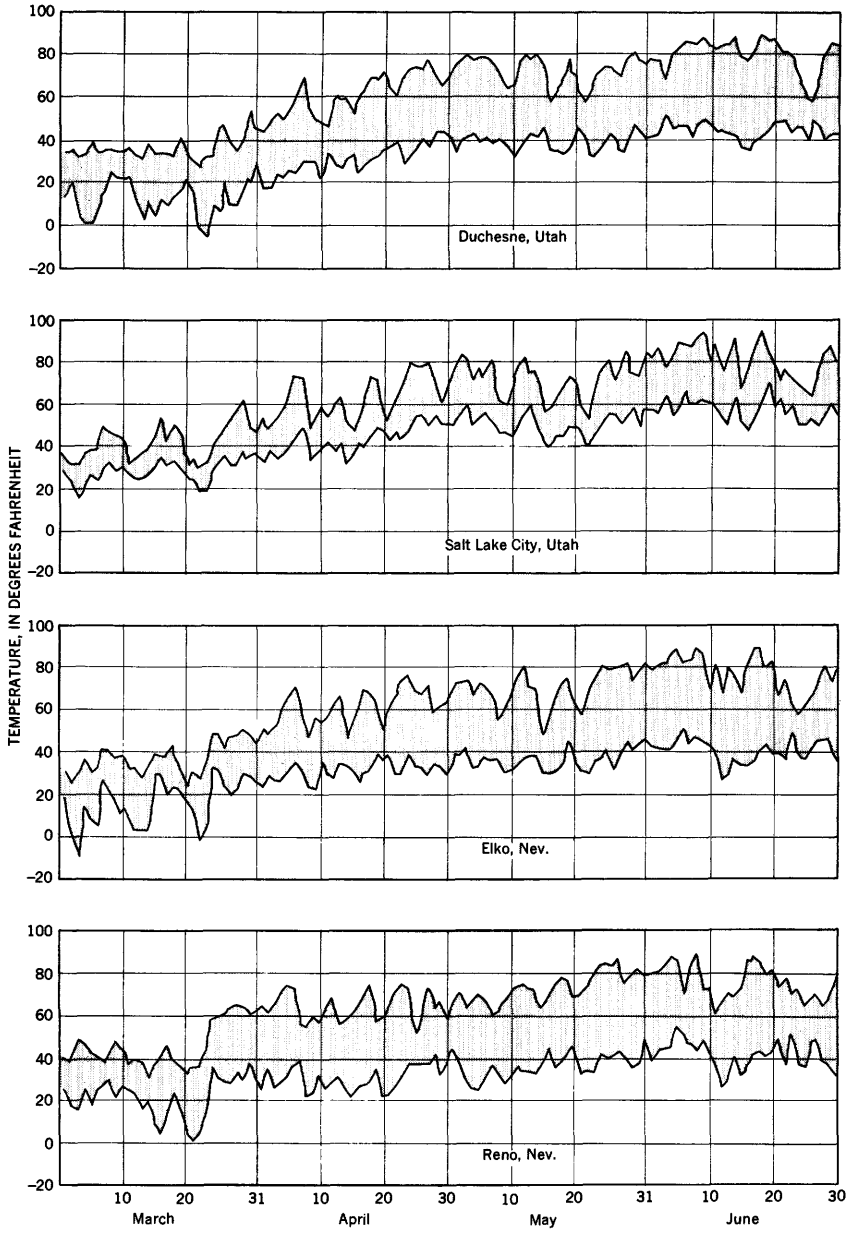

Figure 77. --Daily range of temperature at selected weather stations in Nevada and Utah, March to June 1952.

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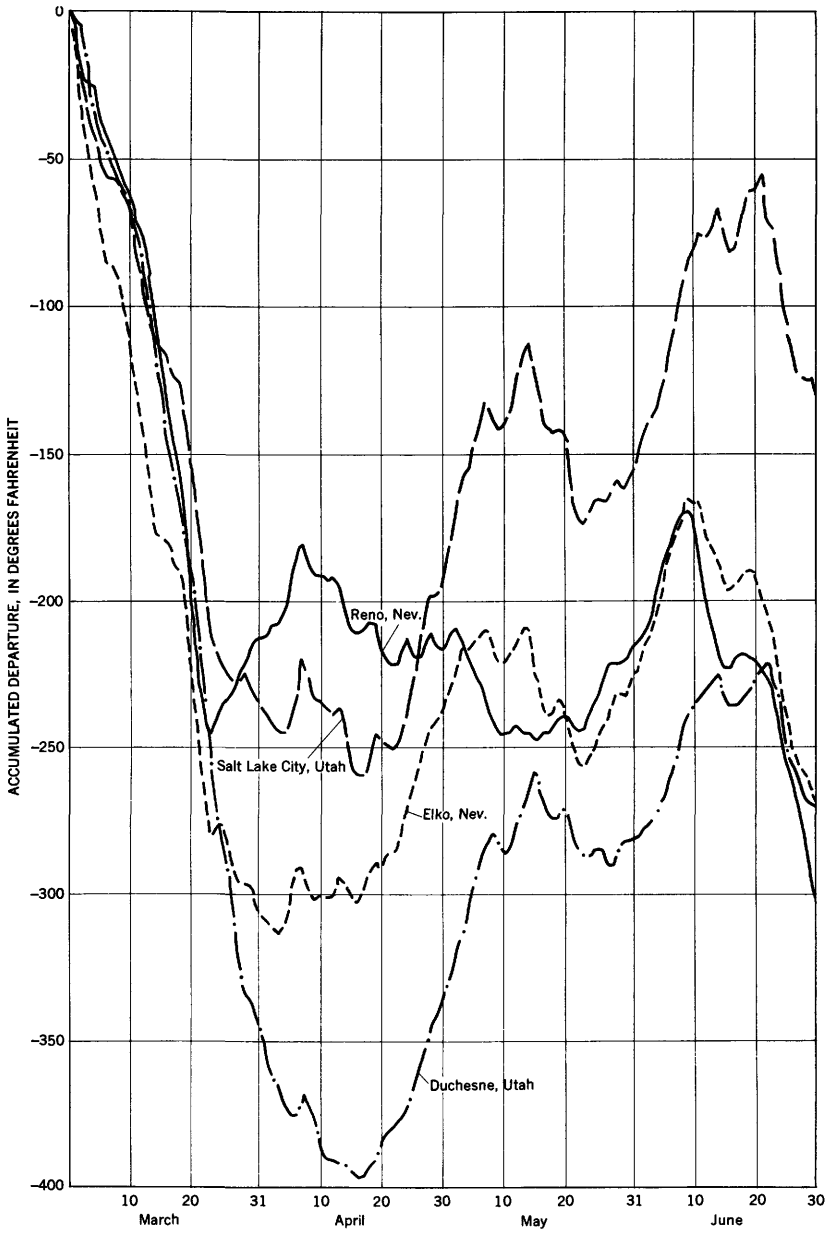

Figure 78. --Accumulated departure of mean daily temperature from the normal at selected weather stations in Nevada and Utah, March to June 1952.

of which had reached their peak. A return of high temperatures during May 1-3, particularly in Utah, increased the discharge again to even greater floods at many locations. Temperatures during the second and third weeks in May were low enough to refreeze snowmelt water at high elevations, which considerably altered the condition of the snow. The effect was to reduce rapid runoff caused by later melting temperatures. This point in the sequence of events is very important. Had above-freezing temperatures prevailed with unbroken continuity at the higher elevations where the remaining overripe, rapidly melting snow lay, much greater maximum discharges would have been experienced along the entire lengths of most channels draining those high elevations. Despite the rapid melting and depletion of snow cover through mid-May there still remained huge volumes of snow-stored water in the mountains.

Because temperatures were more above normal in Utah than in Nevada, the melting rates and temperature effects were more pronounced in the Wasatch Range sections than in the Sierra Nevada area. Sierra Nevada streams peaked late in May or early in June for that reason. However, Humboldt River basin streams peaked in late April or early May because the drainage basin is at lower elevations and therefore responded quickly to above-normal temperatures.

Soil-moisture conditions just before the melting period affect the proportion of accumulated snow that appears as runoff. When there is a soil-moisture deficiency, snowmelt must first satisfy the soil-moisture demand before runoff or ground-water recharge can take place. This in effect reduces the volume of runoff that the melting snow can produce. Climatological data for Nevada and Utah indicate that above-normal precipitation as rain during October and November 1951 satisfied the soil-moisture demands before snow began to accumulate. Observations made at the time of snow surveys in the spring of 1952 indicate that soil moisture was normal or above just before rapid melting began.

Description of the Floods

The area covered by this report is shown in figure 79. Extreme flood peaks occurred on most streams that drain east and west slopes of the Wasatch Range in Utah extending from the Utah-Wyoming State line southward to the Ferron Creek-San Pitch River divide. Streams with proportionally large areas at low and intermediate elevations had more outstanding peaks. In Nevada the peaks were unusually high on the Humboldt River and on tributaries draining the northern part of the Humboldt River basin.

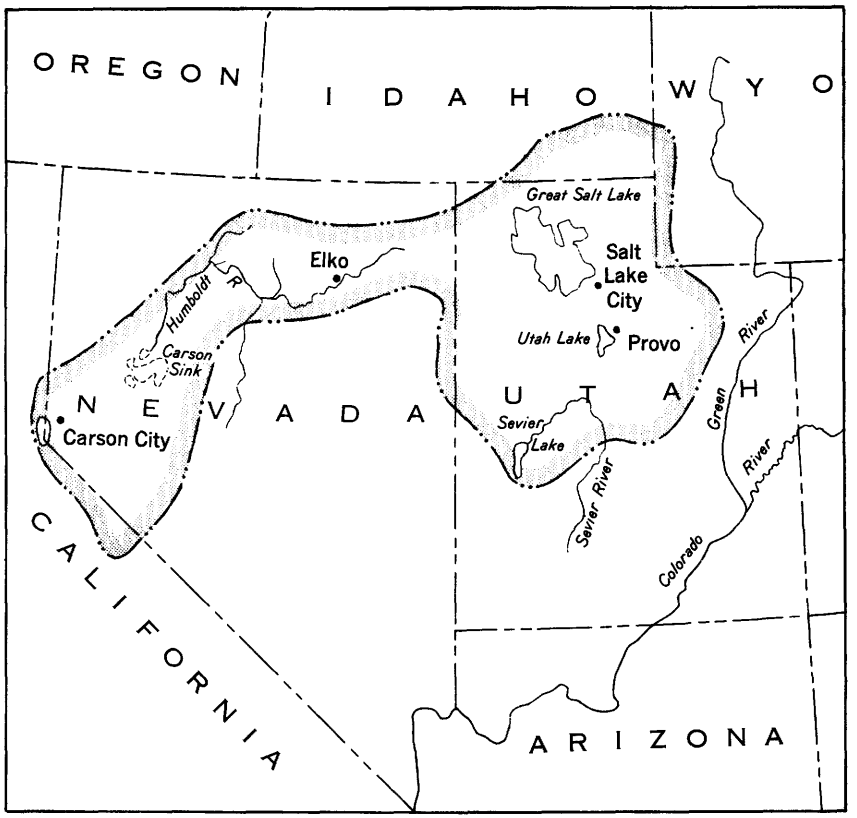

Figure 79. --Map showing area covered by this report.

Exceptionally high volumes of runoff were recorded in the fringe areas, including Bear River basin in Idaho, Utah, and Wyoming; the western part of the Colorado River basin in Utah; and the Pyramid and Winnemucca Lake basins in California and Nevada. Instantaneous flood peaks, however, did not exceed those previously recorded.

For convenience detailed descriptions of the floods will be made by drainage basins.

Great Salt Lake

The stage of enclosed Great Salt Lake is a function of the net hydrologic history of the contributing drainage area. The regular seasonal cyclic variation is superimposed on long-term trends of change. With a season of plentiful moisture and high runoff the seasonal change in contents, represented by an increase in stage, is greater than for a season of low runoff. A sequence of years of high runoff will result in a trend of increase in stage. Because the lakebed near the zone of fluctuation is on a mild slope, resembling that of a saucer, the rate of change in contents with respect to change in stage is appreciably greater at high levels than at lower levels. During the period of record there have been extensive changes in regimen of the contributary drainage basin owing to increased irrigation, ponded areas for storage on tributaries, fresh water bays on the outer fringes of the lake, and changes in municipal and industrial use. The reduction of contents is a direct function of the evaporation rate. These factors must be recognized when the following comparisons are made.

Two gages are maintained on the lake, one at Salt Lake County Boat Harbor on the southeast shore of the lake, 17 miles west of Salt Lake City, and the other at Midlake on the Lucin cutoff of the Southern Pacific Railroad, 30 miles west of Ogden. Apparent inconsistencies in gage readings are probably largely due to the effect of wind because the two gages are about 40 miles apart. To compensate for wind effect, elevations given for the Boat Harbor gage are taken from a mean slope line defined by several days' gage-height graph preceding and following 12:01 a.m. for the 1st and 15th of each month. Wind effects may cause substantial changes in elevation which are not shown in the published elevations.

The maximum elevation reached by Great Salt Lake in 1952 was 4,201.1 feet above sea level on June 15th, as referenced to the Midlake gage; that at the Boat Harbor gage was 4,200.95 feet above mean sea level on June 1. These were the highest since 1930 when a rapidly falling trend was evident. The lowest seasonal maximum elevation reached was 4,195.65 feet on May 1, 1941, at Boat Harbor gage and on May 1 and May 15, 1941, at Midlake gage. The rising trend since 1941 was somewhat accelerated after 1949 and reached a seasonal maximum elevation in 1952 that was 5.3 feet higher than in 1941. The trend, reflecting a more favorable water supply, has continued longer than any rising trend since 1873. The net gain between seasonal maximum elevations has been exceeded only during the years 1905-10 and 1861-73.

The seasonal rise of Great Salt Lake of 2.6 feet, from 4,198.35 feet on November 1, 1951, to 4,200.95 feet on June 1, 1952 (Boat Harbor gage) was the greatest since 1921 when an equal increase

in stage was observed. However, rises of 2.6 feet in 1921 and 2.5 feet in 1922 represent greater increases in contents of the lake, as the elevations were 2 to 3 feet higher, with unit changes in contents considerably greater than at the 1952 level. Greater seasonal increases in stage were recorded in 1909 (2.7 feet), 1907 (3.6 feet), and 1862 (about 3.5 feet). The seasonal increase in stage during 1952 was thus the fifth in magnitude during 100 years.

Figure 80 shows the cyclic trends and seasonal rise in level of Great Salt Lake from 1852 to 1952, based on observed and computed data published by the Geological Survey.

Bear River Basin

The water content of snow in Bear River basin on April 1 ranged from 140 to 170 percent of normal but did not exceed the maximums of record at index snow courses. Runoff during the snowmelt period was high but momentary maximum discharges at gaging stations were generally not record-breaking. Because of considerable storage, irrigation, and regulation of the runoff in the basin and the relative insignificance of peak flows on most streams, the comparative data for each gaging station are presented to show only total runoff.

In 1952 Bear River near Evanston, Wyo., had the greatest annual runoff in the 39 years since records were begun in 1913, exceeding the previous highest year, 1921, by 3 percent. The instantaneous flood peak, however, was greater in 1921 by 30 percent. Downstream at Harer, Idaho, where a comparable period of record is available, the comparison of total volume for the water year and the instantaneous flood peaks for 1952 and 1921 are opposite. Total runoff at Harer was 20 percent higher in 1921 but the flood peak for 1952 exceeded that for 1921 by 22 percent. This relationship of melting snow from the mountain valley areas at intermediate elevations in contrast to that from the higher mountain areas is typical of the 1952 flood. The greatest flood stages occurred after early melting of snow at the intermediate elevations, whereas streamflow from the higher mountain peaks was more gradual over a longer period but produced unusually large volumes.

Between Harer and the gaging station at Collinston, Utah, there is considerable regulation, diversion, and storage of Bear River runoff. These developments have gradually changed the regimen of flow over a long period. The record at Collinston shows the 1952 runoff as 16th in rank of highest runoff for the continuous period 1889-1952. Runoff for 1952 was slightly exceeded by both 1950 and 1951 runoffs. Previous to that, runoffs for 1921, 1922, and 1923 were greater. The remaining 10 years with greater runoff occurred

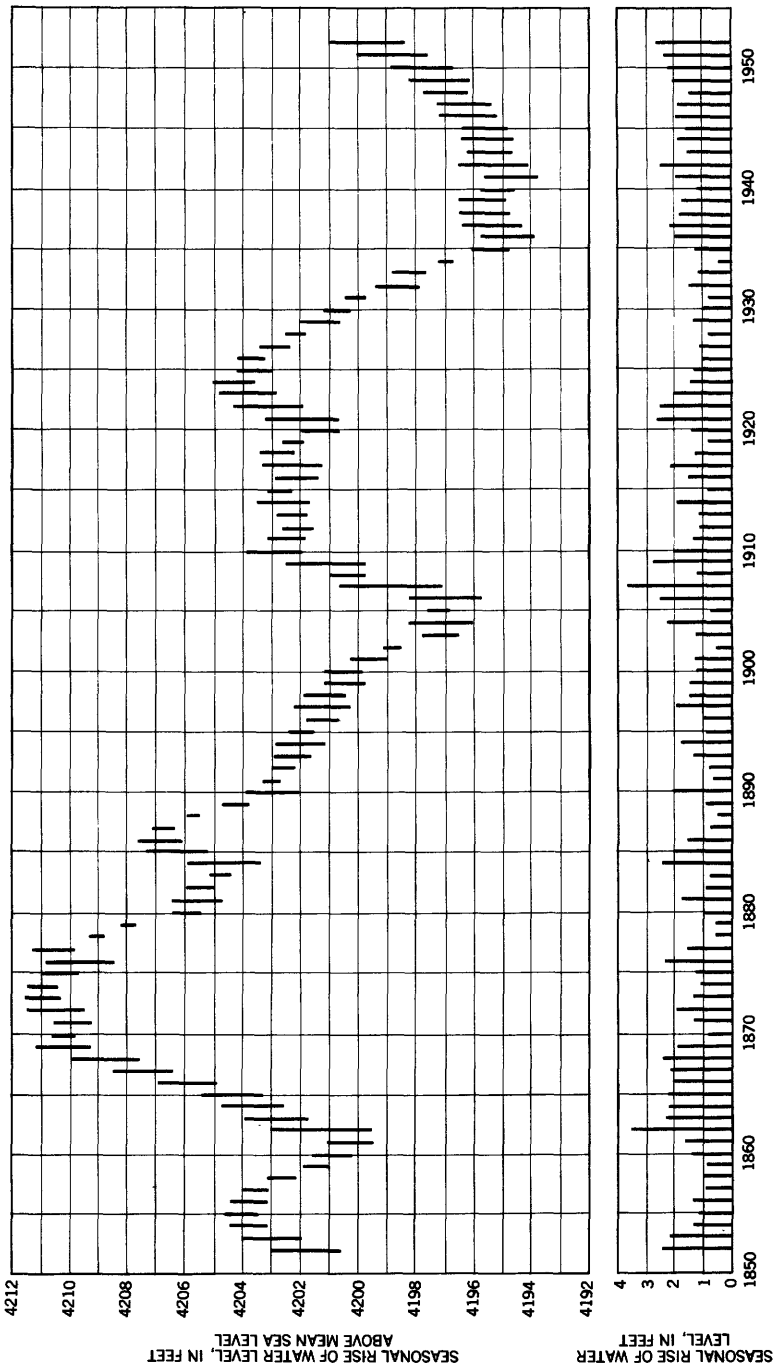

Figure 80.--Graph showing seasonal rise in level of Great Salt Lake, 1852 to 1952.

between 1890 and 1917. The greatest runoff, in 1907, exceeded 1952 by almost 70 percent.

Tributary streams, as represented by the Logan River and Blacksmith Fork records, were not outstanding in rank. Logan River in 1952 was 19th in 52 years of record since 1896. Blacksmith Fork in 1952 was 6th in rank of 46 years of record since 1900. The previous higher year for both streams was 1921. The greatest runoff, in 1907, exceeded the 1952 runoff by more than 80 percent. Thus, most of the Bear River drainage basin was on the northern fringe of the flood area.

The greatest damage in the Bear River basin was inundation of hay land and pastureland along the main stem, and cropland flooding in the drainage of tributaries Little Bear, Blacksmith Fork, and Logan Rivers (fig. 81). The damage was comparatively small and may have been outweighed by the benefits of the ample water supply in the basin as a whole.

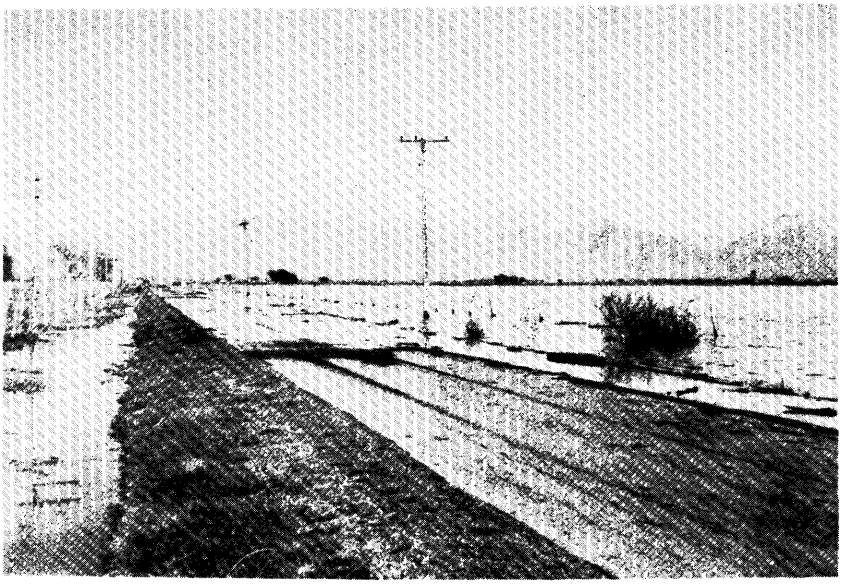

Figure 81. --Agricultural land flooded by Little Bear River in Cache Valley, Utah. Sheet of water crossing road in middleground. Photo by Bureau of Reclamation.

Weber River Basin

April 1 snow surveys showed water content ranging from 150 to 200 percent of normal in the basin. Nearly all maximums of record for 23 years were exceeded. The 1950 snow surveys were

previously the maximum of record. At the time of the April 1 Federal-State cooperative water-supply forecast it was noted that the damaging floods of 1950 were near the lower limit of peak flows anticipated from the 1950 snow pack because of favorable weather conditions and that the average melting conditions for 1952 peaks could be expected to exceed that of 1950.

The sustained below-normal temperatures of March retarded runoff over the basin. Seasonal temperatures during the first 3 weeks of April brought only small increases in streamflow from lower elevations in spite of the heavy snow pack. Temperatures at high elevations were not sufficient to produce additional runoff. The change to above-normal temperatures beginning late in April increased streamflow rapidly. The trend accelerated the snowmelt to May 5 except for a short respite at the beginning of May, during which time most streams at low and intermediate elevations reached their maximum discharges. Temperatures were neither sufficiently high nor sustained to melt much of the high-elevation snow, however. As indicated by the discharge record of Weber River near Oakley, where the peak was not reached until June 7, the high-elevation snow was melted at a slower rate over a longer period. Because of earlier depletion of low-elevation snow the above-normal temperatures of early June melted only residual snow. The important effect of the below-normal temperatures of about May 15-23 is apparent in the desynchronization of flood peaks at different elevations. Hydrographs of Weber River discharge (fig. 82) show this change.

During the early snowmelt at lower elevations, tributary streams draining the smaller drainage basins exhibited great diurnal fluctuation of discharge. For example, the trough about 13 hours before the peak discharge of Chalk Creek near Coalville was 884 cfs. The peak of 1,540 cfs was, therefore, 75 percent, or 656 cfs greater than the trough. The preceding daily peak of 1,450 cfs about 11 hours before the trough was 64 percent, or 566 cfs greater than the trough. These fluctuations were important to workers attempting to confine the flood flow. Daily reduction of stage during daylight hours permitted the construction and repair of protective works (fig. 83). On larger streams the diurnal fluctuations were less apparent.

In comparison with previously recorded floods the 1952 peaks were greatest in the lower parts of the basin, increasing progressively downstream. At Oakley, Weber River reached little more than half of the 1921 peak; at Gateway it nearly reached the previously recorded maximum flood of 1896; but near the mouth at Plain City early on May 6 discharge exceeded the 1904 maximum of record by 30 percent.

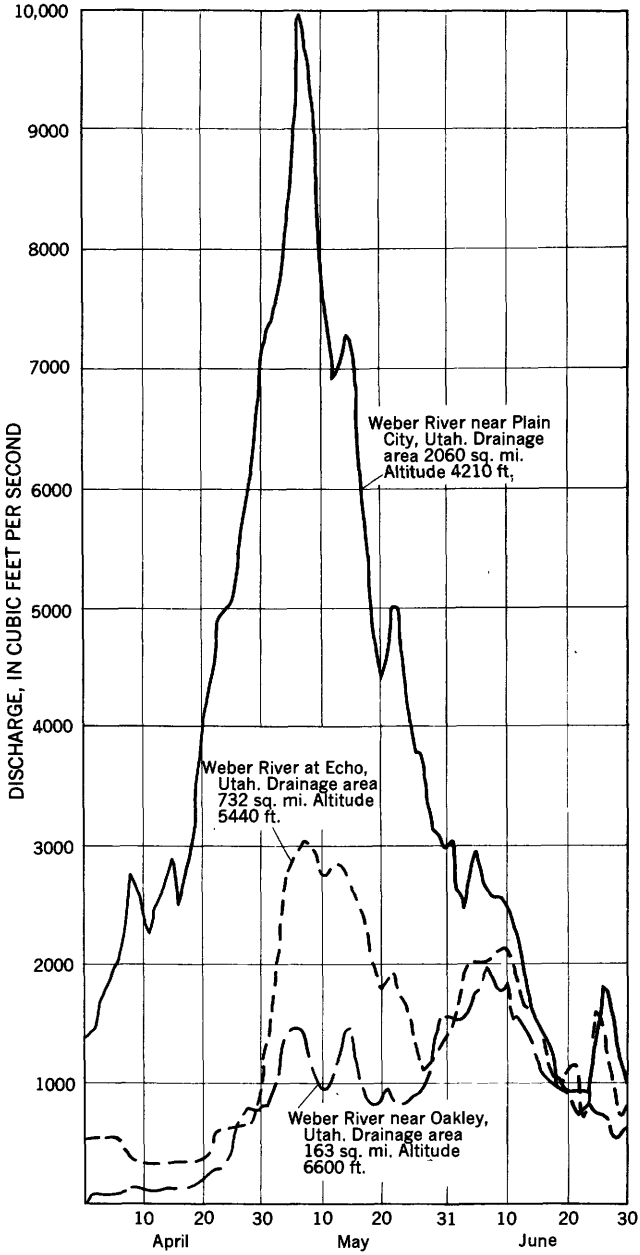

Figure 82.--Hydrographs of daily discharges at three gaging stations on Weber River.

Figure 83. --Construction of protective dike along Chalk Creek at Coalville, Utah. Photo by Deseret News, Salt Lake City, Utah.

Agricultural lands totaling 21, 300 acres constituted the largest area flooded, extending from the base of the Wasatch Range across the highly cultivated valley floor to Great Salt Lake. Because the streams rose gradually to their peaks, the urban areas of Ogden, Morgan, and Coalville successfully coped with the flood threat. Only about 100 acres of urban areas in the basin were affected. A large area of lower Morgan Valley was covered by water, and high velocities caused considerable cutting of the stream channel through this agricultural section (fig. 84). After the floods subsided much work was required to return the stream to its original channel.

Most of the damage, about 40 percent of the total, was sustained by transportation and irrigation facilities. Highway 30, paralleling Weber River in the canyon through the Wasatch Range, was inundated or completely destroyed at several points (fig. 85). Highway 89 just downstream from the mouth of the canyon was also inundated but the damage was not as serious; it was closed for about 1 week and Highway 30, for more than 2 weeks (fig. 86). Alternate roads were available but extra mileage cost the traveling public an estimated $225, 000. The area near Morgan was isolated during the peak flood period.

Figure 84.--Bridge destroyed by Weber River in lower Morgan Valley, Utah. Photo by Deseret News, Salt Lake City, Utah.

Figure 85.--Highway 30 in Weber Canyon, Utah, destroyed by Weber River. Photo by Deseret News, Salt Lake City, Utah.

Figure 86. --Junction of Highways 30 and 89 damaged by Weber River. Highway 30 enters in left foreground. Photo by Bureau of Reclamation.

Only constant attention and quick action by maintenance crews kept the important east-west railroad operating through Weber canyon. Many tons of heavy material were used to stabilize the fill, which was being disintegrated by the prolonged torrent.

Reservoir storage, although small compared to the total volume of runoff, was an important factor in reduction of peak discharge and consequent damage. Three major reservoirs--Echo, East Canyon, and Pine View--have a combined capacity of 146,250 acre-feet. These conservation reservoirs were almost completely emptied before the beginning of runoff as a flood-control measure without jeopardizing their primary purpose of storing water for irrigation. Manipulation of the outflow effected substantial reduction of damage by timely reduction of peaks, particularly in the lower reaches of the Weber and Ogden Rivers where slightly higher stages could have caused very much more damage.

Total damage in the Weber River basin amounted to an estimated $1,606,000, including the cost of flood-fighting measures and clean-up work. Two lives were lost in boating accidents on the swollen Ogden River.

Tributaries between Weber and Jordan Rivers

Many small streams draining the Wasatch Range in Davis County were at high stages for prolonged periods because some of the drainage basins reach elevations above 10,000 feet, although none is larger than 10 square miles. These streams have much steeper gradients with a smaller part of the drainage basins at intermediate elevations than the streams adjacent to Salt Lake City where floods caused more damage. High water occurred over a longer period of time from this type of drainage area.

Damage totaling $21,000 to highways, bridges, and railroads, as a result of erosion and debris movement, occurred in the area between Farmington and Bountiful.

Jordan River Basin

The principal streams in the Jordan River basin are Spanish Fork, Hobble Creek, Provo River, and American Fork, tributary to Utah Lake; Jordan River between Utah Lake and Great Salt Lake; and the smaller tributaries, Little Cottonwood, Mill, Parleys, Emigration, Red Butte, and City Creeks, which flow across the valley floor through the highly developed metropolitan area of Salt Lake City and environs.

The peak discharge of Spanish Fork and its tributaries greatly exceeded previous records set in 1920 and 1922. At Castilla the maximum daily discharge was 3,280 cfs; the maximum daily discharge previously recorded was 1,520 cfs in 1920. High discharge persisted through late April and early May with large diurnal fluctuations on most streams.

In Spanish Fork canyon, mudflows and rockflows blocked travel on Highway 50, 89, and 6 and Diamond Fork flowed over the highway. A main-line railroad bridge was buckled on April 27th, and roadbeds were washed out at several points. Section crews working continously managed to resume limited service after several days. Downstream, where the channel is no longer confined by the narrow canyon, 4,300 acres of farmland was submerged or eroded. Several farm families were evacuated and 100 acres of residential area in the canyon at Thistle was inundated. The domestic water supply of the city of Spanish Fork was temporarily polluted by infiltration of river water into the lines.

Total damage in the Spanish Fork basin was estimated at $1,304,000; damage to railroad facilities totaling $185,000 was the largest single item. The lower reaches were damaged most; about half the total damage was between the mouth of the canyon and Utah Lake (fig. 87).

Figure 87. --Agricultural land flooded by Spanish Fork near Spanish Fork, Utah. Photo by Bureau of Reclamation.

Storage in the Spanish Fork basin is insignificant. Transmountain diversion through Strawberry tunnel was not begun until mid-June.

Hobble Creek endangered the Springville urban area, causing damage as early as April 20. A state of emergency was declared by city officials on April 24. State civil defense officials assisted in organizing National Guard workers, contractors, and city and county officials for protecting areas threatened by Hobble Creek overflow. Persistent effort limited inundation to 35 acres of urban area. Orchards and other agricultural land totaling 710 acres were flooded, leaving the area covered with debris and silt. Most of the total $460,000 damage was sustained by highways and bridges (including the main track of the D & R. G. W. Railroad) and municipal structures and services. Residential damage amounted to $25,000. Sandbag dikes were used extensively. Daily natural reduction of discharge associated with the great diurnal fluctuation of Hobble Creek was advantageous for maintenance of protective works. Many small landslides occurred on steep canyon slopes as the soil became completely saturated by the rapidly melting snow. This phenomenon was particularly notable in the Hobble Creek Canyon. Landslides reaching the creek channel added silt and debris to the swiftly moving water.

Hobble Creek reached its peak on May 4 but for about 2 weeks in April and May the discharge was high with great diurnal fluctuation. The maximum discharge of 1,250 cfs was 50 percent more than the previously recorded flood of April 29, 1916.

In the Provo River basin, runoff from the upper reaches was regulated by Deer Creek Reservoir. Records from stations upstream indicate that for the high-elevation drainage, flow was sustained at high levels reaching peaks in late May or early June. Although the reservoir is operated for conservation of water the reduction of discharge early in May was highly beneficial. When low-elevation snow was melting rapidly the lower reaches of Provo River were flooded despite the benefit of Deer Creek Reservoir storage.

Only continuous effort minimized damage in the urban area of Provo and surrounding farmlands. Of the $649,000 damage in the whole basin, $484,000 of it occurred between the mouth of the canyon and Utah Lake. Highway 189 in Provo Canyon was blocked temporarily by mud-rock slides during the early phases of runoff.

Utah Lake, collecting the discharge of Spanish Fork, Hobble Creek, Provo River, American Fork, and other smaller tributaries, reached its highest levels since 1922. There are many factors involved in the manipulation of controls of the lake level. The outlet has pumping facilities for use when levels are low and irrigation demands are high. The capacity of the natural controlling outlet near the Jordan River Narrows is inadequate to carry away all the water that enters the lake during high-water years and flood periods. The level of the lake then gradually increases to stages much above compromise elevation--that elevation which the water users stipulated should not be exceeded by artificial regulation. All streams tributary to the lake produced flood discharge during 1952, and the elevation reached a maximum stage of 3.28 feet above compromise on June 6.

As a result of high stages in Utah Lake, considerable agricultural land and shoreline installations were flooded. The Provo Airport, which is near compromise elevation, is protected by dikes. During mid-May waves driven against the dikes by high winds caused considerable trouble. Only concentrated effort in maintaining the dikes saved the airport from inundation. Some farmland, particularly those farms at the mouth of Spanish Fork which were covered with a heavy load of debris and silt, were certain to be out of production for several years if not indefinitely. The boat harbor facilities at the mouth of Provo River were completely inundated.

Jordan River, flowing from Utah Lake to Great Salt Lake, is augmented by tributary inflow. It contributes to several irrigation

diversion canals, and near the south boundary of Salt Lake City is largely diverted at flood flows to Surplus Canal. The canal was originally dug about 1885 to drain low land and to divert flood water more directly to Great Salt Lake rather than overflow the meandering natural channel through the city proper. Tributaries to Jordan River downstream from the Surplus Canal diversion are collected near the base of the mountains and conducted across the city by two underground conduits. Parleys, Emigration, and Red Butte Creeks are collected and piped under 13th South Street, and City Creek is collected and piped under North Temple Street. A maximum combined discharge to be expected from these tributaries has been estimated as about 1,000 cfs. Because of extensive irrigation diversion in all of the Jordan River basin streams, their discharge is related to irrigation demands. Thus, a light storm in the spring may decrease the rate of snowmelt by lowering the temperature, but precipitation and cooler air reduce the demand for irrigation. The result of this can be a pronounced increase in streamflow in the lower reaches of the river system. Water users cooperate when possible by diverting as much water as practicable during flood periods.

In anticipation of high runoff, county and city officials in March began the work of dredging and diking the banks of the Surplus Canal. Dikes were constructed along sections of Jordan River in residential areas. Because the diversion structure in the Jordan River channel had largely deteriorated, a bulkhead was placed across the stream and the canal dike extended through the channel to close the opening completely during the first week of May. The entire outflow from Utah Lake, Big Cottonwood, Little Cottonwood, and Mill Creeks was thus diverted to the Surplus Canal. The capacity of the control structure at the head of the Surplus Canal was inadequate, therefore it was largely bypassed by an additional excavated channel. Jordan River in the Salt Lake City limits was then capable of carrying the transcity tributary inflow. As the upstream runoff increased, the banks of the Surplus Canal downstream from the city were blasted and thousands of acres of low rangeland toward Great Salt Lake were inundated. Highway 40 bridge was threatened but the heavily used highway was not closed. Some trestles, drains, and diversion works were removed or bypassed to help reduce the canal stage.

The maximum discharge that could have developed at 21st South Street, Salt Lake City, is of great importance. Several factors in combination are necessary to produce a flood greater than any recorded at this point: (1) heavy snow cover melting rapidly; (2) high level in Utah Lake; (3) arrival of a storm during the critical period producing an inch or more of rain in the agricultural area of Salt Lake Valley.

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During much of May and early June 1952 the first two factors were present and the third was a strong possibility because U. S. Weather Bureau records for Salt Lake City for the 78-year period 1874-1951 show that there have been 51 storms with 1.00 inch or more of rainfall during May or June, an average of one storm per 1.4 years.

The size of a potential flood at 21st South Street can be estimated as the sum of the maximum discharges recorded for Jordan River at Narrows near Lehi, Big Cottonwood, Little Cottonwood, and Mill Creeks, and small ephemeral streams. That sum is about 3,200 cfs, as compared with the 1,820 cfs recorded on June 7, 1952.

Because urban growth has resulted in encroachment upon natural flood plains, the potential damage by a given-size flood has increased over a period of many years. It can be seen that the flood that could have occurred in 1952 would have been far more serious than the flood experienced in the Salt Lake City area.

The major transcity tributaries to Jordan River--Parleys, Emigration, Red Butte, and City Creeks--drain areas of relatively low elevation in the Wasatch Range; hence, the streams responded early to the high temperatures. As early as April 20 trouble was experienced at several points where these creeks are in natural streambeds before they are piped underground. Debris plugging the drains and small culverts damaged highways and flooded basements while threatening gas, water, and sanitary sewer lines. As discharge increased, controlling the water became more and more difficult. On April 28 water was running along 13th South Street toward Jordan River. Sandbags were placed hurriedly to keep the water from residential and industrial areas. These soon proved inadequate at points along the 2-mile reach, and dikes of gravel as much as 6 feet high were placed on each side of the street, forming a surface canal leading directly to the Jordan River (fig. 88). At some important intersections timber bridges were built for limited use.

During the latter part of April the inflow to Mountain Dell Reservoir on Parleys Creek soon filled this storage space to maximum capacity. On April 29, 550 cfs of water was released from the reservoir and it was estimated that the maximum flow at the mouth of the canyon was 650 cfs. A very noteworthy condition existed whereby the storm sewer from Sugarhouse west on 21st South Street to 5th East Street and north on 5th East Street to 13th South Street had a capacity adequate to carry this unusually high flow. However, after joining other storm sewers at 5th East and 13th South Streets the capacity was inadequate so that flood water was forced to the surface through several manholes.

Figure 88. --Dikes convert 13th South Street in Salt Lake City to surface canal for passing flood water directly to Jordan River.

Because of the inadequate capacity of culverts draining the area, water became ponded by railroad embankments paralleling Jordan River. Depths became great enough to threaten breaking through. To prevent a sudden disastrous surge into a residential area about 700 families were evacuated from a 50-block residential and business section on May 21, into which water was released slowly, flooding basements and lower floors of homes and other buildings. This removed the danger associated with sudden flooding and reduced the damage to other more heavily populated areas.

Little effective storage is available on these streams. The largest reservoir, Mountain Dell on Parleys Creek, has a capacity of only about 3,200 acre-feet. However, manipulation of the outflow assisted appreciably in damage reduction by partial storage of the peaks which might otherwise have added to depths of flood water in the city.

About 3,000 workers, including many volunteers, were building dikes, evacuating families, moving household goods, guiding traffic, and assisting in innumerable other ways at all times. A

flood-control committee of city officials coordinated over-all activities advised by representatives of the Corps of Engineers, U.S. Army. Police and Naval mobile units coordinated evacuation and the American Red Cross and Latter-Day Saints Church organizations assisted in evacuating and housing operations.

By May 10, cleanup operations were underway, stagnant water was pumped away, and householders gradually returned to their homes. Total damage by streams in Salt Lake City and immediate vicinity was estimated as $1,920,000, of which $1,256,000 was damage to public institutions and utilities. The area flooded was about 1,200 acres, indicating the high rate of damage possible in urban areas.

Sevier Lake Basin

The Sevier Lake basin was on the southern fringe of the flood area. Only San Pitch River, a tributary to the Sevier River near Gunnison, reached unusually high stages throughout the snowmelt period. Because of consumption of water in the San Pitch River basin, practically no flow had reached the Sevier River from this source for several previous years. The high water content of accumulated snow at all elevations in the basin produced a sustained flow in San Pitch River for a relatively long period. A gaging station reestablished at Gunnison recorded a total volume of 90,700 acre-feet with a maximum observed discharge of 1,330 cfs.

Highway 89 east of Gunnison was flooded for a long period and sustained much damage. Total damage in the Sevier River basin, however, was relatively small and the value of increased storage, particularly in the Sevier Bridge Reservoir, was undoubtedly greater than the damage.

Beaver River Basin

Runoff past the gaging station on Beaver River near Beaver is not appreciably affected by diversion or storage, and for the 1952 water year it exceeded that for the previous maximum in 1941 by about 2 percent. Runoff at Adamsville is affected by considerable diversion; there the runoff for the 1952 water year was about 3 percent greater than that for the previous maximum in 1941. This is significant because of low antecedent conditions; the 1951 water-year runoff was the third lowest of record near Beaver and the lowest of record at Adamsville. Momentary maximums were only 60 percent as great as the maximum of record resulting from summer storms.

With insignificant flood damage the Beaver River, also located on the southern fringe of the flood area, was benefited by the greatest water supply of the past 38 years since records are available.

Green River Basin

Water content of snow on April 1 was the greatest of 24 years of record, substantially exceeding the previous maximums of 1936, 1949, and 1950. The water content was nearly 200 percent of normal in the Duchesne River basin and more than 230 percent of normal in the basins of the Price and San Rafael Rivers.

In the Duchesne River basin runoff during the 1952 water year was the greatest since 1922. Records for Strawberry and Duchesne Rivers at Duchesne indicate that the 1952 runoff was highest of the water years since 1915 and about equal to the 1922 runoff. Unpublished records of the distribution of Strawberry Reservoir water indicate that runoff contributing to the reservoir, adjusted for change in contents, diversions, wastage, and evaporation, was about 50 percent greater in 1952 than in the previous maximum water year, 1922. Increase in the contents of Strawberry Reservoir was greater during the 1952 water year than in any year since the reservoir has been in operation beginning July 1912. A new momentary maximum was recorded for the Strawberry River at Duchesne although the peak discharge for Duchesne River at Duchesne was slightly lower than that observed in 1922.

The longest record in the basin, for Duchesne River at Myton, Utah, indicates that the 1952 runoff was sixth in order of magnitude, exceeded in 1907, 1909, 1922, 1917, and 1921, in that order. The maximum discharge observed in 1922 was nearly twice the maximum of 1952.

The runoff of Price and San Rafael Rivers and their major tributaries was greater in 1952 than in any other year of record. Flood stages and total runoff in 1952, with relation to averages, were greater in these tributaries to Green River than in any others in the Colorado River basin. Runoff for 1907 was not recorded on these streams but is believed to have been greater than for the 1952 water year. Records for Price River near Heiner, Utah, indicate that the 1952 runoff was about 14 percent greater than for 1922, the next greatest year. Huntington, Cottonwood, and Ferron Creeks were similarly high. Annual maximum discharges on these streams usually result from summer convection storms and by nature exceed those caused by melting snow. However, some of the momentary maximum discharges during the 1952 flood exceeded many annual maximums of summer-storm origin.

When the spring floods began in early April, rock and mud slides in Price Canyon broke the pipeline serving several communities. As rivers responded to melting temperatures threats of damage to man-made works in narrow canyons and wide valleys alike became realities. The Price River changed its course and destroyed a large section of a golf course and seriously damaged the clubhouse. Road and railroad crews were on the alert to maintain fills at critical sections. The Duchesne River, rising to its maximum early in June, caused great damage to agricultural lands, diversion structures, and bridges located principally on secondary roads. The Strawberry River, with no contribution from the drainage area above Strawberry Reservoir, caused great damage early in May.

Estimates place damage throughout Duchesne County at nearly $300,000. This does not include damage to Federal and State roads.

Walker Lake Basin

The water content of snow in Walker Lake basin on April 1 was nearly 200 percent of normal at high elevations and about 250 percent of normal at low elevations. The runoff of West Walker River below East Fork, near Coleville, Calif., for 1952 was the second greatest in 15 years of record. Comparisons including nonequivalent records for 1902-07 and 1915-37 at discontinued stations within 10 miles downstream indicate that the 1952 runoff was exceeded by the runoff in 1906, 1907, and 1938 in the Walker Lake basin.

The momentary maximum discharge was appreciably exceeded by the snowmelt floods of 1906 and 1907; it was about equivalent to the snowmelt maximums of 1921 and 1922; and was appreciably exceeded by the floods of December 1937 and November 1950.

