

ELEVENTH ANNUAL REPORT

BEAR RIVER
COMMISSION

1968



For the Report Year October 1, 1967 to
September 30, 1968

LOGAN, UTAH

April 1, 1969

IN MEMORIAM



LAWRENCE B. JOHNSON

**Commissioner from Utah
Bear River Compact Commission
1948-58
Bear River Commission, 1958-68**



BEAR RIVER COMMISSION

P. O. BOX 413
LOGAN, UTAH

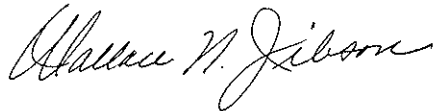
April 1, 1969

Mr. President:

Submitted herewith is the Eleventh Annual Report of the Bear River Commission, as required by Article III D 2 of the Bear River Compact.

A copy of the report is being transmitted to the Governor of each signatory State to the Bear River Compact.

Very truly yours,

A handwritten signature in cursive script, reading "Wallace N. Jibson".

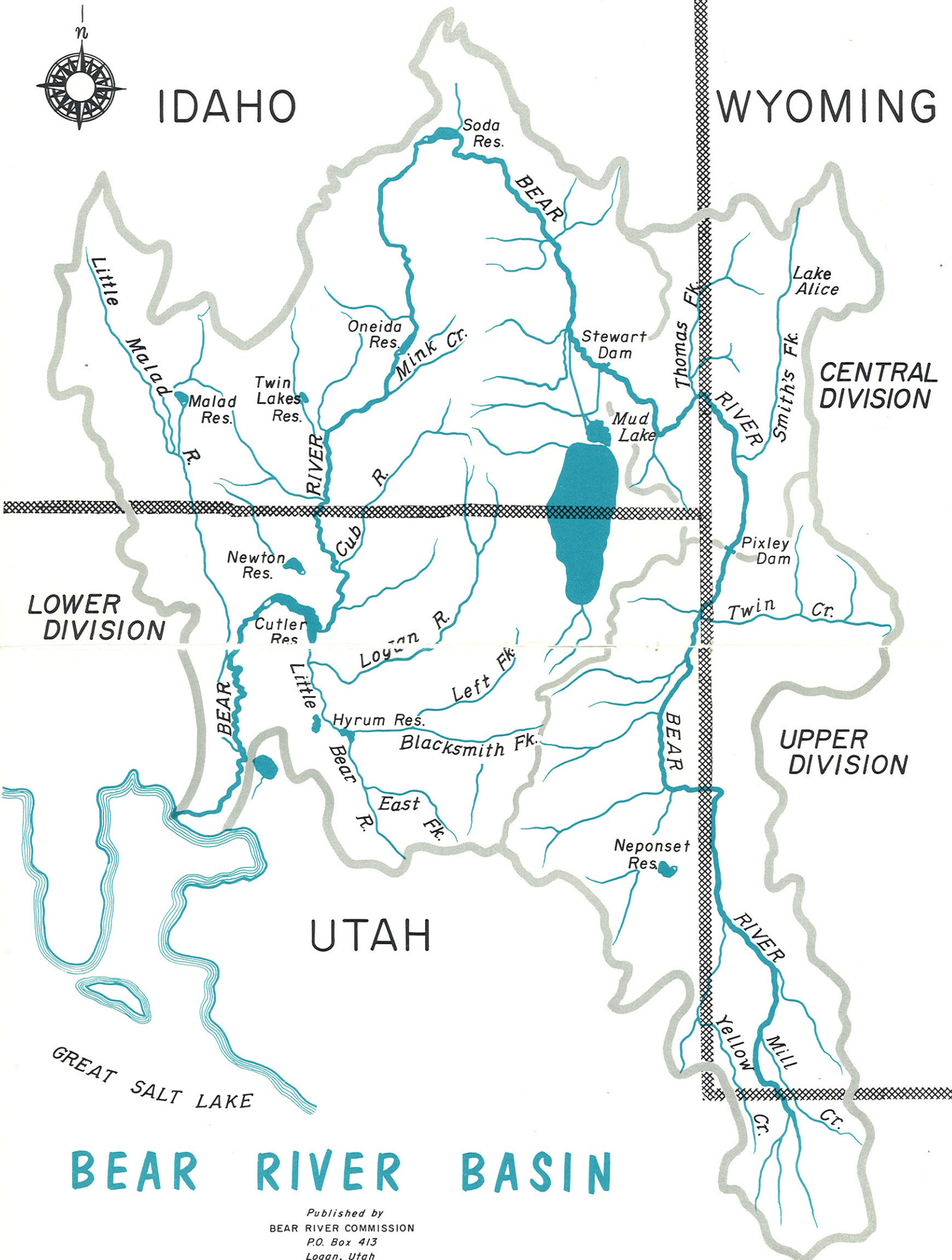
Wallace N. Jibson
Assistant Secretary

The President
The White House
Washington, D. C.



IDAHO

WYOMING



LOWER DIVISION

CENTRAL DIVISION

UPPER DIVISION

UTAH

GREAT SALT LAKE

BEAR RIVER BASIN

Published by
BEAR RIVER COMMISSION
P.O. Box 413
Logan, Utah

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ELEVENTH ANNUAL REPORT of the BEAR RIVER COMMISSION

April 1, 1969

INTRODUCTION

The Bear River Compact determines the rights and obligations of the signatory States of Wyoming, Idaho, and Utah with respect to the waters of Bear River. Federal consent to the Compact was given by the Congress and signed by the President, March 17, 1958. The Bear River Commission was organized as an interstate agency to administer the Compact.

Article III D 2 of the Compact provides that the Bear River Commission shall compile annually a report covering the work of the Commission for the water year ending the previous September 30 and transmit it to the President of the United States and to the Governors of the signatory States on or before April 1 of each year.

Activities of the Bear River Commission during the water year ending September 30, 1968 are summarized in this report. Financial report of the auditors and daily streamflow records are shown in the appendixes.

ORGANIZATION

Ten commissioners, three representing each State and one the United States, constitute the Bear River Commission. The Federal representative serves as Chairman without vote.

Members of the Commission and others associated with the Bear River Compact were grieved to hear of the passing in September 1968 of Lawrence B. Johnson, Randolph, Utah. Commissioner Johnson served more than ten years as the upper basin representative from Utah in negotiations leading to the Compact and has served for the past eleven years in its administration. Gordon Peart, Randolph, was appointed to fill this vacancy on the Commission.

Members expressed their appreciation to Jay R. Bingham for his many years of efficient and dedicated service as Secretary-Treasurer to the Commission and as Chairman of the Utah delegation. By statute, it was necessary to release Mr. Bingham after he was elected to serve as Executive Director of the Department of Natural Resources and later to serve in the same capacity with the Western States Water Council. Daniel F. Lawrence succeeded Mr. Bingham in both positions on the Bear River Commission. S. Reed Dayton was elected to serve a second term as Vice-Chairman of the Commission.

OFFICERS

ChairmanE. O. Larson, Salt Lake City, Utah
Vice-Chairman.....S. Reed Dayton, Cokeville, Wyoming
Secretary-TreasurerDaniel F. Lawrence, Bountiful, Utah
Assistant SecretaryWallace N. Jibson, Logan, Utah

MEMBERS

Idaho

Cecil FosterWhitney, Idaho
Ferris M. KunzMontpelier, Idaho
Stephen L. SmithMalad, Idaho
R. Keith Higginson (Ex officio)Boise, Idaho

Utah

Daniel F. Lawrence.....Bountiful, Utah
Lawrence B. JohnsonRandolph, Utah
Grover R. HarperCorinne, Utah

Wyoming

Floyd A. BishopCheyenne, Wyoming
S. Reed DaytonCokeville, Wyoming
J. W. MyersEvanston, Wyoming

United States

E. O. LarsonSalt Lake City, Utah

Budget

Grover R. HarperCorinne, Utah
J. W. MyersEvanston, Wyoming
Ferris M. KunzMontpelier, Idaho

Operations

Cecil FosterWhitney, Idaho
Lawrence B. JohnsonRandolph, Utah
S. Reed DaytonCokeville, Wyoming

MEETINGS

Two meetings were held during the report year in accordance with the bylaws as follows:

Regular Meeting—December 18, 1967.....Salt Lake City, Utah
 Annual Meeting—April 15, 1968.....Salt Lake City, Utah

BUDGET AND FISCAL DISBURSEMENTS

Adopted Budget

	<i>Fiscal Year Ending 6-30-1968</i>	<i>Fiscal Year Ending 6-30-1969</i>	<i>Total Biennium Ending 6-30-1969</i>
Compact Administration			
Personal Services	\$ 4,779	\$ 5,250	\$ 10,029
Travel and Subsistence	600	400	1,000
General Office Expense.....	429	370	799
Fiscal and Administrative.....	257	270	527
Washington Office Tech. Charge.....	585	610	1,195
Printing and Reproduction.....	500	500	1,000
Treasurer (Bond and Audit).....	300	300	600
Transcribing Minutes	150	100	250
Legal Retainer Fee	300	300	600
Miscellaneous	100	0	100
Sub-Total	\$ 8,000	\$ 8,100	\$ 16,100
Stream-Gaging Program			
U.S. Geological Survey	\$54,785	\$60,954	\$115,739
Total	\$62,785	\$69,054	\$131,839

Allocation of Budget

U. S. Geological Survey.....	\$27,685	\$30,954	\$ 58,639
State of Idaho	11,700	12,700	24,400
State of Utah	11,700	12,700	24,400
State of Wyoming	11,700	12,700	24,400
Total	\$62,785	\$69,054	\$131,839

All disbursements of Commission funds are made by check on vouchers signed by the Secretary-Treasurer, and approved and countersigned by the Chairman or Vice-Chairman.

The audit of accounts and records, including balance sheet of June 30, 1968 and statement of budget revenue and appropriation accounts for the fiscal year ended June 30, 1968, are included in this report as appendix A.

STREAM-GAGING PROGRAM

A cooperative, basin-wide program of stream gaging is administered by the Geological Survey project engineer at Logan, Utah. The Geological Survey and Bear River Commission contribute equally to finance the collection of daily streamflow records at about 50 gaging stations. An additional eight gaging stations in the basin are operated by Utah Power & Light Company in connection with Federal Power Commission projects. Streamflow records of significance to the Commission are published herein as appendix B.

A supporting program of \$3,000 annually for stream gaging in cooperation with Utah Water Research Laboratory was discontinued June 30, 1968. One gaging station, Little Bear River at Wellsville, and two canal stations near Wellsville were discontinued because of the termination of this program.

ADMINISTRATION OF BEAR RIVER COMPACT

Provisions of the Compact are administered and enforced by direction of Bear River Commission. However, water rights within each State are adjudicated and administered in accordance with State law subject to limitations provided in the Compact.

Cooperative stream-gaging agreements with the Geological Survey include a program of administrative and technical assistance to the Commission financed without matching Federal funds. This program is directed by the Geological Survey project engineer at Logan where the project office is also the principal office of the Commission.

The project engineer is Assistant Secretary to the Commission with responsibility of providing technical assistance and current streamflow information required to administer the Compact. He establishes operational procedures, conducts hydrologic studies, compiles annual reports, and maintains the records of the Commission.

Seasonal daily records were collected on about 130 diversions above Bear Lake by district water commissioners under the general supervision of the Geological Survey. These records include all of the diversions from Bear River main stem and Smiths Fork, as they are required to administer the Bear River Compact. Daily discharge records for canals in the Central Division (see frontispiece map) are listed in tables 1-5; those in the Upper Division are not published herein but are maintained in the Commission file.

Expenses incurred by the Bear River Commission are paid equally by the signatory States. Compensation and expenses of the Federal representative, each commissioner, and each adviser are paid by the Government which he represents.

WATER SUPPLY

Total irrigation season supply above Bear Lake exceeded a long-time average by about six percent with cold weather delaying the snowmelt runoff nearly a month later than usual. High runoff in June, particularly from the Uintah watershed, is noted in the bar graphs on the opposite page.

The trend of recent years for Smiths Fork to yield comparatively less runoff than Bear River main stem continued in 1968 with seasonal runoff of 82 percent and 128 percent respectively. Late snowmelt tended to offset the below-average runoff from Smiths Fork, and adequate supplies were available for irrigation. Storage demand from reservoirs above Bear Lake was light with Woodruff Narrows and Sulphur Creek Reservoirs carrying a large holdover into the 1969 storage period.

Monthly and yearly runoff in 1968 at three representative gaging stations is compared with a longtime average in the bar graphs of figure 1 and is summarized for the irrigation season and water year in the tables below. Runoff at two of these stations is the major supply to the Upper and Central Divisions so it is plotted also on daily hydrographs in figures 2 and 3.

Runoff in Acre-feet May-September

	Average 1943-68	1967	1968
Upper Bear River	114,800	155,300	146,700
Smiths Fork	106,700	129,100	87,200
Logan River	117,700	141,400	113,400

Water Year

	Average 1943-67	1967	1968
Upper Bear River	136,900	176,200	169,600
Smiths Fork	138,600	157,200	120,400
Logan River	177,000	189,600	172,000

Bear Lake operation is illustrated in figure 4 in which is shown by bar graphs a comparison of 1968 with the longtime average of inflow, outflow, and gain. Hydrographs of content and surface elevation for the past two years are shown in figure 5. Late snowmelt resulted in a larger part of the high water being used for irrigation and a proportionately smaller part reaching Bear Lake. Hydrographs in figure 5 show the small gain accumulating to the Lake with a seasonal peak of 5,921.23 feet in elevation (1,251,000 acre-ft), almost 120,000 acre-feet less than the peak in 1967. However, irrigation requirement on Bear Lake storage was alleviated by August storms, and end-of-season content was only slightly less than in 1967.

Bear Lake Elevation Utah Power & Light Co. Datum

<i>Water Year</i>	<i>Beginning of Water Year</i>	<i>End of Storage Period</i>	<i>End of Water Year</i>
1966	5,921.83	5,921.92	5,918.29
1967	5,918.29	5,922.92	5,920.36
1968	5,920.36	5,921.23	5,920.02

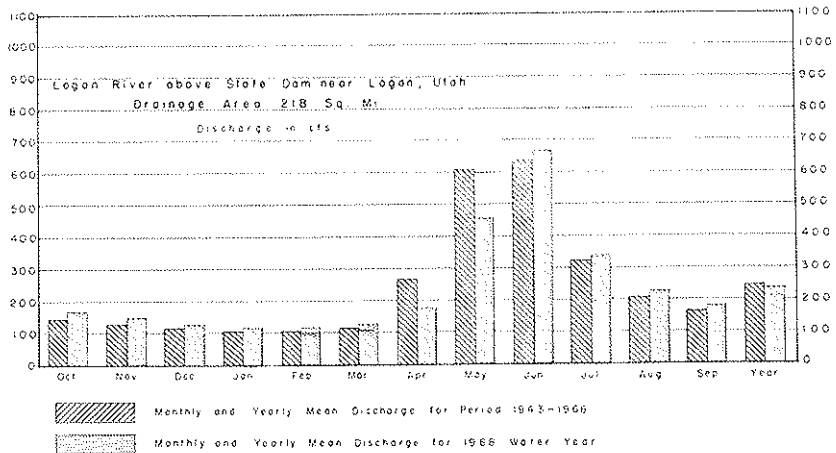
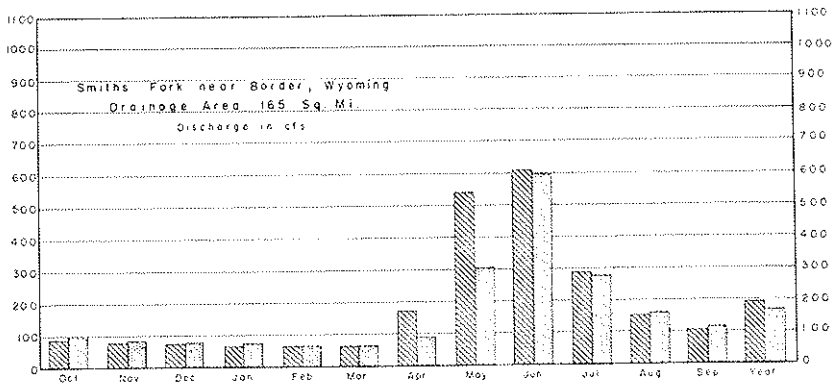
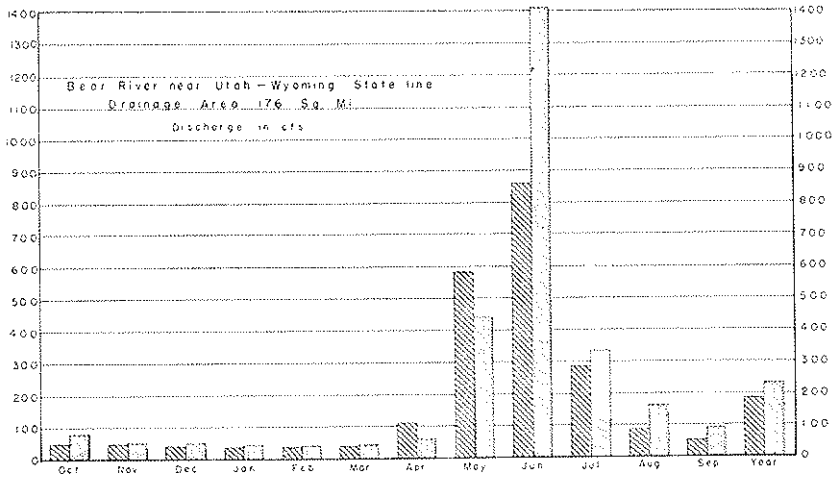
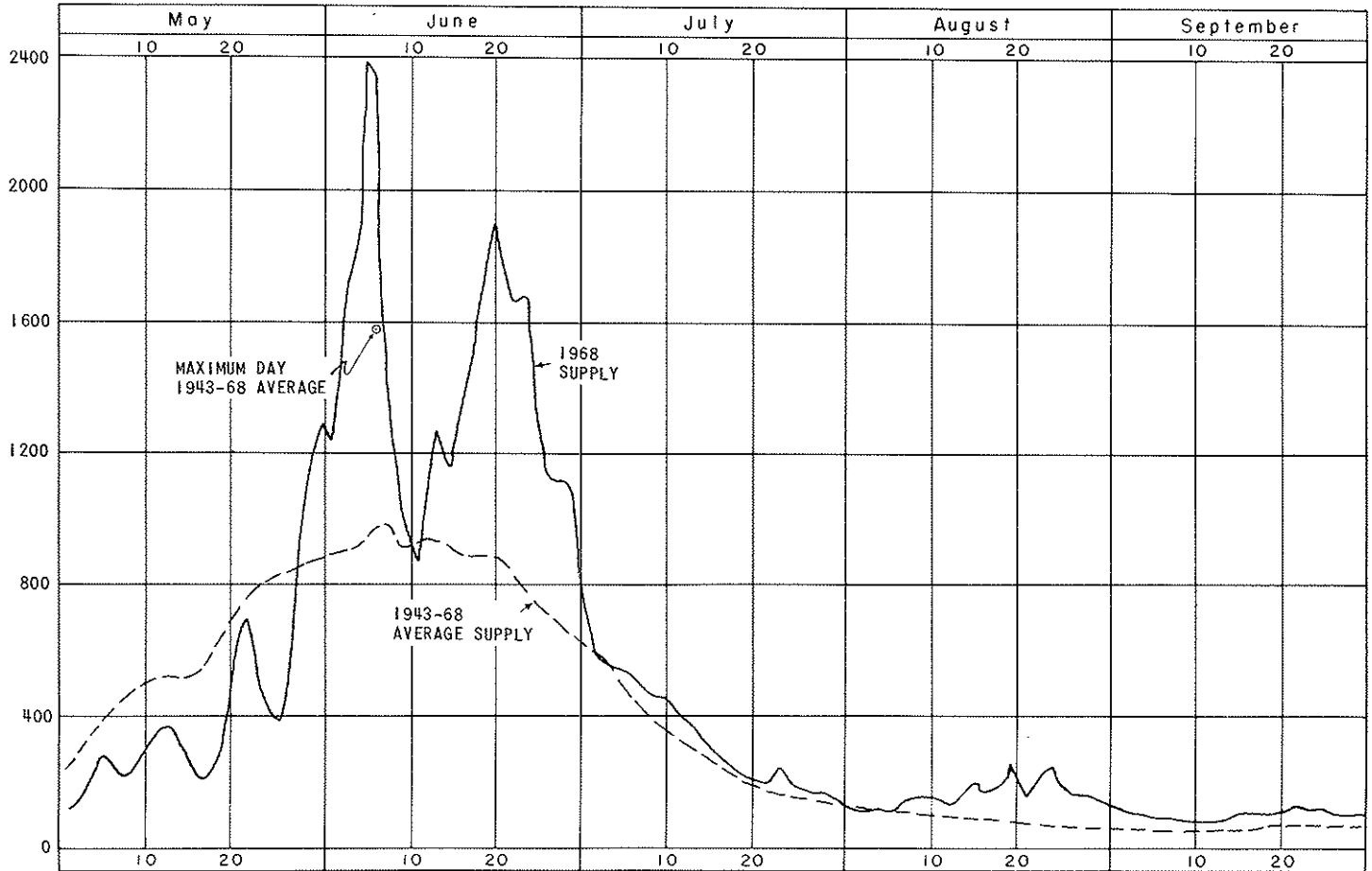


Figure 1 Comparison of discharge at three representative gaging stations in 1968 with average discharge for period 1943-68

