

NINTH ANNUAL REPORT

BEAR RIVER
COMMISSION

1966



For the Report Year October 1, 1965 to

September 30, 1966

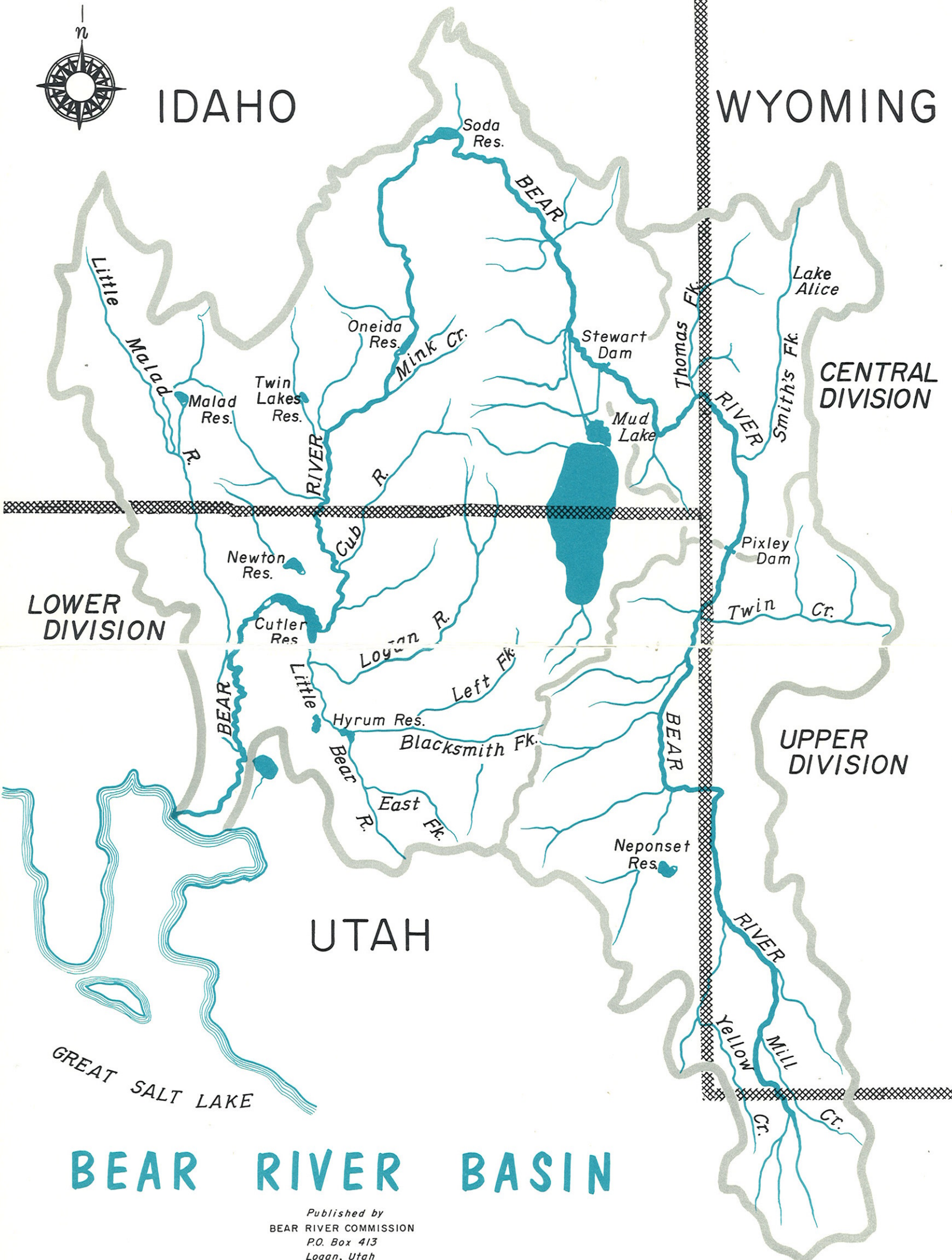
LOGAN, UTAH

April 1, 1967



IDAHO

WYOMING



LOWER DIVISION

CENTRAL DIVISION

UPPER DIVISION

UTAH

GREAT SALT LAKE

BEAR RIVER BASIN

Published by
BEAR RIVER COMMISSION
P.O. Box 413
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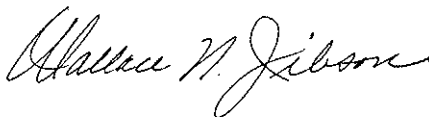
April 1, 1967

Mr. President:

Submitted herewith is the Ninth 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.

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NINTH ANNUAL REPORT of the BEAR RIVER COMMISSION

April 1, 1967

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, 1966 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.

Grover R. Harper, Corinne, was appointed in May 1966 as a member of the Commission from Utah. He succeeds A. V. Smoot, Corinne, who served with the negotiating Commission and with the Bear River Commission from the date of its organization.

Cleo L. Swenson, Preston, was re-elected Vice-Chairman of the Commission at the annual meeting, May 4, 1966. Other officers were re-elected by acclamation.

OFFICERS

ChairmanE. O. Larson, Salt Lake City, Utah
Vice-Chairman.....Cleo L. Swenson, Preston, Idaho
Secretary-TreasurerJay R. Bingham, Bountiful, Utah
Assistant SecretaryWallace N. Jibson, Logan, Utah

MEMBERS

Idaho

Carl E. TappanBoise, Idaho
Lloyd DunnGeorgetown, Idaho
Cleo L. SwensonPreston, Idaho

Utah

Jay R. BinghamBountiful, 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
Lloyd DunnGeorgetown, Idaho

Operations

Cleo L. SwensonPreston, Idaho
Lawrence B. JohnsonRandolph, Utah
S. Reed DaytonCokeville, Wyoming

MEETINGS

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

Regular Meeting—November 22, 1965.....Salt Lake City, Utah
 Annual Meeting—May 4, 1966Salt Lake City, Utah

BUDGET AND FISCAL DISBURSEMENTS

Adopted Budget

	<i>Fiscal Year Ending 6-30-1966</i>	<i>Fiscal Year Ending 6-30-1967</i>	<i>Total Biennium Ending 6-30-1967</i>
Compact Administration			
Personal Services	\$ 5,690	\$ 4,900	\$ 10,590
Travel and Subsistence	1,000	600	1,600
General Office Expense.....	300	400	700
Fiscal and Administrative.....	300	280	580
Washington Office Tech. Charge.....	710	620	1,330
Printing and Reproduction.....	500	500	1,000
Treasurer (Bond and Audit).....	300	300	600
Transcribing Minutes	150	150	300
Legal Retainer Fee.....	300	300	600
Miscellaneous	100	100	200
Sub-Total	\$ 9,350	\$ 8,150	\$ 17,500
Stream-Gaging Program			
U.S. Geological Survey	\$45,800	\$50,200	\$ 96,000
Total	\$55,150	\$58,350	\$113,500

Allocation of Budget

U.S. Geological Survey.....	\$22,900	\$25,100	\$ 48,000
State of Idaho	10,750	11,084	21,834
State of Utah	10,750	11,083	21,833
State of Wyoming	10,750	11,083	21,833
Total	\$55,150	\$58,350	\$113,500

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, 1966 and statement of budget revenue and appropriation accounts for the fiscal year ended June 30, 1966, 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.

Four gaging stations were installed on Little Bear River drainage, including two seasonal canal stations, in cooperation with and fully financed by Utah Water Research Laboratory. Stations on Rock Creek in Wyoming and St. Charles Creek in Idaho were discontinued after collection of five years of record.

Seasonal daily or weekly 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 files.

WATER SUPPLY

Direct-flow supply during the 1966 irrigation season was seriously deficient with June-July runoff from upper Bear River only 10 percent above that in the 1961 drouth year. Seasonal yield from Smiths Fork was 63 percent of the 1943-66 average yield and only 44 percent of last year. Reservoir storage in the upper basin prevented a serious loss in crop production.

Monthly and yearly runoff in 1966 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

	<i>Average 1943-66</i>	<i>1965</i>	<i>1966</i>
Upper Bear River	111,800	189,600	80,600
Smith Fork	106,600	153,000	66,900
Logan River	116,900	165,800	83,000

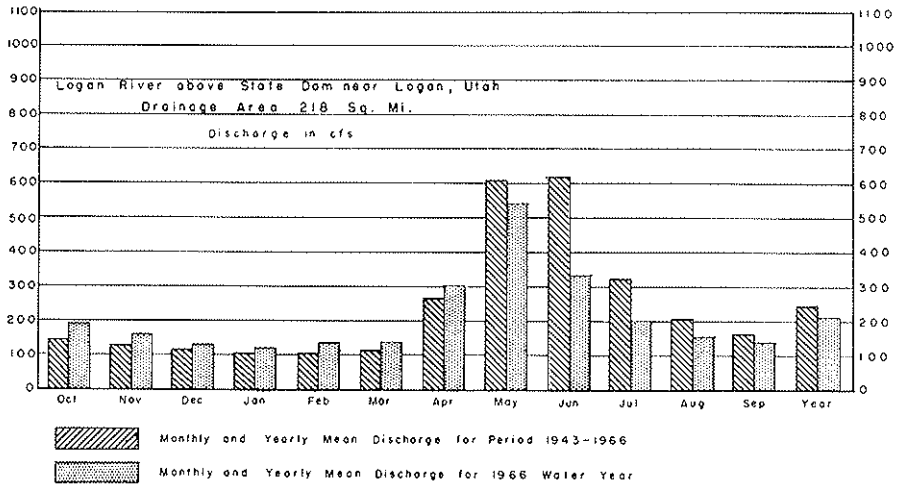
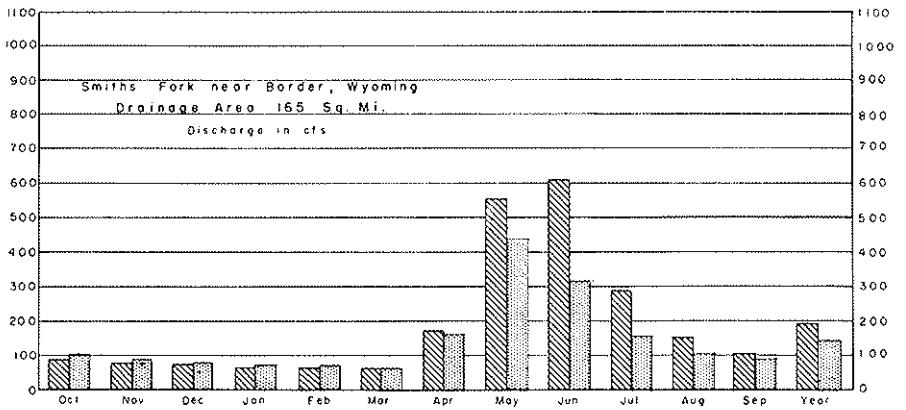
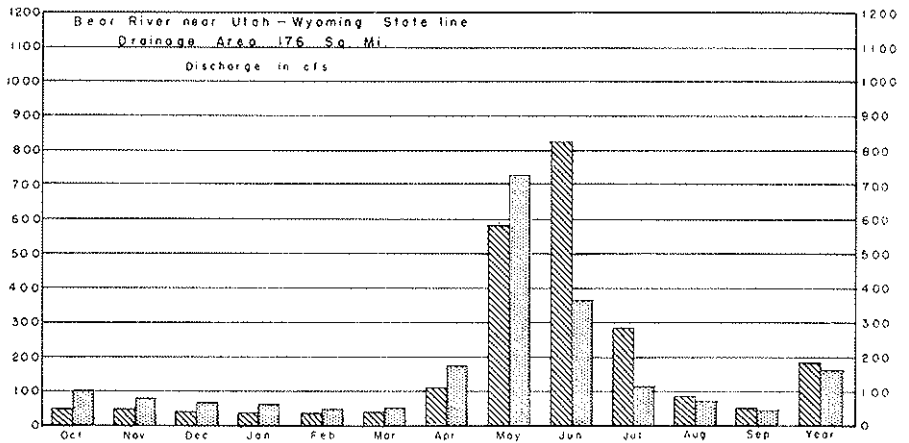
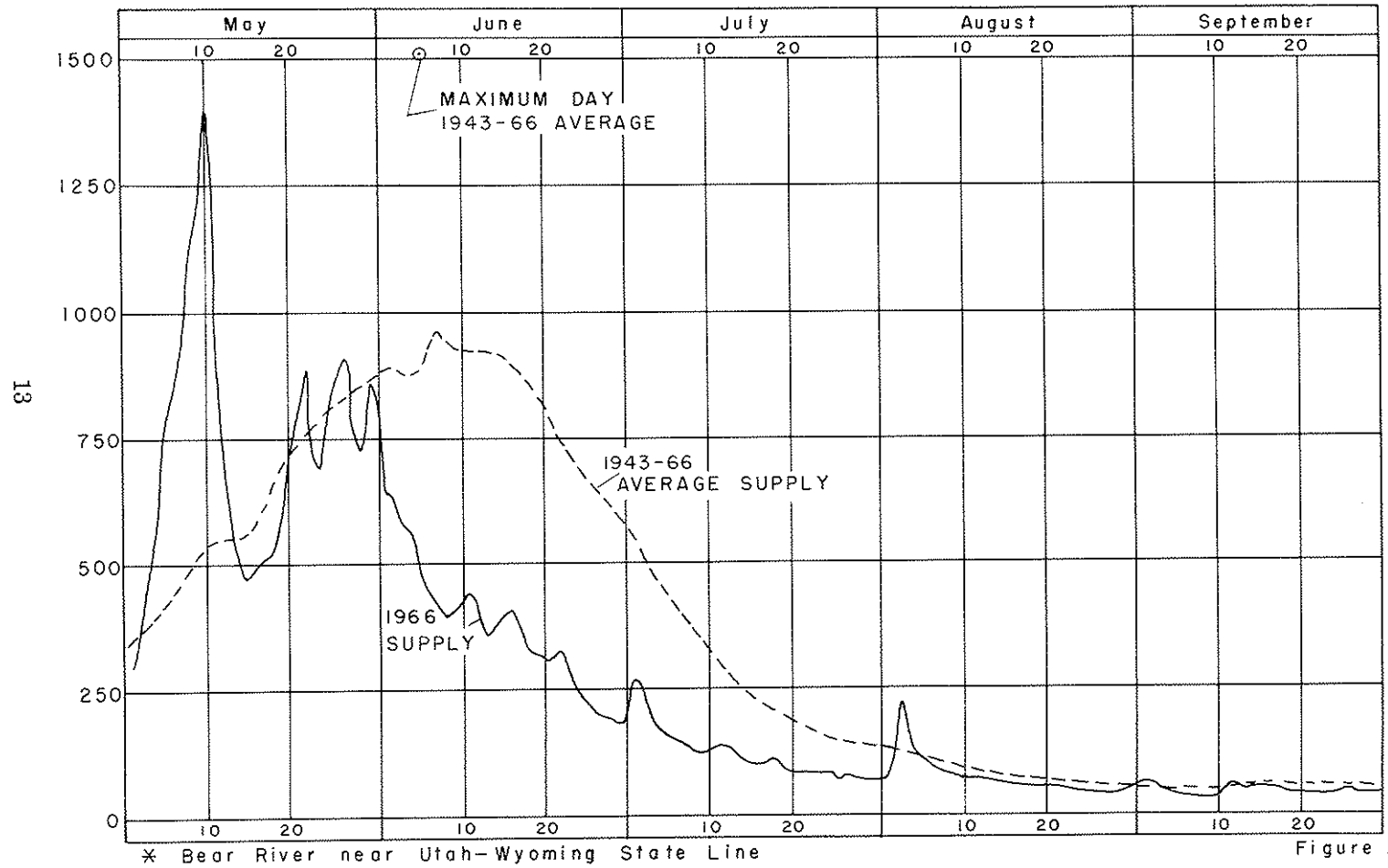


Figure 1. Comparison of discharge at three representative gaging stations in 1966 with average discharge for period 1943-66

UPPER DIVISION - BEAR RIVER SUPPLY *

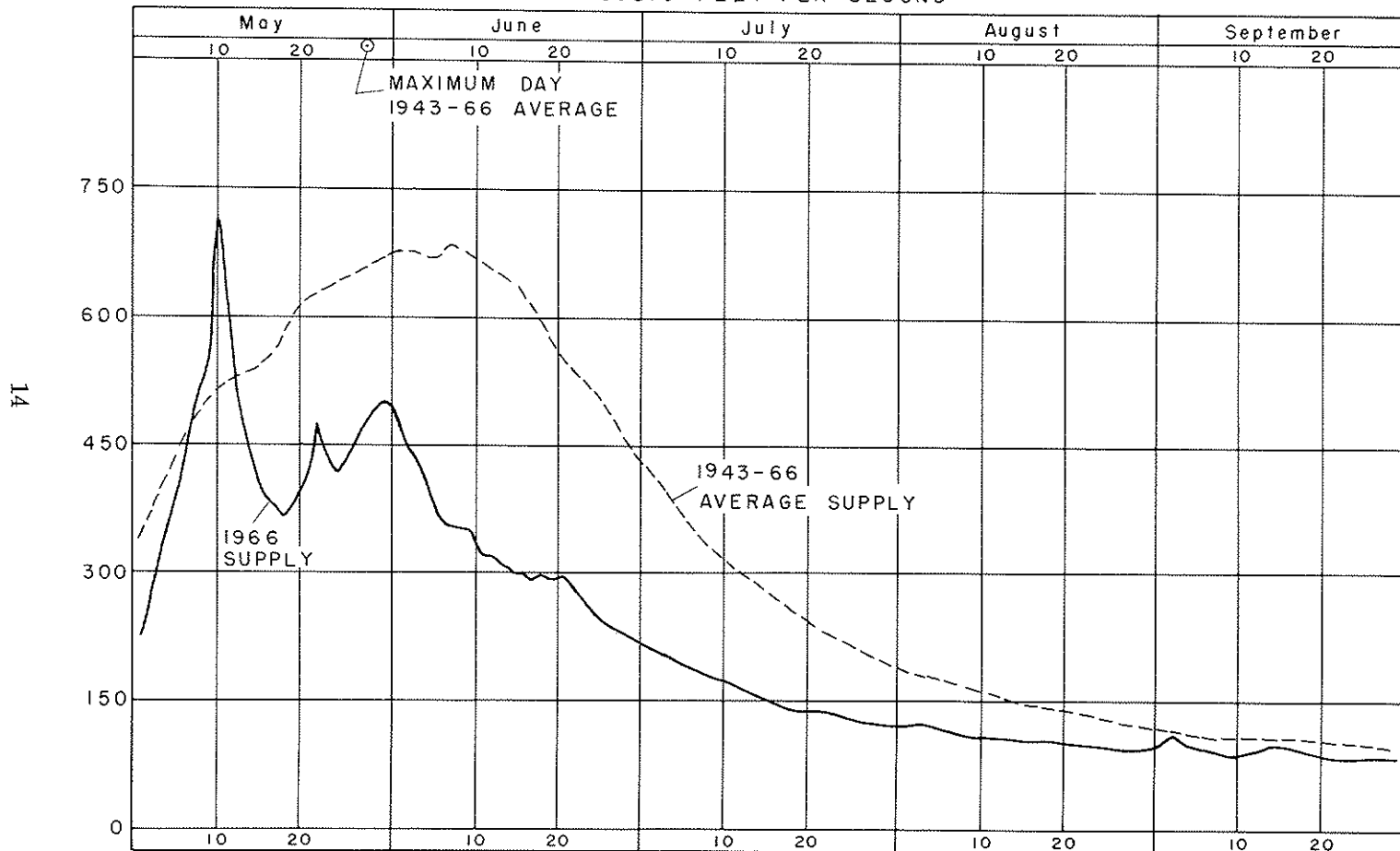
CUBIC FEET PER SECOND



* 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

*Runoff in Acre-feet
Water Year*

	1943-66	1965	1966
Upper Bear River	133,900	206,800	116,200
Smiths Fork	138,600	190,500	105,000
Logan River	176,700	230,200	153,500

Bear Lake operation is illustrated in figures 4 and 5 showing bar-graph comparison with longtime averages and daily hydrographs of content and surface elevation. Storage water was released from the Lake from October 1965 through March 1966 to provide capacity for spring runoff. Potential gain fell short of runoff forecasts however, and the Lake did not recover to the 1965 peak but gained only 168,000 acre-feet to reach a maximum usable content of 1,299,000 acre-feet.

Seasonal irrigation demand on Bear Lake, as would be expected in a dry year, was near maximum and reduced the content 253,000 acre-feet to 1,046,000 acre-feet at the end of September.

*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>
1964	5,912.93	5,917.67	5,915.23
1965	5,915.23	5,922.74	5,921.83
1966	5,921.83	5,921.92	5,918.29

ADMINISTRATION OF BEAR RIVER COMPACT

Provisions of the Compact are administered and enforced by direction of the 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 stream-flow information required to administer the Compact. He establishes operational procedures, conducts hydrologic studies, compiles annual reports, and maintains the records of the Commission.