Storage above Coleville is insignificant. Elsewhere in the basin storage space was provided by drawing down Bridgeport and Topaz Reservoirs early in the season. Because these conservation reservoirs had assured supplies they were beneficially used for flood storage. This action apparently reduced flooding downstream.

Most of the flooding occurred over Antelope Valley agricultural lands upstream from Topaz Reservoir. Damage of $15,000 was small compared to that in other areas.

Carson River Basin

The water content of snow in the Carson River basin on April 1 was similar to that in the Walker Lake basin. Records for broken

periods not including 1921 or 1922 for gaging stations at different sites on East Fork Carson River near Gardnerville, Nev., and West Fork Carson River at Woodfords, Calif., indicate that the runoff for the 1952 water year was exceeded by that for the 1893, 1906, 1907, and 1911 water years.

The momentary maximum discharges of East Fork Carson River were the highest of record occurring during the normal snowmelt period. The data are incomplete because the maximums for some of the high years were not recorded. Seasonal storms produced much greater maximums on November 21, 1950, December 11,1937, January 21, 1943, December 3, 1941, and February 2, 1945.

The momentary maximum on West Fork Carson River has been exceeded by many spring and winter floods. Storage is negligible in the upper part of the basin. Lahontan Reservoir near the lower end of Carson River was regulated to prevent flooding downstream.

The flood damage of $35,500 was confined to flooding of agricultural land near the confluence of East and West Forks. The resulting plentiful water supply in general benefited irrigation and power production in the entire basin.

Humboldt River Basin

On April 1 the water content of high-elevation snow in the Humboldt River basin was about 200 percent of normal, and that of low-elevation snow, about 300-400 percent of normal. Cold temperatures in March helped prevent snow from melting rapidly at low elevations. The above-normal temperatures from mid-April to mid-May melted the heavy low-elevation snow at a rapid rate, and some intermediate-elevation snow melted to add to the volume of runoff.

The runoff from the upper Humboldt River basin during the 1952 water year, as represented by records for Humboldt River at Palisade, Nev., was the highest of 44 years of record (1903-6 and 1911-52), exceeding the former record-high in 1921 by a small margin. The momentary maximum discharge approached the record set in February 1943 by a winter flood of short duration and greatly exceeded all other recorded maximums. Comparisons with records for discontinued stations on the Humboldt River indicate that the runoff in the 1907 water year was considerably greater than in 1952 on the lower part of the main stem.

The runoff of Humboldt River above Lovelock Valley has been greatly affected by storage in Rye Patch Reservoir since 1936.

The peak discharge was materially reduced by storage in the reservoir but its capacity was soon reached so that large flows were released through the Lovelock Valley to the Humboldt Sink. Records of the lower Humboldt River above Lovelock are not continuous but have been collected for intermittent periods since 1896. By comparison with records farther upstream these periods of record at Oreana and Rye Patch cover most of the high-water years and show that the 1952 runoff, adjusted for storage in the reservoir, was the second highest of record, surpassed only by 1907.

Momentary maximum discharge at the gaging station above the reservoir was 6,080 cfs on May 9, 1952, almost twice as high as any previously recorded for the lower Humboldt River basin. This peak discharge was reduced by almost 25 percent as it passed through Rye Patch Reservoir.

Tributaries to the Humboldt River were at high stages for a long time during the snow-melting period. The tributaries draining the south side of the basin contributed totals less than in some other high-water years. For example, the records for South Fork Humboldt River near Elko, Nev., complete since 1896 except for the period 1932-36 which did not include high-water years, show that the runoff for the 1952 water year was exceeded in the 1897, 1899, 1907, 1932, 1942, and 1945 water years; the 1952 runoff was about 80 percent of the runoff for 1945, the maximum year. Lamoille Creek runoff was fourth highest of record for the period 1915-16, 1917-23, and 1943-52. Likewise, flood peaks were lower from the south-side tributaries than those for other high-water years.

Most tributaries draining the north side of the basin were much higher in 1952 than any previously recorded. Little Humboldt River and Martin Creek near Paradise Valley, Nev., produced runoff about 50 percent higher than any year of a record fairly continuous since 1922. Instantaneous peak flows, however, were not nearly as great as those during the January 1943 flood.

Runoff for the water year 1952 from North Fork Humboldt River at Devils Gate near Halleck, Nev., was about 30 percent more than during the years 1914-21 and 1944-51. By comparison with other records, including those collected on the North Fork Humboldt River near its mouth, the 1952 runoff evidently exceeded any during the past half century. The momentary flood peak was about 50 percent more than any previously recorded.

Total runoff for the 1952 water year of Marys River at the present gaging station above Hot Springs Creek was about 50 percent more than in any year since 1944. Comparison with other records obtained at three locations for different periods shows that the 1952

runoff was the largest during the past four decades. The peak flood discharge for 1952 surpassed that previously recorded in 1943 by 20 percent.

Because of the nature of the overflow channels in the Humboldt River basin, periods of high runoff result in long periods of flooding of extensive areas of bottom land. Irrigation practice usually calls for ponding the entire flow of the river by use of a tight dam. Large areas of bottom land are inundated for a period sufficient to furnish adequate moisture for rank growth of wild hay after the ponded water is released to the next area to be irrigated. During the 1952 runoff season about 120,000 acres were flooded without control. In the reach between Palisade and Rye Patch Reservoir about 90,000 acres were inundated, some for as long as 2 months. This caused agricultural damage in that area estimated at $1,023,300 including more than $350,000 damage to diversion and irrigation facilities. Possibly the estimates made during or shortly after the flood were high in crop-damage classification because agricultural statistics subsequently reported by the U. S. Department of Agriculture for the year indicate income from all hay crops in the State as $18,760,000, nearly 10 percent greater than for 1951, with about the same acreage harvested both years. Hay is the most important crop in the agricultutal economy of Nevada.

In the Little Humboldt River basin a similar situation existed whereby about 48,000 acres were inundated in addition to the 120,000 acres of the Humboldt River basin elsewhere. Early estimates of damage reached $708,000 including nominal damage to roads and bridges. The Little Humboldt River contribution to the Humboldt River is generally prevented by the formation of sand dunes near the mouth. Much of the runoff in 1952 was stored in Gumboot Lake back of these sand dunes. This water was released in 1953 for beneficial irrigational use by the dredging of an outlet channel.

In addition to flooding cropland the floods washed away tons of hay accumulated in the previous year, drowned many livestock, damaged diversion dams and irrigation ditches and structures, destroyed ranch buildings and equipment, and damaged roads and bridges to a lesser extent.

In the whole basin the only significant artificial storage is in Rye Patch Reservoir. Attenuation of high flow in the basin is assignable to the great channel storage and consumptive use by irrigation.

Pyramid and Winnemucca Lakes Basin

Snow-stored water at high elevations on April 1 was more than 200 percent of normal and at lower elevations was 300 percent to 400 percent of normal. Based on comparisons with discontinued records elsewhere on the Truckee River the runoff measured at Reno, Nev., during the 1952 water year was the highest since the 1907 year when the runoff was about 10 percent greater. The momentary maximum was exceeded by the annual maximums of the 1907, 1909, 1928, and 1951 water years. Very high discharge was recorded during the latter part of April, throughout May, and the forepart of June. The average discharge during this period was well above the momentary maximums for most years.

Operation of Lake Tahoe and Boca Reservoir, assisted by near-normal average temperature for May with no great above-normal departure, resulted in a gradual and favorable timing of the runoff. The outlet gates of Lake Tahoe were opened in mid-January, and by April 1 the lake level had been reduced about 1 foot. Boca Reservoir was empty on April 1, which provided 41,000 acre-feet of storage for Little Truckee River runoff.

The stage of Pyramid Lake rose rapidly during the snowmelt period, recording the large volume of water produced in the Truckee River basin. The increase in stage of 7.45 feet was from elevation 3,802.71 feet on January 3 to 3,810.16 feet on June 15. This was the largest rise in stage of the lake during any runoff period since detailed records are available, beginning in 1927. The second largest increase in stage was 5.31 feet during the 1943 water year.

Damage in the basin was largely agricultural. Of the 5,400 acres inundated in the basin, 3,800 acres are in the reach between Reno and Vista known as Truckee Meadows. Much of the Truckee Meadows farmland was under water for about 2 months. Operation of the sewage disposal plant of the city of Sparks, Nev., was seriously hampered for long periods. Commercial enterprises around the shore of Lake Tahoe were damaged as a result of the high lake level. Elsewhere smaller damages to agricultural operations added to the total. Some highways in this area were overflowed without serious damage.

In the Truckee River basin total damage was estimated at $304,000. Of this, $163,000 was in the Truckee Meadows area; $66,900 along the Lake Tahoe shoreline; and the rest mostly agricultural damage along the Truckee River to Pyramid Lake.

Summary of Flood Damages

Estimates of flood damages have been made by the Corps of Engineers, U. S. Army, from an extensive field survey. Table 2 summarizes these estimates.

The greatest agricultural damage in the area was in the Humboldt River basin, particularly in the reach between Palisade and Rye Patch Reservoir. It has been indicated that these estimates made during the flood period could not account for any recovery or other benefits that might have developed later in the growing season. The greatest urban damage, $1,920,000 was in Salt Lake City. The greatest single damage was probably $510,000 total loss to the Denver and Rio Grande Western Railroad of which $442,000 was incurred in the Spanish Fork basin.

Gus P. Backman, chairman of the Utah Council of Defense, in a report to the Governor of Utah, analyzed the distribution of $537,780.49 allotted to cities and counties of Utah by the Federal Government through the Housing and Home Finance Agency. Table 3, abstracted from that report, is a summary of the claims filed and amounts approved by the Utah Flood Control Commission. In the same report it was stated that the Utah State Road Commission estimated additional losses of more than $1,000,000 on Federal and State Highways; the Bureau of Public Roads allocated $350,000 to be matched by State funds for repair and reconstruction of destroyed Federal highways.

Some towns or counties where floods struck before the declaration of an emergency were not qualified to file damage claims. The water-supply system of the town of Levan, and sewage disposal plants, powerplants, and other facilities of the city of Nephi damaged early, were replaced or repaired using local resources.

Expenditures by the Corps of Engineers, Department of Public Health, Bureau of Land Management, Forest Service, and some Federal agencies other than the Bureau of Public Roads have been estimated at $100,000.

Table 2.--Flooded areas and flood damage in Utah and Nevada, 1952
[From Report on 1952 Snowmelt Floods prepared by the Sacramento District, Corps of Engineers, U.S. Army]

Basins and streams	Flooded areas (acres)	Direct flood damage					
		Agricultural	Residential	Commercial and industrial	Public institutions and utilities	Loss to traveling public	Total
				UTAH			
Bear River basin----------	5,300	$323,000	0	0	$81,000	0	$404,000
Weber River basin:							
Weber River:							
Oakley to Morgan----------	2,300	99,100	$11,000	$58,500	72,000	0	240,600
Morgan to Ogden----------	3,700	127,300	17,800	66,900	401,300	$225,000	838,300
Ogden to Great Salt Lake---	12,400	155,500	0	0	115,000	0	270,500
East Canyon----------	1,300	79,800	1,500	0	4,000	0	85,300
Ogden River----------	600	5,500	42,900	12,200	36,100	0	96,700
Other tributaries----------	1,100	53,600	0	0	20,700	0	74,300
Total Weber River basin----	21,400	520,800	73,200	137,600	649,100	225,000	1,605,700
Salt Lake City streams---------	1,200	0	82,000	444,000	1,256,000	138,000	1,920,000
Jordan River basin:							
American Fork----------	200	0	0	0	52,000	0	52,000
Provo River----------	1,700	211,000	45,000	10,000	383,000	0	649,000
Hobble Creek----------	700	134,000	25,000	0	301,000	0	460,000
Spanish Fork River----------	4,700	519,000	27,000	0	758,000	0	1,304,000
Salt Creek----------	1,000	74,000	0	0	54,000	0	128,000
Jordan River----------	4,100	47,000	1,000	0	619,000	0	667,000
Total Jordan River basin---	12,400	985,000	98,000	10,000	2,167,000	0	3,260,000
Other Utah streams----------	nominal	0	0	0	103,000	0	103,000

Table 2.--Flooded areas and flood damage in Utah and Nevada, 1952--Continued

[From Report on 1952 Snowmelt Floods prepared by the Sacramento District, Corps of Engineers, U.S. Army]

Basins and streams	Flooded areas (acres)	Direct flood damage					
		Agricultural	Residential	Commercial and industrial	Public institutions and utilities	Loss to traveling public	Total
NEVADA 1/							
Humboldt River basin:							
Marys River	6,300	$67,300	0	0	$6,300	0	$73,600
North Fork	2,500	26,500	0	0	2,500	0	29,000
South Fork	2,000	22,600	0	0	2,100	0	24,700
Humboldt River:							
Above Palisade	13,400	143,900	0	0	13,500	0	157,400
Palisade to Rye Patch Res	90,600	1,023,300	0	0	80,000	0	1,103,300
Below Rye Patch Res	1,200	35,000	0	0	150,000	0	185,300
Other tributaries	3,500	40,000	0	0	10,000	0	50,000
Total Humboldt basin	119,500	1,358,600	0	0	264,700	0	1,623,300
Little Humboldt River basin	48,000	705,000	0	0	3,000	0	708,000
Truckee River basin:							
Lake Tahoe shore line	600	2,500	0	$64,400	0	0	66,900
Lake Tahoe to Reno	nominal	1,000	$7,600	0	0	0	8,600
Reno to Vista	3,800	161,000	0	0	2,000	0	163,000
Vista to Derby Dam	200	22,500	0	0	0	0	22,500
Derby Dam to Pyramid Lake	800	43,000	0	0	0	0	43,000
Total Truckee River basin	5,400	230,000	7,600	64,400	2,000	0	304,000
Carson and Walker River basin	2,700	50,500	0	0	0	0	50,500
Total - Utah	40,300	1,828,800	253,200	591,600	4,256,100	363,000	7,292,700
Total - Nevada	175,600	2,344,100	7,600	64,400	269,700	0	2,685,800

1/ Damages indicated for Truckee, Carson and Walker River basins may include a small amount for California.

Table 3.--Summary of claims filed and amounts approved by the Utah Flood Control Commission, 1952

Governmental division	Amount of claim	
	Filed	Approved and paid
Fairview	$10,000.00	$5,500.00
Nephi	57,779.26	4,500.00
Levan	5,990.24	5,000.00
Total - Juab County	63,769.50	9,500.00
Morgan County	78,000.00	48,000.00
Utah County	178,500.00	---
Provo City	146,100.00	---
Pleasant Grove	2,000.00	---
Santaquin	2,000.00	---
Lehi	5,500.00	---
American Fork	8,000.00	---
Payson	26,000.00	---
Orem	2,500.00	---
Spanish Fork	12,750.00	---
Springville	170,500.00	---
Total - Utah County	553,850.00	126,550.00
Duchesne City	285,486.75	189,600.00
Duchesne County	14,251.39	9,700.00
Total - Duchesne County	299,738.14	199,300.00
Salt Lake City	563,240.00	83,600.00
Salt Lake County	97,500.00	43,500.00
Total - Salt Lake County	660,740.00	127,100.00
Weber County	---	11,592.00
Ogden City	---	4,238.49
Riverdale	---	6,000.00
Total - Weber County	22,000.00	21,830.49
Total - Utah	1,688,097.64	537,780.49

DETERMINATION OF FLOOD DISCHARGE

The standard method of the Geological Survey for obtaining the peak discharge at gaging stations is by means of current-meter measurements, Measurements are made at the peak, if possible, or the peak discharge is determined from a stage-discharge relationship defined by current-meter measurements near enough to the peak so that a reliable extension of the rating curve can be made. When such measurements cannot be obtained, the peak discharge is commonly determined by indirect methods. Indirect determinations of discharge were made at two gaging stations: one by the slope-area method and one by the float method.

STAGES AND DISCHARGES AT STREAM-GAGING STATIONS

Explanation of Data

The basic data systematically collected at stream-gaging stations consist of records of stage, measurements of discharge, and general information useful in determining the daily flow from the records of gage heights and discharge measurements.

On the following pages the data given for each stream-gaging station are as follows: a station description, a tabulation of daily mean discharges for April-June 1952, and a tabulation of stages and discharges at intervals during each day of the flood rise and recession in sufficient detail to permit plotting of the flood hydrograph. Exceptions are the gaging stations in the Bear River basin, for which the data given are a station description and a tabulation of the runoff for all complete water years of record through 1952.

The station description gives information on the type, location, and datum of the gage, the drainage area above the gage, and information about stages and discharges during the flood. The latter includes a description of the method used in collecting the stage record, a description of the method used to define the rating curve applicable during the flood period, the maximum stage and discharge during the period April-June 1952, the maximum previously known stage and discharge, and pertinent remarks.

Colorado River Basin

Duchesne River near Tabiona, Utah

Location.--Lat 40°18'00", long 110°36'10", in SW¼SE¼ sec. 18, T. 2 S., R. 6 W., Uinta special meridian, at downstream side of left abutment of bridge on State Route 35, 6½ miles upstream from Rock Creek and 8 miles southeast of Tabiona.
Drainage area.--352 sq mi.
Gage-height record.--Water-stage recorder graph except for Apr. 28-29 when float was held.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for period of no gage-height record estimated on basis of weather records and records for other Duchesne River stations. Shifting-control method used Apr. 1 to May 29.
Maxima.--April-June 1952: Discharge, 2,060 cfs 10:30 a.m. June 6 (gage height, 6.63 ft).
1919 to March 1952: Discharge observed, 2,500 cfs June 13, 1921, from rating curve extended above 1,100 cfs.
Remarks.--Several diversions above station for irrigation.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	110	344	1,640	11	167	992	1,750	21	338	1,040	369
2	114	972	1,670	12	151	1,080	1,650	22	338	964	792
3	118	1,100	1,710	13	160	1,150	1,530	23	358	876	760
4	122	1,220	1,800	14	176	1,320	1,400	24	415	862	786
5	134	1,360	1,870	15	169	1,450	1,260	25	494	936	786
6	158	1,430	1,920	16	171	1,430	1,100	26	609	1,030	843
7	178	1,420	1,940	17	197	1,240	1,020	27	728	1,120	862
8	180	1,290	1,880	18	230	1,130	992	28	790	1,240	773
9	160	1,130	1,810	19	255	971	985	29	775	1,400	735
10	164	935	1,800	20	299	999	936	30	784	1,520	704
								31	-	1,600	-
Monthly mean discharge, in cubic feet per second									301	1,165	1,286
Runoff, in acre-feet									17,930	71,610	76,510
Runoff, in inches									0.95	3.81	4.08

Duchesne River at Duchesne, Utah

Location.--Lat 40°09'55", long 110°23'50", in SW¼NE¼ sec. 1, T. 4 S., R. 5 W., Uinta special meridian, on left bank at Duchesne a quarter of a mile upstream from Strawberry River. Altitude of gage is about 5,500 ft.
Drainage area.--660 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1 to June 8.
Maxima.--April-June 1952: Discharge, 4,240 cfs 5 p.m. June 7 (gage height, 6.30 ft).
1917 to March 1952: Discharge observed, 4,420 cfs June 10, 1922 (gage height, 8.65 ft. site and datum then in use).
Remarks.--Diversions above station for irrigation.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	189	1,060	2,480	11	235	1,300	3,180	21	398	1,480	1,680
2	201	1,200	2,660	12	216	1,440	3,000	22	398	1,370	1,520
3	204	1,380	2,980	13	223	1,670	2,840	23	398	1,240	1,440
4	231	1,580	3,180	14	243	1,910	2,670	24	429	1,210	1,510
5	247	1,750	3,450	15	239	2,080	2,520	25	496	1,300	1,530
6	268	1,830	3,650	16	220	2,050	2,180	26	636	1,510	1,550
7	294	1,880	3,860	17	252	1,670	1,990	27	822	1,670	1,720
8	285	1,720	3,780	18	285	1,460	1,900	28	1,040	1,850	1,540
9	243	1,520	3,580	19	320	1,370	1,930	29	1,040	2,170	1,460
10	231	1,350	3,530	20	346	1,380	1,810	30	1,030	2,420	1,400
								31	-	2,560	-
Monthly mean discharge, in cubic feet per second									389	1,625	2,417
Runoff, in acre-feet									23,130	99,270	143,800
Runoff, in inches									0.66	2.84	4.09

Duchesne River at Duchesne, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	May 1			May 10			June 1			June 9	
12:15	4.13	971	1	4.58	1,410	12:15	5.49	2,570	1	5.68	3,320
6	4.27	1,100	7a	4.57	1,400	2	5.42	2,480	5	5.72	3,390
9	4.28	1,110	8p	4.44	1,270	6	5.40	2,460	1	6.00	3,880
4	4.22	1,060		May 11		10	5.50	2,590	5	6.00	3,880
9	4.17	1,010	1	4.42	1,250	4:30	5.45	2,520	11	5.68	3,360
11	4.19	1,030	9	4.53	1,360	6:30	5.30	2,330		June 10	
	May 2		5	4.50	1,330		June 2		1:30	5.62	3,270
6	4.41	1,240	12	4.45	1,280	3:30	5.50	2,590	3:00	5.62	3,270
8	4.44	1,270		May 12		4:30	5.40	2,460	1:30	6.00	3,880
11	4.43	1,260	10	4.65	1,490	10:30	5.62	2,750	5	5.98	3,850
3:30	4.39	1,220	4	4.65	1,490	1	5.64	2,780	11	5.64	3,300
4	4.36	1,190	12	4.62	1,460	3	5.55	2,660		June 11	
10	4.32	1,150		May 13		4	5.62	2,750	4	5.53	3,140
12	4.35	1,180	11	4.88	1,760		June 3		7	5.58	3,210
	May 3		3	4.90	1,780	3a	5.50	2,630	11:30	5.70	3,390
6	4.60	1,440	11	4.83	1,700	4p	5.92	3,270	1	5.70	3,390
9	4.62	1,460		May 14		6	5.90	3,260	3	5.66	3,330
N	4.62	1,460	3	4.89	1,770	12	5.80	3,120		June 12	
7	4.54	1,370	9	5.07	1,990		June 4		1	5.26	2,740
10	4.54	1,370	2	5.12	2,050	11	5.87	3,260	6	5.42	2,970
	May 4		6	5.10	2,030	5	5.88	3,300	10	5.60	3,240
1	4.60	1,440	12	5.01	1,910	10	5.75	3,100	2:30	5.59	3,220
5	4.73	1,580		May 15			June 5			June 13	
8	4.79	1,650	2	5.01	1,910	3	5.63	2,960	1:30	5.20	2,660
N	4.80	1,660	10	5.15	2,090	9	5.90	3,330	11	5.50	3,090
6	4.73	1,580	8	5.22	2,180	N	6.12	3,730	2	5.45	3,020
11	4.71	1,560		May 16		6	6.13	3,780	12	5.13	2,560
	May 5		1	5.23	2,200		June 6			June 14	
8a	4.93	1,820	N	5.12	2,050	2	5.86	3,360	2	5.12	2,550
10	4.95	1,840	12	4.98	1,880	6	5.95	3,360	4	5.16	2,600
11p	4.84	1,710		May 17		2:30	6.13	3,850	9:30	5.32	2,830
	May 6		N	4.80	1,660	8	6.15	3,900	11	5.36	2,880
10a	4.99	1,890	6	4.68	1,540		June 7		3	5.30	2,800
12p	4.92	1,810		May 18		1:30	5.98	3,630	10	5.07	2,480
	May 7		1	4.69	1,560	4	5.95	3,600		June 15	
5	5.02	1,930	N	4.58	1,460	6	5.97	3,630	2	5.00	2,390
8a	5.02	1,930	6	4.52	1,400	5	6.30	4,240	4	5.03	2,430
	May 8			May 19		8	6.12	3,930	8	5.20	2,660
8	4.90	1,780	2	4.46	1,360	11	6.08	3,880	11	5.24	2,720
5	4.78	1,640	8a	4.46	1,370		June 8		1	5.22	2,690
	May 9		12p	4.34	1,280	1:30	5.93	3,630	10	4.94	2,310
6	4.75	1,600		May 20		7	5.97	3,730	12	4.90	2,260
7a	4.72	1,570	N	4.43	1,390	2	6.08	3,930			
			12	4.39	1,350	4	6.06	3,900			

Strawberry River near Soldier Springs, Utah

Location.--Lat 40°08'15", long 111°01'35", in NW¼NW¼ sec. 16, T. 4 S., R. 10 W., Uinta special meridian, on left bank half a mile downstream from Stinking Springs, 2¼ miles upstream from Willow Creek, and 3 miles south of Soldier Springs. Datum of gage is 7,369.3 ft above mean sea level (levels by Bureau of Reclamation).

Drainage area.--212 sq mi (includes about 170 sq mi tributary to Strawberry Reservoir, which includes area above diversion dams on Indian and Trail Hollow Creeks.)

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 550 cfs and extended to peak stage by logarithmic plotting. Shifting-control method used Apr. 4-25.

Maxima.--April-June 1952: Discharge, 1,020 cfs 9 p.m. May 4 (gage height, 3.84 ft). 1942 to March 1952: Discharge, 458 cfs Apr. 22, 1950 (gage height, 3.22 ft).

Remarks.--Water is diverted from Strawberry Reservoir, 7 miles upstream, to Great Basin. Water is seldom released from reservoir into Strawberry River.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	14	469	174	11	14	396	146	21	40	274	106
2	14	504	171	12	14	396	132	22	48	250	106
3	14	531	189	13	14	422	128	23	54	220	106
4	13	660	174	14	15	448	124	24	64	208	113
5	13	682	162	15	15	432	119	25	83	203	124
6	14	675	155	16	15	406	117	26	126	200	141
7	14	611	152	17	15	349	115	27	208	192	139
8	14	558	146	18	16	278	113	28	310	189	110
9	14	486	141	19	18	250	111	29	368	186	101
10	14	416	141	20	29	256	108	30	406	181	98
								31	-	176	-
Monthly mean discharge, in cubic feet per second									67.0	373	132
Runoff, in acre-feet									3,990	22,940	7,860
Runoff, in inches									-	-	-

Strawberry River near Soldier Springs, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 19			April 27		2:30	3.32	591		May 12	
12:15a	1.18	17	2	2.39	179	7	3.77	952	12:30	3.03	422
8p	1.21	19	8:30	2.36	171	9	3.84	1,020	4:30	3.07	442
10	1.30	24	6	2.60	239	11	3.77	952	2	2.93	372
	April 20		7	2.74	290		May 5		6	2.93	372
9	1.30	23	9:30	2.64	253	6	3.27	558		May 13	
1	1.36	27	10:30	2.74	290	9	3.22	527	4	3.11	464
5	1.49	38		April 28		1	3.27	558	7	3.06	437
	April 21		3:30	2.75	294	3:30	3.36	618	2	2.96	387
7	1.47	36	6	2.71	278	7	3.63	825	5	2.97	392
N	1.48	37	11:30	2.69	270	9	3.72	905		May 14	
4	1.60	48	7	2.95	382	12	3.61	808	5	3.18	504
7	1.61	50	12	2.92	368		May 6		4	3.03	422
	April 22			April 29		5	3.28	565	7	3.03	422
5	1.55	43	9:30	2.77	302	10	3.22	527		May 15	
8	1.54	42	1	2.82	323	3	3.33	597	5	3.16	492
10	1.55	43	9	3.12	469	7	3.69	877	N	3.06	437
5	1.68	58		April 30		9	3.78	961	9	2.98	396
9	1.66	55	11:30	2.83	327	11	3.70	886		May 16	
	April 23		2	2.90	358		May 7		2	3.00	406
3	1.59	47	7	3.22	527	3	3.46	689	1	2.98	396
8	1.57	45	9	3.24	540	10	3.27	558	5	3.02	416
2	1.71	61	12	3.22	527	5	3.26	552	10	3.02	416
3	1.78	70		May 1		10	3.33	597		May 17	
4:30	1.75	66	8	2.96	387		May 8		11	2.82	323
5:30	1.77	69	11:30	2.98	396	7	3.21	521	2	2.83	327
12	1.68	56	7	3.27	558	N	3.13	475	7	2.88	349
	April 24		9	3.29	571	2	3.17	498	12	2.79	310
4	1.65	53		May 2		6	3.39	638		May 18	
8	1.64	52	9	2.93	396	8	3.44	675	N	2.68	267
1	1.78	69	11	2.99	401		May 9		12	2.65	256
5:30	1.86	80	5	3.22	527	11	3.06	437		May 19	
8	1.82	74	10:30	3.54	751	4	3.07	442	N	2.63	250
	April 25			May 3		10	3.17	498		May 20	
8	1.78	69	4	3.19	509		May 10		3	2.62	246
N	1.92	89	10	3.08	448	8	2.96	387	2	2.68	267
4	1.97	97	3:30	3.25	546	N	2.94	377	6:30	2.62	246
5:30	2.02	104	6	3.57	775	5	3.00	406	12	2.66	260
8	2.00	98	8:30	3.64	834	9:30	3.09	453		May 21	
	April 26			May 4			May 11		7:30	2.78	306
8	2.02	103	4	3.37	625	N	2.82	323	6	2.68	267
2	2.24	146	7	3.20	515	4	2.84	332	12	2.66	260
8	2.35	169	10	3.17	498	10	3.05	432			

Strawberry River at Duchesne, Utah

Location.--Lat 40°10', long 110°25', in SW¼NE¼ sec. 2, T. 4 S., R. 5 W., Uinta special meridian, on left bank 60 ft downstream from bridge, three-quarters of a mile west of Duchesne, and 1½ miles upstream from mouth. Altitude of gage is about 5,500 ft.

Drainage area.--1,040 sq mi, approximately (includes about 170 sq mi above diversion dams on Indian and Trail Hollow Creeks tributary to Strawberry Reservoir).

Gage-height record.--Water-stage recorder graph except for period Apr. 19-21.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for period of no gage-height record Apr. 19-21 estimated on basis of discharge measurement, weather records, and records for Strawberry River near Soldier Springs and nearby streams. Shifting-control method used Apr. 28 to May 12.

Maxima.--April-June 1952: Discharge, 3,490 cfs 5 p.m. May 7 (gage height, 5.34 ft); gage height 5.63 ft 11:30 p.m. May 3.
1908-10, 1914 to March 1952: Discharge observed, 3,230 cfs May 27, 1922 (gage height, 7.70 ft, site and datum then in use), from rating curve extended above 1,500 cfs.

Remarks.--Diversions for irrigation above station.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	190	1,980	1,560	11	286	2,370	942	21	720	1,690	470
2	200	2,210	1,450	12	263	2,340	856	22	720	1,680	453
3	210	2,420	1,490	13	278	2,450	776	23	683	1,550	447
4	221	2,840	1,500	14	329	2,530	714	24	733	1,490	457
5	235	3,010	1,400	15	366	2,560	655	25	807	1,480	488
6	278	3,280	1,350	16	341	2,460	607	26	920	1,540	525
7	344	3,420	1,290	17	402	2,160	589	27	1,100	1,590	607
8	376	3,070	1,190	18	479	1,770	562	28	1,320	1,610	477
9	314	2,840	1,090	19	540	1,560	517	29	1,620	1,630	422
10	306	2,440	1,020	20	620	1,540	488	30	1,760	1,650	404
								31	-	1,630	-
Monthly mean discharge, in cubic feet per second									565	2,155	827
Runoff, in acre-feet									33,640	132,500	49,180
Runoff, in inches									0.73	2.86	1.06

Strawberry River at Duchesne, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 25			May 4			May 12			May 22	
12:15a	3.14	708	6	5.45	2,720	1	3.98	2,280	1	3.13	1,770
6	3.31	780	N	5.47	2,800	4	3.93	2,260	6	3.04	1.700
2	3.50	865	4:30	5.62	2,960	5	3.92	2,250	2:30	3.00	1,670
5	3.50	865	5:30	5.53	2,910	6p	4.07	2,410		May 23	
12	3.41	824	6:30	5.52	2,910		May 13		N	2.87	1,570
	April 26		7:30	5.60	2,990	3a	3.87	2,280		May 24	
6	3.52	874		May 5		6	3.85	2,280	4:30a	2.68	1,440
N	3.58	902	8a	5.22	2,820	11	3.93	2,350	1	2.80	1,520
6	3.73	972	4	5.41	3,070	4	4.22	2,590	8	2.75	1,490
8	3.83	1,020	5	5.55	3,200	6	4.24	2,620		May 25	
	April 27		11	5.52	3,240	8:30	4.23	2,610	4:30	2.68	1,440
6	3.87	1,040		May 6			May 14		2	2.80	1,520
12p	4.25	1,220	2	5.39	3,170	5	3.98	2,410	7	2.78	1,510
	April 28		6	5.29	3,150	9	4.01	2,440	12	2,73	1,470
12:45	4.40	1,290	9	5.28	3,180	6	4.30	2,660		May 26	
1	4.32	1,250	5	5.45	3,390	9	4.30	2,660	4	2.74	1,480
2:30	4.48	1,330	9	5.45	3,410		May 15		N	2.85	1,560
4:45	4.58	1,380		May 7		2	4.14	2,540	11	2.85	1,560
5	4.82	1,390	5a	5.13	3,230	9	4.05	2,470		May 27	
7	4.85	1,410	2	5.31	3,450	6	4.25	2,620	3:30	2.80	1,520
7:30	4.95	1,420	5	5.34	3,490	9	4.27	2,640	7	2.83	1,540
12	5.03	1,460	9	5.28	3,430	12	4.24	2,620	1	2.96	1,640
	April 29			May 8			May 16		5	2.98	1,660
1	4.96	1,440	5	5.01	3,190	7	4.06	2,480		May 28	
2	4.98	1,470	8:30	4.97	3,140	2	4.05	2,470	2	2.90	1,600
9	4.77	1,490	9	4.89	3,080		May 17		3:30	2.83	1,540
3	4.82	1,580	N	4.85	3,040	4a	3.85	2,310	2	2.98	1,660
6	5.06	1,720	1:15	4.88	3,050	7	3.83	2,300	9	2.98	1,660
9	5.18	1,810		May 9		N	3.72	2,210		May 29	
	April 30		5a	4.60	2,780	9	3.37	1,950	3	2.90	1,600
5	4.82	1,680	11:30	4.82	2,930		May 18		7	2.91	1,600
11	4.75	1,690	2	4.84	2,940	3	3.26	1,860	2	3.02	1,680
10	4.95	1,850		May 10		8a	3.23	1,840		May 30	
	May 1		3a	4.50	2,620		May 19		5a	2.90	1,600
5	5.00	1,930	4	4.33	2,490	5a	2.85	1,560	9p	3.03	1,690
10	4.93	1,920	10	4.30	2,450	1	2.88	1,580		May 31	
2	4.97	1,960	1	4.32	2,450		May 20		6	2.91	1,600
	May 2		12	4.12	2,310	4	2.73	1,470	2	2.98	1,660
2	5.35	2,200		May 11		N	2.86	1,570	4:30	2.95	1,630
9	5.23	2,150	6	4.06	2,290		May 21		7	2.98	1,660
12	5.42	2,350	12:30	4.18	2,400	6a	2.90	1,600	12	2.92	1,610
	May 3		4	4.18	2,410	4	3.16	1,790			
8	5.23	2,300	8:30	4.10	2,370						
2	5.32	2,420									
11:30	5.63	2.780									

Duchesne River at Myton, Utah

Location.--Lat 40°12', long 110°03', in NW¼ sec. 25, T. 3 S., R. 2 W., Uinta special meridian, on left bank at Myton, 3 miles downstream from Lake Fork. Datum of gage is 5,061.40 ft above mean sea level, datum of 1929.
Drainage area.--2,750 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used May 3 to June 12.
Maxima.--April-June 1952: Discharge, 6,530 cfs 5 a.m. June 8 (gage height, 7.34 ft). 1899 to March 1952: Discharge observed, 12,800 cfs June 10, 1922 (gage height, 7.94 ft, site and datum then in use), from rating curve extended above 8,000 cfs.
Remarks.--Large diversions above station for irrigation. Flow affected by reservoirs above station.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	520	3,410	4,800	11	901	4,190	5,990	21	1,440	3,130	2,700
2	600	3,820	4,930	12	864	4,120	5,540	22	1,470	3,160	2,250
3	660	4,280	4,700	13	808	4,260	5,230	23	1,460	2,940	2,170
4	770	4,930	5,000	14	901	4,700	4,800	24	1,430	2,770	2,250
5	900	5,650	5,400	15	980	5,180	4,460	25	1,560	2,800	2,770
6	1,000	5,970	5,750	16	891	5,310	3,940	26	1,810	3,020	2,620
7	1,300	6,090	6,290	17	930	4,640	3,500	27	2,190	3,210	3,250
8	1,200	5,920	6,330	18	1,050	3,830	3,280	28	2,630	3,350	2,910
9	960	5,330	6,050	19	1,180	3,330	3,130	29	3,040	3,760	2,670
10	891	4,720	6,230	20	1,260	3,080	2,990	30	3,200	4,280	2,700
								31	-	4,550	-
Monthly mean discharge, in cubic feet per second									1,293	4,185	4,154
Runoff, in acre-feet									76,950	257,300	247,200
Runoff, in inches									0.52	1.75	1.69

Duchesne River at Myton, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	May 1		4	6.14	4,570	8	5.47	3,040	12	7.27	6,370
12:15	5.16	3,140	10	6.10	4,480	2	5.52	3,110		June 8	
6	5.19	3,180		May 11		5	5.50	3,080	5	7.34	6,530
9:30	5.36	3,460	5	5.96	4,220	7	5.51	3,090	8	7.32	6,490
6	5.42	3,560	9	5.92	4,130	12	5.48	3,040	8p	7.12	6,090
8	5.41	3,550	9p	5.95	4,170		June 1			June 9	
12	5.49	3,680		May 12		12:15	6.58	4,760	4	7.14	6,150
	May 2		1	5.94	4,130	9	6.59	4,800	4:30	7.04	5,970
4	5.42	3,560	7	5.88	4,030	1	6.55	4,720		June 10	
2	5.64	3,940	9	5.88	4,010	9	6.60	4,830	4	7.11	6,130
12	5.62	3,900	9p	6.00	4,210		June 2		9	7.10	6,130
	May 3			May 13		3	6.57	4,780	1	7.17	6,270
5	5.67	4,120	3	6.01	4,210	10	6.64	4,930	5	7.20	6,330
N	5.82	4,370	11	6.00	4,170	3	6.64	4,930		June 11	
10	5.86	4,420	3	6.04	4,240	7	6.67	5,000	3:30	7.18	6,310
	May 4			May 14			June 3		N	6.98	5,940
3	5.96	4,590	6	6.27	4,640	1	6.65	4,970	9	6.88	5,760
4	6.06	4,780	1	6.31	4,700	4	6.54	4,760		June 12	
7p	6.27	5,140	10	6.44	4,950	7	6.56	4,820	3	6.72	5,460
	May 5			May 15		10	6.43	4,570	8:30	6.68	5,400
3	6.36	5,290	11	6.59	5,210	N	6.39	4,490	N	6.76	5,560
9	6.54	6,610	7	6.62	5,250	2:30	6.39	4,490	6	6.80	5,650
7	6.65	5,800	12	6.77	5,540	7	6.46	4,640	10:30	6.77	5,590
9	6.72	5,940		May 16		12	6.50	4,720		June 13	
	May 6		4	6.81	5,610		June 4		2	6.62	5,310
1:30	6.72	5,920	N	6.73	5,440	9	6.60	4,930	7:30	6.53	5,160
8	6.80	6,070	3	6.63	5,250	1	6.68	5,080	1	6.59	5,270
N	6.79	6,030	8	6.52	5,020	5	6.69	5,120	5	6.60	5,290
4	6.72	5,900		May 17		8:30	6.68	5,100	8	6.58	5,250
12	6.79	6,010	2	6.37	4,740		June 5		10	6.54	5,180
	May 7		3	6.44	4,870	2:30	6.88	5,500		June 14	
12:30	6.76	5,960	9:30	6.33	4,640	5	6.82	5,380	2	6.26	4,640
2	6.82	6,070	9:45	6.46	4,890	N	6.78	5,310	4	6.22	4,570
7:30	6.91	6,230	4	6.35	4,680	5	6.78	5,330	8	6.33	4,780
6:30	6.81	6,010	8	6.23	4,460	12	6.87	5,500	N	6.42	4,950
	May 8			May 18			June 6		4:30	6.45	5,000
6	6.89	6,130	1	6.03	4,080	6	7.01	5,780		June 15	
11	6.86	6,070	N	5.89	3,830	8:30	7.03	5,820	2	6.12	4,390
8	6.68	5,690	12	5.75	3,560	6	7.00	5,780	4	6.08	4,310
	May 9			May 19		8	6.97	5,730	7	6.08	4,310
6	6.60	5,520	6	5.67	3,400	10:30	6.97	5,730	9	6.12	4,390
3	6.46	5,230	3	5.60	3,280		June 7		11:30	6.22	4,570
	May 10		7	5.55	3,180	3	7.06	5,920	1:30	6.26	4,640
12:30	6.44	5,180	7:15	5.58	3,230	7	7.27	6,330	4:30	6.27	4,660
5	6.35	5,000		May 20		10:30	7.34	6,470	7	6.21	4,550
9	6.24	4,780	4	5.48	3,060	3	7.29	6,390	12	6.03	4,220

Price River above Scofield Reservoir, near Scofield, Utah

Location.--Lat 39°46'35", long 111°10'35", in SE¼ sec. 18, T. 12 S., R. 7 E., on left bank at mouth of canyon, 800 ft upstream from bridge, half a mile upstream from Pontown Creek, and 4 miles north of Scofield. Altitude of gage is 7,630 ft (from topographic map).

Drainage area.--62 sq mi, approximately.

Gage-height record.--Water-stage recorder graph except for period Apr. 1-24 when float was held by ice.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for period of no gage-height record estimated on weather records and records for nearby stations. Shifting-control method used Apr. 25 to June 30.

Maxima.--April-June 1952: Discharge, 1,070 cfs 12 p.m. May 14 (gage height, 3.62 ft). 1931-32, 1938 to March 1952: Discharge, 673 cfs May 19, 1932 (gage height, 3.77 ft, site and datum then in use).

Remarks.--Small transmountain diversions in headwaters for irrigation in Sevier Lake basin, and one diversion above station for irrigation.

Price River above Scofield Reservoir near Scofield, Utah--Continued

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1		269	771	11	16	674	429	21	95	750	172
2		350	735	12	17	756	396	22	108	640	157
3	11	488	730	13	18	848	368	23	120	575	146
4		611	709	14	20	940	333	24	150	579	164
5		684	674	15	23	917	305	25	172	630	172
6		740	630	16	30	724	291	26	180	709	168
7	12	750	575	17	45	598	258	27	207	777	172
8		719	505	18	45	544	228	28	260	788	139
9		674	488	19	60	566	207	29	263	826	123
10	14	621	456	20	80	656	186	30	251	859	110
								31	-	837	-
Monthly mean discharge, in cubic feet per second									75.9	681	360
Runoff, in acre-feet									4,520	41,850	21,420
Runoff, in inches									1.37	12.66	6.48

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	May 1			May 6		11	3.26	854	12	2.93	593
12:15a	1.89	258	1p	2.98	684	2	3.28	865		May 23	
12:30p	1.82	242	4:30	3.06	724	9:30	3.60	1,060	3:30	2.85	552
3:30	1.90	260	9	3.21	804	11:15	3.53	1,010	10	2.95	593
8	2.12	319		May 7		12	3.62	1,070		May 24	
10	2.15	327	2:30p	3.03	714		May 15		3p	2.87	552
	May 2		12	3.09	745	N	3.37	911	10	3.02	616
12:30a	2.14	327		May 8		6	3.28	854	12	3.04	626
1:30	1.90	263	1:30	2.95	679		May 16			May 25	
2:30	2.15	330	7	3.05	730	2:30	3.18	793	5a	3.02	611
3:30	2.12	322	12	3.03	719	9	3.08	735	1:30	2.97	588
10:30	2.06	305		May 9		5	3.00	689	11	3.23	709
1	2.07	307	4p	2.87	645		May 17			May 26	
4	2.18	339	9	2.89	654	9a	2.82	598	4	3.21	694
6	2.32	385		May 10		5	2.78	575	1:30	3.13	654
7:30	2.47	440	11a	2.74	588	11	2.78	575	12	3.46	820
10:30	2.52	460	3	2.74	588		May 18			May 27	
12	2.48	444	9:30	2.91	669	2:30p	2.67	518	2	3.46	815
	May 3			May 11		9	2.78	566	1	3.31	730
12:30	2.32	388	4	2.89	659	12	2.79	570	3	3.29	719
1:30	2.49	452	1:30	2.82	626		May 19		10	3.47	815
3	2.57	484	3	3.83	630	4	2.78	561		May 28	
8	2.49	452	9	3.04	735	1:30	2.71	526	3	3.47	809
1	2.47	444	12	3.08	756	4	2.74	539	2	3.37	750
9	2.81	588		May 12		9	2.88	602	3:30	3.38	756
	May 4		6	3.04	735	11	2.91	616	9	3.56	854
1	2.83	602	2	2.98	704		May 20		11	3.58	865
12:30	2.73	557	4	3.01	719	7	2.92	616		May 29	
3	2.76	570	8:30	3.24	842	1	2.91	607	2p	3.43	777
7	2.96	664		May 13		3	2.94	621	12	3.65	893
10	3.04	704	6	3.22	831	10	3.28	793		May 30	
	May 5		1	3.12	777		May 21		2p	3.50	809
7	2.94	659	3	3.14	788	5	3.28	788	8	3.64	882
11:30	2.89	635	8:30	3.44	958	3	3.18	730	12	3.67	899
3:30	2.94	659		May 14		12	3.13	699		May 31	
9:30	3.14	761	5	3.41	940		May 22		3p	3.52	809
						N	3.01	635	12	3.52	809

Scofield Reservoir near Scofield, Utah

Location.--Lat 39°47', long 111°08', in sec. 10, T. 12 S., R. 7 E., on right bank 200 ft from face of dam on Price River and 5 miles northeast of Scofield. Datum of gage is at mean sea level (levels by Bureau of Reclamation).
Drainage area.--163 sq mi.
Gage-height record.--Inclined staff gage read about 9 a.m. daily.
Maxima.--April-June 1952: Net contents, 76,450 acre-ft May 31, June 1 (elevation, 7,621.3 ft).
1941 to March 1952: Net contents, 54,560 acre-ft June 9, 10, 1950 and June 3-7, 1951 (elevation, 7,613.4 ft).
Maximum contents known, about 56,500 acre-ft at time first partial failure occurred May 21, 1928 (elevation, about 7,607.2 ft, at datum 4.51 ft higher).
Remarks.--Reservoir is formed by earth and rock fill, rock-faced dam 800 ft downstream from old dam in use prior to Nov. 8, 1945. Usable capacity of reservoir formed by new dam is 65,780 acre-ft between 7,586.0 ft (bottom of outlet works) and 7,617.5 ft (crest of spillway). Dead storage, 8,000 acre-ft below elevation 7,586.0 ft. Figures given herein represent usable contents at time gage is read. Water used for irrigation in vicinity of Price.
Cooperation.--Capacity table furnished by Bureau of Reclamation.