UPPER DIVISION - BEAR RIVER SUPPLY *

CUBIC FEET PER SECOND

14

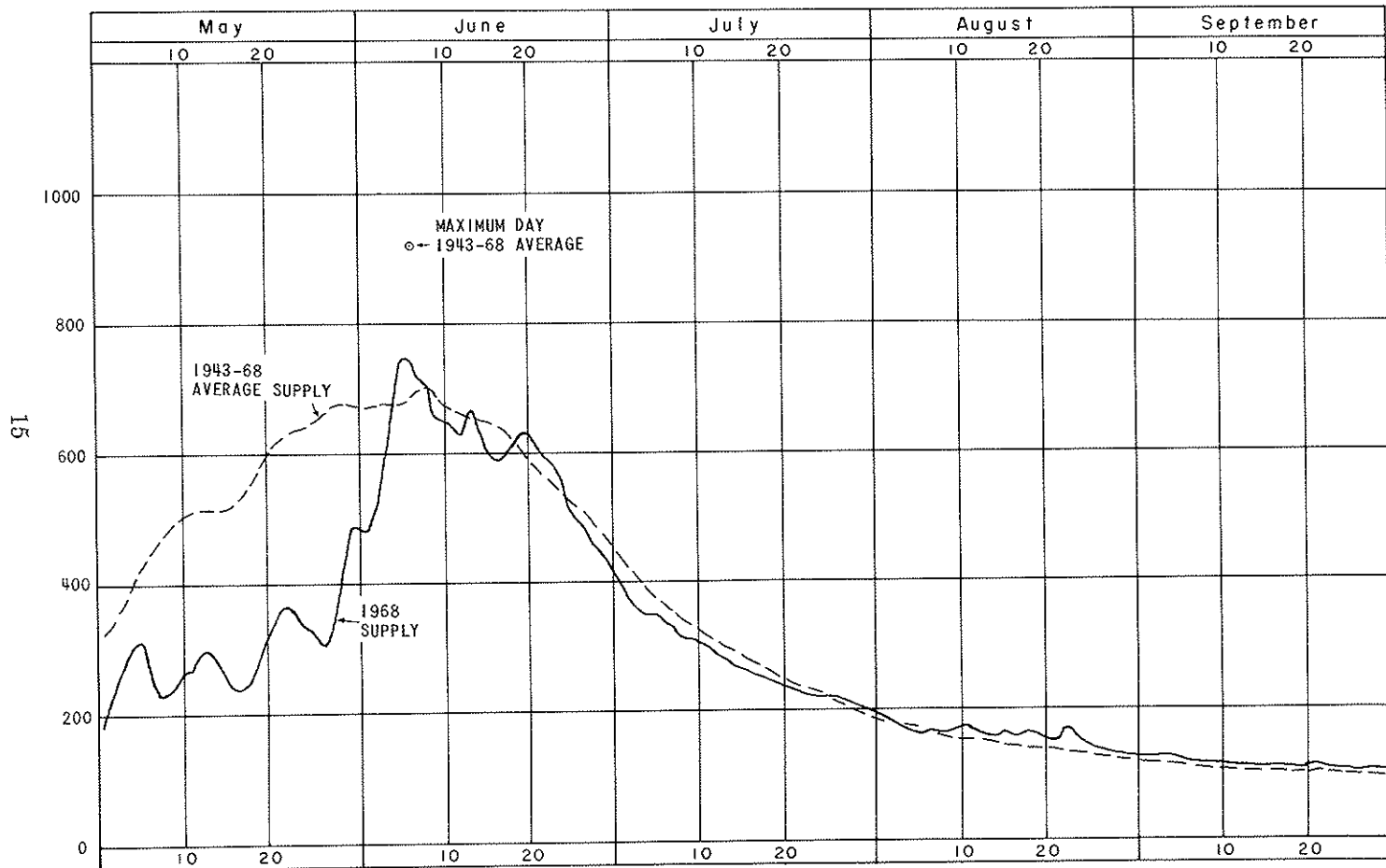


*Bear River near Utah-Wyoming State Line

Figure 2

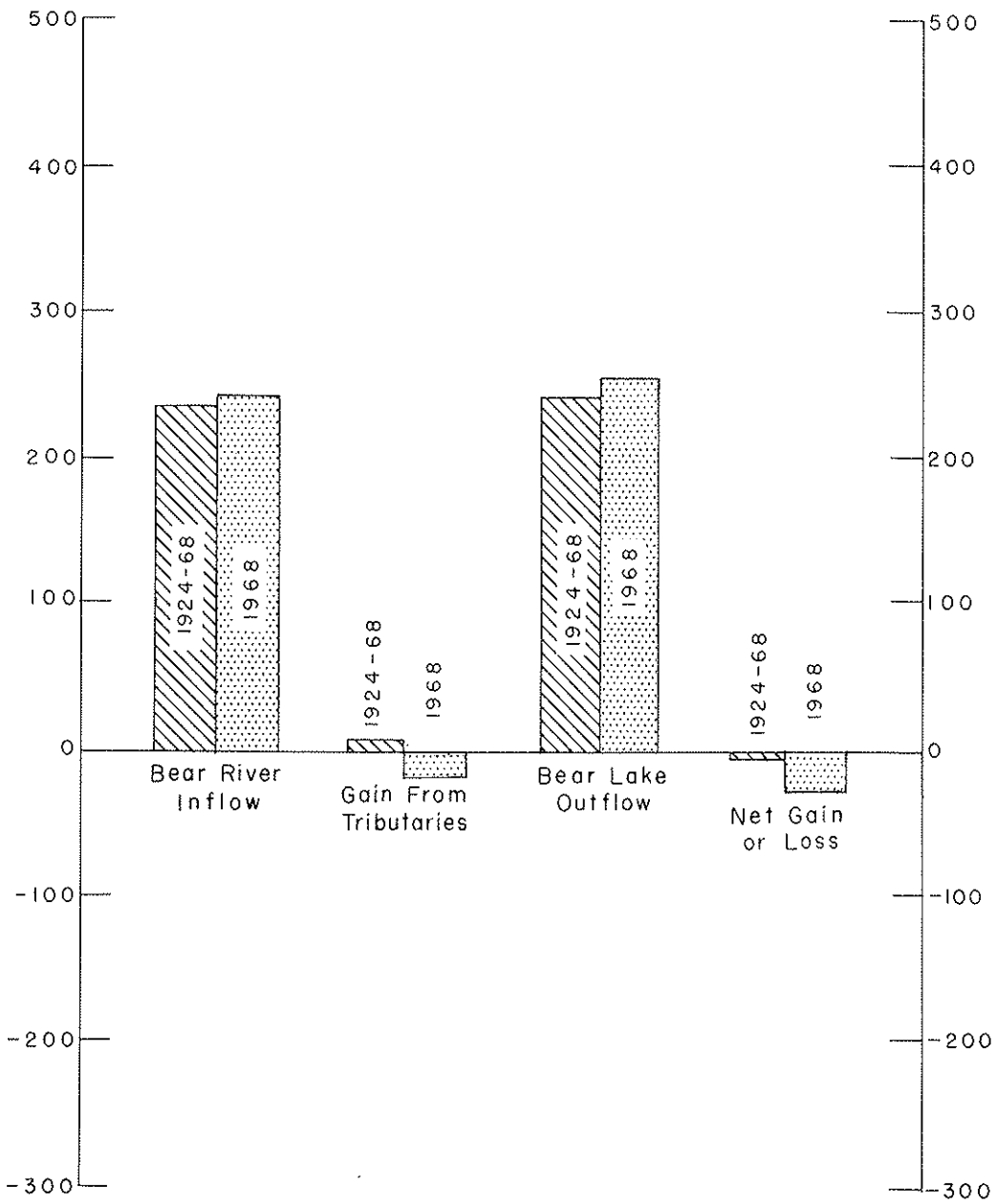
CENTRAL DIVISION - SMITHS FORK SUPPLY *

CUBIC FEET PER SECOND



* Smiths Fork near Border, Wyoming

Figure 3



B E A R L A K E

Annual Quantities in Thousands of Acre-Feet

Figure 4

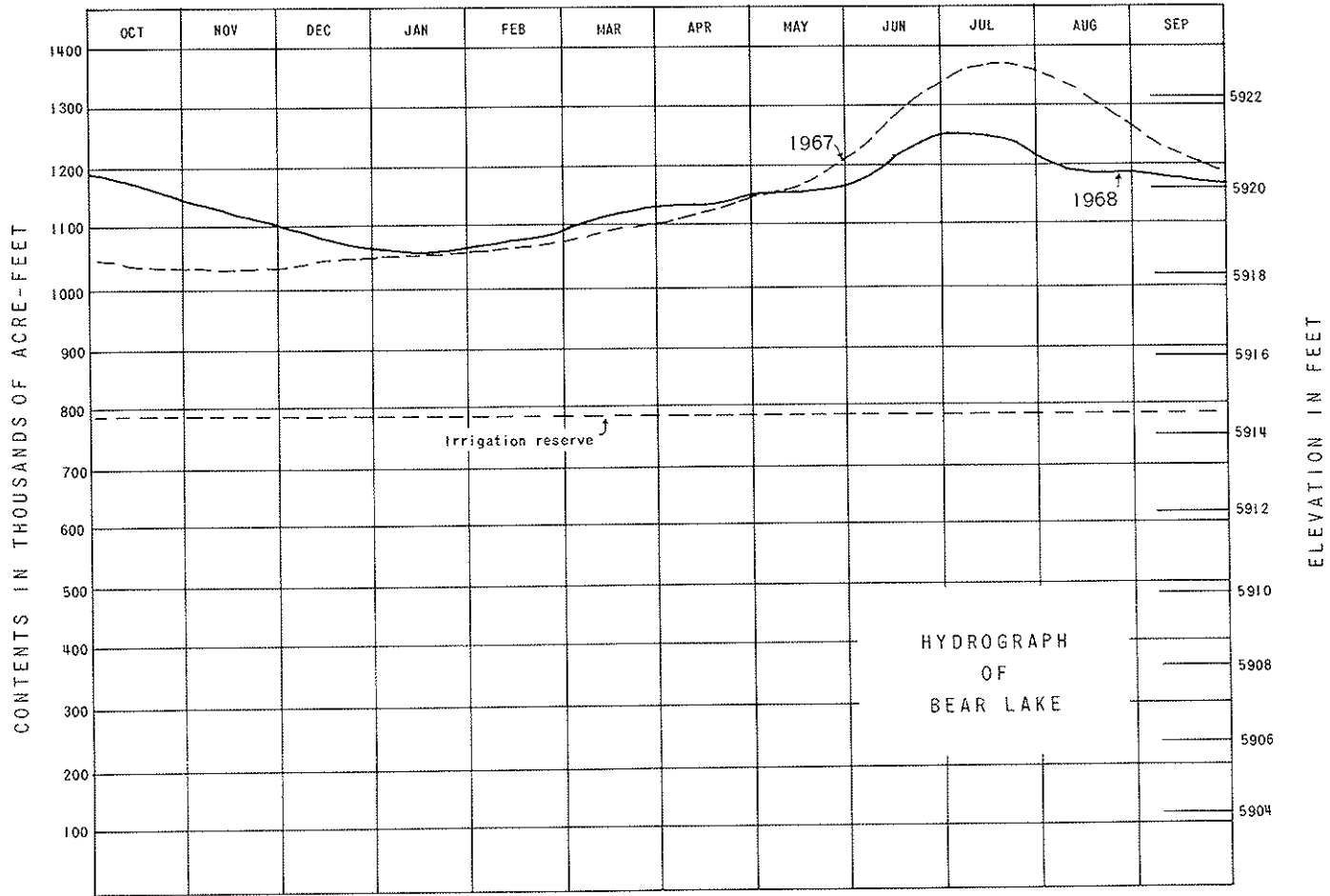


Figure 5

STREAMFLOW DISTRIBUTION

Records of diversions from Bear River main stem above Bear Lake and from Smiths Fork were collected by district water commissioners and submitted weekly to the Assistant Secretary. He computed section diversions and allocations and informed these district commissioners and members of the Commission of the quantities diverted and of State-section allocations, where applicable, for the regulatory action needed to comply with the Compact.

Upper Division

The Upper Division comprises that part of the basin above and including Pixley Dam and includes two sections in Wyoming and two in Utah. The Compact provides that when the total diversions in the division plus the flow passing Pixley Dam is less than 1,250 cfs (divertible flow), a water emergency exists and such divertible flow is allocated to sections as follows:

Upper Utah Section Diversions	0.6 percent
Upper Wyoming Section Diversions	49.3 percent
Lower Utah Section Diversions	40.5 percent
Lower Wyoming Section Diversions	9.6 percent

Interstate regulation in years such as 1968 when water supply is above average usually is not required during the critical part of the irrigation season in areas where meadow hay is predominant. Also after about July 10, Upper Wyoming Section allocation is increased under terms of the Compact by the unused allocation (9.6 percent) to Lower Wyoming Section.

For instance, in the Upper Division (see figure 6) a water emergency, as defined above, existed May 1-27 and after July 16 for the balance of the season. The first period was not significant in Upper Wyoming as the normal rate of diversion was small, and in the later period the allocation included the increase from Lower Wyoming. Therefore, a normal rate of diversion throughout the season did not exceed compact allocation. Sulphur Creek Reservoir storage accounted for the apparent excess in diversions in August.

Diversion and Compact allocation hydrographs for the lower sections of this division are shown in figure 7 and 8. Lower Utah Section (figure 7) exceeded Compact allocation from May 11 through the balance of the water emergency period in May. The effect of the excess diversion was noted in Lower Wyoming Section (figure 8) from May 19 through 27 when this section had insufficient supply to divert its allocation. This situation commonly occurs for a few days prior to high water, but past experience has shown that regulation in Utah is quite impractical because of the time lag in flow movement between the sections and the necessary delay in computing allocations for a particular day or short period of time. Nothing is gained by regulation during this short period of delay while the increasing supply is filling Utah canals before it reaches Lower Wyoming Section.

About 11,000 acre-feet of stored water was released from Woodruff Narrows Reservoir in July and early August of which about 8,000 acre-feet was utilized in Utah prior to July 17. The remainder was not needed in Utah or Lower Wyoming Section so left the division through Pixley Dam.