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.

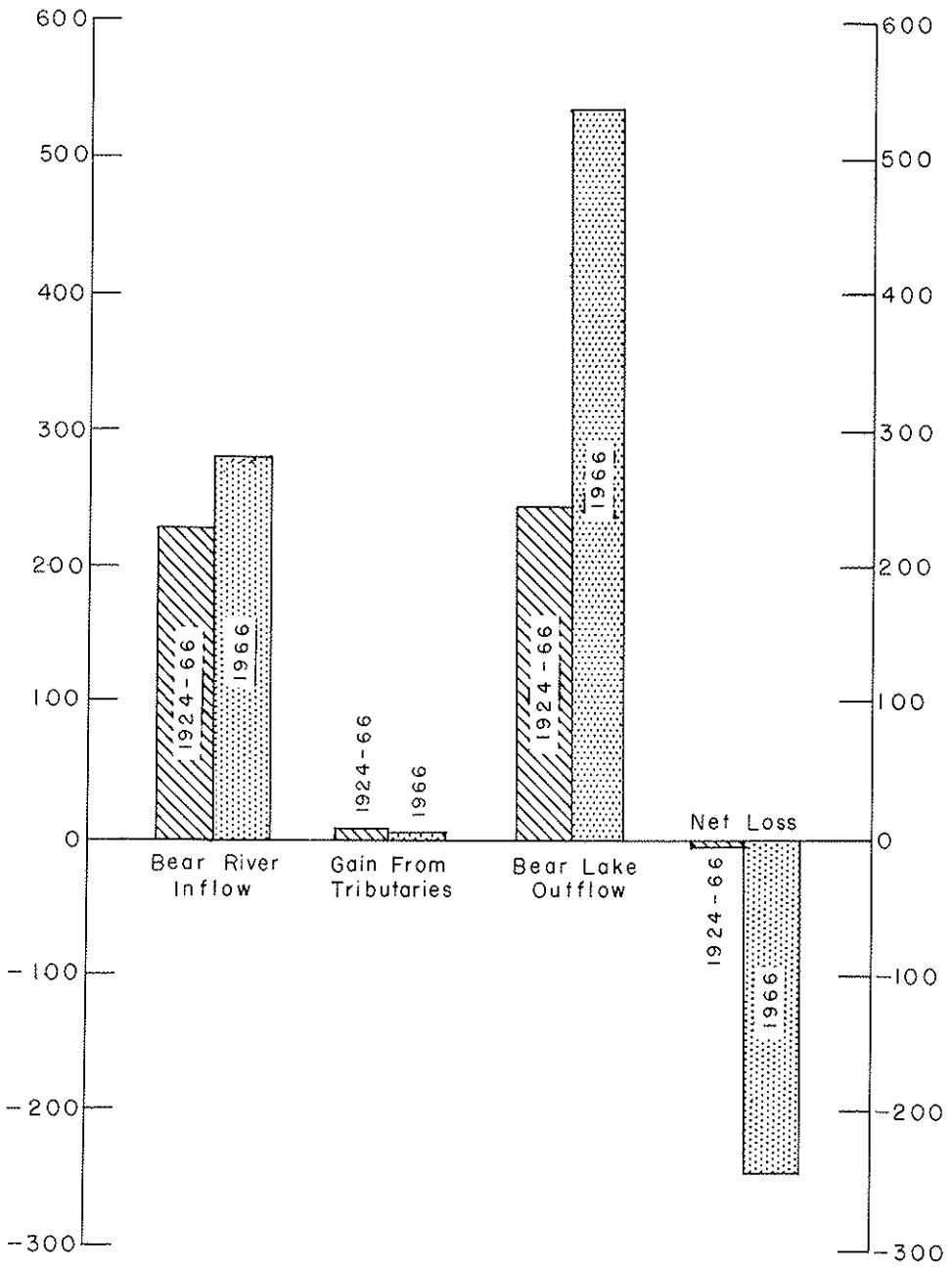


Fig 4. BEAR LAKE
Annual Quantities in Thousands of Acre-Feet

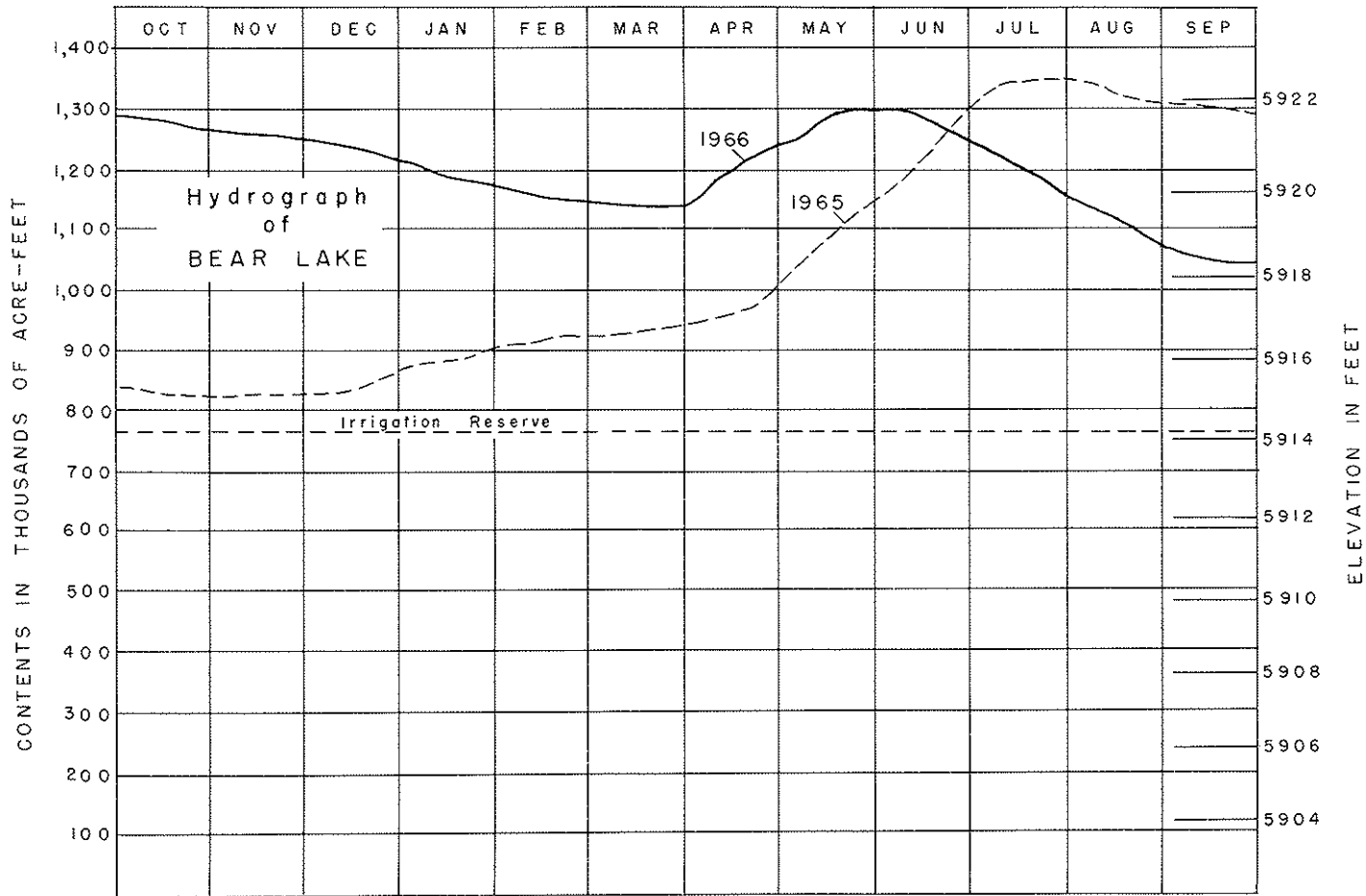


Figure 5

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 such 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

Hydrographs of diversion and compact operational data in the Upper Wyoming Section of this division are shown in figure 6. Divertible flow fell below 1,250 cfs. about June 5 thus bringing about a water emergency and allocation of the divertible flow.

Diversions in this section were regulated and reduced during June, but difficulty in determination of divertible flow prevented the Commission from finding if full compliance with compact allocation was being maintained. This difficulty was due to several factors. Divertible flow does not include amounts diverted from stored water or amounts diverted from return flow from stored water, the latter quantity being especially difficult to determine currently. Also, weekly allocations are based on a projection several days beyond each visit to individual canals, and this projection under rapidly falling supplies can only be an estimate.

Because of these administrative difficulties, diversion remained above the allocation until the sharp increase in divertible flow and allocation on July 6 when pondage behind Pixley Dam was suddenly released and Lower Wyoming Section diversions were shut off in preparation for harvesting operations. Thereafter, Upper Wyoming Section allocation was increased from 49.3 to 58.9 percent of the divertible flow in accordance with Article IV, 1, e of the Compact which permits unused allocation to be transferred to the other river section of the same State. It is to be noted that total water diverted and total water allocated balanced about equally during the full period of regulation.

Similar data for the lower sections in the Upper Division are shown in figures 7 and 8. Here we note the large contribution by storage to the amounts diverted in these sections. Release of 21,400 acre-feet (figure 9) resulted in diversion of approximately 29,000 acre-feet or 35 percent re-use from return flow of storage water. Woodruff Narrows Reservoir was operated for about equal benefit to each State section according to its allocation in the reservoir, but the time lag of several days between sections must be taken into account when planning releases.