Elevation, in feet, and contents, in acre-feet, at 12 p.m. of indicated day, 1952

	April		May		June	
Day	Elevation	Contents	Elevation	Contents	Elevation	Contents
1	-	-	7,609.5	44,460	7,621.3	76,450
2	-	-	7,609.9	45,470	7,621.2	76,260
3	-	-	7,610.3	46,480	7,621.2	76,260
4	-	-	7,610.8	47,760	7,621.2	76,260
5	7,605.2	34,060	7,611.2	48,790	7,621.2	76,260
6	-	-			7,621.1	76,060
7	-	-	7,612.9	53,230	7,621.0	75,860
8	-	-			7,620.8	75,270
9	7,605.2	34,060			7,620.7	74,980
10	-	-	7,614.2	56,700	7,620.6	74,690
11	-	-	7,614.5	57,510	7,620.4	74,100
12	7,605.3	34,300			7,620.2	73,520
13	-	-	7,617.5	65,780	7,620.0	72,930
14	-	-	7,618.2	67,760	7,619.8	72,350
15	-	-	7,619.0	70,040	7,619.7	72,060
16	-	-	7,619.4	71,200	7,619.5	71,480
17	-	-	7,619.7	72,060	7,619.3	70,910
18	-	-	7,619.7	72,060	7,619.1	70,330
19	7,605.8	35,460	7,619.9	72,640	7,619.0	70,040
20	-	-	7,620.2	73,520	7,618.8	69,470
21	7,606.0	35,930	7,620.5	74,400	7,618.7	69,190
22	-	-	7,620.6	74,690	7,618.6	68,900
23	-	-	7,620.6	74,690	7,618.5	68,620
24	7,606.5	37,120	7,620.6	74,690	7,618.3	68,040
25	7,606.9	38,070	7,620.6	74,690	7,618.3	68,040
26	7,607.1	38,550	7,620.6	74,690	7,618.2	67,760
27	-	-	7,620.8	75,270	7,618.2	67,760
28	7,607.9	40,490	7,621.0	75,860	7,618.1	67,480
29	7,608.5	41,970	7,621.1	76,060	7,618.0	67,190
30	7,609.1	43,460	7,621.2	76,260	7,617.8	66,630
31	-	-	7,621.3	76,450		
Change in contents, acre-feet		+9,630		+32,990		-9,820
Change in contents, equivalent mean cubic feet per second		+162		+537		-165

Price River near Scofield, Utah

Location.--Lat 39°47'15", long 111°07'15", in SE¼ sec. 10, T. 12 S., R. 7 E., on left bank 800 ft downstream from Scofield Reservoir Dam, 5 miles northeast of Scofield, and 9 miles upstream from White River. Datum of gage is 7,570.13 ft. above mean sea level (levels by Bureau of Reclamation.)
Drainage area.--163 sq mi.
Gage-height record.--Water-stage recorder graph except for period Apr. 1-24 when was not operating, and May 18-22 when record was doubtful.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for period of doubtful or no gage-height record estimated on basis of record of gate operation.
Maxima.--April-June 1952: Discharge, 1,070 cfs 2 p.m. May 31 (gage height, 4.99 ft). 1917-20, 1926-31, 1938 to March 1952: Discharge, 1,000 cfs on or about May 24, 1920 (gage height, 10.4 ft, from floodmark, site and datum then in use), from rating curve extended above 500 cfs.
Remarks.--Flow completely regulated by Scofield Reservoir. Small diversions above Scofield Reservoir for irrigation.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1		1.4	1,060	11		2.0	829	21	1.2	681	402
2	0.7	1.6	1,040	12	1.0	84	783	22		850	381
3		1.6	1,030	13		216	737	23	1.3	832	363
4	.8	1.6	1,030	14		101	685	24		819	355
5	.9	1.6	1,020	15	1.1	528	632	25	1.4	823	352
6		1.8	1,020	16		653	578	26	1.4	850	344
7		1.8	1,000	17		786	530	27	1.4	897	340
8		2.0	981	18		535	493	28	1.4	907	329
9	1.0	2.0	926	19	1.2	406	458	29	1.4	1,030	317
10		2.0	884	20		493	426	30	1.4	1,050	313
								31	-	1,060	-
Monthly mean discharge, in cubic feet per second									1.11	439	655
Runoff, in acre-feet									66	27,020	38,950
Runoff, in inches									-	-	-

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	May 12		12	3.22	697	3	3.88	838	12	4.59	987
12:15a	0.55	2.0		May 17			May 23			May 28	
4:45a	.55	2.0	7:45	3.27	708	N	3.82	825	5	4.63	995
5	1.71	251	8:15	3.60	781	12	3.79	819	5:15	3.84	829
8:30	1.72	263	9	2.35	481		May 24		9:30	3.87	836
9	1.83	306	10	1.98	359	5p	3.75	810	7:15	3.97	857
	May 13		11	3.63	787	12	3.77	815	7:30	4.69	1,010
2:30	1.87	321	11:15	4.12	890		May 25		12	4.72	1,010
3:45p	1.87	321	5	4.12	890	8a	3.80	821		May 29	
4:15	.70	8.4	12	4.12	890	7:30	3.81	823	10:30	4.78	1,030
5	.57	2.8		May 18			May 26		2:30	4.82	1,030
10	.63	5.0	7:45	4.11	886	8:30	3.94	850	7	4.80	1,030
	May 14		8	1.96	348	9:30	3.92	846		May 30	
3	.88	24		May 19		N	3.93	848	4	4.86	1,040
3p	1.24	97	6:45a	2.06	385	1	3.96	855	3	4.92	1,050
9:30	1.37	136		May 20		12	4.00	863	6	4.90	1,050
9:45	2.12	409	6:45	2.26	452		May 27		9	4.91	1,050
	May 15			May 21		11:30	4.03	869		May 31	
1	2.26	455	7	2.80	596	11:45	4.17	899	6	4.97	1,060
N	2.52	528	4	2.80	596	N	4.17	899	2	4.99	1,070
12	2.81	601	4:15	4.11	886	12:15	4.03	869	12	4.97	1,060
	May 16			May 22		3	4.03	869			
4	2.09	622	6:30a	4.11	886	5:30	4.05	874			
6p	3.13	676	7	3.88	838	5:45	4.58	985			

Price River near Heiner, Utah

Location.--Lat 39°43'05", long 110°51'55", in SW¼ sec. 1, T. 13 S., R. 9 E., on left bank two-thirds of a mile north of Heiner and three-quarters of a mile downstream from Willow Creek. Altitude of gage is 6,000 ft (from topographic).
Drainage area.--455 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1 to May 10 and June 6-30.
Maxima.--April-June 1952: Discharge, 2,620 cfs 12:30 a.m. Apr. 28 (gage height, 4.87 ft). 1934 to March 1952: Discharge, 9,340 cfs Sept. 13, 1940 (gage height, 7.98 ft).
Remarks.--Several small diversions from tributaries above station for irrigation and municipal supply. Flow affected by Scofield Reservoir.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	37	1,650	1,560	11	160	1,280	1,080	21	677	1,410	574
2	39	1,720	1,520	12	138	1,240	1,020	22	729	1,570	546
3	42	1,890	1,550	13	169	1,480	946	23	742	1,480	519
4	52	1,970	1,500	14	204	1,290	880	24	861	1,430	524
5	69	1,910	1,440	15	199	1,560	828	25	1,040	1,430	537
6	89	1,850	1,410	16	201	1,660	778	26	1,260	1,470	546
7	110	1,750	1,370	17	283	1,640	729	27	1,600	1,490	528
8	142	1,570	1,320	18	380	1,470	688	28	2,040	1,510	471
9	152	1,440	1,230	19	469	1,160	652	29	1,570	1,570	446
10	160	1,330	1,160	20	545	1,250	608	30	1,540	1,600	422
								31	-	1,600	-
Monthly mean discharge, in cubic feet per second									523	1,538	913
Runoff, in acre-feet									31,140	94,550	54,310
Runoff, in inches									1.28	3.90	2.24

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 15		6:30	3.18	749	11	3.86	1,320	6	4.26	1,880
12:15	2.13	240		April 21			April 27			May 3	
10	1.92	187	11	2.87	566	10	3.58	1,160	7a	4.20	1,840
1	1.91	185	2	2.99	635	1	3.65	1,250	10:30	4.13	1,780
5	1.93	190	5	3.29	832	5:30	4.57	2,220	2	4.22	1,860
8:30	1.98	201	7	3.37	890	8:30	4.29	1,930	6:30	4.49	2,080
	April 16		12	3.27	817		April 28		12	4.28	1,910
8	1.83	167		April 22		12:30	4.87	2,620		May 4	
1	1.85	174	10	2.96	617	7	4.25	2,070	7	4.35	1,960
2:30	1.88	180	1	2.95	611	N	4.00	1,870	1	4.27	1,910
8	2.27	288	7	3.36	883	2:30	4.00	1,870	6	4.45	2,050
9:30	2.28	292	9	3.35	875	5	4.15	1,990	9	4.42	2,030
12	2.26	285	11	3.25	803	10:30	3.92	1,740		May 5	
	April 17			April 23			April 29		6	4.17	1,830
9	2.00	208	10	2.96	617	2	4.00	1,760	7:30	4.30	1,940
11	1.99	206	1	2.98	635	8	3.80	1,560	3	4.26	1,910
1	2.02	214	7	3.41	929	N	3.75	1,480	7:30	4.32	1,960
8	2.57	408	8:30	3.42	937	6	4.10	1,720	8:30	4.15	1,820
	April 18			April 24		12	3.88	1,570		May 6	
1	2.50	378	1	3.25	810		April 30		3:30	4.28	1,930
9	2.27	288	9	3.11	716	N	3.68	1,430	8:30	4.17	1,840
10:30	2.26	285	12:30	3.11	716	6	4.00	1,660	N	4.21	1,880
2	2.36	321	3	3.28	832	8:30	4.06	1,710	2	4.12	1,800
6	2.72	478	6:30	3.72	1,180	12	3.93	1,620	6	4.17	1,840
8:30	2.86	555		April 25			May 1			May 7	
	April 19		2	3.42	921	10	3.73	1,480	2:30	4.17	1,850
9:30a	2.51	386	N	3.26	796	4:30	3.95	1,630	6	4.05	1,760
2	2.59	422	5	3.77	1,210	5:15	4.90	2,420	4	4.00	1,720
6	2.84	545	11:30	4.08	1,490	6	4.40	1,990		May 8	
9	2.87	561		April 26		7	4.30	1,910	1a	3.93	1,670
12	2.84	545	6	3.74	1,160	12	4.10	1,750	1p	3.67	1,500
	April 20		11:30	3.56	1,000		May 2		6	3.73	1,540
10	2.65	449	2	3.73	1,150	7	3.90	1,600	12	3.71	1,530
12:30	2.64	445	5:30	4.22	1,620	2	3.93	1,690			

Huntington Creek near Huntington, Utah

Location.--Lat 39°22'15", long 111°03'45", in SE¼ sec. 6, T. 17 S., R. 8 E., on left bank at upstream side of farm road bridge, 1 mile upstream from Fish Creek and 7 miles northwest of Huntington. Altitude of gage is 6,200 ft (from river-profile map).
Drainage area.--188 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1 to June 6.
Maxima.--April-June 1952: Discharge, 1,580 cfs 9:30 p.m. June 4 (gage height, 6.10 ft). 1909 to March 1952: Discharge, 2,500 cfs Aug. 2 or 3, 1930 (gage height, 7.5 ft from flood mark), from rating curve extended above 600 cfs.
Remarks.--Small diversions above station for irrigation, including transmountain diversions to Sevier Lake basin. Flow slightly regulated by small reservoirs above station.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	40	385	1,090	11	56	816	1,020	21	121	910	447
2	40	471	982	12	54	938	976	22	134	747	429
3	39	572	1,210	13	60	1,080	882	23	156	685	390
4	40	672	1,300	14	64	1,210	834	24	179	709	425
5	52	739	1,270	15	63	1,150	777	25	212	777	458
6	59	940	1,310	16	63	882	690	26	272	860	444
7	59	1,020	1,250	17	69	699	626	27	330	948	429
8	56	938	1,150	18	82	680	569	28	393	982	387
9	59	839	1,100	19	94	728	544	29	366	1,070	356
10	59	734	1,120	20	96	888	496	30	347	1,170	333
								31	-	1,110	-
Monthly mean discharge, in cubic feet per second									124	850	776
Runoff, in acre-feet									7,370	52,260	46,200
Runoff, in inches									0.73	5.21	4.61

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	May 1			May 7		2:15	5.34	1,410	2	5.97	1,480
12:15	3.05	370	4	4.40	1,040	5	5.12	1,260	3:30	5.78	1,350
9	3.06	373	5	4.53	1,120	2	4.85	1,080	4:30	5.85	1,390
10	3.03	362	3	4.30	968	12	4.75	1,010	12:30	5.50	1,170
3:30	3.02	358	6	4.28	956		May 16		5	5.64	1,250
7:15	3.13	400	11	4.34	986	9	4.58	904	10	5.95	1,460
7:30	3.19	424		May 8		4	4.51	860	11:15	5.88	1,410
12	3.26	454	2	4.28	944	12	4.33	757	12	5.95	1,460
	May 2		5	4.35	986		June 1			June 7	
N	3.21	433	11	4.22	902	12:15a	5.50	1,200	11	5.55	1,190
4	3.26	454	4	4.23	902	3	5.37	1,110	6	5.52	1,170
11	4.56	591	10	4.36	974	3p	5.20	1,020	11	5.68	1,270
	May 3			May 9		12	5.37	1,120		June 8	
2	3.52	606	7	4.20	874		June 2		4	5.60	1,220
6	3.55	586	4	4.07	788	6	5.13	976	1	5.30	1,040
2	3.44	534	12	4.06	778	1:30	5.00	898	4	5.30	1,040
	May 4			May 10		5	5.07	937	10	5.63	1,240
4a	3.70	661	6	4.00	739	9	5.22	1,020		June 9	
6	3.58	601	10	3.92	692	11	5.38	1,120	7:30	5.32	1,050
7	3.70	661	4	3.92	687		June 3		8:30	5.34	1,060
1	3.63	626		May 11		5	5.27	1,060	3:30	5.20	982
6	3.72	672	1a	4 21	839	11	5.50	1,180	11:30	5.72	1,290
8:30	3.92	778	10	4.08	756	1:30	5.88	1,430		June 10	
12	4.00	822	3	4.07	745	3	5.70	1,310	N	5.30	1,040
	May 5			May 12		6:45	5.53	1,200	5	5.30	1,040
1:30	3.87	750	1	4.53	1,000	8	5.90	1,450	8	5.42	1,110
2:30	3.96	800	8	4.34	885		June 4			June 11	
7	3.77	697	1	4.28	845	4	5.65	1,270	1	5.46	1,140
N	3.77	697	6	4.43	926	5	5.72	1,320	4	5.33	1,060
4	3.72	672	12	4.79	1,140	11	5.47	1,160	1	5.12	938
12	4.09	874		May 13		2	5.48	1,170	4	5.11	932
	May 6		2p	4.54	960	5:30	5.65	1,270	11	5.43	1,120
1:30a	4.00	822	5	4.67	1,030	7	5.93	1,460		June 12	
2	4.05	845	7	4.90	1,170	9:30	6.10	1,580	5:30	5.07	910
4	4.05	845	12	5.22	1,360	12	6.05	1,550	10	5.25	1,010
5	3.90	767		May 14			June 5			June 13	
9	3.82	724	1:15	5.05	1,240	5a	5.84	1,400	8	5.02	882
9:30	4.49	1,110	2	5.15	1,310	7	5.57	1,210	4	4.88	808
1	4.43	1,070	2p	4.79	1,080	8	5.67	1,270	10	5.10	926
3:30	4.20	932	6	5.00	1,200	1:30	5.37	1,090		June 14	
3:45	4.50	1,110	7	5.13	1,270	7	5.55	1,200	3p	4.81	772
4:15	4.20	932	12	5.22	1,330	12	5.90	1,430	10:30	5.00	871
7	4.23	944		May 15			June 6			June 15	
9	4.45	1,080	1a	5.12	1,260	1a	5.84	1,390	4p	4.72	728
									10	4.80	767
									12	4.77	752

Cottonwood Creek near Orangeville, Utah

Location.--Lat 39°16'00", long 111°07'45", in SW¼ sec. 10, T. 18 S., R. 7 E., on right bank 2 miles upstream from Grimes Wash and 5 miles northwest of Orangeville. Altitude of gage is 6,050 ft (from topographic map).
Drainage area.--200 sq mi, approximately.
Gage-height record.--Water-stage recorder graph except May 15-22, when station was destroyed by flood, and May 3, May 27 to June 6, June 17-30 when pen was not operating properly.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used April 1 to May 14.
Maxima.--April-June 1952: Discharge recorded 1,990 cfs 7:30 p.m. June 11 (gage height, 4.45 ft). 1909-27, 1932 to March 1952: Discharge, 2,870 cfs Aug. 9, 1941 (gage height, 6.38 ft) from rating curve extended above 780 cfs.
Remarks.--Small diversions above station for irrigation. Ephraim and Spring City tunnels constructed by the Bureau of Reclamation in 1936 and 1938, respectively, and several small canals divert from headwaters of Cottonwood Creek to Great Basin for irrigation in San Pitch River basin.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	29	320	1,200	11	45	668	1,660	21	133	970	670
2	28	402	1,150	12	44	724	1,420	22	132	708	630
3	29	487	1,500	13	52	778	1,310	23	144	730	580
4	33	563	1,700	14	56	860	1,250	24	163	812	550
5	43	612	1,650	15	50	820	1,160	25	188	823	600
6	52	647	1,680	16	56	800	1,030	26	238	802	650
7	60	647	1,720	17	74	786	945	27	304	880	620
8	60	668	1,550	18	97	780	880	28	344	990	570
9	49	673	1,480	19	96	860	810	29	280	1,110	520
10	48	642	1,400	20	114	930	730	30	280	1,300	490
								31	-	1,250	-
Monthly mean discharge, in cubic feet per second									111	776	1,070
Runoff, in acre-feet									6,590	47,690	63,680
Runoff, in inches									0.62	4.47	5.97

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	May 1			May 7		8	4.26	1,880		June 12	
12:15	3.60	324	8a	4.17	597		June 7		3	3.70	1,540
8	3.46	272	12	4.35	688	3	4.03	1,740	11	3.20	1,250
1:30	3.42	258		May 8		3:30	3.80	1,600	3	3.14	1,210
4	3.59	320	3:30a	4.18	602	6	4.08	1,770	8:30	3.78	1,590
6	3.79	402	3	4.22	622	1	3.85	1,630		June 13	
8	3.85	428	8	4.50	767	2:30	4.00	1,720	6	3.30	1,300
10	3.84	424		May 9		3:30	3.82	1,610	1	3.02	1,150
	May 2		9a	4.26	642	6	4.08	1,770	3	3.00	1,140
6	3.65	344	9	4.33	678	9:30	4.20	1,840	8	3.69	1,530
1	3.57	313		May 10			June 8		9:30	3.68	1,530
5:30	3.97	483	1p	4.15	587	1	3.84	1,620		June 14	
8:30	4.10	544	8	4.37	698	8	3.65	1,510	4:30	3.18	1,240
11	4.07	530	11	4.37	698	1	3.33	1,320	1	2.90	1,080
	May 3			May 11		4	3.48	1,410	3	2.92	1,090
12:30	3.99	497	4	4.27	647	8	4.07	1,760	8	3.52	1,430
6	3.86	437	1	4.20	612	9:30	4.09	1,770	9	3.55	1,450
11	3.80	411	8	4.48	756		June 9			June 15	
1	3.81	415		May 12		6	3.55	1,450	5	3.13	1,210
7	4.14	573	N	4.33	678	1	3.22	1,260	1	2.82	1,040
10	4.18	592	3:30	4.37	698	3	3.23	1,270	4	2.84	1,050
	May 4		7	4.53	783	7	3.85	1,630	6	3.02	1,150
N	3.92	474	11	4.58	810	9:30	4.05	1,750	8:30	3.20	1,250
3:30	4.04	530		May 13			June 10			June 16	
7	4.34	678	2p	4.38	704	3	3.56	1,460	3	2.92	1,090
10	4.33	673	8	4.72	888	6	3.37	1,340	10	2.70	972
	May 5			May 14		1:30	3.13	1,210	4	2.61	923
4	4.17	592	N	4.40	714	4	3.28	1,290	7	2.87	1,060
11	4.07	544	2:30	4.43	730	8	3.82	1,610	10:30	3.02	1,150
11:45	3.98	501	6:30	5.03	1,070	10	3.89	1,650		June 17	
1:30	4.12	568	9	4.92	1,000	11	3.78	1,590	5	2.68	961
3	4.10	558	10:15	5.22	1,180		June 11		1	2.50	865
6	4.33	673		May 15		4	3.70	1,540			
10	4.41	714	1	4.93	1,010	6	3.77	1,580			
	May 6		3:30	5.00	1,050	1	3.71	1,550			
3	4.21	617		June 6		4	3.83	1,620			
2:30	4.12	573	12:30p	3.56	1,460	7:30	4.45	1,990			
8	4.47	751				10	4.35	1,930			

Ferron Creek (upper station) near Ferron, Utah

Location.--Lat 39°05'55", long 111°11'05", in NW¼ sec. 7, T. 20 S., R. 7 E., on right bank upstream from upper south and upper north canal diversions, and 3 miles west of Ferron. Altitude of gage is 6,090 ft (from topographic map).
Drainage area.--157 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1 to May 11 and June 7-22.
Maxima.--April-June 1952: Discharge, 1,640 cfs 3 p.m. June 3 (gage height, 6.77 ft). 1911-23, 1947 to March 1952: Discharge observed, 2,100 cfs July 25, 1920 (gage height, 10.00 ft, site and datum then in use), from rating curve extended above 289 cfs by logarithmic plotting.
Remarks.--Flow slightly regulated by small reservoir above station. Small diversions above station for irrigation.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	38	298	632	11	45	471	765	21	104	507	447
2	38	393	635	12	33	568	679	22	123	410	455
3	40	416	1,110	13	53	645	644	23	137	364	432
4	59	485	983	14	61	663	606	24	139	380	435
5	70	495	900	15	42	577	568	25	161	435	432
6	80	530	932	16	39	432	517	26	270	518	413
7	84	424	898	17	58	372	496	27	289	559	371
8	75	410	802	18	88	362	496	28	293	617	336
9	50	364	855	19	82	389	493	29	192	689	344
10	53	375	799	20	96	495	473	30	235	734	333
								31	-	702	-
Monthly mean discharge, in cubic feet per second									104	486	609
Runoff, in acre-feet									6,200	29,910	36,260
Runoff, in inches									0.74	3.57	4.33

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	May 1		6:30	4.87	747	2:30	3.95	550	7	4.81	824
12:15	3.49	306		May 7		7:30	4.85	858	1	4.57	744
10	2.94	174	6a	3.81	435	10:30	4.83	831	3:30	4.63	764
1:30	2.96	179	9	3.62	383		May 15		6	5.00	890
5:30	4.09	472	1:30	3.49	351	6	4.14	607	7	5.78	1,180
8	4.19	502	3:30	3.52	362	11	4.04	577	7:30	5.61	1,110
11	4.09	472	9	3.86	457	3	3.84	518	9	5.78	1,180
12	3.80	389	11	3.88	463	12	3.75	492		June 6	
	May 2			May 8			June 1		3	4.85	838
4	3.42	290	6	3.45	351	12:15a	4.37	679	7:45	4.62	761
12:30	3.10	213	8	3.35	326	2p	4.09	592	8	5.00	890
2:30	3.46	301	12:30	3.30	316	5:30	4.10	595	1	4.70	787
4:30	4.39	567	2	3.31	318	10	4.35	673	4	5.00	890
6:30	4.41	573	5	3.91	483	12	4.36	676	6	5.46	1,060
6:45	4.94	748	7	4.03	518		June 2		6:15	5.85	1,210
	May 3		9:30	4.06	529	3a	4.31	660	7:30	5.95	1,250
3	3.83	403		May 9		N	3.97	556		June 7	
5	3.65	353	5	3.44	362	3:30	4.00	565	6	5.07	919
12:30	3.35	276	9	3.27	318	5:30	4.12	601	11	4.75	816
1:30	3.37	280	3	3.30	331	10	4.68	780	3	4.63	779
4	4.03	460	7:30	3.56	402	11:30	4.70	787	5	4.73	813
7	4.35	557		May 10			June 3		8	5.17	975
9	4.36	560	9a	3.15	302	4:30	4.61	757	11	5.25	1,000
12	4.29	539	3	3.23	326	7	5.19	957		June 8	
	May 4		7	3.88	503	8:30	5.73	1,160	2	4.77	834
3	4.17	505	8:30	3.85	497	9:30	5.65	1,130	10	4.50	748
6	3.67	361		May 11		N	5.83	1,200	2	4.42	722
9	3.46	306	10:30a	3.34	364	2	6.60	1,550	5	4.47	741
N	3.41	293	2	3.35	367	3	6.77	1,640	8	4.82	865
1:15	3.42	296	7:15	4.30	645	4	6.48	1,490	11	4.97	919
3:45	3.84	408	9:45	4.36	667	4:30	6.60	1,550		June 9	
4	4.50	608		May 12		6:30	5.88	1,220	1	4.94	912
6	4.97	766	9	3.70	474	8	5.98	1,260	3	4.85	880
8	4.92	748	1:30	3.58	443	12	5.69	1,150	5	4.66	816
	May 5		7	4.56	741		June 4		10	4.47	755
2	4.14	496	9	4.55	738	3	5.62	1,120	5	4.53	775
9	3.63	353		May 13		4	5.45	1,050	7	5.18	1,010
12:30	3.57	337	11a	3.82	512	5	5.05	908	9:30	5.32	1,070
1:30	3.60	345	1	3.79	503	1	4.68	780		June 10	
6	4.65	660	6:30	4.85	838	2:30	4.75	804	3	4.75	855
7:30	4.84	725	8:15	4.90	855	5	5.07	914	11	4.38	732
	May 6		10	4.82	828	6	5.76	1,170	3:30	4.33	715
5	3.98	469		May 14		9	6.15	1,330	5	4.38	735
N	3.62	372	4	4.29	654		June 5		8:30	4.80	880
1	3.62	372	1	3.91	538	1	5.32	1,000	11	4.85	898

Ferron Creek (upper station) near Ferron, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
June 11			June 12			N	3.82	581	9:30	4.13	692
12:30	4.80	883	2	4.35	738	3:30	3.79	572	June 15		
5	4.47	768	1:30	3.82	572	9	4.29	735	3	3.84	602
3	4.13	660	4	3.88	590	11	4.22	712	N	3.58	526
5	4.29	715	8	4.61	834	June 14			3:30	3.55	517
7	4.64	834	June 13			2	3.91	615	9:30	3.82	602
9:30	4.70	855	4	4.06	653	2:30p	3.66	541	12	3.75	584

The Great Basin

Bear River near Evanston, Wyo.

Location.--Lat 41°19', long 111°01', in sec. 1, T. 15 N., R. 121 W., on left bank 300 ft upstream from road bridge and 3½ miles northwest of Evanston. Altitude of gage is 6,610 ft (from river-profile map).
Drainage area.--715 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--April-June 1952: Discharge, 2,840 cfs 6 p.m. May 4 (gage height, 6.50 ft).
1913 to March 1952: Discharge, 3,690 cfs June 14, 1921 (gage height, 6.35 ft), from rating curve extended above 2,700 cfs.
Remarks.--Natural flow of stream affected by diversions for irrigation and return flow from irrigation areas.

Runoff, in acre-feet, water years October 1913 to September 1952

Water year	Runoff	Water year	Runoff	Water year	Runoff	Water year	Runoff
1914	262,000	1921	296,000	1931	76,300	1941	132,200
1915	151,000	1922	255,000	1932	166,000	1942	156,400
		1923	282,000	1933	112,000	1943	149,100
1916	217,000	1924	163,000	1934	36,780	1944	178,500
1917	286,000	1925	131,000	1935	107,400	1945	146,300
1918	164,000						
1919	118,000	1926	160,000	1936	174,300	1946	142,600
1920	242,000	1927	155,000	1937	151,600	1947	191,800
		1928	202,000	1938	160,000	1948	161,400
		1929	195,000	1939	105,700	1949	155,200
		1930	140,000	1940	74,320	1950	243,700
						1951	196,700
						1952	305,200

Bear River at Border, Wyo.

Location.--Lat 42°11', long 111°03', in NE¼NE¼ sec. 15, T. 14 S., R. 46 E., in Idaho, on left bank a quarter of a mile west of Wyoming-Idaho State line, half a mile west of Border, and 2.1 miles upstream from Thomas Fork. Datum of gage is 6,051.63 ft above mean sea level, unadjusted.
Drainage area.--2,490 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maximums.--April-June 1952: Discharge, 3,680 cfs 6 p.m. May 11 (gage height, 8.89 ft).
1937 to March 1952: Discharge, 2,900 cfs June 9, 1950 (gage height, 8.77 ft).
Remarks.--Natural flow of stream affected by diversions for irrigation and return flow from irrigated areas.

Runoff, in acre-feet, water years October 1937 to September 1952

Water year	Runoff	Water year	Runoff	Water year	Runoff	Water year	Runoff
1938	317,800	1941	173,900	1946	345,100	1951	455,100
1939	216,600	1942	242,000	1947	381,300	1952	535,700
1940	79,290	1943	326,500	1948	312,700		
		1944	316,100	1949	254,000		
		1945	227,800	1950	520,500		

Bear River at Harer, Idaho

Location.--Lat 42°11'50", long 111°10'05", in NW¼ sec. 23, T. 14 S., R. 45 E., on right bank 400 ft downstream from Sheep Creek, three-quarters of a mile north of Harer siding on Union Pacific (Oregon Short Line) Railroad, and 5 miles southeast of Dingle. Altitude of gage is 6,000 ft (from Topographic map).
Drainage area.--2,780 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--April-June 1952: Discharge, 4,440 cfs 2 p.m. May 7 (gage height, 11.04 ft).
1913-16, 1919 to March 1952: Discharge, 3,860 cfs June 2, 1920 (gage height, 10.51 ft).
Remarks.--Many diversions above station for irrigation.
Cooperation.--Records collected by Utah Power & Light Co., under general supervision of U. S. Geological Survey, in connection with Federal Power Commission project.

Runoff, in acre-feet, water years October 1913 to September 1916
October 1919 to September 1952

Water year	Runoff	Water year	Runoff	Water year	Runoff	Water year	Runoff
1914	648,000	1926	272,000	1935	157,000	1944	353,000
1915	265,000	1927	348,000	1936	406,800	1945	281,000
1916	511,000	1928	425,000	1937	334,400	1946	432,100
----	-------	1929	395,000	1938	380,700	1947	451,500
1920	514,000	1930	312,000	1939	270,300	1948	384,700
1921	724,000	1931	134,000	1940	103,000	1949	313,500
1922	652,000	1932	318,000	1941	202,600	1950	641,900
1923	674,000	1933	220,000	1942	272,800	1951	553,700
1924	466,000	1934	77,950	1943	389,900	1952	605,200
1925	340,000						

Logan River near Logan, Utah

(Combined records of Logan River above State dam and Utah Power & Light Co. tailrace near Logan, Utah)

Location.--Lat 41°44'40", long 111°47'00", in NE¼ sec. 36, T. 12 N., R. 1 E. River gage on right bank at Logan plant of Utah Power & Light Co., 125 ft upstream from tailrace, half a mile upstream from State dam and 2½ miles east of Logan. Tailrace gage on right bank 100 ft downstream from power house of Utah Power & Light Co. Altitude of gages is 4,680 ft (from topographic map).
Drainage area.--218 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--April-June 1952: Daily discharge, 974 cfs May 30.
1896-1900, 1904 to March 1952: Daily discharge, 2,450 cfs May 24, June 8, 1907.
Remarks.--Water diverted from river and springs above station for irrigation and municipal supply. Flow regulated by powerplants above station. Records of river and tailrace combined herein to provide long-term comparisons.

Combined runoff, in acre-feet, water years October 1896 to September 1900, October 1904 to September 1952

Water year	Runoff	Water year	Runoff	Water year	Runoff	Water year	Runoff
1897	289,300	1914	206,900	1927	163,000	1940	95,630
1898	207,400	1915	116,300	1928	173,800	1941	82,700
1899	341,300	1916	196,000	1929	158,400	1942	104,900
1900	239,100	1917	205,500	1930	123,800	1943	187,100
----	-------	1918	171,000	1931	78,540	1944	127,000
1905	154,010	1919	132,200	1932	188,400	1945	139,400
1906	202,000	1920	193,300	1933	149,000	1946	191,400
1907	351,000	1921	250,800	1934	76,840	1947	155,700
1908	178,000	1922	214,300	1935	122,000	1948	171,800
1909	300,000	1923	209,600	1936	208,700	1949	160,400
1910	256,000	1924	147,300	1937	143,100	1950	239,500
1911	260,000	1925	148,000	1938	168,800	1951	215,100
1912	274,000	1926	116,900	1939	117,400	1952	196,700
1913	164,500						

Blacksmith Fork above Utah Power & Light Co. dam, near Hyrum, Utah

Location.--Lat 41°37'20", long 111°44'25", in NE¼ sec. 8, T. 10 N., R. 2 E., on right bank three-quarters of a mile upstream from powerplant of Utah Power & Light Co., and 6 miles east of Hyrum. Altitude of gage is 5,000 ft (from topographic map).
Drainage area.--260 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--April-June 1952: Discharge, 1,400 cfs 1 a.m. May 4 (gage height, 6.54 ft).
1913 to March 1952: Discharge, 1,620 cfs May 15, 1917 (gage height, 6.5 ft, site and datum then in use), from rating curve extended above 600 cfs.
Remarks.--Some diversions for irrigation of meadowlands above station

Runoff, in acre-feet, water years October 1900 to September 1902, October 1904 to September 1910, and October 1914 to September 1952

Water year	Runoff	Water year	Runoff	Water year	Runoff	Water year	Runoff
1901	97,100	1917	149,000	1929	88,500	1941	38,350
1902	85,310	1918	105,000	1930	66,600	1942	45,100
----	-------	1919	74,000	1931	43,200	1943	84,810
1905	117,600	1920	110,000	1932	103,000	1944	60,650
1906	110 000	1921	154,000	1933	74,700	1945	71,920
1907	268,000	1922	141,000	1934	42,160	1946	125,000
1908	115,000	1923	138,000	1935	52,300	1947	81,500
1909	218,000	1924	93,100	1936	110,200	1948	101,500
1910	200,000	1925	87,200	1937	86,980	1949	98,470
----	-------	1926	67,100	1938	88,280	1950	89,840
1915	68,000	1927	98,100	1939	63,080	1951	136,900
1916	119,000	1928	91,000	1940	45,450	1952	147,800

Bear River near Collinston, Utah

Location.--Lat 41°50', long 112°03', in NW¼SE¼ sec. 27, T. 13 N., R. 2 W., on right bank 800 ft downstream from Cutler plant of Utah Power & Light Co., 2,000 ft downstream from Cutler Dam, and 5½ miles north of Collinston. Datum of gage is 4,276.13 ft above mean sea level (levels by Bureau of Reclamation).
Drainage area.--6,000 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--April-June 1952: Discharge, 7,020 cfs 8:30 a.m. May 1 (gage height, 6.88 ft).
1889 to March 1952: Discharge observed, 11,600 cfs June 7-10, 1909 (gage height, 7.70 ft, site and datum then in use).
Remarks.--Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation and return flow from irrigated areas.

Runoff, in thousands of acre-feet, water years October 1889 to September 1952

Water year	Runoff	Water year	Runoff	Water year	Runoff	Water year	Runoff
1890	2,066	1905	729.3	1920	1,270	1935	451.3
1891	1,367	1906	1,361	1921	1,750	1936	826.2
1892	1,532	1907	2,555	1922	2,020	1937	762.8
1893	1,425	1908	1,410	1923	1,820	1938	807.0
1894	1,952	1909	2,480	1924	1,200	1939	659.9
1895	1,373	1910	1,720	1925	1,080	1940	448.0
1896	1,547	1911	1,410	1926	874	1941	506.0
1897	2,054	1912	1,630	1927	1,080	1942	702.1
1898	1,518	1913	1,340	1928	878	1943	911.2
1899	1,908	1914	1,780	1929	923	1944	694.2
1900	1,347	1915	877	1930	684	1945	822.3
1901	1,185	1916	1,240	1931	454	1946	1,090
1902	885.3	1917	1,990	1932	780	1947	1,036
1903	784.2	1918	1,210	1933	625	1948	1,100
1904	1,593	1919	984	1934	319.8	1949	1,045
						1950	1,647
						1951	1,682
						1952	1,608

Weber River near Oakley, Utah

Location.--Lat 40°44'10", long 111°14' 5", in SE¼NE¼ sec. 15, T. 1 S., R. 6 E., on right bank 1.4 miles downstream from South Fork, 2.6 miles upstream from Weber-Provo diversion canal, and 3½ miles northeast of Oakley. Altitude of gage is 6,600 ft (from topographic map)

Drainage area.--163 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1-4, 7-21, Apr. 24 to June 30.

Maxima.--April to June 1952: Discharge, 2,280 cfs 8 a.m. June 7 (gage height, 3.96 ft). 1904 to March 1952: Discharge observed, 4,170 cfs June 13, 1921 (gage height 9.0 ft, site and datum then in use).

Remarks.--Several small diversions above station for irrigation. Flow slightly regulated by several small lakes on headwaters and a small reservoir on Smith and Morehouse Creek. Total capacity of all reservoirs, about 3,200 acre-ft.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	70	829	1,520	11	105	994	1,570	21	258	966	836
2	67	994	1,550	12	100	1,080	1,580	22	285	891	756
3	66	1,280	1,580	13	111	1,260	1,490	23	325	829	777
4	71	1,430	1,600	14	124	1,470	1,380	24	385	821	875
5	77	1,470	1,790	15	118	1,470	1,290	25	513	852	777
6	91	1,460	1,800	16	111	1,220	1,060	26	663	932	735
7	112	1,420	2,040	17	122	985	985	27	742	949	715
8	118	1,220	1,860	18	150	875	994	28	806	1,050	568
9	105	1,050	1,790	19	186	813	985	29	798	1,330	579
10	103	957	1,820	20	210	852	916	30	806	1,560	626
								31	-	1,560	-
Monthly mean discharge, in cubic feet per second									260	1,125	1,228
Runoff, in acre-feet									15,470	69,160	73,080
Runoff, in inches									1.78	7.96	8.41

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	May 1		7	3.19	1,220	3	3.51	1,600	4	3.55	1,660
12:15a	2.81	836	9	3.17	1,200	7	3.51	1,600	6	3.55	1,660
11	2.69	749		May 9		3	3.40	1,460		June 9	
1	2.72	770	9a	3.03	1,050	7	3.38	1,430	1:30	3.83	2,050
6	2.92	924	2	3.00	1,030		June 2		5:30	3.80	2,000
9	2.96	957	8	2.98	1,010	2	3.52	1,600	N	3.60	1,720
	May 2			May 10		8	3.57	1,660	5	3.48	1,560
11a	2.88	891	10a	2.89	932	10	3.54	1,620	7	3.51	1,580
12:30	2.89	900	1	2.88	932	5	3.40	1,440	11:30	3.78	1,960
4	3.03	1,020	3	2.89	941	8	3.42	1,460		June 10	
7	3.22	1,220	9	2.95	994		June 3		5	3.90	2,140
9	3.25	1,260		May 11		3	3.54	1,610	10	3.70	1,850
	May 3		1	2.94	985	7	3.57	1,640	11	3.74	1,900
5	3.19	1,190	N	2.90	957	1	3.55	1,610	2	3.57	1,660
9	3.14	1,120	2	2.91	966	8	3.48	1,510	7	3.54	1,620
12:15	3.15	1,130	7	2.97	1,020		June 4			June 11	
5	3.43	1,470	11	2.99	1,040	5	3.60	1,650	2	3.62	1,730
8	3.48	1,530		May 12		8	3.62	1,680	5	3.61	1,720
	May 4		6	3.00	1,060	4	3.47	1,470	11	3.50	1,570
2	3.44	1,480	2	3.00	1,060	6	3 47	1,470	5:30	3.36	1,390
12:45	3.29	1,290	6	3.05	1,110		June 5			June 12	
3	3.31	1,320	9	3.11	1,180	3	3.76	1,850	2	3.66	1,790
7:30	3.53	1,600		May 13		7	3.85	1,980	5	3.64	1,760
9	3.49	1,550	1	3.15	1,220	9	3.84	1,940	5	3.36	1,390
11	3.50	1,560	6	3.17	1,250	6	3.64	1,650		June 13	
	May 5		9	3.17	1,250	10	3.67	1,690	2	3.61	1,720
6	3.42	1,460	1	3.16	1,240		June 6		8	3.52	1,600
11	3.34	1,350	4	3.17	1,250	6	3.82	1,890	4	3.28	1,290
2	3.35	1,370	11	3.29	1,390	10	3.79	1,850	7	3.27	1,280
8	3.52	1,580		May 14		5	3.70	1,710	11	3.47	1,530
10	3.51	1,570	5	3.35	1,470		June 7			June 14	
	May 6		9	3.35	1,470	4	4.07	2,230	2	3.52	1,600
3	3.43	1,480	1	3.31	1,430	5:30	4.02	2,160	4	3.50	1,570
1:30	3.33	1,350	4	3.31	1,430	7	4.06	2,220	11	3.33	1,350
7	3.47	1,530	11	3.39	1,530	7:15	3.89	2,170	2	3.22	1,220
11	3.46	1,530		May 15		8	3.96	2,280	6	3.17	1,170
	May 7		3	3.41	1,560	N	3.87	2,140	11	3.39	1,430
9	3.38	1,430	7	3.40	1,550	4	3.65	1,820		June 15	
3	3.33	1,370	7p	3.26	1,370	10:30	3.81	2,040	1	3.46	1,520
8	3.35	1,400	10	3.24	1,340	11:30	3.77	1,980	4:30	3.45	1,510
	May 8		12	3.23	1,330		June 8		10	3.31	1,330
10a	3.20	1,220		June 1		3	3.89	2,160	2:30	3.17	1,170
2:30	3.17	1,200	12:15a	3.46	1,530	5	3.82	2,050	7	3.14	1,130
									12	3.17	1,170

Weber River near Wanship, Utah

Location.--Lat 40°47'30", long 111°24'15", in center sec. 29, T. 1 N., R. 5 E., on left bank 1.2 miles south of Wanship and 1½ miles upstream from Silver Creek. Altitude of gage is 5,900 ft (from topographic map).
Drainage area.--324 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1-13, Apr. 19 to May 6, May 20-24.
Maxima.--April-June 1952: Discharge, 2,240 cfs 4 a.m. May 5 (gage height, 4.71 ft).
1950 to March 1952: Discharge, 2,340 cfs May 30, 1951 (gage height, 4.73 ft).
Remarks.--Slight regulation by small reservoirs above station. Many diversions above station for irrigation. No water diverted from Weber River basin through Weber-Provo diversion canal during April-June.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	144	1,490	1,600	11	350	1,280	1,740	21	1,040	1,290	822
2	149	1,630	1,560	12	381	1,340	1,640	22	964	1,170	758
3	154	1,860	1,600	13	481	1,530	1,550	23	998	1,090	758
4	163	2,120	1,620	14	567	1,690	1,430	24	998	1,020	950
5	179	2,120	1,700	15	481	1,740	1,330	25	1,100	1,020	996
6	211	2,040	1,770	16	450	1,620	1,120	26	1,340	1,050	884
7	275	2,040	1,960	17	555	1,270	988	27	1,460	1,030	835
8	309	1,840	1,920	18	709	1,070	965	28	1,580	1,110	676
9	305	1,600	1,810	19	824	958	958	29	1,560	1,310	598
10	329	1,380	1,900	20	948	972	884	30	1,480	1,560	626
								31	-	1,640	-
Monthly mean discharge, in cubic feet per second									683	1,448	1,265
Runoff, in acre-feet									40,630	89,020	75,270
Runoff, in inches									-	-	-

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	May 1		8p	4.12	1,740	5:30	3.91	1,530	6	4.30	1,920
12:15	4.09	1,570	10	4.15	1,770	7:30	3.98	1,600	11	4.46	2,090
3	4.07	1,550		May 9		11	3.87	1,490	N	4.41	2,030
7	4.00	1,480	5	4.07	1,690		June 2		1	4.46	2,090
2p	3.91	1,390	7	4.02	1,640	5	4.00	1,620	5	4.40	2,030
8	4.07	1,550	11	4.04	1,660	6:30	3.97	1,590	8	4.27	1,890
11	4.08	1,560	7	3.87	1,490	7	4.12	1,740	12	4.27	1,890
	May 2			May 10		8:30	4.02	1,640		June 8	
2	4.15	1,630	4	3.83	1,460	11	4.10	1,720	2	4.32	1,940
8	4.08	1,560	2	3.74	1,370	N	4.00	1,620	5	4.32	1,940
2	4.06	1,540	11	3.65	1,280	1	3.98	1,600	N	4.43	2,050
6	4.20	1,680		May 11		3	3.98	1,600	8	4.17	1,790
6:30	4.25	1,730	8	3.65	1,280	8	3.80	1,430	10	4.08	1,700
12	4.36	1,850	9	3.67	1,300		June 3			June 9	
	May 3		11	3.67	1,300	1p	4.06	1,680	1	4.02	1,640
6	4.37	1,860	1	3.63	1,270	3	4.00	1,620	5	4.13	1,750
11	4.32	1,810	7	3.61	1,250	11	4.02	1,640	8	4.30	1,920
2	4.32	1,810		May 12		12	3.98	1,600	10:30	4.37	1,990
7	4.40	1,890	4	3.69	1,320		June 4		1:30	4.22	1,840
	May 4		9	3.72	1,350	6	3.93	1,550	3	4.32	1,940
2	4.63	2,150	11	3.71	1,340	11:30	4.12	1,740	11	4.00	1,620
N	4.58	2,100	5	3.75	1,380	1	4.05	1,670		June 10	
2	4.52	2,030	8	3.73	1,360	3	4.08	1,700	3	4.10	1,720
	May 5			May 13		6	4.03	1,650	7	4.36	1,980
1	4.70	2,230	8a	3.92	1,540	9	3.92	1,540	10	4.42	2,040
2:30	4.68	2,210	2	3.93	1,550	12	3.88	1,500	2	4.43	2,050
4	4.71	2,240	3	3.92	1,540		June 5		6	4.34	1,960
2	4.53	2,040	6	3.95	1,570	2	3.90	1,520	9	4.18	1,800
8	4.51	2,020		May 14		8	4.12	1,740		June 11	
9	4.55	2,060	1	3.95	1,570	N	4.08	1,700	1	4.12	1,740
	May 6		11	4.07	1,690	2	4.20	1,820	9	4.26	1,880
4:45	4.55	2,060	6	4.10	1,720	4	4.10	1,720	N	4.22	1,840
5	4.44	2,060	9	4.06	1,680	5	4.14	1,760	5	4.07	1,690
1	4.33	1,950	12	4.05	1,670		June 6		9	3.92	1,540
2	4.40	2,020		May 15		3	4.06	1,680	12	3.87	1,490
5	4.42	2,040	N	4.17	1,790	4	4.11	1,730		June 12	
9	4.38	2,000	6	4.10	1,720	7	4.13	1,750	3	3.97	1,590
	May 7		8	4.06	1,680	10	4.10	1,720	7	4.10	1,720
5	4.50	2,130	12	4.07	1,690	2	4.20	1,820	11	4.15	1,770
8p	4.40	2,020		June 1		6	4.15	1,770	4	4.06	1,680
10	4.30	1,920	12:15a	3.93	1,550	7	4.12	1,740	8	3.92	1,540
	May 8		5:30	3.95	1,570	10	4.20	1,820	12	3.86	1,480
3	4.33	1,950	9:30	4.05	1,670		June 7			June 13	
7	4.28	1,900	3	4.00	1,620	2	4.19	1,810	3	3.92	1,540

Weber River near Wanship, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
				June 14		3	3.84	1,470	4	3.72	1,350
7	4.05	1,670				9	3.57	1,210	6	3.82	1,450
9	4.07	1,690	3	3.80	1,430	11	3.55	1,200	9	3.90	1,520
1	4.03	1,650	6	3.92	1,540			June 15	1	3.83	1,460
10	3.70	1,330	8	3.95	1,570	1	3.58	1,220	5	3.66	1,290
12	3.73	1,360	10	3.95	1,570				9	3.52	1,170
									12	3.50	1,150

Weber River near Coalville, Utah

Location.--Lat 40°53'40", long 111°24'00", in SE¼NE¼ sec. 20, T. 2 N., R. 5 E., on left bank 1½ miles upstream from high water contour of Echo Reservoir, 1½ miles south of Coalville, and 6 miles downstream from Silver Creek. Altitude or gage is 5,600 ft (from topographic map).