UPPER DIVISION - UPPER WYOMING SECTION

CUBIC FEET PER SECOND

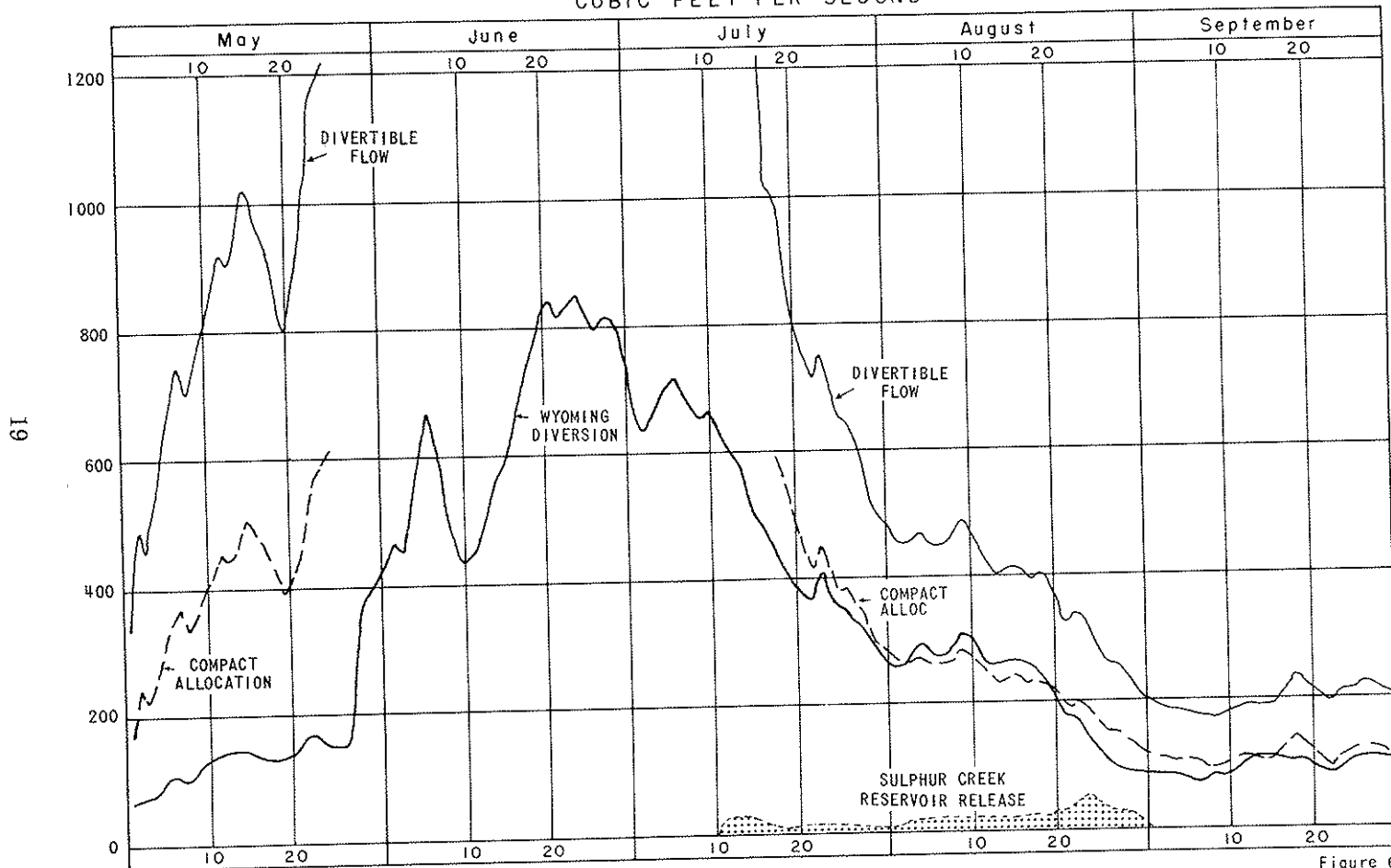


Figure 6

UPPER DIVISION - LOWER UTAH SECTION

CUBIC FEET PER SECOND

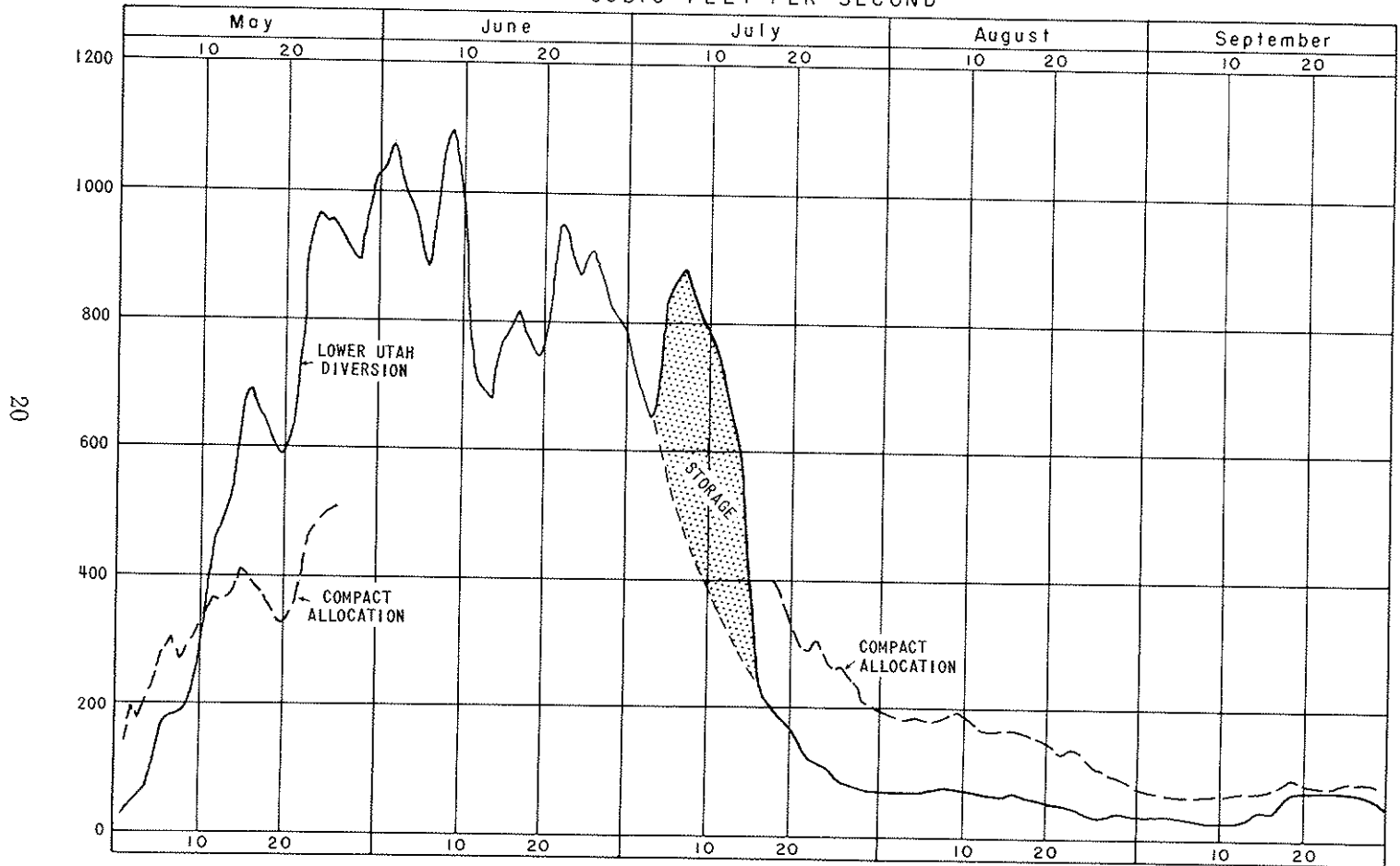


Figure 7

UPPER DIVISION - LOWER WYOMING SECTION

CUBIC FEET PER SECOND

21

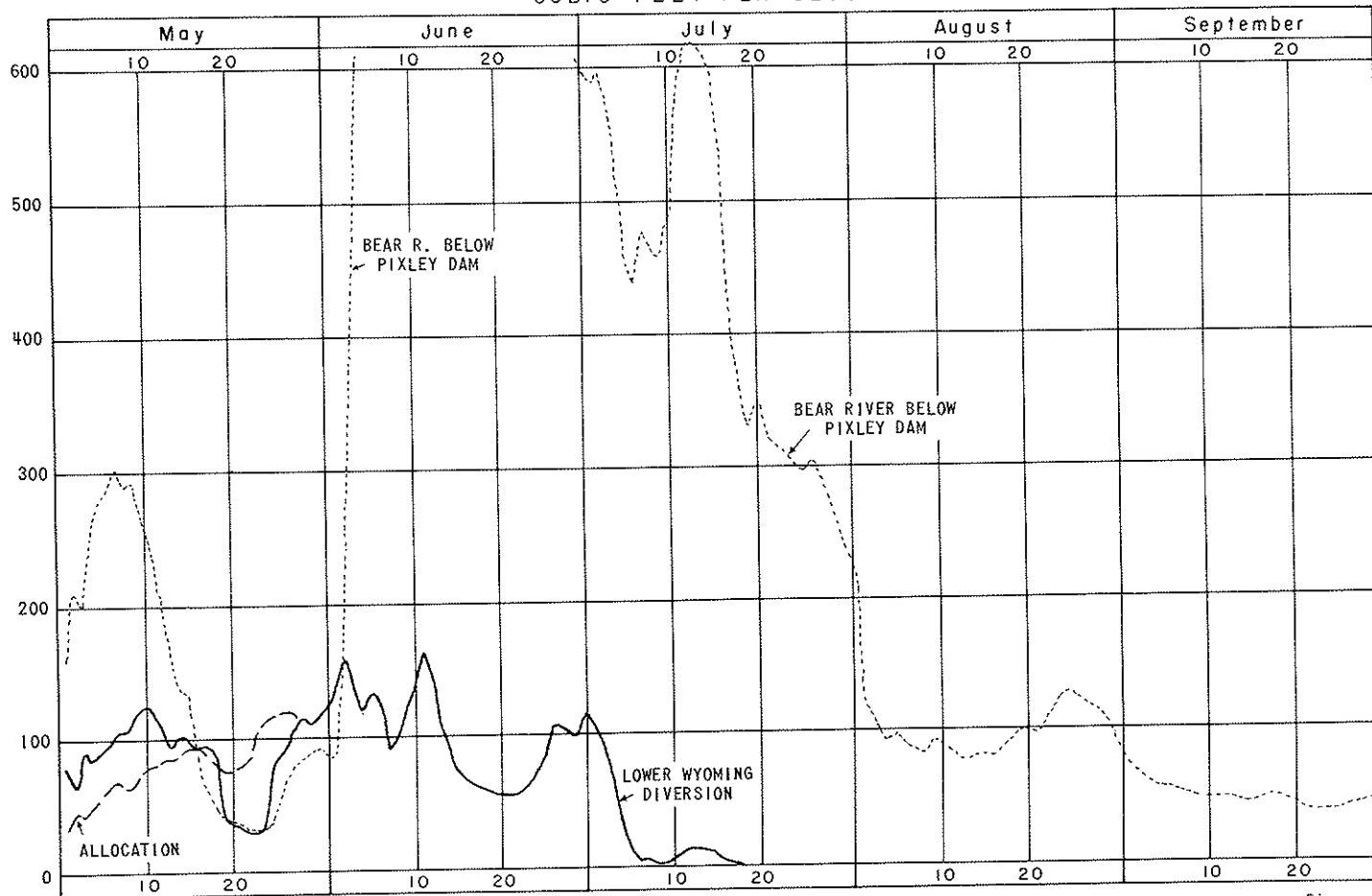


Figure 8

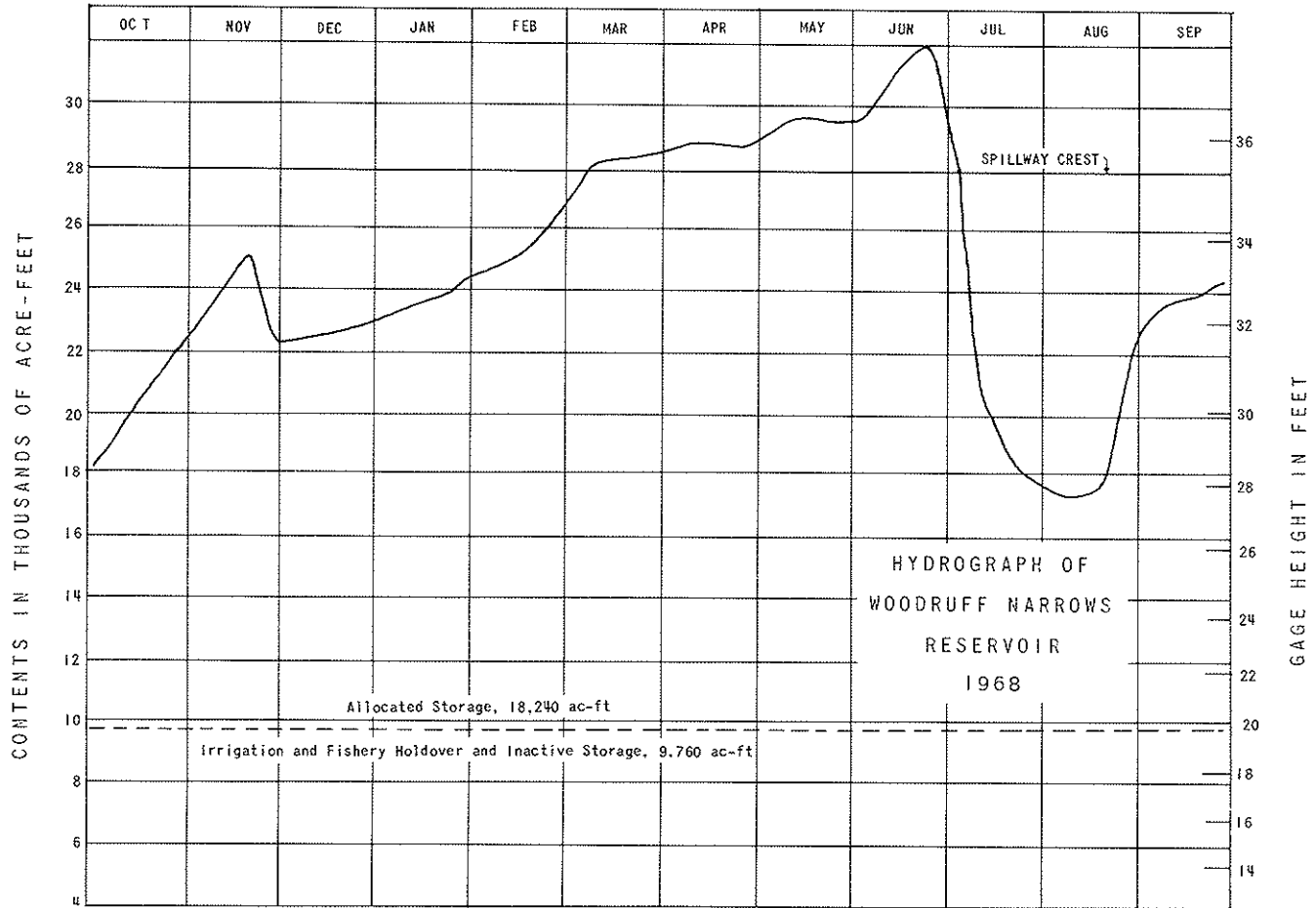


Figure 9

Central Division

The Central Division comprises that part of the basin from Pixley Dam down to and including Stewart Dam (the point of diversion to Bear Lake). It includes a section in Wyoming and one in Idaho.

Divertible flow in the Central Division is the sum of diversions from Smiths Fork and designated tributaries, diversions from Bear River in the division, and flow passing Stewart Dam. A water emergency shall exist when this divertible flow is less than 870 cfs, or when Bear River entering Idaho (gaging station at Border) is discharging less than 350 cfs. Wyoming diversions are limited to 43 percent of the divertible flow during a water emergency.

Hydrographs pertaining to Wyoming Section in the Central Division are shown in figure 10 in which the divertible flow is seen to be less than 870 cfs. during most of May and again after July 20. Bear River entering Idaho was below 350 cfs the latter part of May and after July 23. Wyoming diversions were below compact allocations during both periods of regulation, and for the most part, compliance was secured with a normal rate of diversion. This would be unusual with supply from Smiths Fork 18 percent below average, but the shortage was offset by late runoff and above-average runoff from Bear River main stem as is reflected in the inflow to the division (Bear River below Pixley Dam, figure 8).

Idaho Section in this division was adequately supplied and during June and July bypassed large quantities to Bear Lake. (See figure 11.) Total diversion for irrigation in Idaho generally is less than the allocation because divertible flow includes that water leaving the division via Rainbow Inlet Canal to Bear Lake.

Effectiveness of interstate regulation in the dry years of 1961 and 1966 is indicated in the following table by the small spread in diversion rate per acre in the two sections. In good years with less restriction, the Wyoming rate is much higher and reflects the greater requirement of gravelly soils.

	<i>Diversion in acre-feet per acre May-September</i>							
	1961	1962	1963	1964	1965	1966	1967	1968
Wyoming	2.16	5.82	5.06	4.48	4.96	3.32	4.78	4.02
Idaho	1.72	3.26	3.28	2.91	2.87	2.95	3.05	3.39

Lower Division

Authority is given the Commission upon its own motion to declare a water emergency in any division, and in the Lower Division such a declaration may be made also upon petition of an aggrieved Utah user against an Idaho user. Upon declaration of an emergency, the Commission is required to enforce water-delivery schedules based on priority of rights without regard to State lines.

No petitions were filed with the Commission or water emergencies declared in the Lower Division in 1968.

Interstate Tributaries

An aggrieved user on an interstate tributary may petition for declaration of water emergency and distribution of flow under direction of the Commission. Interstate arbitration on tributaries was not requested in 1968.

STORAGE

New Storage

The Compact defines storage rights in existing reservoirs above Bear Lake and provides for an additional storage allowance of 36,500 acre-feet annually. Idaho users on Thomas Fork are allotted 1,000 acre-feet of this amount and the remainder is divided equally between Wyoming and Utah.

Hydrograph of Woodruff Narrows Reservoir, figure 9, shows that more than 7,000 acre-feet was diverted to storage in August and September. This storage during the irrigation season ordinarily would have been in violation of certain direct-flow irrigation rights below Bear Lake and thus in violation of Article V of the Compact. August storms however, resulting in large inflow to Woodruff Narrows Reservoir, eliminated irrigation demand on Bear Lake until mid-September and developed more than 35,000 acre-feet surplus to irrigation needs at Cutler Dam. Thus, it is unlikely that any direct-flow rights were affected in this instance, but care should be exercised in releasing during the irrigation season the natural inflow to all Compact reservoirs.

The reservoirs shown below have been constructed under additional storage provisions of the Compact and all were filled to capacity in 1968. A total allocation to Woodruff Narrows Reservoir for storage of 18,240 acre-feet includes 15,240 acre-feet from Utah and 3,000 acre-feet from Wyoming.

<i>Reservoir</i>	<i>Allocation</i>
Sulphur Creek Reservoir (Wyoming).....	4,614 ac-ft
Sulphur Creek Reservoir Enlargement (Wyoming).....	1,100 ac-ft
J. L. Martin Reservoir, Sulphur Creek (Wyoming)	88 ac-ft
A. J. Barker Reservoir, Yellow Creek (Utah)	162 ac-ft
Hatch Brothers Reservoir (Utah)	350 ac-ft
Woodruff Narrows Reservoir (Utah-Wyoming)	18,240 ac-ft
Whitney Reservoir (Wyoming)	4,200 ac-ft
Wyman Reservoir (Wyoming).....	22 ac-ft
Total Allocation	28,776 ac-ft

Bear Lake

Article V of the Compact provides an irrigation reserve level in Bear Lake below which water shall not be released solely for generation of power, except in emergency, but after release for irrigation it may be used in generating power as it is conveyed to irrigation di-

version works. The reserve is to be increased by designated amounts as additional storage, under terms of the Compact, is developed above Bear Lake. The most recent increase in the reserve level was made by resolution adopted December 5, 1966 whereby the irrigation reserve elevation was set at 5,914.41 feet (781,500 acre feet) corresponding to 25,000 acre-feet of additional storage allocation. Bear Lake hydrograph, figure 5, shows the lake surface was above the reserve level during the 1968 water year.

APPLICATIONS FOR APPROPRIATION

Article X of the Compact states, "Applications for appropriation, for change of point of diversion, place and nature of use, and for exchange of Bear River water shall be considered and acted upon in accordance with the law of the State in which the point of diversion is located, but no such application shall be approved if the effect thereof will be to deprive any water user in another State of water to which he is entitled. The official of each State in charge of water administration shall, upon the filing of an application affecting Bear River water, transmit a copy thereof to the Commission."

The Commission was informed that a copy of only one application pertaining to Woodruff Creek Reservoir had been received by the Commission. This application was for 2,000 acre-feet of compact-allocated storage and was presented to the Commission October 23, 1961. Additional change rights to enable storage of 3,600 acre-feet annually now have been submitted to the Commission and do not involve water allocated by the Compact.

A few applications were submitted to pump noteworthy quantities from ground water for irrigation in Lincoln County, Wyoming and Bear Lake and Caribou Counties in Idaho. The proposed Lincoln County development near Smiths Fork will be studied by the Commission to determine if the wells should be included under compact allocation as diversions from Smiths Fork.

Many applications for ground-water development are submitted to the Commission each year. Most of these applications are in Utah in the Lower Division so could not affect an existing user in a lower State. Yet pumping also is becoming more extensive above Bear Lake, and the Commission continues to be concerned with respect to Article X of the Compact which prohibits approval of an application if it will affect rights in another State.

Hydrologic studies of ground water in the Wyoming portion of Bear River basin indicate quantities of water sufficient for irrigation are available in the unconsolidated sediments underlying the basin. Only a small amount of this supply is now being used, but the effect on streamflow and established rights in other States eventually will need to be determined as underground withdrawal increases.

CENTRAL DIVISION - WYOMING SECTION

CUBIC FEET PER SECOND

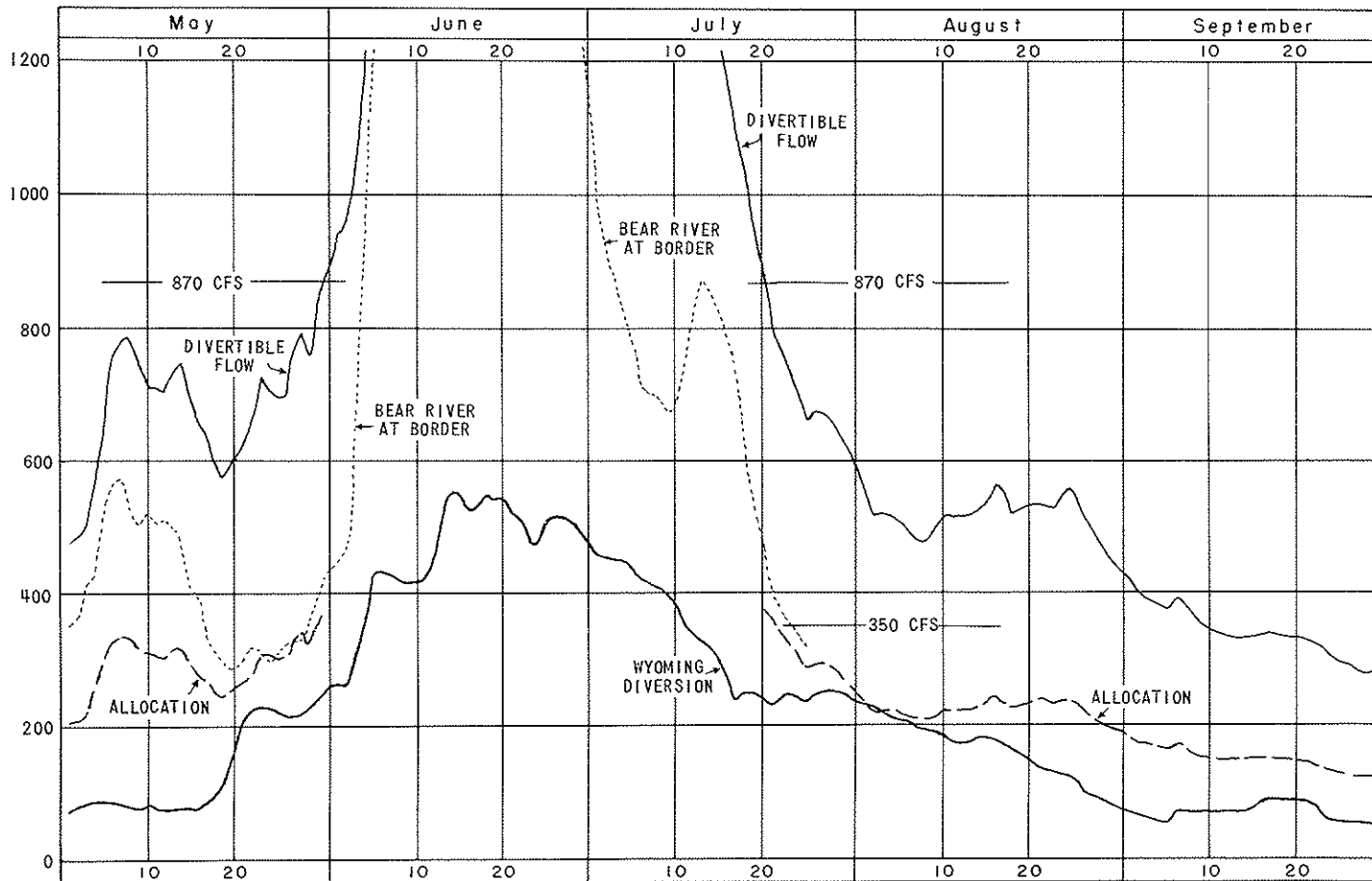


Figure 10

CENTRAL DIVISION-IDAHO SECTION

CUBIC FEET PER SECOND

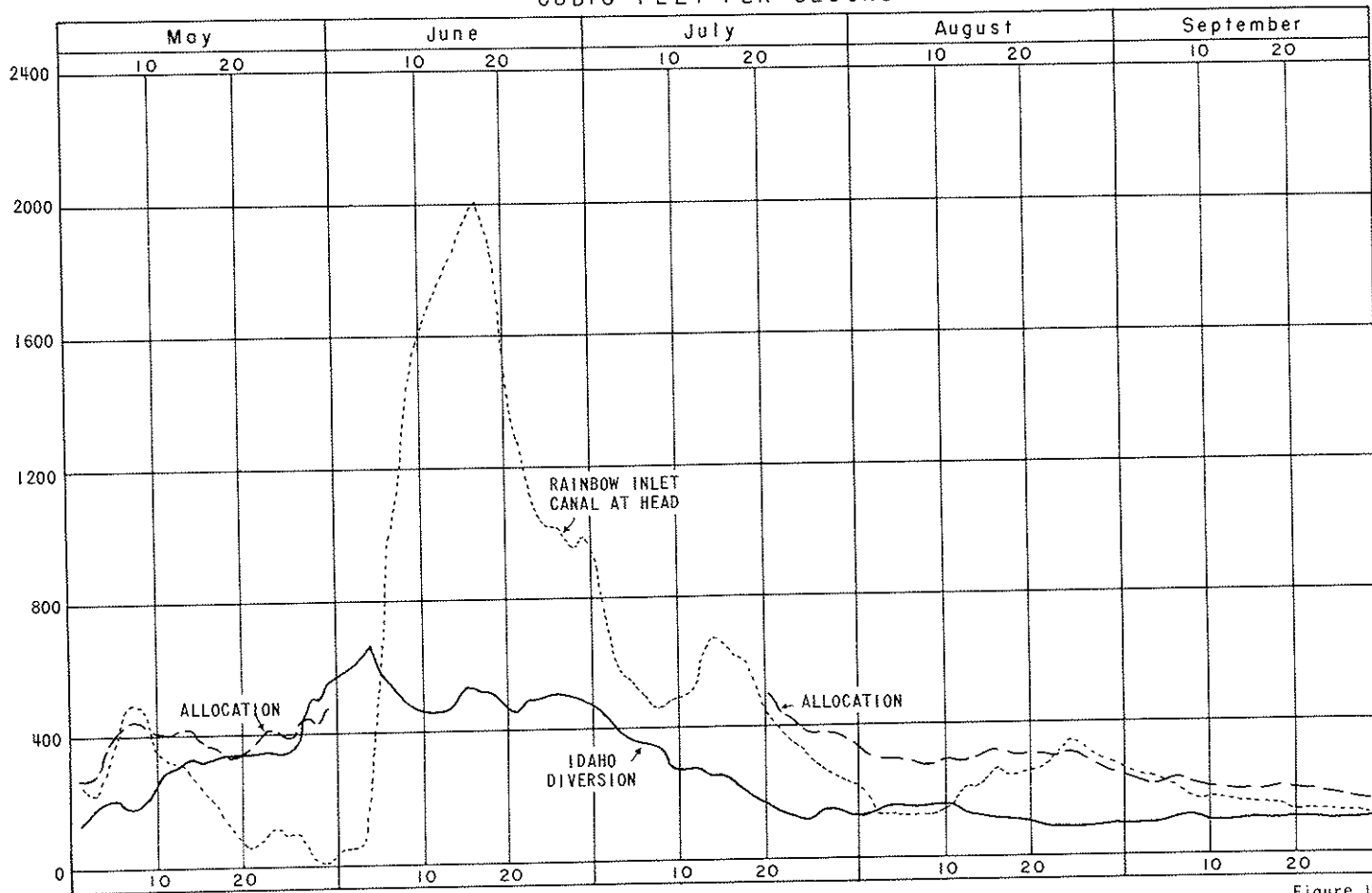


Figure 11

APPENDIX A

WM. DEAN KIMBER CERTIFIED PUBLIC ACCOUNTANT

4315 SOUTH 3720 WEST
SALT LAKE CITY, UTAH 84120

MEMBER
AMERICAN INSTITUTE OF
CERTIFIED PUBLIC ACCOUNTANTS

January 18, 1969

Bear River Commission
Utah State Capitol
Salt Lake City, Utah

Gentlemen:

In accordance with your instructions, I have examined the fiscal and accounting records of the Bear River Commission for the fiscal year ended June 30, 1968 and I now submit the report of my examination.

My examination included a review of the financial transactions, and examination of the statement of revenue and expenditures for the year and budget estimates and related expenses as included in the minutes of Commission meetings held April 17, 1967 and December 18, 1967 and as revised in the meeting of April 15, 1968.

I confirmed the funds available at June 30, 1968 by direct correspondence with the depository. My examination was conducted in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as I considered necessary in the circumstances. All cash receipts have been properly accounted for and all disbursements were duly authorized. Expenditures for operations were made directly by the United States Geological Survey and are included in detail in this report. Administrative expenses in the amount of \$1,153.66 were disbursed by the Salt Lake City office.

The results of my examination are presented herewith and include comments and explanations as appropriate in the following described statements.

Exhibit "A" -Statement of Revenue and Expenditures for the fiscal year ended June 30, 1968.

Exhibit "B" -Statement of Available Revenue and Appropriations thereof for the fiscal year, showing balances unexpended at June 30, 1968.

Schedule "A-1" -Statement of Expenditures--Stream-gauging Program, Allocated to the United States Geological Survey and to the Bear River Commission.

GENERAL COMMENTS

The Bear River Compact is a tri-state agreement between Wyoming, Idaho, and Utah for the utilization and development of the waters of the Bear River. The Commission was organized April 5, 1958 and the by-laws were adopted April 26, 1958. The Commission is the administrative agency which carries out the provisions of the Bear River Compact. Three Commissioners from each of the three represented states, plus one non-voting Commissioner representing the United States, constitutes the ten member Commission. The United States representative acts as Chairman. All expenses of the Commission are shared by the three states on an equal basis.

The Commission enters into an annual agreement with the United States Geological Survey, Department of the Interior, for the operation and maintenance of gauging stations. Expenses for the gauging station program are shared equally by the Commission and the Geological Survey. Other expenses attributable to the Commission are paid by the Commission whether the expense is incurred by the Geological Survey or the Salt Lake Office. Detail of the expenses incurred under the agreement are shown in Schedule "A-1"

In my opinion, the accompanying statements of revenue and expenditures and supplemental statement of budget appropriations and related disbursements present fairly the cash position of the Bear River Commission at June 30, 1968, and the results of the financial transactions for the period then ended in conformity with generally accepted accounting principles applied on a consistent basis.

Yours very truly,

W. H. Kimber

BEAR RIVER COMMISSION
Statement of Revenue & Expenditures
For the Fiscal Year Ended June 30, 1968

<u>REVENUE:</u>			
State of Wyoming		\$11,700.00	
State of Idaho		11,366.67	
State of Utah		<u>11,366.66</u>	
			\$34,433.33
 <u>EXPENDITURES:</u>			
Commission's portion of direct expenses of the stream-gauging program, Schedule "A-1"			
Personal services	\$24,632.00		
Travel and subsistence	2,343.00		
General office	2,230.00		
Fiscal and administration	1,345.00		
Washington office charges	<u>3,050.00</u>		
Total--Schedule "A-1"		\$33,600.00	
 Administrative expenses			
Auditing fee	\$ 200.00		
Legal consultant	300.00		
Transcript of minutes	70.00		
Printing annual report	498.66		
Insurance bond	50.00		
Supplies	<u>35.00</u>		
		<u>1,153.66</u>	<u>34,753.66</u>
 <u>EXCESS OF EXPENDITURES OVER REVENUE FOR</u>			
<u>THE FISCAL YEAR ENDED JUNE 30, 1968</u>			(320.33)
 <u>FUNDS AVAILABLE AT JULY 1, 1967</u>			<u>6,783.29</u>
 <u>FUNDS AVAILABLE AT JULY 1, 1968</u>			<u>\$ 6,462.96</u>
 Expenditures as above			\$34,753.66
Expenditures incurred through stream-gauging program allocated to and paid direct by United States Geological Survey			<u>27,685.00</u>
 Total expenditures as per Exhibit "B"			<u>\$62,438.66</u>

BEAR RIVER COMMISSIONStatement of Available Revenue and Appropriation Thereof
For the Fiscal Year Ended June 30, 1968

<u>Cash Revenues:</u>	<u>Expected Revenue & Expenditures as Budgeted*</u>	<u>Actual Revenue & Expenditures</u>	<u>Balance or (Deficit) Budget</u>
Balance of Funds- June 30, 1967	\$ 6,783.29	\$ 6,783.29	\$ -0-
Revenue Receipts			
State of Wyoming	11,700.00	11,700.00	-0-
State of Idaho	11,700.00	11,366.67	(333.33)**
State of Utah	11,700.00	11,366.66	(333.34)**
Subtotal	\$41,883.29	\$41,216.62	\$ (666.67)
<u>FUNDS FURNISHED BY UNITED STATES</u>			
<u>GEOLOGICAL SURVEY DIRECT</u>	27,685.00	27,685.00	-0-
<u>Total Funds Available</u>	\$69,568.29	\$68,901.62	\$ (666.67)
<u>Appropriations:</u>			
Stream-gauging--Schedule "A-1"	\$54,785.00	\$54,785.00	\$ -0-
Personal services	4,779.00	4,961.00	(182.00)
Travel and subsistence	600.00	475.00	125.00
Fiscal and administrative	257.00	257.00	-0-
Washington office service	585.00	585.00	-0-
Office and supplies	429.00	222.00	207.00
Annual report	500.00	498.66	1.34
Treasurer's bond and audit	300.00	250.00	50.00
Transcript of minutes	150.00	70.00	80.00
Legal retainer fee	300.00	300.00	-0-
Miscellaneous	100.00	35.00	65.00
	\$62,785.00	\$62,438.66	\$ 346.34
Unappropriated at July 1, 1967	6,783.29	-0-	6,783.29
Subtotal	\$69,568.29	\$62,438.66	\$ 7,129.63
<u>BALANCE</u>	\$ -0-	\$ 6,462.96	\$ 6,462.96
<u>FUNDS AVAILABLE AT JUNE 30, 1968</u>		\$ 6,462.96	\$ 6,462.96

*As revised April 15, 1968.