UPPER DIVISION - UPPER WYOMING SECTION

CUBIC FEET PER SECOND

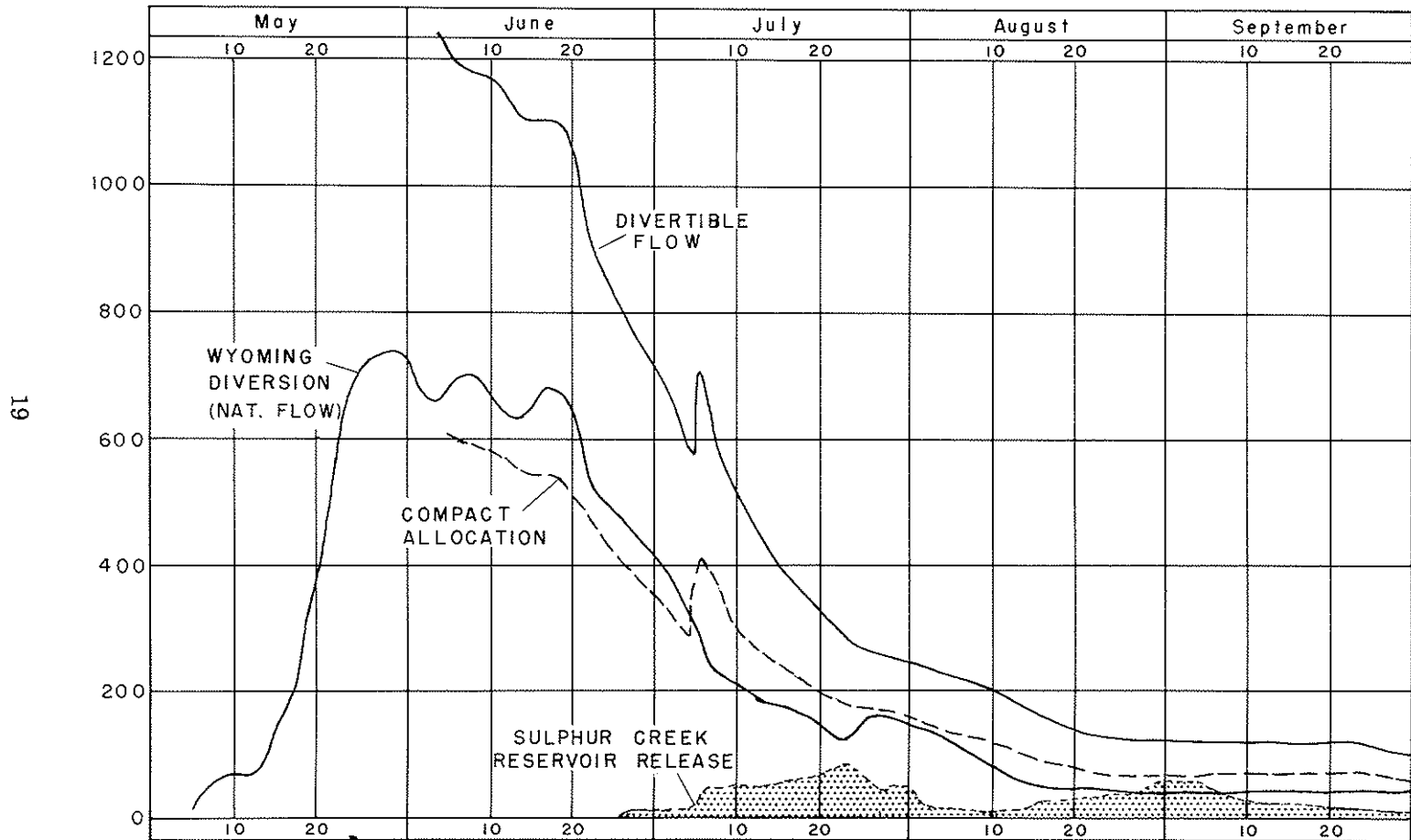


Figure 6

UPPER DIVISION - LOWER UTAH SECTION

CUBIC FEET PER SECOND

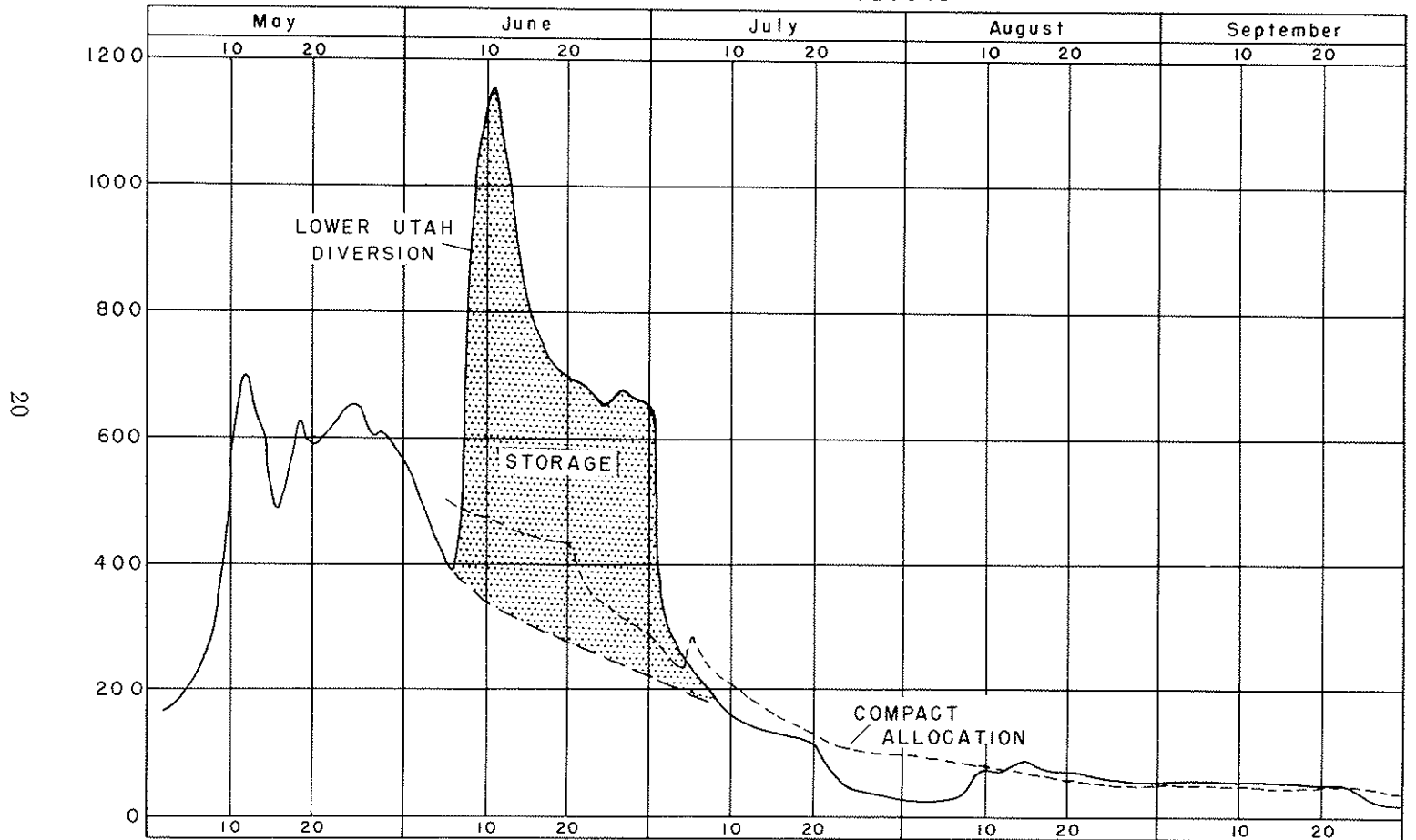


Figure 7

UPPER DIVISION - LOWER WYOMING SECTION

CUBIC FEET PER SECOND

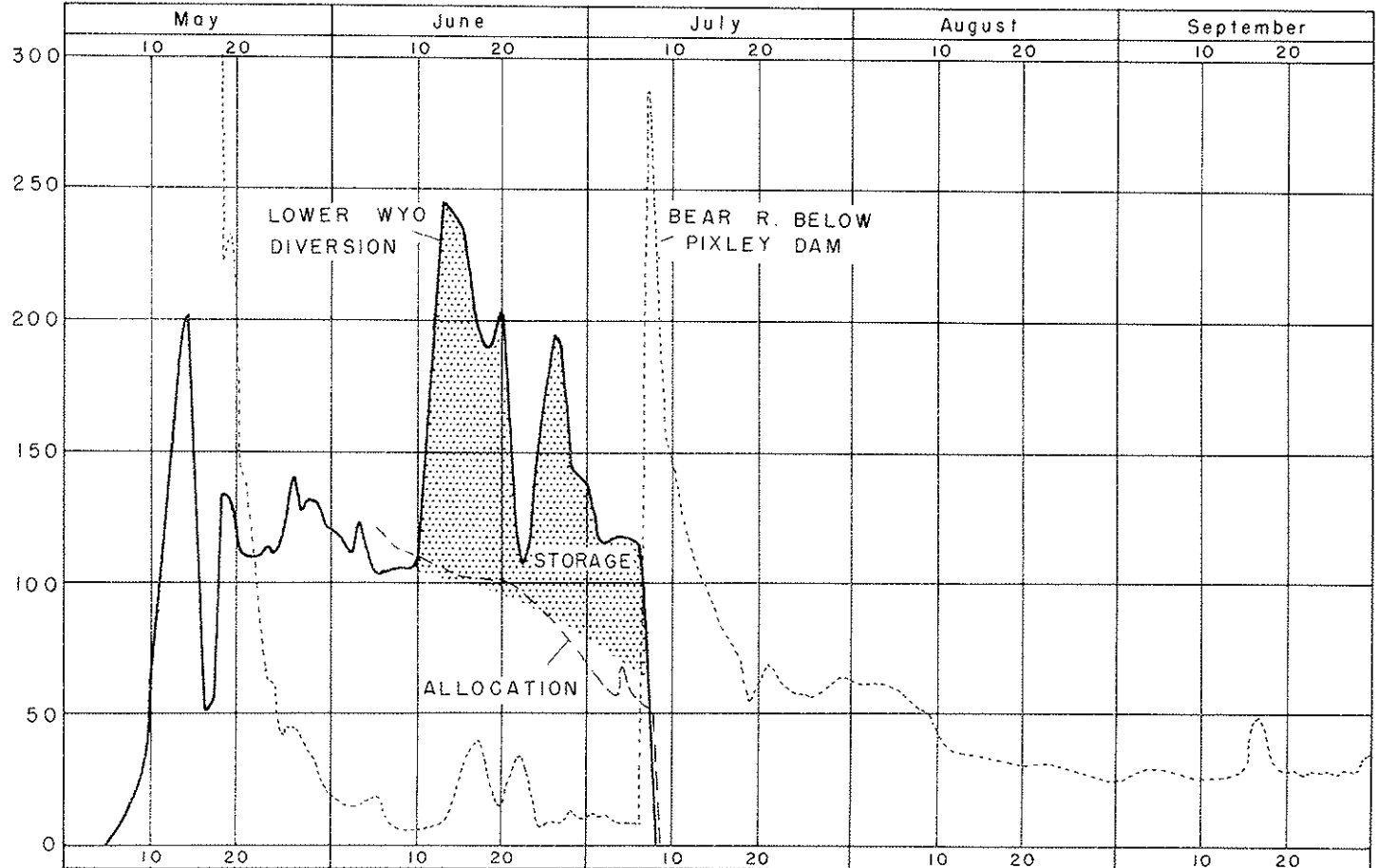


Figure 8

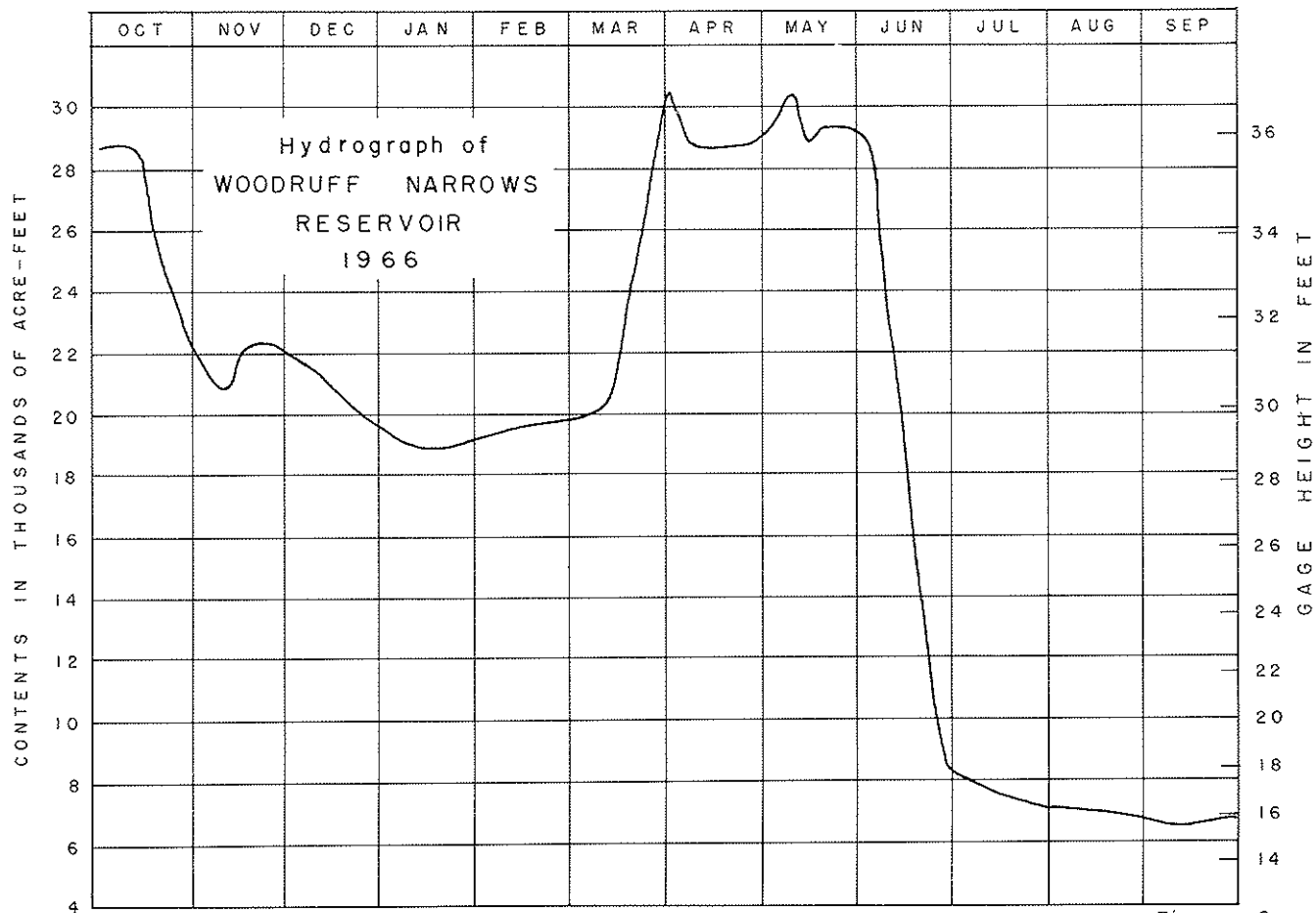


Figure 9

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.

Operational data for the Wyoming Section of this division are shown in figure 10 in which we see that a water emergency began June 2 when Bear River at Border discharged less than 350 cfs. Four days later the total divertible flow dropped below 870 cfs. Compliance with compact allocation was reasonably good and within practical limits when regulation, as in the Upper Division, is based on projected totals from the previous week. Also, a time lag of several days occurs before increased channel flow from regulation in Wyoming can accrue as divertible flow in Idaho.

We note from the table below that there is little spread in the diversion rate per acre in the two State sections in dry years (1961, 1966). This shows the effectiveness of interstate regulation.

Similar hydrographs to those shown in figure 10 for Wyoming Section are shown in figure 11 for Idaho Section. In the table below is a comparison of water diverted to irrigated lands in the two sections for the past six years. The flow passing Stewart Dam and the flow diverted to Bear Lake have been excluded in computing the Idaho diversion rate, though these flows are included in the total divertible flow in the division.

Diversion in acre-feet per acre May-September

	1961	1962	1963	1964	1965	1966
Wyoming Section	2.16	5.82	5.06	4.48	4.96	3.32
Idaho Section	1.72	3.26	3.28	2.91	2.87	2.95

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.

There were no petitions filed with the Commission or water emergencies declared in the Lower Division in 1966.

Interstate Tributaries

An aggrieved lower-State user on an interstate tributary may petition for declaration of a water emergency and distribution of flow

under direction of the Commission. Interstate arbitration on tributaries was not requested in 1966.

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.

The reservoirs shown below have been constructed under additional storage provisions of the Compact, and all except Whitney were filled to capacity in 1966. 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)	4,615 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) (Constructed 1966).....	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 diversion works. The reserve is to be increased by designated amounts as additional storage, under terms of the Compact, is developed above Bear Lake. The irrigation reserve was increased by Commission resolution April 30, 1962 to include the water in the lake below elevation 5,914.15 feet (764,000 ac-ft) corresponding to 20,000 acre-feet of additional storage.

Whitney Reservoir, completed in October 1966, increased the total constructed allocation to 28,776 acre-feet of new storage. Accordingly, the Commission adopted a resolution December 5, 1966 to increase the irrigation reserve elevation to 5,914.41 feet (781,500 ac-ft) corresponding to 25,000 acre-feet of additional storage allocation. The hydrograph of Bear Lake in figure 5 shows the lake surface was above the reserve level throughout the 1966 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 has not been advised of final action taken on many applications submitted in accordance with Article X nor of construction of facilities under such applications. Therefore, the following resolution was adopted by the Commission in its Annual Meeting, May 4, 1966:

"Whereas, the language of the compact does not require the official in charge of water administration to notify the Bear River Commission of action taken on applications for appropriation, for change of point of diversion, place and nature of use and for exchange of Bear River water, nor does it require such official to notify the Commission of construction of dams or other water control facilities contemplated by such applications, and

Whereas, it is important that the Commission be kept advised of action taken on such water applications,

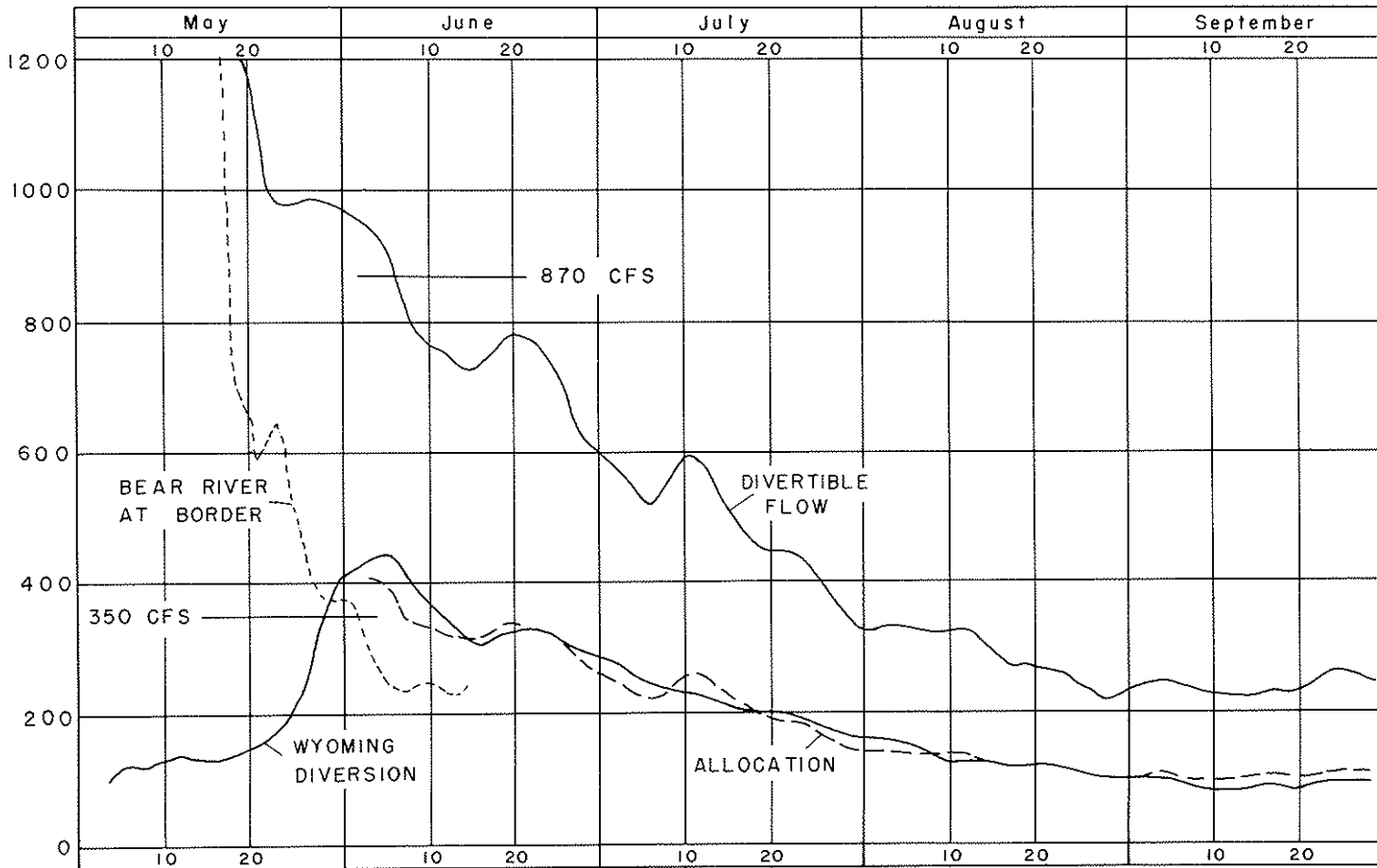
Now, therefore, be it resolved that this Commission respectfully requests the State Reclamation Engineer of Idaho, the State Engineer of Utah and the State Engineer of Wyoming to report in writing to the Commission, 30 days before each regular meeting of the Commission, on action by way of approval or rejection, taken on applications for appropriation, change and exchange of Bear River water, and also to include in the report any information on the construction of such dams, or other water control facilities of which the officials have knowledge.

Be it further resolved that a copy of this Resolution be sent to each State official named above."

Copies of applications presented to the Commission in 1966 included three filings in Utah by the Bureau of Reclamation for lower river development that would store water from Bear River, Logan River, Malad River, Blacksmith Fork, and Summit Creek up to a total of 335,000 acre-feet. A filing by the Utah Fish and Game Department would appropriate, for non-consumptive use, 2,000 cfs of water now spilling to Great Salt Lake through the Bear River Migratory Bird Refuge dikes. Numerous additional filings presented to the Commission involved relatively small amounts of underground water to supplement present irrigation supply in the basin below Bear Lake.

CENTRAL DIVISION - WYOMING SECTION

CUBIC FEET PER SECOND



NOTE: Compact data plotted as progressive 5-day average flows

Figure 10

CENTRAL DIVISION - IDAHO SECTION

CUBIC FEET PER SECOND

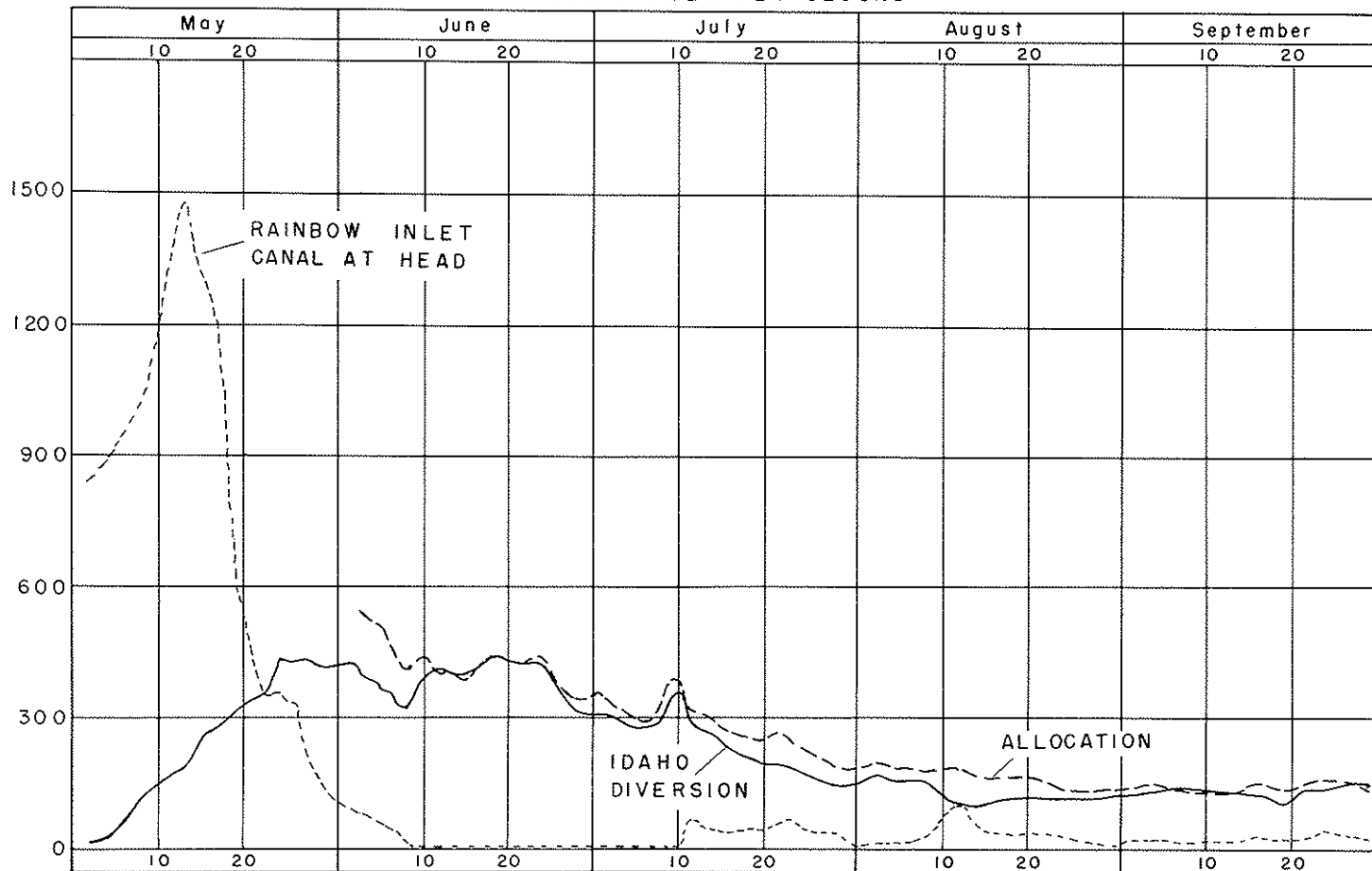


Figure 11

DAILY DISCHARGE IN CFS OF SMITHS FORK & BEAR RIVER CANALS
WITH COMPACT ALLOCATION IN CENTRAL DIVISION

MAY 1966	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
WYOMING DIVERGIONS																																
BEAR RIVER CANALS																																
Garrett	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2		
Sight	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Wynn East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Wynn West	49	49	49	51	51	52	52	53	53	54	54	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52		
Sawyer	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
Rocky Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Deck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
J. R. Richards	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TRIBUTARY CANALS																																
Goodell Can. - Pine Cr.	0	2	7	7	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
V. P. Canal - Pine Cr.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Collett Cr. - Pine Cr.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grade Creek Canal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Diamond R. L-Drumer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Haggerty West-Pine Cr.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Sublette C. & Thompson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
SMITHS FORK CANALS																																
Quinn-Bourne	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hutton East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Perry Partridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Edgemoor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Eschle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Cooper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Whitlock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Covey Canal at Head	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Covey Canal-Summer Cr.	14	13	12	12	12	11	11	11	11	12	12	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11		
Covey Canal-Spring Cr.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
Tanner, Hunt & Garrett	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Whites Water	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10		
Wright (Collett Creek)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
John Bourne-Collett Cr.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Foraker (Collett Cr.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Green Canal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Stoner-Nichols (So Br)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Morgan (South Branch)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
Camayilla Branch-Sa Br	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Tanner 1 (South Br)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Smiths Fk Canal-Sa Br	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
South Br 2-Smiths Fork	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
South Br 1-Smiths Fork	0	0	0	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10		
TOTAL WYO. DIVERGIONS	93	93	101	119	121	120	123	128	133	137	144	146	135	124	116	106	109	131	140	161	164	168	182	179	211	225	287	349	372	375	389	5,450
IDAHO DIVERGIONS																																
Miller Ditch	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Nuffer Canal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Severson Ditch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Wason Ditch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Lloyd Ditch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Disick Irrig. Canal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Keen Creek Canal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Black Otter Canal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Prattton Montpellier Co	0	0	0	0	0	0	15	17	16	14	10	11	13	18	22	24	23	24	29	29	27	20	22	20	24	23	34	40	30	25	28	
Larocco West Canal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
West Fork Canal	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	
Edgemoor Ditch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SUBTOTAL	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22		
Rainbow Inlet Co-Bear L.	373	352	384	200	338	250	285	238	104	1250	1310	1465	1470	1385	1330	1260	1265	976	257	836	566	374	253	173	547	332	180	277	125	119	24,516	
Bear & Holox Stewart Dam	5	5	7	7	8	8	8																									

DAILY DISCHARGE IN CFS OF SMITHS FORK & BEAR RIVER CANALS
WITH COMPACT ALLOCATION IN CENTRAL DIVISION

SEPTEMBER 1966	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
BYGONE DIVISIONS																																
BEAR RIVER CANALS																																
Garrett	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Signs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wagon Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wagon West	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wagner	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rocky Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
J. S. Richards	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRIBUTARY CANALS																																
Gezell Co. - Pine Cr	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
V. H. Canal - Pine Cr	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Collect Cabin-Boys Cr	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Grave Creek Canal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bissard Nat. Branch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Haggerty West-Pine Cr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sullivan C. W. Thompson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SMITHS FORK CANALS																																
Gallon-House	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Watson Pike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Perry Partridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fraxinos	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amble	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geiger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wheclock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Covey Canal at Head	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Covey Canal-Andrews Cr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Covey Canal-Springs Cr	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Tanner, Hunt & Garrett	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Whitten Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mason (Collect Creek)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Boyd-House-Collect Cr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ferguson (Collect Cr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Olson Canal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Strong-Highland (So. Br)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Morgan (South Branch)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wakawille Waterway at	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanner & (South Br)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Smiths Fk Canal-So. Br	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Br. S-Smiths Fork	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Br. S-Smiths Fork	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL AVG. DISCHARGES																																
	87	96	100	107	108	86	78	69	86	86	88	88	83	83	85	87	89	88	76	64	64	61	65	95	94	93	92	85	81	78	7,646	
DRAIN DIVISIONS																																
Miller ditch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moffet Canal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benches ditch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benches ditch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Levy ditch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dingle Irrig. Canal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Boyd-House-Collect Cr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rocky Point Canal	16	18	17	19	18	19	18	16	18	17	16	16	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
Parsons West-Pine Cr	16	19	21	25	28	20	18	18	25	22	21	17	17	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
West-Pine Canal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parsons ditch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL																																
	180	187	188	193	184	180	187	188	186	186	188	187	183	182	184	187	187	186	180	168	168	165	169	182	180	182	181	174	167	167	1,867	
RAINBOW IRRIG. CO-BEAR L.																																
	18	10	18	18	17	13	12	10	6	5	5	4	4	4	16	16	26	27	24	36	26	28	26	35	34	31	29	26	26	26	26	
BEAR L. BRANCH IRRIG. CO																																
	0	0	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ADJUST DISCHARGE																																
	187	187	193	198	189	180	187	188	186	186	188	187	183	182	184	187	187	186	180	168	168	165	169	182	180	182	181	174	167	167	1,867	
ADJUST DISCHARGE																																
	27	26	100	107	108	86	78	69	86	86	88	88	83	83	85	87	89	88	76	64	64	61	65	95	94	93	92	85	81	78	7,6	

APPENDIX A

L. WILLIAM ANDERSON
CERTIFIED PUBLIC ACCOUNTANT
2870 EAST 3300 SOUTH • TELEPHONE 487-7176
SALT LAKE CITY 9, UTAH

January 17, 1967

Bear River Commission
Utah State Capital Building
Salt Lake City, Utah

Gentlemen:

In accordance with your instructions, I have examined the records and accounts of the Bear River Commission for the fiscal year ended June 30, 1966 and now submit my report thereon.