Drainage area.--438 sq mi.

Gage-height record.--Water-stage recorder graph except for periods Apr. 3-5, 11-16, 23, when no record was obtained.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for periods of no gage-height record estimated on basis of discharge measurements, weather records, and records for nearby stations. Shifting-control method used Apr. 18 to June 30.

Maxima.--April-June 1952: Discharge, 2,190 cfs 2 a.m. May 6 (gage height, 3.59 ft); gage height, 3.67 ft 6 a.m. May 4.
1927 to March 1952: Discharge observed, 1,960 cfs June 17, 1929 (gage height, 4.30 ft).

Remarks.--Many diversions above station for irrigation. No diversion between station and Echo Reservoir. No water diverted from Weber River basin through Weber-Provo diversion canal during April-June. Flow slightly regulated by several small reservoirs above station.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	188	1,690	1,660	11	540	1,430	1,890	21	1,300	1,420	796
2	192	1,720	1,660	12	600	1,410	1,760	22	1,320	1,380	720
3	200	1,920	1,680	13	640	1,530	1,660	23	1,340	1,280	715
4	210	2,050	1,730	14	680	1,660	1,520	24	1,350	1,150	904
5	220	2,100	1,800	15	600	1,700	1,420	25	1,500	1,100	1,020
6	238	2,140	1,900	16	550	1,660	1,150	26	1,860	1,150	916
7	352	2,050	1,950	17	635	1,410	968	27	1,900	1,150	874
8	516	1,900	1,990	18	808	1,180	961	28	1,940	1,220	695
9	556	1,720	1,990	19	1,100	1,030	934	29	1,810	1,410	592
10	552	1,520	2,040	20	1,180	1,060	862	30	1,700	1,600	620
								31	-	1,650	-
Monthly mean discharge, in cubic feet per second									886	1,529	1,313
Runoff, in acre-feet									52,710	94,000	78,100
Runoff, in inches									2.26	4.02	3.34

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Weber River near Coalville, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	May 1			May 10		8a	3.25	1,640	1	3.49	2,110
12:15a	3.50	1,780	11a	3.12	1,540		June 3		5	3.53	2,160
3	3.50	1,780	6	3.04	1,450	2	3.18	1,570	9	3.48	2,090
6	3.48	1,760	12	3.07	1,460	5	3.19	1,580		June 11	
2	3.33	1,600		May 11		N	3.29	1,680	3	3.32	1,900
5	3.33	1,590	6	3.08	1,460	6	3.33	1,720	6	3.32	1,900
10	3.45	1,710	N	3.07	1,440	12	3.33	1,720	1	3.38	1,950
	May 2		5	3.05	1,410		June 4		5	3.34	1,910
1	3.48	1,740	9	3.08	1,430	9a	3.32	1,710		June 12	
6	3.48	1,740		May 12		3	3.37	1,770	1	3.12	1,660
4	3.40	1,670	6	3.11	1,440	6	3.36	1,770	2	3.12	1,660
11	3.55	1,850	N	3.12	1,430		June 5		1	3.33	1,880
	May 3		6	3.12	1,420	2	3.27	1,670	5	3.28	1,810
2	3.58	1,900	12	3.15	1,450	4	3.27	1,670		June 13	
10	3.58	1,930		May 13		10	3.35	1,770	1	3.08	1,590
6	3.54	1,910	3	3.17	1,470	4	3.47	1,900	3	3.08	1,590
12	3.65	2,050	6	3.22	1,520	8	3.47	1,910	N	3.27	1,780
	May 4		N	3.23	1,530		June 6		3	3.24	1,740
6	3.67	2,100	6	3.26	1,560	3	3.39	1,830	6	3.15	1,650
N	3.63	2,070	12	3.28	1,590	5	3.38	1,820	9	3.04	1,530
6	3.57	2,020		May 14		N	3.44	1,900	12	2.97	1,460
12	3.62	2,100	6	3.32	1,630	2	3.44	1,900		June 14	
	May 5		10	3.35	1,660	4	3.48	1,940	3	2.97	1,460
11	3.62	2,140	11	3.36	1,670	10	3.47	1,940	6	3.05	1,530
5	3.55	2,080	6	3.35	1,670		June 7		9	3.12	1,600
12	3.57	2,140	12	3.33	1,650	5	3.40	1,880	N	3.15	1,630
	May 6			May 15		N	3.48	1,980	3	3.12	1,600
2	3.59	2,190	5	3.32	1,640	5	3.55	2,070	6	3.03	1,500
9	3.58	2,170	N	3.39	1,720	8	3.53	2,040	9	2.88	1,360
2	3.52	2,090	5	3.40	1,730		June 8		12	2.80	1,290
8	3.52	2,090	12	3.34	1,680	3	3.42	1,930		June 15	
10	3.55	2,130		June 1		5	3.42	1,930	3	2.83	1,310
	May 7		12:15	3.25	1,630	2	3.52	2,050	6	2.97	1,440
8	3.54	2,100	4	3.23	1,610	9	3.51	2,070	9	3.07	1,530
6	3.46	2,000	N	3.27	1,650		June 9		N	3.08	1,530
	May 8		6	3.29	1,680	4	3.38	1,930	3	3.06	1,510
9	3.43	1,950	9	3.28	1,670	7	3.39	1,940	6	2.94	1,390
6	3.33	1,830		June 2		3	3.50	2,080	9	2.82	1,290
12	3.33	1,820	3	3.21	1,600	7	3.48	2,070	12	2.73	1,210
	May 9		9	3.22	1,610	10	3.43	2,020			
6	3.32	1,800	N	3.25	1,640		June 10				
3	3.26	1,720	2	3.25	1,640	3	3.32	1,900			
9	3.18	1,630	3	3.27	1,660	6	3.33	1,920			

Chalk Creek at Coalville, Utah

Location.--Lat 40°55'10", long 111°24'00", in NE¼SE¼ sec. 8, T. 2 N., R., 5 E., on left bank 100 ft Downstream from bridge on U. S. Highway 189 in Coalville, and a third of a mile upstream from mouth. Datum of gage is 5,560 ft above mean sea level, datum of 1929.
Drainage area.--253 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 3 to June 30.
Maxima.--April-June 1952: Discharge, 1,540 cfs 6 a.m. Apr. 28 (gage height, 4.67 ft).
1927 to March 1952: Discharge, 923 cfs May 25, 1950 (gage height, 3.14 ft).
Remarks.--Several diversions above station for irrigation. Flow slightly affected by Chalk Creek Reservoir (capacity, 1,200 acre-ft).

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	32	816	511	11	64	638	326	21	271	634	164
2	34	866	519	12	64	656	301	22	289	544	150
3	37	1,030	511	13	79	700	277	23	376	564	145
4	40	1,200	475	14	93	717	251	24	471	503	198
5	47	1,150	475	15	89	687	228	25	573	511	228
6	54	1,060	464	16	79	590	212	26	766	556	225
7	73	1,010	449	17	93	535	195	27	1,100	527	220
8	79	866	411	18	135	479	185	28	1,200	535	182
9	66	695	390	19	185	456	177	29	1,090	560	162
10	66	586	356	20	217	499	174	30	946	573	152
								31	-	535	-
Monthly mean discharge, in cubic feet per second									290	686	290
Runoff, in acre-feet									17,270	42,200	17,280
Runoff, in inches									1.28	3.13	1.28

Chalk Creek at Coalville, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 16			April 24			April 30			May 6	
12:15	0.80	81	1	2.38	540	3	3.45	985	3:30	3.75	1,160
N	.76	73	2:30	2.38	540	6	3.68	1,080	6:30	3.60	1,100
4	.76	73	7	2.19	460	8	3.73	1,100	8	3.67	1,120
12	.83	87	1:30	1.96	376	9	3.72	1,100	10:30	3.65	1,120
	April 17		5	2.18	456	N	3.47	970	2	3.43	1,020
5	.84	89	6	2.20	464	1	3.30	892	6:30	3.25	938
10	.82	83		April 25		4	3.13	807	10	3.37	995
N	.81	81	12:30	2.62	638	6	3.11	794	12	3.50	1,050
3	.81	81	4:30	2.55	607		May 1			May 7	
7	.93	106	5	2.58	616	1	3.48	946	4	3.60	1,100
	April 18		8	2.45	560	3:30	3.53	960	N	3.50	1,050
1	1.03	128	1	2.16	445	6	3.48	933	6	3.16	897
3	1.04	131	2	2.17	449	8	3.40	892	8	3.13	884
9	1.00	122	4	2.35	519	9	3.30	848		May 8	
N	.98	117	5	2.39	535	3	3.05	731	2	3.27	942
3	.98	115	10	2.78	704	4	2.95	687	7	3.24	928
12	1.35	206		April 26		7	2.98	704	2	3.09	861
	April 19		4	2.95	776		May 2		5	2.95	798
6	1.23	174	9	2.90	753	1	3.43	910		May 9	
11	1.16	157	1	2.78	700	3	3.52	951	4	2.87	762
3	1.13	147	3:30	2.79	704	9	3.38	897	5	2.64	656
9	1.43	225	7	2.97	784	N	3.26	843	8	2.56	621
12	1.49	242		April 27		1	3.13	789		May 10	
	April 20		2	3.50	1,020	4	3.00	731	3a	2.57	621
3	1.47	237	4	3.80	1,160	6	3.00	735	8	2.53	599
8	1.35	204	6	4.40	1,420		May 3		10	2.47	573
2	1.25	177	7	4.45	1,450	3	3.75	1,080	7	2.42	548
3	1.25	177	10	4.00	1,240	3:30	3.72	1,070	12	2.66	651
6	1.36	206	N	3.55	1,040	8:30	3.80	1,110		May 11	
11	1.63	280	2	3.33	942	5:30	3.25	870	6a	2.73	678
12	1.65	286	5	3.20	884	7	3.33	906	6p	2.52	577
	April 21		7	3.24	902	12	3.93	1,190		May 12	
3	1.64	283	11	3.55	1,040		May 4		2	2.78	691
6	1.55	257		April 28		3	4.15	1,290	1	2.72	656
11	1.46	231	6	4.67	1,540	7	4.28	1,350	6:30	2.58	594
1:30	1.45	228	9	4.37	1,410	10	4.22	1,320		May 13	
3:30	1.48	237	N	3.81	1,160	N	3.98	1,220	2	2.89	726
8	1.75	317	2	3.58	1,050	5	3.55	1,030	11	2.90	726
10	1.81	333	6	3.35	951	7:30	3.50	1,010	6:30	2.70	638
12	1.80	330	8	3.36	960		May 5			May 14	
	April 22			April 29		1	4.03	1,260	1	2.92	735
N	1.48	234	4	4.05	1,300	3	4.08	1,280	6	2.95	753
3	1.47	231	6:30	4.07	1,310	6	4.05	1,270	N	2.93	744
11	2.01	400	8	4.00	1,280	9	4.03	1,260	7:30	2.70	643
	April 23		2	3.33	956	4	3.45	1,010		May 15	
1	2.03	408	5	3.15	870	7	3.38	980	2	2.92	740
1:30p	1.70	295	8	3.15	861	8	3.39	985	10	2.92	740
3	1.75	310	12	3.27	906	12	3.66	1,110	7	2.66	625
10	2.27	495							12	2.60	599

Echo Reservoir at Echo, Utah

Location.--Lat 40°57'50", long 111°26'00", in NW¼SW¼ sec. 30, T. 3 N., 5 E., near outlet works at left end of Echo Dam on Weber River, 1 mile southeast of Echo. Datum of gage is at mean sea level (levels by Bureau of Reclamation).
Drainage area.--732 sq mi.
Gage-height record.--Staff gage read about 6 a.m. daily.
Maxima.--April-June 1952: Contents, 74,240 acre-ft June 20, 24, 25 (elevation, 5,560.2 ft)
1930 to March 1952: Contents, 74,460 acre-ft May 31, 1937 (elevation,5,560.35 ft).
Remarks.--Reservoir is formed by earth-fill, rock-faced dam, storage began in October 1930; dam completed in 1931. Capacity 73,940 acre-ft between elevation 5,450 ft (bottom of outlet tunnel) and 5,560 ft (top of radial gates in spillway). Dead storage negligible. Water is used for irrigation on the Echo project.

Elevation, in feet, and contents, in acre-feet, at 6 a.m. of indicated day, 1952

Day	April		May		June	
	Elevation	Contents	Elevation	Contents	Elevation	Contents
1	5,501.5	12,710	5,547.3	56,320	5,554.5	66,040
2	5,500.3	12,000	5,549.2	58,810	5,555.5	67,440
3	5,499.2	11,370	5,551.0	61,220	5,556.1	68,290
4	5,498.1	10,750	5,552.4	63,130	5,556.3	68,580
5	5,497.2	10,260	5,553.2	64,230	5,556.6	69,010
6	5,496.3	9,780	5,554.5	66,040	5,557.0	69,580
7	5,495.8	9,520	5,555.0	66,740	5,557.5	70,300
8	5,496.5	9,890	5,555.1	66,880	5,558.0	71,020
9	5,497.7	10,540	5,554.8	66,460	5,558.4	71,600
10	5,498.6	11,030	5,553.9	65,200	5,558.6	71,890
11	5,499.5	11,540	5,552.9	63,820	5,558.8	72,180
12	5,500.3	12,000	5,551.7	62,170	5,558.9	72,330
13	5,501.0	12,410	5,550.9	61,090	5,559.2	72,770
14	5,502.5	13,320	5,550.0	59,880	5,559.5	73,210
15	5,504.3	14,470	5,549.7	59,480	5,559.6	73,360
16	5,505.0	14,920	5,549.5	59,210	5,559.7	73,500
17	5,506.0	15,600	5,548.9	58,410	5,559.7	73,500
18	5,507.6	16,720	5,548.1	57,360	5,559.8	73,650
19	5,508.2	17,160	5,547.5	56,580	5,560.1	74,090
20	5,512.8	20,640	5,547.0	55,920	5,560.2	74,240
21	5,515.4	22,120	5,547.1	56,060	5,560.1	74,090
22	5,518.0	24,890	5,547.4	56,450	5,560.1	74,090
23	5,520.7	27,240	5,547.5	56,580	5,559.9	73,800
24	5,523.1	29,400	5,547.7	56,840	5,560.2	74,240
25	5,525.8	31,940	5,547.7	56,840	5,560.2	74,240
26	5,529.6	35,700	5,548.2	57,490	5,560.1	74,090
27	5,533.9	40,230	5,549.0	58,550	5,559.9	73,800
28	5,537.5	44,270	5,550.0	59,880	5,559.8	73,650
29	5,542.2	49,870	5,550.9	61,090	5,560.0	73,940
30	5,545.1	53,490	5,552.0	62,580	5,560.0	73,940
31			5,553.5	64,650		
Change in contents, acre-feet		+40,170		+11,160		+9,290
Change in contents, equivalent mean cubic feet per second		+675		+181		+156

Weber River at Echo, Utah

Location.--Lat 40°57'55", long 11°26'10", in SE¼NE¼ sec. 25, T. 3 N., R. 4 E., on right bank a quarter of a mile downstream from Echo Dam, half a mile upstream from Echo Creek, and three-quarters of a mile southeast of Echo. Altitude of gage is 5,440 ft (from Echo Reservoir elevations).
Drainage area.--732 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1-12.
Maxima.--April-June 1952: Discharge, 3,060 cfs 1 p.m. May 13 (gage height, 7.34 ft). 1927 to March 1952: Discharge, 2,580 cfs May 26, 1950 (gage height, 6.96 ft).
Remarks.--Many diversions above and below station for irrigation. Flow regulated by Echo Reservoir (see preceding page).

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	543	1,360	1,450	11	332	2,780	2,070	21	430	1,850	1,160
2	548	1,720	1,650	12	336	2,800	1,850	22	600	1,930	1,140
3	543	2,270	1,930	13	336	2,850	1,670	23	605	1,800	720
4	543	2,700	2,030	14	340	2,820	1,650	24	615	1,690	838
5	548	2,870	2,000	15	343	2,700	1,540	25	625	1,550	1,610
6	543	2,950	2,010	16	347	2,570	1,410	26	640	1,340	1,540
7	491	3,010	2,040	17	351	2,420	1,220	27	650	1,110	1,230
8	325	3,000	2,070	18	355	2,180	1,040	28	665	1,160	947
9	325	2,950	2,130	19	359	1,960	1,000	29	784	1,250	745
10	328	2,790	2,160	20	366	1,800	1,120	30	1,160	1,320	796
								31	-	1,400	-
Monthly mean discharge, in cubic feet per second									499	2,158	1,492
Runoff, in acre-feet									29,700	132,700	88,790
Runoff, in inches									0.76	3.40	2.27

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	May 1		3	7.27	2,990	11	6.95	2,700	8	6.22	2,090
12:15	5.19	1,280	5	7.28	3,000	2:30	6.96	2,710		June 9	
3:15	5.18	1,280		May 9		12	6.87	2,630	7	6.23	2,090
4:45	5.21	1,300	2	7.25	2,970		June 1		11:15	6.23	2,090
5:15	5.49	1,500	2p	7.22	2,950	12:15a	5.39	1,420	N	6.40	2,230
6	5.58	1,570	7	7.18	2,910	10	5.42	1,450	1	6.33	2,170
	May 2			May 10		11:30	5.43	1,450		June 10	
4	5.58	1,570	8:30 a	7.10	2,840	4	5.45	1,470	1a	6.35	2,190
N	5.60	1,590	9	7.05	2,790		June 2		9	6.36	2,200
1:30	5.89	1,820	10p	6.94	2,700	1	5.47	1,490	9:15	6.31	2,160
4	5.95	1,870		May 11		12:45	5.49	1,500	7	6.31	2,160
	May 3		6	6.88	2,640	1:15	5.87	1,810	7:30	6.22	2,090
10:30a	6.21	2,080	1	6.86	2,620		June 3			June 11	
11	6.42	2,252	1:30	7.20	2,930	3	5.91	1,840	9a	6.23	2,090
2:30	6.46	2,280	2	7.26	2,980	N	5.92	1,850	4	6.23	2,090
3	6.73	2,510	12	7.18		12:30	6.17	2,050	4:30	6.13	2,010
	May 4			May 12			June 4			June 12	
6a	6.92	2,680	11	7.02	2,770	1a	6.18	2,050	8a	6.14	2,020
10	6.94	2,700	1	7.02	2,770	1:15p	6.19	2,060	9	5.92	1,850
9	7.02	2,770	2	7.08	2,820	1:30	6.11	2,000	3	5.92	1,850
	May 5		9	7.00	2,750		June 5		3:30	5.69	1,660
6	7.10	2,840		May 13		6a	6.12	2,010		June 13	
4	7.15	2,880	1	6.98	2,730	5	6.13	2,010	2	5.69	1,660
7	7.13	2,870	11	6.94	2,700	6	6.08	1,970	11	5.70	1,670
8	7.15	2,880	1	7.34	3,060		June 6		8	5.71	1,680
	May 6		7	7.24	2,970	5	6.11	2,000		June 14	
9a	7.17	2,900	9:30	7.22	2,950	3	6.11	2,000	1	5.71	1,680
1	7.22	2,950		May 14		11	6.13	2,020	N	5.71	1,680
6	7.24	2,970	9	7.07	2,810		June 7		3:45	5.71	1,680
	May 7		5	7.03	2,780	9:30	6.15	2,030	4	5.64	1,620
4	7.25	2,970	6	7.06	2,800	5	6.16	2,040		June 15	
9	7.29	3,010	9	7.02	2,770	10	6.17	2,050	7:45 a	5.65	1,630
6	7.31	3,030	11:30	7.03	2,780		June 8		8a	5.47	1,490
	May 8			May 15		1	6.19	2,060	6	5.48	1,490
11a	7.28	3,000	5	6.98	2,730	6p	6.20	2,070	12	5.47	1,490

Lost Creek near Croydon, Utah

Location.--Lat 41°10'35", long 111°24'20", in SW¼SE¼ sec. 8, T. 5 N., R. 5 E., on right bank 0.8 mile downstream from Francis Fork, 1.6 miles upstream from Hell Canyon, and 9½ miles northeast of Croydon.
Drainage area.--133 sq mi.
Gage height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1-23, Apr. 27 to June 2, June 12-29.
Maxima.--April-June 1952: Discharge, 730 cfs 2 a.m. May 5 (gage height, 6.87 ft). 1921-23, 1941 to March 1952: Discharge, 770 cfs May 10, 11, 18, 1923 (gage height, 4.20 ft, site and datum then in use), from rating table extended above 200 cfs.
Remarks.--No diversion above station.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	17	525	200	11	52	435	100	21	245	328	62
2	17	579	185	12	56	463	89	22	226	292	61
3	17	638	178	13	76	474	82	23	252	272	58
4	20	663	155	14	87	469	81	24	274	262	72
5	26	660	141	15	75	419	80	25	317	286	69
6	38	632	135	16	64	370	79	26	360	298	67
7	55	603	130	17	76	298	78	27	459	260	64
8	56	543	121	18	127	275	76	28	525	246	54
9	56	466	113	19	168	276	68	29	547	252	50
10	55	427	109	20	230	312	65	30	509	244	47
								31	-	220	-
Monthly mean discharge, in cubic feet per second									169	403	95.6
Runoff, in acre-feet									10,080	24,770	5,690
Runoff, in inches									1.42	3.49	0.80

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 16			April 22		8	6.74	523		May 4	
12:15	3.82	65	11a	5.12	201	11:30	6.82	547	2	6.82	710
1p	3.74	57	1	5.11	199		April 28		1	6.22	610
3	3.75	58	3	5.20	210	6	6.52	514	2	6.20	606
8	3.87	69	8	5.57	259	N	6.14	467	4	6.27	620
11	3.89	71	10	5.63	267	2	6.10	467	9	6.80	715
	April 17			April 23		10	6.86	618	12	6.87	728
2	3.88	70	1	5.62	266		April 29			May 5	
11	3.79	61	9	5.40	234	6	6.32	548	2	6.87	730
1	3.79	61	N	5.35	226	2	5.85	487	12:30	6.19	615
4	3.91	73	1:30	5.36	227	4	5.86	489	2:30	6.15	608
7	4.12	96	3	5.42	234	8	6.26	559	6	6.33	638
9	4.20	106	8	5.73	277	10	6.35	576	8:30	6.60	688
12	4.26	113	10	5.82	289		April 30		12	6.70	708
	April 18		11:30	5.83	289	1	6.24	559		May 6	
5	4.25	110		April 24		11	5.78	486	2	6.58	687
10	4.18	102	7	5.60	257	1	5.71	475	1	5.98	586
1	4.19	103	1:30	5.51	244	2:30	5.70	474	3:30	5.96	584
3	4.28	113	3	5.57	252	4	5.71	475	9	6.40	661
6	4.53	143	8	5.96	311	9	6.02	531	11	6.45	670
9	4.72	166	10	6.02	320	10:30	6.07	540		May 7	
11	4.77	170		April 25		12	6.06	540	2	6.38	658
	April 19		2	6.05	325		May 1		10	5.96	589
1	4.77	170	N	5.78	284	11	5.64	474	3	5.81	564
11	4.55	143	1	5.78	234	1	5.62	472	9	5.98	591
1	4.54	140	8	6.22	352	3	5.68	482		May 8	
4	4.72	162	11	6.31	367	9:30	6.40	608	5	5.86	569
8:30	5.12	212	12	6.30	365	12	6.43	615	11	5.65	533
	April 20			April 26			May 2		12p	5.55	514
1:30	5.18	220	3	6.15	341	1a	6.40	610		May 9	
4:30	5.11	209	4	6.15	341	11	5.92	535	6p	5.11	439
8	5.18	218	11	5.97	312	1	5.88	528	10	5.16	445
12:30	5.10	206	N	5.97	312	2:30	5.87	526		May 10	
3	5.18	217	2	6.06	331	4	5.98	547	2	5.14	440
9	5.71	288	9:30	6.79	469	9	6.55	645	7	5.07	429
11:30	5.74	292	12	6.87	489	11	6.66	667	2	4.93	405
	April 21			April 27			May 3		3:30	4.91	402
5	5.48	254	10	6.48	453	1	6.71	678	8	5.17	442
8	5.39	242	10:30	6.07	387	N	6.19	591	10	5.22	450
N	5.32	231	11:30	5.86	357	1:30	6.18	591		May 11	
3	5.33	231	1	5.90	368	3:30	6.23	601	3	5.16	439
9	5.40	239	2	6.05	394	10	6.84	712	9	5.01	411
10	5.40	239	4	6.21	426	12	6.84	712	2	4.96	403

Lost Creek near Croydon, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
4	5.01	411	4:30	5.21	440	2:30	5.27	445	9	5.50	471
8	5.38	469	8:30	5.53	491	8	5.64	504	12	5.53	472
11	5.48	486	11	5.58	497	11	5.67	509	May 15		
May 12			May 13			May 14			4	5.38	445
2	5.45	480	5	5.42	471	6	5.47	474	2	5.20	407
1	5.16	432	7:30	5.42	469	4	5.32	448	11	5.15	389
									12	5.20	397

Weber River at Devils Slide, Utah

Location.--Lat 41°03'40", long 111°34'25", in SE¼SE¼ sec. 23, T. 4 N., R. 3 E., on right bank 350 ft downstream from highway underpass on U. S. Highway 30, 1½ miles west of Devils Slide, and 1¾ miles downstream from Lost Creek. Altitude of gage, 5,300.
Drainage area.--1,100 sq mi, approximately.
Gage-height record.--Water-stage recorder graph except period June 19-24, when no record was obtained.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for period of no gage-height record estimated on basis of weather records and records for stations at Echo and Gageway. Shifting-control method used Apr. 1-12, Apr. 30 to June 18, June 25-30.
Maxima.--April-June 1952: Discharge, 4,810 cfs 3 a.m. May 7 (gage height, 8.55 ft). 1905 to March 1952: Discharge observed, 6,000 cfs May 22, 1920 (gage height, 8.0 ft, site and datum then in use).
Remarks.--Many diversions above station for irrigation. Flow regulated by Echo Reservoir (see p. 636).

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	660	2,930	1,840	11	675	3,890	2,210	21	1,240	2,680	1,220
2	675	3,360	1,930	12	690	4,030	2,010	22	1,410	2,670	1,200
3	680	3,900	2,190	13	755	3,990	1,810	23	1,510	2,520	800
4	705	4,470	2,320	14	825	4,010	1,800	24	1,600	2,360	900
5	740	4,680	2,260	15	805	3,800	1,630	25	1,730	2,250	1,700
6	785	4,640	2,250	16	755	3,630	1,550	26	1,980	2,080	1,670
7	830	4,700	2,290	17	780	3,350	1,340	27	2,270	1,730	1,370
8	680	4,490	2,290	18	895	3,040	1,160	28	2,500	1,730	1,130
9	665	4,210	2,320	19	1,040	2,760	1,100	29	2,610	1,780	925
10	660	3,950	2,350	20	1,160	2,650	1,200	30	2,820	1,800	920
								31	-	1,810	-
Monthly mean discharge, in cubic feet per second									1,171	3,222	1,658
Runoff, in acre-feet									69,680	198,100	98,670
Runoff, in inches									1.19	3.38	1.68

Weber River at Devils Slide, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	May 1		1	8.28	4,510	4	7.42	3,700		June 9	
12:15	6.57	2,930	12	8.18	4,410	12	7.45	3,730	1:30	5.63	2,250
9	6.53	2,910		May 9			June 1		1:30p	5.72	2,320
3	6.40	2,800	2	8.03	4,260	12:15	5.03	1,820	3	5.82	2,400
6	6.39	2,800	9	8.04	4,270	N	5.08	1,850	7	5.80	2,390
8	6.52	2,910	10:30	7.93	4,160	7	5.05	1,830	9	5.72	2,320
10	6.83	3,160	N	8.02	4,250	11	5.08	1,850		June 10	
	May 2		3	7.98	4,210		June 2		7	5.83	2,410
3	7.02	3,310	6:30	7.91	4,150	10	5.10	1,860	7p	5.67	2,280
6	7.06	3,350	8	7.94	4,170	3	5.04	1,870	9:30	5.68	2,290
N	7.02	3,320	11	7.83	4,070	4:30	5.38	2,060		June 11	
1:30	6.92	3,240		May 10			June 3		12:30	5.62	2,240
2:30	6.42	2,840	11a	7.72	3,980	11a	5.47	2,130	N	5.64	2,260
4	6.88	3,200	5	7.59	3,860	1:30	5.47	2,130	3	5.57	2,200
5	7.07	3,360	12	7.56	3,830	3	5.45	2,120	6	5.58	2,210
8	7.25	3,510		May 11		4	5.65	2,230	6:45	5.51	2,160
	May 3		4	7.62	3,880	11	5.74	2,350	9	5.47	2,120
2	7.48	3,700	N	7.50	3,780		June 4			June 12	
10	7.65	3,860	2	7.53	3,850	8	5.75	2,360	2:30	5.49	2,140
5	7.72	3,920	4:30	7.46	3,740	4	5.72	2,330	3	5.51	2,160
11	8.07	4,250	7	7.81	4,060	6	5.61	2,240	10:30	5.51	2,150
	May 4			May 12			June 5		11:30	5.33	2,010
4	8.28	4,460	1	7.94	4,170	4	5.62	2,250	5:30	5.25	1,960
1	8.28	4,470	3p	7.66	3,920	11:30	5.66	2,280	6:30	5.07	1,830
2:30	8.21	4,400	10	7.73	3,980	8	5.65	2,280	9	5.02	1,790
4	8.28	4,470		May 13		10:30	5.62	2,250		June 13	
5:30	8.23	4,420	3	7.61	3,880		June 6		9a	5.06	1,820
	May 5		7	7.64	3,900	6	5.66	2,280	1	5.03	1,800
4	8.51	4,730	N	7.59	3,860	N	5.61	2,240	7	5.02	1,790
N	8.48	4,710	2	7.57	3,840	7	5.58	2,220		June 14	
6	8.36	4,580	5	7.89	4,130		June 7		10:30a	5.09	1,840
	May 6		9	8.04	4,270	8a	5.68	2,300	6	5.02	1,790
5	8.48	4,720		May 14		2	5.67	2,290	7:30	4.98	1,760
N	8.34	4,570	4	7.94	4,170	4	5.70	2,320		June 15	
10	8.42	4,660	11	7.80	4,050	10:30	5.68	2,300	10a	5.00	1,770
	May 7		5	7.55	3,820		June 8		11:30	4.84	1,650
3	8.55	4,810	7	7.58	3,850	2	5.63	2,250	5	4.80	1,630
N	8.49	4,740	10	7.70	3,960	1	5.73	2,330	12	4.78	1,610
10	8.31	4,540		May 15		6	5.67	2,280			
	May 8		11a	7.61	3,880	9	5.69	2,300			
8	8.32	4,560	1	7.44	3,720	11	5.68	2,290			

East Canyon Reservoir near Morgan, Utah

Location.--Lat 40°55'20", long 111°35'50", in NE¼ sec. 10, T. 2 N., R. 3 E., 500 ft East of Canyon Dam on East Canyon Creek and 9 miles southeast of Morgan. Altitude of gage is 5,550 ft (from river-profile map).

Drainage area.--144 sq mi.

Gage-height record.--Staff gage read at various times of day.

Maxima.--April-June 1952: Contents, 28,790 acre-ft June 24, 25 (gage height, 140.95 ft).
1931 to March 1952: Contents, 29,170 acre-ft June 2, 1943 (gage height, 141.67 ft).

Remarks.--Reservoir was formed in 1896 by a 58-ft rock-fill dam raised 25 ft in 1900, 12 ft more in 1902; and in 1906 by present concrete dam, which formed a reservoir having a capacity of 28,730 acre-ft between gage heights 0.0 ft (bottom of outlet tunnel) and 140.8 ft (top of flashboards in spillway). Gage height of spillway crest is 135 ft. No dead storage. Water is used for irrigation in Davis and Weber Counties.

East Canyon Reservoir near Morgan, Utah--Continued

Elevation, in feet, and contents, in acre-feet, on indicated day, 1952

Day	April		May		June	
	Elevation	Contents	Elevation	Contents	Elevation	Contents
1			136.00	26,220	139.15	27,860
2			137.40	26,950	139.15	27,860
3			138.10	27,310	139.20	27,880
4			140.00	28,300	139.20	27,880
5			139.90	28,250	139.15	27,860
6	67.70	5,560	139.60	28,090	139.25	27,910
7			139.40	27,990	139.30	27,940
8			139.15	27,860	139.40	27,990
9			138.50	27,520	139.60	28,090
10			138.65	27,600	139.85	28,220
11			138.50	27,520	140.20	28,400
12			138.40	27,470	140.60	28,610
13	73.80	6,660	138.45	27,490	140.75	28,690
14			138.40	27,470	140.90	28,770
15			138.40	27,470	140.90	28,770
16			138.40	27,470	140.85	28,740
17			138.35	27,440	140.80	28,720
18			138.25	27,390	140.75	28,690
19			138.30	27,420	140.75	28,690
20	92.80	11,020	138.40	27,470	140.80	28,720
21			138.90	27,730	140.80	28,720
22			139.20	27,880	140.80	28,720
23			139.20	27,880	140.90	28,770
24	113.40	16,980	139.10	27,830	140.95	28,790
25			139.00	27,780	140.95	28,790
26			139.00	27,780	140.90	28,770
27	126.50	21,690	139.10	27,830	140.80	28,720
28	128.50	22,610	139.10	27,830	140.75	28,690
29	132.40	24,450	139.20	27,880	140.70	28,660
30	134.20	25,320	139.15	27,860	140.65	28,640
31			139.15	27,860		
Change in contents, acre-feet		+18,420		+2,540		+780
Change in contents, equivalent mean cubic feet per second		+310		+41.3		+13.1

East Canyon Creek near Morgan, Utah

Location.--Lat 40°55'20", long 111°36'20", in NW¼ sec. 10, T. 2 N., R. 3 E., on right bank 2,500 ft downstream from East Canyon Dam, 2½ miles upstream from Sheep Canyon, and 9 miles southeast of Morgan. Altitude of gage is 5,460 ft (from river-profile map).
Drinage area.--145 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 2-30, May 8 to June 10, June 13-29.
Maxima.--April-June 1952: Discharge, 872 cfs 3 p.m. May 4 (gage height, 3.49 ft).
1931 to March 1952: Daily discharge, 412 cfs Apr. 23, 1936.
Remarks.--No diversion between station and East Canyon Reservoir (see preceding page) which completely regulates flow.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	154	346	253	11	50	427	85	21	80	330	87
2	148	300	241	12	52	413	85	22	89	366	75
3	146	425	238	13	53	404	113	23	94	364	76
4	142	638	238	14	54	399	130	24	146	348	111
5	138	768	220	15	57	399	130	25	181	311	138
6	87	678	216	16	59	380	132	26	237	281	140
7	48	604	191	17	60	359	138	27	299	282	130
8	49	553	165	18	64	322	119	28	330	277	99
9	50	502	142	19	68	279	91	29	338	280	85
10	49	457	109	20	74	277	87	30	338	280	82
								31	-	270	-
Monthly mean discharge, in cubic feet per second									124	397	138
Runoff, in acre-feet									7,410	24,430	8,220
Runoff, in inches									0.96	3.16	1.06

East Canyon Creek near Morgan, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 16		9:15	1.53	243	9	2.30	424		May 7	
12:15a	0.66	59	9:30	1.63	267	10:30	2.32	430	2	2.95	646
2	.66	59	8	1.62	265	11:30	2.37	445	N	2.84	604
8	.66	59	11:30	1.65	270	N	2.30	424	6	2.78	582
	April 17			April 27		1:30	2.32	430	12	2.75	575
4	.67	60	8	1.68	277	2	1.87	310		May 8	
11	.67	60	10:15	1.68	277	4	1.90	317	6	2.72	564
4	.67	60	10:30	1.85	320	4:45	2.50	485	N	2.68	553
8	.67	60	6	1.87	322	5:30	2.37	445	6	2.63	536
	April 18			April 28		5:45	2.62	525	12	2.59	525
6	.69	64	6	1.90	330	6	2.58	511		May 9	
N	.69	64	N	1.91	330	7:30	2.71	557	6	2.54	511
6	.68	63	6	1.92	33	8	2.56	505	N	2.49	495
	April 19			April 29		11	2.62	525	6	2.45	485
6a	.71	68	6	1.94	335	11:15	2.60	518	12	2.41	473
9	.71	68	N	1.95	338		May 4			May 10	
7	.70	67	6	1.96	340	6	2.73	564	6	2.38	466
	April 20			April 30		7	2.74	567	N	2.33	451
2	.73	73	6a	1.97	340	9	2.79	585	6	2.30	445
10	.74	73	10	1.97	340	9:15	3.06	690	12	2.29	442
5	.74	73	11	1.96	338	9:30	2.94	643		May 11	
	April 21		11:30	1.94	333	10	3.08	698	6a	2.28	436
6a	.76	79	6	1.94	330	11	1.74	277	5	2.22	416
8	.77	80	7	1.98	340	1:30	1.74	277	6	2.23	418
6	.78	82	12	2.00	346	2:30	3.45	854		May 12	
	April 22			May 1		3	3.49	872	1	2.24	418
6	.81	89	6a	2.01	348	5	3.40	832	5	2.24	418
N	.80	87	10	2.01	348	10	3.30	789	10:30	2.21	410
6	.80	87	1:15	2.00	343	10:30	3.40	832	4	2.20	404
	April 23		1:30	2.15	382	12	3.43	845	6	2.20	404
5	.83	94	2	2.00	343		May 5		9	2.21	407
8	.83	94	6	2.00	343	5	3.38	823	12	2.22	410
4	.82	92	12	2.02	348	9	3.29	785		May 13	
	April 24			May 2		3	3.18	739	5a	2.22	407
9a	.85	99	6a	2.02	348	6	3.15	726	2	2.20	402
9:15	1.24	175	1:45	2.01	346	6:15	3.13	718	6	2.20	399
5	1.24	175	3	.52	43	7	3.12	714	12	2.22	404
12	1.25	177	3:30	.47	36		May 6			May 14	
	April 25		4:30	.50	40	12:30	3.12	714	6a	2.22	402
7a	1.27	183	6	.88	96	1	3.14	722	2	2.20	396
2	1.26	181	6:15	1.89	314	6	3.12	714	7	2.20	396
5	1.26	181	9	1.90	317	N	3.02	674	12	2.21	399
	April 26			May 3		12:30	3.02	674		May 15	
8:15a	1.28	188	7	2.17	388	6:30	2.94	643	2a	2.20	399
8:30	1.52	241	9:30	2.20	396	12	2.95	646	11	2.20	399
									1	2.20	399
									10:30	2.18	393
									12	2.18	393

Hardscrabble Creek near Porterville, Utah

Location.--Lat 40°57'10", long 111°43'00", in SW¼NW¼ sec. 34, T. 3 N., R. 2 E., on right bank two-thirds of a mile upstream from Tucker Hollow and 2½ miles southwest of Porterville. Altitude of gage is 5,500 ft (from topographic map).
Drainage area.--24.9 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1 to May 12, June 6-30.
Maxima.--April-June 1952: Discharge, 413 cfs 3:30 p.m. May 4 (gage height, 3.66 ft).
1941 to March 1952: Discharge, 464 cfs Aug. 20, 1945 (gage height, 3.60 ft), from rating curve extended above 180 cfs.
Remarks.--A small canal diverts water from Arthurs Fork, a tributary of Hardscrabble Creek, out of the basin to Farmington Creek for irrigation in vicinity of Farmington.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	15	247	229	11	55	250	119	21	121	278	63
2	18	272	234	12	58	281	107	22	135	229	59
3	18	329	212	13	73	323	98	23	164	205	58
4	23	360	205	14	85	314	91	24	199	205	71
5	32	366	188	15	73	272	85	25	228	227	58
6	46	329	188	16	60	229	80	26	264	247	55
7	75	296	179	17	61	188	74	27	264	245	50
8	78	281	159	18	78	177	74	28	336	247	47
9	61	245	143	19	122	184	71	29	314	261	44
10	57	227	128	20	124	237	66	30	253	258	43
								31	-	232	-
Monthly mean discharge, in cubic feet per second									116	259	109
Runoff, in acre-feet									6,920	15,950	6,500
Runoff, in inches									5.21	12.01	4.90