**These amounts are offset by excess payments in fiscal year 1967 when it was intended the total assessment would be increased by \$1,000.00 to meet added anticipated costs. Since all states were not able to contribute the increased amount, the excess payment made by Utah and Idaho was credited against fiscal year 1968 assessments.

BEAR RIVER COMMISSION

Statement of Expenditures--Stream-Gauging Program
Allocated to the United States Geological Survey and to the
Bear River Commission for the Fiscal Year Ended June 30, 1968

	<u>Allocable Expenditures</u>			<u>Charged Direct to Bear River Commission</u>	<u>Total Expenses to Bear River Commission</u>
	<u>Total</u>	<u>U.S.G.S. 50%</u>	<u>Bear River Commission 50%</u>		
Personal services	\$39,927.00	\$20,256.00*	\$19,671.00	\$ 4,961.00	\$24,632.00
Travel and subsistance	3,736.00	1,868.00	1,868.00	475.00	2,343.00
General office	4,016.00	2,008.00	2,008.00	222.00	2,230.00
scal and administra- tion	2,176.00	1,088.00	1,088.00	257.00	1,345.00
Washington office	<u>4,930.00</u>	<u>2,465.00</u>	<u>2,465.00</u>	<u>585.00</u>	<u>3,050.00</u>
Totals	<u>\$54,785.00</u>	<u>\$27,685.00</u>	<u>\$27,100.00</u>	<u>\$ 6,500.00</u>	<u>\$33,600.00</u>

*Unequal distribution of personal services arose because of a supplemental Federal appropriation for salary increases during the fourth quarter.

APPENDIX B

GAGING STATION RECORDS

Records of streamflow for State line and other key stations are included herein. The record consists of description of the station and a table showing the daily discharge in cubic feet per second and monthly and yearly runoff in acre-feet for the 1968 water year.

The description of the station gives the location, drainage area, records available, type and history of gage, average discharge, extremes of discharge, general remarks, and a statement of cooperation where applicable. This is essentially the same information published in annual water-supply papers of the Geological Survey.

In the monthly summary below the daily table, the line headed "Total" gives the sum of the daily figures; it is the total second-foot-days for the month. The line headed "Mean" gives the average flow in cubic feet per second (second-feet) during the month. Quantities for the month are expressed in acre-feet (line headed "Ac-ft").

Records included herein have been collected by the U. S. Geological Survey through cooperative agreement with the Bear River Commission and by the Utah Power & Light Company.

BEAR RIVER BASIN

10-112. West Fork Bear River at Whitney Dam site, near Oakley, Ut.

Location.--Lat 40°50'30", long 110°55'20". In NE1 sec. 7, T.1 N., R.3 E., on left bank, 1,480 ft below Whitney Dam, 7 miles upstream from Bear Creek, 21.8 miles northwest of Oakley.

Drainage area.--74.8 sq mi, approximately.

Records available.--October 1953 to September 1966. Prior to October 1953 pitlined as "at Whitney Dam site".

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

Hyposes.--Maximum discharge during year, 84 cfs June 11 (gage height, 2.70 ft); minimum gage, 1.2 cfs Jan. 8-11.

1953-54: Maximum discharge, 1.8 cfs June 15, 1954 (gage height, 1.95 ft); no flow July 24 to Sept. 30, Nov. 16-29, 1954.

Remarks.--Records good. Flow regulated by Whitney Reservoir (capacity 4,800 acre-ft).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1966

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	1.7	1.3	1.3	1.3	1.3	1.3	1.3	1.8	25	3.4	2.1
2	1.8	1.7	1.3	1.3	1.3	1.3	1.3	1.3	1.8	20	3.4	2.2
3	1.9	3.9	1.3	1.3	1.3	1.3	1.3	1.3	49	19	3.4	2.1
4	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.3	72	16	4.1	2.2
5	1.9	1.3	1.3	1.3	1.3	1.3	1.3	1.3	74	18	3.7	2.2
6	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.3	74	16	3.2	2.3
7	1.9	1.3	1.3	1.3	1.3	1.3	1.3	1.3	74	18	3.1	2.3
8	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.3	76	14	3.8	2.2
9	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.3	73	14	2.6	2.1
10	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.4	73	16	3.4	2.1
11	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.5	60	13	3.2	2.4
12	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.5	19	12	3.0	2.0
13	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.5	19	11	3.4	1.9
14	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.5	19	8.6	3.4	3.0
15	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.5	20	6.7	4.5	3.0
16	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.5	20	6.0	3.7	3.0
17	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.5	20	6.8	4.2	3.0
18	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.5	20	6.3	5.1	3.0
19	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.5	16	6.0	7.1	3.0
20	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.5	14	5.7	6.7	3.0
21	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.5	14	6.3	4.3	3.0
22	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.5	24	6.3	5.3	3.4
23	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.5	26	6.3	6.6	3.4
24	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.5	26	6.3	6.9	3.4
25	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.5	47	6.1	6.1	3.0
26	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.6	38	6.2	4.3	3.0
27	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.6	31	6.5	3.7	3.0
28	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.7	28	6.3	3.5	3.0
29	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.6	28	4.8	5.2	3.0
30	1.8	1.3	1.3	1.3	1.3	1.3	1.3	1.6	26	3.9	1.5	3.0
31	1.7	1.3	1.3	1.3	1.3	1.3	1.3	1.6	-	3.6	1.7	-
TOTAL	559	76.0	40.3	39.3	37.7	40.3	39.0	46.4	1,136.6	313.3	125.2	645.1
MEAN	18.0	2.60	1.30	1.27	1.20	1.30	1.30	1.50	37.3	10.1	4.04	21.5
MAX	19	17	1.3	1.3	1.3	1.3	1.3	1.8	76	23	7.1	3.0
MIN	1.2	1.3	1.3	1.2	1.3	1.3	1.3	1.3	1.9	2.6	1.3	2.1
AG-FT	1,110	158	80	78	75	80	77	92	2,250	621	246	1,260
CAL YR 1967	TOTAL 2,407.51		MEAN 6.00	MAX 74	MIN 1.2	AG-FT 4,770						
WER YR 1966	TOTAL 3,009.4		MEAN 5.47	MAX 76	MIN 1.2	AG-FT 6,160						

BEAR RIVER BASIN

10-115. Bear River near Utah-Wyoming State Line.

Location.--Lat 40°56', long 110°51', in SE $\frac{1}{4}$ sec.30, T.3 N., R.10 E., on left bank just downstream from West Fork, 2.8 miles upstream from Utah-Wyoming State line.

Drainage area.--176 sq mi.

Records available.--July 1942 to September 1968.

Gage.--Water-stage recorder. Altitude of gage is 7,965 ft (from river-profile map).

Average discharge.--26 years, 189 cfs (136,800 acre-ft per year).

Extremes.--Maximum discharge during year, 2,980 cfs June 6 (gage height, 3.79 ft); minimum, 24 cfs Apr. 23, 1942-68; Maximum discharge, that of June 6, 1968; maximum gage height, 4.27 ft June 6, 1957; minimum determined, 16 cfs Apr. 11, 1951, Nov. 5, 1954, Nov. 1, 1955, Oct. 30, 1956.

Remarks.--Records good except those for winter months, which are fair. Two diversions above station for irrigation of about 200 acres above and 2,600 acres below station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	76	55	43	43	46	68	120	1,250	614	134	111
2	35	76	46	45	43	48	66	148	1,430	576	105	100
3	74	70	52	43	43	47	58	182	1,736	569	108	96
4	79	65	55	43	43	48	61	232	1,810	546	120	51
5	96	55	55	43	43	47	56	285	2,400	541	111	69
6	104	53	50	43	43	47	59	267	2,300	534	133	69
7	93	55	47	40	43	48	55	216	1,390	495	162	65
8	85	56	47	46	43	45	53	232	1,230	478	155	61
9	83	52	41	46	43	48	51	280	1,030	444	152	78
10	76	58	46	46	43	46	58	320	930	457	155	74
11	76	53	44	45	43	46	68	362	659	414	136	76
12	74	58	41	42	44	50	78	379	1,040	402	125	79
13	74	58	40	44	47	51	72	379	1,270	374	149	74
14	76	58	43	45	44	51	59	346	1,200	335	172	104
15	76	56	46	44	44	51	66	276	1,180	305	190	114
16	74	56	50	44	44	50	70	240	1,310	276	169	106
17	76	52	45	43	45	48	65	224	1,450	254	169	102
18	76	50	43	42	42	50	61	244	1,610	236	176	96
19	76	56	42	44	42	48	58	305	1,740	220	262	91
20	74	55	42	45	42	50	61	471	1,910	208	186	104
21	74	56	45	44	44	50	58	670	1,730	196	159	122
22	74	46	47	41	44	50	55	710	1,660	196	186	117
23	74	53	50	41	45	48	53	527	1,670	249	224	111
24	68	55	46	41	46	47	56	444	1,670	190	244	114
25	78	53	46	42	44	48	55	402	1,350	179	200	109
26	74	55	46	42	48	51	55	366	1,130	179	165	93
27	66	50	46	41	48	50	56	527	1,120	168	159	91
28	72	45	46	44	44	51	56	759	1,130	172	159	87
29	72	55	46	40	50	58	65	1,110	1,070	159	145	89
30	72	52	44	43	- - - -	62	91	1,250	768	136	130	89
31	75	- - - -	41	43	- - - -	62	- - - -	1,360	- - - -	125	117	- - - -
TOTAL	2,424	1,696	1,431	1,340	1,280	1,346	1,845	13,601	42,336	10,233	4,920	2,868
MEAN	78.2	56.5	46.2	43.2	44.1	43.9	61.5	439	1,411	330	159	85.5
MAX	104	76	55	46	50	62	91	1,300	2,400	614	262	122
MIN	66	45	40	40	42	45	51	120	768	125	109	74
AC-FT	4,910	3,360	2,840	2,660	2,560	3,070	3,660	26,980	83,970	20,300	9,760	5,680
CAL YR 1967	TOTAL	89,433		MEAN	245	MAX	1,920	MIN	39	AC-FT	177,400	
WTR YR 1968	TOTAL	85,516		MEAN	234	MAX	2,400	MIN	40	AC-FT	169,600	

Peak discharge (base, 1,100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
6-6	0130	3.79	2,980	6-20	0330	3.45	2,360

BEAR RIVER BASIN

10-157. Sulphur Creek above reservoir, near Evanston, Wyoming.

Location.--Lat 41°08', long 110°46', in SW 1/4 sec. 35, T.14 N., R.118 W., on right bank 1.5 miles downstream from Willow Creek, 2 miles upstream from Sulphur Creek Dam, and 11.5 miles southeast of Evanston.

Drainage area.--64 sq mi. approximately.

Records available.--October 1967 to September 1968. Monthly discharge only for October and November 1967, published in WRF 1784.

Gage.--Water-stage recorder. Altitude of gage is 7,170 ft (from river-profile map).

Average discharge.--11 years, 12.6 cfs (9,120 acre-ft per year).

Extremes.--Maximum discharge during year, 292 cfs Apr. 30 (gage height, 4.34 ft); maximum gage height, 4.81 ft Apr. 1 (basewater from ice); minimum discharge, 0.60 Aug. 8, 6, 7, 1967-68; maximum discharge, 1,230 cfs Apr. 31, 1955 (gage height, 8.06 ft); no flow at times most of years.

Remarks.--Records good except those for winter months, which are fair. Several diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	5.6	2.5	4.0	4.0	5.0	30	151	108	14	.76	4.9
2	4.7	4.5	2.5	4.0	4.0	5.0	30	124	120	2.9	.76	4.3
3	2.2	4.0	2.5	4.0	4.0	5.0	30	102	128	6.4	.76	4.5
4	2.7	3.6	2.5	4.0	4.0	5.0	30	84	110	8.1	.64	5.1
5	3.0	6.6	2.5	4.0	4.0	5.0	30	102	126	8.4	.68	4.7
6	4.9	6.9	2.5	4.0	4.0	4.0	25	117	174	5.6	.60	4.5
7	2.7	6.9	2.5	4.0	4.0	4.0	20	61	92	4.9	.66	3.6
8	2.0	7.7	2.5	4.0	4.0	4.0	22	51	75	5.4	1.3	3.0
9	1.9	7.2	2.5	4.0	4.0	4.0	26	61	68	6.4	6.7	2.0
10	2.5	6.9	2.5	4.0	4.0	4.0	35	74	75	15	11	1.3
11	2.0	4.5	2.5	5.0	4.0	3.5	55	82	74	15	10	1.0
12	2.4	3.8	2.5	5.0	4.0	3.5	79	79	53	11	9.2	1.1
13	2.0	3.6	2.5	5.0	4.0	3.5	65	81	51	8.6	7.2	.82
14	1.8	3.4	2.5	5.0	4.0	3.5	65	92	46	8.1	7.4	.92
15	1.6	3.4	2.5	5.0	4.0	3.5	66	70	34	4.9	14	.92
16	1.6	3.4	2.3	5.0	4.0	3.5	95	65	23	3.6	11	1.0
17	1.6	3.0	2.3	5.0	4.0	3.5	65	55	25	2.6	14	1.1
18	1.6	3.4	2.3	5.0	4.0	3.5	26	47	25	1.3	20	1.0
19	1.6	3.4	2.3	5.0	4.0	3.5	40	56	20	1.3	45	.92
20	1.6	3.4	2.3	5.0	4.0	3.5	53	92	18	1.9	18	.92
21	1.0	3.2	2.3	5.0	5.0	6.0	37	141	18	1.2	6.9	1.1
22	1.4	3.0	2.3	5.0	5.0	6.0	36	172	10	1.7	15	.92
23	1.0	3.4	2.3	5.0	5.0	6.0	39	124	10	2.2	51	.84
24	1.4	3.0	2.3	5.0	5.0	6.0	35	132	14	2.6	22	.76
25	1.6	2.8	2.3	5.0	5.0	6.0	37	53	10	3.6	13	.76
26	1.6	3.0	3.0	5.0	5.0	15	33	70	12	3.2	9.2	.68
27	1.0	3.0	3.0	5.0	5.0	15	55	32	13	1.7	7.4	.76
28	2.2	3.0	3.0	5.0	5.0	15	49	152	11	1.2	3.6	.84
29	3.0	3.0	3.0	5.0	5.0	15	90	376	12	1.2	5.4	1.0
30	3.4	3.0	3.0	5.0	5.0	15	162	168	15	1.2	5.3	1.3
31	4.5	3.0	3.0	5.0	5.0	15	15	150	15	.92	5.6	1.3
TOTAL	71.0	127.6	75.5	145.0	125.0	200.0	1,441	3,086	1,628	156.52	330.58	57.06
MEAN	2.29	4.25	2.43	4.68	4.31	6.45	46.0	99.5	54.2	5.05	10.7	1.80
MAX	4.9	8.8	3.0	5.0	5.0	15	162	176	166	15	51	5.1
MIN	1.4	2.3	2.3	4.0	4.0	2.5	20	47	10	.92	.60	.68
AC-FT	143	253	156	288	245	297	2,880	6,120	3,230	310	656	113
GAL YR 1967	TOTAL	7,016.90	MEAN	19.3	MAX	168	MIN	.80	AC-FT	13,580		
WTR YR 1968	TOTAL	7,444.56	MEAN	20.3	MAX	166	MIN	.80	AC-FT	14,770		

BEAR RIVER BASIN

10-159. Sulphur Creek below reservoir, near Evanston, Wyoming.

Location.--Lat 41°08', Long 110°49', in SE1/4 sec.28, T.14 N., R.119 W., on left bank 400 ft downstream from Sulphur Creek Dam, 6.3 miles upstream from mouth, and 10.5 miles southeast of Evanston.

Drainage area.--68 sq mi, approximately.

Records available.--March 1966 to September 1968.

Gage.--Water-stage recorder and concrete V-notch control. Altitude of gage is 7,110 ft (from river-profile map).

Extremes.--Maximum discharge during year, 151 cfs June 8 (gage height, 3.83 ft); no flow Oct. 15 to Jan. 20, 1968-69; Maximum discharge, 343 cfs June 11, 1966 (gage height, 4.96 ft); no flow at times in each year.

Remarks.--Records good. Flow regulated by Sulphur Creek Reservoir (capacity, 7,100 acre-ft) enlargement completed November 1964. Records prior to 1965 do not include flow over spillway of the dam.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60			0	12	12	3.1	115	104	3.5	6.6	3.3
2	59			0	12	12	3.3	115	104	3.4	15	3.3
3	59			0	12	12	3.3	115	104	3.4	20	3.3
4	57			0	12	12	3.3	114	104	3.4	20	3.3
5	56			0	12	12	3.3	114	114	3.4	19	3.3
6	55			0	12	12	3.3	114	146	3.4	19	3.3
7	54			0	12	12	3.3	114	140	3.5	18	3.3
8	52			0	12	12	3.3	114	120	3.8	19	3.3
9	52			0	12	12	3.3	114	114	4.6	19	3.3
10	51			0	12	12	3.3	114	108	9.0	19	3.3
11	50			0	12	12	3.3	114	108	20	19	3.4
12	51			0	12	12	3.4	114	106	27	19	3.3
13	.03			0	12	12	3.4	114	104	27	20	3.3
14	.01			0	12	12	3.4	114	84	24	20	3.3
15	0			0	12	12	3.4	114	44	21	20	3.3
16	0			0	12	12	4.2	112	44	19	20	3.3
17	0			0	12	12	77	110	44	18	20	3.3
18	0			0	12	14	123	109	44	13	20	3.3
19	0			0	12	14	121	109	44	11	22	3.3
20	0			0	12	14	118	109	46	10	26	3.1
21	0			.02	12	14	116	109	45	10	26	3.1
22	0			.18	12	14	118	86	44	9.8	27	3.1
23	0			.40	12	14	118	6.1	22	8.4	43	3.1
24	0			.84	12	14	116	6.1	3.4	8.4	49	3.1
25	0			8.3	12	14	116	6.1	3.4	9.0	40	3.1
26	0			12	12	14	116	6.1	3.8	9.6	32	3.1
27	0			12	12	14	115	6.1	3.5	10	27	3.1
28	0			12	12	14	115	6.1	3.3	9.3	23	3.1
29	0			12	12	14	115	6.1	3.5	6.4	21	3.1
30	0			12	-	14	115	19	3.8	7.8	16	3.1
31	0	-	-	12	-	-	6.9	-	104	-	6.9	3.3
TOTAL	636.04	0	0	81.84	348	406.9	1,654.9	2,602.7	1,961.3	326.8	686.9	96.9
MEAN	20.5	0	0	2.64	12.0	13.1	55.2	94.0	65.4	10.5	22.2	3.23
MAX	60	0	0	12	12	14	123	115	146	27	49	3.4
MIN	0	0	0	0	12	6.9	3.1	6.1	3.4	3.4	3.3	3.1
AC-FT	1,260	0	0	168	680	807	3,280	5,180	3,890	648	1,360	192
CAL YR	1967	TOTAL	6,188.22	MEAN	16.9	MAX	157	MIN	0	AC-FT	12,800	
WTR YR	1968	TOTAL	8,802.28	MEAN	24.0	MAX	146	MIN	0	AC-FT	17,450	

BEAR RIVER BASIN

10-195. Chapman Canal at State Line, near Evanston, Wyoming.

Location.--Lat 41°24', long 111°02', in SE¼ sec.36, T.17 N., R.12E W., on left bank at highway bridge, 6.5 miles downstream from headgates and 10 miles northwest of Evanston.

Records available.--April 1942 to September 1968 (prior to October 1944 irrigation seasons only). Monthly discharge only for some periods, published in WSP 1314.

Gage.--Water-stage recorder. Altitude of gage is 8,370 ft (from river-profile map). Prior to Oct. 11, 1946, staff gage and Oct. 11, 1946 to Aug. 2, 1961, water-stage recorder at site 20 ft downstream at same datum.

Average discharge.--24 years (1944-68), 19.0 cfs (13,760 acre-ft per year).

Extremes.--1942-68: Maximum daily discharge, 133 cfs June 16, 1961; no flow at times each year.

Remarks.--Records Fair. Canal diverts water from Bear River in NW¼ sec.36, T.16 N., R.12E W. Many diversions above station for irrigation in Wyoming. Flow at station is for storage in Nepanzet Reservoir, Utah, and irrigation in Salinas basin, Utah.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	4.7					.40	69	107	82	.04	51
2	43	4.7					1.3	70	100	56	0	49
3	45	4.7					1.3	65	110	56	0	42
4	39	4.2					.84	72	88	56	0	46
5	42	3.8					.76	75	63	53	0	44
6	50	3.0					.87	65	55	53	0	41
7	54	2.4					.49	51	78	50	0	40
8	48	1.8					.24	45	68	48	0	39
9	58	1.2					.04	48	63	40	.16	35
10	59	.88					0	50	59	40	4.0	33
11	50	.58					0	51	56	40	22	26
12	53	.55					0	51	53	35	37	23
13	39	.58					.35	51	58	32	24	20
14	28	.58					.88	50	63	26	31	18
15	4.8	.49					.40	49	51	24	50	11
16	4.7	.49					7.3	47	66	22	60	13
17	4.7	.40					56	48	90	18	63	10
18	4.7	.46					58	44	81	14	71	13
19	4.7	.40					58	47	64	9.4	59	13
20	4.7	.40					58	51	59	6.4	74	12
21	4.7	.58					58	56	95	2.0	64	14
22	4.7	.49					60	61	82	2.5	67	14
23	6.5	.40					58	59	74	2.0	82	13
24	4.9	.28					55	64	78	1.1	80	13
25	4.9	.24					56	51	78	.36	72	12
26	4.9	.20					52	49	68	.32	65	11
27	4.9	.16					53	45	59	0	60	10
28	4.9	.16					55	63	65	0	58	11
29	4.7	.16					56	57	74	0	59	8.8
30	4.7	.16					82	59	73	0	58	9.1
31	4.5							55		0	56	
TOTAL	712.7	38.61	0	0	0	0	806.02	1,659	2,294	747.08	1,216.20	696.8
MEAN	23.0	1.29	0	0	0	0	26.3	60.0	78.9	24.1	39.2	23.2
MAX	59	4.7	0	0	0	0	82	99	110	62	82	51
MIN	4.5	.16	0	0	0	0	0	44	63	0	0	8.8
AC-FT	1,410	77	0	0	0	0	1,600	3,690	4,550	1,480	2,410	1,380
CAL YR 1967	TOTAL	6,860.27	MEAN	16.6	MAX	127	MIN	0	AC-FT	13,610		
WTR YR 1968	TOTAL	6,370.5	MEAN	22.9	MAX	110	MIN	0	AC-FT	16,500		

BEAR RIVER BASIN

10-201. Bear River above reservoir, near Woodruff, Utah.