My audit included a review of the financial transactions, and examination of the statement of revenue and expenditures for the year and budget estimates and related expenditures, as published with minutes of the meetings held November 22, 1965 and May 4, 1966.

I confirmed the funds available at June 30, 1966 by direct correspondence with the depository. My examination was made 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 and appeared in order. Operational expenditures for the program are made directly by the United States Geological Survey and are set out in detail in my report. Locally administrative expenses amounting to \$1,209.07 were disbursed by the local office.

The results of my examination are presented herewith and include comments and explanatory detail as appropriate in the following described statements:

Exhibit "A" - Statement of Revenue and expenditures for the fiscal year ended June 30, 1966.

Exhibit "B" - Statement of available revenue and appropriations thereof for the fiscal year, showing balances unexpended at June 30, 1966.

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 the signatory States of Wyoming, Idaho, and Utah with respect to the development and utilization of the waters of the Bear River. The Bear River Commission was organized April 5, 1958, and by-laws were adopted April 26, 1958, as an interstate administrative agency to carry out provisions of the Bear River Compact. The Commission is composed of ten Commissioners, three each with voting power, representing the States of Wyoming, Utah, and Idaho, and one, the United States, without vote. All expenses are charged to and paid by the three States on an equal basis.

As in prior years, the Commission entered into a cooperative agreement with the Geological Survey, United States Department of the Interior, at the beginning of the year, for the operation and maintenance of a gauging-station network. The expenses pertaining to this work are shared equally by the Commission and the Geological Survey, while other expenses incurred by the United States Geological Survey, which pertain directly to the compact administration are wholly financed by the Commission. Details of the financial transactions relating to this agreement for the fiscal year ended June 30, 1966, are presented 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, 1966, 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,

L. William Anderson

BEAR RIVER COMMISSION

Statement of Revenue & Expenditures
For the Fiscal Year Ended June 30, 1966

REVENUE:

State of Wyoming	\$10,750.00	
State of Idaho	10,750.00	
State of Utah	<u>10,750.00</u>	\$32,250.00

EXPENDITURES:

Commission's portion of direct expenses of the
stream-gauging program, Schedule "A-1"

Personal Services	\$22,568.50	
Travel and subsistence	2,401.00	
General office	1,838.00	
Fiscal and administrative	1,223.50	
Washington office charges	<u>2,769.00</u>	
Total -- Schedule "A-1"		\$30,800.00

Administrative expenses:

Office supplies and postage	\$ 81.09	
Auditing fee	200.00	
Legal consultant	300.00	
Treasurer's bond	65.63	
Transcript of minutes	70.00	
Printing annual report	<u>492.35</u>	
		<u>1,209.07</u>
		<u>32,009.07</u>

EXCESS OF REVENUE OVER EXPENDITURES FOR
THE FISCAL YEAR ENDED JUNE 30, 1966

\$ 240.93

FUNDS AVAILABLE AT JULY 1, 1965

5,758.69

FUNDS AVAILABLE AT JUNE 30, 1966

\$ 5,999.62

Expenditures as above

\$32,009.07

The Portion of expenditures incurred through
stream-gauging program allocated to and
paid direct by United States Geological Survey

23,702.00

Total expenditures as per Exhibit "B"

\$55,711.07

BEAR RIVER COMMISSION

Statement of Available Revenue and Appropriation Thereof
For the Fiscal Year, Showing Balances at June 30, 1966

<u>Cash Revenues:</u>	<u>Expected Revenue & Expenditures as Budgeted</u>	<u>Actual Revenue & Expenditures</u>	<u>Balance or Deficit (-) Compared to Budget</u>
Balance--funds on hand at July 1, 1965	\$ 5,758.69	\$ 5,758.69	\$ -0-
Revenue Receipts			
State of Wyoming	10,750.00	10,750.00	-0-
State of Idaho	10,750.00	10,750.00	-0-
State of Utah	10,750.00	10,750.00	-0-
	<u>\$38,008.69</u>	<u>\$38,008.69</u>	<u>\$ -0-</u>
<u>FUNDS FURNISHED DIRECT BY</u>			
<u>UNITED STATES GEOLOGICAL SURVEY</u>	<u>22,900.00</u>	<u>23,702.00</u>	<u>802.00</u>
 <u>Total Funds Available</u>	 <u>\$60,908.69</u>	 <u>\$61,710.69</u>	 <u>\$ 802.00</u>
 <u>Appropriation Accounts:</u>			
Stream-gauging--Schedule "A-1"	\$45,800.00	\$46,602.00	\$ (802.00)
Personal services	5,690.00	5,690.00	-0-
Travel and subsistence	1,000.00	815.00	185.00
Fiscal and administrative	300.00	300.00	-0-
Washington office charge	710.00	705.00	5.00
General office expense	300.00	390.00	(90.00)
Printing annual report	500.00	492.35	7.65
Treasurer's bond and audit	300.00	265.63	34.37
Transcript of minutes	150.00	70.00	80.00
Legal consultant	300.00	300.00	-0-
Miscellaneous	100.00	81.09	18.91
	<u>\$55,150.00</u>	<u>\$55,711.07</u>	<u>\$ (561.07)</u>
Unappropriated at July 1, 1965	<u>5,758.69</u>	<u>-0-</u>	<u>5,758.69</u>
	<u>\$60,908.69</u>	<u>\$55,711.07</u>	<u>\$ 5,197.62</u>
 <u>BALANCE</u>	 <u>\$ -0-</u>	 <u>\$ 5,999.62</u>	 <u>\$ 5,999.62</u>
 <u>FUNDS AVAILABLE AT JUNE 30, 1966</u>		 <u>\$ 5,999.62</u>	 <u>\$ 5,999.62</u>

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, 1966

	<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	\$34,559.00	\$17,680.50*	\$16,878.50	\$ 5,690.00	\$22,568.50
Travel and subsistance	3,172.00	1,586.00	1,586.00	815.00	2,401.00
General office	2,896.00	1,448.00	1,448.00	390.00	1,838.00
Fiscal and administration	1,847.00	923.50	923.50	300.00	1,223.50
Washington office	<u>4,128.00</u>	<u>2,064.00</u>	<u>2,064.00</u>	<u>705.00</u>	<u>2,769.00</u>
	<u>\$46,602.00</u>	<u>\$23,702.00</u>	<u>\$22,900.00</u>	<u>\$ 7,900.00</u>	<u>\$30,800.00</u>

*Unequal distribution of personal services expenditures due to supplemental Federal appropriation for salary increases during 4th 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 1966 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 table of daily discharge, the figures for the maximum day and the minimum day for each month are underlined. If the figure is repeated, it is underlined only on the first day of its occurrence.

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. Flow for the month is 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, Utah

Location.--Lat 40°50'30", long 110°55'20", in NE¹/₄ sec. 9, T.1 N., R.9 E., on left bank, 1,350 ft below Whitney Dam, 7 miles upstream from Deer Creek, 21.5 miles northeast of Oakley.

Drainage area.--7.5 sq mi, approximately.

Records available.--October 1965 to September 1966.

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

Extremes.--Maximum discharge during year, 65 cfs May 9 (gage height, 1.62 ft); no flow July 24 to Sept. 30, 1965-66. Maximum discharge, 145 cfs June 13, 1965 (gage height, 1.26 ft); no flow July 24 to Sept. 30, 1966.

Remarks.--Records fair. No diversions above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6	3.9	5.4	5.6	3.8	3.0	4.0	8.0	31	9.0		
2	4.9	3.9	5.7	4.8	3.8	3.0	8.0	17	28	6.4		
3	4.5	3.9	5.2	5.4	3.6	3.0	7.0	18	28	7.3		
4	4.3	3.9	5.2	4.9	3.6	2.9	7.0	28	27	6.6		
5	3.9	3.9	4.5	4.9	3.6	2.9	7.0	34	26	6.2		
6	3.8	3.9	4.9	4.9	3.6	2.7	6.8	36	24	6.0		
7	3.6	3.9	4.9	4.9	3.6	2.6	6.8	45	22	6.0		
8	3.6	3.9	4.7	4.9	3.6	2.6	6.8	46	23	6.0		
9	3.8	3.9	4.7	5.2	3.6	2.6	6.2	32	21	5.5		
10	3.5	3.9	4.7	4.9	3.6	2.6	6.0	45	21	6.2		
11	3.5	3.9	4.7	4.9	3.5	2.6	6.0	34	18	6.2		
12	3.3	4.1	4.7	4.8	3.5	2.4	6.0	29	17	6.2		
13	3.4	4.5	4.9	4.5	3.8	2.4	6.0	26	16	6.2		
14	3.6	4.3	4.9	4.5	3.5	2.4	5.8	25	15	5.4		
15	4.3	4.5	4.9	4.3	3.5		5.8	25	14	5.2		
16	5.4	4.7	4.9	4.9	3.3		5.8	27	18	5.4		
17	5.4	4.7	4.7	4.5	3.3			29	16	5.4		
18	5.2	4.7	4.7	4.5	3.3			31	14	5.4		
19	4.7	4.7	4.7	4.5	3.3			34	12	5.4		
20	4.5	4.9	4.7	4.1	3.3			36	11	5.2		
21	4.3	4.0	4.7	3.8	3.3			39	11	4.9		
22	4.3	3.0	4.7	3.8	3.3			39	11	4.9		
23	4.3	3.0	4.7	3.9	3.3	3.0		36	11	4.4		
24	4.1	3.0	4.7	3.9	3.3		6.0	36	9.7	0		
25	4.1	3.0	4.7	3.9	3.2			32	9.0	0		
26	4.1	7.0	4.7	3.8	3.2			39	8.4	0		
27	4.1	6.0	4.9	3.6	3.0			35	7.5	0		
28	4.1	5.6	4.7	3.8	3.0			34	7.3	0		
29	4.1	5.5	4.7	3.6				34	7.3	0		
30	4.1	5.5	4.7	3.6				36	7.0	0		
31	3.9		5.2	3.6				34		0		
Total	130.3	147.5	150.2	158.0	95.6	88.7	184.7	1,024.0	487.9	137.2	0	0
Mean	4.20	4.82	4.85	4.45	3.42	2.66	6.16	33.0	16.3	4.43	0	0
Ac-ft	258	293	296	274	190	178	366	2,030	968	272	0	0
Calendar year 1965:	Max	120	Min	-	Mean	12.7	Ac-ft	9,200				
Water year 1965-66:	Max	52	Min	0	Mean	7.09	Ac-ft	3,120				

BEAR RIVER BASIN

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

Location.--Lat 40°58', Long 110°51', in SHS 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 1966.

Gage.--Water-stage recorder. Altitude of gage is 7,985 ft (from river-profile map).

Average discharge.--34 years, 188 cfs (123,900 acre-ft per year).

Extremes.--Maximum discharge during year, 1,910 cfs May 9 (gage height, 3.02 ft); minimum gage height, 3.49 ft Jan. 21 (backwater from ice); minimum discharge, 27 cfs Nov. 22.

1842-66: Maximum discharge, 2,860 cfs June 12, 1955 (gage height, 3.82 ft); minimum determined, 16 cfs Apr. 11, 1951, Nov. 8, 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 cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	148	78	80	58	56	46	111	290	630	267	66	54
2	148	78	80	54	58	46	130	371	630	247	106	68
3	133	76	80	64	54	47	128	478	578	193	220	81
4	129	76	80	65	52	46	106	576	558	188	130	39
5	117	76	80	68	51	45	101	768	464	155	106	37
6	114	76	78	64	50	46	114	848	444	155	98	37
7	111	72	78	62	50	46	136	930	414	147	65	37
8	109	76	81	61	50	46	158	1,130	390	126	73	35
9	107	72	81	61	50	46	182	1,210	408	120	76	34
10	102	78	81	62	50	46	193	1,240	432	128	72	33
11	100	74	79	62	50	46	188	878	438	120	70	36
12	92	79	70	62	50	60	152	694	406	130	70	64
13	98	85	65	64	50	50	148	888	351	130	68	44
14	92	81	60	64	50	50	182	518	374	106	61	46
15	96	81	60	64	50	50	176	464	390	96	59	56
16	120	81	56	62	50	30	212	488	402	96	66	51
17	111	87	58	60	50	46	236	498	372	96	66	60
18	106	85	59	60	52	58	228	506	338	111	52	44
19	102	85	62	60	52	52	182	562	320	88	53	40
20	81	81	64	60	48	50	163	654	316	91	56	39
21	81	74	68	60	47	42	158	798	300	88	57	38
22	81	59	72	60	46	59	188	888	328	91	51	37
23	89	56	70	60	48	64	149	702	295	76	50	36
24	87	53	67	60	46	59	168	896	244	76	48	38
25	81	59	64	60	46	53	204	822	224	78	46	36
26	65	65	65	60	46	53	254	888	200	70	45	41
27	53	62	63	60	46	59	254	912	193	76	44	38
28	73	60	64	60	48	68	224	777	132	66	46	37
29	81	78	68	61	47	72	236	718	175	63	42	38
30	73	76	70	58	46	61	254	867	178	59	42	38
31	78	-----	69	58	46	66	-----	813	-----	59	46	-----
Total	3,136	2,334	2,172	1,912	1,392	1,670	5,227	22,643	10,984	2,391	2,146	1,232
Mean	101	76.5	70.1	61.7	46.7	53.9	174	730	358	116	69.3	43.1
Ac-ft	6,220	4,780	4,510	3,730	2,780	3,310	10,376	44,310	21,796	7,120	4,860	2,560
Calendar year 1965: Max 2,390 Min 34 Mean 236 Ac-ft 215,700												
Water year 1965-66: Max 1,340 Min 35 Mean 160 Ac-ft 115,200												
Peak discharge (base 1,100 cfs).--May 9 (2320) 1,910 cfs (3.02 ft).												

BEAR RIVER BASIN

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

Location.--Lat 41°08', long 110°48', in SW $\frac{1}{4}$ sec.35, T.14 N., R.119 W., on right bank $\frac{1}{8}$ miles downstream from Willow Creek, 2 miles upstream from Sulphur Creek Dam, and $1\frac{1}{8}$ miles southeast of Evanston.

Drainage area.--64 sq mi, approximately.

Records available.--December 1957 to September 1966.

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

Average discharge.--8 years (1958-66), 11.4 cfs (8,250 acre-ft per year).

Extremes.--Maximum discharge during year 274 cfs Mar. 30 (gage height, 4.32 ft); no flow Aug. 27-31, Sept. 15-24.

1957-68: Maximum discharge, 1,220 cfs Apr. 21, 1965 (gage height, 6.02 ft); no flow at times in each year.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.2	3.0					80	25	4.0	3.4	0.3	0.1
2	7.7	3.2					68	32	2.5	4.7	.3	.1
3	6.7	3.4	10				48	46	2.4	2.2	.3	.1
4	6.1	3.6					30	51	2.4	1.3	.3	.1
5	5.6	3.6					24	54	2.7	.6	.2	.1
6	5.1	4.0				3.0	24	55	3.6	.5	.2	.1
7	5.1	4.3					27	57	4.9	.5	.2	.1
8	4.9	4.3	8.0				31	53	8.0	.4	.1	.1
9	4.7	4.3					34	42	8.6	.3	.1	.1
10	4.5	4.3			5.0		40	49	18	.3	.1	.1
11	4.3	4.3					40	43	14	.3	.1	.1
12	5.6	4.7					31	40	9.9	.4	.1	.1
13	5.1	5.6	6.0			5.0	24	38	8.0	.4	.1	.1
14	4.9	5.6					20	23	6.1	.3	.1	.1
15	5.1	5.6		5.0			20	18	4.3	.3	.1	.1
16	3.6	5.6					23	16	4.3	.2	.1	.1
17	3.6	5.6					33	17	6.7	.2	.1	.1
18	8.9	5.9	4.0			8.0	45	14	6.9	.2	.1	.1
19	7.4	7.2			4.0		34	9.9	5.1	.4	.2	0
20	6.3	8.0					29	12	3.4	.3	.2	0
21	6.4	8.3				8.0	32	8.6	3.2	.2	.2	0
22	6.1	6.0				9.0	45	9.9	4.0	.2	.1	0
23	5.9	8.9					20	35	10	.5	.2	.1
24	5.9	11					28	25	8.0	.3	.1	0
25	5.4	17	6.0				40	23	8.6	.4	.1	.1
26	4.9	14				5.5	27	8.0	2.5	.3	.1	.1
27	3.2	13				8.0	27	7.2	2.2	.3	0	.1
28	3.0	11				12.0	24	5.9	2.2	.3	0	.1
29	3.6	10				16.6	22	4.5	2.0	.2	0	.1
30	3.2	10				15.4	21	3.8	1.0	.2	0	.1
31	2.8					11.8		7.5		.3	0	.1
Total	177.4	265.3	266.0	155.0	122.0	894.0	996	770.9	153.8	20.3	4.0	2.5
Mean	5.72	8.84	8.65	5.0	4.36	88.8	33.2	24.9	5.13	0.65	0.13	0.08
Ac-ft	352	407	408	307	242	1,770	1,980	1,530	305	40	7.9	5.0
Calendar year 1965	Max	403	Min	-	Mean	30.2	Ac-ft	21,840				
Water year 1965-66	Max	166	Min	0	Mean	10.2	Ac-ft	7,350				

BEAR RIVER BASIN

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

Location.--Lat 41°09', 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 1/2 miles southeast of Evanston.

Drainage area.--68 sq mi, approximately.

Records available.--March 1958 to September 1966.

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, 88 cfs July 24 (gage height, 3.70 ft); no flow for many days.
1958-68: Maximum discharge, 343 cfs June 11, 1968 (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 cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	60					0	32	0	31	11	48	80
2	60					0	16	0	31	12	28	80
3	59					0	12	0	21	11	14	60
4	59					0	7.4	0	.1	13.8	14	59
5	59					0	7.4	0	.1	13.8	14	59
6	58					0	2.8	3.2	.1	28	14	58
7	57					0	0	16	.1	47	18	44
8	57					0	0	38	.1	51	12	38
9	56					0	0	49	.1	46	9.6	34
10	56					0	0	62	.1	44	10	30
11	55					24	0	74	0	47	10	29
12	55					70	0	88	0	57	10	28
13	55					76	0	64	0	54	10	20
14	54					78	0	56	.6	80	10	20
15	54					78	0	47	1.9	48	10	20
16	53					75	0	40	4.2	51	18	20
17	53					75	0	37	12	61	24	20
18	52					78	0	35	31	60	23	19
19	15					75	0	32	35	59	23	18
20	0					75	0	31	28	62	23	16
21	0					75	0	31	22	64	23	15
22	0					76	0	30	16	70	23	15
23	0					70	0	29	21	65	22	14
24	0					65	0	29	22	66	34	14
25	0					65	0	29	20	75	40	14
26	0					65	0	29	15	61	40	14
27	0					65	0	29	13	48	50	14
28	0					65	0	28	13	38	40	14
29	0					56	0	28	11	48	40	13
30	0					48	0	31	10	48	53	13
31	0					48	0	31		42	61	
Total	1,027	0	0	0	0	1,897	77.4	974.2	338.4	1,482.3	753.6	847
Mean	33.1	0	0	0	0	45.1	2.58	31.4	11.3	47.6	24.8	28.2
Ac-ft	2,040	0	0	0	0	2,770	154	1,520	873	2,340	1,450	1,680
Calendar year 1965	Max	322	Min	0	Mean	33.9	Ac-ft	24,950				
Water year 1965-66	Max	88	Min	0	Mean	18.8	Ac-ft	13,680				

BEAR RIVER BASIN

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

Location.--Lat 41°24', long 111°02', in SE¼ sec.36, T.17 N., R.121 W., on left bank at highway bridge, 6½ miles downstream from headgates and 10 miles northwest of Evanston.

Records available.--April 1942 to September 1966 (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 6,670 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.--22 years (1944-66), 18.7 cfs (13,540 acre-ft per year).

Extremes.--1942-66: Maximum daily discharge, 133 cfs June 18, 1964; no flow at times each year.