Hardscrabble Creek near Porterville, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 16		3	2.90	188	11	3.22	278	N	3.16	278
12:15	2.16	64	5:30	3.05	224		May 2		4	3.20	290
6	2.12	59	7	3.07	229	2	3.18	267	12	3.10	267
12p	2.11	58		April 24		6	3.10	245		May 9	
6	2.15	63	10a	2.72	147	8	3.13	253	6	3.02	247
12	2.11	58	11:30	2.72	147	11	3.07	237	N	3.00	247
	April 17		4	3.17	253	4	3.28	296	6	2.96	240
6a	2.09	56	6	3.22	267	7	3.31	305	12	2.92	229
1	2.08	55		April 25		8:30	3.28	296		May 10	
5	2.26	77	2	3.07	224	11	3.47	354	9:30	2.82	210
	April 18		10	2.82	166		May 3		10:30	2.92	234
3	2.25	75	11	2.85	175	8	3.22	278	N	2.83	212
11	2.21	70	2	3.20	258	11	3.23	281	2	2.84	214
1	2.24	74	7	3.30	287	3	3.40	332	6	2.96	247
4	2.46	107		April 26		5	3.64	406	8	2.98	253
6:30	2.54	121	4	3.07	229	7	3.55	378	12	2.94	242
	April 19		10	3.00	214	3	3.52	369		May 11	
10a	2.40	96	2:30	3.48	350	11	3.59	388	10	2.96	224
12:30	2.45	103	12	3.15	258		May 4		1	2.87	229
5	2.75	159		April 27		6	3.42	338	6	3.07	284
9	2.74	157	9	2.97	217	10	3.32	308	9	3.04	278
10	2.78	166	11	2.98	219	N	3.34	314	12	3.03	275
	April 20		6	3.44	354	2	3.47	354		May 12	
1	2.68	143	12	3.33	323	3:30	3.66	413	4	3.02	275
2:30	2.70	147		April 28		11	3.63	403	9	2.95	256
4	2.62	131	6	3.19	284		May 5		N	2.94	253
11	2.53	115	11	3.11	264	3	3.48	357	6	3.10	302
4	2.54	117	5:30	3.56	400	4	3.53	372	12	3.11	308
5	2.58	124	12	3.42	354	10	3.40	332		May 13	
11	2.58	124		April 29		N	3.40	332	10	3.05	293
	April 21		6	3.32	323	2	3.46	350	N	3.07	299
2	2.53	115	7:30	3.32	320	4	3.56	381	7	3.30	369
6	2.52	114	8	3.35	329	8	3.58	388	12	3.19	335
7	2.51	112	2	3.23	293	12	3.55	378		May 14	
10	2.50	110	7	3.31	314		May 6		2	3.14	320
7	2.63	133	12	3.24	293	11	3.25	287	4:30	3.18	332
	April 22			April 30		1p	3.25	287	N	3.05	293
5	2.56	119	6	3.10	253	7	3.47	354	6	3.18	332
7	2.56	119	N	2.98	219	10	3.47	354	12	3.05	293
10	2.53	114	6	3.14	261		May 7			May 15	
N	2.56	119	10	3.18	272	10a	3.22	278	N	2.98	272
6	2.84	175		May 1		1	3.22	278	6	2.92	256
9	2.83	173	6	3.05	234	6	3.30	302	12	2.88	245
	April 23		9	3.00	222	8	3.30	302			
5	2.67	139	N	3.00	222		May 8				
N	2.57	121	5	3.22	278	4	3.20	281			

East Canyon Creek below diversions, near Morgan, Utah

Location.--Lat 41°02'10", long 111°41'30", in SW¼ sec. 35, T. 4 N., R. 2 E., on left bank 1 mile southwest of Morgan and 3 miles upstream from mouth. Altitude of gage is 5,050 ft (from river-profile map).
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1 to May 1, May 9 to June 3, June 13-29.
Maxima.--April-June 1952: Discharge, 926 cfs 8 p.m. May 8 (gage height, 9.19 ft).
1950 to March 1952: Discharge, 382 cfs May 22, 1951 (gage height, 6.18 ft).
Remarks.--Many diversions above station for irrigation.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	185	649	511	11	166	763	208	21	285	606	105
2	183	674	487	12	180	760	184	22	299	626	95
3	182	696	467	13	199	793	199	23	341	602	80
4	185	784	448	14	231	827	201	24	386	563	129
5	197	876	435	15	210	750	184	25	471	549	174
6	194	886	416	16	192	672	171	26	517	558	188
7	192	862	392	17	214	588	170	27	565	558	183
8	220	886	343	18	254	540	158	28	649	564	142
9	174	879	305	19	298	504	121	29	661	575	109
10	161	814	257	20	312	525	104	30	635	586	99
								31	-	546	-
Monthly mean discharge, in cubic feet per second									298	679	236
Runoff, in acre-feet									17,730	41,770	14,010
Runoff, in inches									-	-	-

East Canyon Creek below diversions, near Morgan, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 16		9:30	5.40	308	1:15	8.49	653	9	9.12	898
12:30	3.88	182	12	5.33	302	1:30	8.57	668	N	9.16	914
N	3.68	166		April 22		9	8.47	653	8	9.06	876
2	3.83	178	5	5.10	283	11:45	8.52	664		May 7	
6	4.47	229	N	4.88	265		April 29		9	9.07	880
7:30	4.57	237	2	4.92	269	12:30	8.45	653	11:30	9.00	855
9	4.48	230	7	5.84	348	7	8.54	672	3	9.02	862
	April 17		9	5.97	360	10	8.45	657	8	8.95	838
1	4.00	192	10	5.97	360	2	8.44	659		May 8	
8	3.75	172		April 23		7	8.39	651	9	9.00	855
N	3.72	169	3	5.69	335	10	8.42	659	2	9.13	902
1	3.83	178	2	5.34	304		April 30		4:30	9.11	894
3	4.22	208	4	5.52	320	12:30	8.48	672	8	9.19	926
6	5.14	284	7	6.13	375	11	8.22	630		May 9	
8	5.33	299	9	6.32	392	N	8.15	618	2	9.16	910
9	5.23	293	10:30	6.32	392	6	8.13	618	2p	9.03	858
12	4.69	248		April 24		11	8.24	640	7	9.10	883
	April 18		10	5.80	345		May 1			May 10	
4	4.33	220	2	5.71	337	8	8.28	651	4p	8.88	802
8	4.14	205	4	6.44	402	4	8.20	642	7	8.80	778
N	4.08	200	7	6.83	438		May 2		12	8.85	793
2	4.26	215	12	7.09	464	4	8.44	694		May 11	
4:15	5.01	275		April 25		N	8.41	692	1p	8.78	769
7	5.83	346	8	7.13	469	4	8.27	664	4	8.63	730
9	5.82	345	9	7.02	458	7:30	8.35	680	11	8.81	775
12	5.38	305	2	6.88	444	10	7.76	579		May 12	
	April 19		4	7.02	458		May 3		1p	8.87	790
4	5.00	274	6	7.31	488	1	8.24	659	3	8.70	742
8	4.80	258	8:30	7.50	509	4	8.42	694	7	8.62	722
1	4.65	246	9	7.44	503	8	8.44	698		May 13	
3	4.92	268		April 26		2	8.38	686	2	8.75	752
6	6.03	364	1	7.70	534	8	8.57	728	11	8.80	766
7	6.22	382	2:15	7.72	536	11:30	8.57	728	11:30	9.07	852
9	6.31	390	3	7.41	499		May 4		7	8.90	793
	April 20		9	7.40	498	4:30	8.90	820		May 14	
1	5.91	354	1	7.35	493	1	8.90	820	5	9.02	830
5	5.55	322	8	7.88	557	6	8.65	748	1	9.05	838
N	5.15	287	9	7.91	561	8	8.38	686	10	8.96	805
1:30	5.13	285		April 27		9	8.36	682	12	9.00	817
4	5.23	293	3	7.84	552	11	8.74	772		May 15	
7	5.52	319	8	7.83	550		May 5		N	8.89	781
9	5.60	326	11	7.68	531	1	8.96	341	2	8.64	715
	April 21		1	7.96	568	8	9.12	898	9	8.54	692
2	5.25	295	5	7.97	570	3	9.09	326	12	8.53	700
11	4.83	265	10	8.23	608	8	9.02	862			
1	4.86	264		April 28			May 6				
3	4.94	270	8	8.48	651	1	9.03	866			
8	5.36	304	11:30	8.53	660	5	9.10	890			

Weber River near Morgan, Utah

Location.--Lat 41°03'50", long 111°43'25", in SE¼ sec. 21, T. 4 N., R. 2 E., on left bank a quarter of a mile upstream from Line Creek and 2½ miles northwest of Morgan. Altitude of gage is 5,100 ft.

Gage-height record.--Water stage recorder graph except Apr. 15 to June 30 when no record was obtained. Gage was destroyed by flood about May 4, 1952.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for period of no gage-height record estimated on basis of weather records, discharge measurements, and records for stations at Devils Slide and Gateway.

Maxima.--April-June 1952: Discharge probably exceeded 6,100 cfs May 6.
1950 to March 1952: Discharge, 2,640 cfs May 30, 1951 (gage height, 4.94 ft).

Remarks.--Many diversions above and below station for irrigation. Flow regulated by Echo and East Canyon Reservoirs (see p. 636 and 640).

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	852	3,800	2,400	11	966	4,600	2,400	21	1,800	3,300	1,400
2	870	4,300	2,400	12	1,000	4,800	2,300	22	2,000	3,200	1,350
3	864	4,700	2,500	13	1,090	4,700	2,150	23	2,200	3,100	1,250
4	912	5,200	2,650	14	1,200	4,300	2,100	24	2,300	2,950	1,200
5	990	6,000	2,600	15	1,150	4,600	1,950	25	2,400	2,800	1,700
6	1,060	6,000	2,550	16	1,100	4,300	1,800	26	2,700	2,700	1,900
7	1,210	5,800	2,550	17	1,200	4,000	1,650	27	3,000	2,500	1,700
8	1,130	5,400	2,550	18	1,400	3,700	1,450	28	3,200	2,400	1,400
9	978	5,100	2,500	19	1,600	3,400	1,350	29	3,200	2,450	1,200
10	924	4,800	2,500	20	1,700	3,200	1,350	30	3,500	2,500	1,150
								31	-	2,450	-
Monthly mean discharge, in cubic feet per second									1,617	3,985	1,932
Runoff, in acre-feet									96,190	245,100	114,900
Runoff, in inches									-	-	-

Weber River at Gateway, Utah

Location.--Lat 41°08', long 111°50', in NW¼SW¼ sec. 27, T. 5 N., R. 1 E., on right bank 800 ft downstream from Union Pacific Railroad bridge, 2,500 ft downstream from Strawberry Creek, and 2,500 ft east of section house at Gateway. Altitude of gage is 4,790 ft.
Drainage area.--1,610 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 19 to May 6, May 14-27.
Maxima.--April-June 1952: Discharge, 7,600 cfs 10 p.m. May 5 (gage height, 9.51 ft). 1889-1903, 1919 to March 1952: Discharge observed, 7,980 cfs May 31, 1896.
Remarks.--Many diversions above and below station for irrigation. Flow regulated by Echo and East Canyon Reservoirs (see p. 636 and 640).

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	1,090	4,680	2,700	11	1,540	5,490	2,690	21	2,570	4,070	1,560
2	1,110	5,040	2,690	12	1,630	5,760	2,530	22	2,720	4,010	1,450
3	1,120	5,690	2,940	13	1,740	5,670	2,260	23	2,870	3,760	1,360
4	1,230	6,770	3,070	14	1,860	5,770	2,240	24	3,060	3,450	1,310
5	1,370	7,390	3,000	15	1,740	5,450	2,160	25	3,350	3,450	1,870
6	1,490	7,340	2,940	16	1,600	5,140	1,990	26	3,770	3,280	2,210
7	1,810	7,120	2,910	17	1,850	4,640	1,850	27	4,100	2,940	1,900
8	2,020	6,620	2,850	18	2,320	4,260	1,680	28	4,470	2,840	1,650
9	1,630	6,110	2,840	19	2,410	3,920	1,480	29	4,500	2,850	1,280
10	1,470	5,670	2,850	20	2,580	3,890	1,480	30	4,520	2,880	1,240
								31	-	2,800	-
Monthly mean discharge, in cubic feet per second									2,318	4,798	2,166
Runoff, in acre-feet									137,900	295,000	128,900
Runoff, in inches									1.61	3.44	1.50

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	May 1		7	8.49	6,470	10:30	7.33	5,260	9	4.78	2,870
12:15	7.13	4,660	12	8.36	6,320	12	7.33	5,260	10	4.84	2,930
3	7.17	4,700		May 9			June 1		5	4.75	2,840
11	7.04	4,610	7	8.24	6,180	12:15	4.60	2,710	8	4.76	2,850
1:30	7.06	4,630	9	8.25	6,200	4	4.59	2,700	11	4.73	2,830
3	7.04	4,620	3	8.12	6,050	8	4.61	2,720		June 9	
7	7.14	4,720	5	8.06	5,990	N	4.61	2,720	4	4.74	2,840
11	7.20	4,790	8	8.03	5,950	6	4.56	2,680	10	4.82	2,910
	May 2			May 10		12	4.55	2,670	7:30	4.71	2,810
3	7.20	4,800	3	7.89	5,800		June 2		11	4.77	2,860
9	7.39	5,000	N	7.75	5,650	6	4.57	2,690		June 10	
5	7.50	5,140	4	7.72	5,620	N	4.60	2,710	8	4.81	2,900
9	7.63	5,280	6	7.68	5,580	6	4.55	2,670	4	4.76	2,850
11:30	7.55	5,210	11	7.69	5,590	9	4.50	2,630	9	4.62	2,730
	May 3			May 11		11	4.68	2,780		June 11	
5	7.78	5,460	2	7.62	5,520		June 3		1	4.62	2,730
12:30	7.89	5,600	6	7.62	5,520	2	4.78	2,870	3	4.65	2,760
2	7.98	5,710	9	7.57	5,470	9	4.87	2,950	7	4.60	2,710
3	7.96	5,690	11	7.50	5,400	2	4.87	2,950	9:30	4.63	2,740
10	8.35	6,150	N	7.52	5,420	8	4.85	2,940	2	4.62	2,730
	May 4		3	7.48	5,380		June 4		4	4.56	2,680
6	8.70	6,480	7	7.52	5,420	2	5.03	3,100	10	4.48	2,610
1	8.97	6,830		May 12		11	5.05	3,120	12	4.47	2,610
3	8.97	6,840	5	7.88	5,790	1	5.04	3,110		June 12	
9:30	9.34	7,300	10	7.90	5,810	4	4.97	3,040	3	4.43	2,570
11:30	9.36	7,330	1	7.87	5,780	6	4.96	3,030	8	4.44	2,580
	May 5		3	7.82	5,720	9	4.92	3,000	4:30	4.38	2,530
3:30	9.27	7,240	6	7.77	5,670		June 5		7	4.23	2,410
8	9.31	7,300	10	7.87	5,780	2	4.89	2,970	9	4.19	2,380
12:30	9.45	7,480		May 13		9	4.95	3,020	11:30	4.16	2,360
2	9.43	7,470	1	7.87	5,780	11	4.98	3,050		June 13	
6	9.45	7,490	6	7.77	5,670	1	4.96	3,030	2	4.05	2,270
8	9.46	7,520	9	7.77	5,670	4	4.91	2,990	6	4.04	2,260
10	9.51	7,600	N	7.72	5,620	8	4.88	2,960	9	4.06	2,280
12	9.50	7,580	2	7.67	5,570		June 6		4	4.02	2,250
	May 6		3	7.70	5,600	6	4.88	2,960	7	3.99	2,220
5	9.33	7,380	6	7.68	5,580	9	4.90	2,980		June 14	
10:30	9.38	7,390	12	7.86	5,770	11	4.89	2,970	1:30	3.98	2,210
5	9.16	7,210		May 14		7	4.81	2,900	4	4.04	2,260
	May 7		3	7.98	5,910	9	4.82	2,910	10	4.05	2,270
1	9.20	7,280	8	7.86	5,780		June 7		11	4.04	2,260
8	9.06	7,130	1	7.85	5,770	1	4.80	2,890	1	4.05	2,270
12:30	9.11	7,210	5	7.75	5,660	10:30	4.89	2,970	9	3.96	2,200
6	8.89	6,950	7	7.74	5,650	2	4.83	2,920	12	3.96	2,200
12	8.80	6,840	9	7.78	5,700	3:30	4.83	2,920		June 15	
	May 8		12	7.74	5,640	7	4.76	2,850	4	3.93	2,170
6	8.70	6,720		May 15		9	4.76	2,850	8	3.96	2,200
N	8.63	6,640	3	7.62	5,540		June 8		10	3.97	2,210
2	8.65	6,660	8	7.62	5,540	1	4.74	2,840	1	3.94	2,180
5	8.60	6,600	3	7.48	5,400	4	4.77	2,860	3	3.94	2,180
									8	3.80	2,070
									12	3.75	2,030

Weber River at Ogden, Utah

Location.--Lat 41°13'40", long 111°59'15", in sec. 30, T. 6 N., R. 1 W., on right bank 200 ft southeast of intersection of 21 St. and Middleton Road in Ogden, and 1 mile upstream from Ogden River. Altitude of gage is 4,250 ft.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1 to May 22.
Maxima.--April-June 1952: Discharge, 7,070 cfs 6 a.m. May 6 (gage height, 10.89 ft).
1950 to March 1952: Discharge, 2,340 cfs May 7, 1951 (gage height, 6.44 ft).
Remarks.--Many diversions above and below station for irrigation. Flow regulated by Echo and East Canyon Reservoirs (see p. 636 and 640).

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	1,080	4,470	2,150	11	1,440	5,090	2,080	21	2,580	3,510	834
2	1,130	4,700	2,080	12	1,600	5,120	1,920	22	2,670	3,540	829
3	1,090	5,170	2,210	13	1,690	5,060	1,630	23	2,810	3,440	789
4	1,180	6,050	2,380	14	1,930	5,030	1,520	24	2,990	3,150	745
5	1,350	6,840	2,380	15	1,900	4,640	1,440	25	3,280	3,050	1,190
6	1,490	6,910	2,280	16	2,360	4,720	1,350	26	3,670	2,960	1,660
7	1,780	6,790	2,280	17	1,730	4,470	1,200	27	4,060	2,730	1,440
8	2,160	6,490	2,240	18	2,050	3,930	995	28	4,280	2,440	1,200
9	1,730	6,040	2,210	19	2,430	3,540	829	29	4,490	2,400	874
10	1,470	5,680	2,200	20	2,680	3,350	789	30	4,430	2,400	693
								31	-	2,280	-
Monthly mean discharge, in cubic feet per second									2,318	4,387	1,547
Runoff, in acre-feet									137,900	269,700	92,070
Runoff, in inches									-	-	-

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	May 1			May 7			May 14		12	6.32	2,140
12:15	8.69	4,440	1	10.72	6,910	6	9.14	5,040		June 6	
2	8.68	4,430	5	10.63	6,830	7:30	9.27	5,190	1	6.29	2,110
9:30	8.78	4,540	N	10.65	6,870	8:30	9.15	5,050	7	6.31	2,130
1:30	8.66	4,400	1:30	10.52	6,720	3	9.14	5,030	N	6.31	2,130
6	8.67	4,420	4	10.64	6,870	9:30	8.90	4,760	6	6.40	2,210
9	8.77	4,530	6:30	10.42	6,610	12	8.99	4,840	12	6.35	2,160
12	8.76	4,520	8	10.50	6,710		May 15			June 7	
	May 2			May 8		3:30	9.00	4,860	7	6.34	2,160
4:30	8.80	4,560	1	10.42	6,640	N	8.72	4,540	N	6.37	2,180
6	8.84	4,600	9	10.30	6,520	5	8.66	4,460	6	6.31	2,130
9	8.80	4,560	11	10.18	6,370	6	8.82	4,620	11	6.25	2,080
2	8.99	4,770	1	10.36	6,600	12	8.75	4,550		June 8	
12	9.20	5,000	6	10.18	6,400		June 1		7	6.25	2,080
	May 3			May 9		12:15	6.18	2,010	N	6.30	2,120
1:30	9.36	5,180	1	10.17	6,410	6	6.18	2,010	6	6.28	2,100
3	9.35	5,160	5	9.92	6,120	N	6.17	2,010	9	6.25	2,080
7	9.25	5,050	10	9.85	6,050	4	6.14	1,980		June 9	
9:30	9.25	5,050	5	9.70	5,870	8	6.13	1,970	2	6.26	2,080
N	9.38	5,200	10	9.73	5,890	11:30	6.10	1,950	3	6.25	2,080
3	9.33	5,150	12	9.65	5,800		June 2		8	6.24	2,070
9	9.34	5,160		May 10		4	6.08	1,930	N	6.27	2,090
12	9.48	5,320	7	9.67	5,810	9	6.13	1,970	7	6.25	2,080
	May 4		N	9.60	5,710	4	6.09	1,940	12	6.20	2,030
5	9.67	5,530	6	9.42	5,490	12	5.97	1,850		June 10	
N	10.12	6,070	9	9.41	5,470		June 3		3	6.24	2,070
3	10.25	6,230		May 11		2	6.03	1,890	11	6.25	2,080
8:30	10.62	6,670	1	9.24	5,270	5	6.23	2,060	N	6.26	2,080
	May 5		5	9.23	5,260	9	6.28	2,100	5	6.22	2,050
1	10.67	6,730	N	9.05	5,050	10	6.27	2,090	12	6.10	1,950
4:30	10.78	6,870	6	8.98	4,970	6	6.32	2,140		June 11	
9	10.71	6,780	12	8.91	4,880		June 4		7	6.12	1,970
10:30	10.67	6,730		May 12		1	6.35	2,160	N	6.07	1,930
2	10.82	6,930	5	8.95	4,910	6	6.50	2,300	2	6.10	1,950
8	10.82	6,950	8	9.22	5,210	11	6.52	2,320	6	6.00	1,870
10	10.67	6,770	2	9.30	5,280	2	6.47	2,270	7:30	6.09	1,940
	May 6		10	9.11	5,060	9	6.43	2,240	9	5.99	1,860
1	10.87	7,020		May 13		10	6.47	2,270	12	5.93	1,810
2:30	10.68	6,810	3	9.30	5,260		June 5			June 12	
6	10.89	7,070	7	9.18	5,130	11	6.55	2,340	8	5.88	1,770
7:30	10.79	6,950	9	9.28	5,230	1	6.40	2,210	10	5.90	1,790
8	10.68	6,850	8:30	8.91	4,810	6	6.36	2,170	2	5.88	1,770
11	10.52	6,670	10:30	9.02	4,920	9	6.32	2,140	7:30	5.82	1,730

Weber River at Ogden, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
11	5.66	1,600	3	5.38	1,400	2	5.28	1,330	5	5.14	1,230
	June 13		6	5.36	1,380	6	5.23	1,290	9	5.15	1,240
3	5.61	1,560	9	5.28	1,330	10	5.20	1,270	N	5.18	1,260
6	5.52	1,490		June 14		12	5.15	1,240	8	5.13	1,220
10	5.48	1,470	4	5.27	1,320		June 15		9	5.02	1,140
11:30	5.40	1,410	1:30	5.32	1,350	3	5.16	1,240	12	4.98	1,120

South Fork Ogden River near Huntsville, Utah

Location.--Lat 41°16', long 111°40', in SE¼ sec. 12 T. 6 N. R. 2 E., on right bank half a mile downstream from Magpie Creek, 1 mile upstream from Huntsville Mountain Canal, and 5½ miles east of Huntsville.
Drainage area.--148 sq mi.
Gage-height record.--Water-stage recorder graph except for period 4 p.m. May 13 to 5 p.m. May 14 when no record was obtained.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 19-26, May 17 to June 5, June 27-30.
Maxima.--April-June 1952: Discharge, 1,890 cfs 8:30 p.m. May 3 (gage height, 5.98 ft). 1921 to March 1952: Discharge, 1,780 cfs May 4, 1936 (gage height, 5.45 ft), from rating curve extended above 900 cfs.
Remarks.--Small diversions above station.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	105	1,200	435	11	320	828	232	21	686	701	138
2	110	1,420	406	12	355	916	217	22	657	607	136
3	108	1,590	381	13	404	974	210	23	720	543	134
4	131	1,620	345	14	429	956	198	24	796	529	152
5	183	1,520	325	15	361	912	189	25	890	578	142
6	255	1,450	307	16	331	780	183	26	1,180	611	136
7	323	1,280	282	17	383	640	172	27	1,360	593	127
8	366	1,080	264	18	507	593	165	28	1,420	564	122
9	339	907	252	19	628	585	154	29	1,380	568	116
10	323	804	239	20	720	640	146	30	1,260	554	111
								31	-	485	-
Monthly mean discharge, in cubic feet per second									568	872	214
Runoff, in acre-feet									33,780	53,610	12,730
Runoff, in inches									4.28	6.79	1.61

South Fork Ogden River near Huntsville, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 16			April 24		10	4.79	1,260		May 8	
12:15	2.71	331	2	4.14	818		May 1		2	4.62	1,180
N	2.59	298	N	3.87	690	4	4.69	1,210	10:30	4.38	1,060
6:30	2.86	372	2	3.89	694	8	4.53	1,130	1	4.43	1,080
12	2.77	347	7	4.35	894	1:30	4.51	1,120	5	4.28	1,010
	April 17		12	4.47	948	6	4.72	1,220	11	4.28	1,010
6	2.70	328		April 25			May 2			May 9	
N	2.66	317	12:30	4.08	768	1	5.18	1,460	2	4.14	943
5	3.15	462	2	4.13	782	6	5.07	1,400	6	4.13	938
8	3.20	479	8	4.68	1,030	11	4.82	1,280	N	4.03	894
12	3.15	462	11	4.81	1,110	1:30	4.78	1,260	2:30	3.92	848
	April 18		12	4.74	1,080	6	5.22	1,480	6	4.00	880
11:30	3.03	423		April 26		11	5.65	1,710	11	4.00	880
6	3.58	620	12:30	4.86	1,140	12	5.65	1,710		May 10	
8:30	3.62	636	9:30	4.57	1,040		May 3		6	3.82	808
12	3.57	616	1	4.57	1,060	6	5.32	1,530	N	3.70	760
	April 19		8:30	5.31	1,460	N	5.08	1,400	6	3.74	776
10	3.36	532	10	5.14	1,380	3:30	5.28	1,500	10:30	3.90	840
12:30	3.36	532	11	5.28	1,460	6	5.58	1,670		May 11	
4:30	3.78	694		April 27		8:30	5.98	1,890	6	3.78	792
6:30	3.93	760	3	5.16	1,400	12	5.79	1,780	3	3.72	768
8:30	3.97	778	8:30	4.81	1,240		May 4		4:45	3.85	820
	April 20		9:30	4.88	1,270	1	5.82	1,800	5	3.93	852
3	3.84	720	11:30	4.69	1,180	6	5.52	1,640	10:30	4.17	956
10:30	3.65	636	5	4.92	1,300	N	5.20	1,460		May 12	
N	3.67	644	10:30	5.35	1,530	2:30	5.20	1,460	6	4.02	889
5:30	3.99	778		April 28		9:30	5.76	1,770	1	3.86	824
8	4.03	796	2	4.82	1,280		May 5		2	3.98	872
10:30	4.02	791	4:30	4.87	1,300	2:30	5.50	1,620	3	3.92	848
	April 21		8	5.39	1,560	5	5.65	1,710	7	4.27	1,000
6	3.85	715	8:30	5.17	1,450	6	5.43	1,590		May 13	
N	3.68	640	9:30	5.52	1,640	10:30	5.09	1,410	2	4.34	1,040
4	3.73	661	11	5.41	1,580	11:30	5.18	1,460	6	4.23	984
7	3.83	703	12	5.50	1,620	2	5.00	1,360	9	4.30	1,015
12	3.73	657		April 29		4	5.08	1,400	1	4.12	934
	April 22		7	5.15	1,440	8	5.46	1,600	4	4.20	970
11	3.54	577	10	4.82	1,280	11	5.53	1,640		May 14	
1	3.60	600	3	4.68	1,200		May 6		5	4.11	930
7	3.98	760	9	4.98	1,360	6	5.22	1,480	6	4.17	956
9	4.00	768		April 30		2:30	4.85	1,290		May 15	
	April 23		2	4.86	1,300	8	5.28	1,500	3:30	4.18	961
6	3.84	694	3	5.00	1,360	11	5.30	1,520	9	4.10	925
N	3.70	636	4	4.92	1,320		May 7		4	4.05	902
1	3.74	648	5	4.98	1,360	1	5.27	1,500	6	3.98	872
8	4.12	814	10	4.70	1,220	6	4.98	1,360	12	3.93	852
10	4.17	832	5	4.61	1,170	N	4.75	1,240			

Pine View Reservoir near Ogden, Utah

Location.--Lat 41°15'20", long 111°50'25", in NW¼SE¼ sec. 16, T. 6 N., R. 1 E., at trash rack at Pine View Dam on Ogden River, 7 miles northeast of Ogden. Datum of gage is at mean sea level, datum of 1929 (levels by Reclamation).

Drainage area.--310 sq mi, approximately.

Gage-height record.--Staff gage read at 8 a.m. daily.

Maxima.--April-June 1952: Contents, 44,180 acre-ft June 7-16 (elevation, 4,872.00 ft).

1936 to March 1952: Contents, 45,370 acre-ft May 17, 1938 (elevation, 4,873.00 ft).

Remarks.--Reservoir is formed by earth-fill, rock-faced dam; storage began Nov. 16, 1936. Capacity, 44,180 acre-ft at elevation 4,872 ft (top of spillway gates); during September 1939 sills of radial spillway gates were raised 1 foot, thus changing the top of spillway gates from elevation 4,871 to 4,872 ft. Dead storage negligible. Water is used for irrigation on Ogden River project.

Pine View Reservoir near Ogden, Utah--Continued

Elevation, in feet, and contents, in acre-feet, at 8 a. m. of indicated day, 1952

Day	April		May		June	
	Elevation	Contents	Elevation	Contents	Elevation	Contents
1	4,834.65	3,200	4,866.40	34,780	4,871.00	42,410
2	4,835.73	3,730	4,866.40	34,780	4,871.00	42,410
3	4,834.73	3,250	4,866.40	34,780	4,871.50	43,290
4	4,833.90	2,880	4,866.70	35,250	4,871.70	43,640
5	4,833.57	2,750	4,867.10	35,890	4,871.80	43,820
6	4,834.65	3,200	4,867.10	35,890	4,871.90	44,000
7	4,836.23	3,980	4,867.10	35,890	4,872.00	44,180
8	4,839.06	5,590	4,867.10	35,890	4,872.00	44,180
9	4,842.14	7,540	4,867.10	35,890	4,872.00	44,180
10	4,844.09	8,990	4,867.10	35,890	4,872.00	44,180
11	4,845.42	10,000	4,867.10	35,890	4,872.00	44,180
12	4,847.00	11,320	4,866.70	35,250	4,872.00	44,180
13	4,848.08	12,280	4,867.30	36,210	4,872.00	44,180
14	4,850.53	14,550	4,867.50	36,530	4,872.00	44,180
15	4,852.19	16,280	4,867.50	36,530	4,872.00	44,180
16	4,852.69	16,800	4,867.50	36,530	4,872.00	44,180
17	4,852.85	16,910	4,867.50	36,530	4,871.90	44,000
18	4,852.93	17,020	4,867.80	37,020	4,871.80	43,820
19	4,855.40	19,790	4,868.00	37,340	4,871.75	43,820
20	4,856.80	21,430	4,868.30	37,830	4,871.67	43,640
21	4,858.50	23,530	4,869.00	38,990	4,871.50	43,290
22	4,859.25	24,430	4,869.20	39,330	4,871.45	43,120
23	4,859.80	25,220	4,869.20	39,330	4,871.30	42,940
24	4,860.30	25,880	4,869.20	39,330	4,871.30	42,940
25	4,861.00	26,830	4,869.20	39,330	4,871.25	42,760
26	4,861.98	28,220	4,869.80	40,340	4,871.40	43,120
27	4,863.30	30,080	4,869.90	40,510	4,871.40	43,120
28	4,864.60	32,010	4,869.90	40,510	4,871.70	43,640
29	4,865.80	33,840	4,870.30	41,200	4,871.80	43,820
30	4,866.40	34,780	4,870.70	41,890	4,871.80	43,820
31			4,871.00	42,410		
Change in contents acre-feet		+32,070		+ 7,630		+ 1,410
Change in contents, equivalent mean cubic feet per second		+539		+124		+23.7

Ogden River below Pine View Dam, near Ogden, Utah

Location.--Lat 41°15'17", long 111°50'47", in NE¼SW¼ sec. 16, T. 6 N., R. 1 E., on left bank 1,500 ft downstream from Wheeler Creek, 2,000 ft downstream from Pine View Dam, and 6½ miles northeast of Ogden. Datum of gage is 4,798.30 ft above mean sea level (levels by Bureau of Reclamation).

Drainage area.--321 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1, 2, 19, 24-27, May 6-14, May 25 to June 5.

Maxima.--April-June 1952: Discharge, 3,190 cfs 11:30 p.m. May 3 (gage height, 7.76 ft). 1937 to March 1952: Discharge, 2,290 cfs June 7, 1945 (gage height, 6.73 ft).

Remarks.--Flow regulated by Pine View Reservoir (see p. 648). Pine View pipeline diverts water above station for use in irrigation and power development below station. Diversions for irrigation and municipal supply above Pine View Reservoir.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	12	2,450	575	11	606	1,250	139	21	1,240	997	58
2	213	2,650	133	12	622	1,120	62	22	1,430	1,200	58
3	435	2,630	96	13	630	1,470	39	23	1,580	1,170	54
4	432	2,670	314	14	634	1,680	36	24	1,570	728	29
5	442	2,760	200	15	626	1,750	36	25	1,600	538	27
6	465	2,570	142	16	630	1,310	36	26	1,770	524	25
7	514	2,650	142	17	638	816	32	27	1,900	768	23
8	554	2,230	142	18	697	728	32	28	2,160	563	22
9	558	1,730	146	19	787	732	30	29	2,310	452	20
10	582	1,600	164	20	967	824	58	30	2,330	440	22
								31	-	513	-
Monthly mean discharge, in cubic feet per second									964	1,404	96.4
Runoff, in acre-feet									57,350	86,310	5,740
Runoff, in inches									3.35	5.04	0.34

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Ogden River below Pine View Dam, near Ogden, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	May 1		3:30	7.72	3,130	2	5.66	1,210		June 7	
12:15	7.07	2,310	4:45	7.32	2,590	12	5.69	1,230	6	2.58	142
2	7.23	2,490	5:30	7.50	2,820		May 13		11	2.59	144
3:30	7.05	2,290	8	7.33	2,590	9	5.69	1,230	6	2.58	142
5:30	7.18	2,430		May 6		9:30	6.33	1,640		June 8	
9:30	7.10	2,340	8	7.16	2,380	6	6.33	1,650	10	2.60	146
11	7.29	2,560	8:15	7.45	2,730	12	6.33	1,650	3	2.58	142
12:30	7.20	2,450	11	7.36	2,610		May 14		12	2.58	142
3	7.30	2,570	1	7.42	2,680	10	6.34	1,660		June 9	
10	7.26	2,520	8	7.32	2,550	6	6.33	1,650	10	2.59	144
	May 2		9	7.36	2,590	6:30	6.46	1,750	9:30	2.57	140
5	7.28	2,550		May 7			May 15		10	2.70	163
10	7.44	2,740	2:30	7.28	2,500	6a	6.48	1,770		June 10	
4	7.46	2,770	2:45	7.47	2,730	12p	6.44	1,740	6	2.70	168
10	7.35	2,630	9	7.47	2,720		June 1		11	2.69	166
	May 3		10	7.52	2,780	12:15	4.53	716	4	2.67	161
7	7.35	2,630	7	7.45	2,680	11:15	4.54	724	12	2.68	164
10	7.28	2,550	8	7.33	2,520	11:30	4.06	546		June 11	
11	7.46	2,770		May 8		8	4.05	542	9	2.68	164
N	7.36	2,640	7:30	7.30	2,470	8:30	3.07	250	6	2.65	157
2	7.42	2,720	7:45	6.87	2,040		June 2		6:30	2.15	72
11	7.32	2,590	6	6.88	2,040	9:30	3.07	250		June 12	
11:30	7.76	3,190		May 9		10	2.00	52	9	2.16	73
	May 4		7:30	6.85	2,020	6	1.97	50	5	2.13	70
12:30	7.29	2,560	8	6.33	1,600		June 3		5:30	1.83	40
4	7.30	2,570	6	6.32	1,600	6	1.99	52		June 13	
3	7.45	2,760	12	6.32	1,600	N	1.98	51	10	1.83	40
3:15	7.66	3,040		May 10		7:30	1.96	50	3	1.80	38
4	7.49	2,810	6	6.31	1,600	8	3.29	314	9	1.79	37
6	7.30	2,570	6	6.30	1,600		June 4			June 14	
7	7.55	2,890	12	6.30	1,600	6	3.29	314	9	1.80	38
7:30	7.37	2,650		May 11		6p	3.28	314	5	1.77	36
	May 5		8:45	6.28	1,590		June 5		11	1.77	36
2	7.38	2,670	9	5.98	1,390	8	3.30	319	12	1.82	40
4	7.55	2,890	12:30	5.98	1,390	8:30	2.57	138		June 15	
4:30	7.75	3,180	1	5.21	984	6	2.56	136	5	1.80	38
5	7.55	2,890	12	5.22	988		June 6		8	1.79	37
6:30	7.50	2,820		May 12		6	2.59	144	6	1.76	35
9	7.58	2,930	9:45	5.24	1,000	4	2.57	140	12	1.75	34
3	7.57	2,920	10	5.66	1,210						

Weber River near Plain City, Utah

Location.--Lat 41°16'42", long 112°05'30", in NW¼NE¼ sec. 8, T. 6 N., R. 2 W., on right bank at highway bridge 1 mile downstream from Fourmile Creek, 1½ miles south of Plain City, and 6 miles above mouth. Altitude of gage is 4,210 ft (from topographic map).

Drainage area.--2,060 sq mi, approximately.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 20 to May 5, June 14-30.

Maxima.--April-June 1952: Discharge, 10,100 cfs 6 a.m. May 6 (gage height, 19.01 ft). 1904 to March 1952: Discharge observed, 7,580 cfs June 6, 1909 (gage height, 19.1 ft).

Remarks.--During summer months practically entire flow is diverted above station for irrigation. Flow is partly regulated by Echo, East Canyon, and Pine View Reservoirs (see p. 636,640, and 648).

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	1,410	7,370	3,050	11	2,270	7,340	2,390	21	4,240	4,670	929
2	1,460	7,440	2,610	12	2,500	6,920	2,190	22	4,580	5,030	932
3	1,760	7,760	2,480	13	2,580	7,080	1,940	23	4,910	5,000	920
4	1,820	8,180	2,860	14	2,760	7,300	1,670	24	4,980	4,460	914
5	1,940	9,220	2,970	15	2,910	7,250	1,570	25	5,060	4,040	1,270
6	2,080	9,970	2,700	16	2,500	6,830	1,460	26	5,370	3,790	1,840
7	2,310	9,820	2,620	17	2,640	6,070	1,320	27	5,840	3,790	1,780
8	2,820	9,350	2,580	18	2,990	5,280	1,130	28	6,190	3,390	1,480
9	2,620	8,640	2,580	19	3,330	4,760	971	29	6,690	3,120	1,200
10	2,380	7,940	2,540	20	3,880	4,380	902	30	7,150	3,060	956
								31	-	2,990	-
Monthly mean discharge, in cubic feet per second									3,466	6,201	1,825
Runoff, in acre-feet									206,200	381,300	108,600
Runoff, in inches									1.88	3.47	0.99

Weber River near Plain City, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	May 1			May 9			June 1			June 7	
12:15	18.02	7,330	3	18.26	8,850	12:15	11.92	3,100	4	10.97	2,620
2	18.02	7,360	7	18.23	8,800	5	11.91	3,100	9	10.94	2,610
6	17.86	7,220	8	18.18	8,730	1	11.92	3,100	5	10.96	2,620
N	17.79	7,220	2	18.11	8,620	2	11.91	3,100	12	10.89	2,580
6	17.78	7,300	6	18.00	8,460	5	11.73	3,000		June 8	
12	17.77	7,330	9	17.93	8,360	7	11.67	2,980	10	10.82	2,550
	May 2		12	17.88	8,290	11	11.59	2,940	1	10.91	2,600
6	17.75	7,340		May 10			June 2		4	10.93	2,600
N	17.75	7,380	9	17.68	8,010	3	11.25	2,760	10	10.95	2,620
6	17.78	7,480	1	17.62	7,930	7	11.09	2,680		June 9	
12	17.82	7,580	2	17.62	7,930	1	11.03	2,660	11	10.86	2,570
	May 3		7	17.46	7,720	5	10.75	2,520	4	10.88	2,580
7	17.90	7,740		May 11		12	10.48	2,380	11	10.85	2,560
1	17.86	7,730	9	17.19	7,370		June 3			June 10	
3	17.92	7,820	11	17.20	7,380	2	10.42	2,350	3	10.82	2,550
4:30	17.87	7,770	5	17.13	7,300	4	10.39	2,340	8	10.90	2,590
	May 4		8	17.03	7,180	9	10.65	2,460	N	10.82	2,550
1	17.89	7,860	12	16.88	7,000	N	10.77	2,520	12	10.67	2,480
6	17.97	8,010		May 12		3	10.83	2,560		June 11	
N	18.07	8,210	3	16.78	6,880	7	10.84	2,560	6	10.54	2,410
6	18.15	8,360	6	16.75	6,840	12	10.91	2,600	11	10.52	2,400
	May 5		9	16.75	6,840		June 4		4	10.43	2,360
1:30	18.22	8,520	10:30	16.73	6,820	6	11.33	2,800	9	10.41	2,340
3	18.37	8,780	10:45	16.82	6,920	10	11.53	2,900	11	10.42	2,350
11	18.65	9,270	N	16.84	6,950	N	11.59	2,940		June 12	
8	18.81	9,620	4	16.85	6,960	3	11.65	2,960	4	10.19	2,250
12	18.97	9,940	8	16.90	7,020	6	11.66	2,970	7p	9.93	2,140
	May 6			May 13		11	11.63	2,960	10	9.86	2,110
6	19.01	10,100	1	16.92	7,040		June 5			June 13	
11	18.96	9,970	4	16.91	7,030	2	11.65	2,960	3	9.57	2,000
1	18.97	9,990	N	16.93	7,060	4	11.88	3,080	9	9.29	1,890
11	18.88	9,840	4	16.94	7,070	6	11.97	3,120	N	9.18	1,840
	May 7		9	17.02	7,160	N	11.93	3,100	3	9.04	1,790
1:30	18.94	9,940		May 14		3	11.69	2,980	10	8.86	1,710
4	18.90	9,870	3	17.05	7,200	6	11.52	2,900		June 14	
10	18.87	9,820	N	17.17	7,340	10	11.38	2,830	1	8.78	1,680
2	18.88	9,840	6	17.21	7,390		June 6		7	8.72	1,650
9	18.77	9,650	11	17.13	7,300	4	11.22	2,750	N	8.77	1,670
	May 8			May 15		7	11.19	2,740	4	8.77	1,670
1	18.76	9,640	6	17.13	7,300	10	11.18	2,630	12	8.67	1,630
2p	18.58	9,350	N	17.14	7,310	N	11.17	2,720		June 15	
4	18.50	9,220	6	17.05	7,200	2	11.05	2,660	4	8.57	1,590
11	18.32	8,940	12	16.97	7,100	4	11.00	2,640	7:30	8.55	1,590
						7	10.97	2,620	N	8.44	1,550
						11	10.98	2,630	6	8.46	1,550
									10	8.46	1,550
									12	8.37	1,520

Salt Creek at Nephi, Utah

Location.--Lat 39°42'45", long 111°48'25", in NE¼ sec 3, T. 13 S., R. 1 E., 1 mile east of Nephi. Altitude of gage is 5,240 ft (by barometer).
Drainage area.--95.1 sq mi.
Gage-height record.--Water-stage recorder.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--April-June 1952: Discharge, 724 cfs May 2.
1950 to March 1952: Discharge, 164 cfs June 17, 1951.
Remarks.--Records include discharge of Salt Creek diversion canal near Nephi.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	24	432	191	11	67	253	145	21	196	206	104
2	27	580	184	12	66	266	143	22	209	180	100
3	30	569	189	13	84	267	135	23	226	160	100
4	29	525	183	14	87	267	127	24	346	156	109
5	34	436	185	15	77	248	123	25	362	164	102
6	43	391	184	16	78	219	116	26	470	184	90
7	63	417	180	17	96	186	112	27	514	189	84
8	63	369	166	18	137	171	113	28	551	194	81
9	68	289	158	19	160	176	113	29	428	200	85
10	71	256	156	20	160	196	113	30	404	204	86
								31	-	197	-
Monthly mean discharge, in cubic feet per second									172	276	132
Runoff, in acre-feet									10,250	16,960	7,850
Runoff, in inches									2.02	3.34	1.55

Payson Creek above diversions, near Payson, Utah

Location.--Lat 39°58'10", long 111°41'30", in SE¼SE¼ sec. 3, T. 10 S., R. 2 E., on left bank a quarter of a mile above diversion dam for Strawberry Water Users Assoc. powerplant, 5 miles southeast of Payson, and 12 miles upstream from Utah Lake. Altitude of gage is 5,670 ft (by barometer).
Drainage area.--19.6 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements below 150 cfs and extended to peak stage by logarithmic plotting. Shifting-control method used Apr. 1 to June 30.
Maxima.--April-June 1952: Discharge, 465 cfs 5 p.m. May 4 (gage height, 2.99 ft).
1947 to March 1952: Discharge, 194 cfs May 14, 1948 (gage height, 2.69 ft).
Remarks.--Flow affected by several small reservoirs.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	6.8	146	61	11	11	152	34	21	23	136	26
2	6.8	208	60	12	11	168	32	22	29	73	26
3	7.1	290	61	13	13	185	30	23	37	82	26
4	8.2	370	56	14	15	167	28	24	50	79	29
5	10	353	53	15	13	141	28	25	63	83	27
6	12	298	50	16	13	117	28	26	91	106	27
7	16	264	46	17	17	108	27	27	110	78	26
8	15	187	43	18	23	115	27	28	135	83	24
9	12	152	40	19	26	137	27	29	119	80	23
10	11	152	36	20	25	212	26	30	122	71	23
								31	-	62	-
Monthly mean discharge, in cubic feet per second									35.0	157	35.0
Runoff, in acre-feet									2,080	9,630	2,080
Runoff, in inches									1.99	9.21	1.99

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 20			April 30			May 7			May 17	
12:15	1.38	29	12:30	1.91	95	5	2.15	241	N	1.48	101
9	1.32	25	7	2.23	143	10	2.03	215	7	1.58	116
	April 21		9:30	2.23	144	N	2.03	215		May 18	
2p	1.27	21		May 1		6:30	2.58	350	6	1.45	100
7	1.34	26	5	2.06	122		May 8		N	1.42	97
	April 22		N	1.93	106	1	2.13	243	6	1.75	146
1	1.36	27	2	2.09	130	10:30	1.62	151		May 19	
12:30	1.32	24	4:30	2.50	205	3	1.73	169	3	1.52	115
8:30	1.55	40	9	2.50	211	6	1.94	207	11:30	1.43	104
	April 23			May 2		12	1.78	175	5	1.95	187
11:30	1.39	29	2	2.22	162		May 9		6	1.95	187
1p	1.40	29	11	1.97	132	N	1.53	130	12	1.66	140
7	1.69	53	1	2.14	162	4	1.64	146		May 20	
	April 24		4	2.83	314	7:30	1.80	173	2	1.66	140
N	1.51	37	7	2.85	327		May 10		5	1.90	180
6	1.85	70		May 3		10	1.45	113	10:30	1.75	156
9	1.85	70	9	2.23	211	1	1.48	117	2	2.12	226
	April 25		12:30	2.23	215	4	1.90	184	6	2.40	289
11	1.62	46	4	2.83	367	7	2.08	220	6:30	2.70	367
1	1.65	49	7	2.94	407		May 11		10	2.05	211
6:30	2.00	89	8:30	2.83	378	2	1.65	138	11	2.50	314
9	2.00	89	10	2.96	419	N	1.49	113	12	2.33	273
	April 26			May 4		4	2.05	205		May 21	
10:30	1.80	65	3	2.61	332	8:30	2.00	193	3a	1.75	156
N	1.82	68	9	2.34	280	10	1.83	162	6p	1.48	115
6	2.27	124	11	2.33	280		May 12		12	1.31	92
8	2.33	134	5	2.99	465	11:30	1.55	116		May 22	
	April 27		9	2.86	425	7	2.39	268	1	1.10	68
9:30	1.92	79		May 5		11	1.99	184		May 23	
N	1.93	80	3	2.57	342		May 13		6	1.12	70
4	2.28	128	6	2.55	337	11	1.66	126	3	1.19	78
10	2.38	143	11	2.42	304	5	2.42	268	6	1.46	112
11:30	2.62	184	4	2.92	443	12	2.09	195		May 24	
	April 28		7	2.82	413		May 14		4	1.30	91
6	2.35	138	8	2.57	342	11	1.61	113	6	1.08	65
N	2.10	102		May 6		6	2.34	239	10	1.07	64
2	2.15	109	2	2.34	285	8	2.11	191	2	1.10	68
5	2.50	164	5	2.14	239		May 15		5	1.40	104
10	2.40	149	9	2.00	209	N	1.74	126	9	1.18	77
	April 29		1	2.14	239	4	1.83	141		May 25	
6	2.06	102	4	2.82	413	12	1.70	123	3:30	1.05	62
1	2.04	102	6	2.92	443		May 16		1	1.03	60
8:30	2.21	130	10	2.52	329	N	1.63	116	4:30	1.58	129
						6	1.61	115	12	1.40	104
						12	1.53	105			

Spanish Fork at Thistle, Utah

Location.--Lat 40°00', long 111°30', in SW¼ sec. 28, T. 9 S., R. 4 E., on right bank at Thistle, 600 ft downstream from confluence of Soldier Fork and Thistle Creek, and 2½ miles upstream from Diamond Fork. Altitude of gage is 4,950 ft.