Location.--Lat 41°28'06", long 111°04'00", in R&D#1 sec.25, T.17 N., R.120 W., in Crossing on right bank 5.3 miles upstream from Woodruff Narrows Dam and 10 miles southeast of Woodruff.

Drainage area.--780 sq mi, approximately.

Records available.--October 1961 to September 1968.

Gage.--Water-stage recorder. Altitude of gage is 5,455 ft (from river-profile map).

Average discharge.--7 years, 240 cfs (173,800 acre-ft per year).

Extremes.--Maximum discharge during year, 2,370 cfs June 7 (gage height, 5.72 ft); minimum, 1.7 cfs Aug. 4, 1961-62; Maximum discharge, 3,340 cfs June 13, 14, 1965 (gage height, 5.89 ft); minimum, 0.1 cfs Aug. 24, 1964.

Remarks.--Records good except those for winter months, which are fair. Diversion for irrigation of about 75,000 acres above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	120	66	65	80	150	308	406	1,470	543	8.0	123
2	108	115	56	65	80	150	369	424	1,450	443	5.6	108
3	120	106	66	65	80	120	310	443	1,560	382	3.8	92
4	22	77	70	65	80	100	258	420	1,760	318	3.0	66
5	101	82	70	65	80	140	250	534	2,010	302	3.4	64
6	122	77	70	65	80	170	261	623	2,170	265	4.2	79
7	144	75	70	65	80	180	242	563	2,250	242	4.2	75
8	125	79	70	65	80	180	202	495	1,980	227	4.9	70
9	120	81	70	65	80	141	192	510	1,820	216	8.0	58
10	110	64	70	65	80	141	189	553	1,480	216	9.2	50
11	66	88	70	65	80	120	234	588	1,340	227	23	41
12	36	77	70	65	80	120	343	614	1,200	206	24	34
13	68	66	70	65	80	125	382	624	1,320	199	26	32
14	47	64	70	65	80	141	255	645	1,540	170	33	33
15	75	84	70	65	80	156	233	603	1,470	147	44	37
16	79	82	70	65	80	115	302	653	1,350	120	79	63
17	73	82	70	65	80	123	285	519	1,420	78	71	68
18	73	79	70	65	80	110	281	481	1,400	70	115	65
19	61	71	70	65	80	97	265	490	1,480	63	220	66
20	61	63	70	65	80	90	261	503	1,620	52	339	61
21	77	60	70	65	85	84	261	779	1,650	40	227	77
22	75	60	70	65	100	88	277	1,050	1,810	34	213	104
23	77	60	70	65	120	104	246	1,050	1,430	39	408	113
24	79	51	70	65	130	118	338	970	1,410	28	419	106
25	61	51	70	65	170	123	348	620	1,370	26	360	104
26	84	47	70	65	180	150	227	694	1,070	33	261	101
27	82	46	70	65	140	138	224	661	862	26	227	90
28	81	47	70	65	120	131	234	738	784	23	202	81
29	82	54	70	65	110	153	254	987	749	16	199	71
30	30	63	70	65	110	233	322	1,290	669	11	173	73
31	55	70	70	65	120	229	322	1,430	669	8.0	156	73
TOTAL	2,792	2,231	2,149	2,015	2,775	4,178	8,023	21,221	43,613	1,771.0	3,890.7	2,243
MEAN	90.1	71.7	69.3	65.0	85.7	135	267	685	1,454	154	126	74.8
MAX	144	120	70	65	120	269	382	1,430	2,250	543	419	123
MIN	47	46	56	65	60	84	189	406	658	8.0	3.4	32
AC-FT	5,560	4,430	4,260	4,000	5,800	8,280	13,910	42,090	86,510	3,460	7,720	4,450
CAL YR 1967	TOTAL	102,348.5	MEAN	280	MAX	2,010	MIN	3.0	AC-FT	203,000		
NTR YR 1968	TOTAL	82,894.7	MEAN	273	MAX	2,250	MIN	3.4	AC-FT	198,200		

BEAR RIVER BASIN

10-202. Woodruff Narrows Reservoir near Woodruff, Utah.

Location.--Lat 41°30'10" long 111°06'55", in sec.32, T.18 N., R.120 W., in Wyoming. In gate house on dam, 5.6 miles upstream from Wyoming-Utah State line and 7.7 miles east of Woodruff.

Drainage area.--810 sq mi, approximately.

Records available.--October 1965 to September 1968.

Gage.--Water-stage recorder and mercury manometer. Altitude of the gage is 6,405 ft (from levels by Bureau of Reclamation).

Extremes.--Maximum contents during year 32,020 acre-ft June 7, 21, 22 (gage height, 37.7 ft); minimum, 17,020 acre-ft Aug. 13-15.
1965-66: Maximum contents, 34,130 acre-ft June 23-25, 1967 (gage height, 38.0 ft); minimum, 8,480 acre-ft Sept. 11-13, 1966.

Remarks.--Reservoir formed by earth-fill, rock faced dam. Storage began Jan. 6, 1962. Usable capacity 23,000 acre-ft which includes 4,260 acre-ft of irrigation holdover, 4,000 acre-ft for winter release for fish propagation, and 1,500 acre-ft of inactive storage. Gage height of spillway is 38.3 ft. Figures given herein represent total contents.

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18,760	22,740	22,370	23,160	24,260	27,370	28,710	29,000	29,550	30,080	17,660	22,930
2	18,890	23,040	22,370	23,290	24,410	27,550	28,960	29,160	29,550	29,740	17,660	22,740
3	18,810	23,160	22,310	23,290	24,410	27,830	28,860	29,180	29,740	29,370	17,660	23,040
4	18,760	23,290	22,310	23,290	24,560	27,970	28,860	29,370	30,230	28,410	17,660	23,160
5	18,860	23,410	22,310	23,290	24,560	26,120	28,860	29,550	31,200	27,370	17,550	23,160
6	19,120	23,410	22,310	23,290	24,710	26,120	28,860	29,740	31,850	26,140	17,550	23,290
7	19,360	23,520	22,310	23,290	24,710	26,120	28,860	29,740	32,020	24,960	17,440	23,520
8	19,480	23,640	22,450	23,410	24,860	26,260	28,860	29,740	31,690	23,760	17,330	23,520
9	19,720	23,760	22,450	23,410	24,860	26,260	28,860	29,740	31,370	22,740	17,330	23,640
10	19,840	23,760	22,450	23,520	24,860	26,260	28,860	29,740	30,850	21,880	17,230	23,760
11	19,960	24,010	22,590	23,520	25,010	26,260	28,860	29,740	31,030	20,890	17,130	23,690
12	20,080	24,010	22,590	23,520	25,010	26,260	28,860	29,930	31,030	19,960	17,130	23,690
13	20,180	24,140	22,590	23,520	25,170	26,260	28,860	29,740	31,200	19,120	17,020	23,890
14	20,180	24,260	22,590	23,520	25,170	26,260	28,860	29,740	31,530	18,640	17,020	23,890
15	20,360	24,410	22,590	-	25,170	26,260	28,860	29,550	31,690	18,640	17,020	23,890
16	20,360	24,560	22,590	-	25,340	26,260	26,860	29,550	31,690	18,610	17,020	23,760
17	20,310	24,710	22,590	-	25,340	26,260	26,860	29,550	31,690	18,610	17,130	23,760
18	20,700	24,710	22,590	-	25,500	26,260	26,860	29,550	31,690	18,390	17,230	23,760
19	20,890	24,860	22,590	-	25,500	26,260	26,860	29,710	29,550	31,690	18,390	17,440
20	21,030	25,010	22,740	-	25,650	26,260	26,710	29,550	31,850	18,260	17,890	23,690
21	21,180	25,170	22,740	-	25,650	26,260	26,710	30,080	32,020	18,260	18,260	23,690
22	21,180	25,010	22,740	23,890	25,600	26,260	26,710	30,630	32,020	18,130	18,640	23,890
23	21,320	-	22,740	23,890	25,970	26,260	26,710	30,230	31,850	18,000	18,240	24,010
24	21,600	-	22,890	23,890	26,140	26,260	26,710	29,930	31,850	17,890	19,840	24,010
25	21,740	-	22,890	23,890	26,320	26,260	26,710	29,550	31,690	17,770	20,360	24,140
26	21,740	-	22,890	24,010	26,490	26,260	26,710	29,180	31,370	17,770	20,890	24,260
27	21,880	22,170	22,890	24,010	26,660	26,260	26,710	28,860	30,850	17,770	21,320	24,410
28	22,170	22,170	23,040	24,010	27,020	26,260	26,710	28,710	30,630	17,770	21,600	24,410
29	22,170	22,170	23,040	24,140	27,200	26,260	26,710	28,710	30,230	17,770	22,020	24,560
30	22,310	22,170	23,040	24,140	-	26,410	26,660	29,000	30,230	17,770	22,170	24,560
31	22,450	-	23,160	24,260	-	26,560	-	29,370	-	17,770	22,450	-

(+) 31.6 31.4 32.1 33.0 34.8 35.7 35.9 36.2 36.7 28.0 31.6 33.2
 (+) +4,320 -280 +990 +1,200 +2,340 +1,360 +300 +510 +860 -12,460 +4,680 +2,110

CALENDAR YEAR 1967 † +10,160
 WATER YEAR 1967-68 † +6,430

† Gage height, in feet, at 2400 of last day of month.
 † Change in contents, in acre-feet.

BEAR RIVER BASIN

10-203. Bear River below reservoir, near Woodruff, Utah.

Location.--Lat 41°20'30", long 111°00'30", in NW1/4 sec.32, T.16 N., R.120 W., in Wyoming, on right bank, 1,100 ft below Woodruff Narrows Dam, 1.6 miles upstream from Salt Creek, 5.4 miles upstream from Wyoming-Utah State line, and 7.7 miles east of Woodruff.

Drainage area.--810 sq mi, approximately.

Records available.--October 1961 to September 1968.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 6,400 ft (from river-profile map). Prior to Sept. 28, 1962, at site 178 ft upstream at same datum.

Average discharge.--7 years, 231 cfs (187,200 acre-ft per year).

Extremes.--Maximum discharge during year, 2,800 cfs June 7 (gage height, 7.74 ft); minimum daily, 1.5 Sept. 1961-62; Maximum discharge, 3,000 cfs June 14, 1965 (gage height, 7.98 ft); no flow July 4, 8, 1962.

Remarks.--Records good. Flow regulated by Woodruff Narrows Reservoir beginning January 1962 (capacity, 28,600 acre-ft). Diversions for irrigation of about 43,800 acres above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	16	42	44	48	51	224	281	1,400	652	27	1.7
2	18	16	42	44	48	52	227	322	1,450	521	26	1.5
3	18	16	42	45	48	53	343	368	1,450	444	28	1.8
4	16	16	42	45	48	55	311	398	1,850	812	36	1.8
5	18	16	42	45	48	52	284	458	1,810	660	36	1.5
6	18	16	42	45	48	100	281	498	2,240	354	36	1.5
7	18	16	42	45	48	114	275	548	2,570	841	36	1.8
8	18	16	42	45	48	118	244	512	2,700	841	35	2.6
9	18	16	42	45	48	122	221	488	2,210	803	35	2.6
10	18	16	42	45	48	126	202	494	1,830	749	35	2.3
11	18	16	42	46	48	123	202	512	1,320	737	34	2.2
12	18	16	43	46	49	118	238	550	1,140	853	33	2.2
13	18	16	43	46	49	118	287	580	1,180	830	33	3.8
14	18	16	43	46	49	119	314	591	1,330	486	33	3.6
15	18	16	43	46	49	119	257	598	1,440	78	33	3.8
16	18	17	43	46	49	119	278	570	1,410	78	33	3.6
17	18	17	43	46	49	121	281	535	1,410	77	33	3.6
18	18	17	43	46	49	121	288	498	1,410	78	33	3.7
19	18	17	43	46	49	119	282	476	1,440	78	33	3.7
20	18	17	43	46	49	115	255	476	1,460	75	33	3.7
21	18	17	43	46	50	111	266	565	1,560	73	33	3.6
22	18	201	43	47	50	106	250	767	1,830	73	34	3.7
23	18	44	43	47	50	106	247	1,040	1,870	73	34	3.7
24	18	444	43	47	50	111	236	1,080	1,510	72	34	3.7
25	18	440	43	47	50	114	230	1,080	1,470	43	34	3.7
26	16	242	43	47	50	124	221	868	1,320	29	14	3.7
27	18	42	44	47	50	121	210	941	1,090	29	1.8	3.7
28	16	43	44	48	50	121	207	828	926	29	1.8	3.7
29	16	42	44	48	51	122	210	923	834	29	1.7	3.7
30	16	42	44	48	51	120	230	1,040	773	28	1.7	3.8
31	16	42	44	48	51	122	230	1,200	773	27	1.7	3.8
TOTAL	470	2,380	1,327	1,428	1,420	3,434	7,660	20,036	45,533	10,677	652.7	713.5
MEAN	15.2	78.3	42.8	46.1	49.0	112	255	656	1,519	341	27.5	23.8
MAX	18	484	44	48	51	125	343	1,200	2,700	841	36	3.8
MIN	15	16	42	44	48	51	202	281	773	27	1.7	1.5
AC-FT	332	4,000	2,630	2,850	2,820	6,810	15,190	39,740	90,310	23,570	1,890	1,120
CAL YR 1967	TOTAL	90,816.5	MEAN	295	MAX	2,240	MIN	9.3	AC-FT	192,000		
WTR YR 1968	TOTAL	86,153.2	MEAN	283	MAX	2,700	MIN	1.5	AC-FT	190,700		

BEAR RIVER BASIN

10-265. Bear River near Randolph, Utah

Location.--Lat 41°48', Long 111°08', in SE1/4 sec. 7, T.18 N., R.8 E., on left bank 3.5 miles upstream from Twin Creek, 4.8 miles upstream from Utah-Montana State line, and 11 miles northeast of Randolph.

Drainage area.--1,840 sq mi, approximately.

Records available.--October 1943 to September 1968. Monthly discharge only for some periods, published in WSP 1514.

Gage.--Water-stage recorder. Altitude of gage is 8,208 ft (from river-profile map).

Average discharge.--25 years, 188 cfs (136,100 acre-ft per year).

Extremes.--Maximum discharge during year, 2,310 cfs June 10 (gage height, 8.76 ft); minimum daily, 18 cfs Sept. 21.

1943-68: Maximum discharge 2,660 cfs May 6, 1952; maximum gage height, 8.98 ft June 17, 1958; minimum discharge, 1.8 cfs Nov. 12, 1961.

Remarks.--Records good except those for winter months, which are fair. Diversion for irrigation of about 84,500 acres above station. Flow regulated by Woodruff Narrows Reservoir beginning January 1962 (capacity 26,000 acre-ft).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	83	150	75	76	155	212	251	368	532	91	49
2	50	80	110	78	75	150	248	259	589	532	88	45
3	52	79	90	75	76	145	302	288	718	436	87	42
4	54	83	80	75	76	148	354	316	806	378	83	40
5	56	87	75	75	76	148	368	340	958	328	79	40
6	60	89	72	75	76	150	358	368	1,220	420	75	38
7	62	97	72	75	76	164	338	380	1,460	398	74	37
8	64	80	72	75	76	178	330	382	1,780	426	71	37
9	68	80	72	75	76	188	320	358	2,060	429	77	37
10	68	81	72	75	76	194	302	328	2,370	808	75	35
11	74	78	72	75	76	196	287	258	2,220	608	72	35
12	72	75	72	75	76	186	278	195	1,360	828	70	31
13	70	76	72	75	76	198	278	184	1,740	610	68	32
14	67	77	72	75	76	194	297	184	1,960	571	68	32
15	67	67	72	75	76	184	328	186	1,220	832	67	31
16	76	81	72	75	76	186	334	198	1,110	401	67	35
17	72	79	78	75	76	186	332	107	1,070	304	75	30
18	72	77	74	75	76	194	330	70	1,080	288	61	18
19	72	78	75	75	76	188	328	51	1,070	748	63	18
20	71	80	75	75	76	188	324	47	1,050	198	61	17
21	72	61	75	75	86	191	318	46	1,050	169	79	16
22	65	75	75	75	100	158	318	48	1,080	158	90	18
23	67	78	75	75	120	193	214	55	1,080	166	88	18
24	66	101	75	75	136	181	306	95	1,160	188	97	19
25	66	342	78	78	140	173	302	218	1,280	167	95	19
26	65	368	78	78	158	181	291	277	1,340	161	91	18
27	68	400	75	75	160	181	262	316	1,240	147	86	18
28	74	380	75	75	160	184	273	277	878	156	83	18
29	79	340	75	75	160	188	262	240	794	111	72	20
30	80	240	75	78	---	188	262	259	658	162	53	20
31	80	---	75	78	---	200	---	235	---	102	56	---
TOTAL	2,074	4,185	2,419	2,325	2,733	5,822	8,187	6,619	38,928	10,388	2,431	568
MEAN	66.9	139	78.0	75	94.2	181	306	213	1,231	335	78.4	28.9
MAX	80	400	180	78	180	200	368	366	2,270	829	91	49
MIN	48	75	72	75	76	145	212	48	356	102	53	18
AC-FT	4,110	8,280	4,800	4,810	5,420	11,130	16,180	13,150	78,260	20,600	4,820	1,720
CAL YR	1967	TOTAL 98,489	MEAN 253	MAX 1,920	MIN 18	AC-FT 183,400						
MTR YR	1968	TOTAL 88,731	MEAN 254	MAX 2,270	MIN 16	AC-FT 170,600						

BEAR RIVER BASIN

10-285. Bear River below Pixley Dam, near Cokeville, Wyo.

Location.--Lat 41°56'20", long 110°59'05", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 25, T. 23 N., R. 120 W., 800 ft downstream from Pixley Dam, 13 miles south of Cokeville, and 17.5 miles downstream from Twin Creek.

Drainage area.--2,040 sq mi, approximately.

Records available.--October 1941 to November 1943 (published as Bear River near Cokeville), October 1952 to September 1958, May 1958 to September 1968 (irrigation seasons only). Monthly discharge only for some periods, published in WSP 1314.

Gage.--Water-stage recorder. Altitude of gage is 6,185 ft (from river-profile map). Oct. 31, 1941, to Nov. 30, 1943, at site 200 ft downstream at different datum.

Extremes.--Maximum discharge during season, 1,560 cfs June 11 (gage height, 9.61 ft); minimum daily, 30 cfs May 25.
1941-43, 1952-56, 1958-68: Maximum daily discharge, 2,300 cfs Mar. 25, 1956; minimum daily recorded, 0.3 cfs Aug. 21, 1961.

Remarks.--Records good. Natural flow of stream affected by diversions for irrigation and return flow from irrigated areas. No diversion between station and Collett Creek Branch of Smiths Fork.

DISCHARGE, IN CFS, MAY TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72						-	156	86	582	123	74
2	36						-	212	152	597	112	66
3	35						-	199	376	570	99	55
4	40						-	255	896	518	91	57
5	52						-	276	713	459	99	56
6	54						-	269	780	437	92	54
7	56						-	303	1300	477	87	52
8	56						-	289	1150	457	85	51
9	57						-	293	1200	457	91	49
10	58						-	255	1340	487	91	48
11	-						-	237	1520	564	87	48
12	-						-	207	1530	621	82	48
13	-						-	172	1460	628	79	46
14	-						-	138	1360	614	83	44
15	-						-	136	1330	563	81	44
16	-						-	81	1240	531	81	45
17	-						-	61	1130	405	82	49
18	-						281	53	1020	361	92	49
19	-						283	41	1030	329	100	44
20	-						283	38	1020	249	102	42
21	-						283	34	1010	220	100	38
22	-						283	32	990	215	108	37
23	-						317	30	934	212	120	37
24	-						336	31	975	202	129	37
25	-						322	43	994	199	129	36
26	-						310	69	1010	204	124	39
27	-						291	77	1040	194	120	40
28	-						226	87	1040	175	116	43
29	-						225	90	824	155	108	44
30	-						194	95	597	135	95	45
31	-						-	87	-	128	76	-
TOTAL								4,365	29,671	11,975	3,060	1,425
MEAN								141	989	386	98.7	47.5
MAX								303	1,530	628	129	74
MIN								30	88	128	76	37
AC-FT								8,680	58,650	23,750	6,070	2,830
GAL YR												
THE SEASON	TOTAL		MEAN		MAX		MIN	AC-FT		AC-FT		100,200

BEAR RIVER BASIN 10-320. Smiths Fork near Border, Wyo.

Location.--Lat 42°17', Long 110°52'. In NW 1/4 sec. 33, T. 27 N., R. 116 W., on left bank 4.5 miles upstream from Howland Creek, 6 miles downstream from Hobble Creek, and 12 miles northeast of Border.

Drainage area.--168 sq mi.

Records available.--May 1942 to September 1966.

Gage.--Water-stage recorder. Altitude of gage 76,640 ft (from topographic map). Prior to Oct. 16, 1945, at site 0.8 mile downstream at different stream.

Average discharge.--26 years, 191 cfs (126,300 acre-ft per year).

Extremes.--Maximum discharge during year, 760 cfs June 5 (gage height, 3.02 ft); minimum, 46 cfs Feb. 26, 1942-66; Maximum discharge, 1,500 cfs June 7, 1957 (gage height, 4.56 ft); minimum recorded, 35 cfs Mar. 21, 1955, result of freezeup.

Remarks.--Records good except those for winter months, which are fair. One diversion for irrigation of about 300 acres above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122	88	80	75	74	59	85	181	479	391	180	124
2	116	88	80	75	70	80	94	250	516	376	181	128
3	117	84	80	75	86	80	86	263	568	360	176	126
4	115	84	80	75	84	81	80	285	695	353	171	124
5	111	84	80	75	85	83	78	315	780	353	162	120
6	115	85	80	75	72	84	79	312	744	359	168	119
7	108	84	80	75	71	80	75	251	723	326	164	117
8	108	84	80	75	70	80	72	224	707	315	162	117
9	104	82	80	75	70	83	75	236	654	312	171	118
10	102	84	80	75	70	86	70	273	646	303	176	113
11	101	82	80	75	70	82	83	269	642	302	179	111
12	101	82	80	75	70	82	101	286	632	289	164	111
13	99	80	80	78	71	82	86	302	672	285	157	109
14	99	80	80	75	69	82	88	279	642	273	157	113
15	97	80	80	75	64	82	94	260	656	266	166	113
16	97	82	80	75	66	81	96	289	688	280	157	113
17	96	78	80	75	62	84	94	236	693	257	157	113
18	94	79	80	75	59	83	86	246	604	251	166	111
19	84	80	80	75	59	80	86	326	626	245	159	109
20	84	79	80	70	60	81	82	316	637	242	152	109
21	82	80	80	70	60	89	82	350	610	236	145	118
22	82	73	80	70	59	83	80	376	633	234	169	109
23	84	80	80	70	58	88	77	357	653	227	164	108
24	82	78	80	70	58	85	85	322	648	224	148	106
25	82	77	80	70	56	88	84	332	609	224	138	102
26	91	82	80	70	56	71	84	321	487	221	137	102
27	86	80	80	70	57	83	82	302	469	218	134	101
28	82	80	80	70	57	89	98	322	485	200	132	102
29	88	80	80	70	58	72	89	403	442	203	132	101
30	88	80	80	70	58	79	134	492	190	200	130	99
31	88	80	80	74	58	78	134	483	192	192	132	99
TOTAL	3,086	2,439	2,180	2,274	1,860	1,599	2,205	9,277	17,639	8,466	4,026	3,359
MEAN	99.5	81.3	80.0	73.4	64.1	64.5	88.5	302	588	272	138	112
MAX	122	88	80	75	74	79	134	422	760	391	180	128
MIN	85	73	80	70	56	65	72	161	420	192	128	99
AC-FT	6,120	4,840	4,920	4,810	3,690	3,960	5,180	18,600	35,390	16,836	9,700	6,860
GAL. YR	1967	TOTAL	81,013	MEAN	222	MAX	1,020	MIN	54	AC-FT	160,760	
WTR. YR	1968	TOTAL	60,630	MEAN	166	MAX	750	MIN	32	AC-FT	120,400	

BEAR RIVER BASIN

10-327. Muddy Creek above Mill Creek, near Cokeville, Wyo.