Remarks.--Records fair. Canal diverts water from Bear River in NW¼ sec.36, T.16 N., R.121 W. Many diversions above station for irrigation in Wyoming. Flow at station is for storage in Nepenset Reservoir, Utah, and irrigation in Saleratus basin, Utah.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.0				0	5.3	0	64	5.4	17	0.6
2	.3	.6				0	2.8	0	61	11	9.1	1.3
3	.2	.8				0	1.3	.4	78	22	12	1.1
4	.2	.4				0	1.6	1.4	71	9.9	77	1.4
5	.1	.3				0	0	1.6	67	5.1	51	1.8
6	0	.3				0	0	2.9	64	3.6	26	1.6
7	0	.2				0	0	5.8	64	6.6	18	2.4
8	0	.3				0	0	6.0	62	7.8	12	1.4
9	0	.3				0	0	28	59	6.4	6.6	.6
10	0	.3				0	0	46	58	4.3	4.3	.3
11	0	.3				0	0	46	65	3.5	3.3	.1
12	0	.3				0	0	23	74	5.9	1.9	0
13	0	.3				0	0	20	77	7.4	.6	0
14	0	.4				0	0	22	56	7.8	.2	.3
15	0	.4				0	0	44	35	7.6	.1	2.4
16	.2	.4				1	0	42	41	6.6	0	4.3
17	.2	.4				1	0	40	31	6.6	0	4.2
18	.2	.4				2	0	35	64	7.6	0	3.5
19	.2	.4				2	0	32	59	4.8	1.3	3.5
20	.1	.3				3	0	37	51	5.1	.6	3.5
21	.4	.3				5	0	37	47	7.8	1.9	2.5
22	.7	0				6	0	38	42	12	4.7	.6
23	.6	.1				7	0	42	38	19	4.3	.1
24	.6	.1				8	0	42	37	33	1.1	0
25	.6	.3				9	0	43	32	39	.1	.1
26	.6	0				10	0	46	30	39	0	1.6
27	.6	0				11	0	52	26	29	0	.3
28	.6	0				12	0	63	26	37	0	0
29	.6	0				13	0	71	24	20	0	0
30	.6	0				13	0	74	16	16	0	0
31	.6	0				12	0	75	16	24	0	0
Total	8.8	9.3	0	0	0	117	3.8	1,019.3	1,583	439.3	253.1	40.2
Mean	0.28	0.28	0	0	0	3.6	0.33	32.8	52.8	14.2	8.16	1.34
Ac-ft	17	16	0	0	0	232	19	2,620	3,140	671	502	80
Calendar year 1965: Max	127	Min	0	Mean	19.4	Ac-ft	14,040					
Water year 1965-66: Max	84	Min	0	Mean	9.33	Ac-ft	6,900					

BEAR RIVER BASIN

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

Location.--Lat 41°26'05", long 111°01'00", in NW1/4 sec.25, T.17 N., R.120 W., in Wyoming on right bank S.S. HILLS upstream from Woodruff Narrows Dam and IG slides southeast of Woodruff.

Drainage area.--780 sq mi, approximately.

Records available.--October 1961 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 6,583 ft (from river-profile map).

Average discharge.--5 years, 220 cfs (163,600 acre-ft per year).

Extremes.--Maximum discharge during year, 1,540 cfs May 11 (gage height, 4.67 ft); minimum, 1.0 cfs Aug. 27, 1961-62; Maximum discharge, 3,340 cfs June 13, 14, 1965 (gage height, 8.58 ft); minimum, 6.1 cfs Aug. 24, 1964.

Remarks.--Records good except those for winter months, which are fair. Diversions for Irrigation of about 43,500 acres above station.

Discharge, in cubic feet per second, water year October 1961 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	269	115	120	94	80	65	352	413	400	18	8.2	8.0
2	272	113	120	94	80	65	375	477	335	12	8.2	8.0
3	269	113	120	94	80	65	352	355	309	9.6	10	8.6
4	261	109	120	94	80	65	332	272	261	8.0	11	8.8
5	250	108	120	94	80	65	356	505	242	8.6	11	11
6	246	110	118	90	75	65	351	955	208	5.8	14	11
7	242	109	115	90	75	65	322	1,050	180	5.3	8.8	11
8	234	104	115	90	75	65	347	1,180	180	3.4	7.3	12
9	227	104	115	90	75	65	369	1,280	186	3.0	6.0	8.2
10	224	108	115	90	75	65	408	1,530	128	4.9	5.3	8.0
11	220	104	115	95	75	90	438	1,370	144	5.3	4.9	8.6
12	213	97	94	95	75	80	400	1,080	170	8.3	4.9	8.0
13	209	108	92	95	75	80	347	925	147	5.3	4.5	8.6
14	206	120	90	95	75	90	322	782	118	6.8	4.5	8.0
15	196	120	84	95	75	90	314	614	90	8.8	3.8	11
16	205	125	80	90	75	110	345	575	71	6.0	3.4	13
17	242	128	80	90	75	150	392	538	75	8.0	3.4	14
18	236	128	80	90	75	180	462	495	84	8.8	3.0	15
19	227	126	84	90	75	230	433	480	75	11	2.1	16
20	176	128	90	90	75	280	378	430	69	12	1.9	16
21	156	122	100	80	70	270	364	538	47	14	2.1	14
22	150	104	110	90	70	250	360	568	44	13	1.5	8.6
23	150	125	105	90	70	250	347	572	83	14	1.9	8.0
24	144	126	105	90	70	320	328	485	51	16	8.0	8.0
25	136	124	105	90	70	400	338	468	48	16	2.3	8.0
26	133	125	100	90	70	500	372	490	46	15	1.7	8.2
27	131	140	100	90	70	600	424	500	34	12	1.5	8.2
28	128	126	100	90	70	900	424	462	25	11	1.3	8.3
29	120	115	100	90	-----	922	392	410	17	11	2.7	4.5
30	118	120	100	-----	-----	1,020	400	405	13	-----	1.8	3.6
31	118	-----	100	80	-----	958	-----	472	-----	2.6	1.8	-----
Total	6,117	3,665	3,138	2,535	2,688	2,358	12,480	21,563	3,768	285.2	170.6	267.0
Mean	197	122	103	81.8	74.5	77.0	418	689	126	8.30	5.50	8.90
Ac-ft	12,130	7,270	6,320	5,020	4,140	3,650	24,710	42,370	7,510	566	328	530
Calendar year 1965:	Max	2,250	Min	70	Mean	418	Ac-ft	302,600				
Water year 1965-66:	Max	1,350	Min	1.2	Mean	177	Ac-ft	129,100				

BEAR RIVER BASIN

10-0202. Woodruff Narrows Reservoir near Woodruff, Utah

Location.--Lat 41°20'10", long 111°00'55". In sec.32, T.16 N., R.120 W., in Wyoming, in gate house on dam, 5.5 miles upstream from Wyoming-Utah State line, and 7.7 miles east of Woodruff.

Drainage area.--610 sq mi, approximately.

Records available.--October 1965 to September 1966.

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 30,880 acre-ft May 9 (gage height, 37.6 ft); minimum 6,480 acre-ft Sept. 11-13.

Remarks.--Reservoir formed by earth-fill, rock faced dam. Storage began Jan. 5, 1962. Usable capacity 28,000 acre-ft which includes 4,800 acre-ft of irrigation holdover, 4,000 acre-ft for winter release for fish propagation, and 1,600 acre-ft of inactive storage. Gage height of spillway is 35.3 ft. Figures given herein represent total contents.

Contents, in acre-feet, at 2400, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28,710	22,020	21,680	19,600	18,240	18,840	30,630	28,860	28,120	-	7,160	6,560
2	-	21,740	21,880	19,480	18,240	18,860	30,410	28,860	29,000	-	7,160	6,560
3	-	21,600	21,740	19,480	18,240	18,860	29,740	29,180	28,860	-	7,160	6,560
4	-	21,400	21,740	19,360	18,240	18,860	29,190	29,370	28,710	-	7,160	6,560
5	-	21,520	21,740	19,240	18,240	18,860	28,710	28,830	28,710	-	7,160	6,560
6	28,710	21,180	21,600	19,240	18,360	18,960	28,410	30,230	28,560	7,980	7,160	6,560
7	-	21,030	21,600	19,120	18,360	18,960	28,410	30,630	27,970	7,870	7,160	6,560
8	-	20,890	21,600	19,120	18,360	18,960	28,560	30,630	26,490	7,870	7,160	6,560
9	-	20,700	21,600	19,000	18,360	18,960	28,710	30,880	24,710	7,790	7,090	6,560
10	-	20,700	21,600	19,000	18,360	20,060	28,710	30,630	23,410	7,710	7,090	6,560
11	-	21,030	21,600	18,880	18,480	20,080	28,710	30,410	22,020	7,830	7,090	6,480
12	28,710	21,180	21,400	18,780	18,480	20,180	29,000	30,080	20,890	7,550	7,050	6,480
13	28,360	21,320	21,460	18,760	18,480	20,270	28,860	29,330	19,860	7,470	7,010	6,480
14	-	21,600	21,320	18,760	18,600	20,700	28,710	29,740	19,360	7,380	6,950	6,560
15	27,370	21,880	21,320	18,640	18,600	21,180	28,710	28,930	18,640	7,320	6,930	6,560
16	-	22,020	21,180	18,760	18,600	21,880	28,710	29,740	17,770	7,240	6,930	6,560
17	-	22,170	21,030	18,760	18,600	22,310	28,710	29,740	17,020	7,240	6,930	6,560
18	-	22,170	20,700	18,760	18,600	22,740	-	29,580	16,370	7,240	6,860	6,560
19	-	22,310	20,510	18,760	18,600	23,290	-	29,370	15,570	7,240	6,860	6,560
20	-	22,310	20,360	18,880	18,720	23,760	-	29,370	14,900	7,240	6,860	6,560
21	-	22,310	20,270	18,880	18,720	24,260	29,000	29,370	14,030	7,240	6,780	6,630
22	-	22,170	20,270	18,880	18,720	24,710	28,860	29,370	13,000	7,240	6,780	6,630
23	-	22,310	20,180	18,880	18,720	25,340	28,860	29,580	12,410	7,160	6,700	6,630
24	-	22,310	20,060	19,000	18,720	25,650	28,860	29,580	11,780	7,160	6,700	6,630
25	-	22,310	19,960	19,000	18,840	26,140	28,710	29,370	11,030	7,160	6,700	6,630
26	28,880	22,310	19,960	19,000	19,840	26,840	28,860	29,370	10,530	7,160	6,630	6,630
27	28,840	22,310	19,840	19,000	19,840	26,120	28,860	29,370	9,930	7,160	6,630	6,630
28	28,410	22,170	19,720	19,120	19,840	25,370	29,000	29,370	9,210	7,160	6,630	6,630
29	28,640	22,020	19,720	19,120	-----	25,740	28,860	29,370	8,830	7,160	6,630	6,630
30	28,740	21,680	19,720	19,120	-----	30,230	28,860	29,000	7,980	7,160	6,560	6,630
31	28,310	-----	19,720	19,120	-----	30,630	-----	29,000	-----	7,160	6,560	-----
(+)	31.5	31.2	29.8	28.1	29.7	36.9	38.9	38.0	17.5	16.5	15.7	15.8
(+)	-6,400	-430	-2,160	-600	+720	+10,790	-1,770	+140	-21,030	-780	-600	+70

Calendar year 1965 † -
 Water year 1965-66 † -22,080

† 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°30'20", long 111°00'50", in NW¼NW¼ sec.32, T.18 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 1966.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 6,400 ft (from river-profile map). Prior to Sept. 26, 1962, at site 175 ft upstream at same datum.

Average discharge.--5 years, 220 cfs (159,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,640 cfs May 10 (gage height, 6.76 ft); minimum daily, 1.4 cfs Nov. 11-16.

1961-66: Maximum discharge, 3,000 cfs June 14, 1965 (gage height, 7.88 ft); no flow July 4, 5, 1962.

Remarks.--Records excellent. Flow regulated by Woodruff Narrows Reservoir beginning January 1962 (capacity, 26,000 acre-ft). Diversions for irrigation of about 43,500 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	224	272	126	124	68	69	497	358	406	36	8.0	6.7
2	230	212	126	123	66	69	971	374	374	31	8.0	7.0
3	233	159	126	123	69	69	928	415	328	31	8.0	6.7
4	230	159	126	124	69	69	707	498	290	31	8.0	6.7
5	227	159	126	124	69	69	545	596	269	30	8.0	6.4
6	219	159	126	124	69	69	444	719	230	30	8.0	6.4
7	213	159	126	124	69	69	292	693	539	30	8.0	6.4
8	207	159	126	124	69	69	230	1,070	912	30	8.0	5.6
9	205	159	126	124	69	69	278	1,136	971	30	8.0	5.4
10	199	79	126	124	69	69	314	1,390	935	30	8.0	5.7
11	194	1.4	126	124	69	69	366	1,490	841	29	8.0	5.6
12	192	1.4	126	124	69	69	386	1,150	713	29	7.7	5.4
13	277	1.4	126	124	69	69	366	971	576	29	7.0	5.4
14	297	1.4	126	124	69	69	336	785	488	28	7.0	5.6
15	256	1.4	126	100	69	70	301	608	480	27	7.4	5.6
16	298	1.4	126	60	69	70	284	580	476	20	7.7	5.6
17	358	48	126	60	69	70	304	550	472	17	8.0	5.8
18	354	124	126	60	69	71	351	508	462	15	8.0	5.8
19	354	126	126	60	69	71	386	476	458	15	8.0	5.8
20	354	126	128	60	69	72	382	456	444	12	7.7	6.4
21	354	126	128	60	69	72	351	462	432	9.3	7.7	6.4
22	354	126	128	60	69	73	356	485	427	8.6	7.7	6.4
23	354	126	128	60	69	73	325	512	423	8.3	8.0	6.4
24	325	126	126	60	69	73	311	498	415	8.3	8.3	6.4
25	281	126	128	61	69	73	301	467	411	8.3	8.6	6.4
26	281	126	128	61	69	73	304	458	406	8.0	8.0	7.0
27	278	126	126	63	69	69	328	467	394	7.7	7.4	7.4
28	278	126	124	68	69	69	328	353	472	390	7.7	6.7
29	275	126	124	68	69	69	647	358	436	382	8.0	6.1
30	275	126	124	68	69	69	893	358	411	254	8.3	5.1
31	272	-----	124	68	69	69	960	411	411	8.0	6.4	7.7
Total	8,448	3,368.4	3,912	2,831	1,930	4,774	12,498	20,102	14,594	620.5	237.5	189.2
Mean	273	112	126	91.3	68.9	154	417	648	486	20.0	7.66	6.31
Ac-ft	16,760	6,680	7,760	5,620	3,830	9,470	24,790	39,670	28,950	1,230	471	375

Calendar year 1965: Max 2,940 Min 1.4 Mean 389 Ac-ft 281,900
 Water year 1965-66: Max 1,490 Min 1.4 Mean 201 Ac-ft 145,800

BEAR RIVER BASIN

10-265. Bear River near Randolph, Utah

Location.--Lat 41°48', long 111°06', in SE1/4 sec. 7, T.12 N., R.8 E., on left bank 3.5 miles upstream from Twin Creek, 4.8 miles upstream from Utah-Wyoming State line, and 11 miles northeast of Randolph.

Drainage area.--1,640 sq mi, approximately.

Records available.--October 1943 to September 1966. Monthly discharge only for some periods, published in MSP 1314.

Gage.--Water-stage recorder. Altitude of gage is 6,205 ft (from river-profile map).

Average discharge.--23 years, 184 cfs (133,200 acre-ft per year).

Extremes.--Maximum discharge during year, 1,730 cfs Apr. 1 (gage height, 7.91 ft); minimum daily, 11 cfs Sept. 8, 9.
1943-66: Maximum discharge 2,660 cfs May 8, 1952 (gage height, 8.80 ft); minimum, 1.6 cfs Nov. 12, 1961.

Remarks.--Records good except those for winter months, which are fair. Diversions for irrigation of about 94,500 acres above station. Flow regulated by Woodruff Narrows Reservoir beginning January 1962 (capacity 28,000 acre-ft).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	280	328	190	160	100	105	1,670	443	61	114	40	14
2	280	328	200	185	100	105	1,640	441	67	105	39	14
3	282	324	210	165	100	105	1,530	446	67	104	38	13
4	284	278	180	160	100	105	1,420	462	58	100	38	13
5	284	251	175	165	100	105	1,290	432	70	33	37	13
6	278	244	170	165	100	105	1,200	539	76	100	36	12
7	269	242	170	170	100	105	860	594	71	98	35	12
8	260	239	170	180	100	105	725	662	62	83	35	11
9	257	235	170	160	100	105	574	746	58	81	34	11
10	255	235	170	165	100	105	544	827	94	70	23	12
11	257	234	170	160	100	120	548	845	172	64	21	12
12	260	193	170	160	100	120	566	831	251	60	20	12
13	259	141	170	165	100	120	574	830	237	56	19	12
14	264	124	170	165	100	120	550	836	235	53	19	14
15	326	116	170	165	100	120	520	615	188	43	19	16
16	320	108	170	155	105	130	500	400	148	43	19	14
17	300	104	170	120	105	140	470	257	118	43	20	14
18	346	102	170	100	105	160	450	217	108	39	17	13
19	368	112	170	94	105	190	480	186	120	39	18	13
20	372	158	170	90	105	220	500	130	144	44	18	13
21	376	174	170	88	110	250	500	111	120	47	17	13
22	382	179	170	86	110	300	480	95	117	44	16	12
23	394	205	180	84	110	350	460	86	112	43	16	12
24	378	230	180	80	110	430	450	77	134	42	14	13
25	368	246	180	94	110	540	425	87	146	42	14	13
26	334	257	180	96	105	650	420	86	146	44	13	13
27	330	251	180	95	105	794	420	76	124	47	13	14
28	330	251	180	100	105	962	427	71	116	43	13	16
29	330	225	170	100	-----	1,140	448	64	122	43	13	29
30	328	200	160	100	-----	1,330	452	85	118	42	13	30
31	322	-----	160	100	-----	1,540	-----	65	-----	41	13	-----
Total	9,665	6,310	5,415	4,085	2,690	10,778	20,994	11,812	3,659	1,932	699	425
Mean	312	210	175	132	103	348	700	381	122	62.3	22.5	14.2
Ac-ft	19,170	12,520	10,740	8,100	5,750	21,370	41,640	23,430	7,280	3,830	1,390	843

Calendar year 1965: Max 2,370 Min 60 Mean 400 Ac-ft 289,600
 Water year 1965-66: Max 1,670 Min 11 Mean 216 Ac-ft 156,000

BEAR RIVER BASIN

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

Location.--Lat 41°56'20", long 110°49'05", in SE $\frac{1}{4}$ sec. 26, T.23 N., R.120 W., 600 ft downstream from Pixley Dam, 11 miles south of Cokeville, and 17.8 miles downstream from Twin Creek.

Drainage area.--2,640 sq mi, approximately.

Records available.--October 1941 to November 1943 (published as Bear River near Cokeville), October 1952 to September 1956, May 1958 to September 1966 (irrigation seasons only). Monthly discharge only for some periods, published in WRP 1944.

Gage.--Water-stage recorder. Altitude of gage is 6,165 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, 793 cfs May 15 (gage height, 6.40 ft); minimum daily, 4.9 cfs June 8.
1941-43, 1952-56, 1958-66: 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 cubic feet per second, May to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	315						-	497	14	12	61	26
2	312						-	467	14	10	61	26
3	313						-	485	14	6.3	61	26
4	315						-	489	16	8.1	60	26
5	317						-	512	17	8.1	59	26
6	317						-	533	12	7.9	57	27
7	317						-	572	5.1	269	55	26
8							-	623	4.9	YOE	54	26
9							-	675	5.5	161	52	25
10							-	737	5.5	142	50	24
11							-	754	5.3	128	41	25
12							-	737	5.7	114	37	25
13							-	760	7.2	104	35	25
14							-	793	15	96	35	26
15							-	775	26	87	33	29
16							-	687	37	81	33	48
17							-	410	40	76	33	49
18							-	221	28	72	32	33
19							-	233	16	51	31	29
20							-	145	13	64	30	25
21							-	138	31	66	30	25
22							-	28	33	66	30	26
23							-	62	20	58	30	26
24							-	61	9.3	57	29	26
25							-	41	6.2	56	26	27
26							-	44	6.6	55	26	26
27							-	53	7.2	58	25	27
28							-	475	37	60	24	27
29							-	436	32	10	24	31
30							-	501	25	16	24	38
31							-		17	62	24	-----
Total								11,700	447.2	2,393.4	1,204	865
Mean								377	14.8	77.2	38.8	28.8
Ac-ft								23,210	887	4,750	2,590	1,720

Calendar year : Max Hfa Mean Ac-ft
 The season : Max Hfa Mean Ac-ft 32,960

BEAR RIVER BASIN

10-320. Smiths Fork near Border, Wyo.

Location.--Lat 42°17', long 110°52', in NW¼ sec.33, T.27 N., R.118 W., on left bank 4½ miles upstream from Howland Creek, 6 miles downstream from Hobble Creek, and 12 miles northeast of Border.