Drainage area.--490 sq mi, approximately.

Gage-height record.--Water-stage recorder graph except for periods 3:30 p.m. Apr. 17 to 9 a.m. Apr. 18, 8 p.m. May 3 to 2 a.m. May 4, 3 a.m. to 7 p.m. May 4 for which graphs were drawn on basis of appearance of chart and interpolation, and for periods May 16, 17, 19, 20 when no record was obtained.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1 to May 10, May 21-30. Discharge for periods of no gage-height record May 16,17, 19,20 estimated on basis of weather records and records for nearby stations.

Maxima.--April-June 1952: Discharge, 1,800 cfs 10 p.m. May 4 (gage height, 7.96 ft); gage height, 7.99 ft 10 p.m. May 6.
1908-25, 1933 to March 1952: Daily discharge 1,250 cfs May 26, 1922.

Remarks.--Small diversions for irrigation above station.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	129	1,250	704	11	329	1,330	380	21	673	936	222
2	135	1,440	655	12	306	1,370	353	22	718	770	215
3	143	1,550	669	13	358	1,400	336	23	624	672	207
4	178	1,650	628	14	411	1,390	310	24	834	686	231
5	229	1,660	592	15	353	1,330	290	25	862	662	249
6	290	1,690	556	16	334	1,200	280	26	1,140	700	249
7	380	1,650	514	17	465	1,100	263	27	1,210	722	242
8	388	1,590	484	18	618	1,010	249	28	1,440	742	213
9	332	1,510	448	19	636	900	238	29	1,390	760	198
10	350	1,370	409	20	597	900	229	30	1,300	746	188
								31	-	756	-
Monthly mean discharge, in cubic feet per second									572	1,143	360
Runoff, in acre-feet									34,020	70,300	21,420
Runoff, in inches									1.30	2.69	0.82

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 16			April 23		11	6.80	1,390		May 5	
12:15	3.64	314	1	5.68	806	1:30	6.80	1,390	N	7.52	1,610
5	3.63	311	5	5.53	746	3:30	6.75	1,380	3	7.52	1,610
2	3.53	286	6:30	5.55	754	7:30	6.98	1,480	10:30	7.95	1,770
8:30	4.05	426	8:30	5.48	726	11	7.03	1,510		May 6	
	April 17		10	5.32	666		April 29		2	7.86	1,730
5	4.09	438	12	5.20	627	1	6.93	1,470	5	7.90	1,740
1	3.82	361	3	5.25	636	3	6.92	1,470	11:30	7.72	1,670
3:30	4.08	435	9	5.78	820	1:30	6.44	1,300	2:30	7.76	1,680
6	4.45	546	11	5.91	866	5	6.52	1,330	9	7.98	1,760
11	4.77	642		April 24		8:30	6.67	1,390	10	7.99	1,760
	April 18		2	5.93	872		April 30			May 7	
9	4.40	531	4:30	5.82	834	1	6.66	1,380	1	7.91	1,720
N	4.27	489	8	5.82	834	6	6.56	1,330	4	7.90	1,710
2	4.30	495	2	5.60	757	N	6.35	1,250	3	7.67	1,610
6	5.00	708	4	5.65	774	6	6.35	1,240	5	7.77	1,640
11	5.29	802	10:30	6.12	939	11	6.58	1,330	8	7.80	1,650
	April 19			April 25			May 1		9	7.76	1,630
2	5.21	771	1	6.15	950	9	6.32	1,220	12	7.88	1,680
6	4.95	673	3	6.10	932	3	6.27	1,190		May 8	
8	4.93	662	8	6.08	925	8	6.85	1,420	4	7.80	1,640
2	4.58	549	2	5.91	866	10	7.02	1,490	7	7.82	1,640
6	4.77	600	4	5.92	876	12	7.05	1,500	3	7.70	1,580
9	5.00	670	8	6.52	1,110		May 2		9	7.77	1,600
12	5.02	673	12	6.60	1,150	3	7.00	1,480		May 9	
	April 20			April 26		6	6.85	1,410	2	7.70	1,570
6	4.72	573	2	6.50	1,110	1	6.61	1,310	7	7.60	1,520
10	4.72	567	7	6.50	1,130	3	6.65	1,330	11	7.70	1,550
1	4.60	528	11	6.30	1,060	9	7.35	1,600	6	7.50	1,460
4	4.70	555	1	6.30	1,060	12	7.47	1,650	8	7.54	1,470
8	5.12	680	5	6.35	1,090		May 3			May 10	
11	5.25	722	8	6.75	1,260	6	7.32	1,580	1	7.41	1,410
	April 21		11	6.80	1,290	N	7.03	1,450	1:30	7.48	1,440
4	5.02	636		April 27		2:30	6.97	1,430	10	7.30	1,360
6:30	5.19	690	5	6.57	1,210	8	7.50	1,640	N	7.32	1,360
1	4.93	600	6	6.58	1,220	11	7.63	1,690	4	7.22	1,320
3	4.98	612	10	6.30	1,120		May 4		10	7.38	1,380
6	5.32	722	2	6.15	1,070	2:30	7.50	1,630		May 11	
9	5.50	782	9	6.93	1,400	5:30	7.63	1,680	5	7.25	1,330
12	5.58	802	9:30	6.83	1,360	8	7.52	1,630	9	7.25	1,330
	April 22		11	6.84	1,370	N	7.36	1,570	2	7.15	1,290
2	5.48	768		April 28		1	7.36	1,570	10	7.40	1,390
6	5.55	785	1	6.95	1,420	6:30	7.80	1,730		May 12	
2	5.12	627	1:30	6.90	1,400	10	7.96	1,800	7	7.28	1,340
11	5.66	802	5	7.15	1,510				3:30	7.23	1,320

Spanish Fork at Thistle, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
11:30	7.58	1,460	3	7.18	1,300	4:30	7.20	1,310		May 15	
	May 13		9	7.50	1,430	7	7.35	1,370	1	7.45	1,410
1	7.53	1,440		May 14		8:30	7.35	1,370	3:30	7.32	1,360
5	7.55	1,450	1	7.57	1,460	10	7.45	1,410	N	7.25	1,330
									12	7.13	1,280

Strawberry tunnel at west portal, near Thistle, Utah

Location.--Lat 40°09'40", long 111°14'40", in SW¼ sec. 34, T. 7 S., R. 6 E., on left bank 40 ft downstream from west portal of tunnel, and 18 miles northeast of Thistle. Altitude of gage is 7,500 ft.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--April-July 1952: Daily discharge, 344 cfs July 11.
1922-25, 1932 to March 1952: Daily discharge, 595 cfs July, 1923.
Remarks.--Records show water diverted from Strawberry Reservoir in Colorado River basin (usable capacity, 270,000 acre-ft) plus tunnel seepage for use on lands of Strawberry River project.
Cooperation.--Records furnished by Strawberry Water Users Assoc.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1			6	11			6	21			249
2			6	12			6	22			261
3			6	13			6	23			268
4			6	14			6	24			264
5	5	6	6	15	5	6	22	25	5	6	211
6			6	16			75	26			139
7			6	17			149	27			68
8			6	18			190	28			46
9			6	19			217	29			6
10			6	20			248	30			16
								31	-		-
Monthly mean discharge, in cubic feet per second									5	6	83.8
Runoff, in acre-feet									298	369	4,980
Runoff, in inches									-	-	-

Diamond Fork near Thistle, Utah

Location.--Lat 40°03'38", long 111°27'06", in approximate center of sec. 2, T. 9 S., R. 4 E., on left bank about 1 mile downstream from Little Diamond Creek, 4.2 miles upstream from mouth, and 5.2 miles northwest of Thistle. Altitude of gage 5,100 ft (from topographic map).
Drainage area.--146 sq mi.
Gage-height record.--Water-stage recorder graph except for periods Apr. 7-18, 20, 22-30, May 1-28 when intake was silted all or part of each day.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for periods of no gage-height record estimated on basis of discharge measurements, weather records and records for Spanish Fork at Thistle and Castilla. Shifting-control method used Apr. 1-6, 19, 21, May 29 to June 30.
Maxima.--April-June 1952:: Discharge, 1,610 cfs 9 p.m. May 4 (gage height, 5.18 ft)., 1908-17, 1940 to March 1952: Discharge, 766 cfs Aug. 8, 1949 (gage height, 3.36 ft, site and datum then in use).
Remarks.--Beginning 1915, flow supplemented by water diverted via tunnel from Strawberry Reservoir in Colorado River basin for irrigation in Jordan River basin.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	47	850	329	11	150	600	183	21	516	500	302
2	50	1,100	299	12	130	600	172	22	600	400	323
3	52	1,400	296	13	150	650	163	23	560	400	317
4	69	1,500	274	14	190	700	149	24	640	400	320
5	91	1,400	264	15	150	600	145	25	800	300	305
6	122	1,200	251	16	140	500	209	26	1,000	300	302
7	180	1,100	233	17	200	400	251	27	1,100	300	251
8	180	900	216	18	350	350	288	28	1,300	400	223
9	150	700	204	19	383	400	291	29	1,100	447	194
10	160	600	194	20	400	400	285	30	900	398	178
								31	-	338	-
Monthly mean discharge, in cubic feet per second									392	649	247
Runoff, in acre-feet									23,330	39,930	14,700
Runoff, in inches									-	-	-

Spanish Fork at Castilla, Utah

Location.--Lat 40°03'00", long 111°32'45", in SW¼NE¼ sec. 12, T. 9 S., R. 3 E., on left bank 600 ft upstream from outlet of Cold Springs, 1 mile upstream from Bureau of Reclamation diversion dam, 1¼ miles northwest of Castilla, and 3 miles downstream from Diamond Fork. Altitude of gage is 4,870 ft (from topographic map).
Drainage area.--670 sq mi, approximately.
Gage-height record.--Water-stage recorder graph except periods 3 p.m. Apr. 17 to 8:10 a.m. Apr. 18, 11:45 a.m. to 4 p.m. Apr. 23, 7 p.m. Apr. 26 to 2 a.m. Apr. 27, 12 noon to 3:45 p.m. May 3, 9 a.m. to 6 p.m. May 4, 10:15 a.m. to 5:30 p.m. May 5, 10 a.m. to 5:30 5:30 p.m. May 7, for which graphs were drawn on basis of appearance of chart and interpolation, and for periods May 19, 20, 22-27 when no record was obtained.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 11 to June 30. Discharge for periods of no gage-height record estimated on basis of weather records and records for nearby stations.
Maxima.--April-June 1952: Discharge, 3,610 cfs 11 p.m. May 3 (gage height, 9.83 ft). 1919-25, 1933 to March 1952: Daily discharge 1,520 cfs May 22, 1920.
Remarks.--Several small diversions above station for irrigation. Flow is materially increased by water diverted by tunnel from Strawberry Reservoir (capacity, 270,000 acre-ft) in Colorado River basin into Diamond Fork for irrigation of lands in Jordan River basin.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	202	2,210	1,040	11	532	2,010	585	21	1,300	1,440	573
2	216	2,650	979	12	483	2,050	537	22	1,420	1,200	565
3	227	3,160	988	13	604	2,140	501	23	1,390	1,100	565
4	277	3,280	925	14	688	2,200	465	24	1,500	1,200	605
5	352	3,130	857	15	581	2,060	434	25	1,810	1,100	577
6	477	3,070	817	16	535	1,890	485	26	2,420	1,100	501
7	607	2,960	777	17	748	1,500	525	27	2,600	1,100	410
8	600	2,610	700	18	968	1,350	553	28	3,050	1,140	395
9	535	2,280	660	19	1,100	1,200	561	29	2,440	1,140	380
10	549	2,010	610	20	1,120	1,200	561	30	2,290	1,140	360
								31	-	1,120	-
Monthly mean discharge, in cubic feet per second									1,054	1,863	616
Runoff, in acre-feet									62,720	114,500	36,680
Runoff, in inches									1.76	3.21	1.03

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 16		10	7.16	1,630	2:30	7.30	1,890	11:30	8.57	2,850
12:15a	5.08	507	12	7.24	1,680	4:30	7.45	1,980		May 8	
1p	4.92	454		April 24		9	8.50	2,680	2	8.50	2,810
3	4.95	464	1:30	7.22	1,670	10:30	8.60	2,750	4	8.38	2,740
8	5.62	708	1:30p	6.50	1,280		May 2		2:30	7.85	2,400
11	5.68	732	3:30	6.53	1,290	2:30	8.62	2,770	4:30	7.86	2,420
	April 17		11	7.67	1,950	6	8.43	2,630	7	8.08	2,580
5	5.62	708		April 25		9	8.15	2,440		May 9	
10	5.38	615	2	7.65	1,930	2	7.85	2,230	1	8.04	2,550
1	5.32	592	1:30	6.85	1,460	3	7.85	2,230	11	7.47	2,220
8	6.22	948	3	6.92	1,500	5	8.12	2,420	5	7.40	2,180
12	6.40	1,020	10	8.42	2,440	11	9.50	3,380	9	7.33	2,130
	April 18			April 26			May 3		10	7.37	2,160
2	6.34	996	1	8.62	2,580	1	9.54	3,410		May 10	
1	5.73	764	10	8.14	2,250	4	9.43	3,330	4	7.22	2,070
3	5.86	824	1	7.88	2,080	N	8.69	2,820	6	7.09	1,990
7:30	6.83	1,250	4	8.02	2,160	2	8.60	2,750	4:30	6.92	1,840
11	6.97	1,320	9	8.85	2,740	4	8.70	2,820	9	7.27	2,100
	April 19		11	8.96	2,820	9	9.70	3,520	11:30	7.30	2,120
4	6.71	1,220		April 27		11	9.83	3,610		May 11	
1	6.03	956	2	8.85	2,740		May 4		6	7.07	1,180
3	5.98	940	6	8.54	2,530	6	9.55	3,420	3	6.92	1,890
9:30	6.48	1,180	1	7.86	2,070	9	9.19	3,160	5	6.94	1,900
	April 20		2	7.90	2,090	3	8.82	2,910	9	7.32	2,130
2	6.41	1,170	10	9.62	3,280	6	9.16	3,140	11:30	7.42	2,190
8	6.02	1,100	12	9.80	3,410	10	9.75	3,560		May 12	
1:30	5.85	944		April 28		11	9.80	3,590	6	7.20	2,060
11	6.68	1,360	6:30	9.92	3,490		May 5		4:30	6.98	1,930
	April 21		2	8.71	2,650	12:30	9.78	3,580	9	7.37	2,160
1	6.70	1,360	4	8.64	2,600	3	9.55	3,420		May 13	
6:30	6.36	1,200	6	8.66	2,610	9	8.98	3,020	2a	7.47	2,220
8:30	6.37	1,200	8	8.96	2,830	N	8.76	2,860	4:30p	7.14	2,020
12:30	6.18	1,100	9	9.15	2,980	3	8.62	2,770	6	7.20	2,060
2:30	6.22	1,120	12	8.76	2,860	5:30	8.82	2,910	10	7.51	2,250
9:30	7.16	1,630		April 29		10	9.52	3,900		May 14	
	April 22		1p	7.93	2,260	12	9.58	3,440	1	7.59	2,290
12:30a	7.17	1,630	4	7.92	2,280		May 6		9	7.48	2,230
1p	6.44	1,240	8	8.42	2,630	6	9.12	3,120	4	7.23	2,080
3	6.38	1,200	10	8.54	2,710	3	8.65	2,790	6	7.24	2,080
10	7.11	1,600		April 30		5:30	8.76	2,860	11	7.50	2,240
	April 23		1a	8.50	2,680	10	9.37	3,300		May 15	
1	7.13	1,610	2:30p	7.45	1,980	11	9.40	3,330	3	7.50	2,240
6	6.68	1,360	4	7.46	1,980		May 7		N	7.16	2,040
8	6.64	1,340	10:30	8.22	2,490	1	9.35	3,300	6	6.99	1,930
N	6.44	1,240		May 1		9	8.85	2,990	12	6.95	1,910
3	6.30	1,160	1	8.18	2,460	4	8.38	2,690			
6	6.60	1,320	9	7.50	2,010	6	8.40	2,710			

Spanish Fork near Lake Shore, Utah

Location.--Lat 40°09'30", long 111°43'50", in SE¼SE¼ sec. 32, T. 7 S., R. 2 E., 1 mile upstream from mouth and 2½ miles north of Lake Shore. Altitude of gage is 4,500 ft (from topographic map).
Drainage area.--700 sq mi, approximately.
Gage-height record.--Water-stage recorder graph Apr. 1-5, June 15-30; temporary staff gage 4 miles upstream read twice daily Apr. 28 to May 31.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1-5, May 14-31. Discharge during period of no gage-height record Apr. 6-27, June 1-14, and period of backwater from high level of Utah Lake June 15-30 computed on basis of 18 discharge measurements, weather records, and records for other Spanish Fork stations.
Maxima.--April-June 1952: Discharge observed, 3,020 cfs Apr. 28.
1903-7, 1909-25, 1938 to March 1952: Discharge observed, 1,430 cfs May 11, 1909.
Remarks.--Flow regulated by many diversions for irrigation and hydroelectric powerplant. Station below all diversions.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	260	2,070		11		1,470		21		905	
2	260	2,310		12		1,600		22		968	
3	255	2,690	800	13		1,550	200	23	1,500	947	50
4	282	2,690		14	600	1,530		24		1,040	
5	351	2,620		15		1,340	200	25		961	
6		2,560		16		1,320		26	2,500	994	
7		2,430		17		1,110		27	2,800	1,050	
8	600	2,310	500	18	1,100	951	100	28	2,880	1,090	25
9		2,020		19		921		29	2,370	1,070	
10		1,470		20		1,010		30	2,190	1,020	
								31	-	1,020	-
Monthly mean discharge, in cubic feet per second									1,088	1,517	279
Runoff, in acre-feet									64,760	93,300	16,610
Runoff, in inches									1.73	2.50	.44

Hobble Creek near Springville, Utah

Location.--Lat 40°09'30", long 111°31'30", in NE¼ sec. 6, T. 8 S., R. 4 E., on right bank 1,000 ft downstream from Springville hydroelectric plant, 1¼ miles downstream from Right Fork, and 4 miles southeast of Springville. Altitude of gage is 4,920 ft (from topographic map).
Drainage area.--105 sq mi.
Gage-height record.--Water-stage recorder graph except for period Apr. 15-17. Shifting-control method used Apr. 1 to June 30.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for period Apr. 15-17 estimated on basis of weather records and records for nearby stations.
Maxima.--April-June 1952: Discharge, 1,250 cfs 7 p.m. May 4 (gage height, 6.13 ft); gage height, 6.20 ft 8:30 p.m. May 2.
1904-16, 1945 to March 1952: Discharge observed, 824 cfs Apr. 29, 1916 (gage height, 6.40 ft, site and datum then in use).
Remarks.--Several diversions above station for irrigation. Flow regulated by hydroelectric plant at times during low stages.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	41	969	241	11	168	558	165	21	439	358	102
2	45	1,010	223	12	159	613	157	22	526	301	104
3	46	1,090	225	13	191	653	147	23	583	248	100
4	56	1,090	216	14	232	633	138	24	680	243	106
5	84	1,020	211	15	223	553	132	25	698	255	106
6	129	943	203	16	213	455	126	26	769	268	104
7	191	896	189	17	240	364	117	27	886	277	100
8	219	740	182	18	351	307	109	28	969	268	93
9	175	626	176	19	450	284	109	29	1,020	277	90
10	177	530	176	20	469	322	106	30	982	286	88
								31	-	261	-
Monthly mean discharge, in cubic feet per second									380	539	145
Runoff, in acre-feet									22,630	33,120	8,610
Runoff, in inches									4.04	5.91	1.54

Hobble Creek near Springville, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 20			April 27			May 5			May 14	
12:15a	4.17	513	1	5.60	961	2	5.43	1,080	6	3.44	633
12:30p	3.33	383	N	4.36	643	11	4.68	886	N	3.26	588
2	3.35	394	1	4.46	668	2:30	4.95	959	2:30	3.22	580
10	3.77	496	8:30	6.38	1,170	4	5.30	1,050	6	3.52	656
	April 21			April 28		7:30	5.55	1,120	10	3.55	663
2	3.68	476	1	5.88	1,050		May 6			May 15	
9	3.31	394	4	5.85	1,040	8	4.58	873	10	3.21	580
10	3.10	350	N	5.10	860	11	4.45	839	1	3.00	528
12:30	3.19	368	2:30	5.00	837	2:30	4.65	894	11:30	2.87	492
2	3.11	352	7	5.66	1,020	4:30	5.00	987		May 16	
9	3.98	548		April 29		7	5.20	1,040	2	3.00	523
11:30	4.05	566	1	5.50	1,029		May 7		5	2.83	480
	April 22		6	5.15	980	5	4.60	891	12	2.51	402
4	4.02	558	N	4.56	873	N	4.28	811		May 17	
12:30	3.48	430	4	4.80	948	7	5.00	1,000	11:30	2.27	350
3	3.50	435	5	5.16	1,040		May 8			May 18	
9	4.40	653	8	5.50	1,130	N	3.75	690	4	2.29	348
11	4.42	658	12	5.19	1,040	4	3.78	698	5	2.10	311
	April 23			April 30		7	4.03	761	6:30	2.18	326
3	4.40	653	6	5.00	987	12	3.95	743	1	2.03	295
N	3.64	466	12:30	4.63	886		May 9		12	2.03	292
2	3.71	482	6	5.20	1,030	1a	3.83	713		May 19	
9	4.37	646	8:30	5.30	1,050	5p	3.30	583	3p	1.93	268
10:30	4.42	658		May 1		10	3.32	588	12	2.05	288
12	4.63	710	6	4.90	938		May 10			May 20	
	April 24		11	4.33	785	7	2.92	492	1	2.24	320
2	4.85	716	1	4.28	769	9	3.02	516	3	2.09	292
4:30	4.63	710	6	5.62	1,110	1:30	2.88	482	11	2.71	415
2	3.99	550	8	5.86	1,170		May 11			May 21	
7:30	5.18	852		May 2		10	2.95	501	1p	2.48	360
11:30	5.32	889	6a	4.85	902	3	3.04	523	11	2.37	340
	April 25		7:30	4.95	925	9	3.55	653		May 22	
3a	5.07	824	N	4.65	842		May 12		6p	2.05	280
11	4.00	553	8:30	6.20	1,240	12:30	3.17	560		May 23	
11:30	4.90	779		May 3		3	3.27	586	N	1.85	246
	April 26		10	5.05	951	7	3.64	678	12	1.82	243
12:30	4.12	583	1	5.05	954	9:30	3.70	693		May 24	
1:30	4.28	623	6:30	6.00	1,200		May 13		2	1.77	235
3	4.36	643	9	6.05	1,220	11:30	3.32	600	12	1.88	255
5	5.08	826		May 4		2:30	3.33	603		May 25	
8:30	5.90	1,040	11	4.95	941	5	3.60	670	N	1.83	248
			N	4.86	917	8:30	3.78	718	12	1.97	275
			7	6.13	1,250						
			12	5.68	1,140						

Provo River near Kamas, Utah

Location.--Lat 40°35', long 111°00'30", in NE¼ sec. 2, T. 3 S., R. 8 E., on right bank 3 miles upstream from Soapstone Creek and 14 miles east of Kamas.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1 to June 30.
Maxima.--April-June 1952: Discharge, 554 cfs 9 p.m. June 6 (gage height, 3.09 ft). 1949 to March 1952: Discharge, 765 cfs May 27, 1951 (gage height, 3.49 ft).
Remarks.--No diversions above station. Flow regulated by several small lakes at headwaters which have dams and outlet works. Combined regulated capacity, 10,841 acre-ft. Station is immediately above the outlet of Duchesne tunnel.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	5.4	155	382	11	9.6	217	414	21	41	224	178
2	5.6	187	396	12	9.3	293	410	22	40	178	160
3	5.7	227	405	13	9.8	369	374	23	49	168	152
4	6.0	266	414	14	11	410	351	24	60	192	175
5	6.6	266	441	15	11	364	334	25	77	227	168
6	7.7	285	454	16	11	247	270	26	102	255	187
7	9.6	266	428	17	14	192	233	27	128	285	190
8	11	210	378	18	18	178	237	28	155	343	162
9	10	181	405	19	26	178	220	29	147	400	133
10	9.8	173	432	20	32	210	195	30	138	418	110
								31	-	405	-
Monthly mean discharge, in cubic feet per second									38.9	257	293
Runoff, in acre-feet									2,310	15,810	17,430
Runoff, in inches									-	-	-

Provo River near Kamas, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 20			May 3		8	2.07	178		June 3	
12:15	1.29	30	N	2.23	198		May 19		2	2.83	436
10:30a	1.28	29	9:30	2.50	289	2p	2.02	168	8	2.71	382
12p	1.41	42		May 4		10	2.13	198	2	2.68	369
	April 21		11	2.35	230		May 20		8:30	2.85	446
4p	1.39	40	10	2.55	305	1p	2.12	192		June 4	
	April 22			May 5		7:30	2.32	258	3	2.72	387
N	1.35	36	N	2.38	233		May 21		11:30	2.60	334
9	1.45	47	9:30	2.58	309	3	2.30	251	7:30	3.04	531
	April 23			May 6		N	2.22	224		June 5	
N	1.41	42	12:30p	2.39	240		May 22		N	2.68	369
10	1.54	60	9	2.62	330	6a	2.09	181	8	3.01	518
	April 24			May 7		10p	2.05	170		June 6	
1p	1.50	54	1a	2.60	321		May 23		N	2.68	369
10	1.63	74	3p	2.37	237	N	2.00	157	9	3.09	554
	April 25		9:30	2.39	244	9	2.13	192		June 7	
N	1.58	66		May 8			May 24		3	2.87	454
9	1.76	98	N	2.27	207	1p	2.07	173	N	2.67	364
12	1.77	100	12	2.22	192	10	2.29	240	7:30	2.90	468
	April 26			May 9			May 25			June 8	
10	1.72	90	2p	2.15	175	N	2.18	204	N	2.52	301
7	1.88	124		May 10		8	2.33	251	7	2.88	459
11	1.88	124	1p	2.08	160	11	2.34	255		June 9	
	April 27		11	2.24	204		May 26		11:30	2.52	301
N	1.82	110		May 11		1p	2.28	233	7	3.03	526
6	2.00	152	N	2.19	192	10	2.42	285		June 10	
10	2.03	160	10	2.44	277		May 27		N	2.69	378
	April 28		12	2.45	281	1p	2.31	240	7:30	2.85	450
2p	1.97	145		May 12		8:30	2.65	378		June 11	
11:30	2.05	165	1p	2.34	244		May 28		12:30p	2.65	364
	April 29		10	2.66	374	1p	2.43	281	8	2.83	446
3	2.00	152		May 13		8:30	2.82	450		June 12	
1	1.95	140	N	2.51	313		May 29		2	2.79	428
7	2.00	152	9:30	2.79	436	N	2.58	338	12:30	2.65	364
	April 30			May 14		8:30	2.88	472	8	2.77	423
3	1.93	133	12:30p	2.60	356		May 30		12	2.76	418
11	1.92	130	9	2.83	459	1p	2.62	356		June 13	
8	2.00	147		May 15		8	2.93	490	11:30	2.60	347
	May 1		N	2.60	360		May 31		1:30	2.52	313
4	2.02	152	12	2.43	289	12:30p	2.62	351	10	2.64	364
N	1.97	138		May 16		8:30	2.82	436		June 14	
8	2.15	184	12	2.18	204		June 1		6	2.58	343
12	2.16	184		May 17		N	2.57	326	1	2.49	305
	May 2		4a	2.15	198	8	2.84	446	11	2.62	360
N	2.09	165	8p	2.11	187		June 2			June 15	
7	2.29	220		May 18		1p	2.61	338	6	2.57	338
12	2.33	233	11	2.04	170	7:30	2.90	468	1	2.48	305
									8	2.48	305
									12	2.45	293

Provo River near Hailstone, Utah

Location.--Lat 40°36', long 111°22', in SE¼ sec. 34, T. 2 S., R. 5 E., on right bank 3 miles upstream from Ross Creek and Hailstone. Altitude of gage is 6,100 ft (from river-profile map).

Gage-height record.--Water-stage recorder graph except for periods 1:15 a.m. May 4 to 10:30 a.m. May 5, and 1:30 p.m. May 21 to 4:35 p.m. May 24, when no record was obtained.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Stage-discharge relation affected by ice Apr. 1. Shifting-control method used Apr.2 to May 28. Discharge for periods of ice effect and no gage-height record was estimated on basis of discharge measurements, weather records and records for station near Kamas.

Maxima.--April-June 1952: Discharge, 1,820 cfs 6 a.m. May 15, 4:30 a.m. 31; maximum gage height, 5.72 ft May 15.
1949 to March 1952: Discharge, 2,190 cfs May 29, 1951 (gage height, 6.43 ft).

Remarks.--No water diverted from Weber River basin through Weber-Provo diversion canal during April-June.

Provo River near Hailstone, Utah--Continued

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	88	1,180	1,560	11	181	1,220	1,380	21	492	1,060	579
2	95	1,310	1,530	12	176	1,390	1,330	22	500	960	548
3	99	1,440	1,580	13	206	1,490	1,270	23	590	880	535
4	106	1,520	1,510	14	239	1,650	1,150	24	656	920	605
5	120	1,610	1,570	15	209	1,690	1,070	25	789	960	587
6	151	1,630	1,600	16	198	1,430	870	26	1,090	1,080	605
7	200	1,590	1,600	17	246	1,170	725	27	1,200	1,240	610
8	215	1,410	1,500	18	331	985	700	28	1,380	1,400	535
9	186	1,290	1,450	19	407	895	690	29	1,240	1,570	465
10	186	1,160	1,500	20	447	1,000	605	30	1,170	1,660	398
								31	-	1,660	-
Monthly mean discharge, in cubic feet per second									440	1,305	1,022
Runoff, in acre-feet									26,170	80,230	60,810
Runoff, in inches									-	-	-

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 20		2:30p	5.12	1,400	8p	3.92	850	8	5.00	1,430
12:15	3.16	463		May 4			May 20			June 5	
11	2.93	372	1:30	5.25	1,470	9	4.22	990	2	5.26	1,590
9	3.28	513		May 5		2	4.24	1,000	7	5.30	1,610
	April 21		10:30	5.59	1,670	6	4.22	985	7p	5.15	1,520
11	3.05	419	N	5.48	1,610		May 21			June 6	
7	3.38	555	5	5.42	1,570	2	4.82	1,310	3	5.42	1,680
	April 22			May 6		1:30	4.65	1,210	8	5.40	1,670
N	3.02	407	2:30	5.69	1,730		May 24		6	5.09	1,480
10	3.60	648	4p	5.36	1,540	4:30	3.95	811	10	5.18	1,540
	April 23		7	5.35	1,530		May 25			June 7	
1	3.28	509		May 7		5:30a	4.32	985	5	5.58	1,780
6	3.60	648	3	5.63	1,700	5:30p	4.20	920	7	5.01	1,440
10	3.66	670	6p	5.30	1,510	12	4.47	1,060		June 8	
	April 24			May 8			May 26		5	5.42	1,680
3	3.62	652	2	5.30	1,510	6	4.57	1,100	3	4.96	1,410
12:30	3.42	564	4p	5.02	1,360	6p	4.47	1,040	8	4.91	1,380
8	3.90	782		May 9			May 27			June 9	
10:30	3.95	801	N	4.93	1,320	5	4.74	1,240	2:30	5.22	1,560
	April 25		8	4.78	1,240	10	4.70	1,240	8:30	5.15	1,520
9	3.65	661		May 10		6	4.55	1,160	1	4.90	1,370
1	3.65	661	1	4.76	1,220		May 28		6	4.86	1,350
10	4.57	1,120	6p	4.54	1,110	6a	5.03	1,430	9	4.89	1,360
	April 26			May 11		6p	4.82	1,320		June 10	
11	4.10	870	5	4.80	1,260		May 29		3	5.40	1,670
8:30	5.06	1,380	6p	4.63	1,160	6	5.38	1,660	7	5.40	1,670
	April 27			May 12		7	5.15	1,520	6	4.85	1,340
1p	4.37	1,000	6a	5.04	1,400		May 30		8	4.83	1,330
9	5.12	1,410	7p	4.87	1,260	6:30	5.60	1,790		June 11	
	April 28		12	5.11	1,340	6:30p	5.18	1,540	3	5.08	1,480
4	5.07	1,370		May 13			May 31		5:30	5.10	1,490
N	4.74	1,190	7	5.23	1,510	4:30	5.65	1,820	6p	4.72	1,260
3	4.79	1,220	6	5.09	1,430	7p	5.19	1,540	8	4.73	1,270
6	5.07	1,370		May 14			June 1			June 12	
10:30	5.14	1,410	7a	5.63	1,760	3	5.38	1,660	3:30	5.03	1,450
	April 29		7p	5.26	1,540	9	5.30	1,610	7p	4.63	1,210
1:30p	4.56	1,090		May 15		5:30	5.02	1,440		June 13	
10	4.96	1,310	6	5.72	1,820	10	5.10	1,490	4	4.88	1,360
	April 30		10p	5.26	1,540		June 2		11	4.78	1,300
1p	4.43	1,020		May 16		3a	5.34	1,630	8	4.52	1,140
10	4.91	1,290	5	5.16	1,490	6p	5.02	1,440		June 14	
	May 1			May 17		12	5.12	1,500	3	4.72	1,260
12:30p	4.47	1,040	3a	4.81	1,300		June 3		7:30p	4.33	1,030
11	5.07	1,370	3p	4.43	1,100	7a	5.40	1,670		June 15	
	May 2			May 18		10p	5.20	1,550	3:30	4.57	1,170
1:30p	4.75	1,200	2	4.37	1,070		June 4		9	4.51	1,140
9	5.17	1,430	4p	4.10	935	4	5.28	1,600	7	4.20	950
	May 3			May 19		8	5.25	1,580	12	4.22	962
2	5.22	1,460	6a	4.08	925	3	5.03	1,450			

Deer Creek Reservoir near Charleston, Utah

Location.--Lat 40°24', long 111°32', in SW¼SW¼ sec. 5, T. 5 S., R. 4 E., at dam on Provo River, a quarter of a mile upstream from Deer Creek and 4½ miles southwest of Charleston. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

Gage-height record.--Mercury indicating gage read daily at 8 a.m.

Maxima.--April-June 1953: Contents, 152,900 acre-ft June 24, 25 (elevation, 5,417.13 ft).

1940 to March 1952: Contents, 154,000 acre-ft June 19, 1946 (elevation, 5,417.65 ft).

Remarks.--Reservoir is formed by earth-fill dam with concrete cut-off wall, completed in October 1941. Storage began in October 1940. Capacity, 152,560 acre-ft between elevations 5,280 ft (bottom of outlet tunnel) and 5,417 ft (top of 20-ft radial gates). Dead storage, 2,870 acre-ft below elevation 5,305 ft (sill of trash-rack structure). Water used for irrigation, domestic, and industrial purposes. Contents given herein include dead storage and are computed from 12 p.m. elevations which are based on trend indicated by 8 a.m. readings.

Cooperation.--Records of daily elevations and contents furnished by Provo River water commissioner.

Elevation, in feet, and contents, in acre-feet, at 12 p.m. of indicated day, 1952

Day	April		May		June	
	Elevation	Contents	Elevation	Contents	Elevation	Contents
1	5,399.83	111,700	5,406.28	125,900	5,413.93	144,500
2	5,399.88	111,800	5,406.38	126,100	5,414.77	146,700
3	5,399.95	111,900	5,406.67	126,800	5,415.27	148,000
4	5,400.03	112,100	5,407.00	127,500	5,415.73	149,200
5	5,400.15	112,300	5,407.13	127,800	5,416.30	150,700
6	5,400.37	112,800	5,407.18	127,900	5,416.70	151,800
7	5,400.68	113,500	5,407.03	127,600	5,416.90	152,300
8	5,401.03	114,200	5,406.59	126,600	5,416.95	152,400
9	5,401.38	115,000	5,405.83	124,800	5,416.95	152,400
10	5,401.73	115,700	5,404.95	122,800	5,416.98	152,500
11	5,402.08	116,500	5,404.15	121,100	5,416.90	152,300
12	5,402.47	117,300	5,403.43	119,500	5,416.87	152,200
13	5,402.87	118,200	5,402.73	117,900	5,416.93	152,400
14	5,403.20	118,900	5,402.47	117,300	5,416.92	152,400
15	5,403.43	119,500	5,402.45	117,300	5,416.90	152,300
16	5,403.50	119,600	5,402.25	116,900	5,416.93	152,400
17	5,403.40	119,400	5,401.88	116,100	5,416.95	152,400
18	5,403.52	119,700	5,401.57	115,400	5,416.95	152,400
19	5,403.67	120,000	5,401.50	115,200	5,416.95	152,400
20	5,403.67	120,000	5,401.77	115,800	5,416.93	152,400
21	5,403.65	119,900	5,402.50	117,400	5,416.90	152,300
22	5,403.58	119,800	5,403.47	119,500	5,416.90	152,300
23	5,403.55	119,700	5,404.40	121,600	5,416.97	152,500
24	5,403.62	119,900	5,405.23	123,600	5,417.13	152,900
25	5,403.88	120,400	5,406.10	125,500	5,417.13	152,900
26	5,404.40	121,600	5,407.00	127,500	5,417.07	152,800
27	5,405.00	123,000	5,407.97	129,800	5,417.02	152,600
28	5,405.60	124,300	5,409.10	132,500	5,417.00	152,600
29	5,405.93	125,100	5,410.37	135,500	5,417.00	152,600
30	5,406.10	125,500	5,411.53	138,400	5,416.97	152,500
31			5,412.77	141,500		
Change in contents acre-feet		+13,900		+16,000		+11,000
Change in contents equivalent mean cubic feet per second		+234		+260		+185

Provo River at Vivian Park, Utah

Location.--Lat 40°22', long 111°34', in NW¼ sec. 25., T. 5 S., R. 3 E., half a mile downstream from North Fork, 3,500 ft northeast of Vivian Park, and three-quarters of a mile upstream from South Fork. Altitude of gage is 5,200 ft (from topographic map).
Drainage area.--600 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1 to June 30.
Maxima.--April-June 1952: Discharge, 3,050 cfs 12 p.m. May 9 (gage height, 7.65 ft).
1911 to March 1952: Discharge observed, 3,180 cfs June 11, 1921.
Remarks.--Station is below diversions for irrigation in Heber Valley and above those in vicinity of Provo. Flow regulated by Deer Creek Reservoir and small lakes at headwaters that serve as reservoirs. Records include flow of Weber-Provo diversion canal.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	307	2,000	554	11	332	2,790	1,740	21	1,320	1,170	702
2	307	2,200	751	12	341	2,860	1,590	22	1,320	910	619
3	305	2,310	1,170	13	350	2,920	1,360	23	1,380	460	582
4	307	2,330	1,290	14	452	2,670	1,260	24	1,420	539	649
5	313	2,530	1,190	15	610	2,480	1,250	25	1,440	572	940
6	324	2,700	1,400	16	767	2,440	995	26	1,470	554	975
7	324	2,810	1,720	17	940	2,200	798	27	1,530	522	955
8	332	2,900	1,830	18	1,010	1,850	793	28	1,730	528	755
9	330	2,980	1,870	19	1,040	1,520	785	29	1,880	561	660
10	332	2,900	1,710	20	1,230	1,220	785	30	1,910	561	664
								31	-	557	-
Monthly mean discharge, in cubic feet per second									855	1,792	1,078
Runoff, in acre-feet									50,880	110,200	64,150
Runoff, in inches									-	-	-

South Fork Provo River at Vivian Park, Utah

Location.--Lat 40°21', long 111°34', in SE¼ sec. 26, T. 5 S., R. 3 E., on right bank a quarter of a mile southeast of Vivian Park and half a mile upstream from mouth. Altitude of gage is 5,240 ft (from topographic map).
Drainage area.--30 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used April 1 to June 30.
Maxima.--April-June 1952: Discharge, 102 cfs 12:15 a.m. May 6 (gage height, 1.90 ft).
1911 to March 1952: Discharge observed, 123 cfs May 27, 1922.
Remarks.--Station is below all diversions.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	22	68	74	11	28	72	52	21	38	65	28
2	23	78	67	12	29	76	50	22	40	65	28
3	23	82	64	13	29	80	47	23	42	57	24
4	24	91	60	14	31	84	42	24	43	52	33
5	25	88	60	15	32	89	41	25	44	51	36
6	25	84	67	16	33	85	38	26	49	54	35
7	25	85	74	17	34	70	35	27	59	64	33
8	26	86	67	18	35	61	30	28	66	70	32
9	26	71	62	19	37	49	29	29	67	74	30
10	27	71	58	20	37	56	24	30	69	82	32
								31	-	80	-
Monthly mean discharge, in cubic feet per second									36.3	72.4	45.1
Runoff, in acre-feet									2,160	4,450	2,680
Runoff, in inches									1.35	2.78	1.68

South Fork Provo River at Vivian Park, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 20		1	1.30	60	11	1.46	70	4	1.62	82
12:15	0.97	38	2	1.45	71	12	1.70	88	12	1.50	73
N	.96	37	4:30	1.15	51		May 7			May 17	
12	.97	38	7	1.45	71	5	1.75	92	5	1.52	74
	April 21		9	1.50	74	7	1.55	77	5p	1.40	66
N	.97	38	11	1.28	59	8	1.70	88		May 18	
12	.99	39		April 30		N	1.60	81	4p	1.31	60
	April 22		4	1.46	72	5	1.52	75	12	1.25	56
N	1.00	40	11	1.42	69	7	1.64	84		May 19	
12	1.04	42	11p	1.43	69		May 8		12:30	1.02	41
	April 23			May 1		2	1.72	90	9:15	1.04	42
N	1.03	42	2p	1.36	64	N	1.65	85	9:30	1.22	54
	April 24		12	1.55	78	12	1.62	84		May 20	
4:30	1.05	43		May 2			May 9		5:30	1.20	52
6	1.03	42	1p	1.50	74	9	1.52	76	8	1.37	63
4	1.02	42	11	1.65	85	12p	1.43	70	12	1.33	60
7	1.05	44		May 3			May 10			May 21	
12	1.05	44	2	1.57	79	4	1.48	73	N	1.40	65
	April 25		10	1.69	88	3	1.42	69		May 22	
9:30	1.07	45	11	1.55	78		May 11		1a	1.45	69
11:30	1.04	43	4	1.65	85	2	1.48	73	12	1.33	60
2	1.08	45	8	1.50	74	4p	1.44	70		May 23	
4	1.07	45	12	1.75	92		May 12		N	1.28	57
	April 26			May 4		7	1.57	79	12	1.23	54
5	1.09	46	9	1.72	90		May 13			May 24	
N	1.09	46	10	1.50	74	2p	1.56	78	N	1.22	53
11	1.29	59	7	1.87	100	7:30	1.64	84	12	1.20	52
	April 27			May 5			May 14			May 25	
5p	1.26	58	9	1.73	90	N	1.61	82	N	1.21	52
	April 28		6	1.50	73		May 15		10	1.22	53
9	1.39	67		May 6		1a	1.77	94	10:15	.99	39
3	1.39	67	12:15a	1.90	102	2p	1.67	86	11:45	1.04	42
	April 29		2	1.70	88		May 16		12	1.20	52
11	1.44	70	4p	1.70	88	2a	1.72	89			

Provo River at Provo, Utah

Location.--Lat 40°14'15", long 111°41'45", in NE¼SE¼ sec. 3, T 7 S., R. 2 E., 1,300 ft downstream from bridge on State Highway 114, 2 miles west of Provo, and 2 miles upstream from mouth. Altitude of gage is 4,510 ft (from topographic map).