Location.--Lat 42°11'30", Long 110°55'55", In SE¼ sec.31, T.26 N., R.115 W., on right bank, 0.3 mile upstream from Mill Creek, 1.2 miles upstream from mouth, and 3 miles northeast of Cokeville.

Drainage area.--20.7 sq mi.

Records available.--October 1964 to September 1968.

Gage.--Water-stage recorder, and sharp-crested trapezoidal weir. Altitude of gage is 6,490 ft (from topographic map).

Extremes.--Maximum discharge during year, 16 cfs June 6 (gage height, 1.12 ft); minimum, 0.12 cfs Sept. 1, 1964-68; Maximum discharge, 136 cfs Apr. 30, 1968 (gage height, 3.77 ft); no flow Aug. 16, 25, 1968.

Remarks.--Records good except those for period of no gage-height record, which are fair. No diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.73	1.2	1.1	.90	.77	1.2	5.3	9.3	4.6	2.7	.69	.12
2	.77	1.3	.98	.90	.77	1.2	7.0	8.3	4.6	2.5	.65	.22
3	.81	1.2	.85	.90	.73	1.1	7.0	8.1	4.6	2.5	.89	.38
4	.88	1.1	.81	.90	.77	1.1	8.0	7.4	6.8	2.4	.45	.35
5	.92	1.0	.81	.90	.77	1.2	4.1	7.8	9.1	2.4	.42	.30
6	.92	.98	.85	.90	.77	1.2	4.2	8.5	8.5	2.3	.61	.32
7	.98	.98	.85	.90	.77	1.2	4.0	7.2	7.4	2.2	.65	.28
8	.92	.98	.92	.90	.81	1.2	3.4	6.0	8.1	2.2	.48	.32
9	.92	1.0	.92	.90	.81	1.2	3.2	5.2	9.6	2.4	.65	.32
10	.92	1.2	.92	.90	.85	1.0	3.7	5.0	7.4	2.3	.96	.28
11	.92	1.2	.85	.90	.85	1.0	6.2	5.3	6.8	2.3	1.0	.22
12	1.0	1.2	.98	.90	.92	1.0	11	5.8	6.3	2.2	.77	.28
13	.81	1.1	.98	.90	.85	1.0	8.6	6.0	6.0	1.8	.69	.22
14	.92	1.1	.85	.90	.92	1.1	6.3	5.8	6.0	1.8	.65	.30
15	.92	1.1	.85	.90	.92	1.1	5.6	6.0	5.6	1.4	.65	.35
16	.98	1.1	.85	.90	.92	1.1	7.0	5.6	5.8	1.2	.63	.32
17	.98	1.1	.82	.90	.92	1.1	5.8	5.3	5.5	1.2	.48	.14
18	1.0	1.0	.82	.90	.92	1.1	5.0	4.7	4.8	1.2	.53	.26
19	.92	1.3	.92	.90	.92	1.2	5.0	4.6	5.2	1.2	.57	.25
20	.98	1.3	.92	.90	1.2	1.2	4.4	4.6	5.0	1.2	.40	.32
21	1.2	1.4	.90	.90	1.5	1.2	3.6	5.2	4.8	1.2	.32	.42
22	.73	1.2	.90	.90	1.5	1.2	3.0	6.5	4.2	1.2	.73	.40
23	1.1	1.2	.90	.90	1.5	1.2	2.7	5.6	4.4	1.1	.92	.40
24	1.1	1.2	.90	.90	1.8	1.3	2.7	5.0	4.4	1.2	.77	.38
25	1.0	1.2	.90	.90	1.4	1.4	3.2	5.3	4.0	1.2	.61	.38
26	1.1	1.2	.90	.90	1.2	1.5	3.1	5.5	3.7	1.2	.40	.32
27	1.1	1.2	.90	.90	1.2	1.4	3.2	5.3	3.6	1.2	.32	.32
28	1.3	1.1	.90	.90	1.2	1.3	3.4	4.6	3.2	1.1	.32	.40
29	1.3	1.0	.90	.90	1.1	2.3	5.0	4.1	2.6	1.1	.32	.42
30	1.3	1.0	.90	.90	4.2	4.2	7.6	4.1	3.0	.92	.32	.36
31	1.2	1.0	.90	.90	4.4	4.4	4.1	4.1	3.0	.81	.28	.36
TOTAL	30.60	34.14	28.08	28.60	29.36	44.0	150.7	182.6	167.1	51.63	17.89	9.33
MEAN	.987	1.14	.906	.888	1.01	1.42	5.02	5.89	5.57	1.67	.577	.311
MAX	1.3	1.4	1.1	.90	1.6	4.4	11	9.3	9.6	2.7	1.0	.42
MIN	.73	.98	.81	.80	.73	1.0	2.7	4.1	2.8	.81	.28	.12
AC-FT	61	68	58	55	58	67	222	362	331	102	36	19
CAL YR 1967	TOTAL	1,776.19		MEAN	4.87	MAX	38	MIN	.35	AC-FT	3,520	
WTR YR 1968	TOTAL	772.25		MEAN	2.11	MAX	11	MIN	.12	AC-FT	1,830	

Note.--No gage-height record Dec. 19 to Jan. 31.

BEAR RIVER BASIN

10-328. Mill Creek near Cokeville, Wyoming

Location.--Lat 42°11'30", long 110°54'10", on right bank, 0.3 mile upstream from mouth and 3 miles northeast of Cokeville.

Drainage area.--5.07 sq mi.

Records available.--October 1965 to September 1968.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 6,490 ft (from topographic map).

Extremes.--Maximum discharge during year, 7.0 cfs May 22 (gage height, 8.66 ft); minimum daily, 0.29 cfs Feb. 25, '67.

1966-68: Maximum discharge 23 cfs May 23, 1967 (gage height, 9.17 ft); minimum daily, 0.29 cfs Dec. 16, 1966, Feb. 25, 27, 1968.

Remarks.--Records good except those for periods of no gage-height record, which are fair. No diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT
1	.60	.70	.61	.58	.48	.37	1.6	2.3	4.4	2.9	.86	.67
2	.60	.70	.61	.58	.56	.37	1.8	2.4	4.0	2.9	1.0	.67
3	.61	.70	.61	.61	.48	.41	1.6	2.6	4.0	2.9	1.0	.67
4	.62	.70	.61	.50	.41	.41	1.2	2.8	4.8	2.8	.66	.61
5	.63	.70	.61	.50	.48	.46	1.2	3.5	4.6	2.8	.68	.61
6	.64	.60	.61	.50	.45	.46	1.2	4.2	4.6	2.6	.79	.61
7	.66	.60	.61	.50	.45	.41	1.2	4.0	4.6	2.3	.79	.61
8	.68	.60	.61	.40	.45	.41	1.1	4.0	5.3	2.1	.79	.66
9	.66	.60	.61	.50	.48	.41	1.6	4.2	5.6	2.1	1.1	.66
10	.66	.60	.61	.50	.45	.41	1.4	4.2	5.6	2.0	1.0	.56
11	.66	.60	.61	.50	.45	.41	1.6	4.6	5.6	2.0	.66	.56
12	.67	.60	.61	.50	.41	.46	1.6	5.1	5.1	1.6	.79	.56
13	.67	.58	.56	.50	.51	.48	1.6	5.3	5.3	1.5	.73	.51
14	.61	.52	.56	.50	.37	.37	2.3	5.3	4.3	1.5	.66	.56
15	.62	.50	.56	.50	.37	.37	1.6	5.6	4.6	1.4	1.2	.56
16	.64	.60	.61	.50	.33	.37	2.0	5.9	4.4	1.4	.66	.56
17	.65	.51	.61	.48	.33	.37	1.8	5.1	4.2	1.4	.95	.56
18	.65	.58	.56	.48	.33	.37	2.8	4.8	4.2	1.3	1.2	.66
19	.65	.61	.51	.51	.33	.37	2.0	4.8	4.0	1.3	.33	.56
20	.65	.56	.51	.51	.41	.37	1.8	5.3	4.0	1.2	.66	.61
21	.65	.67	.46	.56	.41	.46	2.0	5.8	3.8	1.1	.66	.61
22	.65	.67	.46	.51	.37	.46	1.6	6.2	3.6	1.1	1.2	.56
23	.65	.61	.46	.51	.33	.46	1.8	6.2	3.5	1.1	1.0	.56
24	.65	.61	.46	.46	.33	.61	1.6	5.8	3.3	1.0	.36	.56
25	.70	.67	.41	.41	.29	.67	1.6	5.8	3.3	1.0	.73	.51
26	.70	.67	.46	.41	.33	.73	1.6	5.6	3.3	.95	.67	.46
27	.70	.60	.51	.37	.28	.79	1.6	4.3	3.3	.93	.67	.46
28	.70	.56	.51	.37	.33	.65	1.6	4.8	3.3	.93	.67	.46
29	.70	.56	.56	.37	.33	2.8	2.1	4.8	3.3	.93	.61	.46
30	.70	.61	.56	.37	---	1.6	2.3	4.6	3.1	.93	.61	.46
31	.70	---	.56	.37	---	1.6	---	4.6	---	.86	.61	---
TOTAL	20.33	16.27	17.21	14.60	11.45	17.35	51.4	136.0	125.1	50.31	26.76	16.63
MEAN	.652	.568	.588	.477	.398	.566	1.71	4.71	4.27	1.84	.653	.521
MAX	.70	.70	.61	.56	.66	1.6	2.6	6.2	5.6	2.9	1.2	.67
MIN	.60	.50	.51	.37	.29	.37	1.1	2.3	3.1	.86	.51	.46
AC-FT	40	38	34	29	23	35	102	290	254	101	53	33
CAL YR 1967	TOTAL	974.75		MEAN 2.67	MAX 22	MIN .29	AC-FT 1,950					
WTR YR 1968	TOTAL	519.51		MEAN 1.42	MAX 6.2	MIN .29	AC-FT 1,030					

Note.--No gage-height record Oct. 1-12, Oct. 14 to Nov. 16.

BEAR RIVER BASIN

10.395. Bear River at Border, Wyoming

Location.--Lat 40°11', Long 111°02', in NE1/4 Sec. 18, T.14 S., R.66 E., in Idaho, on left bank 0.2 mile west of Wyoming-Idaho State Line, 0.8 mile west of Border, and 2.1 miles upstream from Thomas Park.

Drainage area.--2,450 sq mi, approximately.

Records available.--October 1937 to September 1968.

Gage.--Water-stage recorder. Datum of gage is 4,081.83 ft above mean sea level, unadjusted.

Average discharge.--21 years, 356 cfs (209,800 acre-ft per year).

Extremes.--Maximum discharge during year, 2,750 cfs June 15 (gage height, 7.88 ft); minimum, 127 cfs Sept. 28, 1937-38; Maximum discharge, 3,680 cfs May 11, 1962 (gage height, 8.98 ft); minimum daily, 30 cfs Aug. 18-22, 1940.

Remarks.--Records good except those for winter months, which are fair. Directions for irrigation of about 170,000 acres above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	210	214	310	180	180	340	340	348	447	960	220	232
2	226	222	308	180	190	348	372	352	455	900	218	234
3	208	220	300	180	190	356	424	414	493	864	212	232
4	151	207	280	190	190	368	447	433	961	816	205	224
5	193	216	253	180	190	388	476	425	1,360	773	197	230
6	201	220	248	185	190	370	502	527	1,320	711	195	214
7	201	224	240	185	180	360	498	584	1,660	700	185	197
8	185	224	235	188	180	360	472	530	1,810	697	203	180
9	191	232	230	188	180	357	455	502	2,050	666	222	184
10	190	226	225	185	180	348	447	520	2,100	690	248	184
11	188	220	220	185	180	352	444	502	2,180	729	238	180
12	180	220	210	185	180	348	444	505	2,270	813	232	176
13	188	217	180	185	180	350	441	502	2,460	888	224	175
14	188	214	200	185	170	340	374	467	2,680	852	222	171
15	180	214	210	185	185	350	414	463	2,740	620	240	173
16	222	218	205	185	165	348	449	400	2,620	783	232	173
17	214	220	200	188	165	352	447	331	2,410	733	228	169
18	203	214	190	185	165	357	416	365	2,160	609	348	162
19	205	214	185	185	170	345	415	294	1,260	359	259	158
20	203	218	185	185	190	339	419	293	1,700	478	263	151
21	204	220	185	185	210	355	411	290	1,630	411	259	166
22	206	214	180	185	220	333	309	312	1,580	377	275	158
23	208	212	185	185	210	346	403	314	1,470	385	310	153
24	203	209	185	185	220	328	444	301	1,480	338	301	148
25	224	235	200	185	220	340	452	295	1,470	321	292	142
26	203	220	185	180	220	345	438	319	1,420	258	281	133
27	202	220	185	180	200	353	430	322	1,400	280	281	142
28	205	220	185	180	310	351	367	322	1,420	281	277	141
29	212	220	180	180	320	345	343	364	1,370	203	263	140
30	205	240	185	180	---	353	348	400	1,320	248	263	162
31	205	---	180	180	---	340	---	438	---	230	248	---
TOTAL	6,280	7,120	6,715	5,790	6,920	10,802	12,767	12,434	50,368	18,413	7,453	5,301
MEAN	203	228	217	187	204	348	406	401	1,682	594	244	177
MAX	228	226	310	190	320	370	502	567	2,740	960	310	224
MIN	151	207	185	180	165	331	210	283	447	330	195	139
AC-FT	12,450	14,140	13,520	11,480	13,780	21,430	22,320	24,860	100,100	36,520	14,290	10,510
CAL YR	1907	TOTAL 130,454		MEAN 609		MAX 2,800		MIN 133	AC-FT 267,800			
WTR YR	1938	TOTAL 142,553		MEAN 609		MAX 2,740		MIN 133	AC-FT 298,700			

BEAR RIVER BASIN

10-460. Rainbow inlet canal near Dingle, Idaho

Location.--Lat 42°13'00", long 111°17'30", in S¹/₄ sec.3 T.14 S., R.44 E., on left bank 1.5 miles west of Dingle and 1.8 miles downstream from headworks at Stewart Dam.

Records available.--January 1922 to September 1968. Monthly discharge only prior to October 1948, published in WSP 1314.

Gage.--Water-stage recorder. Altitude of gage is 5,950 ft (from topographic map). Prior to Oct. 1, 1923, at Site 300 ft downstream at different datum; Oct. 1, 1923 to Oct. 27, 1944, at site 0.5 mile downstream at different datum.

Average discharge.--46 years, 311 cfs (225,200 acre-ft per year).

Extremes.--Maximum daily discharge during year, 2,000 cfs June 17 (gage height, 6.05 ft); minimum daily, 6.3 cfs May 29, 1922-68; Maximum discharge, 4,180 cfs May 7, 1952 (gage height, 8.62 ft); minimum daily, 1 cfs on several days in 1931, 1934, 1940, 1948.

Remarks.--Records good. Discharge measurements generally made three to six times a week. Canal diverts from Bear River at Stewart Dam in NE¹/₄ sec.34, T.13 S., R.44 E., for storage in Bear Lake. At times flow in canal is augmented by surplus water from Black Otter Slough entering at the station and by seepage and wastage from irrigation lands on both sides of canal.

Cooperation.--Records collected by Utah Power & Light Co., under general supervision of Geological Survey, in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	212	283	169	159	273	384	262	60	779	182	243
2	130	219	228	172	148	293	381	258	56	650	126	238
3	161	228	215	174	145	309	423	219	82	583	134	238
4	173	228	212	178	149	331	462	283	235	536	136	224
5	159	208	212	172	143	342	481	358	509	519	134	217
6	153	201	190	169	155	361	510	465	944	503	128	210
7	185	210	185	159	157	390	526	510	1,060	459	130	186
8	153	262	160	150	156	356	519	503	1,300	462	126	165
9	155	245	173	140	155	350	503	447	1,490	481	132	159
10	173	267	170	148	150	364	484	364	1,610	494	151	161
11	163	245	170	153	144	356	472	331	1,670	503	175	163
12	187	238	165	151	139	367	475	314	1,730	519	199	155
13	159	231	150	145	138	358	458	322	1,780	636	208	153
14	159	222	140	141	137	361	438	293	1,860	678	201	157
15	183	219	124	132	132	364	376	240	1,900	660	226	149
16	167	217	119	134	124	361	376	233	1,980	642	255	149
17	201	219	124	143	132	356	423	195	2,000	608	250	149
18	206	219	141	145	132	361	456	155	1,930	608	238	151
19	197	217	143	134	141	364	414	120	1,810	532	247	136
20	203	215	149	130	151	356	399	79	1,560	453	265	134
21	201	208	145	128	153	333	393	59	1,320	420	275	126
22	210	208	151	134	171	339	390	71	1,230	373	301	126
23	203	201	153	156	168	344	376	99	1,130	353	306	130
24	203	199	153	139	192	350	376	123	1,040	336	344	124
25	208	190	152	141	210	361	417	106	1,020	296	336	121
26	217	139	151	140	222	367	426	106	1,020	283	328	121
27	215	96	157	145	233	373	405	106	976	260	306	117
28	206	175	151	151	278	364	378	39	952	252	288	114
29	199	233	160	156	255	361	331	6.3	984	238	275	108
30	206	239	175	138	---	367	283	11	964	224	265	99
31	212	---	175	140	---	387	---	24	---	215	260	---
TOTAL	5,579	6,407	5,228	4,586	4,775	10,921	12,733	6,661.3	36,192	14,555	6,927	4,723
MEAN	180	214	169	148	165	352	424	216	1,206	470	225	157
MAX	217	267	283	175	278	390	526	510	2,000	779	344	243
MIN	112	96	119	126	124	273	263	6.3	52	23	126	99
AC-FT	11,070	12,110	10,370	9,100	9,470	21,660	25,260	13,250	71,790	28,870	13,740	9,370
CAL YR 1967	TOTAL	173,929		MEAN	477	MAX	2,190	MIN	89	AC-FT	345,000	
WTR YR 1968	TOTAL	119,307.3		MEAN	326	MAX	2,000	MIN	6.3	AC-FT	236,700	

BEAR RIVER BASIN

10-465. Bear River below Stewart Dam, near Montpelier, Idaho

Location.--Lat 42°16'30", long 111°17'30", in NE¼ sec.34, T.15 S., R.44 E., on right bank 300 ft downstream from Stewart Dam and 4.8 miles south of Montpelier.

Drainage area.--2,820 sq mi, approximately.

Records available.--January 1922 to September 1968. Monthly discharge only January 1922 to September 1945, published in WSP 1314.

Gage.--Water-stage recorder. Altitude of gage is 5,950 ft (from topographic map).

Average discharge.--46 years, 53.6 cfs (30,800 acre-ft per year).

Extremes.--Maximum daily discharge during year, 10 cfs several days in June and July, minimum 2.2 cfs Apr. 21-24, 1922-68; Maximum daily discharge, 3,050 cfs June 3, 1923; no flow July 15, 1968.

Remarks.--Records good. Discharge measurements generally made once a week. Water diverted at Stewart Dam through Rainbow Inlet canal (see station 10-0460) for storage and regulation in Bear Lake. Many diversions above station for irrigation.

Cooperation.--Records collected by Utah Power & Light Co., under general supervision of Geological Survey, in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	7.7	5.0	3.4	3.6	5.9	2.3	3.2	8.4	9.2	7.4	8.4
2	5.3	7.7	4.4	3.4	3.6	6.8	2.4	4.2	8.4	8.4	5.3	8.4
3	5.6	7.7	4.0	3.4	3.6	8.4	2.5	5.9	8.4	7.7	6.8	7.7
4	6.2	7.7	4.2	3.0	3.6	8.0	2.8	7.1	8.6	7.4	7.1	8.0
5	6.5	8.0	4.4	2.9	3.8	8.5	2.9	7.7	10	8.6	6.6	8.0
6	6.5	7.7	4.4	2.8	3.6	7.4	2.8	8.0	8.4	6.8	6.2	8.6
7	6.2	7.4	4.6	2.5	3.8	7.7	2.5	7.7	3.6	6.2	6.5	8.4
8	6.5	6.6	4.2	3.4	3.6	6.5	2.4	7.4	8.8	6.2	6.5	8.4
9	6.6	7.1	3.6	2.3	3.8	7.7	2.4	7.1	5.4	6.5	6.5	8.0
10	6.8	7.7	3.4	2.4	3.8	6.8	2.4	6.8	6.8	6.5	6.8	8.0
11	6.8	7.4	3.8	2.5	3.6	7.1	2.5	6.8	5.4	7.1	6.6	7.7
12	6.8	7.4	4.0	2.6	3.6	4.8	2.5	6.5	8.4	7.7	7.1	7.1
13	6.8	7.7	4.0	2.8	3.6	3.4	2.5	6.2	9.4	8.0	7.1	7.1
14	6.8	7.4	4.2	2.8	3.8	3.4	2.4	6.2	9.2	8.4	6.8	8.6
15	6.8	8.8	3.8	2.9	3.6	3.0	2.4	6.8	10	3.4	6.8	6.8
16	6.8	6.8	4.0	3.0	3.4	3.0	2.3	5.9	9.6	8.4	7.7	6.8
17	6.8	6.5	4.0	3.0	3.4	3.0	2.3	6.2	10	8.4	7.7	6.5
18	7.1	6.2	3.6	3.0	3.4	2.8	2.4	5.9	10	8.4	7.7	6.5
19	7.1	5.9	3.6	3.0	3.8	2.9	2.4	6.2	10	8.0	7.7	6.5
20	7.1	5.9	3.6	3.2	3.8	3.0	2.3	6.2	8.0	7.4	8.0	6.2
21	7.4	6.2	3.4	3.2	3.4	3.2	2.2	6.5	8.4	6.6	8.0	6.2
22	7.4	6.2	3.4	3.2	3.4	3.4	2.2	7.4	9.6	8.2	8.0	5.9
23	7.4	6.2	3.4	3.2	3.4	3.8	2.2	8.4	9.6	5.9	8.0	5.9
24	7.1	6.5	3.4	3.2	3.6	4.0	2.2	8.0	3.6	5.6	8.4	5.6
25	7.1	6.5	3.4	3.2	3.8	4.2	2.3	7.7	8.6	7.4	8.4	5.6
26	7.1	5.3	3.4	3.4	3.6	3.8	2.3	7.1	9.2	10	8.0	5.6
27	7.4	8.0	3.6	3.8	3.6	3.6	2.3	7.1	5.6	8.6	8.0	5.3
28	7.7	5.0	3.6	3.8	3.8	3.4	2.3	8.2	10	8.9	8.0	5.0
29	7.7	5.6	3.8	3.8	4.4	3.0	2.3	6.8	10	8.4	8.0	4.8
30	7.7	5.6	3.8	3.8	-	2.9	2.4	8.0	13	8.0	8.4	4.2
31	7.7	-	3.6	3.8	-	2.8	-	8.8	-	8.0	8.8	-
TOTAL	212.3	201.6	119.0	95.1	104.4	148.5	72.1	210.0	275.6	238.1	229.9	203.1
MEAN	6.85	6.72	3.84	3.07	3.60	4.79	2.40	6.77	9.18	7.62	7.42	6.77
MAX	7.7	8.0	5.0	3.8	4.4	8.8	2.8	8.0	10	10	8.8	8.8
MIN	5.3	5.0	3.4	2.3	3.4	2.6	2.2	3.2	8.4	5.6	5.3	4.2
AC-FT	421	400	236	189	207	295	143	417	547	469	486	403
CAL YR 1967	TOTAL 2,209.6	MEAN 6.65	MAX 16	MIN 2.9	AC-FT 4,330							
WTR YR 1968	TOTAL 2,107.7	MEAN 5.76	MAX 10	MIN 2.2	AC-FT 4,180							

BEAR RIVER BASIN

10-555. Bear Lake at Lifton, near St. Charles, Idaho

Location.--Lat 42°07'20", long 111°19'20", in W&A sec.16, T.15 S., R.44 E., in Lifton pumping plant of Utah Power & Light Company, 3.5 miles east of St. Charles.