Drainage area.--165 sq mi.

Records available.--May 1942 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 6,650 ft (from topographic map). Prior to Oct. 16, 1945, at site 0.8 mile downstream at different datum.

Average discharge.--24 years, 191 cfs (138,300 acre-ft per year).

Extremes.--Maximum discharge during year, 758 cfs May 10 (gage height, 3.73 ft); minimum, 40 cfs Mar. 4, 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 200 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	126	95	80	72	66	65	117	225	467	216	119	101
2	124	91	80	70	66	65	126	272	425	209	119	109
3	121	91	80	70	66	66	115	314	428	208	124	99
4	119	91	80	72	66	65	107	337	407	189	121	94
5	117	89	80	74	66	60	107	374	378	193	115	93
6	117	91	80	74	66	62	113	415	357	187	113	91
7	117	89	80	74	66	64	105	407	353	181	109	91
8	115	89	80	74	64	65	142	517	349	175	109	89
9	111	89	80	74	67	63	175	522	349	169	107	89
10	109	89	80	74	64	63	190	728	349	169	105	88
11	107	89	80	74	64	60	169	627	345	169	105	89
12	105	89	80	74	64	63	156	527	318	164	105	89
13	105	91	79	73	64	64	153	485	318	156	103	88
14	105	91	76	73	64	64	158	445	310	153	101	96
15	105	94	73	72	64	65	178	407	302	150	99	99
16	107	91	72	67	64	65	216	394	298	147	99	96
17	105	94	72	66	64	62	219	378	295	147	97	93
18	103	91	72	66	64	59	216	361	287	142	99	89
19	107	96	72	66	64	65	190	366	298	140	103	88
20	105	94	72	66	64	64	175	366	287	137	101	85
21	103	91	72	60	64	62	160	415	283	140	99	85
22	101	85	72	62	64	63	160	471	298	140	97	82
23	99	89	72	65	64	60	160	441	283	135	97	82
24	97	94	72	68	64	65	165	415	268	130	94	82
25	97	88	72	66	66	65	170	415	257	128	94	82
26	96	86	72	66	66	66	190	437	246	128	93	80
27	94	86	70	66	66	73	185	459	239	126	94	80
28	94	80	70	66	66	76	190	471	232	124	93	80
29	94	80	74	66	66	82	193	489	225	119	93	79
30	94	80	76	66	66	89	202	499	219	119	93	79
31	93	-----	74	66	66	99	-----	499	-----	119	93	-----
Total	5,294	2,681	2,344	2,142	1,814	2,069	4,892	13,557	9,490	4,817	3,193	2,665
Mean	106	89.4	75.6	69.1	64.8	66.7	163	437	316	155	103	88.8
Ac-ft	6,330	5,320	4,650	4,250	3,600	4,100	9,700	26,890	18,820	9,550	6,330	5,290

Calendar year 1965: Max 1,310 Min 58 Mean 266 Ac-ft 192,300
 Water year 1965-66: Max 728 Min 59 Mean 145 Ac-ft 105,000

BEAR RIVER BASIN

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

Location.--Lat 40°11'30", long 110°53'55", in SE $\frac{1}{4}$ sec. 31, T.26 N., R.118 W., on right bank, one-third mile upstream from Mill Creek, 1 $\frac{1}{2}$ miles upstream from mouth, and 3 miles northeast of Cokeville.

Drainage area.--20.7 sq. mi.

Records available.--October 1964 to September 1966.

Gage.--Water-stage recorder, and sharp-crested trapezoidal weir. Altitude of gage is 6,480 ft (from topographic map).

Extremes.--Maximum discharge during year, 10 cfs Apr. 5 (gage height, 3.67 ft); no flow Aug. 16, 25.
1961-66: Maximum discharge, 158 cfs Apr. 30, 1965 (gage height, 3.77 ft); no flow Aug. 18, 25, 1966.

Remarks.--Records fair except those for winter months and those for period of no gage-height records, which are poor. No streamflow gauge station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	3.3	2.0			1.2	20	14	8.0	3.1	0.38	0.16
2	1.8	3.2	2.0				28	15	7.8	3.0	.42	.20
3	1.8	3.1	2.0				17	18	7.4	2.8	.53	.16
4	1.8	3.1	2.0				14	17	7.4	2.3	.57	.15
5	1.8	3.2	2.0				13	17	7.4	2.2	.53	.14
6	1.8	3.2	2.0				18	17	7.2	2.3	.45	.12
7	1.8	3.2	2.4				26	17	7.0	2.0	.35	.06
8	1.8	3.2	2.8				22	16	8.0	1.9	.35	.08
9	1.4	3.1	2.7				28	16	7.4	1.7	.25	.06
10	1.2	3.1	2.8		1.0		34	24	7.8	1.8	.28	.08
11	1.8	3.1	3.1				19	25	7.4	1.6	.22	.08
12	1.8	3.2	2.1				15	19	6.5	1.8	.20	.12
13	1.3	3.5	3.1			1.0	15	18	6.0	1.7	.18	.10
14	1.2	3.4	2.8				15	17	5.3	1.4	.16	.35
15	1.3	3.8	2.0				17	16	5.3	1.2	.12	.25
16	1.3	3.7					20	18	5.3	1.0	.05	.22
17	1.8	3.8					19	15	8.0	1.0	.06	.25
18	2.2	3.9			1.0		19	14	4.8	.82	0	.25
19	1.8	2.7			1.1		16	14	4.8	.68	.04	.25
20	1.8	2.7			1.0		13	13	4.6	.81	.14	.20
21	2.2	2.2			1.2		12	12	4.4	.81	.14	.25
22	1.2	1.7			1.1		11	12	4.8	.82	.12	.26
23	1.8	3.9	1.8		1.2		10	12	5.0	.82	.12	.25
24	1.8	3.4			1.3	1.1	11	11	4.4	.86	.14	.25
25	1.8	2.3			1.1	1.0	12	11	4.0	.77	0	.30
26	1.2	1.8			1.1	1.1	16	10	3.7	.78	.02	.20
27	1.2	1.7			1.2	1.1	16	9.5	3.4	.69	.02	.22
28	1.2	2.0			1.1	1.1	14	9.8	3.2	.65	.04	.25
29	1.2	2.0			-----	1.0	14	9.1	3.2	.43	.06	.25
30	2.1	2.0			-----	0.3	13	8.3	3.0	.39	.08	.25
31	3.1				-----	1.1	-----	8.1	-----	.45	.06	-----
Total	38.8	48.7	80.3	31.0	29.2	48.4	508	448.8	168.6	42.88	6.08	5.79
Mean	1.28	1.62	1.88	1.00	1.04	1.50	16.9	14.5	5.65	1.38	0.195	0.193
Ac-ft	77	97	180	61	58	92	1,000	890	338	85	12	11
Calendar year 1965	Max	3.9	Min	0	Mean	10.4	Ac-ft	7,840				
Water year 1965-66	Max	3.8	Min	0	Mean	3.33	Ac-ft	2,840				

Note.--No gage-height record Dec. 18 to Feb. 17.

BEAR RIVER BASIN

10-328. Mill Creek near Cokeville, Wyoming

Location.--Lat 43°11'30", long 110°54'10", on right bank, one-third mile upstream from mouth and 8 miles north-
west of Cokeville.

Drainage area.--8.07 sq mi.

Records available.--October 1965 to September 1966.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 8,480 ft. (from topographic map).

Extremes.--Maximum discharge during year, 21 cfs May 10 (gage height, 8.82 ft.); minimum not determined.

Remarks.--Records good except those for winter months and those for periods of no apparent flow, which are poor. No diversion above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0.4	5.0	8.0	4.8	1.4	0.7	0.8
2						.4	4.8	8.0	4.8	1.1	.8	1.0
3						.3	4.3	7.8	4.3	.8	1.0	1.0
4						.4	4.0	8.2	4.4	.6	1.0	1.0
5			0.7			.4	5.2	11	4.2	.8	1.0	1.1
6												
7							4.8	12	4.2	.7	.9	1.2
8			0.8				8.8	14	4.2	.8	1.0	1.4
9			.7				7.3	14	4.2	.8	.8	1.4
10			.8		0.8		7.8	14	4.3	1.0	.8	1.3
11			.8				9.1	15	4.2	1.0	.8	1.7
12			.8				7.5	16	4.0	1.1	.8	1.8
13			.8				7.0	16	4.0	1.0	.8	1.2
14			.8			.8	7.3	14	3.8	1.2	.8	1.2
15			.8				6.4	14	3.8	1.0	.8	1.3
16	0.7			0.7			8.0	12	3.8	1.4	.7	1.3
17							8.6	12	3.8	1.4	.7	1.2
18					.7		8.3	11	3.4	1.8	.8	1.0
19					.7		8.4	8.8	3.4	1.4	.8	.7
20					.7		8.7	8.3	3.4	1.2	.8	.8
21					.7	.7	7.8	8.0	3.1	1.2	.8	.8
22					.7	.7	7.3	8.7	3.4	1.1	.7	.8
23			.7		.7	.7	7.2	8.4	3.1	1.0	.8	.8
24			.7		.7	.7	7.3	7.8	2.9	.8	.8	.8
25			.7		.7	.7	7.8	7.1	2.7	.8	.4	.8
26					.8	.7	8.1	8.3	2.4	.8	.8	.8
27					.8	.8	8.1	8.8	2.0	.8	.8	.8
28					.8	1.2	7.8	8.8	2.0	.7	.8	.8
29						1.7	6.8	8.8	1.8	.8	.8	.8
30						2.0	6.6	8.0	1.8	.7	.4	.8
31						3.4	8.0	8.0		.7	.4	
Total	21.7	18.5	22.3	21.7	17.3	22.7	225.8	210.8	164.2	51.4	21.3	28.1
Mean	0.7	0.65	0.72	0.7	0.58	0.74	7.22	10.0	5.47	1.64	0.68	0.87
Ac-ft	93	39	44	43	34	45	422	616	207	55	42	58

Calendar year 1965: Max - Min - Mean - Ac-ft -
 Water year 1965-66: Max 18 Min - Mean 8.30 Ac-ft 1,660

Note.--No gage-height records Oct. 1 to Oct. 7, Jan. 16 to Feb. 16.

BEAR RIVER BASIN

10-395. Bear River at Border, Wyo.

Location.--Lat 42°11', long 111°03', in NE¼ sec.15, T.14 S., R.46 E., in Idaho, on left bank a quarter of a mile west of Wyoming-Idaho State line, half a mile west of Border, and 2.1 miles upstream from Thomas Fork.

Drainage area.--2,490 sq mi, approximately.

Records available.--October 1937 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 6,651.63 ft above mean sea level, unadjusted.

Average discharge.--29 years, 396 cfs (266,000 acre-ft per year).

Extremes.--Maximum discharge during year not determined, occurred during period of ice effect; maximum gage height, 9.17 ft Mar. 30, backwater from ice; minimum discharge, 89 cfs Aug. 21, 22, 30.
1937-66: Maximum discharge, 3,660 cfs May 11, 1952 (gage height, 8.89 ft); minimum daily, 30 cfs Aug. 18-22, 1940.

Remarks.--Records good except those for winter months, which are fair. Diversions for irrigation of about 122,000 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	458	470	350	290	270	225	2,280	758	384	205	121	101
2	449	467	360	295	250	220	2,330	765	358	208	119	111
3	444	461	350	300	230	220	2,390	792	290	157	122	113
4	443	453	330	305	230	220	2,450	836	270	150	124	101
5	449	433	330	310	250	220	2,550	892	251	166	127	95
6	449	395	340	310	230	220	2,200	952	338	182	124	99
7	447	382	350	310	225	220	2,100	1,020	330	180	121	113
8	438	377	320	310	225	220	2,010	1,110	245	330	117	111
9	430	374	310	310	220	225	1,830	1,210	246	312	121	95
10	411	369	320	310	220	230	1,580	1,340	246	253	119	95
11	405	369	330	310	220	235	1,370	1,600	248	244	116	90
12	400	365	330	310	220	250	1,240	1,560	230	230	108	89
13	397	360	330	310	220	270	1,160	1,470	220	220	101	83
14	387	321	330	310	220	310	1,130	1,450	232	216	98	101
15	390	301	330	300	220	400	1,080	1,420	274	195	96	119
16	430	290	340	280	230	320	1,070	1,340	303	166	96	127
17	458	283	340	240	230	640	1,040	1,160	322	180	95	127
18	444	273	330	230	230	640	1,020	828	319	189	93	134
19	485	258	330	230	230	640	980	686	292	162	95	119
20	490	317	330	230	230	620	944	659	263	148	95	111
21	499	322	320	220	230	640	932	587	244	156	92	113
22	508	343	320	220	225	640	928	612	292	184	92	113
23	514	345	320	220	220	660	904	649	293	166	95	101
24	517	400	320	220	220	660	860	583	272	151	93	101
25	520	450	320	220	230	650	816	545	228	144	92	104
26	514	433	310	220	230	700	787	481	205	141	93	104
27	493	422	310	220	230	750	772	433	185	134	92	103
28	472	320	300	220	230	1,000	740	392	190	123	93	105
29	472	350	290	220	-----	1,700	728	369	217	124	93	105
30	470	330	280	220	-----	2,500	770	382	214	123	90	110
31	470	-----	290	220	-----	2,400	-----	374	-----	124	92	-----
Total	14,129	11,066	10,070	8,220	6,338	19,045	40,756	27,243	7,805	5,801	3,225	3,206
Mean	455	369	325	265	226	614	1,352	879	260	167	104	107
Ac-ft	26,020	21,960	19,970	16,300	12,370	37,780	80,840	54,040	15,480	11,510	6,400	6,360
Calendar year 1965:	Max 3,240	Min 170	Mean 740	Ac-ft 535,800								
Water year 1965-66:	Max 2,500	Min 89	Mean 430	Ac-ft 311,200								

BEAR RIVER BASIN

10-460. Rainbow inlet canal near Dingle, Idaho

Location.--Lat 42°13'00", long 111°17'30", in SE¼ sec.3, T.14 S., R.44 E., on left bank 1½ miles west of Dingle and 1-3/4 miles downstream from headworks at Stewart Dam.

Records available.--January 1922 to September 1966. Monthly discharge only prior to October 1945, published in WSP 1314.

Gage.--Water-stage recorder. Altitude of gage is 5,950 ft (from topographic map). Prior to Oct. 1, 1922, at site 300 ft downstream at different datum; Oct. 1, 1922 to Oct. 27, 1944, at site half a mile downstream at different datum.

Average discharge.--44 years, 308 cfs (223,000 acre-ft per year).

Extremes.--Maximum discharge during year, 3,150 cfs Apr. 2 (gage height, 7.89 ft); minimum, 7.0 cfs July 2, 1922-66; Maximum discharge, 4,180 cfs May 7, 1962 (gage height, 8.82 ft); minimum daily, 1 cfs on several days in 1931, 1934, 1940, 1942.

Remarks.--Records good except those for winter periods, which are fair. Discharge measurements generally made three to six times a week. Canal diverts from Bear River at Stewart Dam in NE¼ 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 cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	525	490	260	280	215	225	2,400	853	59	22	47	44
2	525	487	265	275	220	225	2,450	853	59	22	47	44
3	516	487	275	270	220	210	2,350	834	51	24	58	48
4	500	464	350	275	220	220	2,310	900	51	25	57	48
5	450	475	367	280	215	220	2,330	932	57	27	51	50
6	500	450	344	290	210	215	2,310	964	50	21	42	46
7	505	417	322	295	210	210	2,270	968	44	22	44	47
8	500	405	295	300	215	215	2,220	1,040	48	27	48	47
9	484	396	325	305	210	220	2,140	1,100	45	32	55	54
10	482	390	347	310	215	215	1,950	1,250	24	23	59	54
11	468	367	347	310	200	230	1,740	1,300	24	25	105	63
12	456	364	350	310	205	240	1,520	1,420	25	25	124	63
13	450	357	350	315	210	235	1,400	1,480	25	26	135	64
14	447	361	364	320	215	232	1,290	1,400	24	24	92	64
15	435	353	360	315	220	226	1,260	1,330	22	22	76	57
16	432	331	350	315	220	322	1,190	1,290	24	21	65	57
17	422	335	355	305	220	405	1,180	1,220	27	21	60	47
18	454	314	340	260	225	395	1,170	952	31	25	81	51
19	465	322	320	225	225	461	1,120	675	35	26	70	48
20	465	335	250	230	225	523	1,060	542	40	26	62	53
21	494	347	250	230	225	565	1,040	505	32	26	57	47
22	500	353	255	220	225	625	1,020	402	20	24	57	50
23	515	370	255	210	220	614	992	350	25	26	50	48
24	522	393	250	200	225	611	968	376	26	27	45	35
25	536	456	260	200	225	597	940	344	25	22	45	53
26	536	468	265	195	225	611	904	347	25	22	47	50
27	536	488	260	185	225	636	908	232	24	24	32	48
28	523	485	270	180	225	725	980	132	24	24	30	46
29	500	250	275	195	-----	912	853	155	23	24	47	59
30	494	280	267	215	-----	1,120	918	145	22	24	34	34
31	490	-----	270	210	-----	1,370	-----	121	-----	30	33	-----
Total	15,254	11,898	6,417	6,045	6,110	13,958	45,433	24,593	1,105	1,569	1,748	1,250
Mean	492	397	204	200	215	430	1,314	733	36.6	50.8	58.0	41.7
Ac-ft	30,240	23,800	15,830	15,960	12,120	27,690	90,120	48,780	2,190	3,110	3,440	2,480
Calendar year 1965:	Max	2,770	Min	175	Mean	786	Ac-ft	554,600				
Water year 1965-66:	Max	2,850	Min	20	Mean	365	Ac-ft	275,400				

BEAR RIVER BASIN

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

Location.--Lat 42°15'30", long 111°17'30", in NE1/4 sec.34, T.15 S., R.34 E., on right bank 300 ft downstream from Stewart Dam and 4 1/2 miles south of Montpelier.

Drainage area.--2,620 sq mi, approximately.

Records available.--January 1922 to September, 1960. Monthly discharge only January 1922 to September 1945, published in WSP 1514.

Gage.--Water-stage recorder. Altitude of gage is 8,360 ft (from topographic map).

Average discharge.--44 years, 55.2 cfs (40,470 acre-ft per year).

Extremes.--Maximum discharge during year, 28 cfs Mar. 31 (gage height, 1.45 ft); minimum, 1.6 cfs May 26, 1922-60. Maximum daily discharge, 5,650 cfs June 5, 1923; no flow July 15, 1925.

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 cubic feet per second, water year October 1961 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.2	8.0	6.3	6.2	6.2	6.0	15	6.5	3.4	3.8	4.5	4.2
2	3.2	8.0	6.8	6.2	6.2	6.3	28	6.2	3.4	4.0	4.8	4.6
3	6.2	8.4	7.1	6.8	6.2	6.2	11	6.6	3.4	4.4	5.0	5.4
4	5.8	8.0	7.1	6.2	6.2	6.3	1	7.3	3.2	4.6	5.0	5.4
5	5.9	8.4	7.4	6.2	6.2	6.3	10	7.7	3.2	5.5	6.3	4.8
6	5.9	7.7	7.4	6.2	6.6	6.3	10	7.7	3.1	5.5	5.6	4.8
7	6.5	7.7	7.4	6.2	6.9	6.3	6.8	6.0	7.7	4.2	5.9	4.4
8	7.4	7.4	7.4	6.9	6.2	6.3	6.8	6.4	3.6	3.2	5.9	4.6
9	7.4	7.1	7.4	6.9	6.8	6.3	6.0	6.8	2.5	3.0	6.2	4.8
10	7.4	7.1	7.7	6.9	6.8	6.3	7.7	10	3.0	9.6	7.1	5.3
11	7.4	7.1	7.7	6.9	6.8	6.6	6.6	11	3.4	6.0	7.7	5.0
12	7.7	7.4	7.4	6.9	6.2	6.9	6.9	12	3.6	3.1	8.4	4.8
13	8.0	8.4	7.7	6.9	6.2	6.9	6.3	12	3.6	3.0	6.2	4.6
14	8.0	8.4	8.0	6.9	6.5	6.8	6.3	12	3.4	10	3.6	4.6
15	5.4	7.7	7.7	6.9	6.5	7.1	6.2	12	3.4	9.6	6.4	4.6
16	8.0	7.4	7.7	6.2	6.8	7.1	6.2	11	4.3	9.2	8.0	5.0
17	8.4	7.7	7.7	6.2	6.2	7.1	6.5	11	6.3	8.0	7.4	5.6
18	8.4	7.4	7.1	6.5	6.2	7.4	6.2	11	6.6	7.1	7.4	6.2
19	8.0	7.7	6.2	6.8	6.8	7.7	6.9	11	6.5	6.2	7.1	6.5
20	5.0	7.7	6.8	6.8	6.6	7.4	6.3	12	6.8	6.2	6.6	6.6
21	8.4	8.0	6.6	6.3	6.9	6.8	6.8	12	6.9	6.0	6.5	5.4
22	8.0	8.4	6.2	6.3	6.6	6.2	6.8	10	6.3	5.0	6.5	5.6
23	8.0	8.4	6.2	6.3	6.3	6.8	6.2	11	6.3	5.0	7.1	5.9
24	8.4	9.2	6.2	6.6	6.6	6.6	6.8	12	6.3	5.0	7.4	6.5
25	8.4	10	6.9	6.6	6.6	6.2	6.2	12	6.2	5.0	7.1	6.6
26	6.8	10	6.9	6.6	6.0	6.9	6.2	9.8	6.3	6.0	6.5	6.5
27	6.4	10	6.8	6.9	6.0	7.1	6.2	12	4.8	3.6	6.2	6.5
28	6.8	9.2	6.6	6.9	6.0	6.8	6.8	13	4.4	6.9	6.0	6.5
29	8.0	7.4	6.3	6.9	-----	6.8	6.8	14	3.8	5.3	6.3	6.6
30	6.0	6.5	6.6	6.2	-----	6.4	6.6	14	3.6	4.8	6.0	6.6
31	7.7	-----	6.9	6.8	-----	13	-----	14	-----	4.8	4.6	-----
Total	235.3	241.8	211.1	184.7	168.7	197.4	230.2	326.4	186.1	180.8	202.2	183.0
Mean	7.59	8.00	6.81	6.28	5.92	6.37	7.67	10.8	6.40	6.3	6.52	6.43
Ac-ft	461	480	439	338	325	408	487	647	351	378	401	332
Calendar year 1960: Max 24 Min 2.8 Mean 6.12 Ac-ft 4,420												
Water year 1965-66: Max 18 Min 2.5 Mean 6.96 Ac-ft 5,670												

BEAR RIVER BASIN

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

Location.--Lat 43°01'30", Long 111°13'20". In NW 1/4 sec. 16, T.16 N., R.21 E., in direct pumping plant of Utah Power & Light Company, 3 1/2 miles east of St. Charles.