Gage-height record.--Water-stage recorder graph.

Discharge record.--State-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1 to May 11, May 31 to June 30.

Maxima.--April-June 1952: Discharge, 2,520 cfs May 6 (gage height, 6.37 ft). 1903-5, 1933-34, 1937 to March 1952: Discharge observed, 1,620 cfs May 27, 1904.

Remarks.--Station is below all diversions. Flow regulated by Deer Creek Reservoir and small lakes at headwaters that serve as reservoirs. Small transmountain diversions from Strawberry river basin into Daniels Creek. Flow affected by Weber-Provo diversion canal. Factory race diverts water above station into Provo Bay, an arm of Utah Lake. Provo River water commissioner furnished following records of this diverted flow:

Month	Diversion (acre-feet)
April 1952	654
May 1952	980
June 1952	786

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	348	1,920	159	11	423	2,320	1,110	21	1,400	785	200
2	345	1,930	259	12	436	2,310	1,040	22	1,380	383	130
3	348	2,030	578	13	447	2,350	815	23	1,330	330	74
4	346	2,000	775	14	540	2,260	695	24	1,400	271	76
5	360	2,240	705	15	760	1,930	650	25	1,440	256	250
6	383	2,420	835	16	871	1,870	509	26	1,470	230	387
7	388	2,390	1,110	17	993	1,730	313	27	1,470	178	435
8	409	2,330	1,190	18	1,050	1,420	280	28	1,600	157	393
9	404	2,420	1,190	19	939	1,160	256	29	1,750	132	216
10	406	2,400	1,100	20	1,230	810	244	30	1,840	151	140
								31	-	153	-
Monthly mean discharge, in cubic feet per second									884	1,396	537
Runoff, in acre-feet									52,570	85,820	31,960
Runoff, in inches									-	-	-

Dry Creek near Alpine, Utah

Location.--Lat 40°28'35", long 111°45'25", in NE¼ sec. 18, T. 4 S., R. 2 E., on right bank 2 miles northeast of Alpine and 3½ miles upstream from Fort Creek. Altitude of gage is 5,320 ft (from topographic map).
Gage-height record.--Water-stage recorder graph except for period Apr. 6,7.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for period Apr. 6,7 estimated on basis of discharge measurement, weather records, and records for Fort Creek. Shifting-control method used Apr. 1 to June 30.
Maxima.--April-June 1952: Discharge, 292 cfs 4 p.m. May 3 (gage height, 2.75 ft); gage height 3.15 ft 5:30 p.m. June 6.
1947 to March 1952: Discharge recorded, 290 cfs May 27, 1951 (gage height, 2.78 ft, site and datum then in use), but was exceeded by flood of Aug. 3, 1951, which destroyed gaging station (stage and discharge not determined).
Remarks.--The flow of Grove Creek, usually less than 1 cfs, is occasionally diverted to Dry Creek above the station.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	5.6	106	148	11	18	122	121	21	35	88	96
2	6.2	131	133	12	18	128	119	22	39	75	92
3	6.2	219	136	13	20	132	109	23	56	69	84
4	7.6	213	147	14	25	147	111	24	69	73	105
5	10	205	128	15	21	114	105	25	78	91	75
6	16	175	146	16	20	100	100	26	108	106	66
7	24	134	133	17	21	81	102	27	122	126	58
8	22	121	139	18	26	78	105	28	149	145	59
9	21	111	134	19	30	78	114	29	128	137	70
10	21	111	133	20	31	94	114	30	112	101	66
								31	-	105	-
Monthly mean discharge, in cubic feet per second									42.2	120	108
Runoff, in acre-feet									2,510	7,370	6,440
Runoff, in inches									-	-	-

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 25		2:30	2.63	267	6	2.46	167	12	1.93	131
12:15	1.28	70	4	2.75	292	8	2.42	160		June 1	
6:30	2.18	60	8:30	2.66	267	9	2.52	179	4:30	1.93	133
N	1.17	60		May 4			May 14		8	1.83	116
5	1.44	98	8	2.25	177	6	2.27	133	10:30	1.81	113
	April 26		1	2.31	187	2	2.32	141	1:30	1.84	119
1	1.48	108	5:30	2.80	283	6:30	2.48	171	6	2.35	215
5	1.35	90	8:30	2.54	227		May 15			June 2	
N	1.40	100		May 5		5	2.15	114	1	2.05	156
4	1.68	147	N	2.24	160	12	2.09	105	2:30	1.82	117
5	1.48	114	4	2.62	233		May 25		12:30	1.76	111
9	1.48	113	6	2.58	223	12:15	1.88	87	7:30	2.11	175
12	1.42	102	11	2.36	177	11	1.82	81		June 3	
	April 27		12	2.46	195	4	1.98	105	6	1.80	121
7	1.47	106		May 6			May 26		1	1.86	133
3:30	1.36	85	5	2.33	167	11	1.86	91	9	1.92	143
6	2.00	195	11:30	2.27	152	4	2.06	124		June 4	
9	1.92	177	4	2.52	199		May 27		12:30p	1.90	140
	April 28		8	2.53	199	1	2.08	129	5:30	2.28	213
4	1.85	160	8:30	2.46	183	3	2.02	119	7	1.86	133
7	1.87	162		May 7		8	1.96	111		June 5	
5	1.75	134	6	2.23	136	N	1.96	111	4	1.68	103
7	1.90	162	1	2.18	122	2	2.02	122	9	1.65	98
7:30	1.83	149	8	2.28	140	4:30	2.03	124	9:30	1.75	114
	April 29			May 8		6	2.20	154	2	1.77	117
9	1.72	126	5	2.16	119	8	2.25	164	5:30	2.07	171
7	1.68	117	2	2.16	119	10	2.13	143	7	2.83	179
11	1.77	133	3	2.20	126		May 28			June 6	
	April 30		10	2.18	122	N	2.10	140	11	2.50	119
8	1.70	119		May 9		3:30	2.12	145	5:30	3.15	244
12:30	1.51	88	12:30	2.07	105	5	2.27	173	7	2.00	154
5	1.52	90	6	2.13	114	12	2.06	136		June 7	
7	1.76	128	11	2.11	111		May 29		4	1.60	116
	May 1			May 10		10	1.95	119	5p	1.70	133
3	1.70	116	11	2.02	97	12:30	1.96	122	11	1.90	169
4	1.50	85	4	2.16	119	4	2.06	140		June 8	
N	1.48	81	8:30	2.20	126	6:30	2.36	199	3	1.70	133
5	1.70	113		May 11			May 30		11	1.60	116
5:15	1.86	140	2	2.19	122	2	1.79	98	2	1.64	122
9	1.75	117	11	2.10	108	11:30	1.66	81	7	1.93	175
10	1.87	138	1	2.15	116	2	1.72	90		June 9	
	May 2		4	2.32	143	7	1.97	131	5	1.64	122
10	1.86	131		May 12		10	1.88	116	N	1.60	116
2	1.65	94	10:30	2.13	109		May 31		5	1.82	154
5:30	2.18	185	5	2.35	147	7	1.70	91	12	1.74	140
10:30	1.70	98	8:30	2.22	124	N	1.67	87			
11	2.30	207	10	2.25	129	3	1.76	102			
	May 3			May 13		4	1.92	128			
10	2.15	171	7	2.08	102	6	1.97	136			
N	2.22	183	12:30	2.12	108	10	1.86	119			

Fort Creek at Alpine, Utah

Location.--Lat 40°28'00", long 111°46'45", in SW¼ sec. 13, T. 4 S., R. 1 E., on right bank three-quarters of a mile northwest of Alpine and 1½ miles above mouth. Altitude of gage is 5,050 ft (from topographic map).
Drainage area.--6.1 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1 to May 11, and June 4-20.
Maxima.--April-June 1952: Discharge, 134 cfs 6 p.m. May 3 (gage height, 3.55 ft).
1947 to Mar. 1952: Discharge, 246 cfs Aug. 4, 1951 (gage height, 4.60 ft).
Remarks.--One diversion above station for irrigation.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	9.4	72	45	11	20	54	26	21	40	38	10
2	10	91	45	12	19	59	30	22	41	33	9.0
3	9.6	105	40	13	29	63	26	23	52	31	9.6
4	14	98	39	14	31	59	23	24	61	35	16
5	24	88	43	15	23	49	20	25	70	39	11
6	29	67	52	16	19	41	17	26	85	44	11
7	31	67	42	17	25	36	15	27	88	46	5.6
8	25	60	38	18	40	35	11	28	90	48	6.9
9	23	52	36	19	44	38	10	29	75	54	9.1
10	24	50	34	20	41	49	14	30	64	50	8.5
								31	-	44	-
Monthly mean discharge, in cubic feet per second									38.5	54.7	23.5
Runoff, in acre-feet									2,290	3,360	1,400
Runoff, in inches									7.05	10.33	4.29

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	April 25			May 4		12	2.26	46	8	2.20	42
12:15	2.65	68	3	2.99	95	5:30	2.76	78	12:30	2.17	41
10:30	2.34	49	10:30	2.69	75	12	2.55	64	4	2.47	59
N	2.40	52	N	2.75	79		May 13		6	2.56	64
5	3.07	96	4	3.34	120	11:30	2.36	52		May 31	
	April 26		6	3.42	125	5:30	2.82	81	4	2.23	44
4	2.80	78		May 5			May 14		8:30	2.15	40
10:30	2.53	60	1	2.93	91	1	2.50	60	12:30	1.97	30
3:30	3.25	108	6	2.77	81	N	2.27	46	5	2.37	52
5	3.26	109	N	2.65	73	6	2.69	73		June 1	
7	3.20	105	5	3.18	108	7	2.68	72	2	2.17	41
	April 27		6:30	3.22	111	11	2.50	60	6:30	2.15	40
5	2.65	69	12	2.85	86		May 15		11	2.01	32
10	2.57	64		May 6		6a	2.32	49	N	2.00	31
11:30	2.58	64	11	2.54	65	7p	2.32	49	5	2.54	63
3	3.28	111	11:30	2.46	60	7:15	2.26	46	7	2.54	63
5:30	3.42	121	3	2.78	81	12	2.20	42	12	2.32	49
	April 28		7	2.99	94		May 25			June 2	
4	2.42	55		May 7		12:15	2.17	41	4	2.18	41
11:30	2.75	77	2	2.67	74	11	2.00	31	8:30	2.15	40
2	2.85	83	12:30	2.41	57	3:30	2.32	49	11:30	2.04	33
6	3.20	107	8	2.71	76	7	2.22	44	1	2.04	33
	April 29		11	2.60	69		May 26		5	2.44	57
5	2.77	79		May 8		2	2.17	41	6	2.47	59
3	2.57	66	10:45	2.40	56	N	2.00	31		June 3	
7	2.77	79	11	2.35	52	4	2.39	54	5	2.18	41
	April 30		1	2.34	52	6	2.47	59	3	2.10	37
6	2.55	65	6:30	2.56	66		May 27		8	2.17	41
6:15	2.50	62	12	2.43	57	3	2.20	42		June 4	
N	2.41	57		May 9		9:30	2.16	40	11:30	1.91	27
7:30	2.63	71	1:30	2.28	48	10	2.10	37	6	2.43	57
	May 1		6	2.37	54	1	2.08	36	9	2.36	52
9	2.36	54		May 10		5	2.47	59	12	2.18	42
11	2.36	54	4	2.24	45	6:30	2.50	60		June 5	
5:30	3.05	99	N	2.18	42		May 28		3:30	2.16	41
	May 2		6:30	2.53	63	4	2.21	43	4	2.08	37
1	2.73	78	12	2.38	54	1	2.12	38	N	1.94	29
10:30	2.53	65		May 11		5	2.53	62	5	2.44	59
6	3.50	131	11	2.19	42	6:30	2.57	65	7	2.47	60
	May 3		5:30	2.63	69		May 29		12	2.26	48
9	2.77	81	8	2.59	66	3	2.32	49		June 6	
N	2.87	87	9	2.52	62	N	2.18	41	3	2.18	43
3	3.44	127		May 12		6:30	2.66	71	9	2.16	42
6	3.55	134	3	2.38	53		May 30		11:30	2.10	39
						3	2.32	49	5:30	2.68	75

Fort Creek at Alpine, Utah--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1952

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
	June 7		1	1.95	31	1:30	1.89	29		June 9	
2	2.22	46	4	2.19	45	4	2.19	45	1:30p	1.72	21
4	2.17	43	6	2.29	51	6	2.32	53	4	1.87	29
6:30	2.16	43		June 8		10	2.18	45	4:30	2.18	46
8	2.07	38	3	2.05	37	12	2.16	44	7	2.25	50
N	1.95	31							12	2.17	45

Jordan River at Narrows, near Lehi, Utah

Location.--Lat 40°26'40", long 111°55'15", in SE¼NW¼ sec. 26, T. 4 S., R. 1 W., at Narrows, 5⅔ miles northwest of Lehi, and 7⅔ miles downstream from Utah Lake. Altitude of gage is 4,470 ft (by barometer).
Drainage area.--2,960 sq mi, including 280 sq mi in closed basin in Cedar Valley.
Gage-height record.--Water-stage recorder.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--April-June 1952: Daily discharge, 1,410 cfs June 10.
1913 to March 1952: Daily discharge, 1,370 cfs June 8, 1922 (gage height, 7.78 ft, site and datum then in use).
Remarks.--Figures represent combined flow of Jordan River, Utah & Salt Lake Canal, and East Jordan Canal. Flow may be regulated by gates and pumps at outlet of Utah Lake, pumps at Pelican Point, and diversion dam at Narrows.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	512	819	1,400	11	536	1,020	1,380	21	572	1,270	1,150
2	492	864	1,400	12	549	1,040	1,300	22	621	1,300	1,150
3	491	919	1,400	13	553	1,060	1,330	23	632	1,360	1,160
4	497	896	1,380	14	563	1,080	1,380	24	652	1,350	1,150
5	501	953	1,380	15	575	958	1,240	25	681	1,360	1,180
6	512	950	1,390	16	563	1,130	1,270	26	707	1,320	1,200
7	531	985	1,390	17	571	1,160	1,280	27	724	1,340	1,210
8	454	926	1,390	18	596	1,200	1,280	28	785	1,370	1,210
9	529	945	1,390	19	613	1,240	1,250	29	765	1,320	1,210
10	549	997	1,410	20	541	1,260	1,180	30	786	1,310	1,110
								31	-	1,370	-
Monthly mean discharge, in cubic feet per second									588	1,131	1,285
Runoff, in acre-feet									35,010	69,560	76,460
Runoff, in inches									-	-	-

Jordan River and Surplus Canal at Salt Lake City, Utah

Location.--River station: Lat 40°44', long 111°55', in SW¼SW¼ sec. 14, T. 1 S., R. 1 W., a quarter of a mile downstream from highway bridge on 21st South Street, Salt Lake City, and 2 miles downstream from Mill Creek. Datum of gage is 4,220.73 ft above mean sea level, datum of 1929.
Canal station: Lat 40°44', long 111°55', in SW¼SW¼ sec. 14, T. 1 S., R. 1 W., 300 ft downstream from diversion dam which is an eighth of a mile downstream from highway bridge over Jordan River on 21st South Street, Salt Lake City. Datum of gage is 4,219.02 ft above mean sea level, datum of 1929.
Gage-height record.--Water-stage recorder graphs.
Discharge record.--Defined by current-meter measurements.
Maxima.--April-June 1952: Combined discharge, 1,820 cfs June 7.
1942 to March 1952: Combined discharge, 1,190 cfs June 3, 1944.
Remarks.--Flow regulated by gates and pumps at outlet of Utah Lake. Many diversions above station for irrigation and industrial and municipal water supplies.

Combined discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	850	1,200	1,490	11	863	953	1,570	21	891	1,370	964
2	835	1,170	1,540	12	840	1,030	1,510	22	888	1,540	945
3	831	1,280	1,600	13	787	1,020	1,510	23	956	1,500	930
4	811	1,380	1,630	14	811	1,060	1,370	24	1,010	1,490	1,040
5	801	1,430	1,640	15	1,030	1,130	1,290	25	1,050	1,380	1,290
6	821	1,440	1,650	16	890	1,140	1,210	26	1,100	1,360	1,450
7	842	1,490	1,760	17	838	1,310	1,100	27	1,180	1,350	1,460
8	911	1,190	1,750	18	825	1,260	1,060	28	1,240	1,320	1,460
9	852	1,030	1,680	19	884	1,130	1,050	29	1,310	1,370	1,430
10	833	965	1,630	20	922	1,160	1,030	30	1,280	1,470	1,250
								31		1,520	
Monthly mean discharge, in cubic feet per second									933	1,272	1,376
Runoff, in acre-feet									55,500	78,220	81,900
Runoff, in inches									-	--	-

San Pitch River near Gunnison, Utah

Location.--Lat 39°09', long 111°49', in NW¼NW¼ sec. 20, T. 19 S., R. 1 E., at bridge on U. S. Highway 89 at Gunnison.
Gage-height record.--Reference mark on highway bridge. Distance from reference mark to water surface read twice daily, No gage-height record Apr. 1-19.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge Apr. 1-19 estimated on basis of 7 discharge measurements and records for Sevier River below San Pitch River near Gunnison.
Maxima.--April-June 1952: Discharge observed, 1,330 cfs June 5.
1900-1905, 1912-18: Discharge observed, 720 cfs Aug. 29, 1905.
Remarks.--Flow is normally completely regulated by Gunnison Reservoir 7 miles upstream, and during most recent years there has been no contribution from this tributary to the Sevier River. Station was reestablished and records collected during the spring runoff of 1952 because of unusual hydrologic conditions. The runoff during this season probably exceeded that of any other of recent history.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	0	487	439	11	675	384	834	21	427	409	260
2	0	552	416	12	725	434	874	22	404	365	214
3	0	608	650	13	750	439	868	23	432	359	154
4	0	586	947	14	740	475	842	24	485	352	112
5	10	593	1,320	15	705	456	832	25	504	348	132
6	100	552	1,030	16	625	374	743	26	595	330	199
7	500	518	985	17	540	339	662	27	670	356	279
8	725	456	971	18	450	321	511	28	698	363	214
9	631	418	952	19	350	313	478	29	542	402	148
10	656	388	944	20	363	343	341	30	492	454	181
								31	-	463	-
Monthly mean discharge, in cubic feet per second									459	427	584
Runoff, in acre-feet									27,310	26,260	34,770
Runoff, in inches									-	-	-

Beaver River near Beaver, Utah

Location.--Lat 38°17', long 112°34', in SW¼SW¼ sec. 17, T. 29 S., R. 6 W., on left bank at Fishlake National Forest boundary, three-quarters of a mile downstream from Bakers Canyon, and 4½ miles east of Beaver. Altitude of gage is 6,200 ft.
Drainage area.--82 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--April-June 1952: Discharge, 624 cfs 7:30 p.m. May 15 (gage height, 4.26 ft).
1914 to March 1952: Discharge, 1,080 cfs July 22, 1936 (gage height, 7.27 ft, site and datum then in use), from rating curve extended above 500 cfs.
Remarks.--No diversion above station for irrigation. Water diverted for hydroelectric power, but returned to stream above station. Some regulation by powerplants and several small reservoirs.

Runoff, in acre-feet, water years October 1914 to September 1952

Water year	Runoff	Water year	Runoff	Water year	Runoff	Water year	Runoff
1915	45,600	1924	29,000	1933	33,600	1942	47,290
1916	49,200	1925	36,900	1934	16,480	1943	34,890
1917	38,900	1926	44,400	1935	36,110	1944	51,410
1918	31,900	1927	36,000	1936	48,350	1945	42,840
1919	35,100	1928	40,900	1937	56,120	1946	31,310
1920	50,000	1929	46,000	1938	43,820	1947	50,420
1921	53,400	1930	36,700	1939	25,110	1948	35,760
1922	58,400	1931	18,700	1940	37,350	1949	46,200
1923	51,500	1932	37,700	1941	62,110	1950	24,260
						1951	23,890
						1952	63,640

Beaver River at Adamsville, Utah

Location.--Lat 38°16', long 112°48', in S½ sec. 30, T. 29 S., R. 8 W., on right bank 600 ft downstream from bridge on State Highway 21, a quarter of a mile upstream from Indian Creek, and three-quarters of a mile south of Adamsville. Altitude of gage is 6,000 ft (from topographic map).
Drainage area.--272 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--April-June 1952: Discharge, 605 cfs 1:30 a.m. June 4 (gage height, 4.45 ft
1913-36, 1936 to March 1952: Discharge, 1,090 cfs July 23, 1941 (gage height, 4.68 ft, site and datum then in use), from rating curve extended above 500 cfs.
Remarks.--No diversion between station and Rockyford Reservoir. Irrigation diversions above station use practically the entire flow during the irrigation season to supply Adamsville and Beaver districts.

Beaver River at Adamsville, Utah--Continued

Runoff, in acre-feet, water years October 1914 to September 1952

Water year	Runoff	Water year	Runoff	Water year	Runoff	Water year	Runoff
1915	40,000	1924	18,900	1933	18,600	1942	36,370
1916	36,900	1925	15,200	1934	12,540	1943	23,190
1917	27,900	1926	29,700	1935	13,300	1944	36,030
1918	16,400	1927	17,800	1936	41,530	1945	30,140
1919	20,000	1928	18,600	1937	51,590	1946	19,930
1920	44,200	1929	23,600	1938	33,990	1947	32,370
1921	47,400	1930	22,500	1939	18,490	1948	23,650
1922	52,800	1931	15,000	1940	19,400	1949	32,470
1923	38,700	1932	18,000	1941	55,420	1950	16,880
						1951	11,200
						1952	57,280

East Fork West Walker River near Bridgeport, Calif.

Location.--Lat 38°21'30", long 119°26'30", in NW¼NW¼ sec. 22, T. 6 N., R. 23 E., on right bank three-quarters of a mile north of Sonora Junction, 1½ miles upstream from mouth, and 14 miles northwest of Bridgeport. Altitude of gage is 6,790 ft (from topographic map).
Drainage area.--63 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Defined by current-meter measurements.
Maxima.--April-June 1952: Discharge, 490 cfs 10:30 p.m. June 7 (gage height, 2.31 ft). 1910, 1944 to March 1952: Discharge recorded, 660 cfs Feb. 2, 1945 (gage height, 2.69 ft), from rating curve extended above 270 cfs on basis of velocity-area study and slope-area determination at gage height 2.60 ft.
Remarks.--Small diversions above station.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	25	206	360	11	40	170	289	21	97	231	276
2	27	252	350	12	49	184	242	22	104	223	276
3	28	227	365	13	53	190	208	23	129	234	276
4	31	190	365	14	47	190	197	24	132	255	250
5	37	177	390	15	47	180	197	25	135	276	234
6	47	177	422	16	55	170	212	26	126	293	227
7	52	173	422	17	67	170	234	27	137	321	212
8	43	158	443	18	86	187	259	28	155	335	204
9	40	155	411	19	97	215	271	29	161	330	194
10	40	161	340	20	92	242	271	30	167	345	197
								31	-	375	-
Monthly mean discharge, in cubic feet per second									78.2	226	286
Runoff, in acre-feet									4,650	13,870	17,050
Runoff, in inches									1.38	4.13	5.07

West Walker River below East Fork, near Coleville, Calif.

Location.--Lat 38°22'45", long 119°27'00", in SE¼ sec. 9, T. 6 N., R. 23 E., on left bank 75 feet downstream from East Fork, 200 ft upstream from bridge on U. S. Highway 395, and 13 miles southeast of Coleville. Altitude of gage is 6,650 ft (from topographic map).
Drainage area.--182 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,900 cfs and extended on basis of slope-area determination at gage height 8.10 ft.
Maxima.--April-June 1952: Discharge, 2,650 cfs 12:30 a.m. June 8 (gage height, 5.51 ft). 1938 to March 1952: Discharge, 6,220 cfs Nov. 20, 1950 (gage height, 8.10 ft), by slope-area method.
Remarks.--Station is above all diversions except a few small ranch ditches. Flow very slightly regulated by Poor Lake Reservoir (capacity unknown) 7 miles upstream.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	133	946	1,950	11	200	839	1,390	21	454	1,360	1,430
2	140	1,160	1,830	12	226	981	1,040	22	493	1,300	1,380
3	149	1,120	1,880	13	257	1,080	926	23	584	1,340	1,400
4	166	905	1,960	14	238	1,140	939	24	688	1,490	1,220
5	196	878	2,170	15	234	1,090	1,020	25	749	1,650	1,080
6	238	884	2,300	16	254	960	1,090	26	632	1,670	981
7	257	858	2,160	17	296	981	1,290	27	598	1,780	891
8	224	693	2,300	18	366	1,120	1,450	28	698	1,840	946
9	219	646	2,010	19	442	1,280	1,500	29	778	1,760	872
10	207	693	1,550	20	434	1,480	1,430	30	784	1,800	939
								31	-	2,000	-
Monthly mean discharge, in cubic feet per second									378	1,217	1,444
Runoff, in acre-feet									22,480	74,820	85,930
Runoff, in inches									2.32	7.71	8.85

East Fork Carson River near Gardnerville, Nev.

Location.--Lat 38°51'30", long 119°41'50", in NE¼ sec. 2, T. 11 N., R. 20 E., on left bank 2 miles east of Mud Lake Reservoir, 3 miles downstream from Leviathan Creek, and 7 miles southeast of Gardnersville. Datum of gage is 4,985.11 ft above mean sea level (levels by Bureau of Reclamation).
Drainage area.--344 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--April-June 1952: Discharge, 3,560 cfs 1:30 a.m. June 6 (gage height, 5.40 ft). 1890-93, 1900-1906, 1908-10, 1917, 1924-29, 1935-37, 1939 to March 1952: Discharge, 12,100 cfs Nov. 21, 1950 (gage height, 9.66 ft), by slope-area method.
Remarks.--Station is above all diversions in Carson Valley. Diversions above station for irrigation. Flow slightly affected by several small reservoirs (total capacity, above 5,000 acre-ft).

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	671	1,760	2,940	11	697	1,600	1,970	21	1,150	2,480	1,710
2	716	2,260	2,700	12	756	1,910	1,540	22	1,260	2,220	1,650
3	762	2,220	2,740	13	866	2,130	1,430	23	1,450	2,250	1,610
4	852	1,930	2,660	14	768	2,300	1,440	24	1,660	2,460	1,480
5	999	1,770	2,980	15	723	2,100	1,460	25	1,820	2,650	1,360
6	1,190	1,760	3,130	16	810	1,820	1,490	26	1,540	2,630	1,260
7	1,180	1,740	2,880	17	957	1,870	1,640	27	1,350	2,790	1,200
8	964	1,500	3,100	18	1,140	2,100	1,780	28	1,530	2,880	1,190
9	880	1,360	2,760	19	1,240	2,300	1,810	29	1,720	2,630	1,150
10	803	1,430	2,090	20	1,120	2,540	1,710	30	1,680	2,690	1,150
								31	-	2,950	-
Monthly mean discharge, in cubic feet per second									1,108	2,162	1,934
Runoff, in acre-feet									65,960	133,000	115,100
Runoff, in inches									3.60	7.25	6.27

West Fork Carson River at Woodfords, Calif.

Location.--Lat 38°46'00", long 119°50'00", in SE¼SW¼ sec. 34, T. 11 N., R. 19 E., on left bank 0.3 mile downstream from bridge on State Highway 8, 0.8 mile west of Woodfords, and 3¾ miles downstream from Willow Creek. Altitude of gage is 5,760 ft (from river-profile map).
Drainage area.--66 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 18-22.
Maxima.--April-June 1952: Discharge, 1,100 cfs 7 p.m. May 20 (gage height, 5.29 ft). 1900-1907, 1910-11, 1938 to March 1952: Discharge, 4,730 cfs Nov. 20, 1950 (gage height, 8.35 ft, from high-water marks), by slope-area method. Stage known, 9.0 ft, present datum, Dec. 11, 1937, from floodmarks (discharge 3,500 cfs, by slope-area method).
Remarks.--One small diversion above station for irrigation. Flow slightly regulated by several small reservoirs (total capacity, about 1,500 acre-ft).

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	71	683	788	11	147	788	519	21	335	812	421
2	77	872	746	12	150	816	438	22	386	760	405
3	91	802	724	13	160	848	402	23	459	760	413
4	111	746	710	14	150	848	394	24	555	798	373
5	128	718	752	15	144	791	394	25	537	816	354
6	153	721	746	16	160	763	394	26	444	812	331
7	168	679	696	17	194	788	421	27	474	836	302
8	163	594	710	18	260	833	450	28	609	798	296
9	161	615	654	19	318	860	450	29	640	774	276
10	157	690	555	20	318	932	430	30	585	763	268
								31	-	794	-
Monthly mean discharge, in cubic feet per second									277	778	494
Runoff, in acre-feet									16,470	47,820	29,380
Runoff, in inches									4.68	13.59	8.35

Marys River above Hot Springs Creek, near Deeth, Nev.

Location.--Lat 41°15;, long 115°17', in NE¼SE¼ sec. 24, T. 39 N., R. 59 E., 1 mile upstream from Hot Springs Creek, 7 miles north of Cross Ranch, and 13 miles north of Deeth. Altitude of gage is 5,500 ft (from river-profile map).
Drainage area.--415 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1-15.
Maxima.--April-June 1952: Discharge, 1,250 cfs 9 a.m. Apr. 29 (gage height, 6.57 ft). 1943 to March 1952: Discharge, 676 cfs May 9, 1945 (gage height, 5.99 ft). Flood in January 1943 (station established in October) reached a stage of 7.2 ft from floodmarks (discharge, 1,030 cfs by slope-area method).
Remarks.--Several diversions above station for irrigation.

Marys River above Hot Springs Creek, near Deeth, Nev.--Continued

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	119	1,010	443	11	240	657	288	21	924	473	116
2	121	942	421	12	238	590	274	22	826	516	106
3	126	942	409	13	261	578	244	23	790	487	108
4	134	1,010	389	14	315	595	213	24	810	437	124
5	144	1,060	371	15	398	619	185	25	842	407	155
6	163	977	363	16	479	648	173	26	930	405	146
7	203	914	363	17	433	627	161	27	972	435	143
8	242	882	361	18	460	550	136	28	1,030	467	133
9	282	826	341	19	580	477	131	29	1,180	477	115
10	264	738	310	20	810	449	124	30	1,130	465	105
								31	-	459	-
Monthly mean discharge, in cubic feet per second									515	649	232
Runoff, in acre-feet									30,640	39,910	13,790
Runoff, in inches									1.38	1.80	0.62

Lamoille Creek near Lamoille, Nev.

Location.--Lat 40°41'30", long 115°28'30", in NE¼ sec. 6, T. 32 N., R. 58 E., on left bank at Lamoille Creek bridge at mouth of canyon, 300 ft downstream from Elko-Lamoille powerplant, and 3 miles south of Lamoille. Altitude of gage is 6,240 ft (from topographic map).
Drainage area.--25 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1 to June 30.
Maxima.--April-June 1952: Discharge, 415 cfs 8:45 p.m. June 5.
1915-23, 1943 to March 1952: Discharge recorded, 588 cfs July 6, 1950, but may have been exceeded by that of June 1917 when gage was washed out.
Remarks.--Records include flow of McDermott ditch which diverts about 200 ft upstream from gage. Elko-Lamoille powerplant diverts about 6 miles upstream but flow is returned to channel 300 ft upstream from station.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	6.2	110	336	11	13	159	234	21	32	144	164
2	6.7	128	319	12	14	194	208	22	36	132	144
3	6.7	149	318	13	15	220	199	23	44	138	158
4	7.6	157	337	14	17	227	210	24	56	165	152
5	9.0	164	356	15	16	200	188	25	69	226	125
6	12	170	356	16	16	163	177	26	81	261	114
7	15	168	338	17	17	141	186	27	94	283	104
8	14	148	336	18	24	131	200	28	109	288	109
9	13	136	336	19	30	137	201	29	106	302	126
10	13	141	289	20	32	161	192	30	99	331	136
								31	-	330	-
Monthly mean discharge, in cubic feet per second									34.1	187	222
Runoff, in acre-feet									2,030	11,510	13,190
Runoff, in inches									1.52	8.63	9.89

North Fork Humboldt River at Devils Gate, near Halleck, Nev.

Location.--Lat 41°11', long 115°29', in SE¼ sec. 13, T. 38 N., R. 57 E., on right bank 16 miles north of Halleck and 26 miles upstream from mouth. Datum of gage is 5,368 ft above mean sea level (USGS planetable benchmark).
Drainage area.--830 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current meter measurements. Shifting-control method used Apr. 1-18.
Maxima.--April-June 1952: Discharge, 2,450 cfs 12:30 a.m. Apr. 20 (gage height, 9.63 ft).
1913-21, 1943 to March 1952: Discharge, 1,600 cfs Mar. 2 or 3, 1921 (gage height, 10.35 ft, site and datum then in use).
Remarks.--Many diversions above station.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	134	1,160	496	11	604	730	406	21	1,560	612	257
2	133	1,120	465	12	675	672	428	22	1,360	780	246
3	138	1,160	449	13	858	635	408	23	1,390	630	259
4	178	1,170	442	14	1,330	625	402	24	1,380	545	260
5	259	1,110	428	15	1,380	625	373	25	1,430	498	292
6	384	1,000	422	16	1,080	668	327	26	1,480	484	342
7	612	920	428	17	1,150	662	300	27	1,420	488	311
8	782	931	452	18	1,540	582	284	28	1,410	515	268
9	598	970	456	19	2,050	518	279	29	1,790	528	223
10	580	825	424	20	2,340	510	268	30	1,360	512	185
								31	-	508	-
Monthly mean discharge, in cubic feet per second									1,046	732	353
Runoff, in acre-feet									62,250	45,010	20,990
Runoff, in inches									-	-	-

Humboldt River near Elko, Nev.

Location.--Lat 40°56', long 115°38', in SE¼NE¼ sec. 11, T. 35 N., R. 56 E., on right bank 1 mile southeast of Ryndon, 6 miles downstream from North Fork, and 10 miles northeast of Elko. Altitude of gage is 5,100 ft (extended from river-profile maps).
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 15-29 and June 11-30.
Maxima.--April-June 1952: Discharge, 3,860 cfs 1 p.m. Apr. 30 (gage height, 9.60 ft). 1895-1902, 1944 to March 1952: Discharge, 2,530 cfs June 9, 1945 (gage height, 8.96 ft).
Remarks.--Diversions above station for irrigation.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	570	3,400	1,670	11	1,390	2,320	1,500	21	3,100	1,650	633
2	654	3,060	1,720	12	1,360	2,140	1,460	22	2,890	1,660	574
3	820	2,860	1,700	13	1,350	2,000	1,420	23	2,720	1,740	578
4	922	2,750	1,680	14	1,480	1,880	1,330	24	2,740	1,640	610
5	1,000	2,710	1,660	15	1,770	1,800	1,190	25	2,660	1,500	663
6	1,160	2,670	1,620	16	2,140	1,850	1,060	26	2,660	1,420	790
7	1,310	2,640	1,590	17	2,030	1,940	955	27	2,770	1,390	880
8	1,420	2,580	1,610	18	2,040	2,020	851	28	2,920	1,420	808
9	1,600	2,530	1,620	19	2,290	1,900	776	29	3,220	1,520	720
10	1,540	2,500	1,580	20	2,740	1,710	690	30	3,720	1,600	630
								31	-	1,640	-
Monthly mean discharge, in cubic feet per second									1,966	2,079	1,152
Runoff, in acre-feet									117,000	127,800	68,560
Runoff, in inches									-	-	-

South Fork Humboldt River near Lee, Nev.

Location.--Lat 40°34', long 115°33', in SE¼ sec. 16, T. 31 N., R. 57 E., on left bank 400 ft downstream from Kleckner Creek and 2½ miles east of Lee. Altitude of gage is 5,970 ft (from topographic map).
Drainage area.--54 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--April-June 1952: Discharge, 687 cfs 9 p.m. June 5 (gage height, 3.48 ft). 1945 to March 1952: Discharge, 935 cfs May 27, 1951 (gage height, 3.81 ft).
Remarks.--A few small diversions above station for irrigation.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	27	278	598	11	88	313	424	21	160	326	285
2	32	310	578	12	97	362	373	22	169	310	254
3	33	349	574	13	125	418	346	23	192	310	269
4	44	362	570	14	133	424	342	24	236	349	266
5	65	362	615	15	115	393	323	25	282	432	225
6	109	376	611	16	111	342	300	26	307	494	205
7	137	366	574	17	119	304	307	27	313	528	184
8	111	326	555	18	148	278	316	28	326	562	174
9	99	294	547	19	174	278	316	29	313	582	187
10	92	294	494	20	174	329	307	30	278	603	197
								31	-	611	-
Monthly mean discharge, in cubic feet per second									154	383	377
Runoff, in acre-feet									9,140	23,530	22,440
Runoff, in inches									3.17	8.17	7.79

Huntington Creek near Lee, Nev.

Location.--Lat 40°35', long 115°43', in NE¼ sec. 12, T. 31 N., R. 55 E., on right bank 7 miles west of Lee. Altitude of gage is 5,290 ft (from river-profile map).
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements below 540 cfs and extended to peak stage by logarithmic plotting.
Maxima.--April-June 1952: Discharge, 1,210 cfs 3:30 a.m. Apr. 29 (gage height, 6.54 ft). 1948 to March 1952: Discharge, 532 cfs May 16, 1949 (gage height, 4.52 ft).

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	173	736	271	11	251	390	144	21	435	277	25
2	185	667	265	12	220	366	125	22	390	286	26
3	175	649	253	13	227	347	66	23	385	261	29
4	224	652	236	14	336	338	50	24	395	240	54
5	337	646	218	15	460	331	38	25	435	232	89
6	459	605	212	16	388	359	38	26	535	236	95
7	599	578	212	17	312	395	37	27	608	245	94
8	530	538	193	18	301	343	34	28	685	257	75
9	375	490	179	19	345	292	29	29	1,070	275	54
10	286	435	153	20	425	261	26	30	897	284	40
								31	-	286	-
Monthly mean discharge, in cubic feet per second									415	397	112
Runoff, in acre-feet									24,680	24,390	6,660
Runoff, in inches									-	-	-

South Fork Humboldt River above Dixie Creek, near Elko, Nev.

Location.--Lat 40°41', long 115°49', in SW¼ sec. 5, T. 32 N., R. 55 E., 2 miles upstream from Dixie Creek and 10½ miles southwest of Elko. Altitude of gage is 5,140 ft (from river-profile map).
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1 to June 30.
Maxima.--April-June 1952: Discharge, 1,540 cfs 1 p.m. Apr. 29 (gage height, 5.46 ft). 1949 to March 1952: Discharge, 1,240 cfs May 28, 1951 (gage height, 5.12 ft).
Remarks.--Some diversions above station for irrigation.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	228	1,140	944	11	448	765	690	21	664	658	323
2	244	1,080	929	12	428	738	582	22	613	658	292
3	258	1,080	900	13	458	779	485	23	607	607	296
4	296	1,120	871	14	645	807	423	24	620	582	380
5	385	1,130	885	15	717	800	399	25	690	620	399
6	518	1,090	936	16	652	828	358	26	786	711	362
7	738	1,080	936	17	553	821	340	27	900	786	367
8	878	1,020	878	18	524	690	332	28	1,020	849	319
9	671	914	842	19	582	607	323	29	1,360	914	284
10	518	821	800	20	658	601	328	30	1,340	944	280
								31	-	958	-
Monthly mean discharge, in cubic feet per second									633	845	549
Runoff, in acre-feet									37,680	51,960	32,690
Runoff, in inches									-	-	-

South Fork Humboldt River near Elko, Nev.

Location.--Lat 40°43'15", long 115°49'50", in NW¼ sec. 30, T. 33 N., R. 55 E., on right bank a quarter of a mile upstream from head of canyon, 1.5 miles downstream from highway bridge, 9 miles upstream from mouth, and 10 miles southwest of Elko. Altitude of gage is 4,990 ft (from river-profile map).
Drainage area.--1,150 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1 to June 30.
Maxima.--April-June 1952: Discharge, 1,700 cfs 2:30 p.m. Apr. 29 (gage height, 5.37 ft). 1896-1922, 1923-32, 1936 to March 1952: discharge, 2,400 cfs Jan. 26, 1914 (gage height, 10.0 ft, datum then in use), from rating curve extended above 1,200 cfs.
Remarks.--Many diversions above station for irrigation. Station is below all diversions except those of Hunter and Banks ranch, 3 miles downstream.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	332	1,300	965	11	556	765	675	21	789	701	299
2	370	1,180	955	12	556	728	560	22	733	701	286
3	366	1,210	920	13	619	780	450	23	719	697	277
4	409	1,240	885	14	813	789	391	24	742	619	338
5	619	1,230	880	15	817	765	359	25	827	653	373
6	813	1,180	930	16	770	803	325	26	970	742	332
7	1,050	1,140	935	17	679	837	308	27	1,090	827	332
8	1,060	1,070	876	18	666	728	302	28	1,220	890	280
9	789	980	822	19	761	644	292	29	1,530	970	242
10	640	861	784	20	817	636	299	30	1,470	980	227
								31	-	985	-
Monthly mean discharge, in cubic feet per second									786	891	530
Runoff, in acre-feet									46,790	54,810	31,540
Runoff, in inches									0.76	0.89	0.51

Humboldt River near Carlin, Nev.

Location.--Lat 40°43', long 116°00', in sec. 28, T. 33 N., R. 53 E., on right bank 4½ miles southwest of Moleen, 5 miles upstream from Susie Creek, 5½ miles east of Carlin, and 15 miles southwest of Elko.
Drainage area.--4,310 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--April-June 1952: Discharge, 5,220 cfs 1:20 p.m. May 1 (gage height, 9.35 ft). 1943 to March 1952: Discharge, 3,640 cfs June 10, 1945 (gage height, 7.78 ft). High water of February 1943 reached a stage of 9.8 ft (discharge, 5,900 cfs by slope-area method).
Remarks.--Many diversions above station for irrigation.