Drainage area.--435 sq mi, approximately (does not include Mud Lake drainage).

Records available.--October 1903 to June 1908 (gage heights only), January 1921 to September 1966. Monthly contents only January 1921 to September 1945 published in WSP 1314. Published as Bear Lake at Fish Haven 1903-08.

Gage.--Water-stage recorder. Datum of gage is 5,900 ft above mean sea level, unadjusted (levels by Utah Power & Light Company). October 1903 to June 1908, staff gage at different site and datum.

Extremes.--Maximum contents during year, 1,251,000 acre-ft June 28 to July 2 (gage height, 21.23 ft); minimum, 1,054,000 acre-ft Jan. 12-20 (gage height, 18.40 ft).
 1921-28: Maximum contents, 1,423,000 acre-ft June 10, 1923 (gage height, 23.66 ft); no usable contents Nov. 9-12, 1935 (gage height, 2.00 ft, lower limit of pumps).

Remarks.--Outflow regulated by gates and pumps at Bear Lake and by gates in dike at north end of Mud Lake. Inflow to lake augmented by water diverted from Bear River through Rainbow Inlet canal and Dangle Inlet canal, which empty into Mud Lake (see station 10-0450). Water from Mud Lake reaches Bear Lake by a sluice at pumping plant or by gates in causeway at south end of Mud Lake. Capacity, 1,421,000 acre-ft between gage heights 2.00 (lower limit of pumps) and 23.66 ft (present feasible upper limit of storage with existing facilities). Storage water used for irrigation and power development. Figures given herein represent usable contents.

Cooperation.--Gage heights furnished by Utah Power & Light Company, under general supervision of Geological Survey, in connection with a Federal Power Commission project. Contents computed by Geological Survey from capacity table based on data furnished by Utah Power & Light Company.

Contents, in thousands of acre-feet at 2330, water year October 1967 to September 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,189	1,144	1,102	1,065	1,023	1,094	1,129	1,145	1,164	1,251	1,211	1,184
2	1,187	1,143	1,101	1,065	1,025	1,095	1,130	1,145	1,164	1,251	1,209	1,184
3	1,187	1,141	1,099	1,063	1,026	1,097	1,131	1,145	1,164	1,250	1,207	1,183
4	1,185	1,140	1,098	1,062	1,027	1,098	1,131	1,146	1,164	1,250	1,204	1,183
5	1,184	1,139	1,097	1,061	1,028	1,099	1,131	1,147	1,166	1,250	1,201	1,182
6	1,182	1,137	1,095	1,060	1,070	1,100	1,131	1,148	1,168	1,250	1,198	1,182
7	1,181	1,136	1,094	1,058	1,070	1,101	1,132	1,148	1,170	1,249	1,196	1,182
8	1,179	1,134	1,092	1,058	1,071	1,102	1,132	1,149	1,174	1,249	1,194	1,181
9	1,178	1,131	1,091	1,056	1,072	1,104	1,132	1,150	1,178	1,248	1,193	1,180
10	1,175	1,130	1,090	1,056	1,072	1,105	1,132	1,150	1,182	1,248	1,191	1,180
11	1,174	1,128	1,088	1,055	1,073	1,106	1,132	1,151	1,189	1,248	1,189	1,179
12	1,172	1,126	1,086	1,054	1,074	1,108	1,132	1,152	1,197	1,248	1,188	1,178
13	1,170	1,124	1,085	1,054	1,075	1,110	1,132	1,154	1,203	1,247	1,187	1,178
14	1,168	1,123	1,083	1,054	1,076	1,112	1,132	1,154	1,210	1,246	1,187	1,178
15	1,166	1,122	1,081	1,054	1,077	1,113	1,132	1,155	1,215	1,245	1,186	1,178
16	1,165	1,120	1,080	1,054	1,078	1,115	1,133	1,156	1,219	1,243	1,185	1,177
17	1,163	1,119	1,078	1,054	1,079	1,116	1,134	1,156	1,223	1,241	1,184	1,176
18	1,161	1,118	1,078	1,054	1,080	1,118	1,135	1,157	1,227	1,240	1,184	1,175
19	1,160	1,116	1,076	1,054	1,081	1,118	1,136	1,158	1,231	1,238	1,184	1,174
20	1,159	1,115	1,076	1,054	1,082	1,120	1,137	1,159	1,236	1,236	1,184	1,173
21	1,158	1,114	1,074	1,055	1,084	1,121	1,138	1,159	1,240	1,235	1,184	1,173
22	1,156	1,113	1,074	1,055	1,085	1,122	1,139	1,159	1,243	1,234	1,184	1,171
23	1,155	1,112	1,072	1,055	1,086	1,123	1,140	1,160	1,246	1,232	1,184	1,170
24	1,154	1,111	1,071	1,056	1,087	1,124	1,140	1,161	1,248	1,231	1,184	1,170
25	1,152	1,110	1,070	1,056	1,088	1,125	1,140	1,161	1,250	1,229	1,184	1,169
26	1,151	1,109	1,070	1,056	1,089	1,127	1,141	1,162	1,251	1,227	1,184	1,168
27	1,150	1,108	1,069	1,056	1,090	1,127	1,142	1,163	1,251	1,225	1,184	1,168
28	1,150	1,108	1,068	1,058	1,091	1,128	1,143	1,164	1,251	1,222	1,184	1,167
29	1,148	1,104	1,067	1,060	1,092	1,129	1,144	1,164	1,251	1,220	1,184	1,166
30	1,147	1,103	1,067	1,061	1,093	1,129	1,145	1,164	1,251	1,217	1,184	1,166
31	1,145	1,103	1,068	1,062	1,094	1,129	1,145	1,164	1,251	1,214	1,184	1,166
(†)	19.72	18.11	18.58	18.53	18.96	19.48	19.71	19.98	21.23	20.70	20.27	20.02
(‡)	-45.0	-42.0	-37.0	-6.0	+30.0	+37.0	+16.0	+19.0	+37.0	-37.0	-30.0	-18.0

Calendar year 1967..... † +17.0
 Water year 1967-68..... ‡ -24.0

† Gage height, in feet, at end of month.
 ‡ Change in contents, in thousands of acre-feet.

BEAR RIVER BASIN

10-595. Bear Lake outlet canal near Paris, Idaho

Location.--Lat 42°13'00", long 111°20'30", in SW¼ sec.8, T.14 S., R.44 E., on right bank 2,000 ft downstream from headgates (at dike) and 3 miles southeast of Paris.

Records available.--January 1922 to September 1968. Monthly discharge only January 1922 to September 1945, published in WSP 1314.

Gage.--Water-stage recorder. Altitude of gage is 5,920 ft (from topographic map).

Average discharge.--46 years, 336 cfs (243,300 acre-ft per year).

Extremes.--Maximum daily discharge during year, 1,140 cfs July 27 (gage height, 17.80 ft); minimum daily, 3.0 cfs Jan. 14 to Apr. 5.
1922-68: Maximum daily discharge, 1,070 cfs Aug. 8, 1924; minimum daily, 1 cfs for many days in 1937, 1954, 1959, 1961, 1964.

Remarks.--Records good except those for period of no gage-height record, which are fair. Discharge measurements generally made six times a week during periods of release from Bear Lake.

Cooperation.--Records collected by Utah Power & Light Co., under general supervision of Geological Survey, in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	783	825	783	709	3.0	3.0	3.0	5.2	3.7	683	1,080	13
2	815	801	759	692	3.0	3.0	3.0	5.2	3.7	1,020	1,040	13
3	818	807	736	685	3.0	3.0	3.0	5.1	96	893	1,020	13
4	822	795	715	704	3.0	3.0	3.0	5.0	287	957	1,020	13
5	825	789	712	686	3.0	3.0	3.0	4.9	312	1,010	956	13
6	801	505	698	730	3.0	3.0	3.2	4.8	234	1,090	854	137
7	783	744	686	704	3.0	3.0	3.4	4.8	54	1,050	837	225
8	786	868	685	698	3.0	3.0	3.6	4.7	6.0	1,020	816	231
9	783	893	685	701	3.0	3.0	3.7	4.8	6.0	1,000	840	233
10	774	657	700	709	3.0	3.0	3.9	4.5	6.0	1,050	846	108
11	750	852	715	715	3.0	3.0	4.1	4.5	6.0	980	752	11
12	718	777	700	704	3.0	3.0	4.3	4.4	6.0	984	564	11
13	718	786	705	415	3.0	3.0	4.5	4.3	6.0	1,040	497	11
14	701	801	700	3.0	3.0	3.0	4.7	4.2	6.0	1,080	487	11
15	701	801	705	3.0	3.0	3.0	4.9	4.2	6.0	1,080	348	11
16	701	804	711	3.0	3.0	3.0	5.0	4.1	6.0	1,080	163	185
17	706	804	711	3.0	3.0	3.0	5.2	4.0	6.0	1,080	146	359
18	689	804	712	3.0	3.0	3.0	5.4	3.9	6.0	1,090	100	363
19	660	833	712	3.0	3.0	3.0	5.4	3.8	6.0	992	59	182
20	666	825	710	3.0	3.0	3.0	5.4	3.8	6.0	822	13	18
21	675	831	708	3.0	3.0	3.0	5.4	3.7	6.0	801	13	18
22	663	825	706	3.0	3.0	3.0	5.4	3.7	6.0	789	13	18
23	643	804	707	3.0	3.0	3.0	5.4	3.7	6.0	658	13	18
24	695	789	707	3.0	3.0	3.0	5.4	3.7	6.0	997	13	18
25	747	768	707	3.0	3.0	3.0	5.3	3.7	267	990	13	17
26	738	782	708	3.0	3.0	3.0	5.3	3.7	487	1,080	13	17
27	319	667	706	3.0	3.0	3.0	5.3	3.7	490	1,140	13	17
28	557	782	704	3.0	3.0	3.0	5.3	3.7	477	1,120	13	17
29	843	756	702	3.0	3.0	3.0	5.3	3.7	465	1,100	13	16
30	846	777	700	3.0	---	3.0	5.3	3.7	451	1,080	13	16
31	837	---	701	3.0	---	3.0	---	3.7	---	1,090	13	---
TOTAL	22,561	23,692	21,996	8,904.0	87.0	93.0	135.1	130.7	3,729.4	31,026	12,551	2,333
MEAN	728	790	710	287	3.0	3.0	4.50	4.22	124	1,001	405	77.8
MAX	846	833	783	750	3.0	3.0	5.4	5.2	490	1,140	1,080	363
MIN	319	505	685	3.0	3.0	3.0	3.0	3.7	3.7	683	13	11
AC-FT	44,750	46,990	43,830	17,660	173	184	268	259	7,400	61,540	24,890	4,630
CAL YR 1967	TOTAL 175,718.1	MEAN 481	MAX 1,590	MIN 1.7	AC-FT 348,500							
WTR YR 1968	TOTAL 127,238.2	MEAN 348	MAX 1,140	MIN 3.0	AC-FT 252,400							

Note.--No gage-height record Jan. 14 to June 2.

BEAR RIVER BASIN 10-905. Bear River near Preston, Idaho

Location.--Lat. 42°10', long. 111°03', in 2nd sec. 36, T. 14 S., R. 23 E., on left bank 600 ft downstream from head-
waters of West Snake Canal, 5 miles downstream from Hink Creek, 5 miles north of Prusich, and 8.5 miles up-
stream from Battle Creek.

Drainage area.--4,500 sq mi, approximately.

Records available.--October 1899 to December 1916, January to September 1917 (gauge heights only), October 1942 to September 1969, prior to 1903, published as "up Battlement." Monthly discharge only for some periods, published in Rpt. 124.

Gage.--Digital water-stage recorder. Attitude of 1966 is 4,540 ft (from topographic map). October 1899 to January 1944 to September 1965 graphics water-stage recorder at same site and datum.

Average discharge.--25 years (1943-68), 798 cfs (570,600 acre-ft per year).

Extremes.--Maximum discharge during year, 2,910 cfs June 11 (gage height, 4,611 ft); minimum, 1.7 cfs May 4 (gage height, 4,570 ft); extreme during 24 hrs, May 11, 1907, 2,910 cfs (gage height, 4,611 ft); minimum, about 8,500 cfs June 9, 10, 1907, estimated on basis of records for site since West Battlement. Year: maximum stage height observed, 5.04 ft Jan. 17, 16, 1817 (backwater from Joe), site and datum then in use; minimum discharge not determined.

1942-68: Maximum discharge, 4,420 cfs Apr. 17, 1950 (gage height, 5.81 ft); minimum, 0.6 cfs June 19, 1949; minimum daily, that of May 11, 1909.

Remarks.--Records good. Station is below all irrigation diversions from Bear River in Idaho except Gap River pumps in 2d sec. 20, 6-18 S., R. 23 E. Return flow of stream affected by storage reservoirs, power develop-
ments, diversions for irrigation, and return flow from irrigated areas.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,410	1,360	1,270	1,310	479	562	933	725	234	444	606	206
2	691	1,220	1,230	1,370	562	562	1,410	722	394	461	425	385
3	1,360	1,120	1,050	1,160	455	779	583	362	512	672	472	167
4	1,370	1,180	1,200	1,200	372	974	1,000	232	318	1,000	284	360
5	1,370	1,130	1,140	794	553	449	781	432				
6	1,190	1,370	1,230	1,230	467	711	1,040	197	406	882	639	231
7	1,350	1,180	1,170	1,150	256	856	593	301	456	537	728	277
8	1,300	1,100	1,070	894	537	839	939	201	589	623	612	242
9	716	965	1,030	1,230	552	871	464	301	624	913	501	242
10	1,450	1,080	903	1,630	553	893	1,130	311	704	787	948	278
11	1,020	1,450	1,270	1,080	568	721	458	740	798	613	620	112
12	1,500	1,190	861	1,220	216	593	1,170	924	837	900	650	229
13	1,080	1,270	1,170	1,050	424	826	605	496	721	648	468	209
14	1,140	1,210	1,150	1,200	557	718	709	209	874	682	391	283
15	1,140	1,530	1,150	1,200	557	718	709	209	874	653	757	192
16	900	1,150	911	405	408	685	705	200	478	599	316	270
17	1,110	1,330	1,040	728	327	853	634	330	565	866	399	316
18	1,230	1,170	924	531	547	850	619	233	430	653	364	210
19	1,120	1,300	1,090	553	534	725	789	275	153	413	354	211
20	1,170	1,270	1,250	558	680	611	718	407	275	174	424	284
21	1,090	1,210	1,170	504	654	597	607	253	669	353	633	256
22	1,891	1,220	1,340	563	1,130	679	509	311	254	440	498	312
23	1,910	1,600	1,340	478	1,140	671	509	566	170	754	433	318
24	1,650	1,610	1,240	546	763	586	811	576	246	930	318	313
25	915	1,200	1,230	555	660	668	481	540	1,050	273	337	337
26	1,110	1,120	1,830	970	598	540	281	169	320	939	301	307
27	1,270	1,470	1,630	604	689	854	474	169	176	278	290	314
28	1,190	1,123	1,220	280	558	807	486	569	167	674	282	295
29	976	1,270	1,280	405	534	554	486	569	481	581	282	287
30	1,070	1,070	1,180	405	534	554	486	569	481	581	282	287
31	1,150	-----	1,140	405	534	554	486	569	481	581	282	287
TOTAL	35,278	36,665	39,410	29,742	16,545	22,661	21,207	10,724	12,494	21,067	13,907	7,188
MEAN	1,158	1,222	1,156	850	571	730	707	346	432	680	466	223
MAX	1,500	1,610	1,630	1,630	1,140	1,180	1,410	725	937	1,090	948	365
MIN	691	965	661	740	267	509	281	210	34	178	229	112
AC-1	69,470	72,720	71,230	51,060	32,620	44,910	42,060	21,270	25,690	41,790	27,380	15,050

CAL YR 1967 TOTAL 336,770 MEAN 933
STR YR 1968 TOTAL 260,730.0 MEAN 717

MAX 1,630 MIN 60
MAX 1,430 MIN 2.0 AC-F1 673,920
AC-F1 514,400

BEAR RIVER BASIN

10-930. Cub River near Preston, Idaho

Location.--Lat 42°08', long 111°41', in SW1 sec.8, T.16 S., R.41 E., on right bank 0.2 mile upstream from head-gates of Cub River-Warm Creek Canal, 0.7 mile upstream from forest boundary, and 10 miles east of Preston.

Drainage area.--19.4 sq mi.

Records available.--March 1940 to September 1952, October 1955 to September 1968.

Gage.--Water-stage recorder. Altitude of gage is 5,320 ft (from topographic map).

Average discharge.--28 years, 82.0 cfs (89,376 acre-ft per year).

Extremes.--Maximum discharge during year, 554 cfs June 5 (gage height, 2.75 ft); minimum, 7.7 cfs Jan. 28, 1940-52, 1955-59; Maximum discharge, 715 cfs June 7, 1957 (gage height, 3.39 ft); maximum gage height, 3.82 ft June 2, 1943; no flow for part of Jan. 29, 1965, result of snowslide.

Remarks.--Records good. No diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	25	23	20	18	25	49	59	374	149	54	36
2	51	25	22	20	18	26	46	71	402	139	53	36
3	51	25	22	20	18	27	40	79	445	130	52	35
4	51	25	22	20	18	29	40	100	495	126	51	35
5	51	25	23	19	18	31	39	126	510	121	50	34
6	31	25	22	19	18	31	36	155	485	116	49	34
7	29	25	23	19	18	29	35	128	460	113	48	34
8	29	25	22	19	18	27	34	106	382	108	48	33
9	29	25	21	18	18	26	33	111	350	101	50	33
10	29	25	21	20	18	24	36	143	346	100	47	32
11	29	25	21	19	18	23	40	166	366	94	46	32
12	29	24	21	19	18	23	43	183	384	90	45	32
13	29	24	21	19	18	23	42	178	420	86	44	32
14	29	24	21	19	18	23	40	166	420	83	46	32
15	28	24	21	18	18	23	39	159	388	81	44	32
16	28	24	21	18	18	23	40	116	368	79	43	32
17	28	24	21	18	18	25	38	101	350	77	44	31
18	28	24	21	18	18	24	35	98	350	75	44	31
19	28	24	21	18	18	23	34	110	354	72	42	31
20	28	24	21	18	20	23	32	153	350	70	41	31
21	27	24	21	18	22	23	31	186	330	69	41	31
22	26	24	21	18	25	23	30	228	310	69	43	30
23	26	24	21	16	27	24	29	209	295	66	41	29
24	26	24	20	18	26	26	30	186	258	65	40	29
25	26	24	20	18	24	29	30	161	244	64	40	29
26	26	24	21	18	23	31	30	145	223	63	39	29
27	27	25	21	19	23	30	29	141	210	60	39	29
28	27	25	20	22	23	28	30	186	198	59	38	29
29	26	23	20	19	24	44	34	322	186	57	36	29
30	26	23	20	18	18	42	44	420	168	56	38	29
31	26	23	20	18	18	44	44	368	55	55	37	29
TOTAL	673	727	656	554	579	860	1,088	5,063	10,429	2,691	1,375	951
MEAN	28.2	24.2	21.2	18.8	20.0	27.7	36.3	183	348	86.6	44.4	31.7
MAX	51	25	23	22	27	44	49	420	510	149	54	36
MIN	25	23	20	18	18	23	29	59	168	56	37	29
AC-FT	1,750	1,440	1,300	1,160	1,150	1,710	2,160	10,040	20,690	5,340	2,730	1,890
CAL YR 1967	TOTAL	31,682		MEAN	87.6	MAX	540	MIN	16	AC-FT	63,430	
GR YR 1968	TOTAL	28,876		MEAN	70.7	MAX	510	MIN	19	AC-FT	51,340	

BEAR RIVER BASIN

10-1090. Logan River above State dam, near Logan, Utah

Location.--Lat 41°45'40", long 111°47'00", in NE¼ sec.36, T.12 N., R.1 E., on right bank at Logan plant of Utah Power & Light Co., 125 ft upstream from tailrace, 0.5 mile upstream from State dam, and 2.5 miles east of Logan.

Drainage area.--216 sq mi.

Records available.--June 1896 to September 1966. Published as Logan River near Logan prior to 1913. Records since May 1963 equivalent to earlier records if records for Utah Power & Light Co.'s tailrace near Logan are added. Monthly discharge only for some periods, published in WSP 1514.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 4,860 ft (from topographic map). Prior to May 7, 1913, staff gage at various sites within 0.5 mile downstream, below confluence of tailrace, at different datums. May 7 to Sept. 30, 1913, water-stage recorder at present site at different datums and Oct. 3, 1913, to Sept. 3, 1936, at datum about 2.3 ft lower than present datum.

Average discharge.--83 years (1913-66), 102 cfs (73,640 acre-ft per year). Average combined discharge of Logan River above State dam, Utah Power & Light Co.'s tailrace, and Logan, Hyde Park & Smithfield Canal, 72 years (1896-1966), 272 cfs (196,900 acre-ft per year).

Extremes.--Maximum discharge during year, 768 cfs June 8 (gage height, 3.96 ft, caused by failure of power company's flume above station); minimum daily, 18 cfs Sept. 27.

Maximum combined discharge during year (Logan River above State dam, Utah Power & Light Co.'s tailrace, and Logan, Hyde Park & Smithfield Canal) 948 cfs June 5; minimum daily, 102 cfs Jan. 12.
1913-66: Maximum discharge, 2,000 cfs Mar. 21, 1916 (gage height, 5.6 ft, datum then in use), from rating curve extended above 1,000 cfs; minimum daily, 6 cfs Nov. 7, 1940.

1896-1966: Maximum combined observed discharge (Logan River above State dam, Utah Power & Light Co.'s tailrace, and Logan, Hyde Park & Smithfield Canal), 2,480 cfs May 24, 1907; minimum daily, 80 cfs Jan. 21, 1958.

Remarks.--Records good. Water diverted from river and springs above station for power, irrigation, and municipal supply. Flow regulated by powerplants above station. For records of combined flow of Logan River, Utah Power & Light Co.'s tailrace, and Logan, Hyde Park & Smithfield Canal, see following page. Combined flow record excludes that in Logan City tailrace pipe lines and one small irrigation diversion from Power flume that siphons canyon 400 ft upstream from station. During 1963 site of gaging station for Logan, Hyde Park & Smithfield Canal was changed; records of combined flow since that time are equivalent to previous records.