Drainage area.--430 ac. rd. approximately (does not include Mad Lake drainage).

Records available.--October 1903 to June 1906 (page height only), January 1901 to September 1906. Monthly contents since January 1901 to September 1905 published in MSP 1014. Published as Bear Lake at Fish Haven 1903-06.

Gage.--Water-gauge recorder. Datum of page is 5,300 ft above mean sea level, unadjusted (levels by Utah Power & Light Company). October 1903 to June 1906, exact page at different site and datum.

Extremes.--Maximum contents during year, 1,339,000 acre-ft Mar. 25 to June 2 (page height, 41.32 ft); minimum, 1,018,000 acre-ft Sept. 20 (page height, 19.37 ft).

1901-06: Maximum contents, 1,422,000 acre-ft June 10, 1905 (page height, 23.00 ft); no usable contents Nov. 8-19, 1903 (page height, 2.00 ft, lower limit of pumps).

Remarks.--Outlets regulated by gates and pumps at Bear Lake and by gates in dikes at north end of Mad Lake. Inflow to lake augmented by water diverted from Bear River through Rainbow inlet canal and Single inlet canal, which empty into Mad Lake (see station 10-0450). Water from Mad Lake reaches Bear Lake by a sluice at pumping plant or by gates in subways at south end of Mad Lake. Capacity, 1,421,000 acre-ft between gage heights 2.00 (lower limit of pumps) and 23.55 ft (present possible 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 and Light Company.

Contents, in thousands of acre-feet, at GLOB, water year beginning 1901 to September 1906												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,222	1,222	1,222	1,208	1,171	1,145	1,134	1,130	1,225	1,243	1,159	1,027
2	1,222	1,222	1,222	1,208	1,170	1,144	1,133	1,128	1,229	1,238	1,137	1,026
3	1,221	1,220	1,220	1,205	1,168	1,144	1,142	1,142	1,230	1,243	1,154	1,025
4	1,220	1,220	1,218	1,204	1,167	1,143	1,142	1,142	1,222	1,240	1,152	1,023
5	1,220	1,220	1,218	1,203	1,166	1,143	1,132	1,127	1,229	1,238	1,149	1,022
6	1,220	1,220	1,218	1,203	1,165	1,142	1,130	1,126	1,229	1,238	1,146	1,020
7	1,220	1,220	1,218	1,202	1,164	1,141	1,129	1,125	1,229	1,237	1,145	1,019
8	1,220	1,220	1,218	1,202	1,163	1,140	1,128	1,125	1,229	1,228	1,140	1,018
9	1,220	1,220	1,218	1,200	1,161	1,140	1,127	1,125	1,227	1,225	1,137	1,017
10	1,220	1,220	1,218	1,198	1,160	1,140	1,129	1,122	1,227	1,222	1,134	1,016
11	1,220	1,220	1,218	1,197	1,159	1,140	1,124	1,122	1,226	1,220	1,130	1,015
12	1,220	1,220	1,218	1,196	1,158	1,140	1,129	1,121	1,226	1,217	1,024	1,014
13	1,220	1,220	1,218	1,195	1,157	1,140	1,124	1,121	1,225	1,214	1,023	1,013
14	1,220	1,220	1,218	1,194	1,156	1,140	1,129	1,121	1,224	1,211	1,022	1,012
15	1,220	1,220	1,218	1,194	1,156	1,140	1,201	1,225	1,223	1,208	1,118	1,011
16	1,220	1,220	1,218	1,193	1,154	1,140	1,203	1,227	1,222	1,206	1,113	1,011
17	1,220	1,220	1,218	1,192	1,154	1,140	1,202	1,226	1,225	1,202	1,109	1,010
18	1,220	1,220	1,218	1,191	1,153	1,140	1,203	1,222	1,224	1,200	1,108	1,010
19	1,220	1,220	1,218	1,190	1,152	1,140	1,201	1,222	1,220	1,197	1,102	1,010
20	1,220	1,220	1,218	1,188	1,151	1,141	1,204	1,225	1,221	1,194	1,099	1,010
21	1,220	1,220	1,218	1,187	1,150	1,141	1,204	1,224	1,224	1,191	1,098	1,010
22	1,220	1,220	1,218	1,186	1,150	1,141	1,200	1,222	1,222	1,188	1,092	1,010
23	1,220	1,220	1,218	1,185	1,148	1,140	1,222	1,222	1,220	1,185	1,090	1,010
24	1,220	1,220	1,218	1,184	1,148	1,140	1,220	1,222	1,222	1,183	1,087	1,010
25	1,220	1,220	1,218	1,184	1,148	1,139	1,223	1,222	1,222	1,183	1,084	1,010
26	1,220	1,220	1,218	1,180	1,147	1,130	1,221	1,222	1,222	1,178	1,081	1,010
27	1,220	1,220	1,218	1,179	1,146	1,130	1,224	1,222	1,222	1,175	1,076	1,010
28	1,220	1,220	1,218	1,177	1,145	1,130	1,222	1,222	1,222	1,171	1,072	1,010
29	1,220	1,220	1,218	1,175	1,145	1,130	1,224	1,222	1,224	1,168	1,073	1,010
30	1,220	1,220	1,218	1,174	1,145	1,130	1,222	1,222	1,222	1,168	1,073	1,010
31	1,220	1,220	1,218	1,173	1,145	1,130	1,222	1,222	1,222	1,162	1,069	1,010
(-)	21.45	21.22	20.20	20.11	19.72	19.52	21.00	21.52	21.22	19.50	18.22	18.22
(+)	27.0	23.0	26.0	24.0	22.0	21.0	21.0	22.0	22.0	23.0	23.0	23.0

Calendar year 1905..... * + 228.0
 Water year 1902-03..... * + 247.0

* 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 SW 1/4 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 1966. Monthly discharge only January 1922 to September 1946, published in WSP 1314.

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

Average discharge.--44 years, 537 cfs (244,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,430 cfs July 23 (gage height, 18.76 ft); minimum daily, 3.0 cfs many days in April to May.

1922-66: Maximum daily discharge, 1,870 cfs Aug. 8, 1924; minimum daily, 1 cfs for many days in 1937, 1944, 1953, 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 cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	902	849	1,020	1,020	1,030	785	3.0	3.0	1,300	1,170	1,010	736
2	908	850	1,050	1,110	1,040	822	3.0	3.0	1,140	1,130	1,020	473
3	912	708	1,050	1,090	1,030	613	3.0	3.0	1,300	1,150	1,030	232
4	915	532	1,060	884	1,010	886	3.0	3.0	1,250	1,320	1,060	424
5	918	754	1,070	1,030	1,030	872	3.0	3.0	1,350	1,320	1,020	422
6	759	900	1,040	1,020	1,020	731	3.0	3.0	1,320	1,180	897	422
7	788	497	1,010	1,020	1,020	704	3.0	3.0	1,250	1,220	1,020	296
8	793	678	1,010	1,020	893	875	3.0	3.0	1,300	1,330	1,030	178
9	738	1,150	984	977	895	815	3.0	3.0	1,100	1,380	1,030	176
10	861	1,080	951	870	871	883	3.0	3.0	1,020	1,330	1,030	301
11	852	1,010	954	934	883	435	3.0	3.0	341	1,330	1,020	454
12	854	957	921	996	890	314	3.0	3.0	671	1,370	1,030	418
13	860	362	924	832	957	318	3.0	3.0	389	1,350	1,030	415
14	874	819	924	893	964	841	3.0	3.0	859	1,330	1,030	328
15	864	905	905	863	934	597	3.0	3.0	921	1,370	1,020	212
16	877	957	871	885	937	443	3.0	3.0	918	1,400	1,030	128
17	884	883	885	883	1,000	468	3.0	3.0	841	1,370	1,040	14
18	867	977	1,105	886	893	800	3.0	3.0	1,050	1,330	957	14
19	854	1,010	1,130	865	867	843	3.0	3.0	1,030	1,330	1,020	14
20	889	1,030	1,200	924	870	848	3.0	3.0	1,020	1,370	1,020	13
21	885	1,030	1,130	964	857	850	3.0	3.0	1,050	1,350	1,010	13
22	854	1,030	1,170	870	859	843	3.0	3.0	1,100	1,380	1,010	12
23	851	1,030	1,180	1,020	874	879	3.0	3.0	1,110	1,370	1,016	12
24	868	1,030	1,140	1,020	756	857	3.0	3.0	1,050	1,320	977	11
25	851	854	1,030	1,030	828	834	3.0	3.0	1,090	1,080	1,030	11
26	856	880	1,030	1,000	818	845	3.0	3.0	1,090	882	1,010	10
27	854	1,030	1,010	1,000	810	850	3.0	3.0	1,050	1,000	1,030	10
28	854	880	1,140	1,000	789	845	3.0	413	1,010	1,010	1,000	9.7
29	824	874	1,140	1,020	804	804	3.0	401	1,030	1,010	951	8.4
30	851	887	1,070	1,030	809	809	3.0	379	1,220	980	853	8.1
31	831	1,030	1,030	1,030	820	820	3.0	704	1,000	883	883	8.1
Total	27,148	27,041	32,232	30,233	26,116	16,194	80.0	2,179.0	32,187	38,423	31,188	5,866.2
Mean	873	861	1,041	975	833	522	3.00	70.3	1,072	1,239	1,006	186
Ac-ft	22,760	23,640	64,090	59,960	51,800	32,120	179	4,820	63,840	76,190	61,600	12,030

Calendar year 1966: Max 1,870 Min 3.0 Mean 452 Ac-ft 327,800
 Water year 1965-66: Max 1,400 Min 3.0 Mean 737 Ac-ft 535,400

BEAR RIVER BASIN

10-905. Bear River near Preston, Idaho

Location.--Lat 42°10', long 111°51' in NW 1/4 sec. 36, T.14 S., R.39 E., on left bank 600 ft downstream from head-gates of West Cache Canal, 3 miles downstream from Mink Creek, 5 miles north of Preston, and 3 1/2 miles upstream from Battle Creek.

Drainage area.--4,900 sq mi, approximately.

Records available.--October 1889 to December 1916, January to September 1917 (gauge heights only), January 1944 to September 1966. Prior to 1905, published as "at Battlecreek." Monthly discharge only for some periods, published in MSP 1314.

Gage.--Digital water-stage recorder. Altitude of gage is 4,540 ft (from topographic map). October 1889 to September 1917 staff or wire-weight gages at several sites within 5 miles downstream at different datums. January 1944 to September 1966 graphic water-stage recorder at same site and datum.

Average discharge.--25 years (1943-66), 794 cfs (574,600 acre-ft per year).

Extremes.--Maximum discharge during year, 2,900 cfs Dec. 27 (gage height, 4.53 ft); minimum, 3.0 cfs May 27, 28 (gage height, 0.26 ft); minimum daily, 11 cfs May 28.

1889-1917: Maximum discharge, about 6,500 cfs June 9, 10, 1907, estimated on basis of records for station near Collinston, Utah; maximum gage height observed, 9.04 ft Jan. 17, 18, 1917 (backwater from ice), site and datum then in use; minimum discharge not determined.

1943-66: Maximum discharge, 4,420 cfs Apr. 17, 1956 (gage height, 5.61 ft); minimum, 0.6 cfs June 14, 1949; minimum daily, 9.5 cfs July 6, 1957.

Remarks.--Records good. Station is below all irrigation diversions from Bear River in Idaho except Cub River pump in SE 1/4 sec. 20, T.16 S., R.39 E. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, and return flow from irrigated areas.

Discharge, in cubic feet per second, water year October 1965 to September 1966												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,440	1,520	1,420	1,630	1,440	1,520	1,410	635	629	900	737	492
2	1,600	1,380	1,690	1,400	1,570	1,350	1,390	749	955	870	561	556
3	1,500	1,350	1,630	1,570	1,570	1,080	1,180	700	633	812	762	789
4	1,420	1,390	1,670	1,600	1,400	1,050	1,070	655	749	838	686	295
5	1,250	1,320	1,600	1,440	1,500	1,040	1,510	668	863	1,160	674	396
6	1,350	1,370	1,660	1,620	1,620	1,320	1,220	749	848	1,350	609	218
7	1,490	392	1,460	1,570	1,460	1,150	1,320	728	878	1,200	457	444
8	1,360	1,700	1,600	1,510	1,520	1,190	1,570	700	931	854	926	472
9	1,570	1,650	1,666	1,410	1,456	1,290	1,700	440	863	1,110	524	494
10	1,560	1,680	1,500	1,550	1,240	1,360	1,700	995	635	625	775	193
11	1,420	1,590	1,740	1,480	1,620	1,150	1,320	756	798	709	878	25
12	1,450	1,650	1,330	1,650	1,540	1,640	1,620	1,160	521	651	818	392
13	1,470	1,650	1,780	1,480	1,450	1,190	1,610	1,300	593	1,110	752	241
14	1,450	1,710	1,650	1,460	1,380	1,350	908	871	631	947	875	192
15	1,480	1,480	1,680	1,600	1,460	1,300	1,220	1,350	599	1,100	713	486
16	1,470	1,700	1,400	1,460	1,660	1,370	812	674	693	1,150	689	422
17	1,450	1,570	1,560	1,470	1,500	1,380	480	840	987	1,000	933	366
18	1,490	1,770	1,620	1,460	1,530	1,220	848	617	304	1,260	755	106
19	1,490	1,410	1,450	1,550	1,560	1,350	1,100	356	805	1,080	850	96
20	1,280	1,720	1,650	1,400	1,490	1,250	551	545	923	879	780	162
21	1,430	1,450	1,300	1,620	1,370	1,250	700	183	395	1,030	917	378
22	1,510	1,380	1,740	1,220	1,540	1,150	700	611	674	938	667	513
23	1,460	1,480	1,530	1,360	1,560	1,270	728	100	749	815	914	93
24	1,500	1,750	1,590	1,520	1,420	1,250	642	195	848	702	772	128
25	1,430	1,730	1,620	1,420	1,590	1,200	987	142	581	511	876	83
26	1,480	1,570	1,390	1,390	1,580	1,250	756	168	840	696	702	179
27	1,260	1,760	1,350	1,630	1,500	1,170	681	100	623	652	771	80
28	1,560	1,570	1,380	1,340	1,570	1,530	819	107	721	917	750	61
29	1,570	1,640	1,570	1,470	-----	1,400	855	11	777	681	508	350
30	1,460	1,590	1,520	1,510	-----	1,300	856	330	798	547	636	184
31	1,220	-----	1,510	1,510	-----	1,390	-----	492	-----	707	725	-----
Total	44,610	45,832	48,570	46,540	42,030	39,800	32,743	17,627	22,874	28,006	23,411	8,706
Mean	1,439	1,531	1,567	1,501	1,503	1,284	1,091	569	762	903	755	290
Ac-ft	89,480	91,300	96,340	92,310	83,480	78,940	64,940	34,860	45,370	55,350	46,440	17,270

Calendar year 1965: Max 2,080 Min 159 Mean 1,036 Ac-ft 786,100
 Water year 1965-66: Max 1,690 Min 11 Mean 1,038 Ac-ft 795,200

BEAR RIVER BASIN

10-930. Cub River near Preston, Idaho

Location.--Lat 42°06', long 111°41', in SW $\frac{1}{4}$ sec. 5, T.15 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.--13.4 sq mi.

Records available.--March 1940 to September 1952, October 1955 to September 1966.

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

Average discharge.--23 years, 82.3 cfs (59,560 acre-ft per year).

Extremes.--Maximum discharge during year, 475 cfs May 10 (gage height, 2.62 ft); minimum, 21 cfs Mar. 5, 1940-52, 1955-66; Maximum discharge, 715 cfs June 7, 1957 (gage height, 3.39 ft); maximum gage height, 3.83 ft June 2, 1943; no flow for part of Jan. 29, 1965, result of snowslide.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	31	28	24	22	23	71	125	186	64	40	30
2	33	31	28	24	22	22	72	155	172	72	39	30
3	36	31	28	24	22	22	65	230	159	62	39	30
4	38	31	28	24	22	22	60	276	149	62	38	30
5	38	31	28	24	22	22	57	307	137	58	38	29
6	38	30	28	24	22	22	58	354	132	58	36	29
7	37	30	28	24	22	22	62	415	125	57	35	28
8	36	30	28	24	22	22	66	430	121	56	34	28
9	36	30	28	24	22	22	81	430	120	55	34	28
10	35	30	28	24	22	22	95	465	120	54	34	27
11	35	30	28	24	22	25	94	415	120	53	33	28
12	34	31	28	24	22	25	82	314	115	52	33	28
13	34	30	27	24	22	28	74	253	108	52	32	28
14	34	29	27	24	22	28	68	218	103	52	32	29
15	34	33	27	24	22	31	68	198	101	52	32	28
16	34	29	26	24	22	34	77	183	98	51	32	28
17	34	30	26	23	22	30	92	186	95	49	32	27
18	34	29	26	23	22	26	98	166	92	49	32	26
19	34	31	26	23	22	26	94	135	88	47	32	26
20	33	31	26	23	22	27	85	208	86	46	32	26
21	33	29	26	23	22	26	78	223	83	45	32	25
22	33	29	26	23	22	25	71	250	82	44	31	25
23	32	29	26	23	22	25	66	229	81	43	31	25
24	32	31	25	23	22	25	64	198	78	43	31	25
25	32	30	25	23	22	28	69	181	75	42	31	25
26	32	29	25	23	22	35	85	186	72	40	31	25
27	32	28	25	22	22	43	85	195	71	40	31	25
28	32	28	25	22	22	50	85	205	69	40	31	24
29	32	28	25	22	22	55	92	265	68	40	31	23
30	32	28	25	22	22	59	108	203	65	40	30	24
31	31	28	25	22	22	64	108	200	65	41	30	24
Total	1,066	898	824	724	616	941	2,321	7,800	3,171	1,550	1,029	810
Mean	34.4	29.3	26.6	23.4	22	30.4	77.4	252	108	50.0	33.2	27.0
Ac-ft	2,110	1,780	1,650	1,440	1,220	1,870	4,800	15,470	6,290	3,070	2,040	1,610
Calendar year 1965: Max	646		Min	18	Mean	107	Ac-ft	77,290				
Water year 1965-66: Max	465		Min	22	Mean	59.6	Ac-ft	43,120				

BEAR RIVER BASIN

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

Location.--Lat 41°44'40", 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, half a mile upstream from State dam, and 2½ miles east of Logan.

Drainage area.--218 sq mi.

Records available.--June 1896 to September 1966. Published as Logan River near Logan prior to 1913. Records since May 1913 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 1314.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 4,660 ft (from topographic map). Prior to May 7, 1913, staff gage at various sites within half a 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. 1, 1913, to Sept. 3, 1938, at datum about 2.5 ft lower than present datum.

Average discharge.--53 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, 70 years (1896-1966), 273 cfs (197,600 acre-ft per year).