Humboldt River near Carlin, Nev.--Continued

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	935	5,150	2,320	11	2,300	3,420	2,180	21	3,570	2,380	1,010
2	1,000	4,790	2,360	12	2,130	3,190	2,040	22	3,940	2,240	935
3	1,060	4,420	2,400	13	2,070	2,980	1,880	23	3,840	2,160	870
4	1,140	4,220	2,420	14	2,190	2,800	1,740	24	3,580	2,160	860
5	1,360	4,110	2,390	15	2,430	2,660	1,660	25	3,650	2,160	940
6	1,690	4,020	2,380	16	2,550	2,600	1,550	26	3,720	2,060	930
7	2,100	3,940	2,370	17	2,920	2,600	1,420	27	3,810	2,010	970
8	2,590	3,870	2,320	18	2,890	2,610	1,300	28	4,140	2,000	1,020
9	2,510	3,730	2,230	19	2,800	2,610	1,200	29	4,590	2,030	1,040
10	2,320	3,530	2,180	20	3,050	2,550	1,080	30	5,010	2,120	995
								31	-	2,250	-
Monthly mean discharge, in cubic feet per second									2,730	3,012	1,633
Runoff, in acre-feet									162,400	185,200	97,170
Runoff, in inches									0.71	0.81	0.42

Humboldt River at Palisade, Nev.

Location.--Lat 40°38', long 116°12', in sec. 36, T. 32 N., R. 51 E., on right bank a quarter of a mile downstream from Southern Pacific Railroad bridge, half a mile downstream from Palisade, and three-quarters of a mile upstream from Pine Creek. Datum of gage is 4,825.55 ft above mean sea level, datum of 1929.
Drainage area.--5,010 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 14-22.
Maxima.--April-June 1952: Discharge, 6,050 cfs 2:30 a.m. May 2 (gage height, 9.53 ft). 1902-6, 1911 to March 1952: Discharge, 6,250 cfs Feb. 26, 1943 (gage height, 9.92 ft).
Remarks.--Diversion above station for irrigation of about 150,000 acres of hay and pastureland.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	1,130	5,930	2,600	11	3,310	4,070	2,410	21	4,690	2,980	1,100
2	1,180	5,910	2,620	12	3,250	3,900	2,290	22	5,020	2,840	1,030
3	1,240	5,580	2,630	13	3,310	3,630	2,130	23	5,150	2,690	963
4	1,460	5,240	2,640	14	3,870	3,440	1,980	24	4,870	2,590	951
5	1,780	5,000	2,610	15	3,940	3,260	1,870	25	4,870	2,590	1,000
6	2,210	4,810	2,600	16	3,670	3,180	1,760	26	5,130	2,520	1,030
7	2,950	4,690	2,590	17	3,860	3,130	1,590	27	5,150	2,440	1,060
8	3,760	4,620	2,550	18	4,290	3,090	1,440	28	5,300	2,420	1,110
9	3,740	4,480	2,450	19	4,330	3,040	1,300	29	5,600	2,410	1,120
10	3,410	4,240	2,400	20	4,500	3,010	1,180	30	5,810	2,430	1,080
								31	-	2,550	-
Monthly mean discharge, in cubic feet per second									3,759	3,636	1,803
Runoff, in acre-feet									223,700	223,600	107,300
Runoff, in inches									0.84	0.84	0.40

Pine Creek near Palisade, Nev.

Location.--Lat 40°35'30", long 116°10'30", in SW¼ sec. 1, T. 31 N., R. 51 E., on right bank 1 mile upstream from mouth and 1½ miles southeast of Palisade.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements below 330 cfs, and extended above on basis of slope-area determination of peak flow. Shifting-control method used June 24-30.
Maxima.--March-June 1952: Discharge, 1,010 cfs 7 p.m. Mar. 27 (gage height, 4.69 ft). 1912-14, 1946 to February 1952: Discharge, 785 cfs Jan. 25, 26, 1914 (gage height, about 4 ft, site and datum then in use).
Remarks.--Diversions above station for irrigation.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	226	256	6.4	11	190	74	4.1	21	270	32	1.5
2	222	214	6.1	12	178	61	4.1	22	228	28	1.6
3	214	198	5.4	13	203	39	3.6	23	210	24	1.6
4	237	177	4.5	14	317	34	3.3	24	207	19	4.3
5	274	158	4.8	15	317	35	3.1	25	210	22	6.1
6	375	142	4.5	16	239	41	2.8	26	228	23	9.5
7	545	126	4.3	17	212	49	2.0	27	274	22	12
8	426	110	4.1	18	217	46	2.0	28	294	21	7.5
9	296	94	4.1	19	272	32	2.1	29	335	13	11
10	228	79	4.0	20	294	32	1.8	30	333	8.9	9.5
								31	-	7.8	-
Monthly mean discharge, in cubic feet per second									269	71.5	4.72
Runoff, in acre-feet									16,010	4,400	281
Runoff, in inches									-	-	-

Rock Creek near Battle Mountain, Nev.

Location.--Lat 40°51', long 116°36', in NE¼ sec. 17, T. 34 N., R. 48 E., on left bank at mouth of canyon and 22 miles northeast of Battle Mountain. Altitude of gage is 4,600 ft.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--April-June 1952: Discharge, 3,000 cfs 5 p.m. Apr. 7 (gage height, 5.60 ft). 1918-25, 1927-29, 1946 to March 1952: Discharge, 2,240 cfs Feb. 11, 1921 (gage height, 5.54 ft, datum then in use).
Remarks.--Several irrigation diversions in valleys upstream. Station is above all diversions in Boulder Flat and is below all tributaries. Flow slightly affected by small reservoir in Squaw Valley 30 miles upstream.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	342	737	73	11	1,160	195	26	21	1,090	114	24
2	426	707	65	12	1,320	174	26	22	976	120	24
3	510	701	51	13	1,430	162	30	23	941	99	37
4	680	695	47	14	1,980	152	29	24	913	84	46
5	999	654	43	15	1,760	148	38	25	927	74	53
6	1,510	545	45	16	1,280	157	36	26	990	69	65
7	2,540	495	52	17	1,190	148	24	27	997	68	60
8	2,290	495	43	18	1,240	126	24	28	920	77	51
9	1,480	455	35	19	1,320	108	27	29	871	88	45
10	1,150	297	32	20	1,290	92	25	30	804	87	39
								31	-	82	-
Monthly mean discharge, in cubic feet per second									1,178	265	40.5
Runoff, in acre-feet									70,070	16,270	2,410
Runoff, in inches									-	-	-

Humboldt River at Comus, Nev.

Location.--Lat 41°00', long 117°19', in SE¼ sec. 14, T. 36 N., R. 41 E., on left bank at Comus section house of Southern Pacific Railroad, 9 miles northeast of Golconda and 32 miles northwest of Battle Mountain. Altitude of gage is 4,350 ft (from topographic map).
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1, 2, 5-7.
Maxima.--April-June 1952: Discharge, 5,860 cfs 9 P.m. May 6 (gage height, 11.52 ft). 1917-23, 1925-26, 1946 to March 1952: Discharge observed, 2,700 cfs June 24-26, 1921 (gage height, 10.9 ft, site and datum then in use), based on discharge measurement made 5 miles downstream.
Remarks.--Diversions above station for irrigation.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	616	5,030	2,090	11	968	4,930	1,780	21	3,680	3,130	1,530
2	629	5,190	1,990	12	1,110	4,700	1,820	22	3,680	2,980	1,520
3	638	5,290	1,880	13	1,180	4,500	1,850	23	3,720	2,930	1,490
4	669	5,580	1,700	14	1,290	4,300	1,750	24	3,930	2,870	1,490
5	737	5,760	1,720	15	1,400	4,130	1,700	25	4,100	2,760	1,450
6	805	5,810	1,830	16	1,530	3,930	1,680	26	4,300	2,680	1,390
7	832	5,760	1,750	17	1,850	3,700	1,660	27	4,500	2,580	1,310
8	858	5,630	1,720	18	2,450	3,540	1,630	28	4,740	2,470	1,270
9	880	5,370	1,740	19	3,070	3,330	1,590	29	4,740	2,390	1,200
10	920	5,130	1,750	20	3,540	3,220	1,550	30	4,800	2,270	1,150
								31	-	2,170	-
Monthly mean discharge, in cubic feet per second									2,272	4,002	1,633
Runoff, in acre-feet									135,200	246,100	97,150
Runoff, in inches									-	-	-

Little Humboldt River near Paradise Valley, Nev.

Location.--Lat 41°25', long 117°22', in SE¼ sec. 20, T. 41 N., R. 41 E., on right bank 3½ miles downstream from Bullshead Ranch and 9½ miles southeast of Paradise Valley. Altitude of gage is 4,470 ft (from river-profile map).
Drainage area.--1,030 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements below 320 cfs and extended to peak stage on basis of float-method determinations at gage heights 4.67 ft, 5.89 ft, 6.75 ft and 7.24 ft. Shifting-control method used Apr. 25-28.
Maxima.--April-June 1952: Discharge, 950 cfs 10 a.m. Apr. 8 (gage height, 7.40 ft). 1921-28, 1943 to March 1952: Discharge, 1,100 cfs Feb. 2, 1952 (gage height, 7.71 ft), from rating extended as described above.
Remarks.--Bullshead Ranch diverts water for irrigation above station. Station is above all diversions in Paradise Valley.

Little Humboldt River near Paradise Valley, Nev.--Continued

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	196	449	178	11	423	280	139	21	471	215	78
2	218	403	174	12	458	246	132	22	343	237	75
3	200	390	168	13	467	231	135	23	307	247	75
4	240	403	165	14	569	226	137	24	356	220	101
5	285	410	161	15	788	227	124	25	410	196	111
6	360	380	161	16	518	241	109	26	509	184	117
7	607	337	160	17	377	243	101	27	585	181	115
8	876	328	157	18	383	232	93	28	593	184	113
9	654	330	159	19	445	209	87	29	550	186	104
10	485	322	150	20	532	201	82	30	519	184	93
								31	-	182	-
Monthly mean discharge, in cubic feet per second									456	26.8	125
Runoff, in acre-feet									27,150	16,470	7,450
Runoff, in inches									0.49	0.30	0.14

Martin Creek near Paradise Valley, Nev.

Location.--Lat 41°32'00", long 117°25'40", in NW¼SW¼ sec. 12, T. 42 N., R. 40 E., on left bank 0.6 mile upstream from Humboldt County Fish Hatchery and 7 miles northeast of Paradise Valley. Altitude of gage is 4,700 ft (from extension of river-profile map).
Drainage area.--172 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 7 to May 18.
Maxima.--April-June 1952: Discharge, 955 cfs 7 p.m. Apr. 6 (gage height, 5.55 ft).
1921 to March 1952: Discharge, 9,000 cfs Jan. 21, 1943 (gage height, 11.1 ft, datum then in use).
Remarks.--No diversions above station.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	210	366	254	11	466	257	185	21	336	320	88
2	245	385	250	12	510	272	151	22	353	274	82
3	289	414	247	13	565	294	131	23	383	260	78
4	396	411	237	14	563	313	116	24	420	264	82
5	516	372	235	15	449	313	106	25	480	292	85
6	616	347	237	16	420	274	96	26	555	310	98
7	626	350	225	17	469	240	91	27	507	318	84
8	383	342	202	18	530	237	87	28	489	313	78
9	290	290	193	19	545	270	85	29	434	297	74
10	375	264	200	20	402	320	84	30	394	284	70
								31	-	267	-
Monthly mean discharge, in cubic feet per second									441	307	141
Runoff, in acre-feet									26,210	18,900	8,390
Runoff, in inches									2.86	2.06	0.91

Humboldt River near Imlay, Nev.

Location.--Lat 40°41'30", long 118°12'10", in SE¼ sec. 25, T. 33 N., R. 33 E., on right bank 1 mile upstream from old Calahan Dam and 4 miles northwest of Imlay. Altitude of gage is 4,130 ft (from topographic map).
Drainage area.--13,500 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurement. Shifting-control method used Apr. 1 to May 8.
Maxima.--April-June 1952: Discharge, 6,080 cfs 11:30 p.m. May 9 (gage height, 12.15 ft).
1935-41, 1945 to March 1952: Discharge, 2,220 cfs May 31, June 1, 1945 (gage height, 10.49 ft).
Remarks.--Humboldt-Lovelock Irrigation Light & Power Co. feeder canal diverts water from river above station to Pitt-Taylor Reservoirs. This water is ordinarily released during irrigation season through Rye Patch Reservoir to Humboldt River for irrigation in Lovelock district. Flow also affected by many other diversions above station for irrigation.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	373	4,010	2,130	11	598	5,840	1,690	21	789	3,300	1,560
2	416	4,290	2,060	12	614	5,500	1,670	22	840	3,200	1,540
3	448	4,380	2,000	13	631	5,190	1,660	23	900	3,050	1,570
4	471	4,550	1,950	14	654	4,820	1,640	24	1,060	2,870	1,600
5	488	4,800	1,900	15	671	4,600	1,620	25	1,620	2,720	1,640
6	500	4,980	1,860	16	681	4,330	1,600	26	2,350	2,580	1,660
7	510	5,310	1,820	17	696	4,160	1,580	27	2,820	2,460	1,640
8	530	5,680	1,780	18	704	3,990	1,580	28	3,110	2,390	1,620
9	550	6,020	1,750	19	721	3,760	1,580	29	3,460	2,310	1,590
10	576	5,990	1,740	20	747	3,570	1,570	30	3,710	2,240	1,550
								31	-	2,180	-
Monthly mean discharge, in cubic feet per second									1,075	4,035	1,705
Runoff, in acre-feet									63,940	248,100	101,500
Runoff, in inches									0.09	0.34	0.14

Rye Patch Reservoir near Rye Patch, Nev.

Location.--Lat 40°28'15", long 118°18'20", in NE¼ sec. 18, T. 30 N., R. 33 E., at control works at left end of Rye Patch Dam, 2 miles northwest of Rye Patch. Datum of gage is at mean sea level (Southern Pacific Railroad datum).
Drainage area.--13,700 sq mi, approximately.
Gage-height record.--Mercury indicating gage.
Maxima.--April-June 1952: Contents, 173,700 acre-ft May 15, 16 (elevation, 4,132.50 ft). 1936 to March 1952: Contents, 196,900 acre-ft Apr. 9, 1946 (elevation, 4,134.62 ft).
Remarks.--Reservoir is formed by earth-fill, rock-faced dam; storage began Feb. 20, 1936. Capacity, 179,100 acre-ft between elevations 4,072.5 ft (sill of trash-rack structure) and 4,133.0 ft (top of spillway gates). Dead storage negligible. Elevation of spillway (gage sill) is 4,116 ft. Water is used for irrigation on Humboldt River project.
Cooperation.--Records of daily elevation furnished by Pershing County Water Conservation District of Nevada.

Contents, in acre-feet, on indicated day, 1952

Day	April	May	June
1	115,200	139,600	160,100
2	115,600	141,600	159,600
3	116,100	143,600	159,600
4	116,500	146,000	161,100
5	117,000	149,500	161,700
6	117,800	152,500	162,200
7	118,300	156,000	163,200
8	119,200	159,100	163,200
9	120,000	162,700	163,200
10	121,400	165,800	162,700
11	121,900	168,400	163,200
12	122,800	170,500	163,200
13	e122,800	172,100	163,200
14	122,800	173,200	163,200
15	123,700	173,700	162,700
16	124,200	173,700	162,200
17	125,100	173,200	162,700
18	126,000	172,700	162,700
19	e125,800	172,100	162,200
20	e125,700	170,000	161,700
21	125,500	170,000	161,700
22	126,400	168,400	161,700
23	127,400	165,800	161,700
24	127,400	164,200	162,200
25	127,400	163,200	162,200
26	128,700	162,700	163,200
27	130,600	161,100	163,200
28	133,500	159,600	163,700
29	135,800	160,100	165,300
30	137,200	160,100	167,400
31	-	159,100	-
Change in contents, acre-feet	+22,400	+21,900	+8,300
Change in contents, equivalent mean second-feet	+376	+356	+139

e Elevation affected by wind; contents interpolated.

Humboldt River near Rye Patch, Nev.

Location.--Lat 40°27'33", long 118°18'30", in NE¼ sec. 18, T. 30 N., R. 33 E., on left bank 1,000 ft downstream from Rye Patch Dam and 1½ miles northwest of Rye Patch. Altitude of gage is 4,050 ft (from topographic map).
Drainage area.--13,700 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1-25.
Maxima.--April-June 1952: Discharge, 4,720 cfs May 11, 12 (gage height, 10.26 ft).
1896-1922, 1924-32, 1935-41, 1943 to March 1952: Discharge, 3,050 cfs May 12, 1897 (gage height, 12.0 ft, site and datum then in use).
Remarks.--Flow completely regulated by Rye Patch Reservoir (see page 675) and slightly regulated by Humboldt (Pitt-Taylor) Reservoirs. Many diversions above station for irrigation.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	101	2,470	1,970	11	105	4,280	1,570	21	466	3,940	1,550
2	101	2,480	1,800	12	105	4,680	1,570	22	469	3,790	1,550
3	101	2,500	1,660	13	334	4,680	1,570	23	585	3,610	1,550
4	101	2,510	1,570	14	461	4,560	1,570	24	765	3,040	1,550
5	101	2,520	1,570	15	461	4,520	1,570	25	862	2,920	1,550
6	101	2,540	1,570	16	464	4,520	1,570	26	1,090	2,760	1,550
7	101	2,680	1,570	17	466	4,440	1,560	27	1,260	2,600	1,390
8	101	2,930	1,570	18	466	4,360	1,560	28	1,560	2,360	973
9	101	3,420	1,570	19	464	4,280	1,560	29	1,970	2,230	712
10	101	3,940	1,570	20	464	4,120	1,550	30	2,330	2,230	705
								31	-	2,080	-
Monthly mean discharge, in cubic feet per second									539	3,355	1,505
Runoff, in acre-feet									32,050	206,300	89,550
Runoff, in inches									-	-	-

Humboldt River near Lovelock, Nev.

Location.--Lat 40°03', long 118°28', in NE¼ sec. 11, T. 25 N., R. 31 E., on right bank 900 ft below breached dam of Lovelock Land and Development and 9 miles south of Lovelock. Altitude of gage is 3,900 ft (from topographic map).
Drainage area.--14,200 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used Apr. 1-16.
Maxima.--April-June 1952: Discharge, 3,540 cfs 10:30 a.m. May 19 (gage height, 9.36 ft).
1912-27, 1950 to March 1952: Discharge, 1,700 cfs May 29, 30, 1922 (gage height, 5.90 ft, site and datum then in use).
Remarks.--Flow regulated by Rye Patch Reservoir and irrigation in Lovelock Valley.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	71	1,570	1,940	11	58	3,270	1,330	21	268	3,480	1,260
2	94	2,180	1,650	12	48	3,310	1,320	22	273	3,460	1,270
3	79	2,250	1,450	13	40	3,430	1,300	23	244	3,440	1,270
4	85	2,300	1,170	14	82	3,480	1,270	24	244	3,430	1,350
5	108	2,320	1,050	15	266	3,490	1,230	25	339	3,260	1,340
6	119	2,290	1,010	16	332	3,510	1,240	26	409	3,090	1,270
7	119	2,290	1,020	17	270	3,480	1,210	27	506	2,940	1,240
8	108	2,360	1,100	18	268	3,510	1,260	28	735	2,830	1,200
9	60	2,660	1,100	19	254	3,520	1,310	29	780	2,410	892
10	56	2,990	1,140	20	235	3,510	1,270	30	985	2,100	531
								31	-	2,070	-
Monthly mean discharge, in cubic feet per second									251	2,911	1,233
Runoff, in acre-feet									14,950	179,000	73,370
Runoff, in inches									-	-	-

Truckee River near Truckee, Calif.

Location.--Lat 39°17'30", long 120°12'30", in SW¼NE¼ sec. 28, T. 17 N., R. 16 E., on left bank 1.4 miles upstream from Donner Creek and 2.5 miles southwest of Truckee. Altitude of gage is 5,920 ft (from topographic map).
Drainage area.--548 sq mi.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements.
Maxima.--April-June 1952: Discharge, 2,640 cfs 8 p.m. June 5 (gage height, 5.08 ft).
1944 to March 1952: Discharge, 6,480 cfs Nov. 20, 1952 (gage height, 7.62 ft), by slope-area method.
Remarks.--Flow regulated by Lake Tahoe.

Truckee River near Truckee, Calif.--Continued

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	April	May	June
1	1,450	1,820	2,360	11	1,440	1,970	2,130	21	1,570	2,290	622
2	1,440	2,050	2,310	12	1,460	2,040	2,010	22	1,610	2,220	598
3	1,440	2,130	2,300	13	1,480	2,080	1,940	23	1,690	2,220	646
4	1,460	2,010	2,350	14	1,450	2,080	1,640	24	1,730	2,250	586
5	1,510	1,930	2,450	15	1,430	2,060	1,180	25	1,770	2,330	517
6	1,550	1,910	2,390	16	1,470	2,050	1,030	26	1,750	2,330	484
7	1,560	1,880	2,320	17	1,520	2,100	857	27	1,770	2,410	478
8	1,510	2,810	2,390	18	1,580	2,150	702	28	1,860	2,430	457
9	1,480	1,810	2,350	19	1,610	2,180	634	29	1,840	2,360	441
10	1,460	1,860	2,230	20	1,580	2,310	622	30	1,770	2,340	394
								31	-	2,400	-
Monthly mean discharge, in cubic feet per second									1,570	2,120	1,380
Runoff, in acre-feet									93,700	130,500	82,150
Runoff, in inches									-	-	-

Truckee River at Reno, Nev.

Location.--Lat 39°32', long 119°47', in sec. 12, T. 19 N., R. 19 E., on left bank 0.5 mile east of Reno and 5 miles upstream from Steamboat Creek. Altitude of gage is 4,440 ft (from topographic map).
Drainage area.--1,070 sq mi, approximately.
Gage-height record.--Water-stage recorder graph.
Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used May 5 to June 30.
Maxima.--April-June 1952: Discharge, 7,950 cfs 2 a.m. May 3 (gage height, 9.39 ft). 1906-19, 1947 to March 1952: Discharge, 19,900 cfs Nov. 21, 1950 (gage height, 13.55 ft) from rating curve extended above 14,000 cfs; gage height, 13.83 ft Nov. 21, 1950 (variable slope) Nov. 21, 1950.
Remarks.--Flow regulated by Lake Tahoe, Boca Reservoir, Donner and Independence Lakes, and by several powerplants. Many diversions above station.

Mean discharge, in cubic feet per second, 1952

Day	April	May	June	Day	April	May	June	Day	Arpil	May	June
1	2,710	5,730	5,570	11	3,260	5,030	4,510	21	3,940	5,950	1,280
2	2,720	6,840	5,320	12	3,390	5,350	4,090	22	4,050	5,690	1,190
3	2,770	7,630	5,220	13	3,520	5,430	3,750	23	4,370	5,590	1,210
4	2,880	7,080	5,200	14	3,330	5,460	3,420	24	4,670	5,640	1,220
5	3,090	6,260	5,410	15	3,240	5,330	2,780	25	5,040	5,870	1,060
6	3,390	5,920	5,560	16	3,370	5,160	2,480	26	5,300	5,610	969
7	3,650	5,720	5,120	17	3,610	5,290	2,260	27	5,690	5,460	1,200
8	3,580	5,330	5,120	18	3,910	5,410	2,000	28	6,390	5,720	1,310
9	3,480	4,910	5,350	19	4,180	5,560	1,600	29	6,280	5,610	1,270
10	3,370	4,840	4,910	20	4,040	5,650	1,300	30	5,920	5,450	1,220
								31	-	5,530	-
Monthly mean discharge, in cubic feet per second									3,971	5,679	3,097
Runoff, in acre-feet									236,300	349,200	184,300
Runoff, in inches									-	-	-

SUMMARY OF FLOOD STAGES AND DISCHARGES

Table 4 is a summary of flood stages and discharges at stream-gaging stations in the area covered by this report. The reference numbers shown on the table apply to those on plate 7.

The discharge for the points listed in table 4 were determined as described under "Stages and discharges at stream-gaging stations." At points where the peak discharge was determined by indirect methods, a headnote indicates the method employed.

Figure 89 shows the flood discharges listed in table 4, in cubic feet per second per square mile plotted against the corresponding drainage areas. These discharges are as measured and may be affected by storage or regulation (see gaging-station records).

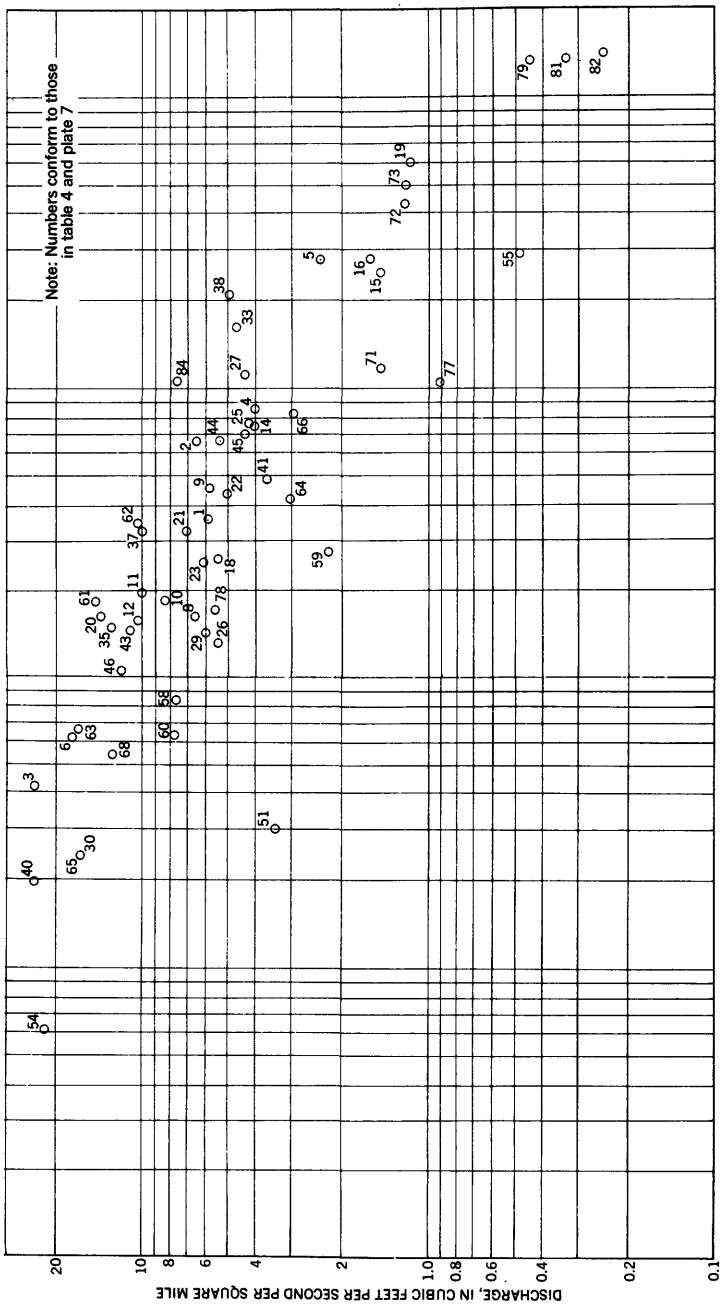

Figure 89.--Relationship of unit discharge to size of drainage basin.

Table 4.--Summary of flood stages and discharges in Utah and Nevada, April-June 1952

[Maximum discharges for floods of April-June 1952 were obtained from gaging-station records except as indicated by the following symbol: A, float measurement; B, slope-area measurement]

No. on pl.	Stream and place of determination	Drainage area (square miles)	Period of record	Maximum flood previously known				Maximum during April-June 1952			
				Date	Gage height (feet)	Discharge (cfs)	Cfs per square mile	Date and hour	Gage height (feet)	Discharge (cfs)	Cfs per square mile
	GREEN RIVER BASIN (UTAH):										
1	Duchesne River near Tabiona----------	352	1919-52	June 13, 1921	--------	[a]2,500	7.10	June 6,10:30 a.m.	6.63	2,060	5.85
2	Duchesne River at Duchesne----------	660	1917-52	June 10, 1922	[a][b]8.65	[a]4,420	6.70	June 7, 5 p.m.---	6.30	4,240	6.42
3	Strawberry River near Soldier Spring---	[c]212	1942-52	Apr. 22, 1950	3.22	[d]458	[d]10.9	May 4, 9 p.m.----	3.84	[d]1,020	[d]24.3
4	Strawberry River at Duchesne----------	[c]1,040	1908-10,1914-52	May 27, 1922	[a][b]7.70	[a][d]3,230	[d]3.71	May 7, 5 p.m.----	[e]5.34	[d]3,490	[d]4.01
5	Duchesne River at Myton----------	2,750	1899-52	June 10, 1922	[a][b]7.94	[a]12,800	4.65	June 8, 5 a.m.---	7.34	6,530	2.38
6	Price River above Scofield Reservoir, near Scofield.	62	1931-32,1938-52	May 19, 1932	[b]3.77	673	10.9	May 14, 12 p.m.--	3.62	1,070	17.3
7	Scofield Reservoir near Scofield-------	163	1926-52	May 21, 1928	7,611.7	[f]56,500	-----	May 31, June 1---	7,621.3	[f]76,450	-----
8	Price River near Scofield----------	163	1917-20,1926-31, 1938-52.	May 24, 1920	[b][g]10.4	1,000	6.13	May 31, 2 p.m.---	4.99	[h]1,070	-----
9	Price River near Heiner----------	455	1934-52	Sept.13, 1940	7.98	9,340	20.5	Apr. 28,12:30a.m.	4.87	2,620	5.76
10	Huntington Creek near Huntington-------	188	1909-52	Aug. 2 or 3, 1950.	[g]7.5	2,500	13.3	June 4, 9:30 a.m.	6.10	1,580	8.40
11	Cottonwood Creek near Orangeville------	200	1909-27,1932-52	Aug. 9, 1941	6.38	2,870	14.4	June 11,7:30 p.m.	4.45	1,990	9.95
12	Ferron Creek (upper station) near Ferron.	157	1911-23,1947-52	July 25, 1920	[a][b]10.00	[a]2,100	13.4	June 3, 3 p.m.---	6.77	1,640	10.4
	GREAT SALT LAKE BASIN (UTAH):										
13	Gages on Great Salt Lake----------	--------	1851-52	1873	4,211.6	-------	-----	June 15----------	4,201.1	-------	-----
	BEAR RIVER BASIN:										
14	Bear River near Evanston, Wyo.---------	715	1913-52	June 14, 1921	6.35	3,690	5.16	May 4, 6 p.m.----	6.50	2,840	3.97
15	Bear River at Border, Wyo.----------	2,490	1937-52	June 9, 1950	8.77	2,900	1.16	May 11, 6 p.m.---	8.89	3,680	1.48
16	Bear River at Harer, Idaho----------	2,780	1913-16,1919-52	June 2, 1920	10.51	3,860	1.39	May 7, 2 p.m.----	11.04	4,440	1.60
17	Logan River above State dam, near Logan, Utah, combined with Utah Power & Light Co. tailrace.	218	1896-1900,1904-52.	May 24, June 8, 1907.	--------	[i]2,450	-----	May 30----------	--------	[k]974	-----

18	Blacksmith Fork above Utah Power and Light Co. dam, near Hyrum, Utah.	260	1913-52	May 15, 1917	b6.5	1,620	6.23	May 4, 1 a.m.----	6.54	1,400	5.38
19	Bear River near Collinston, Utah-------	6,000	1889-52	June 7-10,1909	ab7.70	a11,600	1.93	May 1, 8:30 a.m.-	6.88	7,020	1.17
	WEBER RIVER BASIN (UTAH):										
20	Weber River near Oakley----------	163	1904-52	June 13, 1921	ab9.0	a4,170	25.6	June 7, 8 a.m.---	3.96	2,280	14.0
21	Weber River near Wanship----------	324	1950-52	May 30, 1951	4.73	2,340	7.22	May 5, 4 a.m.----	4.71	2,240	6.92
22	Weber River near Coalville----------	438	1927-52	June 17, 1929	a4.30	a1,960	4.47	May 6, 2 a.m.----	3.59	2,190	5.00
23	Chalk Creek at Coalville----------	253	1927-52	May 25, 1950	3.14	923	3.65	Apr. 28, 6 a.m.--	4.67	1,540	6.09
24	Echo Reservoir at Echo----------	732	1930-52	May 31, 1937	5,560.35	f74,460	-----	June 20, 24, 25--	5,560.2	f74,240	-----
25	Weber River at Echo----------	732	1927-52	May 26, 1950	6.96	h2,580	-----	May 13, 1 p.m.---	7.34	h3,060	-----
26	Lost Creek near Croydon----------	133	1921-23,1941-52	May 10,11,1923	b4.20	770	5.79	May 5, 2 a.m.----	6.87	730	5.49
27	Weber River at Devils Slide----------	1,100	1905-52	May 22, 1920	ab8.0	a6,000	5.45	May 7, 3 a.m.----	8.55	4,810	4.37
28	East Canyon Reservoir near Morgan------	144	1931-52	June 2, 1943	141.67	f29,170	-----	June 24,25-------	140.95	f28,790	-----
29	East Canyon Creek near Morgan----------	145	1931-52	Apr. 23, 1936	--------	hi412	-----	May 4, 3 p.m.----	3.49	h872	-----
30	Hardscrabble Creek near Porterville----	24.9	1941-52	Aug. 20, 1945	3.60	464	18.7	May 4, 3:30 a.m.-	3.66	413	16.6
31	East Canyon Creek below diversion, near Morgan.	-------	1950-52	May 22, 1951	6.18	382	-----	May 8, 8 p.m.----	9.19	926	-----
32	Weber River near Morgan----------	-------	1950-52	May 30, 1951	4.94	2,640	-----	May 6----------	--------	j6,100	-----
33	Weber River at Gateway----------	1,610	1839-1903,1919-52.	May 31, 1896	ab8.80	a7,930	4.96	May 5, 10 p.m.---	9.51	7,600	4.72
34	Weber River at Ogden----------	-------	1950-52	May 7, 1951	6.44	2,340	-----	May 6, 6 a.m.----	10.89	7,070	-----
35	South Fork Ogden River near Huntsville-	148	1921-52	May 4, 1936	5.45	1,780	12.0	May 3, 8:30 p.m.-	5.98	1,890	12.8
36	Pine View Reservoir near Ogden---------	310	1936-52	May 17, 1938	4,873.00	f45,370	-----	June 7-16--------	4,872.00	f44,180	-----
37	Ogden River below Pine View Dam, near Ogden.	321	1937-52	June 7, 1945	6.73	h2,290	-----	May 3, 11:30 p.m.	7.76	h3,190	-----
38	Weber River near Plain City----------	2,060	1904-52	June 6, 1909	a19.1	a7,580	3.68	May 6, 6 a.m.----	19.01	10,100	4.90
	JORDAN RIVER BASIN (UTAH):										
39	Salt Creek at Nephi----------	95.6	1950-52	June 17, 1951	--------	164	1.72	May 2, 8:30 p.m.-	6.04	724	7.57
40	Payson Creek above diversion, near Payson.	19.6	1947-52	May 14, 1948	2.69	194	9.90	May 4, 5 p.m.----	2.99	465	23.7

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Table 4.--Summary of flood stages and discharges in Utah and Nevada, April-June 1952--Continued

No. on pl.	Stream and place of determination	Drainage area (square miles)	Period of record	Maximum flood previously known				Maximum during April-June 1952			
				Date	Gage height (feet)	Discharge (cfs)	Cfs per square mile	Date and hour	Gage height (feet)	Discharge (cfs)	Cfs per square mile
	JORDAN RIVER BASIN--Continued										
41	Spanish Fork at Thistle----------	490	1908-25,1933-52	May 26, 1922	--------	[i]1,250	2.55	May 4, 10 p.m.--	7.96	1,800	3.67
42	Strawberry tunnel at West Portal, near Thistle.	-------	1922-25,1932-52	July 9, 1923	--------	[h,i]595	-----	July 11---------	--------	344	-----
43	Diamond Fork near Thistle----------	146	1908-17,1940-52	Aug. 8, 1949	[b]3.36	766	5.25	May 4, 9 p.m.---	5.18	1,610	11.0
44	Spanish Fork at Castilla----------	670	1919-25,1933-52	May 22, 1920	--------	[i]1,520	2.27	May 3, 11 p.m.--	9.83	3,610	5.39
45	Spanish Fork near Lake Shore----------	700	1903-7,1909-25, 1938-52.	May 11, 1909	--------	[a]1,430	2.04	Apr. 28---------	--------	[a]3,020	4.31
46	Hobble Creek near Springville---------	105	1904-16,1945-52	Apr. 29, 1916	[b]6.40	[a]824	7.85	May 4, 7 p.m.---	[k]6.13	1,250	11.9
47	Provo River near Kamas----------	-------	1949-52	May 27, 1951	3.49	765	-----	June 6, 9 p.m.--	3.09	554	-----
48	Provo River near Hailstone----------	-------	1949-52	May 29, 1951	6.43	2,190	-----	May 15, 6 a.m., May 31,4:30 a.m.	5.72	1,820	-----
49	Deer Creek Reservoir near Charleston--	-------	1940-52	June 19, 1946	5,417.65	[f]154,000	-----	June 24, 25-----	5,417.13	[f]152,900	-----
50	Provo River at Vivian Park----------	600	1911-52	June 11, 1921	--------	[a]3,180	-----	May 9, 12 noon--	7.65	3,050	-----
51	South Fork Provo River at Vivian Park-	30	1911-52	May 27, 1922	[a,b]1.78	[a]123	4.10	May 6,12:15 a.m.	1.90	102	3.40
52	Provo River at Provo----------	-------	1903-5,1933-34, 1937-52.	May 27, 1904	--------	[a]1,620	-----	May 6----------	6.37	2,520	-----
53	Dry Creek near Alpine----------	-------	1947-52	May 27, 1951	[h,m]2.78	[a,m]290	-----	May 3, 4 p.m.---	2.75	292	-----
54	Fort Creek at Alpine----------	6.1	1947-52	Aug. 4, 1951	4.60	246	40.3	May 3, 6 p.m.---	3.55	134	22.0
55	Jordan River at Narrows, near Lehi----	2,960	1913-52	June 8, 1922	[b]7.78	[h,i]1,370	-----	June 10---------	--------	[h,i]1,410	-----
56	Combined discharge of Jordan River and Surplus Canal at Salt Lake City.	-------	1942-52	June 3, 1944	--------	1,190	-----	June 7----------	--------	1,820	-----
	SEVIER LAKE BASIN (UTAH):										
57	San Pitch River near Gunnison---------	-------	1900-1905,1912-18,1952.	Aug. 29, 1905	[a,b]4.15	[a]720	-----	June 5----------	--------	[a]1,330	-----

	BEAVER RIVER BASIN (UTAH):										
58	Beaver River near Beaver	82	1914-52	July 22, 1936	b7.27	1,080	13.2	May 15,7:30 p.m.	4.26	624	7.61
59	Beaver River at Adamsville	272	1913-36,1937-52	July 23, 1941	b4.68	1,090	4.01	June 4,1:30 a.m.	4.45	605	2.22
	WALKER LAKE BASIN (CALIF.):										
60	East Fork West Walker River near Bridgeport.	63	1910, 1944-52	Feb. 2, 1945	2.69	660	10.5	June 7,10:30 p.m.	2.31	490	7.78
61	West Walker River below East Fork, near Coleville.	182	1938-52	Nov. 20, 1950	8.10	6,220	34.2	June 8,12:30 a.m.	5.51	2,650	14.6
	HUMBOLDT-CARSON SINK BASIN:										
	Carson River basin										
62	East Fork Carson River near Gardnerville, Nev.	344	1890-93,1900-1906,1908-10,1917,1924-29,1935-37,1939-52.	Nov. 21, 1950	9.66	12,100	35.2	June 6, 1:30 a.m.	5.40	3,560	10.3
63	West Fork Carson River at Woodfords, Calif.	66	1900-1907,1910-11, 1938-52.	Nov. 20, 1950	g8.35	4,730	71.7	May 20, 7 p.m.	5.29	1,100	16.7
	Humboldt River basin (Nev.):										
64	Marys River above Hot Springs Creek, near Deeth.	415	1943-52	January 1943	bg7.2	1,030	2.48	Apr. 29, 9 a.m.	6.57	1,250	3.01
65	Lamoille Creek near Lamoille	25	1915-23,1943-52	July 6, 1950	--------	m588	23.5	June 5, 8:45 p.m.	--------	415	16.6
66	North Fork Humboldt River at Devils Gate near Halleck.	830	1913-21,1943-52	Mar. 2 or 3, 1921.	b10.35	1,600	1.93	Apr.20,12:30 a.m.	9.63	2,450	2.95
67	Humboldt River near Elko	-------	1895-1902,1944-52.	June 9, 1945	8.96	2,530	-----	Apr. 30, 1 p.m.	9.60	3,860	-----
68	South Fork Humboldt River, near Lee	54	1945-52	May 27, 1951	3.81	935	17.3	June 5, 9 p.m.	3.48	687	12.7
69	Huntington Creek near Lee	-------		May 16, 1949	4.52	532	-----	Apr. 29,3:30 a.m.	6.54	1,210	-----
70	South Fork Humboldt River above Dixie Creek, near Elko.	-------	1949-52	May 28, 1951	5.12	1,240	-----	Apr. 29, 1 p.m.	5.46	1,540	-----
71	South Fork Humboldt River near Elko	1,150	1896-1922,1923-32,1936-52.	Jan. 26, 1914	b10.0	2,400	2.09	Apr. 29,2:30 p.m.	5.37	1,700	1.48
72	Humboldt River near Carlin	4,310	1943-52	February 1943	9.8	5,900	1.37	May 1, 1:20 p.m.	9.35	5,220	1.21
73	Humboldt River at Palisade	5,010	1902-6,1911-52	Feb. 26, 1943	9.92	6,250	1.25	May 2, 2:30 a.m.	9.53	6,050	1.21

Table 4.--Summary of flood stages and discharges in Utah and Nevada, April-June 1952--Continued

No. on pl.	Stream and place of determination	Drainage area (square mile)	Period of record	Maximum flood previously known				Maximum during April-June 1952			
				Date	Gage height (feet)	Discharge (cfs)	Cfs per square mile	Date and hour	Gage height (feet)	Discharge (cfs)	Cfs per square mile
	Humboldt River basin--Continued										
74	Pine Creek near Palisade	-------	1912-14,1946-52	Jan. 25, 26, 1914.	p4	785	-----	Mar. 27, 7 p.m.	4.69	1,010A	-----
75	Rock Creek near Battle Mountain	-------	1918-25,1927-29, 1946-52.	Feb. 11, 1921	5.54	2,240	-----	Apr. 7, 5 p.m.	5.60	3,000	-----
76	Humboldt River at Comus	-------	1917-23,1925-26, 1946-52.	June 24-25, 1921.	ab10.9	o2,700	-----	May 6, 9 p.m.	11.52	5,860	-----
77	Little Humboldt River near Paradise Valley.	1,030	1921-28,1943-52	Feb. 2, 1952	7.71	1,100	1.07	Apr. 8, 10 a.m.	7.40	950B	.92
78	Martin Creek near Paradise Valley	172	1921-52	Jan. 21, 1943	b11.1	9,000	52.3	Apr. 6, 7 p.m.	5.55	955	5.55
79	Humboldt River near Inlay	13,500	1935-41,1945-52	May 31,June 1, 1945.	10.49	2,220	.16	May 9, 11:30 p.m.	12.15	6,080	.45
80	Rye Patch Reservoir near Rye Patch	13,700	1936-52	Apr. 9, 1946	4,134.62	f196,900	-----	May 15, 16	4,132.50	f173,700	-----
81	Humboldt River near Rye Patch	13,700	1896-1922,1924-32,1935-41, 1943-52.	May 12, 1897	b12.0	3,050	.22	May 11, 12	10.26	k4,720	-----
82	Humboldt River near Lovelock	14,200	1912-27,1950-52	May 29,30,1922	b5.90	1,700	.12	May 19,10:30 a.m.	9.36	3,540	.25
	PYRAMID AND WINNEMUCCA LAKES BASIN:										
83	Truckee River near Truckee, Calif	565	1944-52	Nov. 20, 1950	7.62	q6,480	141	June 5, 8 p.m.	5.08	k2,640	-----
84	Truckee River at Reno, Nev	1,070	1906-19,1947-52	Nov. 21, 1950	r13.55	s19,900	36.1	May 3, 2 a.m.	9.39	k7,950	-----

a Maximum observed.
b Site and datum then in use.
c Includes 170 sq mi above Strawberry Reservoir.
d From drainage area below Strawberry Reservoir; area above the reservoir not contributing.
e Maximum gage height, 5.63 ft 11:30 p.m. May 3, discharge 2,780 cfs.
f Contents, in acre-feet.
g From floodmark.
k Affected by regulation.
i Mean for the day.
j Probably exceeded.
k Maximum gage height, 6.20 ft 8:30 p.m. May 2, discharge 1,240 cfs.
m Exceeded by flood of Aug. 3, 1951, which destroyed gaging station.
n May have been exceeded by flood of June 1917.
p Gage height, about 4 ft, site and datum then in use, from statement by observer water over top of gage.
q From 46 sq mi below Lake Tahoe.
r Gage height of 13.83 ft (variable slope) occurred Nov. 21, 1950.
s From 551 sq mi below Lake Tahoe.

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