Cooperation.--Records collected in collaboration with Utah Power & Light Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	25	26	26	29	30	50	76	411	195	23	20
2	48	26	26	26	28	30	56	103	428	178	23	20
3	36	30	25	26	29	30	39	154	460	161	25	20
4	58	24	26	25	29	58	53	167	552	155	25	22
5	48	23	26	25	28	58	33	233	670	143	24	21
6	54	99	25	28	26	60	33	270	650	125	23	20
7	47	143	25	28	28	36	32	186	618	120	22	20
8	45	146	24	30	28	36	30	120	617	114	22	20
9	45	155	24	33	28	34	28	143	498	111	24	63
10	40	155	26	33	28	33	25	208	472	122	25	64
11	40	152	26	25	28	56	30	220	468	111	22	56
12	40	149	25	26	26	56	45	233	468	96	23	50
13	40	149	25	26	28	60	50	237	454	90	23	21
14	38	149	26	32	26	34	36	208	476	81	24	23
15	36	105	29	32	28	56	36	175	437	76	32	23
16	34	30	40	33	26	56	47	146	411	66	32	23
17	56	32	45	32	28	36	39	117	400	79	54	23
18	26	32	40	30	29	36	34	117	400	56	57	23
19	29	30	40	30	30	34	33	164	400	45	47	24
20	26	30	39	30	37	33	32	233	400	40	40	22
21	29	32	39	30	43	33	30	297	350	36	39	24
22	29	30	37	30	42	33	30	375	375	32	46	25
23	33	28	37	30	37	33	29	236	364	28	48	25
24	33	28	37	30	36	34	29	294	343	28	30	24
25	28	28	39	29	34	62	29	266	328	24	26	24
26	34	28	37	29	33	71	26	240	290	23	26	22
27	26	35	35	29	32	66	29	233	263	22	25	18
28	33	26	32	29	32	60	26	297	260	22	23	20
29	33	28	28	28	30	69	30	408	250	22	22	20
30	28	28	26	29	---	57	54	496	237	22	20	19
31	26	---	26	29	---	52	---	434	---	22	20	---
TOTAL	1,145	1,956	958	904	696	1,430	1,063	7,152	11,918	2,442	687	801
MEAN	37.1	60.2	30.9	29.2	30.9	46.1	35.4	231	427	78.3	28.9	26.7
MAX	56	155	45	32	43	71	66	496	670	155	57	64
MIN	28	24	24	24	26	30	28	76	237	22	20	18
AC-FT	2,260	3,880	1,900	1,740	1,780	2,640	2,110	14,190	28,420	4,840	1,780	1,890
CAL YR 1967	TOTAL 48,970			MEAN 126		MAX 877		MIN 19	AC-FT 21,180			
WTR YR 1968	TOTAL 32,462			MEAN 88.7		MAX 870		MIN 16	AC-FT 64,400			

BEAR RIVER BASIN

10-1090. Logan River above State dam, near Logan, Utah—continued

Combined discharge, in cubic feet per second, of Logan River above State dam, Utah Power & Light Co.'s dam, near Logan, Hole Park & Smithfield Canal at head, near Logan, Utah, water from October 1967 to September 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160	185	157	120	112	124	178	227	254	453	241	152
2	190	185	126	122	108	124	138	290	268	448	213	192
3	188	184	130	122	112	124	150	324	210	437	220	184
4	186	182	132	111	110	122	162	372	201	420	242	182
5	178	181	133	112	107	127	170	422	227	422	222	181
6	183	149	120	120	111	129	170	420	228	402	240	182
7	178	182	128	104	102	122	153	401	228	402	222	187
8	173	181	129	108	102	121	151	348	222	322	224	182
9	175	184	122	114	111	124	149	275	222	322	240	182
10	170	184	122	120	109	121	153	414	222	400	243	182
11	170	182	127	112	111	121	152	427	222	322	220	181
12	170	182	122	102	111	120	202	472	222	370	222	182
13	170	182	122	110	109	122	202	472	212	322	220	172
14	169	182	121	112	102	121	182	442	211	342	222	172
15	162	184	110	112	102	123	152	427	272	341	222	172
16	162	182	117	114	109	112	212	372	222	322	222	177
17	162	182	120	114	102	117	191	341	242	317	222	172
18	152	182	112	102	110	112	124	342	242	312	240	172
19	152	182	122	112	112	112	152	222	222	302	227	172
20	152	182	121	112	122	112	172	474	222	222	220	177
21	152	182	122	112	122	110	17	221	242	222	217	180
22	162	141	122	112	122	114	127	222	221	220	222	180
23	161	122	120	112	120	112	124	272	412	220	222	180
24	162	141	124	114	122	112	160	227	222	272	212	172
25	152	182	122	110	122	112	160	422	270	272	214	172
26	122	122	124	114	122	122	160	472	227	227	211	170
27	127	122	122	114	122	120	127	422	222	222	210	182
28	122	127	122	114	122	121	121	222	222	222	220	182
29	122	127	122	102	122	122	122	222	222	222	220	171
30	127	120	121	110	122	122	212	222	222	220	122	182
31	122	---	122	112	---	124	---	222	---	224	---	---
TOTAL	5,122	4,411	3,272	3,202	3,272	3,220	5,272	14,142	20,222	10,201	7,022	2,412
MEAN	162	147	122	112	112	122	172	422	222	222	222	180
MAX	182	184	137	122	122	124	212	422	222	422	220	182
MIN	122	122	110	102	102	110	122	222	222	221	122	182
AC-FT	10,200	2,720	7,220	6,220	6,220	7,220	10,220	22,220	22,220	20,220	13,220	10,740
CAL YR	1967	TOTAL	22,702	MEAN	270	MAX	2,020	MIN	22	AC-FT	122,200	
MYR YR	1968	TOTAL	22,702	MEAN	227	MAX	224	MIN	102	AC-FT	172,200	

BEAR RIVER BASIN

10-1170. Hammond (East Side) Canal near Collinston, Utah

Location.--Lat 41°45'41", long 112°05'26", in SW 1/4 sec. 27, T.13 N., R.2 W., on right bank 3,600 ft downstream from Gowler Dam and 4 miles north of Collinston.

Records available.--June 1912 to September 1968. Prior to 1916, published as Hammond ditch near Collinston. Monthly discharge only for some periods, published in WSP 1514.

Gage.--Water-stage recorder. Prior to May 22, 1916, staff gage at same site and datum.

Average discharge.--56 years, 50.8 cfs (36,780 acre-ft per year).

Extremes.--1912-68: Maximum daily discharge, 164 cfs June 29, 1965; no flow at times in each year.

Remarks.--Records good. Canal diverts from east side of Bear River in NW 1/4 sec. 26, T.13 N., R.2 W., at dam which West Side Canal and intake of Gowler powerplant also divert. Water from this canal and West Side Canal used for irrigation of about 56,000 acres below station in eastern Box Elder County.

Cooperation.--Gage-height record and 4 discharge measurements furnished by Utah Power & Light Co.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	22					0	143	164	166	166	95
2	78	19					0	146	165	167	167	94
3	78	18					0	146	165	167	167	95
4	68	18					0	136	164	167	167	95
5	66	18					0	126	163	167	167	95
6		16					68	101	164	161	161	95
7	58	16					86	83	165	161	161	95
8	58	16					100	41	165	161	161	95
9	55	16					108	16	164	158	158	95
10	53	16					109	15	165	162	162	95
11		12					119	14	165	159	159	95
12	49	17					126	13	153	153	153	95
13	49	17					127	12	165	149	149	95
14	49	17					127	21	161	148	148	90
15	49	18					118	37	157	145	145	85
16	43	19					113	46	156	142	142	85
17	39	17					112	72	157	157	157	84
18	39	18					110	84	155	167	167	86
19	39	17					110	98	156	166	166	86
20	40	17					110	110	156	160	160	90
21	40	7.3					106	124	156	160	160	75
22	36	0					99	139	156	161	161	76
23	36	0					99	146	157	160	160	76
24	38	0					100	145	157	160	160	76
25	36	0					100	161	157	160	160	76
26	35	0					100	161	157	160	160	76
27	34	0					103	167	157	160	160	76
28	34	0					110	166	157	160	160	74
29	34	0					119	168	157	160	160	74
30	28	0					127	165	157	160	160	74
31	25	0					138	156	156	160	160	74
TOTAL	1,483	268.3	0	0	0	0	0	2,346	2,992	4,949	3,771	2,581
MEAN	47.6	16.2	0	0	0	0	0	61.8	89.7	160	122	86.0
MAX	83	22	0	0	0	0	0	138	167	165	162	95
MIN	25	0	0	0	0	0	0	0	12	153	160	74
AC-FT	2,940	727	0	0	0	0	0	5,640	5,930	9,520	7,480	5,120
CAL YR 1967	TOTAL	17,777.3		MEAN	48.7	MAX	168	MIN	0	AC-FT	35,260	
WR YR 1968	TOTAL	16,988.3		MEAN	51.9	MAX	167	MIN	0	AC-FT	37,660	

BEAR RIVER BASIN

10-1175. West Side Canal near Collinston, Utah

Location.--Lat 41°18'55", Long 112°05'32". In Sec. 27, T.13 N., R.2 E., on left bank 4,300 ft downstream from Gaylor Dam and 4 miles north of Collinston.

Records available.--June 1912 to September 1968. Monthly discharge only for some periods, published in WSP 1314.

Gage.--Water-stage recorder. Prior to May 22, 1914 staff gage at same site and datum.

Average discharge.--88 cfs, 238 cfs (172,300 acre-ft per year).

Extremes.--1912-68: Maximum daily discharge, 783 cfs July 11, 1967; no flow for periods in every year except 1913.

Remarks.--Records good. Canal diverts from west side of Bear River in NW1/4 sec. 27 (revised), T.13 N., R.2 E., at dam at which Hammond (East Side) Canal and intake of Cotler powerplant also divert. Water from this canal and Hammond (East Side) Canal used for irrigation of about 58,000 acres below station in eastern box River County.

Cooperation.--Gage-height record and 6 discharge measurements furnished by Utah Power & Light Co.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	484	115	80	85	85	58			659	731	634	522
2	412	114	80	85	85	38			0	701	738	533
3	426	164	80	68	85	34		4.4		715	737	578
4	408	90	72	68	68	17		3.3		688	731	558
5	389	90	78	68	68	34		5.3		682	737	558
6	368	80	68	68	68	34		226	414	733	667	522
7	340	81	68	68	68	24		348	311	729	668	522
8	332	81	68	68	68	5.4		468	141	738	668	518
9	318	88	68	68	68	5.1		497	53	737	667	528
10	293	87	68	68	68	5.1		520	81	738	667	520
11	276	87	68	68	68	28	4.4	542		738	657	563
12	269	87	68	68	68	2.0		584	48	729	611	552
13	264	86	68	68	68	0		608	172	714	590	540
14	268	87	68	68	68	0		598	173	713	584	535
15	262	87	68	68	68	0		588	173	704	577	535
16	259	87	68	68	68	0		540	214	701	568	538
17	224	87	68	68	68	0		528	358	691	538	433
18	222	88	68	68	68	0		539	414	689	487	518
19	221	86	68	68	68	0		548	407	691	410	518
20	217	88	68	68	68	0		561	358	695	398	502
21	217	88	68	68	68	0		586	298	691	410	468
22	219	88	68	68	68	0		518	487	691	362	478
23	185	87	68	68	68	0		520	488	689	264	468
24	182	86	68	68	68	0		529	707	681	252	454
25	180	88	68	68	68	0		522	728	673	248	444
26	180	87	68	68	68	0		508	728	657	245	448
27	140	86	68	68	68	0		518	728	657	245	448
28	139	88	68	68	68	0		554	727	628	284	445
29	140	84	68	68	68	0		678	728	628	428	444
30	134	86	68	68	68	0		636	731	628	508	445
31	128		68	68	68	0		630		624	524	
TOTAL	6,078	2,676	2,032	2,010	2,438	285.0	0	13,741.0	14,189	21,837	16,784	16,730
MEAN	200	82.7	67.2	68.0	78.2	9.15	0	443	475	698	507	534
MAX	484	115	80	85	85	58	0	630	731	737	667	622
MIN	128	80	68	68	68	0	0	0	48	684	243	444
AC-FT	18,010	8,210	4,130	4,000	2,820	500	0	27,280	28,140	42,320	31,180	31,200
CAL YR	1867	TOTAL	29,385.60	MEAN	248	MAX	783	MIN	0	AC-FT	177,300	
WTR YR	1968	TOTAL	27,849.0	MEAN	227	MAX	737	MIN	0	AC-FT	183,400	

BEAR RIVER BASIN

10-1180. Bear River near Collinston, Utah

Location.--Lat 41°50'03", long 112°03'16", in NE1/4 sec. 27, T.13 N., R.2 W., on right bank 900 ft downstream from Cutler plant of Utah Power & Light Co., 2,000 ft downstream from Cutler Dam, and 5.5 miles north of Collinston.

Drainage area.--6,000 sq mi, approximately.

Records available.--July 1889 to September 1968. Published as "at Collinston" prior to 1900. Monthly discharge only for some periods, published in WSP 1314.

Gage.--Digital water-stage recorder. Datum of gage is 4,276.13 ft above mean sea level (levels by Bureau of Reclamation). Prior to Nov. 8, 1913, staff gage, and Nov. 8, 1913 to Sept. 10, 1938, graphic water-stage recorder, at site 0.8 mile downstream at different datums. Sept. 10, 1938 to July 6, 1968, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 5,080 cfs Mar. 20 (gage height, 5.55 ft); minimum daily, 20 cfs July 16, 16.
1889-1968: Maximum discharge observed, 11,600 cfs June 7-10, 1909 (gage height, 7.70 ft, site and datum then in use); minimum daily, 10 cfs Aug. 4-12, 18-23, 1908; practically no flow at 2400 Aug. 5, 1920.

Remarks.--Records excellent. Natural flow of stream affected by storage reservoir, power developments, diversions for irrigation, and return flow from irrigated areas.

Cooperation.--Nine discharge measurements furnished by Utah Power & Light Co.

DISCHARGE, IN CFS, WATER YEAR (OCTOBER 1967 TO SEPTEMBER 1968)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	568	1,560	1,950	1,860	1,140	2,300	2,060	1,630	958	25	21	459
2	977	1,760	1,700	1,760	1,030	2,270	2,030	1,720	741	28	22	414
3	1,190	1,910	1,260	1,890	1,030	2,270	1,980	420	512	26	21	217
4	1,200	1,810	1,400	2,850	987	2,260	2,120	1,400	456	26	21	217
5	1,410	1,580	1,670	3,210	1,040	2,300	1,580	2,050	1,490	24	21	23
6	1,600	1,550	1,820	2,950	1,060	2,300	2,570	953	2,420	23	21	23
7	1,220	1,640	1,660	1,270	1,040	2,330	2,060	1,310	3,180	23	21	24
8	1,310	1,730	1,700	1,010	652	2,570	2,130	1,550	3,670	23	22	24
9	1,360	1,660	1,690	1,800	820	2,540	2,090	162	3,910	23	21	24
10	1,520	1,570	1,390	1,550	595	2,330	1,960	23	3,900	23	21	24
11	1,480	1,500	1,390	1,580	997	2,160	2,050	22	3,280	21	21	24
12	1,580	1,790	1,380	1,630	1,080	2,160	1,510	42	2,970	21	21	24
13	1,530	1,740	1,160	1,690	1,060	2,070	1,660	23	2,970	21	102	23
14	1,700	1,440	648	1,740	1,050	1,780	1,650	546	2,960	21	23	23
15	1,500	1,570	1,430	1,870	1,040	2,020	2,090	638	2,520	20	669	23
16	1,420	1,660	1,030	1,180	1,060	2,110	1,650	724	1,880	20	1,040	24
17	1,600	1,670	1,250	1,550	490	2,030	1,570	930	1,510	21	1,510	24
18	1,660	1,690	1,440	1,530	1,530	2,010	1,810	815	1,660	21	241	24
19	1,310	2,200	1,470	1,180	1,460	1,960	1,800	117	1,140	21	784	24
20	1,440	2,060	1,800	1,400	1,270	2,110	1,580	863	1,220	21	994	474
21	1,590	1,930	1,510	751	1,660	1,890	1,570	469	118	21	1,040	225
22	1,470	1,760	1,420	1,420	1,800	1,780	1,630	381	21	21	1,070	130
23	1,380	1,920	1,640	949	1,960	1,510	1,540	750	524	22	1,590	421
24	1,740	2,280	1,630	941	1,960	1,680	1,570	943	250	21	1,400	672
25	1,620	1,430	1,580	996	1,970	2,120	1,140	1,000	150	21	1,370	381
26	1,340	1,400	2,220	1,060	1,980	1,440	1,040	83	21	1,260	690	490
27	1,670	1,980	2,060	1,280	2,320	1,650	1,600	1,150	26	21	688	378
28	1,640	1,720	2,150	1,600	2,320	1,420	1,320	1,240	25	21	311	255
29	1,580	2,050	2,130	1,280	2,280	1,510	1,350	191	24	21	681	470
30	1,220	1,700	2,410	1,230	-----	2,370	1,370	82	26	21	449	420
31	1,490	-----	2,000	626	-----	2,110	-----	695	-----	21	21	-----
TOTAL	45,165	52,310	50,288	47,243	34,711	63,380	52,280	24,608	44,936	684	15,297	5,978
MEAN	1,457	1,764	1,622	1,424	1,335	2,045	1,745	794	1,498	22.1	493	199
MAX	1,780	2,280	2,410	3,210	2,370	2,570	2,570	2,050	3,910	24	1,590	672
MIN	548	1,400	648	626	490	1,420	1,140	22	25	20	21	23
AC-F I	84,580	103,800	94,740	93,710	74,780	125,700	103,700	68,816	89,130	1,360	30,360	11,860
CAL YR 1967	TOTAL 560,698			MEAN 1,536		MAX 4,360	MIN 23	AC-F I 1,112,000				
WTR YR 1968	TOTAL 640,890			MEAN 1,205		MAX 3,910	MIN 20	AC-F I 874,500				

BEAR RIVER BASIN

10-1260. Bear River near Corinne, Utah

Location.--Lat 41°34'35", long 112°06'00", in SE¼ sec. 30, T.10 N., R.2 W., on right bank 1.2 miles downstream from Salt Creek, 2.0 miles northeast of Corinne, and 2.8 miles downstream from Malad River.

Drainage area.--6,800 sq mi, approximately.

Records available.--October 1949 to September 1957, October 1963 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 4,204.6 ft, unadjusted. Auxiliary staff gage 7,800 ft downstream July 27, 1950 to Nov. 21, 1955. Prior to Nov. 1, 1967 graphic water-stage recorder.

Average discharge.--13 years, 1,610 cfs (1,166,000 acre-ft per year).

Extremes.--Maximum discharge during year, 4,010 cfs June 12 (gage height, 10.79 ft); minimum daily, 91 cfs July 7.

1949-57, 1963-68: Maximum discharge, 7,200 cfs May 3, 1952 (gage height, 14.69 ft); maximum gage height, 14.83 ft Feb. 11, 1951; minimum daily discharge, 72 cfs Aug. 20, 21, 26, Sept. 8, 1964.

Remarks.--Records good except those for period of no gage-height record, which are fair. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, and return flow from irrigated areas. Records are equivalent to flow at Bear River Bird Refuge diversion works.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,390	1,800	2,140	2,300	1,100	2,930	2,390	1,590	656	104	114	425
2	983	1,780	2,130	2,100	1,350	2,720	2,400	1,840	1,140	101	110	451
3	1,270	1,930	1,790	2,100	1,300	2,680	2,170	1,890	1,010	95	106	670
4	1,480	2,090	1,770	2,500	1,300	2,670	2,260	1,100	801	98	104	451
5	1,460	2,090	1,670	3,200	1,300	2,680	2,230	1,670	935	100	103	447
6	1,720	1,940	1,830	3,600	1,300	2,690	2,190	1,900	1,820	92	104	309
7	1,810	1,900	1,660	3,200	1,350	2,730	2,490	1,360	1,910	91	102	158
8	1,930	1,910	1,800	2,000	1,350	2,810	2,480	1,640	2,650	93	101	116
9	1,730	1,960	2,000	1,500	1,000	2,950	2,460	1,700	3,190	93	100	113
10	1,730	1,470	2,000	2,100	1,100	2,910	2,370	562	3,660	98	99	113
11	1,780	1,650	1,600	1,850	900	2,690	2,190	136	3,670	103	103	115
12	1,790	1,790	1,600	1,900	1,300	2,560	2,190	93	3,950	104	119	130
13	1,780	2,060	1,600	2,000	1,300	2,540	1,850	92	3,630	115	123	109
14	1,810	2,070	1,400	2,100	1,300	2,600	1,890	133	3,270	120	140	107
15	1,920	1,760	1,700	2,100	1,300	2,080	2,020	486	3,160	120	141	122
16	1,880	1,850	1,600	2,100	1,300	2,160	2,180	763	3,130	119	555	115
17	1,700	1,940	1,300	1,700	1,300	2,380	1,950	1,010	3,000	115	1,230	115
18	1,800	1,980	1,500	1,900	900	2,380	1,780	1,220	2,350	110	1,680	128
19	1,780	2,000	1,600	1,900	1,700	2,420	2,030	1,020	1,940	104	759	136
20	1,660	2,380	1,800	1,600	1,800	2,290	2,120	530	1,830	104	954	142
21	1,740	2,310	2,000	1,700	1,800	2,360	1,840	875	1,740	104	1,130	398
22	1,810	2,240	1,900	1,700	1,900	2,230	1,780	778	1,640	170	1,340	463
23	1,740	2,080	2,100	1,700	2,100	2,010	1,890	991	625	122	1,620	386
24	1,760	2,240	2,000	1,200	2,300	1,780	1,770	985	454	129	1,910	501
25	2,080	2,530	1,900	1,200	2,400	2,160	1,750	1,190	790	134	1,780	668
26	1,840	1,830	2,050	1,200	2,400	2,370	1,440	1,300	364	146	1,760	546
27	1,720	1,760	2,400	1,400	2,710	1,740	1,700	1,350	305	154	1,590	697
28	1,910	2,190	2,200	1,600	2,930	1,710	1,950	1,430	162	137	1,080	555
29	1,930	2,150	2,500	1,800	2,980	1,670	1,670	1,670	109	135	714	428
30	1,880	2,320	2,600	1,500	-----	1,960	1,570	690	104	128	547	641
31	2,040	-----	2,700	1,300	-----	2,420	-----	287	-----	120	670	-----
TOTAL	53,853	60,720	58,340	59,050	47,070	74,080	60,400	32,085	54,215	3,508	20,988	9,755
MEAN	1,737	2,024	1,882	1,905	1,623	2,390	2,013	1,035	1,807	113	677	325
MAX	2,080	2,530	2,700	3,600	2,980	2,950	2,490	1,900	3,950	154	1,910	697
MIN	983	1,760	1,200	1,200	900	1,670	1,440	42	104	91	99	107
AC-FT	106,800	170,400	115,700	117,100	93,360	146,900	119,800	63,640	107,500	6,960	41,630	19,350
CAL YR 1967	TOTAL	634,197	MEAN	1,738	MAX	4,340	MIN	156	AC-FT	1,258,000		
WTR YR 1968	TOTAL	536,064	MEAN	1,459	MAX	3,950	MIN	91	AC-FT	1,059,000		

Note.--No gage-height record Dec. 8 to Feb. 26.