Extremes.--Maximum discharge during year, 610 cfs May 10 (gage height, 3.81 ft); minimum daily, 14 cfs Nov. 1-4.

Maximum combined discharge during year (Logan River above State dam, Utah Power & Light Co.'s tailrace, and Logan, Hyde Park & Smithfield Canal) 875 cfs May 10; minimum daily, 103 cfs Mar. 4, 5.

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, 50 cfs Jan. 21, 1935.

Remarks.--Records excellent. 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 culinary 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 cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	14	22	24	23	21	167	137	189	26	19	19
2	17	17	22	20	22	22	149	162	165	24	19	20
3	16	14	21	21	21	21	123	234	149	20	19	20
4	16	14	20	23	22	21	134	291	137	20	19	19
5	16	21	22	23	22	23	128	350	126	20	18	19
6	16	33	21	23	22	26	146	377	112	20	17	19
7	16	33	18	24	23	26	175	412	106	20	17	17
8	16	34	18	22	21	21	159	428	104	19	17	18
9	17	33	20	20	23	20	210	428	99	19	18	19
10	17	32	22	19	21	21	222	538	99	19	18	19
11	19	27	22	24	21	22	300	434	89	19	17	18
12	17	18	21	21	23	20	192	396	89	19	16	19
13	17	20	21	20	22	21	187	339	83	33	19	19
14	17	20	19	20	22	24	156	302	75	43	18	18
15	17	22	16	21	22	30	147	266	73	43	18	20
16	16	22	16	19	21	36	128	249	73	42	19	19
17	16	20	15	18	22	36	169	238	69	42	20	19
18	16	19	16	20	23	28	189	228	62	36	20	19
19	16	48	16	20	21	26	162	214	50	34	20	18
20	16	26	16	21	21	30	134	220	50	26	20	32
21	16	31	16	20	21	30	117	234	50	18	19	31
22	15	30	26	22	21	30	158	270	48	27	19	29
23	15	36	22	27	21	32	87	252	48	33	18	16
24	15	44	19	28	21	37	77	206	40	32	18	16
25	15	42	20	26	21	36	79	183	36	27	19	16
26	17	33	21	24	21	43	86	200	33	22	18	16
27	16	31	20	24	21	60	94	210	31	21	18	28
28	16	22	22	23	21	83	89	214	31	21	18	28
29	16	21	27	22	---	120	96	210	30	20	18	30
30	16	22	22	23	---	129	112	210	26	20	16	16
31	15	---	26	23	---	166	---	206	---	19	18	---
Total	505	796	633	685	606	1,257	4,271	6,723	2,304	806	575	608
Mean	16.2	26.5	20.4	22.1	21.6	40.5	142	281	78.8	26.0	18.5	20.2
Ac-ft	996	1,580	1,260	1,360	1,200	2,490	8,470	17,300	4,730	1,600	1,140	1,200

Calendar year 1965: Max 90; Min 14; Mean 155; Ac-ft 112,000
 Water year 1965-66: Max 536; Min 14; Mean 89.8; Ac-ft 43,330

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 Ballrace, and Logan, Hyde Park & Smithfield Canal at head, near Logan, Utah, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	205	170	146	133	118	118	271	351	473	245	173	145
2	262	170	148	127	118	117	296	411	453	241	171	152
3	193	170	147	127	113	110	277	490	434	234	180	149
4	196	169	146	130	118	103	249	541	420	231	179	144
5	137	162	147	131	119	103	247	601	403	226	169	143
6	199	159	147	131	119	112	266	641	365	231	163	140
7	192	158	144	133	120	115	296	695	376	227	163	133
8	197	159	144	133	112	120	320	712	374	222	158	136
9	187	156	144	131	114	120	374	705	364	220	162	137
10	196	155	146	129	113	122	409	736	363	219	160	133
11	194	156	146	129	111	124	366	746	363	217	155	132
12	193	160	145	126	118	122	324	644	348	213	156	137
13	195	162	143	126	110	124	296	582	335	204	157	134
14	183	162	141	127	117	127	276	544	326	204	153	141
15	182	165	132	129	116	136	278	505	323	204	152	148
16	194	163	131	121	112	145	304	486	320	201	152	141
17	191	162	130	115	114	145	354	473	311	200	151	139
18	190	158	132	118	117	137	374	469	308	196	150	134
19	188	193	131	118	113	137	341	472	303	191	154	133
20	189	166	129	119	115	139	307	478	299	190	153	129
21	167	166	126	109	113	136	294	491	294	169	150	120
22	183	157	133	116	113	136	286	528	298	180	149	118
23	182	163	135	122	112	134	266	510	297	190	148	117
24	182	172	132	122	115	137	261	470	281	181	146	118
25	181	170	133	118	117	140	269	466	273	176	146	120
26	173	161	135	118	113	145	289	483	267	178	144	121
27	179	159	129	119	116	164	290	502	261	178	144	125
28	179	147	131	119	115	130	289	510	259	178	146	121
29	176	147	139	119	-----	202	302	504	254	177	144	123
30	175	146	142	119	-----	220	321	492	250	175	140	122
31	174	-----	135	119	-----	248	-----	487	-----	173	-----	-----
Total	5,879	4,864	4,289	3,836	3,219	4,331	9,092	16,765	10,015	6,301	4,812	3,965
Mean	190	162	138	124	115	140	303	541	334	203	155	133
Ac-ft	11,660	9,650	8,510	7,610	6,380	8,590	18,030	33,250	19,860	12,500	9,540	7,900
Calendar year 1965: Max	1,170	Min	102	Mean	326	Ac-ft	235,800					
Water year 1965-66: Max	796	Min	103	Mean	212	Ac-ft	153,500					

BEAR RIVER BASIN

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

Location.--Lat 41°50', long 112°03', in SE $\frac{1}{4}$ sec.27, T.13 N., R.2 W., on right bank 3,000 ft downstream from Cutler Dam and 4 miles north of Collinston.

Records available.--June 1912 to September 1966. Prior to 1915, published as Hammond ditch near Collinston. Monthly discharge only for some periods, published in MSP 1314.

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

Average discharge.--54 years, 50.9 cfs (36,850 acre-ft per year).

Extremes.--1912-66: Maximum daily discharge, 184 cfs June 29, 1963; no flow at times in each year.

Remarks.--Records good. Canal diverts from east side of Bear River in NW $\frac{1}{4}$ sec.26, T.13 N., R.2 W., at dam at which West Side Canal and intake of Cutler powerplant also divert. Water from this canal and West Side Canal used for irrigation of about 58,000 acres below station in eastern Box Elder County.

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

Day	Discharge, in cubic feet per second, water year October 1965 to September 1966											
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	27						0	161	165	167	180
2	52	23						0	160	165	157	125
3	53	22						66	160	167	153	125
4	53	22						89	161	164	150	125
5	48	22						130	161	164	150	121
6	45	22						147	156	163	149	119
7	49	22						162	150	163	150	119
8	56	22						175	148	165	150	119
9	56	22						173	146	165	152	116
10	56	21						132	146	166	157	116
11	56	21						105	146	162	155	116
12	50	22						102	146	155	155	116
13	46	22						104	149	154	155	116
14	46	22						104	157	157	158	116
15	42	22						105	163	154	154	113
16	36	19						105	164	153	156	108
17	38	18						113	165	152	157	106
18	36	9.8						124	163	153	157	106
19	33	3.6						134	163	151	157	106
20	33	3.4						140	165	150	157	103
21	32	3.3						151	166	150	156	101
22	32	3.1						155	165	150	155	100
23	32	3.0						155	159	151	150	99
24	32	3.1						166	165	152	145	106
25	31	3.0						155	164	152	146	109
26	31	1.9						160	163	153	144	103
27	32	0						161	165	147	139	96
28	32	0						162	165	157	138	96
29	32	0						162	164	157	139	92
30	32	0						161	164	160	137	91
31	32							160		156	135	
Total	1,296	405.2	0	0	0	0	0	3,981	4,773	4,875	4,664	2,222
Mean	41.5	13.5	0	0	0	0	0	127	153	157	150	111
Ac-ft	2,550	804	0	0	0	0	0	7,840	9,470	9,670	9,250	6,590
Calendar year 1965:	Max 172	Min 0	Mean 55.7	Ac-ft 41,040								
Water year 1965-66:	Max 175	Min 0	Mean 63.3	Ac-ft 46,170								

BEAR RIVER BASIN

10-1175. West Side Canal near Collinston, Utah

Location.--Lat 41°50', long 112°04', in SW¹/₄ sec.27, T.13 N., R.2 W., on left bank 4,200 ft downstream from Cutler Dam and 4 miles north of Collinston.

Records available.--June 1912 to September 1966. Monthly discharge only for some periods, published in WSP 131

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

Average discharge.--54 years, 237 cfs (171,600 acre-ft per year).

Extremes.--1912-66: Maximum daily discharge, 755 cfs July 7, 1964; no flow for periods in every year except 1914.

Remarks.--Records good except those for winter months, which are fair. Canal diverts from west side of Bear River in NW¹/₄ sec.28, T.13 N., R.2 W., at dam at which Hammond (East Side) Canal and intake of Cutler 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 Elder County.

Cooperation.--Gage-height record and 7 discharge measurements furnished by Utah Power & Light Co.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	356	195	84	80	35	10		0	739	731	687	643
2	346	115	84	80	35	10		3.5	743	731	681	628
3	344	108	84	80	35	10		258	737	727	685	618
4	342	108	84	80	35	10		330	727	722	691	605
5	324	108	80	80	35	10		432	719	733	673	601
6	304	108	80	80	35	10		528	715	731	671	598
7	287	108	80	80	35	10		618	707	731	673	592
8	322	108	80	80	22	9.9		655	699	725	673	582
9	330	108	80	80	10	9.9		665	671	719	693	575
10	329	105	80	80	10	10		450	643	707	701	561
11	320	105	80	80	10	10		316	641	697	701	556
12	300	106	80	80	10	9.9		271	641	697	699	554
13	277	106	80	80	10	9.6		262	653	699	701	546
14	264	108	80	80	10	9.6		257	689	693	701	527
15	253	107	80	80	10	9.6		255	701	687	701	508
16	245	104	80	80	10	9.3		273	715	689	709	492
17	243	101	80	80	10	9.1		371	729	685	709	466
18	228	101	80	80	10	8.8		491	731	671	707	464
19	200	101	80	65	10	4.1		554	751	667	707	454
20	170	101	80	50	10	0		626	729	661	707	445
21	155	101	80	50	10	0		659	729	665	707	449
22	155	94	80	50	10	0		683	723	661	689	470
23	154	87	80	50	10	0		677	723	645	679	477
24	153	88	80	50	10	0		675	721	636	677	473
25	152	98	80	50	10	0		701	727	641	677	477
26	151	87	80	50	10	0		727	731	645	668	472
27	149	84	80	50	10	0		735	731	630	667	461
28	149	84	80	50	10	0		737	731	632	661	463
29	148	84	80	50	0	0		737	733	634	661	470
30	147	84	80	50	0	0		735	731	671	659	459
31	148	-----	80	40	-----	0	-----	735	-----	691	651	-----
Total	7,447	3,014	2,496	2,095	467	179.8	0	15,374.5	21,338	21,251	21,255	15,672
Mean	240	100	80.5	67.6	16.7	5.80	0	496	711	686	686	522
Ac-ft	14,770	5,980	4,350	4,160	926	357	0	30,490	42,320	42,150	42,160	31,080

Calendar year 1965: Max 728 Min 0 Mean 270 Ac-ft 195,400
 Water year 1965-66: Max 741 Min 0 Mean 303 Ac-ft 219,300

BEAR RIVER BASIN

10-1180. Bear River near Collinston, Utah

Location.--Lat 41°50', long 112°03', in NW¼SE¼ sec.27, T.13 N., R.2 W., on right bank 800 ft downstream from Cutler plant of Utah Power & Light Co., 2,000 ft downstream from Cutler Dam, and 3½ miles north of Collinston.

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

Records available.--July 1889 to September 1966. Published as "at Collinston" prior to 1900. Monthly discharge only for some periods, published in WRP 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. 2, 1913 to Sept. 10, 1938, graphic water-stage recorder, at site three-quarters of a mile downstream at different datums. Sept. 10, 1938 to July 6, 1966, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 3,960 cfs Mar. 15, Apr 15 (gage height, 4.02 ft); minimum daily, 13 cfs July 28.

1889-1886: 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, 1905; practically no flow at 12 p.m. Aug. 8, 1920.

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

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,860	1,840	2,300	2,900	1,760	2,130	2,990	2,410	21	23	21	20
2	1,870	2,010	2,900	2,230	2,200	2,040	2,880	1,210	24	23	20	23
3	1,860	2,000	2,750	2,670	2,200	1,860	2,860	1,450	23	23	20	21
4	1,660	1,840	2,590	2,580	2,310	2,010	3,010	1,540	22	24	20	21
5	1,590	2,010	2,270	2,300	2,110	1,670	3,040	1,130	22	24	20	21
6	1,720	1,760	2,410	2,450	2,210	1,780	2,600	1,240	22	23	21	20
7	1,970	2,670	2,150	2,230	2,460	2,010	1,470	1,470	27	22	22	21
8	1,670	1,790	2,200	2,270	2,360	2,680	2,640	1,440	21	22	24	21
9	1,890	1,580	2,220	2,360	2,250	1,730	2,690	1,320	21	23	20	21
10	1,630	1,880	2,220	2,760	2,070	1,690	2,850	2,170	22	22	21	21
11	1,800	1,730	2,020	2,540	2,140	2,340	2,630	2,670	24	22	21	21
12	1,760	1,730	1,950	2,460	1,990	2,330	2,380	2,220	24	23	21	25
13	1,260	1,900	2,210	2,400	1,900	2,830	3,140	2,480	24	21	21	23
14	1,630	2,040	2,320	2,380	1,890	2,780	3,070	2,610	23	21	21	23
15	1,630	2,050	2,150	2,330	1,920	3,360	3,030	2,410	25	21	21	24
16	1,820	2,080	1,900	2,050	1,680	3,730	2,940	2,310	25	21	21	24
17	1,860	2,180	1,900	2,150	2,030	3,820	2,280	2,270	25	21	21	23
18	1,720	2,200	1,750	2,240	2,190	3,800	2,150	1,220	25	22	21	23
19	1,740	2,440	1,860	1,870	2,460	3,310	2,260	387	26	20	21	23
20	1,670	2,960	1,800	1,730	2,620	3,140	2,200	1,210	26	20	22	24
21	1,910	2,600	1,850	1,670	2,620	2,670	2,240	443	26	21	25	24
22	1,970	2,780	1,750	1,380	2,550	2,900	2,100	499	26	20	21	24
23	1,970	2,770	1,850	1,600	2,370	2,880	1,970	23	26	20	21	24
24	2,010	2,450	2,100	1,740	2,260	2,940	1,670	361	26	20	21	24
25	2,020	2,550	1,950	1,860	2,420	2,650	1,670	23	26	20	21	24
26	2,020	2,550	2,000	2,180	2,190	2,640	1,440	23	26	20	20	637
27	2,020	2,840	2,100	2,100	2,390	2,510	2,080	23	25	20	20	23
28	1,790	2,600	2,220	1,980	2,060	2,560	2,010	23	25	19	20	584
29	2,020	2,600	2,170	2,040	-----	3,010	1,780	22	25	20	21	23
30	2,080	2,500	2,350	2,200	-----	2,570	723	22	23	20	21	588
31	1,780	-----	2,730	2,310	-----	2,790	-----	21	-----	20	-----	-----
Total	55,730	66,250	66,250	66,520	61,660	62,290	72,473	35,350	789	665	651	2,456
Mean	1,793	2,208	2,137	2,210	2,202	2,655	2,428	1,140	26.3	21.5	21.0	61.9
Ac-ft	110,500	131,400	131,400	133,900	122,300	163,200	143,700	70,120	1,560	1,320	1,290	4,670
Calendar year 1965:	Max	3,850	Min	23	Mean	1,739	Ac-ft	1,259,000				
Water year 1965-66:	Max	3,820	Min	19	Mean	1,406	Ac-ft	1,018,000				

BEAR RIVER BASIN

10-1260. Bear River near Corinne, Utah

Location.--lat 41°34'38", long 112°08'00". In BEHNSD sec.30, T.10 N., R.3 W., on right bank 1.2 miles downstream from Salt Creek, 2.0 miles northeast of Corinne and 2.8 miles downstream from Malin River.

Drainage area.--8,800 sq mi, approximately.

Records available.--October 1949 to September 1957, October 1963 to September 1966.

Gage.--Automatic recorder. Datum of gage is 4,204.6 ft, unadjusted. Auxiliary staff gage 7,800 ft downstream July 27, 1960 to Mar. 31, 1968.

Storage capacity.--11 ponds, 1,858 ac-ft (1,188,000 acre-ft per year).

Maximum.--Maximum discharge during year, 4,180 cfs Mar. 16 (gage height, 11.05 ft); minimum daily, 79 cfs July 16.

1949-57, 1963-66. Maximum discharge, 7,200 cfs May 3, 1956 (gage height, 14.68 ft); maximum gage height, 14.86 ft Feb. 11, 1961; minimum daily discharge, 78 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 cubic feet per second, water year October 1963 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,880	2,080	2,740	2,120	2,400	2,480	3,070	2,180	94	101	84	84
2	2,880	2,180	2,810	2,100	2,100	2,300	2,170	870	89	113	84	107
3	1,840	2,000	2,310	2,080	2,500	2,200	2,180	1,280	89	103	85	118
4	1,840	2,180	2,360	2,230	2,100	2,200	3,150	1,830	108	102	98	120
5	1,880	2,110	2,780	2,780	2,800	2,200	3,170	1,810	128	109	81	122
6	1,880	2,180	2,880	2,600	2,400	2,000	2,090	1,470	144	111	87	118
7	1,870	2,000	2,800	2,880	2,800	1,300	2,800	1,820	144	118	85	113
8	2,110	1,880	2,800	2,800	2,800	2,080	1,770	1,600	166	112	85	118
9	2,050	2,040	2,480	2,600	2,800	2,100	2,840	1,780	180	101	88	108
10	2,120	2,320	2,400	2,600	2,500	2,100	2,880	1,960	201	109	85	107
11	2,080	1,980	2,300	2,300	2,300	2,810	3,080	2,710	148	120	96	107
12	2,000	1,980	2,270	2,800	2,300	2,800	2,810	2,840	158	124	87	122
13	2,040	2,000	2,220	2,700	2,200	3,200	2,580	2,790	168	126	84	128
14	1,820	2,170	2,390	2,800	2,100	3,170	3,170	2,780	188	128	80	148
15	1,980	2,280	2,460	2,350	2,100	3,320	3,170	2,700	188	128	79	142
16	1,800	2,300	2,880	2,480	2,080	3,710	3,180	2,680	222	116	78	128
17	2,050	2,580	2,170	2,400	1,980	4,070	2,340	2,610	226	124	72	124
18	2,140	2,430	2,080	2,400	2,180	4,170	2,480	2,430	226	122	78	122
19	2,020	2,380	1,980	2,480	2,480	4,070	2,380	1,800	210	124	78	130
20	1,980	2,580	2,300	2,080	2,600	3,720	2,440	1,280	118	128	80	120
21	2,080	3,110	1,900	1,900	2,380	3,840	2,380	1,480	111	118	80	98
22	2,150	2,380	1,850	1,800	2,700	3,280	2,380	807	89	122	95	91
23	2,240	2,020	1,800	1,700	2,200	3,240	2,380	730	108	128	86	82
24	2,220	2,140	2,050	1,880	2,880	3,200	2,120	347	107	141	85	78
25	2,300	2,680	2,200	1,880	2,500	3,200	2,080	428	104	158	84	82
26	2,240	2,800	2,380	2,100	2,800	2,870	1,980	166	108	118	95	80
27	2,280	3,000	2,220	2,300	2,800	2,880	1,800	107	108	87	82	417
28	2,260	3,110	2,310	2,300	2,800	2,810	2,220	82	101	94	88	228
29	2,040	3,080	2,310	2,200	-----	2,980	2,240	94	101	74	118	417
30	2,120	2,800	2,380	2,300	-----	2,970	2,000	87	99	74	107	384
31	2,240	-----	2,200	2,380	-----	2,520	-----	80	-----	78	86	-----
Total	62,850	72,580	73,270	78,880	67,710	90,450	60,000	43,832	3,828	3,480	2,780	4,322
Mean	2,028	2,348	2,364	2,487	2,185	2,917	2,337	1,414	121	112	88.7	134
Ac-ft	123,200	141,800	141,900	149,800	134,600	179,400	108,700	88,340	7,180	6,300	4,480	8,370
Calendar year 1965:	Max	3,280	Min	88	Mean	1,924	Ac-ft	1,393,000				
Water year 1965-66:	Max	4,170	Min	74	Mean	1,894	Ac-ft	1,184,000				

Note.--No gage-height record Mar. 21 to Mar. 5.